TELECONFERENCED MEETING

CITY COUNCIL REGULAR MEETING – 6:00 PM

FEBRUARY 2, 2021

[Pursuant to Governor Executive Order N-29-20]

There Will Not Be a Physical Location for Attending the Meeting

The Public May Observe the Meeting and Offer Public Comment As Follows:

STEP 1

Install the Free Zoom App or Visit the Free Zoom Website at <https://zoom.us/>

STEP 2

Get Meeting ID Number and Password by emailing zoom@moval.org or calling (951) 413-3001, no later than 5:00 p.m. on Tuesday, February 2, 2021

STEP 3

Select Audio Source

Computer Speakers/Microphone
or
Telephone

STEP 3

Public Comments May be Made Via Zoom

During the Meeting, the Mayor Will Explain the Process for Submitting Public Comments

ALTERNATIVE

If you do not wish to make public comments, you can view the meeting on Channel MVTV-3, the City's website at www.moval.org or YouTube

AGENDA

CITY COUNCIL OF THE CITY OF MORENO VALLEY
MORENO VALLEY COMMUNITY SERVICES DISTRICT
CITY AS SUCCESSOR AGENCY FOR THE COMMUNITY REDEVELOPMENT AGENCY OF THE CITY OF MORENO VALLEY
MORENO VALLEY HOUSING AUTHORITY
MORENO VALLEY PUBLIC FINANCING AUTHORITY
BOARD OF LIBRARY TRUSTEES

February 2, 2021

REGULAR MEETING – 6:00 PM

City Council Study Sessions
Second Tuesday of each month – 6:00 p.m.

City Council Meetings
Special Presentations – 5:30 P.M.
First & Third Tuesday of each month – 6:00 p.m.

City Council Closed Sessions
Will be scheduled as needed at 4:30 p.m.

City Hall Council Chamber – 14177 Frederick Street

Upon request, this agenda will be made available in appropriate alternative formats to persons with disabilities, in compliance with the Americans with Disabilities Act of 1990. Any person with a disability who requires a modification or accommodation in order to participate in a meeting should direct such request to the ADA Coordinator, at 951.413.3120 at least 72 hours before the meeting. The 72-hour notification will enable the City to make reasonable arrangements to ensure accessibility to this meeting.

Dr. Yxstian A. Gutierrez, Mayor

Victoria Baca, Mayor Pro Tem
Ulises Cabrera, Council Member
David Marquez, Council Member

AGENDA
JOINT MEETING OF THE
CITY COUNCIL OF THE CITY OF MORENO VALLEY
MORENO VALLEY COMMUNITY SERVICES DISTRICT
CITY AS SUCCESSOR AGENCY FOR THE
COMMUNITY REDEVELOPMENT AGENCY OF THE
CITY OF MORENO VALLEY
MORENO VALLEY HOUSING AUTHORITY
MORENO VALLEY PUBLIC FINANCING AUTHORITY
AND THE BOARD OF LIBRARY TRUSTEES

THE CITY COUNCIL RECEIVES A SEPARATE STIPEND FOR CSD MEETINGS

REGULAR MEETING – 6:00 PM

FEBRUARY 2, 2021

CALL TO ORDER

Joint Meeting of the City Council, Community Services District, City as Successor Agency for the Community Redevelopment Agency, Housing Authority and the Board of Library Trustees - actions taken at the Joint Meeting are those of the Agency indicated on each Agenda item.

ROLL CALL

INTRODUCTIONS

SPECIAL ORDER OF BUSINESS

CALRECYCLE PRESENTATION

PUBLIC COMMENTS ON ANY SUBJECT ON THE AGENDA AND NOT ON THE AGENDA UNDER THE JURISDICTION OF THE CITY COUNCIL

Any person wishing to address the Mayor and City Council on any matter, either under the Public Comments section of the Agenda or scheduled items or public hearings, must follow the procedures set forth above and wait to be identified to speak by the Mayor. Members of the public may be limited to three minutes per person or the allowed time set by the Mayor, except for the applicant. The Mayor may establish an overall time limit for comments on a particular Agenda item. Members of the public must direct their questions to the Mayor and not to other members of the City Council, the applicant, the Staff, or the audience.

JOINT CONSENT CALENDARS (SECTIONS A-E)

All items listed under the Consent Calendars, Sections A, B, C, D, and E are considered to be routine and non-controversial, and may be enacted by one motion unless a member of the City Council, Community Services District, City as Successor Agency for the Community Redevelopment Agency, Housing Authority or the Board of Library Trustees requests that an item be removed for separate action. The motion to adopt the Consent Calendars is deemed to be a separate motion by each Agency and shall be so recorded by the City Clerk. Items withdrawn for report or discussion will be heard after public hearing items.

A. CONSENT CALENDAR-CITY COUNCIL

A.1. ORDINANCES - READING BY TITLE ONLY - THE MOTION TO ADOPT AN ORDINANCE LISTED ON THE CONSENT CALENDAR INCLUDES WAIVER OF FULL READING OF THE ORDINANCE.

Recommendation: Waive reading of all Ordinances.

A.2. MINUTES - CITY COUNCIL - CLOSED SESSION - JAN 19, 2021 5:00 PM

Recommendation: Approve as submitted.

A.3. MINUTES - CITY COUNCIL - REGULAR MEETING - JAN 19, 2021 6:00 PM

Recommendation: Approve as submitted.

A.4. COUNCIL DISCRETIONARY EXPENDITURE REPORTS FOR FISCAL YEAR 2020/2021 FROM JULY 1, 2020 THROUGH DECEMBER 31, 2020 (Report of: City Clerk)

Recommendation:

1. Receive and file the Fiscal Year 2020/2021 Council Discretionary Expenditure Report for July 1, 2020 through December 31, 2020.

A.5. RECEIPT OF QUARTERLY INVESTMENT REPORT FOR THE QUARTER ENDED DECEMBER 31, 2020 (Report of: Financial & Management Services)

Recommendation:

1. Receive and file the Quarterly Investment Report for quarter ended December 31, 2020, in compliance with the City's Investment Policy.

A.6. COVID-19 PANDEMIC RESOLUTIONS EXTENDING THE LOCAL STATE OF EMERGENCY AND CERTAIN EMERGENCY MEASURES (Report of: Financial & Management Services)

Recommendations:

1. That the City Council adopt a Resolution Extending the Local State of Emergency and Certain Emergency Measures related to the Local, State and National Declarations of a State of Emergency related to the COVID-19 Pandemic.

2. Authorize the City Manager to amend any agreements as necessary to continue the operation of the State of California's Great Plates Delivered program, locally known as Senior Eats.

A.7. PURSUANT TO LANDOWNER PETITION, ANNEX CERTAIN PARCELS INTO COMMUNITY FACILITIES DISTRICT NO. 2014-01 (MAINTENANCE SERVICES) - AMENDMENT NO. 54 (Report of: Financial & Management Services)

Recommendation:

1. Acting as the legislative body of Community Facilities District No. 2014-01 (Maintenance Services), adopt Resolution No. 2021-__, a Resolution of the City Council of the City of Moreno Valley, California, ordering the annexation of territory to City of Moreno Valley Community Facilities District No. 2014-01 (Maintenance Services) and approving the amended map for said District. (Amendment No. 54). (PEDROHYPJVC, LLC, located on the north side of Kalmia Ave., west of Lasselle St.).

A.8. AUTHORIZATION TO AWARD A PROFESSIONAL CONSULTANT SERVICES AGREEMENT TO TKE ENGINEERING, INC. FOR CONSTRUCTION MANAGEMENT OF THE CIVIC CENTER ELECTRONIC MARQUEE SIGN, PROJECT NO. 803 0044 AND THE CIVIC CENTER DEMONSTRATION GARDEN PROJECT NO. 807 0049 (Report of: Public Works)

Recommendations:

1. Award an Agreement for Professional Consultant Services to TKE Engineering, Inc. to provide construction management, construction support, and inspection for the Civic Center Electronic Marquee Sign and the Civic Center Demonstration Garden project construction;

2. Authorize the issuance of a Purchase Order to TKE Engineering, Inc. in the amount of $191,048 ($173,680 proposed amount plus a 10% contingency) when the agreement has been signed by all parties. The Projects are fully funded by Park and Community Services (PCS) Capital Project Funds (3015) and Facility Construction Capital Funds (3000);

3. Authorize the City Manager to execute the contract, in substantial conformance with the attached template, with TKE Engineering, Inc., subject to minor modifications and approval by the City Attorney; and

4. Authorize the Parks & Community Services (PCS) Director to execute any subsequent related amendments to the Agreement for Professional Consultant Services with TKE Engineering, Inc., not to exceed the Purchase Order amount, subject to the approval by the City Attorney.

A.9. DECLARATION OF EXEMPT SURPLUS LAND AND APPROVAL OF PURCHASE AGREEMENT WITH EASTERN MUNICIPAL WATER DISTRICT INVOLVING THE EXCHANGE OF SURPLUS LAND BETWEEN THE CITY AND DISTRICT (Report of: Public Works)

Recommendations:

1. Adopt Resolution No. 2021-___ declaring portions of three parcels of land comprising 0.551 acres of land, which are owned in fee by the City of Moreno Valley, as “Exempt Surplus Lands” for purpose of selling portions of said parcels to the Eastern Municipal Water District for remediation and treatment of groundwater in and around the City of Moreno Valley to produce more potable water for consumer use;

2. Approve the sale of the subject Exempt Surplus Lands to the Eastern Municipal Water District for the development of a public well site as part of the District’s Perris North Groundwater Program project; and

3. Authorize the City Manager to execute the Purchase Agreement and Joint Escrow Instructions by and between the City of Moreno Valley and the Eastern Municipal Water District, which includes the exchange of land between the District and the City.

A.10. ADOPT RESOLUTION NO. 2021-XX, A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF MORENO VALLEY, CALIFORNIA, APPROVING AN UPDATED WILDFIRE MITIGATION PLAN FOR MORENO VALLEY UTILITY (Report of: Public Works)

Recommendation:

1. Adopt Resolution No. 2021-XX, a Resolution of the City Council of the City of Moreno Valley, California, approving an updated Wildfire Mitigation Plan for Moreno Valley Utility.

A.11. AUTHORIZATION TO AWARD A CONSTRUCTION CONTRACT TO O'DUFFY BROTHERS, INC. FOR SUNNYMEAD - FLAMING ARROW DRIVE STORM DRAIN (SUNNYMEAD MDP LINE M-11 EXTENSION) – PROJECT NO. 804 0014 (Report of: Public Works)

Recommendations:

1. Award a construction contract to O'Duffy Brothers, Inc. for the Sunnymead - Flaming Arrow Drive Storm Drain (Sunnymead MDP Line M-11 Extension) project and authorize the City Manager to execute a contract with O'Duffy Brothers, Inc. in substantial conformance with the attached contract in the amount of $540,040 for the construction of the project, funded by Community Development Block Grant (CDBG) (Fund 2512), Riverside County Flood Control and Water Conservation District (RCFC&WCD) (Fund 3002), Measure A (Fund 2001), and Reimbursement Agreement with Eastern Municipal Water District (EMWD) (Fund 3002);

2. Authorize the issuance of a Purchase Order for O'Duffy Brothers, Inc. in the amount of $594,044 ($540,040 bid amount plus a 10% contingency) when the contract has been signed by all parties; and

3. Authorize the Public Works Director/City Engineer to execute any subsequent change orders to the contract, but not exceeding the total contingency of $54,004, subject to the approval of the City Attorney.

B. CONSENT CALENDAR-COMMUNITY SERVICES DISTRICT

B.1. ORDINANCES - READING BY TITLE ONLY - THE MOTION TO ADOPT AN ORDINANCE LISTED ON THE CONSENT CALENDAR INCLUDES WAIVER OF FULL READING OF THE ORDINANCE.

Recommendation: Waive reading of all Ordinances.

B.2. MINUTES - CITY COUNCIL - CLOSED SESSION - JAN 19, 2021 5:00 PM (See A.2)

Recommendation: Approve as submitted.

B.3. MINUTES - CITY COUNCIL - REGULAR MEETING - JAN 19, 2021 6:00 PM (See A.3)

Recommendation: Approve as submitted.

B.4. PURSUANT TO LANDOWNER PETITIONS, ANNEX CERTAIN PARCELS INTO COMMUNITY FACILITIES DISTRICT NO. 1 (PARK MAINTENANCE) - AS ANNEXATION NO. 2021-62 AND ANNEXATION NO. 2021-64 (Report of: Financial & Management Services)

Recommendations:

1. Acting as the legislative body of Community Facilities District No. 1 (Park Maintenance) adopt Resolution No. CSD 2021-__, a Resolution of the Board of Directors of the Moreno Valley Community Services District, California, ordering the annexation of territory for Annexation No. 2021-62 to its Community Facilities District No. 1 and approving the amended map for said District. (PEDROHYPJVC, LLC, located on the north side of Kalmia Ave., west of Lasselle St.).

2. Acting as the legislative body of Community Facilities District No. 1 (Park Maintenance) adopt Resolution No. CSD 2021-____, a Resolution of the Board of Directors of the Moreno Valley Community Services District, California, ordering the annexation of territory for Annexation No. 2021-64 to its Community Facilities District No. 1 and approving the amended map for said District. (ROC III CA Belago, located at the south side of John F. Kennedy Dr., east of Moreno Beach Dr.).

B.5. APPROVE AGREEMENT FOR PROFESSIONAL CONSULTANT SERVICES WITH KIMLEY-HORN AND ASSOCIATES, INC., FOR DESIGN AND CONSTRUCTION SERVICES FOR MORENO VALLEY BARK PARK PROJECT NO. 807 0054 (FUNDED WITH PARK DIF FUNDS) (Report of: Parks & Community Services)

Recommendations:

1. Award an Agreement for Professional Consultant Services with Kimley-Horn and Associates, Inc., for the Moreno Valley Bark Park project.

2. Authorize the issuance of a purchase order in the amount of $171,560 upon execution of the Agreement for Professional Consultant Services with Kimley-Horn and Associates, Inc. Funds are available in the Parks and Community Services (PCS) Capital Projects Fund (3015);

3. Authorize the City Manager to execute the contract with Kimley-Horn subject to minor modifications; and

4. Authorize the Parks and Community Services Director to execute subsequent Amendments to the Agreement within Council approved annual budgeted amounts, including the authority to authorize the associated purchase orders in accordance with the terms of the Agreement, subject to the approval of the City Attorney.

C. CONSENT CALENDAR - HOUSING AUTHORITY

C.1. ORDINANCES - READING BY TITLE ONLY - THE MOTION TO ADOPT AN ORDINANCE LISTED ON THE CONSENT CALENDAR INCLUDES WAIVER OF FULL READING OF THE ORDINANCE.

Recommendation: Waive reading of all Ordinances.

C.2. MINUTES - CITY COUNCIL - CLOSED SESSION - JAN 19, 2021 5:00 PM (See A.2)

Recommendation: Approve as submitted.

C.3. MINUTES - CITY COUNCIL - REGULAR MEETING - JAN 19, 2021 6:00 PM (See A.3)

Recommendation: Approve as submitted.

D. CONSENT CALENDAR - BOARD OF LIBRARY TRUSTEES

D.1. ORDINANCES - READING BY TITLE ONLY - THE MOTION TO ADOPT AN ORDINANCE LISTED ON THE CONSENT CALENDAR INCLUDES WAIVER OF FULL READING OF THE ORDINANCE.

Recommendation: Waive reading of all Ordinances.

D.2. MINUTES - CITY COUNCIL - CLOSED SESSION - JAN 19, 2021 5:00 PM (See A.2)

Recommendation: Approve as submitted.

D.3. MINUTES - CITY COUNCIL - REGULAR MEETING - JAN 19, 2021 6:00 PM (See A.3)

Recommendation: Approve as submitted.

E. CONSENT CALENDAR - PUBLIC FINANCING AUTHORITY

E.1. ORDINANCES - READING BY TITLE ONLY - THE MOTION TO ADOPT AN ORDINANCE LISTED ON THE CONSENT CALENDAR INCLUDES WAIVER OF FULL READING OF THE ORDINANCE.

Recommendation: Waive reading of all Ordinances.

E.2. MINUTES - CITY COUNCIL - CLOSED SESSION - JAN 19, 2021 5:00 PM (See A.2)

Recommendation: Approve as submitted.

E.3. MINUTES - CITY COUNCIL - REGULAR MEETING - JAN 19, 2021 6:00 PM (See A.3)

Recommendation: Approve as submitted.

F. PUBLIC HEARINGS

Questions or comments from the public on a Public Hearing matter are limited to five minutes per individual and must pertain to the subject under consideration.

Those wishing to speak should follow the teleconference procedures.

F.1. PUBLIC HEARING FOR FOUR NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM MAIL BALLOT PROCEEDINGS (Report of: Financial & Management Services)

Recommendations: That the City Council:

1. Conduct the Public Hearing and accept public testimony for the mail ballot proceedings for the National Pollutant Discharge Elimination System (NPDES) Residential Regulatory Rate or Common Interest, Commercial, Industrial, and Quasi-Public Use Regulatory Rate to be applied to the property tax bill of the parcels identified herein for PEDROHYPJVC, LLC, located on the north side of Kalmia Ave., west of Lasselle St., Robles Bros Inv, located at 28200 War Admiral St., ROC III CA Belago, located on the south side of John F. Kennedy Dr., east of Moreno Beach Dr., and Ulman Harry & Gisela Living Trust Dated 11/22/82, located on the northeast corner of Resource Way and Corporate Way;

2. Direct the City Clerk to open and count the returned NPDES ballots;

3. Verify and accept the results of the mail ballot proceedings as maintained by the City Clerk on the Official Tally Sheet and if approved, set the rate and impose the NPDES Common Interest, Commercial, Industrial, and Quasi-Public Use Regulatory Rate or the Residential Regulatory Rate, as applicable, on the Assessor's Parcel Numbers as mentioned;

4. Receive and file the Official Tally Sheet with the City Clerk's office.

F.2. PROPOSED GENERAL PLAN AMENDMENT, CHANGE OF ZONE, TENTATIVE TRACT MAP 37909, AND CONDITIONAL USE PERMIT FOR A 81-UNIT SINGLE FAMILY RESIDENTIAL PROJECT, IRIS PARK LOCATED ON IRIS AVENUE EAST OF PERRIS BOULEVARD (PROJECT 1) AND GENERAL PLAN AMENDMENT, SPECIFIC PLAN 205 AMENDMENT, AND PLOT PLAN FOR A 220,390 SQUARE FOOT LIGHT INDUSTRIAL BUILDING, THE DISTRICT LOCATED ON THE SOUTHEAST CORNER OF HEACOCK STREET AND IRONWOOD AVENUE (PROJECT 2). (Report of: Community Development)

Recommendations:

1. ADOPT Resolution 2021-XX: A Resolution of the City Council of the City of Moreno Valley CERTIFYING that the Initial Study/Mitigated Negative Declaration prepared for General Plan Amendment PEN20-0066, Change of Zone PEN20-0067, Tentative Tract Map 37909 PEN20-0063 and Conditional Use Permit PEN20-0065 on file with the Community Development Department, incorporated herein by this reference, was completed in compliance with the California Environmental Quality Act Guidelines, and that the City Council reviewed and considered the information contained in the Initial Study/ Mitigated Negative Declaration and that the document reflects the City's independent judgment and analysis, and ADOPTING the Mitigation Monitoring and Reporting Program prepared for the above-referenced Mitigated Negative Declaration (Project #1, Iris Park); and

2. ADOPT Resolution 2021-XX: A Resolution of the City Council of the City of Moreno Valley CERTIFYING that the Initial Study/Mitigated Negative Declaration, prepared for General Plan Amendment PEN20-0139, Specific Plan 205 Amendment PEN20-0138, and Plot Plan PEN20-0137, on file with the Community Development Department, incorporated herein by this reference, was completed in compliance with the California Environmental Quality Act Guidelines, and that the City Council reviewed and considered the information contained in the Initial Study/ Mitigated Negative Declaration, and that the document reflects the City's independent judgment and analysis, and ADOPTING the Mitigation Monitoring and Reporting Program prepared for the above-referenced Mitigated Negative Declaration (Project #2, The District); and

3. ADOPT Resolution 2021-XX: A Resolution of the City Council of the City of Moreno Valley approving a General Plan Amendment based on the Recitals, Evidence contained in the Administrative Record and Findings as set for the in Resolution No. 2021-XX to amend the General Plan Land Use map as described in the Resolution, based on the findings contained in the Resolution, and the revised Land Use Maps for PEN20-0066 (Project #1, Iris Park) and PEN20-0139 (Project #2, The District); and

Project #1, Iris Park

4. INTRODUCE and conduct the first reading by title only of Ordinance No. XXX, approving a Change of Zone PEN20-0067 to amend the City Zoning Atlas based on the Recitals, Evidence contained in the Administrative Records and Findings as set forth in Resolution No. 2021-XX; and

5. ADOPT Resolution No. 2021-XX, A Resolution of the City Council of the City of Moreno Valley approving Tentative Tract Map 37909, PEN20-0063 based on the findings contained in this resolution, and subject to the conditions of approval included as Exhibit A; and

6. ADOPT Resolution No. 2021-XX, A Resolution of the City Council of the City of Moreno Valley approving Conditional Use Permit PEN20-0065 based on the findings contained in this resolution, and subject to the conditions of approval included as Exhibit A; and

Project #2, The District

7. INTRODUCE and conduct the first reading by title only of Ordinance No. XXX, approving a Specific Plan 205 Amendment PEN20-0138 to amend the Specific Plan 205 based on the Recitals, Evidence contained in the Administrative Records and Findings as set forth in Resolution No. 2021-XX; and

8. ADOPT Resolution No. 2021-XX, A Resolution of the City Council of the City of Moreno Valley approving Plot Plan PEN20-0137 based on the findings contained in this resolution, and subject to the conditions of approval included as Exhibit A; and

9. SCHEDULE the second reading and adoption of Ordinance Nos. XXX and XXX for the next regular City Council meeting.

G. GENERAL BUSINESS - NONE

H. ITEMS REMOVED FROM CONSENT CALENDARS FOR DISCUSSION OR SEPARATE ACTION

I. REPORTS

I.1. CITY COUNCIL REPORTS

(Informational Oral Presentation - not for Council action)

March Joint Powers Commission (JPC)

Riverside County Habitat Conservation Agency (RCHCA)

Riverside County Transportation Commission (RCTC)

Riverside Transit Agency (RTA)

Western Riverside Council of Governments (WRCOG)

Western Riverside County Regional Conservation Authority (RCA)

School District/City Joint Task Force

I.2. CITY MANAGER'S REPORT

(Informational Oral Presentation - not for Council action)

CLOSING COMMENTS AND/OR REPORTS OF THE CITY COUNCIL, COMMUNITY SERVICES DISTRICT, CITY AS SUCCESSOR AGENCY FOR THE COMMUNITY REDEVELOPMENT AGENCY, HOUSING AUTHORITY, PUBLIC FINANCING AUTHORITY, AND THE BOARD OF LIBRARY TRUSTEES.

ADJOURNMENT

PUBLIC INSPECTION

The contents of the agenda packet are available for public inspection on the City's website at www.moval.org and in the City Clerk's office at 14177 Frederick Street during normal business hours.

Any written information related to an open session agenda item that is known by the City to have been distributed to all or a majority of the City Council less than 72 hours prior to this meeting will be made available for public inspection on the City's website at www.moval.org and in the City Clerk's office at 14177 Frederick Street during normal business hours.

CERTIFICATION

I, Pat Jacquez-Nares, City Clerk of the City of Moreno Valley, California, certify that 72 hours prior to this Regular Meeting, the City Council Agenda was posted on the City's website at: www.moval.org and in the following three public places pursuant to City of Moreno Valley Resolution No. 2007-40:

City Hall, City of Moreno Valley
14177 Frederick Street

Moreno Valley Library
25480 Alessandro Boulevard

Moreno Valley Senior/Community Center
25075 Fir Avenue

Pat Jacquez-Nares, CMC & CERA
City Clerk

Date Posted: January 28, 2021

TELECONFERENCED MEETING

CITY COUNCIL CLOSED SESSION - 4:30 PM

JANUARY 19, 2021

[Pursuant to Governor Executive Order N-29-20]

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Public Comments May be Made Via Zoom

During the Meeting, the Mayor Will Explain the Process for Submitting Public Comments

ALTERNATIVE

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MINUTES
CITY COUNCIL OF THE CITY OF MORENO VALLEY
MORENO VALLEY COMMUNITY SERVICES DISTRICT
CITY AS SUCCESSOR AGENCY FOR THE COMMUNITY REDEVELOPMENT AGENCY OF THE CITY OF MORENO VALLEY
MORENO VALLEY PUBLIC FINANCING AUTHORITY
MORENO VALLEY HOUSING AUTHORITY

CLOSED SESSION – 5:00 PM

January 19, 2021

CALL TO ORDER

The Closed Session of the City Council of the City of Moreno Valley, Moreno Valley Community Services District, City as Successor Agency for the Community Redevelopment Agency of the City of Moreno Valley, and Housing Authority was called to order at 5:04 p.m. by Mayor Gutierrez in the Council Chamber located at 14177 Frederick Street, Moreno Valley, California.

Mayor Gutierrez announced that the City Council receives a separate stipend for CSD meetings.

ROLL CALL

Council:	Dr. Yxstian A. Gutierrez	Mayor
	Victoria Baca	Mayor Pro Tem
	David Marquez	Council Member
	Ulises Cabrera	Council Member
Absent:	Carla Thornton	Council Member

PUBLIC COMMENTS ON MATTERS ON THE AGENDA ONLY

Mayor Gutierrez opened the public comments portion of the meeting for items listed on the agenda only. There being no members of the public to come forward to speak, he closed the public comments.

CLOSED SESSION

Interim City Attorney Quintanilla announced that the City Council would recess to Closed Session to discuss the item as listed on the agenda.

The Closed Session will be held pursuant to Government Code:

1 SECTION 54956.8 - REAL PROPERTY NEGOTIATIONS

PROPERTY APN:	486-160-036
CITY NEGOTIATOR:	City Manager Mike Lee
NEGOTIATING PARTY:	Eastern Municipal Water District (EMWD)
UNDER NEGOTIATION:	Price and Terms of Payment

Mayor Gutierrez recessed the City Council to the City Manager's Conference Room, second floor, City Hall, for their Closed Session at 5:04 p.m.

Mayor Gutierrez reconvened the City Council in the Council Chamber from their Closed Session at 6:01 p.m.

REPORT OF ACTION FROM CLOSED SESSION, IF ANY, BY CITY ATTORNEY

Interim City Attorney Quintanilla announced that there was no reportable action taken in Closed Session.

ADJOURNMENT

There being no further business to come before the City Council, Mayor Gutierrez adjourned the meeting at 6:02 p.m.

Submitted by:

_____
Pat Jacquez-Nares, CMC & CERA
City Clerk
Secretary, Moreno Valley Community Services District
Secretary, City as Successor Agency for the Community Redevelopment Agency of the City of Moreno Valley
Secretary, Moreno Valley Housing Authority
Secretary, Board of Library Trustees
Secretary, Public Financing Authority

Approved by:

_____
Dr. Yxstian A. Gutierrez
Mayor
City of Moreno Valley
President, Moreno Valley Community Services District
Chairperson, City as Successor Agency for the Community Redevelopment Agency of the City of Moreno Valley
Chairperson, Moreno Valley Housing Authority
Chairperson, Board of Library Trustees
Chairperson, Public Financing Authority

MINUTES
CITY COUNCIL REGULAR MEETING OF THE CITY OF MORENO VALLEY
January 19, 2021

TELECONFERENCED MEETING

CITY COUNCIL REGULAR MEETING - 6:00 PM
JANUARY 19, 2021
[Pursuant to Governor Executive Order N-29-20]

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MINUTES
JOINT MEETING OF THE
CITY COUNCIL OF THE CITY OF MORENO VALLEY
MORENO VALLEY COMMUNITY SERVICES DISTRICT
CITY AS SUCCESSOR AGENCY FOR THE
COMMUNITY REDEVELOPMENT AGENCY OF THE
CITY OF MORENO VALLEY
MORENO VALLEY HOUSING AUTHORITY
MORENO VALLEY PUBLIC FINANCING AUTHORITY
BOARD OF LIBRARY TRUSTEES

REGULAR MEETING – 6:00 PM

January 19, 2021

CALL TO ORDER

The Joint Meeting of the City Council, Community Services District, City as Successor Agency for the Community Redevelopment Agency of the City of Moreno Valley, Moreno Valley Housing Authority, Moreno Valley Public Financing Authority and the Board of Library Trustees was called to order at 6:03 p.m. by Mayor Gutierrez in the Council Chamber located at 14177 Frederick Street.

Mayor Gutierrez announced that the City Council receives a separate stipend for CSD meetings.

ROLL CALL

Council:	Dr. Yxstian A. Gutierrez	Mayor
	Victoria Baca	Mayor Pro Tem
	David Marquez	Council Member
	Ulises Cabrera	Council Member
Absent:	Dr. Carla J. Thornton	Council Member

INTRODUCTIONS

Staff:	Pat Jacquez-Nares	City Clerk
	Steve Quintanilla	Interim City Attorney
	Mike Lee	City Manager
	Marshall Eyerman	Assistant City Manager/Chief Financial Officer
	Michael Wolfe	Assistant City Manager/Director of Public Works/City Engineer
	Manuel Mancha	Community Development Director
	Patti Solano	Parks & Community Services Director

John Salisbury	Chief of Police
Abdul Ahmad	Fire Chief

PUBLIC COMMENTS ON ANY SUBJECT ON THE AGENDA AND NOT ON THE AGENDA UNDER THE JURISDICTION OF THE CITY COUNCIL

Angel Lopez

1. Thanked Assistant City Manager/Chief Financial Officer Eyerman for contacting him to explain the City's bid process.
2. Expressed his opposition to item numbers A.10 and A.11 and asked that they table item number A.11.

Brandon Carn

1. Discussed updates to a felony indictment in Tulare County involving Benny Benzeevi.

SPECIAL ORDER OF BUSINESS

1. MAYOR'S AWARD OF VALOR PRESENTATION TO DAVID SERNA, ALFRED FIERRO, AND JAMES GUTIERREZ. (Report of: City Clerk)

   Mayor Gutierrez recounted the incident in which three employees assisted the victims of a car accident and praised them for their heroism.

   Assistant City Manager/Director of Public Works/City Engineer Wolfe expressed his appreciation to the three employees.

   On behalf of himself and the other two employees, David Serna thanked the City for acknowledging their actions.

   Council Member Marquez furnished photos of the accident and expressed his gratitude to the three employees.

JOINT CONSENT CALENDARS (SECTIONS A-E)

RESULT:	**APPROVED [UNANIMOUS]**
MOVER:	David Marquez, Council Member
SECONDER:	Ulises Cabrera, Council Member
AYES:	Dr. Yxstian A. Gutierrez, Victoria Baca, David Marquez, Ulises Cabrera
ABSENT:	Dr. Carla J. Thornton

A. CONSENT CALENDAR-CITY COUNCIL

A.1. ORDINANCES - READING BY TITLE ONLY - THE MOTION TO ADOPT AN ORDINANCE LISTED ON THE CONSENT CALENDAR INCLUDES WAIVER OF FULL READING OF THE ORDINANCE.

Recommendation: Waive reading of all Ordinances.

A.2. City Council - Closed Session - Jan 5, 2021 4:30 PM

Recommendation: Approve as submitted.

A.3. City Council - Regular Meeting - Jan 5, 2021 6:00 PM

Recommendation: Approve as submitted.

A.4. APPOINTMENT TO THE CITIZENS' PUBLIC SAFETY COMMITTEE (Report of: City Clerk)

Recommendation:

1. Receive and confirm the following appointment:

Citizens' Public Safety Committee

Name		Position	Term
Adriane Snider	Lamar	Member	Ending 06/30/21

The recommended appointee for the Citizens' Public Safety Committee was screened and interviewed by the Citizens' Public Safety Committee leaders consisting of Chair Mayor Pro Tem Baca and Vice Chair Council Member Thornton. The recommended appointee was also subject to a criminal background check which is standard practice for all applicants for any City advisory commission or committee.

An additional appointee is undergoing a background check.

A.5. LIST OF PERSONNEL CHANGES (Report of: Financial & Management Services)

Recommendation:

1. Ratify the list of personnel changes as described.

A.6. AUTHORIZATION TO AWARD PROFESSIONAL CONSULTANT SERVICES AGREEMENT TO WILLDAN FINANCIAL SERVICES FOR CONTINUING DISCLOSURE AND ARBITRAGE CALCULATION SERVICES (AGMT. NO. 2021-05) (Report of: Financial & Management Services)

Recommendations:

1. Award a professional consultant services agreement to Willdan Financial Services to provide continuing disclosure and arbitrage calculation services.

2. Authorize the City Manager to execute the Agreement as well as any subsequent amendments to the Agreement, including the authority to approve purchase orders in accordance with the terms of the Agreement, provided sufficient funding appropriations have been approved by the City Council.

A.7. PAYMENT REGISTER- NOVEMBER 2020 (Report of: Financial & Management Services)

Recommendation:

1. Receive and file the Payment Register.

A.8. PEN16-0129 (PM 37189) – APPROVE PARCEL MAP 37189 LOCATED AT THE SOUTHEAST CORNER OF JOHN F. KENNEDY DRIVE AND MORENO BEACH DRIVE. DEVELOPER: ROC III CA BELAGO, LLC (Report of: Public Works)

Recommendations:

1. Approve Parcel Map 37189.

2. Authorize the City Clerk to sign the map and transmit said map to the County Recorder's Office for recordation.

A.9. AWARD TO CDW, INC., DELL EMC, AND AMAZON, INC., FOR THE PURCHASE OF VARIOUS ELECTRONIC HARDWARE UTILIZED IN ELECTRONIC PLAN REVIEW (Report of: Community Development)

Recommendation:

1. Award to CDW, Inc., Dell EMC, and Amazon, Inc., for purchases of various electronic hardware with a cost of approximately $117,161.00 (including 5% contingency) as outlined in the attached Exhibit "A", and authorize the Purchasing Manager, or her designee, to approve the purchase order(s) as needed to complete these purchases as outlined using funds from the SB 2 Planning Grant and Equipment Replacement Funds.

A.10. AUTHORIZATION TO AWARD A CONSTRUCTION CONTRACT TO SIGN DESIGNS, INC. FOR THE CIVIC CENTER ELECTRONIC MARQUEE SIGN, PROJECT NO 803 004 (FUNDED BY CITY HALL DIF FUNDS) (AGMT. NO. 2021-06) (Report of: Parks & Community Services)

Council Member Marquez requested that the vendor's addresses for item numbers A.10 and A.11 be confirmed.

Assistant City Manager Eyerman responded that the address for Sign Designs, Inc. is 204 Campus Way Modesto California and for Golden Gate Steel, which was previously erroneously recorded, is 14709 Carmenita Road Norwalk California.

Council Member Cabrera commented on the importance of educating and empowering Moreno Valley businesses.

Recommendations:

1. Award a construction contract to Sign Design, Inc., 204 Campus Way, Modesto, CA 95350, for the Civic Center Electronic Marquee Sign project and authorize the City Manager to execute a contract with Sign Designs, Inc. in the amount of $287,161.00;

2. Authorize the issuance of a Purchase Order to Sign Designs, Inc., in the amount of $330,235.15 ($287,161 bid amount plus a 15% contingency) when the contract has been signed by all parties;

3. Authorize the Parks & Community Services (PCS) Director to execute any subsequent change orders to Sign Designs, Inc. contract, but not exceeding the total contingency of $43,074.15, subject to the approval of the City Attorney; and

4. Authorize a budget adjustment as set forth in the Fiscal Impact section of this report to provide sufficient budget to complete the project. Funding for this project has been transferred from Parkland DIF to City Hall DIF and has changed from Parks Capital Project Funds (3016) to Facility Construction Capital Funds (3000).

A.11. AUTHORIZATION TO AWARD A CONSTRUCTION CONTRACT TO GOLDEN GATE STEEL, INC. FOR THE CIVIC CENTER DEMONSTRATION GARDEN PROJECT NO. 807 0049 (FUNDED BY PARK IMPROVEMENTS DIF AND GRANT FUNDS) (AGMT. NO. 2021-07) (Report of: Parks & Community Services)

Recommendations:

1. Award a construction contract to Golden Gate Steel, Inc., 204 Campus Way, Modesto, CA 95350, for the Civic Center

Demonstration project and authorize the City Manager to execute a contract with Golden Gate Steel, Inc. in the amount of $458,232.00;

2. Authorize the issuance of a Purchase Order to Golden Gate Steel, Inc., in the amount of $526,966.80 ($458,232 bid amount plus a 15% contingency) when the contract has been signed by all parties;

3. Authorize the Parks & Community Services (PCS) Director to execute any subsequent change orders to Golden Gate Steel, Inc. contract, but not exceeding the total contingency of $68,734.80, subject to the approval of the City Attorney; and

4. Authorize a budget adjustment as set forth in the Fiscal Impact section of this report to provide sufficient budget to complete the project funded by PCS Capital Project Funds (3015).

B. CONSENT CALENDAR-COMMUNITY SERVICES DISTRICT

B.1. ORDINANCES - READING BY TITLE ONLY - THE MOTION TO ADOPT AN ORDINANCE LISTED ON THE CONSENT CALENDAR INCLUDES WAIVER OF FULL READING OF THE ORDINANCE.

Recommendation: Waive reading of all Ordinances.

B.2. MINUTES - CITY COUNCIL - CLOSED SESSION - JAN 5, 2021 4:30 PM (See A.2)

Recommendation: Approve as submitted.

B.3. MINUTES - CITY COUNCIL - REGULAR MEETING - JAN 5, 2021 6:00 PM (See A.3)

Recommendation: Approve as submitted.

C. CONSENT CALENDAR - HOUSING AUTHORITY

C.1. ORDINANCES - READING BY TITLE ONLY - THE MOTION TO ADOPT AN ORDINANCE LISTED ON THE CONSENT CALENDAR INCLUDES WAIVER OF FULL READING OF THE ORDINANCE.

Recommendation: Waive reading of all Ordinances.

C.2. MINUTES - CITY COUNCIL - CLOSED SESSION - JAN 5, 2021 4:30 PM (See A.2)

Recommendation: Approve as submitted.

C.3. MINUTES - CITY COUNCIL - REGULAR MEETING - JAN 5, 2021 6:00 PM (See A.3)

Recommendation: Approve as submitted.

D. CONSENT CALENDAR - BOARD OF LIBRARY TRUSTEES

D.1. ORDINANCES - READING BY TITLE ONLY - THE MOTION TO ADOPT AN ORDINANCE LISTED ON THE CONSENT CALENDAR INCLUDES WAIVER OF FULL READING OF THE ORDINANCE.

Recommendation: Waive reading of all Ordinances.

D.2. MINUTES - CITY COUNCIL - CLOSED SESSION - JAN 5, 2021 4:30 PM (See A.2)

Recommendation: Approve as submitted.

D.3. MINUTES - CITY COUNCIL - REGULAR MEETING - JAN 5, 2021 6:00 PM (See A.3)

Recommendation: Approve as submitted.

E. CONSENT CALENDAR - PUBLIC FINANCING AUTHORITY

E.1. ORDINANCES - READING BY TITLE ONLY - THE MOTION TO ADOPT AN ORDINANCE LISTED ON THE CONSENT CALENDAR INCLUDES WAIVER OF FULL READING OF THE ORDINANCE.

Recommendation: Waive reading of all Ordinances.

E.2. MINUTES - CITY COUNCIL - CLOSED SESSION - JAN 5, 4:30 PM (See A.2)

Recommendation: Approve as submitted.

E.3. MINUTES - CITY COUNCIL - REGULAR MEETING - JAN 5, 2021 6:00 PM (See A.3)

Recommendation: Approve as submitted.

F. PUBLIC HEARINGS - NONE

G. GENERAL BUSINESS

G.1. Budget Development Fiscal Years 2021/22 - 2022/23 (Report of: Financial & Management Services)

Assistant City Manager Eyerman provided the report.

Mayor Gutierrez encouraged residents to attend upcoming Study Sessions or Finance Subcommittee meetings to offer input and stressed the importance of infrastructure investment.

Council Member Cabrera commended Assistant City Manager Eyerman and his team for their effort in ensuring the City has a balanced budget. He provided several funding source alternatives to finance roadway improvements.

Council Member Marquez thanked Assistant City Manager Eyerman for his diligence. He explained the restraints the City has on spending and boasted that the City has one of the lowest sales tax rates in Southern California. He urged residents to practice patience as the roads will eventually be repaired.

Mayor Pro Tem Baca commended staff for keeping the City financially solvent. She reminded residents that revenues have decreased due to Covid-19.

Recommendation:

1. Receive and file the Budget Development Fiscal Years 2021/22 - 2022/23 presentation.

G.2. RECOMMENDED UPDATES - PAVEMENT MANAGEMENT PROGRAM FIVE-YEAR LOOK-AHEAD (Report of: Public Works)

Assistant City Manager/Director of Public Works/City Engineer Wolfe provided the report.

Council Member Marquez asked about the frequency of the SB-1 payments.

Assistant City Manager/Director of Public Works/City Engineer Wolfe remarked that the installments are collected monthly.

Council Member Cabrera questioned if the City is anticipating any SB-1 funding for the next fiscal year and if so how much.

Assistant City Manager/Director of Public Works/City Engineer Wolfe replied that the City is on pace to receive approximately $3.6 million dollars.

Recommendation:

1. Concur with the updated Pavement Management Program Five-year Look-ahead Plan.

RESULT:	**APPROVED [UNANIMOUS]**
MOVER:	Victoria Baca, Mayor Pro Tem
SECONDER:	David Marquez, Council Member
AYES:	Dr. Yxstian A. Gutierrez, Victoria Baca, David Marquez, Ulises Cabrera
ABSENT:	Dr. Carla J. Thornton

H. ITEMS REMOVED FROM CONSENT CALENDARS FOR DISCUSSION OR SEPARATE ACTION - NONE

I. REPORTS

I.1. CITY COUNCIL REPORTS

(Informational Oral Presentation - not for Council action)

March Joint Powers Commission (JPC) - Mayor Pro Tem Baca

Mayor Pro Tem Baca reported the following:

Tonight, I'm providing an update from the March Joint Powers Commission meeting held on January 13th.

The JPA approved the Veterans Industrial Park 215 Specific Plan for a 2 million sq. ft. industrial building south of the March Field Air Museum, west of the runways, and north of Perris.

The Commission also voted to maintain last year's representatives on various JPA Subcommittees. Dr. Carla Thornton continues to represent Moreno Valley on the March Business Center Implementation Committee, the Development Community Ad Hoc Committee for the area east of I-215, and the Compatibility Use Study Committee. I will continue to serve on the Ad Hoc Parks Subcommittee.

Riverside County Habitat Conservation Agency (RCHCA) - None

Riverside County Transportation Commission (RCTC) - None

Riverside Transit Agency (RTA) - None

Western Riverside Council of Governments (WRCOG) - None

Western Riverside County Regional Conservation Authority (RCA) - None

School District/City Joint Task Force - None

I.2. CITY MANAGER'S REPORT

(Informational Oral Presentation - not for Council action)

City Manager Lee reminded residents that masks and hand sanitizer are available at no cost at the City's libraries and at the Employment Resource Center. He urged residents to sign up online at curative.com for Covid-19 testing in the Conference and Recreation Center parking lot. Assistant City Manager/Director of Public Works/City Engineer Wolfe provided an update on Momentum MoVal.

CLOSING COMMENTS AND/OR REPORTS OF THE CITY COUNCIL, COMMUNITY SERVICES DISTRICT, CITY AS SUCCESSOR AGENCY FOR THE COMMUNITY REDEVELOPMENT AGENCY, HOUSING AUTHORITY, PUBLIC FINANCING AUTHORITY, AND THE BOARD OF LIBRARY TRUSTEES.

Council Member Marquez
1. Signed up to sponsor a cleanup of Morrison Park.
2. Asked residents in need to contact him for masks or hand sanitizer.
3. Urged everyone to be safe if they are heading out during the inclement weather.

Council Member Cabrera
1. Expressed his pride of the Parks Department for the Beautify MoVal plan.
2. Adopted a section of Iris Boulevard in District 4.
3. Urged residents to stay safe during the severe winds.
4. Mentioned the Inauguration.
5. Remarked on the Covid-19 vaccine roll out.
6. Announced his run for Mayor in 2022.

Mayor Pro Tem Baca
1. Reminded everyone to continue to follow safety precautions regarding Covid-19 and directed them to the libraries or the Employment Resource Center for free masks and sanitizer.
2. Commended staff on the projects that have been completed thus far.
3. Is eagerly anticipating the District project.

Mayor Gutierrez
1. Thanked the three Mayor's Award of Valor recipients.
2. Praised staff for maintaining a balanced budget as well as the Pavement Management Program.
3. Commended staff for their work on Momentum MoVal.
4. Remarked that he will continue to focus on community cleanups and addressing homelessness throughout his current term and would do so for future terms if he runs for Mayor again.
5. Noted the difficulty in obtaining a Covid-19 vaccination.

6. While at Heritage High School, where he accompanied seniors who were obtaining their Covid-19 vaccine, he was impressed with the compassion shown by the firefighters and emergency medical response staff.
7. Escorted seniors to the San Gorgonio Middle School to receive the Covid-19 vaccine.
8. Praised the County, AMR, firefighters, and nurses for coordinating the vaccine roll out.
9. Explained that he is working with County and State officials to obtain more vaccine doses.
10. Reported that scientists have determined that the Covid-19 vaccine does protect against some variants.
11. Informed residents that the vaccine does not absolve them of continuing to follow the safety precautions.
12. Welcomed the new Administration.

ADJOURNMENT

There being no further business to come before the City Council, Mayor Gutierrez adjourned the meeting at 7:15 p.m.

Submitted by:

_____
Pat Jacquez-Nares, CMC & CERA
City Clerk
Secretary, Moreno Valley Community Services District
Secretary, City as Successor Agency for the Community
Redevelopment Agency of the City of Moreno Valley
Secretary, Moreno Valley Housing Authority
Secretary, Board of Library Trustees
Secretary, Public Financing Authority

Approved by:

_____
Dr. Yxstian A. Gutierrez
Mayor
City of Moreno Valley
President, Moreno Valley Community Services District
Chairperson, City as Successor Agency for the Community
Redevelopment Agency of the City of Moreno Valley
Chairperson, Moreno Valley Housing Authority
Chairperson, Board of Library Trustees
Chairperson, Public Financing Authority

Report to City Council

TO:	Mayor and City Council
FROM:	Pat Jacquez-Nares, City Clerk
AGENDA DATE:	February 2, 2021
TITLE:	COUNCIL DISCRETIONARY EXPENDITURE REPORTS FOR FISCAL YEAR 2020/2021 FROM JULY 1, 2020 THROUGH DECEMBER 31, 2020

RECOMMENDED ACTION

Recommendation:

1. Receive and file the Fiscal Year 2020/2021 Council Discretionary Expenditure Report for July 1, 2020 through December 31, 2020.

SUMMARY

This staff report is prepared at the request of the City Council to provide transparency with respect to the expenditure of City funds from City Council Discretionary Expenditure Accounts. These reports are for each Council Member's year to date expenditures for Fiscal Year 2020/2021, for July 1, 2020 through December 31, 2020. Each Council District receives an annual budget allocation of $3,000 and the Mayor receives an annual budget allocation of $6,000.

With the adoption of the current fiscal year budget and pursuant to Resolution No. 2019-27, unused monies from Fiscal Year 2019/2020 have been carried over to the current Fiscal Year as approved by the City Manager. The Discretionary Expenditure Reports now reflect the amended budget amount.

The expenditure reports are included routinely in the City Council agenda as an additional means of distributing reports on activities to the Council and public. The reports are to be posted to the City's website following Council approval. The monthly reports provide unaudited information and are reconciled to the City's general ledger. Following the end of the Fiscal Year, the financial information shall be reviewed as part of the City's independent financial audit.

NOTIFICATION

Posting of the agenda as required by the Brown Act.

PREPARATION OF STAFF REPORT

Prepared By:
Renee Bryant
Management Assistant

Department Head Approval:
Pat Jacquez-Nares
City Clerk

CITY COUNCIL GOALS

None

CITY COUNCIL STRATEGIC PRIORITIES

1. **Economic Development**
2. **Public Safety**
3. **Library**
4. **Infrastructure**
5. **Beautification, Community Engagement, and Quality of Life**
6. **Youth Programs**

ATTACHMENTS

1. FY 2020 21 Discretionary Expenditure Reports July through Dec

APPROVALS

Budget Officer Approval	✓ Approved	1/25/21 4:51 PM
City Attorney Approval	✓ Approved	
City Manager Approval	✓ Approved	1/25/21 5:35 PM

MAYOR DR. YXSTIAN A. GUTIERREZ
Fiscal Year 2020/2021 Council Discretionary Expenditures
Accounts: 1010-10-01-10015-620130 Mayor Discretionary
1010-10-01-10015-620131 Mayor Discretionary - Carryover
July 1, 2020 - December 31, 2020

Date	Amount	Description
		No expenditures to report for July 2020
		No expenditures to report for August 2020
		No expenditures to report for September 2020
		No expenditures to report for October 2020
		No expenditures to report for November 2020
		No expenditures to report for December 2020
	$ -	TOTAL Council Discretionary Expenditures for FY 20/21
	$ 6,000.00	FY 20/21 Adopted Budget Amount
	$ 2,575.00	Carryover Budget Amount FY 19/20
	$ 8,575.00	FY 20/21 Amended Budget Amount
	$ 8,575.00	FY 20/21 Budget Amount Remaining

Source: Unaudited financial data from the City's accounting records.
Updated as of: 01/19/2021

COUNCIL DISTRICT 1 VICTORIA BACA

Fiscal Year 2020/2021 Council Discretionary Expenditures

Accounts: 1010-10-01-10011-620111 District 1 Discretionary

1010-10-01-10011-620116 District 1 Discretionary - Carryover

July 1, 2020 - December 31, 2020

Date		Amount	Description
			No expenditures to report for July 2020
			No expenditures to report for August 2020
9/3/2020	$	400.00	Sponsorship MVAQ Pool Fees
			No expenditures to report for October 2020
			No expenditures to report for November 2020
			No expenditures to report for December 2020
	$	400.00	TOTAL Council Discretionary Expenditures for FY 20/21
	$	3,000.00	FY 20/21 Adopted Budget Amount
	$	1,989.00	Carryover Budget Amount FY 19/20
	$	4,989.00	FY 20/21 Amended Budget Amount
	$	4,589.00	FY 20/21 Budget Amount Remaining

Source: Unaudited financial data from the City's accounting records.

Updated as of: 01/19/2021

COUNCIL DISTRICT 2 DR. CARLA J. THORNTON
Fiscal Year 2020/2021 Council Discretionary Expenditures
Accounts: 1010-10-01-10012-620112 District 2 Discretionary
1010-10-01-10012-620117 District 2 Discretionary - Carryover
July 1, 2020 - December 31, 2020

Date		Amount	Description
			No expenditures to report for July 2020
8/26/2020	$	994.36	Point Emblem - Custom Challenge Coins
			No expenditures to report for September 2020
10/31/2020	$	37.70	Staples - Screen Protector for City Issued Cell Phone
10/31/2020	$	7.05	Cupcake & Espresso Bar - Refreshments for Listening Session
10/31/2020	$	4.85	Cupcake & Espresso Bar - Refreshments for Listening Session
			No expenditures to report for November 2020
			No expenditures to report for December 2020
	$	1,043.96	TOTAL Council Discretionary Expenditures for FY 20/21
	$	3,000.00	FY 20/21 Adopted Budget Amount
	$	3,639.00	Carryover Budget Amount FY 19/20
	$	6,639.00	FY 20/21 Amended Budget Amount
	$	5,595.04	FY 20/21 Budget Amount Remaining

Source: Unaudited financial data from the City's accounting records.
Updated as of: 01/19/2021

COUNCIL DISTRICT 3 DAVID MARQUEZ

Fiscal Year 2020/2021 Council Discretionary Expenditures

Accounts: 1010-10-01-10013-620113 District 3 Discretionary

1010-10-01-10013-620118 District 3 Discretionary - Carryover

July 1, 2020 - December 31, 2020

Date		Amount	Description
			No expenditures to report for July 2020
			No expenditures to report for August 2020
			No expenditures to report for September 2020
			No expenditures to report for October 2020
11/25/2020	$	500.00	Sponsorship | Building Lives Moreno Valley Food Pantry
			No expenditures to report for December 2020
	$	500.00	TOTAL Council Discretionary Expenditures for FY 20/21
	$	3,000.00	FY 20/21 Adopted Budget Amount
	$	2,578.00	Carryover Budget Amount FY 19/20
	$	5,578.00	FY 20/21 Amended Budget Amount
	$	5,078.00	FY 20/21 Budget Amount Remaining

Source: Unaudited financial data from the City's accounting records.

Updated as of: 01/19/2021

COUNCIL DISTRICT 4 ULISES CABRERA

Fiscal Year 2020/2021 Council Discretionary Expenditures

Accounts: 1010-10-01-10014-620114 District 4 Discretionary

1010-10-01-10014-620119 District 4 Discretionary - Carryover

July 1, 2020 - December 31, 2020

Date		Amount	Description
7/31/2020	$	10.00	Wake Up MoVal July 22 Meeting
8/24/2020	$	357.66	Sponsorship Be Kind to Your Mind Virtiual Wellness Event
9/30/2020	$	10.00	Wake Up MoVal September 23 Meeting
			No expenditures to report for October 2020
			No expenditures to report for November 2020
12/17/2020	$	800.00	Sponsorship Power Speaks Louder Toy Drive
12/31/2020	$	1,000.00	Sponsorship Operation Big Blessings Toy Drive
	$	2,177.66	TOTAL Council Discretionary Expenditures for FY 20/21
	$	3,000.00	FY 20/21 Adopted Budget Amount
	$	2,733.00	Carryover Budget Amount FY 19/20
	$	5,733.00	FY 20/21 Amended Budget Amount
	$	3,555.34	FY 20/21 Budget Amount Remaining

Source: Unaudited financial data from the City's accounting records.

Updated as of: 01/19/2021

Report to City Council

TO:	Mayor and City Council
FROM:	Marshall Eyerman, Assistant City Manager
AGENDA DATE:	February 2, 2021
TITLE:	RECEIPT OF QUARTERLY INVESTMENT REPORT FOR THE QUARTER ENDED DECEMBER 31, 2020

RECOMMENDED ACTION

Recommendations:

1. Receive and file the Quarterly Investment Report for quarter ended December 31, 2020, in compliance with the City's Investment Policy.

SUMMARY

The attached Quarterly Investment Report presents the City's cash and investments for the quarter that ended December 31, 2020. This report is in compliance with California Government Code Section 53646 regarding the reporting of detailed information on all securities, investments, and monies of the City, as well as the reporting of the market value of the investments held. All of the investments contained within the portfolio are in full compliance with the City's Investment Policy and Government Code Section 53601 as to the types of investments allowed. It is recommended that the City Council receive and file the attached Quarterly Investment Report.

DISCUSSION

The City maintains a portfolio of investments in order to earn interest on cash balances that are not currently required to fund operations. California Government Code Sections 53601 and 53646 establish the types of investments allowed, the governing restrictions on these investments, the third-party custodian arrangement for certain investments, and the reporting practices related to the portfolios of local agencies. In keeping with best practices the City has implemented an Investment Policy, which was last reviewed by the City Council on April 7, 2020. The policy is in full compliance with the requirements of both of the above-mentioned Code Sections.

The attached Quarterly Investment Report presents the City's cash and investments for the quarter that ended December 31, 2020. The report complies with California Government Code Section 53646 regarding the reporting of detailed information on all securities, investments, and monies of the City, as well as the reporting of the market value of the investments held. All of the investments contained within the portfolio are in full compliance with the City's Investment Policy and Government Code Section 53601 as to the types of investments allowed. As stated in the attached report, there is more than adequate liquidity within the portfolio for the City to meet its budgeted expenditures over the next six months.

The City's investment policy has set the primary goals of the portfolio management as Safety and Liquidity followed by Yield. The City's cash flow requirements are evaluated on an ongoing basis, with short-term needs accommodated through the City's pooled investment funds with the Local Agency Investment Fund (LAIF). LAIF is a pool of public funds managed by the State Treasurer of California, providing 24-hour liquidity while yielding a rate of return approximately equivalent to a one-year treasury bill. With the combined use of a conservative approach to evaluating cash flow needs and LAIF liquidity, the City will not have to liquidate securities at current market rates that are intended to be held for longer-term investment.

The table shows some of the key portfolio measures for the month.

	Portfolio	Avg. Yield to Maturity Trends		
	Balance	Dec 2020	Nov 2020	Dec 2019
Investments	$162,067,058	1.75%	1.79%	2.12 %
LAIF	$56,542,648	0.540%	0.576%	2.043%

Bond proceeds are held and invested by a Trustee. The investment of these funds is governed by an investment policy approved by the City Council as a part of the governing documents for each specific bond issue. Deferred Compensation Plan funds are not included in the report since these funds are held and invested by the respective plan administrators based on the direction of the participating employees. These funds are placed in a trust separate from City funds.

ALTERNATIVES

1. Receive and file the Quarterly Investment Report for December 31, 2020. ***Staff recommends this alternative as it accomplishes timely investment reporting.***

2. Do not accept and file the Quarterly Investment Report and provide staff with additional direction. ***Staff does not recommend this alternative as it will not accomplish timely investment reporting.***

FISCAL IMPACT

For additional information regarding the bond market, please see the attached Bond Market Review provided by Chandler Asset Management.

NOTIFICATION

Publication of the agenda

PREPARATION OF STAFF REPORT

Prepared By:
Brooke McKinney
Treasury Operations Division Manager

Department Head Approval:
Marshall Eyerman
Assistant City Manager/Chief Financial Officer/City Treasurer

CITY COUNCIL GOALS

None

CITY COUNCIL STRATEGIC PRIORITIES

1. **Economic Development**
2. **Public Safety**
3. **Library**
4. **Infrastructure**
5. **Beautification, Community Engagement, and Quality of Life**
6. **Youth Programs**

ATTACHMENTS

1. 2020-12 Investment Report

APPROVALS

Budget Officer Approval	✓ Approved	1/20/21 10:07 AM
City Attorney Approval	✓ Approved	
City Manager Approval	✓ Approved	1/22/21 11:29 AM

CITY OF MORENO VALLEY

Treasurer's Cash and Investments Report

December 2020

General Portfolio	Cost Value	Market Value	Par Value	Average Maturity (in years)	Average Yield to Maturity	Average Duration (in years)
Bank Accounts	4,098,243	4,098,243	4,098,243			
State of California LAIF Pool	56,542,648	56,671,074	56,542,648	**0.46**	**0.54%**	
Investments	163,318,928	168,326,323	162,067,058	**2.62**	**1.75%**	**2.54**
Total General Portfolio	**223,959,819**	**229,095,640**	**222,707,949**			
Total Funds with Fiscal Agents		**9,572,534**				
Total Investment Portfolio		**238,668,174**				

1. I hereby certify that the investments are in compliance with the investment policy adopted by the City Council. There are no items of non-compliance for this period.
2. The market values for the investments in the General Portfolio are provided by the City's investment advisors.
3. The market value for LAIF is provided by the State Treasurer's Office.
4. The market values for investments held by fiscal agents are provided by each respective trustee or fiscal agent.
5. The City has the ability to meet its budgeted expenditures for the next six months pending any future action by City Council or any unforeseen catastrophic event.

/S/ Marshall Eyerman
City Treasurer

PORTFOLIO PERFORMANCE - 36 MONTH TREND

Period	Total General Portfolio (1)		Local Agency Investment Fund (LAIF)		Chandler				Insight			
							Rate of Return (3)				Rate of Return (3)	
	Asset Balance (par)	Avg YTM (2)	Balance	Yield	Asset Balance (par)	Weighted Avg YTM (2)	Investment Portfolio (4)	Benchmark 1-5 Gov(5)	Asset Balance (par)	Weighted Avg YTM (2)	Investment Portfolio (4)	Benchmark 1-3 Gov(5)
Jan-18	192,795,926		49,974,332	1.350%	85,144,970	1.78%	0.47%	0.12%	55,563,293	1.48%	-0.13%	0.93%
Feb-18	202,940,569		55,774,331	1.412%	85,263,827	1.80%	0.08%	-0.23%	55,682,887	1.55%	-0.19%	-0.13%
Mar-18	195,416,305		52,074,331	1.524%	85,446,356	1.82%	0.22%	0.00%	55,785,899	1.57%	-0.01%	0.03%
Apr-18	191,668,439		48,358,005	1.661%	85,541,787	1.86%	-0.33%	-0.62%	55,920,551	1.63%	0.00%	0.00%
May-18	210,976,889		65,058,005	1.755%	85,714,498	1.91%	-0.16%	-0.39%	55,998,203	1.67%	0.65%	1.65%
Jun-18	207,635,739		61,758,005	1.854%	88,337,665	1.97%	-0.05%	-0.28%	56,077,829	1.70%	0.36%	0.08%
Jul-18	190,571,998		44,418,902	1.944%	88,543,794	2.00%	-0.36%	-0.63%	56,116,437	1.70%	-0.14%	0.50%
Aug-18	191,837,452		45,518,902	1.998%	88,654,200	2.03%	-0.23%	-0.53%	56,196,487	1.69%	0.76%	-0.01%
Sep-18	187,805,745		38,718,902	2.063%	88,810,836	2.04%	-0.16%	-0.47%	56,303,716	1.76%	0.83%	0.04%
Oct-18	188,925,543		39,668,140	2.144%	88,887,254	2.09%	-0.90%	-0.31%	56,473,609	1.80%	0.97%	0.25%
Nov-18	192,152,043		42,768,140	2.208%	89,084,357	2.13%	0.57%	0.40%	56,568,013	1.83%	1.52%	2.25%
Dec-18	197,462,474		46,268,140	2.291%	89,215,211	2.14%	1.52%	1.47%	56,671,250	1.90%	1.68%	2.33%
Jan-19	195,050,449		45,553,390	2.355%	89,373,064	2.15%	2.50%	2.45%	56,704,121	1.96%	0.31%	2.40%
Feb-19	211,740,422		62,553,390	2.392%	89,552,434	2.17%	2.84%	2.68%	56,761,069	2.13%	0.29%	2.44%
Mar-19	216,770,725		66,553,390	2.436%	89,668,393	2.21%	3.40%	3.28%	56,827,466	2.11%	0.47%	2.72%
Apr-19	206,696,569		59,210,262	2.445%	89,757,226	2.23%	3.83%	3.76%	56,986,412	2.10%	1.12%	3.08%
May-19	217,014,248		56,910,262	2.449%	100,691,487	2.25%	4.22%	4.27%	57,041,732	2.06%	1.51%	2.52%
Jun-19	225,003,102		62,910,263	2.428%	100,533,542	2.19%	4.88%	5.01%	57,126,387	1.98%	1.85%	2.57%
Jul-19	215,879,596	2.16%	53,598,980	2.379%	157,563,906	2.15%	-0.05%	-0.15%				
Aug-19	209,798,005	2.17%	50,148,980	2.341%	160,310,760	2.15%	5.44%	5.65%				
Sep-19	211,426,202	2.14%	49,048,980	2.280%	157,687,693	2.13%	5.46%	5.69%				
Oct-19	214,964,798	2.12%	54,181,584	2.190%	157,861,930	2.14%	5.77%	5.93%				
Nov-19	214,680,646	2.08%	53,481,584	2.103%	158,054,077	2.13%	5.33%	5.39%				
Dec-19	212,612,925	2.06%	50,681,584	2.043%	158,388,112	2.12%	4.48%	4.44%				
Jan-20	229,167,101	1.94%	55,970,504	1.967%	158,699,920	2.12%	4.87%	4.91%				
Feb-20	230,049,439	1.99%	66,570,054	1.912%	158,969,268	2.09%	5.79%	6.00%				
Mar-20	225,363,037	1.94%	62,570,054	1.787%	159,105,226	2.06%	5.56%	6.45%				
Apr-20	225,445,326	1.85%	62,878,795	1.648%	159,403,581	2.04%	6.06%	6.63%				
May-20	219,117,777	1.77%	55,278,795	1.363%	159,679,729	1.97%	5.69%	5.90%				
Jun-20	236,772,134	1.68%	72,778,795	1.217%	160,035,042	1.95%	5.34%	5.32%				
Jul-20	226,372,547	1.60%	61,612,184	0.920%	160,406,297	1.93%	5.67%	5.70%				
Aug-20	223,935,560	1.57%	58,612,184	0.784%	160,692,610	1.90%	4.65%	4.45%				
Sep-20	218,568,986	1.54%	53,112,184	0.685%	161,062,847	1.87%	4.82%	4.68%				
Oct-20	215,409,591	1.53%	49,242,648	0.620%	161,363,505	1.85%	4.43%	4.23%				
Nov-20	219,911,125	1.45%	52,542,648	0.576%	161,645,491	1.79%	4.60%	4.43%				
Dec-20	222,707,950	1.41%	56,542,648	0.540%	162,067,058	1.75%	4.59%	4.36%				

Notes:

(1) Total General Portfolio includes all assets that comprise the City's Investment Portfolio which is LAIF as well as assets managed by Chandler Asset Management.

(2) Yield to Maturity (YTM): The rate of return on an investment or security if it were to be held until maturity. This yield does not reflect changes in the market value of a security

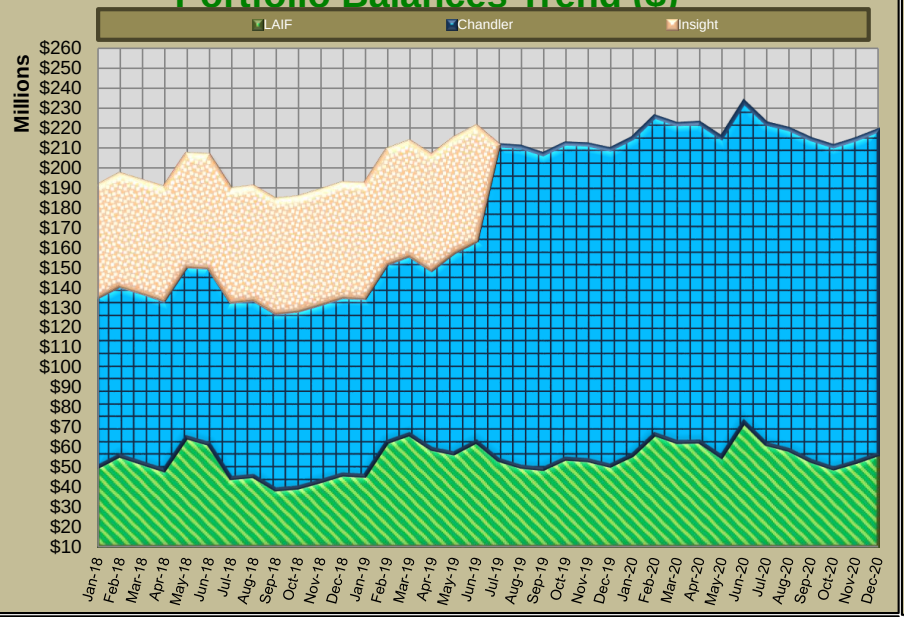
(3) Rate of Return represents the gain or loss on an investment or portfolio of investments over a specified period, expressed as a percentage of increase over the initial investment cost. Gains on investments are considered to be any income received from the security or portfolio plus any realized capital gain. This measure of return recognizes the changes in market values of a security or portfolio of securities.

(4) The Rate of Return for the investment portfolio reflects the performance of the portfolio during the past twelve months.

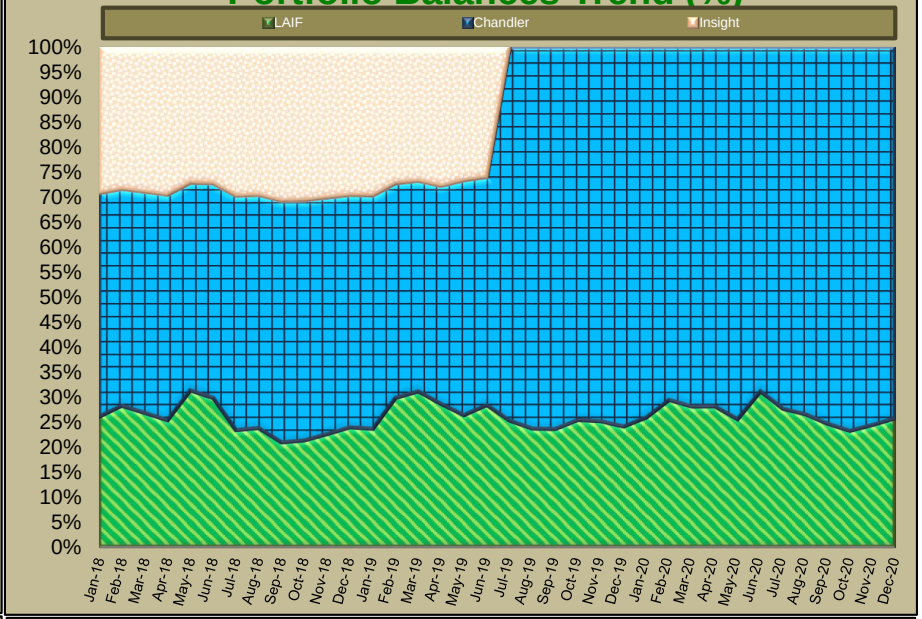
(5) The portfolio benchmark is the ICE Bank of America-Merrill Lynch 1 to 5 year Government Index

PORTFOLIO PERFORMANCE - 36 MONTH TREND

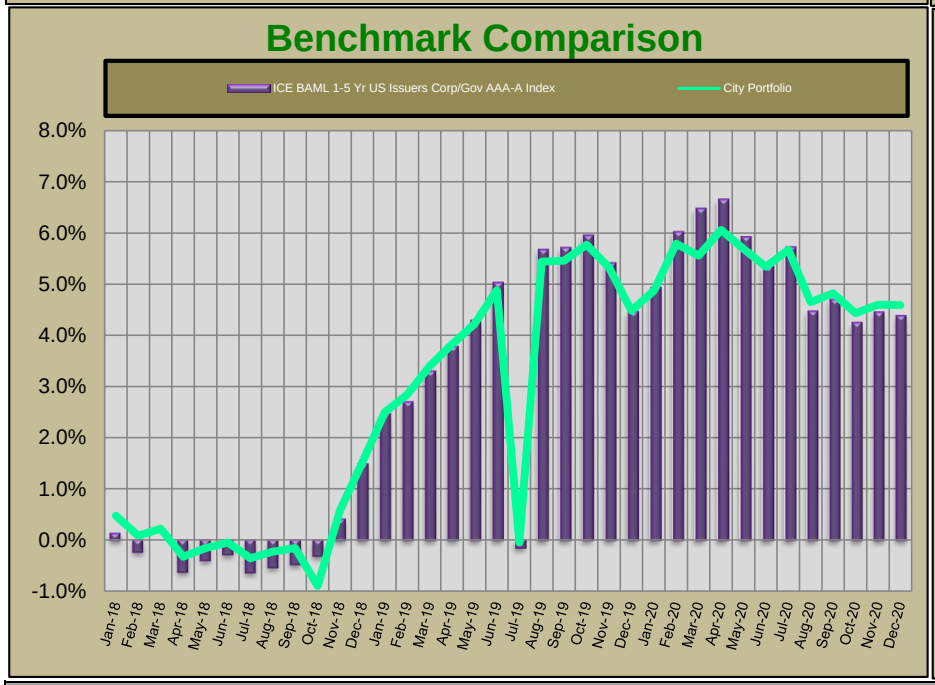
Portfolio Balances Trend ($)



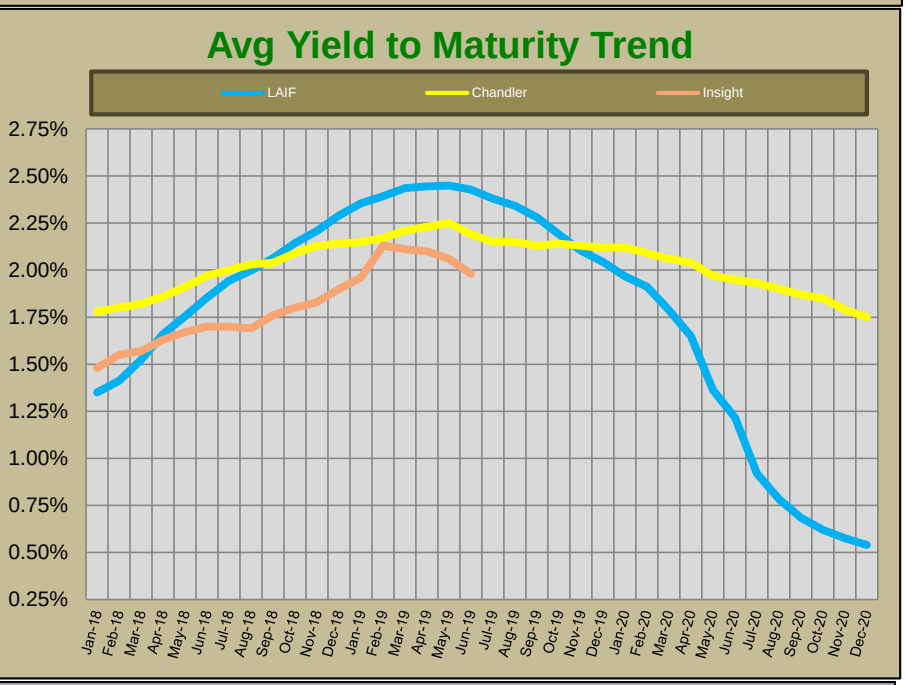
Portfolio Balances Trend (%)



Benchmark Comparison



Avg Yield to Maturity Trend



PORTFOLIO CHARACTERISTICS

The portfolio invested in LAIF represents the City's immediate cash liquidity needs and is managed by City staff in a manner to fund the day to day operations of the City.

The portfolio managed by Chandler is comprised of idle cash balances related to funds that generally expect to expend cash with the next 12 to 60 months.

FUNDS WITH FISCAL AGENTS

By Investment Type

Trustee	Bond Description	Investment Type	Issuer	Value Date	Maturity Date	Market Value	Stated Rate	Yield	Price	% of of Portfolio
Wells Fargo	CFD # 5	Money Market	WF Government Fund	12/31/2020	1/1/2021	$ 564,218	0.01%	0.01%	1.00	5.89%
Wells Fargo	Community Facilities Disctrict 87-1 (IA-1)	Money Market	WF Government Fund	12/31/2020	1/1/2021	$ 1,763,021	0.01%	0.01%	1.00	18.42%
Wells Fargo	2013 Partial Refunding of the 2005 Lease Revenue Bonds	Money Market	WF Government Fund	12/31/2020	1/1/2021	$ 5	0.01%	0.01%	1.00	0.00%
Wells Fargo	2014 Partial Refunding of the 2005 Lease Revenue Bonds	Money Market	WF Government Fund	12/31/2020	1/1/2021	$ 2	0.01%	0.01%	1.00	0.00%
Wells Fargo	2015 Taxable Lease Revenue Bonds (Electric Utility)	Money Market	WF Government Fund	12/31/2020	1/1/2021	$ 1	0.01%	0.01%	1.00	0.00%
Wells Fargo	2016 Taxable Refunding Lease Revenue Bonds (Electric Utility)	Money Market	WF Government Fund	12/31/2020	1/1/2021	$ 1	0.01%	0.01%	1.00	0.00%
Wells Fargo	2016 Community Facilities District 7 Improvement Area 1	Money Market	WF Government Fund	12/31/2020	1/1/2021	$ 262,307	0.01%	0.01%	1.00	2.74%
Wells Fargo	2017 Refunding of the 2007 RDA TABs	Money Market	WF Government Fund	12/31/2020	1/1/2021	$ 753,473	0.01%	0.01%	1.00	7.87%
Wells Fargo	2019 Taxable Lease Revenue Bonds (Electric Utility)	Money Market	WF Government Fund	12/31/2020	1/1/2021	$ 6,228,694	0.01%	0.01%	1.00	65.07%
Wilmington Trust	2020 Taxable Refunding of the 2013 TRIP COPs	Money Market	Federated Hermes Gov Fund	12/31/2020	1/1/2021	$ 806	0.00%	0.00%	1.00	0.01%
Wilmington Trust	2018 Streetlight Financing	Money Market	Federated Hermes Gov Fund	12/31/2020	1/1/2021	$ 5				
	Total					$ 9,572,534				100.00%

By Fund Purpose

Trustee	Bond Description	Construction fund	Debt Service	Reserve & Other	Total
Wells Fargo	CFD # 5	$0	$18,218	$546,000	$564,218
Wells Fargo	Community Facilities Disctrict 87-1 (IA-1)	$0	$734,329	$1,028,692	$1,763,021
Wells Fargo	2013 Partial Refunding of the 2005 Lease Revenue Bonds	$0	$5	$0	$5
Wells Fargo	2014 Partial Refunding of the 2005 Lease Revenue Bonds	$0	$2	$0	$2
Wells Fargo	2015 Taxable Lease Revenue Bonds (Electric Utility)	$0	$1	$0	$1
Wells Fargo	2016 Taxable Refunding Lease Revenue Bonds (Electric Utility)	$0	$1	$0	$1
Wells Fargo	2016 Community Facilities District 7 Improvement Area 1	$0	$1,865	$260,442	$262,307
Wells Fargo	2017 Refunding of the 2007 RDA TABs	$0	$753,473	$0	$753,473
Wells Fargo	2019 Taxable Lease Revenue Bonds (Electric Utility)	$6,228,693	$2	$0	$6,228,694
Wilmington Trust	2020 Taxable Refunding of the 2013 TRIP COPs	$0	$806	$0	$806
Wilmington Trust	2018 Streetlight Financing	$5	$0	$0	$5
	Total	$6,228,698	$1,508,703	$1,835,133	$9,572,534

City of Moreno Valley

MONTHLY ACCOUNT STATEMENT

DECEMBER 1, 2020 THROUGH DECEMBER 31, 2020

Chandler Team:
For questions about your account, please call (800) 317-4747,
or contact **operations@chandlerasset.com**

Custodian
Union Bank N.A.
Tina Guzman
(619) 230-3547

CHANDLER ASSET MANAGEMENT
chandlerasset.com

Information contained herein is confidential. We urge you to compare this statement to the one you receive from your qualified custodian. Please see Important Disclosures.

City of Moreno Valley

Portfolio Summary

As of December 31, 2020

PORTFOLIO CHARACTERISTICS

Average Modified Duration	2.54
Average Coupon	1.94%
Average Purchase YTM	1.75%
Average Market YTM	0.28%
Average S&P/Moody Rating	AA/Aa1
Average Final Maturity	2.81 yrs
Average Life	2.62 yrs

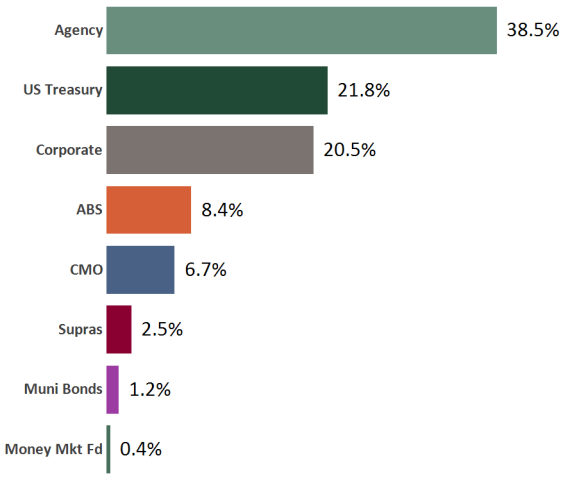
ACCOUNT SUMMARY

	Beg. Values as of 11/30/20	End Values as of 12/31/20
Market Value	167,988,328	168,326,323
Accrued Interest	739,113	675,099
Total Market Value	**168,727,441**	**169,001,422**
Income Earned	244,831	240,589
Cont/WD		0
Par	161,645,491	162,067,058
Book Value	162,645,725	163,035,280
Cost Value	162,889,831	163,318,928

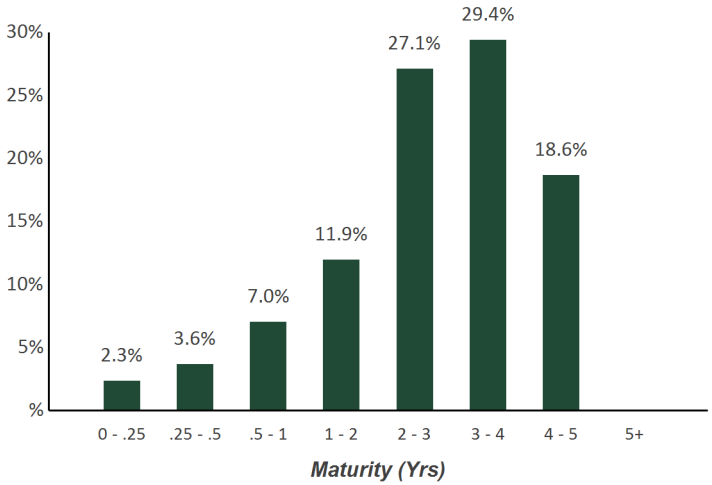
TOP ISSUERS

Government of United States	21.8%
Federal National Mortgage Assoc	17.3%
Federal Home Loan Mortgage Corp	17.0%
Federal Home Loan Bank	11.0%
John Deere ABS	2.2%
Honda ABS	1.7%
Toyota Motor Corp	1.7%
US Bancorp	1.6%
Total	**74.3%**

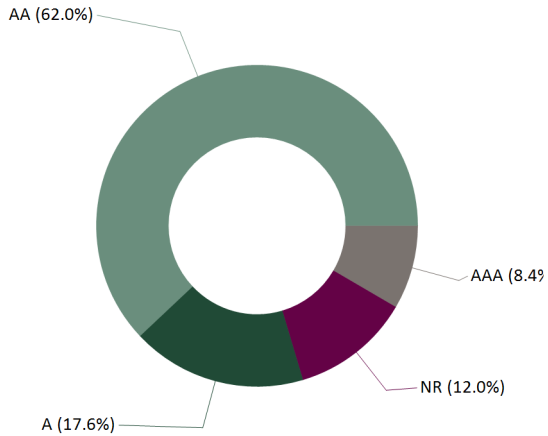
SECTOR ALLOCATION



MATURITY DISTRIBUTION



CREDIT QUALITY (S&P)



PERFORMANCE REVIEW

					Annualized				
TOTAL RATE OF RETURN	**1M**	**3M**	**YTD**	**1YR**	**2YRS**	**3YRS**	**5YRS**	**10YRS**	**5/31/20**
City of Moreno Valley	0.16%	0.26%	4.59%	4.59%	4.54%	3.52%	2.61%	2.05%	2.12
ICE BAML 1-5 Year US Treasury/Agency Index	0.07%	0.02%	4.22%	4.22%	4.20%	3.30%	2.33%	1.78%	1.82
ICE BAML 1-5 Yr US Issuers Corp/Govt Rtd AAA-A Idx	0.09%	0.10%	4.36%	4.36%	4.40%	3.41%	2.46%	1.93%	1.98

Statement of Compliance

As of December 31, 2020

City of Moreno Valley

Assets managed by Chandler Asset Management are in full compliance with state law and with the City's investment policy.

Category	Standard	Comment
Treasury Issues	No Limitation	*Complies*
U.S. Agency Issues	No Limitation	*Complies*
Supranational Securities	"AA" rating by a NRSRO; 30% maximum; 5% max per issuer; Issued by International Bank for Reconstruction (IBRD), International Finance Corporation (IFC), or Inter-American Development Bank (IADB) only	*Complies*
Municipal Securities (Local Agency/State-CA and others)	No Limitation	*Complies*
Banker's Acceptances	40% maximum; 5% max per issuer; 180 days max maturity	*Complies*
Commercial Paper	"A-1/P-1/F-1" minimum ratings; "A" rated issuer or higher, if long term debt issued; 25% maximum; 5% max per issuer; 270 days max maturity	*Complies*
Negotiable Certificates of Deposit	30% maximum; 5% max per issuer	*Complies*
Medium Term Notes	"A" rating or better by a NRSRO; 30% maximum; 5% max per issuer	*Complies*
Money Market Mutual Funds and Mutual Funds	AAA/Aaa or Highest rating by two NRSROs; 20% maximum	*Complies*
Certificates of Deposit (CD)/ Time Deposit (TD)/ Bank Deposit (Collateralized/FDIC insured)	5% max per issuer	*Complies*
Asset-Backed Securities, Mortgage Pass-Through Securities, Collateralized Mortgage Backed Securities	"AA" rating or better by a NRSRO; 20% maximum (combined MBS/ABS/CMO); 5% max per issuer	*Complies*
Repurchase Agreements	1 year max maturity	*Complies*
Local Agency Investment Fund (LAIF)	Maximum program limitation; Not used by investment adviser	*Complies*
County Pooled Investment Funds; Joint Powers Authority Pool	Not used by investment adviser	*Complies*
Prohibited Securities	Reverse repurchase agreements; Futures or Option contracts; Securities lending; Zero interest accrual securities; Derivatives including but not limited to: Inverse floaters, Interest only strips from mortgages, residual securities, structured notes, forward based derivatives, forward contracts, forward rate agreements, interest rate futures, foreign currency futures contracts, option based derivatives, interest rate caps, interest rate floors, swap contracts, interest rate swaps, interest rate collars, foreign currency swaps, cross currency exchange agreements, fixed rate currency swaps, basis swaps, equity swaps, fixed rate equity swaps, floating rate equity swaps and commodity swaps.	*Complies*
Max Per Issuer	5% of portfolio per issuer, except US Government, its agencies and instrumentalities	*Complies*
Maximum maturity	5 years	*Complies*
Weighted Average Maturity	3 years	*Complies*

Holdings Report

As of December 31, 2020

CUSIP	Security Description	Par Value/Units	Purchase Date Book Yield	Cost Value Book Value	Mkt Price Mkt YTM	Market Value Accrued Int.	% of Port. Gain/Loss	Moody/S&P Fitch	Maturi Duratio
ABS									
47788CAC6	John Deere Owner Trust 2018-A A3 2.66% Due 4/18/2022	34,026.02	02/21/2018 2.68%	34,023.57 34,025.25	100.25 0.44%	34,111.43 40.23	0.02% 86.18	Aaa / NR AAA	1.3 0.1
43815HAC1	Honda Auto Receivables Trust 2018-3 A3 2.95% Due 8/22/2022	338,473.17	08/21/2018 2.98%	338,426.73 338,454.08	101.18 0.17%	342,482.39 277.36	0.20% 4,028.31	Aaa / NR AAA	1.6 0.4
89238TAD5	Toyota Auto Receivables Trust 2018-B A3 2.96% Due 9/15/2022	979,153.09	07/25/2019 2.31%	989,518.34 984,788.74	101.07 0.03%	989,585.00 1,288.13	0.59% 4,796.26	Aaa / AAA NR	1.7 0.3
47788EAC2	John Deere Owner Trust 2018-B A3 3.08% Due 11/15/2022	405,536.95	07/18/2018 3.10%	405,506.21 405,523.61	101.01 0.20%	409,649.50 555.14	0.24% 4,125.89	Aaa / NR AAA	1.8 0.3
58770FAC6	Mercedes Benz Auto Lease Trust 2020-A A3 1.84% Due 12/15/2022	570,000.00	01/21/2020 1.85%	569,924.87 569,949.03	101.40 0.26%	577,963.47 466.13	0.34% 8,014.44	Aaa / AAA NR	1.9 0.8
65479GAD1	Nissan Auto Receivables Trust 2018-B A3 3.06% Due 3/15/2023	624,375.56	09/16/2019 1.67%	633,058.28 628,416.33	101.37 0.42%	632,951.36 849.15	0.38% 4,535.03	Aaa / AAA NR	2.2 0.5
47789JAD8	John Deere Owner Trust 2019-A A3 2.91% Due 7/17/2023	1,328,769.42	08/27/2019 1.90%	1,356,434.82 1,343,880.56	101.91 0.03%	1,354,208.71 1,718.54	0.80% 10,328.15	Aaa / NR AAA	2.5 0.6
43815NAC8	Honda Auto Receivables Trust 2019-3 A3 1.78% Due 8/15/2023	1,150,000.00	08/20/2019 1.79%	1,149,990.46 1,149,994.68	101.63 0.30%	1,168,771.45 909.78	0.69% 18,776.77	Aaa / AAA NR	2.6 1.0
58769EAC2	Mercedes-Benz Auto Lease Trust 2020-B A3 0.4% Due 11/15/2023	525,000.00	09/15/2020 0.40%	524,973.38 524,976.53	100.21 0.27%	526,106.18 93.33	0.31% 1,129.65	NR / AAA AAA	2.8 1.6
477870AC3	John Deere Owner Trust 2019-B A3 2.21% Due 12/15/2023	590,000.00	07/16/2019 2.23%	589,874.74 589,915.87	101.93 0.17%	601,387.00 579.51	0.36% 11,471.13	Aaa / NR AAA	2.9 0.9
92348AAA3	Verizon Owner Trust 2019-C A1A 1.94% Due 4/22/2024	785,000.00	10/01/2019 1.95%	784,939.48 784,955.94	102.15 0.26%	801,842.18 465.33	0.47% 16,886.24	NR / AAA AAA	3.3 1.2
65479JAD5	Nissan Auto Receivables Owner 2019-C A3 1.93% Due 7/15/2024	1,230,000.00	10/16/2019 1.94%	1,229,935.06 1,229,951.45	102.04 0.43%	1,255,085.85 1,055.07	0.74% 25,134.40	Aaa / AAA NR	3.5 1.3
43813DAC2	Honda Auto Receivables 2020-2 A3 0.82% Due 7/15/2024	525,000.00	05/18/2020 0.83%	524,958.68 524,964.67	100.98 0.24%	530,121.90 191.33	0.31% 5,157.23	Aaa / AAA NR	3.5 1.6
47789KAC7	John Deere Owner Trust 2020-A A3 1.1% Due 8/15/2024	865,000.00	03/04/2020 1.11%	864,947.15 864,956.82	101.25 0.30%	875,852.29 422.89	0.52% 10,895.47	Aaa / NR AAA	3.6 1.56

Holdings Report

As of December 31, 2020

CUSIP	Security Description	Par Value/Units	Purchase Date Book Yield	Cost Value Book Value	Mkt Price Mkt YTM	Market Value Accrued Int.	% of Port. Gain/Loss	Moody/S&P Fitch	Maturi Duratio
ABS									
43813KAC6	Honda Auto Receivables Trust 2020-3 A3 0.37% Due 10/18/2024	870,000.00	09/22/2020 0.38%	869,872.20 869,882.69	100.17 0.29%	871,471.17 116.24	0.52% 1,588.48	NR / AAA AAA	3.8 2.0
47787NAC3	John Deere Owner Trust 2020-B A3 0.51% Due 11/15/2024	400,000.00	07/14/2020 0.52%	399,939.04 399,946.85	100.32 0.34%	401,286.00 90.67	0.24% 1,339.15	Aaa / NR AAA	3.8 1.8
89236XAC0	Toyota Auto Receivables 2020-D A3 0.35% Due 1/15/2025	695,000.00	10/06/2020 0.36%	694,870.52 694,877.18	99.98 0.36%	694,877.18 108.11	0.41% 0.00	NR / AAA AAA	4.0 1.9
92290BAA9	Verizon Owner Trust 2020-B A 0.47% Due 2/20/2025	1,215,000.00	08/04/2020 0.48%	1,214,744.85 1,214,766.77	100.35 0.30%	1,219,301.10 174.49	0.72% 4,534.33	Aaa / NR AAA	4.1 2.0
44891RAC4	Hyundai Auto Receivables Trust 2020-C A3 0.38% Due 5/15/2025	880,000.00	10/20/2020 0.39%	879,797.34 879,808.27	100.17 0.31%	881,530.32 148.62	0.52% 1,722.05	NR / AAA AAA	4.3 2.5
Total ABS		**14,010,334.21**	**1.42%**	**14,055,735.72** **14,034,035.32**	**0.26%**	**14,168,584.48** **9,550.05**	**8.39%** **134,549.16**	**Aaa / AAA** **AAA**	**3.1** **1.3**
AGENCY									
313379RB7	FHLB Note 1.875% Due 6/11/2021	1,000,000.00	08/30/2017 1.67%	1,007,540.00 1,000,879.67	100.75 0.18%	1,007,524.00 1,041.67	0.60% 6,644.33	Aaa / AA+ AAA	0.4 0.4
313373ZY1	FHLB Note 3.625% Due 6/11/2021	2,000,000.00	02/11/2019 2.51%	2,049,900.00 2,009,451.65	101.55 0.13%	2,031,002.00 4,027.78	1.20% 21,550.35	Aaa / AA+ NR	0.4 0.4
3130A8QS5	FHLB Note 1.125% Due 7/14/2021	1,100,000.00	10/04/2016 1.33%	1,089,836.00 1,098,868.07	100.54 0.12%	1,105,905.90 5,740.63	0.66% 7,037.83	Aaa / AA+ AAA	0.5 0.5
3130AF5B9	FHLB Note 3% Due 10/12/2021	1,400,000.00	11/29/2018 2.91%	1,403,528.00 1,400,956.97	102.22 0.16%	1,431,052.00 9,216.67	0.85% 30,095.03	Aaa / AA+ NR	0.7 0.7
3135G0T94	FNMA Note 2.375% Due 1/19/2023	1,850,000.00	04/11/2018 2.71%	1,822,731.00 1,838,297.64	104.58 0.14%	1,934,731.85 19,771.88	1.16% 96,434.21	Aaa / AA+ AAA	2.0 1.9
3137EAER6	FHLMC Note 0.375% Due 5/5/2023	3,110,000.00	05/05/2020 0.39%	3,108,693.80 3,108,979.42	100.51 0.16%	3,125,966.74 1,814.17	1.85% 16,987.32	Aaa / AA+ AAA	2.3 2.3
3135G04Q3	FNMA Note 0.25% Due 5/22/2023	3,080,000.00	05/20/2020 0.35%	3,070,729.20 3,072,625.69	100.24 0.15%	3,087,271.88 834.17	1.83% 14,646.19	Aaa / AA+ AAA	2.3 2.3
3137EAEN5	FHLMC Note 2.75% Due 6/19/2023	3,000,000.00	Various 2.39%	3,038,014.00 3,024,932.69	106.32 0.18%	3,189,513.00 2,750.00	1.89% 164,580.31	Aaa / AA+ AAA	2.4 2.4

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AGENCY									
3135G05G4	FNMA Note 0.25% Due 7/10/2023	2,555,000.00	07/08/2020 0.32%	2,549,506.75 2,550,384.67	100.24 0.16%	2,561,101.34 3,034.06	1.52% 10,716.67	Aaa / AA+ AAA	2.5 2.5
3137EAEV7	FHLMC Note 0.25% Due 8/24/2023	1,925,000.00	08/19/2020 0.28%	1,923,036.50 1,923,274.34	100.20 0.18%	1,928,794.18 1,737.85	1.14% 5,519.84	Aaa / AA+ AAA	2.6 2.6
3135G06H1	FNMA Note 0.25% Due 11/27/2023	3,020,000.00	11/23/2020 0.29%	3,016,557.20 3,016,673.32	100.09 0.22%	3,022,724.04 755.00	1.79% 6,050.72	Aaa / AA+ AAA	2.9 2.8
3130A0F70	FHLB Note 3.375% Due 12/8/2023	1,700,000.00	01/16/2019 2.73%	1,749,623.00 1,729,757.13	109.25 0.21%	1,857,290.80 3,665.63	1.10% 127,533.67	Aaa / AA+ AAA	2.9 2.8
3130AB3H7	FHLB Note 2.375% Due 3/8/2024	1,400,000.00	04/29/2019 2.37%	1,400,098.00 1,400,064.19	106.79 0.24%	1,495,008.20 10,436.81	0.89% 94,944.01	Aaa / AA+ NR	3.1 3.0
3130A1XJ2	FHLB Note 2.875% Due 6/14/2024	3,000,000.00	Various 1.94%	3,131,160.00 3,091,431.81	109.16 0.21%	3,274,713.00 4,072.92	1.94% 183,281.19	Aaa / AA+ NR	3.4 3.3
3135G0V75	FNMA Note 1.75% Due 7/2/2024	3,000,000.00	07/16/2019 1.96%	2,969,790.00 2,978,692.95	105.29 0.23%	3,158,736.00 26,104.17	1.88% 180,043.05	Aaa / AA+ AAA	3.5 3.3
3130A2UW4	FHLB Note 2.875% Due 9/13/2024	3,000,000.00	09/13/2019 1.79%	3,155,070.00 3,114,857.22	109.67 0.25%	3,290,049.00 25,875.00	1.96% 175,191.78	Aaa / AA+ AAA	3.7 3.5
3135G0W66	FNMA Note 1.625% Due 10/15/2024	1,180,000.00	10/17/2019 1.66%	1,177,982.20 1,178,470.06	105.41 0.19%	1,243,876.94 4,048.06	0.74% 65,406.88	Aaa / AA+ AAA	3.7 3.6
3135G0X24	FNMA Note 1.625% Due 1/7/2025	3,210,000.00	Various 1.18%	3,276,100.10 3,264,944.96	105.38 0.28%	3,382,595.28 25,211.87	2.02% 117,650.32	Aaa / AA+ AAA	4.0 3.8
3137EAEP0	FHLMC Note 1.5% Due 2/12/2025	3,590,000.00	02/13/2020 1.52%	3,587,235.70 3,587,723.43	104.90 0.30%	3,766,010.52 20,792.08	2.24% 178,287.09	Aaa / NR AAA	4.1 3.9
3130A4CH3	FHLB Note 2.375% Due 3/14/2025	2,750,000.00	03/19/2020 1.18%	2,908,867.50 2,883,815.32	108.27 0.39%	2,977,416.75 19,412.33	1.77% 93,601.43	Aaa / AA+ AAA	4.2 4.0
3135G03U5	FNMA Note 0.625% Due 4/22/2025	2,830,000.00	04/22/2020 0.67%	2,824,170.20 2,824,975.63	101.18 0.35%	2,863,266.65 3,390.10	1.70% 38,291.02	Aaa / AA+ AAA	4.3 4.2
3135G04Z3	FNMA Note 0.5% Due 6/17/2025	1,780,000.00	06/17/2020 0.54%	1,776,315.40 1,776,711.33	100.53 0.38%	1,789,442.90 346.11	1.06% 12,731.57	Aaa / AA+ AAA	4.4 4.4
3137EAEU9	FHLMC Note 0.375% Due 7/21/2025	1,900,000.00	07/21/2020 0.48%	1,890,538.00 1,891,378.38	100.05 0.36%	1,901,003.20 3,127.08	1.13% 9,624.82	Aaa / AA+ AAA	4.5 4.5
3135G05X7	FNMA Note 0.375% Due 8/25/2025	3,150,000.00	12/16/2020 0.43%	3,141,904.50 3,141,975.43	99.98 0.38%	3,149,310.15 4,068.75	1.87% 7,334.72	Aaa / AA+ AAA	4.6 4.6

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AGENCY									
3137EAEX3	FHLMC Note 0.375% Due 9/23/2025	3,385,000.00	Various 0.44%	3,374,969.55 3,375,336.37	99.83 0.41%	3,379,367.36 3,385.00	2.00% 4,030.99	Aaa / AA+ AAA	4.7 4.6
3135G06G3	FNMA Note 0.5% Due 11/7/2025	2,970,000.00	11/09/2020 0.57%	2,959,367.40 2,959,659.34	100.42 0.41%	2,982,423.51 2,021.25	1.77% 22,764.17	Aaa / AA+ AAA	4.8 4.7
Total Agency		**62,885,000.00**	**1.22%**	**63,403,264.00** **63,245,117.68**	**0.26%**	**64,936,097.19** **206,681.04**	**38.55%** **1,690,979.51**	**Aaa / AA+** **AAA**	**3.3** **3.2**
CMO									
3137BDDC7	FHLMC K716 A2 3.13% Due 6/25/2021	440,978.36	09/12/2017 1.92%	459,065.37 443,272.00	100.61 0.55%	443,688.19 230.04	0.26% 416.19	Aaa / AA+ NR	0.4 0.3
3137BFDQ1	FHLMC K717 A2 2.991% Due 9/25/2021	1,030,048.42	12/28/2018 2.89%	1,030,692.21 1,030,220.48	101.28 0.40%	1,043,211.52 2,567.40	0.62% 12,991.04	NR / NR AAA	0.7 0.5
3137BM6P6	FHLMC K721 A2 3.09% Due 8/25/2022	2,790,000.00	Various 2.19%	2,877,120.79 2,826,097.45	103.31 0.65%	2,882,418.75 7,184.25	1.71% 56,321.30	Aaa / NR NR	1.6 1.4
3137B5JM6	FHLMC K034 A2 3.531% Due 7/25/2023	1,500,000.00	08/28/2018 3.03%	1,531,816.41 1,516,628.48	107.49 0.40%	1,612,278.00 4,413.75	0.96% 95,649.52	NR / NR AAA	2.5 2.3
3137B4WB8	FHLMC K033 A2 3.06% Due 7/25/2023	1,500,000.00	08/19/2019 1.90%	1,562,812.50 1,540,983.73	106.21 0.42%	1,593,148.50 765.00	0.94% 52,164.77	Aaa / NR NR	2.5 2.3
3137B7MZ9	FHLMC K036 A2 3.527% Due 10/25/2023	2,145,000.00	Various 2.79%	2,209,267.38 2,185,761.30	108.04 0.43%	2,317,423.68 1,260.90	1.37% 131,662.38	Aaa / NR AAA	2.8 2.5
3137BYPQ7	FHLMC K726 A2 2.905% Due 4/25/2024	1,356,763.57	04/22/2019 2.72%	1,366,462.32 1,363,186.93	106.88 0.57%	1,450,089.91 3,284.50	0.86% 86,902.98	NR / AAA NR	3.3 2.9
Total CMO		**10,762,790.35**	**2.51%**	**11,037,236.98** **10,906,150.37**	**0.50%**	**11,342,258.55** **19,705.84**	**6.72%** **436,108.18**	**Aaa / AAA** **AAA**	**2.2** **1.9**
CORPORATE									
30231GAV4	Exxon Mobil Corp Callable Note Cont 2/1/2021 2.222% Due 3/1/2021	1,160,000.00	Various 1.97%	1,173,322.80 1,160,240.26	100.14 0.48%	1,161,663.44 8,591.74	0.69% 1,423.18	Aa1 / AA NR	0.1 0.0
24422ESL4	John Deere Capital Corp Note 2.8% Due 3/4/2021	425,000.00	05/24/2017 2.12%	435,340.25 425,466.59	100.41 0.43%	426,758.65 3,867.50	0.25% 1,292.06	A2 / A A	0.1 0.1
369550BE7	General Dynamics Corp Note 3% Due 5/11/2021	1,055,000.00	Various 3.25%	1,047,595.75 1,054,117.56	100.96 0.33%	1,065,162.82 4,395.83	0.63% 11,045.26	A2 / A NR	0.3 0.36

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CORPORATE									
857477AV5	State Street Bank Note 1.95% Due 5/19/2021	580,000.00	05/16/2016 1.96%	579,698.40 579,977.21	100.67 0.21%	583,862.22 1,319.50	0.35% 3,885.01	A1 / A AA-	0.3 0.3
594918BP8	Microsoft Callable Note Cont 7/8/2021 1.55% Due 8/8/2021	770,000.00	Various 1.57%	769,085.90 769,890.37	100.69 0.22%	775,296.83 4,740.85	0.46% 5,406.46	Aaa / AAA AA+	0.6 0.5
69371RN44	Paccar Financial Corp Note 1.65% Due 8/11/2021	1,100,000.00	05/23/2018 3.15%	1,050,093.00 1,090,562.73	100.83 0.28%	1,109,170.70 7,058.33	0.66% 18,607.97	A1 / A+ NR	0.6 0.6
68389XBK0	Oracle Corp Callable Note Cont 8/15/2021 1.9% Due 9/15/2021	1,100,000.00	11/29/2016 2.40%	1,075,371.00 1,096,378.92	101.01 0.28%	1,111,077.00 6,153.89	0.66% 14,698.08	A3 / A A-	0.7 0.6
17275RBJ0	Cisco Systems Callable Note Cont 8/20/2021 1.85% Due 9/20/2021	1,250,000.00	02/26/2019 2.70%	1,223,812.50 1,242,654.04	101.01 0.26%	1,262,598.75 6,487.85	0.75% 19,944.71	A1 / AA- NR	0.7 0.6
89236TDP7	Toyota Motor Credit Corp Note 2.6% Due 1/11/2022	1,200,000.00	Various 3.19%	1,176,750.00 1,193,214.82	102.36 0.30%	1,228,304.40 14,733.34	0.74% 35,089.58	A1 / A+ A+	1.0 1.0
89233P5T9	Toyota Motor Credit Corp Note 3.3% Due 1/12/2022	1,500,000.00	02/20/2019 2.84%	1,519,035.00 1,506,784.04	103.14 0.24%	1,547,139.00 23,237.50	0.93% 40,354.96	A1 / A+ A+	1.0 1.0
69353RFE3	PNC Bank Callable Note Cont 6/28/2022 2.45% Due 7/28/2022	1,170,000.00	07/25/2017 2.45%	1,169,894.70 1,169,966.96	103.28 0.25%	1,208,321.01 12,182.63	0.72% 38,354.05	A2 / A A+	1.5 1.4
44932HAC7	IBM Credit Corp Note 2.2% Due 9/8/2022	1,050,000.00	11/29/2017 2.58%	1,032,234.00 1,043,727.85	103.49 0.13%	1,086,616.65 7,250.83	0.65% 42,888.80	A2 / A NR	1.6 1.6
48128BAB7	JP Morgan Chase & Co Callable Note 1X 1/15/2022 2.972% Due 1/15/2023	950,000.00	02/09/2018 3.19%	940,832.50 946,204.44	102.72 0.34%	975,873.25 13,019.01	0.59% 29,668.81	A2 / A- AA-	2.0 1.0
808513AT2	Charles Schwab Corp Callable Note Cont 12/25/2022 2.65% Due 1/25/2023	665,000.00	08/01/2019 2.27%	673,179.50 669,776.88	104.76 0.24%	696,626.74 7,636.42	0.42% 26,849.86	A2 / A A	2.0 1.9
24422ETG4	John Deere Capital Corp Note 2.8% Due 3/6/2023	780,000.00	Various 2.50%	786,043.20 784,954.71	105.54 0.25%	823,238.52 6,976.66	0.49% 38,283.81	A2 / A A	2.1 2.1
037833AK6	Apple Inc Note 2.4% Due 5/3/2023	715,000.00	11/28/2018 3.54%	681,959.85 697,569.53	104.90 0.30%	750,009.26 2,764.67	0.45% 52,439.73	Aa1 / AA+ NR	2.3 2.2
404280BA6	HSBC Holdings PLC Note 3.6% Due 5/25/2023	900,000.00	03/20/2019 3.33%	909,477.00 905,431.41	107.56 0.43%	968,050.80 3,240.00	0.57% 62,619.39	A2 / A- A+	2.4 2.3
02665WCJ8	American Honda Finance Note 3.45% Due 7/14/2023	335,000.00	07/11/2018 3.49%	334,420.45 334,706.41	107.70 0.39%	360,805.39 5,361.40	0.22% 26,098.98	A3 / A- NR	2.5 2.41

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CORPORATE									
06406RAJ6	Bank of NY Mellon Corp Note 3.45% Due 8/11/2023	1,900,000.00	Various 2.64%	1,960,162.00 1,937,859.80	108.10 0.33%	2,053,829.70 25,491.66	1.23% 115,969.90	A1 / A AA-	2.6 2.4
02665WCQ2	American Honda Finance Note 3.625% Due 10/10/2023	1,635,000.00	Various 3.02%	1,673,579.30 1,660,557.32	108.80 0.43%	1,778,881.64 13,335.47	1.06% 118,324.32	A3 / A- NR	2.7 2.6
06051GHF9	Bank of America Corp Callable Note 1X 3/5/2023 3.55% Due 3/5/2024	1,900,000.00	Various 2.71%	1,930,235.00 1,920,490.16	106.83 0.40%	2,029,751.00 21,733.89	1.21% 109,260.84	A2 / A- A+	3.1 2.0
89114QCB2	Toronto Dominion Bank Note 3.25% Due 3/11/2024	1,900,000.00	Various 2.77%	1,940,554.00 1,927,174.60	108.60 0.53%	2,063,419.00 18,868.06	1.23% 136,244.40	Aa3 / A AA-	3.1 3.0
404280BS7	HSBC Holdings PLC Callable Note 1X 5/18/2023 3.95% Due 5/18/2024	1,000,000.00	08/28/2019 2.20%	1,050,660.00 1,036,252.92	107.87 0.62%	1,078,667.00 4,718.06	0.64% 42,414.08	A2 / A- A+	3.3 2.2
91159HHX1	US Bancorp Callable Note Cont 6/28/2024 2.4% Due 7/30/2024	1,750,000.00	10/10/2019 2.07%	1,775,567.50 1,768,959.83	106.60 0.49%	1,865,487.75 17,616.67	1.11% 96,527.92	A1 / A+ A+	3.5 3.3
009158AV8	Air Products & Chemicals Callable Note Cont 4/30/2024 3.35% Due 7/31/2024	500,000.00	08/07/2019 2.11%	527,750.00 519,534.33	109.04 0.61%	545,178.50 7,025.69	0.33% 25,644.17	A2 / A NR	3.5 3.1
69371RQ25	Paccar Financial Corp Note 2.15% Due 8/15/2024	670,000.00	08/08/2019 2.20%	668,519.30 668,928.58	105.82 0.53%	708,990.65 5,441.89	0.42% 40,062.07	A1 / A+ NR	3.6 3.4
78015K7C2	Royal Bank of Canada Note 2.25% Due 11/1/2024	1,900,000.00	12/05/2019 2.26%	1,899,012.00 1,899,226.83	106.38 0.56%	2,021,233.30 7,125.00	1.20% 122,006.47	A2 / A AA	3.8 3.6
14913Q3B3	Caterpillar Finl Service Note 2.15% Due 11/8/2024	2,020,000.00	Various 1.88%	2,044,446.00 2,039,839.62	106.53 0.44%	2,151,819.14 6,393.86	1.28% 111,979.52	A3 / A A	3.8 3.7
90331HPL1	US Bank NA Callable Note Cont 12/21/2024 2.05% Due 1/21/2025	810,000.00	01/16/2020 2.10%	808,274.70 808,601.44	105.82 0.57%	857,159.82 7,380.00	0.51% 48,558.38	A1 / AA- AA-	4.0 3.8
Total Corporate		**32,690,000.00**	**2.56%**	**32,856,905.60 32,859,050.16**	**0.39%**	**34,294,992.93 274,148.20**	**20.45% 1,435,942.77**	**A1 / A A+**	**2.2 2.0**

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MONEY MARKET FUND FI									
60934N104	Federated Investors Government Obligations Fund	623,933.66	Various 0.01%	623,933.66 623,933.66	1.00 0.01%	623,933.66 0.00	0.37% 0.00	Aaa / AAA AAA	0.0 0.0
Total Money Market Fund FI		**623,933.66**	**0.01%**	**623,933.66** **623,933.66**	**0.01%**	**623,933.66** **0.00**	**0.37%** **0.00**	**Aaa / AAA** **AAA**	**0.0** **0.0**
MUNICIPAL BONDS									
13063DRK6	California State Taxable GO 2.4% Due 10/1/2024	1,915,000.00	10/16/2019 1.91%	1,958,987.55 1,948,380.80	107.14 0.48%	2,051,635.25 11,490.00	1.22% 103,254.45	Aa2 / AA- AA	3.7 3.5
Total Municipal Bonds		**1,915,000.00**	**1.91%**	**1,958,987.55** **1,948,380.80**	**0.48%**	**2,051,635.25** **11,490.00**	**1.22%** **103,254.45**	**Aa2 / AA-** **AA**	**3.7** **3.5**
SUPRANATIONAL									
4581X0CW6	Inter-American Dev Bank Note 2.125% Due 1/18/2022	1,675,000.00	01/10/2017 2.15%	1,672,939.75 1,674,568.99	101.94 0.27%	1,707,444.75 16,116.06	1.02% 32,875.76	Aaa / NR AAA	1.0 1.0
4581X0CZ9	Inter-American Dev Bank Note 1.75% Due 9/14/2022	850,000.00	03/23/2018 2.79%	813,178.00 835,988.69	102.67 0.18%	872,733.25 4,421.18	0.52% 36,744.56	Aaa / AAA AAA	1.7 1.6
459058JL8	Intl. Bank Recon & Development Note 0.5% Due 10/28/2025	1,555,000.00	10/21/2020 0.52%	1,553,242.85 1,553,305.40	100.19 0.46%	1,557,909.41 1,360.63	0.92% 4,604.01	Aaa / AAA AAA	4.8 4.7
Total Supranational		**4,080,000.00**	**1.66%**	**4,039,360.60** **4,063,863.08**	**0.32%**	**4,138,087.41** **21,897.87**	**2.46%** **74,224.33**	**Aaa / AAA** **AAA**	**2.6** **2.5**
US TREASURY									
912828Q37	US Treasury Note 1.25% Due 3/31/2021	1,700,000.00	Various 1.59%	1,676,910.00 1,698,670.48	100.26 0.18%	1,704,494.80 5,429.26	1.01% 5,824.32	Aaa / AA+ AAA	0.2 0.2
912828S27	US Treasury Note 1.125% Due 6/30/2021	1,015,000.00	Various 1.91%	980,766.29 1,011,273.34	100.50 0.12%	1,020,075.00 31.55	0.60% 8,801.66	Aaa / AA+ AAA	0.5 0.5
912828T34	US Treasury Note 1.125% Due 9/30/2021	1,700,000.00	11/09/2016 1.48%	1,671,251.79 1,695,619.32	100.75 0.12%	1,712,816.30 4,886.33	1.02% 17,196.98	Aaa / AA+ AAA	0.7 0.7

Holdings Report

As of December 31, 2020

CUSIP	Security Description	Par Value/Units	Purchase Date Book Yield	Cost Value Book Value	Mkt Price Mkt YTM	Market Value Accrued Int.	% of Port. Gain/Loss	Moody/S&P Fitch	Maturi Duratio
US TREASURY									
912828F21	US Treasury Note 2.125% Due 9/30/2021	2,200,000.00	02/11/2019 2.47%	2,180,578.13 2,194,502.86	101.49 0.13%	2,232,828.40 11,944.37	1.33% 38,325.54	Aaa / AA+ AAA	0.7 0.7
912828J43	US Treasury Note 1.75% Due 2/28/2022	1,785,000.00	03/13/2017 2.14%	1,752,722.58 1,777,460.88	101.89 0.12%	1,818,747.21 10,613.85	1.08% 41,286.33	Aaa / AA+ AAA	1.1 1.1
912828XG0	US Treasury Note 2.125% Due 6/30/2022	1,700,000.00	08/15/2017 1.82%	1,724,111.17 1,707,390.66	102.99 0.13%	1,750,867.40 99.79	1.04% 43,476.74	Aaa / AA+ AAA	1.5 1.4
912828L57	US Treasury Note 1.75% Due 9/30/2022	1,750,000.00	10/17/2017 1.99%	1,730,585.94 1,743,159.98	102.82 0.13%	1,799,423.50 7,824.52	1.07% 56,263.52	Aaa / AA+ AAA	1.7 1.7
912828N30	US Treasury Note 2.125% Due 12/31/2022	1,750,000.00	01/25/2018 2.46%	1,722,792.97 1,738,981.15	103.98 0.13%	1,819,658.75 102.73	1.08% 80,677.60	Aaa / AA+ AAA	2.0 1.9
912828T91	US Treasury Note 1.625% Due 10/31/2023	3,200,000.00	Various 1.80%	3,176,515.63 3,184,566.08	104.18 0.15%	3,333,625.60 8,906.08	1.98% 149,059.52	Aaa / AA+ AAA	2.8 2.7
912828V23	US Treasury Note 2.25% Due 12/31/2023	3,150,000.00	Various 1.81%	3,209,369.15 3,189,606.92	106.24 0.16%	3,346,629.30 195.78	1.98% 157,022.38	Aaa / AA+ AAA	3.0 2.9
912828B66	US Treasury Note 2.75% Due 2/15/2024	3,150,000.00	Various 1.81%	3,279,865.24 3,237,854.12	108.02 0.18%	3,402,614.25 32,719.77	2.03% 164,760.13	Aaa / AA+ AAA	3.1 2.9
912828X70	US Treasury Note 2% Due 4/30/2024	3,100,000.00	Various 1.86%	3,119,312.50 3,113,309.00	105.99 0.19%	3,285,758.20 10,618.78	1.95% 172,449.20	Aaa / AA+ AAA	3.3 3.2
912828XX3	US Treasury Note 2% Due 6/30/2024	3,000,000.00	07/30/2019 1.87%	3,018,867.19 3,013,404.53	106.25 0.21%	3,187,617.00 165.75	1.89% 174,212.47	Aaa / AA+ AAA	3.5 3.4
912828D56	US Treasury Note 2.375% Due 8/15/2024	3,000,000.00	08/29/2019 1.45%	3,133,007.81 3,097,039.91	107.78 0.22%	3,233,319.00 26,912.36	1.93% 136,279.09	Aaa / AA+ AAA	3.6 3.4
9128283D0	US Treasury Note 2.25% Due 10/31/2024	2,900,000.00	Various 1.76%	2,966,847.66 2,951,909.55	107.66 0.24%	3,122,258.90 11,175.42	1.85% 170,349.35	Aaa / AA+ AAA	3.8 3.6
Total US Treasury		**35,100,000.00**	**1.86%**	**35,343,504.05** **35,354,748.78**	**0.17%**	**36,770,733.61** **131,626.34**	**21.84%** **1,415,984.83**	**Aaa / AA+** **AAA**	**2.4** **2.4**
TOTAL PORTFOLIO		**162,067,058.22**	**1.75%**	**163,318,928.16** **163,035,279.85**	**0.28%**	**168,326,323.08** **675,099.34**	**100.00%** **5,291,043.23**	**Aa1 / AA** **AAA**	**2.8** **2.5**
TOTAL MARKET VALUE PLUS ACCRUED						**169,001,422.42**			

Transaction Ledger

As of December 31, 2020

Transaction Type	Settlement Date	CUSIP	Quantity	Security Description	Price	Acq/Disp Yield	Amount	Interest Pur/Sold	Total Amount	Gain/Lo
ACQUISITIONS										
Purchase	12/01/2020	60934N104	6.27	Federated Investors Government Obligations Fund	1.000	0.01%	6.27	0.00	6.27	0.
Purchase	12/08/2020	60934N104	28,687.50	Federated Investors Government Obligations Fund	1.000	0.01%	28,687.50	0.00	28,687.50	0.
Purchase	12/11/2020	60934N104	45,625.00	Federated Investors Government Obligations Fund	1.000	0.01%	45,625.00	0.00	45,625.00	0.
Purchase	12/14/2020	60934N104	43,125.00	Federated Investors Government Obligations Fund	1.000	0.01%	43,125.00	0.00	43,125.00	0.
Purchase	12/15/2020	60934N104	175.00	Federated Investors Government Obligations Fund	1.000	0.01%	175.00	0.00	175.00	0.
Purchase	12/15/2020	60934N104	874.00	Federated Investors Government Obligations Fund	1.000	0.01%	874.00	0.00	874.00	0.
Purchase	12/15/2020	60934N104	792.92	Federated Investors Government Obligations Fund	1.000	0.01%	792.92	0.00	792.92	0.
Purchase	12/15/2020	60934N104	1,086.58	Federated Investors Government Obligations Fund	1.000	0.01%	1,086.58	0.00	1,086.58	0.
Purchase	12/15/2020	60934N104	278.67	Federated Investors Government Obligations Fund	1.000	0.01%	278.67	0.00	278.67	0.
Purchase	12/15/2020	60934N104	202.71	Federated Investors Government Obligations Fund	1.000	0.01%	202.71	0.00	202.71	0.
Purchase	12/15/2020	60934N104	1,978.25	Federated Investors Government Obligations Fund	1.000	0.01%	1,978.25	0.00	1,978.25	0.
Purchase	12/15/2020	60934N104	170.00	Federated Investors Government Obligations Fund	1.000	0.01%	170.00	0.00	170.00	0.
Purchase	12/15/2020	60934N104	1,705.83	Federated Investors Government Obligations Fund	1.000	0.01%	1,705.83	0.00	1,705.83	0.
Purchase	12/15/2020	60934N104	358.75	Federated Investors Government Obligations Fund	1.000	0.01%	358.75	0.00	358.75	0.
Purchase	12/15/2020	60934N104	918.38	Federated Investors Government Obligations Fund	1.000	0.01%	918.38	0.00	918.38	0.
Purchase	12/15/2020	60934N104	11,273.14	Federated Investors Government Obligations Fund	1.000	0.01%	11,273.14	0.00	11,273.14	0.

Transaction Ledger

As of December 31, 2020

Transaction Type	Settlement Date	CUSIP	Quantity	Security Description	Price	Acq/Disp Yield	Amount	Interest Pur/Sold	Total Amount	Gain/Lo
ACQUISITIONS										
Purchase	12/15/2020	60934N104	40,879.20	Federated Investors Government Obligations Fund	1.000	0.01%	40,879.20	0.00	40,879.20	0.0
Purchase	12/15/2020	60934N104	97,444.67	Federated Investors Government Obligations Fund	1.000	0.01%	97,444.67	0.00	97,444.67	0.0
Purchase	12/15/2020	60934N104	55,977.19	Federated Investors Government Obligations Fund	1.000	0.01%	55,977.19	0.00	55,977.19	0.0
Purchase	12/15/2020	60934N104	118,900.88	Federated Investors Government Obligations Fund	1.000	0.01%	118,900.88	0.00	118,900.88	0.0
Purchase	12/17/2020	3135G05X7	3,150,000.00	FNMA Note 0.375% Due 8/25/2025	99.743	0.43%	3,141,904.50	3,609.38	3,145,513.88	0.0
Purchase	12/17/2020	3137EAEX3	1,320,000.00	FHLMC Note 0.375% Due 9/23/2025	99.711	0.44%	1,316,185.20	1,127.50	1,317,312.70	0.0
Purchase	12/17/2020	60934N104	4,400.56	Federated Investors Government Obligations Fund	1.000	0.01%	4,400.56	0.00	4,400.56	0.0
Purchase	12/18/2020	60934N104	268.25	Federated Investors Government Obligations Fund	1.000	0.01%	268.25	0.00	268.25	0.0
Purchase	12/19/2020	60934N104	41,250.00	Federated Investors Government Obligations Fund	1.000	0.01%	41,250.00	0.00	41,250.00	0.0
Purchase	12/21/2020	60934N104	1,269.08	Federated Investors Government Obligations Fund	1.000	0.01%	1,269.08	0.00	1,269.08	0.0
Purchase	12/21/2020	60934N104	475.88	Federated Investors Government Obligations Fund	1.000	0.01%	475.88	0.00	475.88	0.0
Purchase	12/21/2020	60934N104	39,223.02	Federated Investors Government Obligations Fund	1.000	0.01%	39,223.02	0.00	39,223.02	0.0
Purchase	12/28/2020	60934N104	6,304.58	Federated Investors Government Obligations Fund	1.000	0.01%	6,304.58	0.00	6,304.58	0.0
Purchase	12/28/2020	60934N104	4,413.75	Federated Investors Government Obligations Fund	1.000	0.01%	4,413.75	0.00	4,413.75	0.0
Purchase	12/28/2020	60934N104	3,825.00	Federated Investors Government Obligations Fund	1.000	0.01%	3,825.00	0.00	3,825.00	0.0
Purchase	12/28/2020	60934N104	4,623.11	Federated Investors Government Obligations Fund	1.000	0.01%	4,623.11	0.00	4,623.11	0.0

Transaction Ledger

As of December 31, 2020

Transaction Type	Settlement Date	CUSIP	Quantity	Security Description	Price	Acq/Disp Yield	Amount	Interest Pur/Sold	Total Amount	Gain/Lo
ACQUISITIONS										
Purchase	12/28/2020	60934N104	4,140.40	Federated Investors Government Obligations Fund	1.000	0.01%	4,140.40	0.00	4,140.40	0.0
Purchase	12/28/2020	60934N104	4,655.68	Federated Investors Government Obligations Fund	1.000	0.01%	4,655.68	0.00	4,655.68	0.0
Purchase	12/28/2020	60934N104	7,184.25	Federated Investors Government Obligations Fund	1.000	0.01%	7,184.25	0.00	7,184.25	0.0
Purchase	12/31/2020	60934N104	107,803.13	Federated Investors Government Obligations Fund	1.000	0.01%	107,803.13	0.00	107,803.13	0.0
Subtotal			**5,150,296.63**				**5,138,386.33**	**4,736.88**	**5,143,123.21**	**0.0**
Security Contribution	12/04/2020	60934N104	291.67	Federated Investors Government Obligations Fund	1.000		291.67	0.00	291.67	0.0
Subtotal			**291.67**				**291.67**	**0.00**	**291.67**	**0.0**
TOTAL ACQUISITIONS			**5,150,588.30**				**5,138,678.00**	**4,736.88**	**5,143,414.88**	**0.0**
DISPOSITIONS										
Sale	12/17/2020	3135G0T45	1,725,000.00	FNMA Note 1.875% Due 4/5/2022	102.278	1.88%	1,764,295.50	6,468.75	1,770,764.25	39,366.0
Sale	12/17/2020	3135G0T78	900,000.00	FNMA Note 2% Due 10/5/2022	103.359	2.25%	930,231.00	3,600.00	933,831.00	34,064.
Sale	12/17/2020	3137EAEC9	1,450,000.00	FHLMC Note 1.125% Due 8/12/2021	100.676	1.31%	1,459,802.00	5,664.06	1,465,466.06	11,521.
Sale	12/17/2020	60934N104	292,765.27	Federated Investors Government Obligations Fund	1.000	0.01%	292,765.27	0.00	292,765.27	0.0
Subtotal			**4,367,765.27**				**4,447,093.77**	**15,732.81**	**4,462,826.58**	**84,951.**
Paydown	12/15/2020	43811BAC8	917.10	Honda Auto Receivables Trust 2017-2 A3 1.68% Due 8/16/2021	100.000		917.10	1.28	918.38	0.0
Paydown	12/15/2020	43813DAC2	0.00	Honda Auto Receivables 2020-2 A3 0.82% Due 7/15/2024	100.000		0.00	358.75	358.75	0.0

Transaction Ledger

As of December 31, 2020

Transaction Type	Settlement Date	CUSIP	Quantity	Security Description	Price	Acq/Disp Yield	Amount	Interest Pur/Sold	Total Amount	Gain/Lo
DISPOSITIONS										
Paydown	12/15/2020	43815NAC8	0.00	Honda Auto Receivables Trust 2019-3 A3 1.78% Due 8/15/2023	100.000		0.00	1,705.83	1,705.83	0.(
Paydown	12/15/2020	44891RAC4	0.00	Hyundai Auto Receivables Trust 2020-C A3 0.38% Due 5/15/2025	100.000		0.00	278.67	278.67	0.(
Paydown	12/15/2020	477870AC3	0.00	John Deere Owner Trust 2019-B A3 2.21% Due 12/15/2023	100.000		0.00	1,086.58	1,086.58	0.(
Paydown	12/15/2020	47787NAC3	0.00	John Deere Owner Trust 2020-B A3 0.51% Due 11/15/2024	100.000		0.00	170.00	170.00	0.(
Paydown	12/15/2020	47788CAC6	11,172.95	John Deere Owner Trust 2018-A A3 2.66% Due 4/18/2022	100.000		11,172.95	100.19	11,273.14	0.(
Paydown	12/15/2020	47788EAC2	39,736.33	John Deere Owner Trust 2018-B A3 3.08% Due 11/15/2022	100.000		39,736.33	1,142.87	40,879.20	0.(
Paydown	12/15/2020	47789JAD8	93,994.47	John Deere Owner Trust 2019-A A3 2.91% Due 7/17/2023	100.000		93,994.47	3,450.20	97,444.67	0.(
Paydown	12/15/2020	47789KAC7	0.00	John Deere Owner Trust 2020-A A3 1.1% Due 8/15/2024	100.000		0.00	792.92	792.92	0.(
Paydown	12/15/2020	58769EAC2	0.00	Mercedes-Benz Auto Lease Trust 2020-B A3 0.4% Due 11/15/2023	100.000		0.00	175.00	175.00	0.(
Paydown	12/15/2020	58770FAC6	0.00	Mercedes Benz Auto Lease Trust 2020-A A3 1.84% Due 12/15/2022	100.000		0.00	874.00	874.00	0.(
Paydown	12/15/2020	65479GAD1	54,246.70	Nissan Auto Receivables Trust 2018-B A3 3.06% Due 3/15/2023	100.000		54,246.70	1,730.49	55,977.19	0.(
Paydown	12/15/2020	65479JAD5	0.00	Nissan Auto Receivables Owner 2019-C A3 1.93% Due 7/15/2024	100.000		0.00	1,978.25	1,978.25	0.(
Paydown	12/15/2020	89236XAC0	0.00	Toyota Auto Receivables 2020-D A3 0.35% Due 1/15/2025	100.000		0.00	202.71	202.71	0.(

City of Moreno Valley

Transaction Ledger

As of December 31, 2020

Transaction Type	Settlement Date	CUSIP	Quantity	Security Description	Price	Acq/Disp Yield	Amount	Interest Pur/Sold	Total Amount	Gain/Lo
DISPOSITIONS										
Paydown	12/15/2020	89238TAD5	116,199.01	Toyota Auto Receivables Trust 2018-B A3 2.96% Due 9/15/2022	100.000		116,199.01	2,701.87	118,900.88	0.
Paydown	12/18/2020	43813KAC6	0.00	Honda Auto Receivables Trust 2020-3 A3 0.37% Due 10/18/2024	100.000		0.00	268.25	268.25	0.
Paydown	12/21/2020	43815HAC1	38,296.79	Honda Auto Receivables Trust 2018-3 A3 2.95% Due 8/22/2022	100.000		38,296.79	926.23	39,223.02	0.
Paydown	12/21/2020	92290BAA9	0.00	Verizon Owner Trust 2020-B A 0.47% Due 2/20/2025	100.000		0.00	475.88	475.88	0.
Paydown	12/21/2020	92348AAA3	0.00	Verizon Owner Trust 2019-C A1A 1.94% Due 4/22/2024	100.000		0.00	1,269.08	1,269.08	0.
Paydown	12/28/2020	3137B4WB8	0.00	FHLMC K033 A2Due 7/25/2023	100.000		0.00	3,825.00	3,825.00	0.
Paydown	12/28/2020	3137B5JM6	0.00	FHLMC K034 A2 3.531% Due 7/25/2023	100.000		0.00	4,413.75	4,413.75	0.
Paydown	12/28/2020	3137B7MZ9	0.00	FHLMC K036 A2Due 10/25/2023	100.000		0.00	6,304.58	6,304.58	0.
Paydown	12/28/2020	3137BDDC7	3,463.86	FHLMC K716 A2 3.13% Due 6/25/2021	100.000		3,463.86	1,159.25	4,623.11	0.
Paydown	12/28/2020	3137BFDQ1	1,569.09	FHLMC K717 A2 2.991% Due 9/25/2021	100.000		1,569.09	2,571.31	4,140.40	0.
Paydown	12/28/2020	3137BM6P6	0.00	FHLMC K721 A2Due 8/25/2022	100.000		0.00	7,184.25	7,184.25	0.
Paydown	12/28/2020	3137BYPQ7	1,367.87	FHLMC K726 A2 2.905% Due 4/25/2024	100.000		1,367.87	3,287.81	4,655.68	0.
Subtotal			**360,964.17**				**360,964.17**	**48,435.00**	**409,399.17**	**0.**
Security Withdrawal	12/04/2020	60934N104	291.67	Federated Investors Government Obligations Fund	1.000		291.67	0.00	291.67	0.
Subtotal			**291.67**				**291.67**	**0.00**	**291.67**	**0.**
TOTAL DISPOSITIONS			**4,729,021.11**				**4,808,349.61**	**64,167.81**	**4,872,517.42**	**84,951.**

Transaction Ledger

As of December 31, 2020

Transaction Type	Settlement Date	CUSIP	Quantity	Security Description	Price	Acq/Disp Yield	Amount	Interest Pur/Sold	Total Amount	Gain/Lo
OTHER TRANSACTIONS										
Interest	12/08/2020	3130A0F70	1,700,000.00	FHLB Note 3.375% Due 12/8/2023	0.000		28,687.50	0.00	28,687.50	0.
Interest	12/11/2020	313373ZY1	2,000,000.00	FHLB Note 3.625% Due 6/11/2021	0.000		36,250.00	0.00	36,250.00	0.
Interest	12/11/2020	313379RB7	1,000,000.00	FHLB Note 1.875% Due 6/11/2021	0.000		9,375.00	0.00	9,375.00	0.
Interest	12/14/2020	3130A1XJ2	3,000,000.00	FHLB Note 2.875% Due 6/14/2024	0.000		43,125.00	0.00	43,125.00	0.
Interest	12/17/2020	3135G04Z3	1,780,000.00	FNMA Note 0.5% Due 6/17/2025	0.000		4,400.56	0.00	4,400.56	0.
Interest	12/19/2020	3137EAEN5	3,000,000.00	FHLMC Note 2.75% Due 6/19/2023	0.000		41,250.00	0.00	41,250.00	0.
Interest	12/31/2020	912828N30	1,750,000.00	US Treasury Note 2.125% Due 12/31/2022	0.000		18,593.75	0.00	18,593.75	0.
Interest	12/31/2020	912828S27	1,015,000.00	US Treasury Note 1.125% Due 6/30/2021	0.000		5,709.38	0.00	5,709.38	0.
Interest	12/31/2020	912828V23	3,150,000.00	US Treasury Note 2.25% Due 12/31/2023	0.000		35,437.50	0.00	35,437.50	0.
Interest	12/31/2020	912828XG0	1,700,000.00	US Treasury Note 2.125% Due 6/30/2022	0.000		18,062.50	0.00	18,062.50	0.
Interest	12/31/2020	912828XX3	3,000,000.00	US Treasury Note 2% Due 6/30/2024	0.000		30,000.00	0.00	30,000.00	0.
Subtotal			**23,095,000.00**				**270,891.19**	**0.00**	**270,891.19**	**0.**
Dividend	12/01/2020	60934N104	236,402.30	Federated Investors Government Obligations Fund	0.000		6.27	0.00	6.27	0.
Subtotal			**236,402.30**				**6.27**	**0.00**	**6.27**	**0.**
TOTAL OTHER TRANSACTIONS			**23,331,402.30**				**270,897.46**	**0.00**	**270,897.46**	**0.**

CHANDLER ASSET MANAGEMENT

BOND MARKET REVIEW

A Monthly Review of Fixed Income Markets

JANUARY 2021

Market Data

World Stock Market Indices
data as of 12/31/2020

	Change (11/30/20)	%CHG
S&P 500		
3,756.07	134.44	3.71%
NASDAQ		
12,888.28	689.54	5.65%
DOW JONES		
30,606.48	967.84	3.27%
FTSE (UK)		
6,460.52	194.33	3.10%
DAX (Germany)		
13,718.78	427.62	3.22%
Hang Seng (Hong Kong)		
27,231.13	889.64	3.38%
Nikkei (Japan)		
27,444.17	1,010.55	3.82%

Source: Bloomberg. Please see descriptions of indices on Page 2.

CHANDLER ASSET MANAGEMENT

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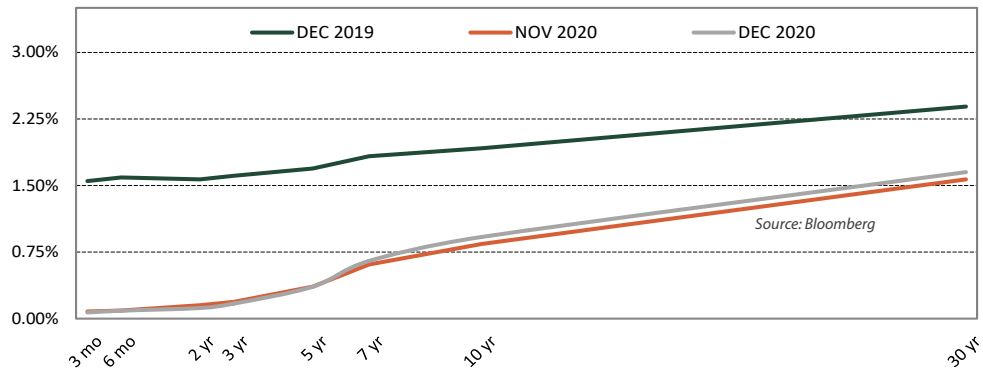
Market Summary

While we remain optimistic about the longer-term outlook, recent economic data suggests tha the economy has lost momentum as virus cases have risen. We believe the near-term will remai challenging as the labor market remains under pressure and many regions have renewed busines restrictions due to the virus. However, the passage of a new $900 billion COVID-19 fiscal relie bill should help cushion the economy over the next few months, and we believe the incomin Presidential administration will have a keen focus on accelerating vaccine distribution and gettin the economy back on track. While the vaccine rollout has gotten off to a slow start, we expect mor widespread distribution of vaccines in the second and third quarter of 2021. We also expect the Fed highly accommodative monetary policy framework will continue to provide support for the financia markets.

The Federal Open Market Committee (FOMC) kept monetary policy unchanged at their Decembe meeting as expected, with the fed funds target rate in a range of 0.0% to 0.25%. The Fed intend to remain highly accommodative until their goals of maximum employment and higher inflatio are achieved. The Fed's summary of economic projections continues to signal that the target fe funds rate will remain unchanged until at least 2023, as policymakers do not expect inflation t exceed 2.0% during that timeframe. Until the Fed has made substantial progress toward achievin their dual mandate of maximum employment and price stability, they have set a floor for monthl asset purchases of at least $80 billion per month of Treasuries and $40 billion per month of agenc mortgage-backed securities. Notably, the Fed's outlook for GDP over the next few years was revise higher and the outlook for unemployment was revised lower compared with their previous forecast in September, which suggests increased optimism. Nevertheless, the outlook remains uncertain an Fed Chair Powell indicated that the Fed would increase policy accommodation further if progres toward their dual mandate slows.

The Treasury yield curve steepened in December, due at least in part by favorable development on the vaccine front and anticipation of improving economic activity in 2021. The yield on 2-yea Treasuries was down slightly to 0.12% while the yield on 10-year Treasuries was up nearly eight basi point to 0.92%.

RATES REMAIN LOW BUT THE TREASURY YIELD CURVE HAS STEEPENED



In 2020, Treasury yields declined but the curve steepened as short-term rates declined more than long term rates. The 3-month T-bill yield was down 149 basis points, the 2-year Treasury yield was down 14 basis points, and the 10-Year Treasury yield was down 100 basis points, year-over-year.

TREASURY YIELDS	Trend (▲/▼)	12/31/2020	11/30/2020	Change
3-Month	▼	0.07	0.08	-0.01
2-Year	▼	0.12	0.15	-0.03
3-Year	▼	0.17	0.19	-0.02
5-Year	-	0.36	0.36	0.00
7-Year	▲	0.65	0.61	0.04
10-Year	▲	0.92	0.84	0.08
30-Year	▲	1.65	1.57	0.08

Source: Bloomberg

Since 1988, Chandler Asset Management has specialized in providing fixed income investment solutions to risk-averse public agencies and institutions. Chandler's mission is to provide fully customizable, client-centered portfolio management that preserves principal, mitigates risk and generates income in our clients' portfolios.

Credit Spreads Tightened in December

CREDIT SPREADS	Spread to Treasuries (%)	One Month Ago (%)	Change
3-month top rated commercial paper	0.08	0.10	(0.02)
2-year A corporate note	0.20	0.21	(0.01)
5-year A corporate note	0.41	0.45	(0.04)
5-year Agency note	0.06	0.10	(0.04)

Source: Bloomberg

Data as of 12/31/2020

Economic Data has Softened with a Resurgence of the Virus

ECONOMIC INDICATOR	Current Release	Prior Release	One Year Ago
Trade Balance	(68.14) $Bln NOV 20	(63.11) $Bln OCT 20	(41.05) $Bln NOV 19
Gross Domestic Product	33.40% SEP 20	(31.40%) JUN 20	2.60% SEP 19
Unemployment Rate	6.70% DEC 20	6.70% NOV 20	3.60% DEC 19
Prime Rate	3.25% DEC 20	3.25% NOV 20	4.75% DEC 19
Commodity Research Bureau Index	167.80 DEC 20	160.06 NOV 20	185.79 DEC 19
Oil (West Texas Int.)	$48.52 DEC 20	$45.34 NOV 20	$61.06 DEC 19
Consumer Price Index (y/o/y)	1.20% NOV 20	1.20% OCT 20	2.10% NOV 19
Producer Price Index (y/o/y)	(1.30%) NOV 20	(1.10%) OCT 20	(1.00%) NOV 19
Dollar/Euro	1.22 DEC 20	1.19 NOV 20	1.12 DEC 19

Source: Bloomberg

Economic Roundup

Consumer Prices

The Consumer Price Index (CPI) was up 1.2% year-over-year in November, unchanged from October. Core CPI (CPI less food and energy) was up 1.6% yea over-year in November, also unchanged from October. The Personal Consumption Expenditures (PCE) index was up 1.1% year-over-year in Novembe versus up 1.2% year-over-year in October. Core PCE, which is the Fed's primary inflation gauge, was up 1.4% year-over-year in November, unchanged fror October. Inflation remains below the Fed's target.

Retail Sales

Consumer spending trends softened in November. On a year-over-year basis, retail sales were up 4.1% in November versus 5.5% in October. On a montl over-month basis, retail sales declined 1.1% in November, with broad-based declines in many categories on a seasonally adjusted basis. Excluding vehicle and gas, retail sales fell 0.8% in November, following a 0.1% decline in October. Notably, retail sales make up roughly one third of the personal consumptio expenditures component of US gross domestic product (GDP), while services revenue comprises roughly two thirds. Spending on services has been h particularly hard by the pandemic and lagged the pick-up in overall third quarter GDP. While retail sales remain higher on a year-over-year basis, we believ this has been partially boosted by the contraction in spending on services.

Labor Market

U.S. nonfarm payrolls declined by 140,000 in December. It was the first monthly decline in nonfarm payrolls since April of last year and came in we below expectations for a 50,000 gain. The monthly decline was led by the leisure and hospitality sector which experienced a 498,000 net decline i payrolls in December, along with modest declines in government jobs and education and health services. The unemployment rate was unchanged i December at 6.7% and has improved significantly from the peak of 14.8% last April. Nevertheless, more than 10.7 million people remain unemployec Workers who classified themselves as employed but absent from work in December continued to understate the unemployment rate by about 0.6%. Th U-6 underemployment rate, which includes those who are marginally attached to the labor force and employed part time for economic reasons, remaine high but declined to 11.7% in December from 12.0% in November. The labor participation rate was unchanged at 61.5% in December and remains we below pre-pandemic levels.

Housing Starts

Total housing starts increased 1.2% in November to an annual pace of 1,547,000. Single family starts inched up 0.4% to a very strong annualized rat of 1,186,000, while multi-family starts increased 4.0% to an annualized rate of 361,000. On a year-over-year basis, total housing starts were up 12.8% i November, driven by growth in single-family starts. Meanwhile, permits were up 6.2% on a month-over-month basis in November, to an annualized rate c 1,639,000 (the strongest rate since 2006).

World Stock Market Index Descriptions

S&P 500– The S&P 500 is a market value weighted index of 500 large-capitalization stocks. The 500 companies included in the index capture approximately 80% of available US market capitalization. NASDAQ–The NASDAQ Composi Index is the market capitalization-weighted index of over 3,300 common stocks listed on the NASDAQ stock exchange. Dow Jones–The Dow Jones Industrial Average is an index that tracks 30 large, publicly-owned companies tradi on the New York Stock Exchange and the NASDAQ. The Financial Times Stock Exchange Group (FTSE)– The FTSE is a share index of the 100 companies listed on the London Stock Exchange with the highest market capitalization. DAX–Tl Deutscher Aktienindex (DAX) is a blue chip stock market index consisting of the 30 major German companies trading on the Frankfurt Stock Exchange. Hang Seng–The Hang Seng Index is a freefloat-adjusted market-capitalizatio weighted stock market index in Hong Kong. It is used to record and monitor daily changes of the largest companies of the Hong Kong stock market and is the main indicator of overall market performance in Hong Kong. Nikkei–Japar Nikkei 225 Stock Average is a price-weighted index composed of Japan's top 225 blue-chip companies traded on the Tokyo Stock Exchange.

Report to City Council

TO:	Mayor and City Council
FROM:	Marshall Eyerman, Assistant City Manager Steve Quintanilla, Interim City Attorney
AGENDA DATE:	February 2, 2021
TITLE:	COVID-19 PANDEMIC RESOLUTIONS EXTENDING THE LOCAL STATE OF EMERGENCY AND CERTAIN EMERGENCY MEASURES

RECOMMENDED ACTION

Recommendations:

1. That the City Council adopt a Resolution Extending the Local State of Emergency and Certain Emergency Measures related to the Local, State and National Declarations of a State of Emergency related to the COVID-19 Pandemic.

2. Authorize the City Manager to amend any agreements as necessary to continue the operation of the State of California's Great Plates Delivered program, locally known as Senior Eats.

SUMMARY

The Disaster Council recommends that the City Council adopt a Resolution Extending the Local State of Emergency and Certain Emergency Measures related to the Local, State and National Declarations of a State of Emergency related to the COVID-19 Pandemic.

The City Council initially declared a Local State of Emergency at its March 17, 2020 meeting and closed all City facilities to the public to minimize and mitigate the spread of the coronavirus.

DISCUSSION

On March 17, 2020, the City Council declared a Local State of Emergency in response to the COVID-19 Pandemic, which prompted the Disaster Council to convene. The Disaster Council consists of the Mayor, City Manager/Director of Emergency Services and the Fire Chief. The Disaster Council's purpose is to develop and recommend for adoption by the City Council emergency plans, mutual aid plans, agreements, ordinances, resolutions and any necessary rules and regulations to implement the aforementioned.

Since the commencement of the Local State of Emergency, the City Council adopted via various resolutions and/or orders ("emergency measures") related to the following:

- Declaring and subsequently extending the Existence of a Local State of Emergency due to the COVID-19 Pandemic;
- Approving the Pandemic Influenza Preparedness Plan;
- Ratifying, Adopting and Approving the Amended Closure Plan Regarding its Termination Date;
- Directing the City Disaster Council and/or City Manager/Emergency Services Director to Seek, Apply for and Accept any Financial Assistance, Grants, Reimbursements the City is Eligible to Receive Under any State or Federal Programs, Agencies or Offices including but not limited to the Governor's Office of Emergency Services, the United States Department of Health and Human Services; Centers for Disease Control and Prevention and/or the Federal Emergency Management Agency;
- Authorizing the City Manager/Emergency Services Director to Obtain Vital Supplies, Equipment and Property Found Lacking and Needed for the Protection of Life and Property During the Local State of Emergency;
- Temporarily Waiving the City Manager's/Emergency Services Director's Level of Procurement Signature Authority to Mitigate or Prevent the Spread and Transmission of COVID-19;
- Authorizing the City Manager/Emergency Services Director to Suspend the Purchasing Procedures Set Forth in Chapter 3.12 of the Municipal Code Related to the COVID-19 Virus Pandemic Emergency;
- Authorizing the City Manager/Emergency Director to Take any Directly Related and Immediate Action Required by the COVID-19 Virus Pandemic Emergency and Procure the Necessary Public Works Construction Contracts for those Purposes, Without Giving Notice for Bids to Let Contracts;
- Granting Qualified Immunity to Certain Medical Professionals and Veterinarians or Registered Veterinary Technicians Who Render Services During the City's Local State of Emergency at the Express or Implied Request of the City Disaster Council, City Manager/Emergency Services Director and/or City Council;
- Imposing a Moratorium on Late Fees Related to the Nonpayment of Rent Due to Inability to Pay Related to COVID-19;
- Granting provisions for expanded restaurant outdoor seating and streamlined Temporary Use Permit (TUP) process and fee waiver to temporarily allow

existing restaurants within the City to expand outdoor seating capacity on private property in order to implement social distancing measures;

- Authorizing the operation of the State of California's Great Plates Delivered program, locally known as Senior Eats, which pays local restaurants for the delivery of hot meals to seniors.
- Granting provisions for the Temporary Outdoor Business operations and streamlined Temporary Use Permit (TUP) process and fee waiver to temporarily allow existing businesses within the City to conduct outdoor use on private property in order to implement social distancing measures; and
- Adopting a Declaration of a fiscal emergency.

It is important to note that all the emergency measures are temporary. Each were set to terminate at such time that the Governor's State of Emergency is terminated by a subsequent proclamation of the Governor or a concurrent resolution of the State Legislature, unless the emergency measures are terminated earlier by the City Council. Notwithstanding the foregoing, and in order to prevent inconsistencies, the Disaster Council or the City Council may suspend the effectiveness of any of the emergency measures in the event that the President of the United States, the United States Congress, the Governor of the State of California, the California State Legislature or the Public Health Officer of the County of Riverside adopts legislation, a law, a regulation or order that supersedes any given emergency measure.

Notwithstanding the above, under the California Emergency Services Act, the City Council must review the need for continuing the existence of the Local State of Emergency at least once every 60 days until the City Council terminates the Local State of Emergency. Pursuant to the California Emergency Services Act, the City Council must terminate the Local State of Emergency at the earliest possible day that the conditions warrant.

RESOLUTION EXTENDING LOCAL EMERGENCY AND EMERGENCY MEASURES

In light of the foregoing, the Disaster Council recommends that the City Council adopt the attached Resolution that:

1. Extends the Existence of a Local State of Emergency due to the COVID-19 Pandemic;
2. Extends the Direction to the City Disaster Council and/or City Manager/Emergency Services Director to Seek, apply for and accept any Financial Assistance, Grants, Reimbursements the City is Eligible to Receive Under any State or Federal Programs, Agencies or Offices including but not limited to the Governor's Office of Emergency Services, the United States Department of Health and Human Services, Centers for Disease Control and Prevention and/or the Federal Emergency Management Agency;
3. Extends the Authorization of the City Manager/Emergency Services Director to Obtain Vital Supplies, Equipment and Property Found Lacking and Needed for the Protection of Life and Property During the Local State of Emergency;

4. Extends the Temporary Waiver Granted to the City Manager's/Emergency Services Director's Level of Procurement Signature Authority to Mitigate or Prevent the Spread and Transmission of COVID-19;
5. Extends the Authorization of the City Manager/Emergency Services Director to Suspend the Purchasing Procedures Set Forth in Chapter 3.12 of The Municipal Code Related to the COVID-19 Virus Pandemic Emergency;
6. Extends the Authorization of the City Manager/Emergency Director to Take any Directly Related and Immediate Action Required by the COVID-19 Virus Pandemic Emergency and Procure the Necessary Public Works Construction Contracts for Those Purposes, Without Giving Notice for Bids to Let Contracts;
7. Extends the Grant of Qualified Immunity to Certain Medical Professionals and Veterinarians or Registered Veterinary Technicians Who Render Services During the City's Local State of Emergency at the Express or Implied Request of the Disaster Council, City Manager/Emergency Services Director and/or City Council;
8. Extends the Moratorium on Late Fees Related to the Nonpayment of Rent Due to Inability to Pay Related to COVID-19;
9. Extends the Provisions for Expanded Restaurant Outdoor Seating and a Streamlined Temporary Use Permit (TUP) Process and Fee Waiver to Temporarily Allow Existing Restaurants Within the City to Expand Outdoor Seating Capacity on Private Property in Order to Implement Social Distancing Measures;
10. Extends the provisions for the Temporary Outdoor Business operations and streamlined Temporary Use Permit (TUP) process and fee waiver to temporarily allow existing businesses within the City to conduct outdoor use on private property in order to implement social distancing measures; and
11. Continues the Declaration of a Fiscal Emergency.

Upon adoption of the attached Resolution, all of the above emergency measures will remain in full force and effect until such time that the Governor's State of Emergency is lifted either by the Governor or a joint resolution of the State Legislature, unless terminated earlier by the City Council, which pursuant to the California Services Act, the City Council is obligated to terminate at the earliest possible day that the conditions warrant.

Extending the Existence of a Local Emergency due to the COVID-19 Pandemic

Under a prior order of the City Council, the City Manager/Emergency Services Director was directed to provide an update to the City Council every 60 days to determine whether the Local State of Emergency needs to remain in effect.

The Disaster Council has determined there remains a need to continue (extend) the City Council's proclamation of the existence of a Local State of Emergency due to the ongoing nature of the COVID-19 Virus Pandemic, which continues to endanger the health and welfare of the residents and visitors of the City of Moreno Valley, as reflected in the guidance and related findings published by Riverside County Public Health

Officer, the Governor's Office, the California Department of Public Health, the Centers of Disease Control and Prevention and the World Health Organization.

Pandemic Influenza Preparedness Plan

The Pandemic Influenza Preparedness Plan which was prepared under the direction and oversight of the Disaster Council, serves as the City's "Emergency Operations Plan." Pursuant to the Municipal Code, the Disaster Council is responsible for the development and maintenance of the City's Emergency Operations Plan, which must provide for the effective mobilization of all of the resources of the City, both public and private, to meet any conditions which may arise during the Local State of Emergency. It also provides for the organization, powers and duties and services of certain City employees, who all became "Disaster Workers" upon the adoption the Declaration of the Local State of Emergency. As Disaster Workers, some City employees may be assigned duties outside the scope of their regular job duties. The Plan also addresses issues such as telecommuting and financial tracking of emergency expenditures for purposes of qualifying for emergency assistance from Governor's Operations of Emergency Services and/or FEMA.

Closure Plan

Under the direction and oversight of the Disaster Council, a "Closure Plan" was developed which identifies which City facilities would either be closed during certain times and on certain days. The Closure Plan also identifies any adjustment in the hours of operation related to providing certain services to the public, such as those provided through the City's Libraries, Parks & Community Services, Employment Resource Center, Animal Services, etc.

Waiving Limitation on City Manager's Purchasing Authority

Currently, the City Manager/Emergency Services Director has the discretion to purchase and procure certain materials, equipment, supplies and services, provided that no single transaction exceeds $50,000 or $75,000 for public works contracts. This emergency measure waives these dollar limitations only for those purchases and procurement of materials, equipment, supplies and services which are related to mitigating or preventing the spread and transmission of COVID-19. This emergency measure also ratified any and all purchases of equipment, supplies and other materials in response to the arrival of 195 individuals who may have been exposed to COVID-19 at March Air Reserve Base on or about January 29, 2020, and who were subjected to a mandatory 14-Day federal COVID-19 quarantine at the Base, without prior sufficient notice being provided to the City first

Suspending Purchasing Procedures

This emergency measure authorizes the City Manager/Emergency Services Director to suspend the purchasing procedures set forth in Chapter 3.12 "Purchasing" of the Municipal Code to procure the necessary equipment, services, and supplies in order to

respond immediately and effectively to the COVID-19 Virus Pandemic Emergency. Suspension of the purchasing procedures essentially authorizes the City Manager/Emergency Services Director to approve the direct purchase of any supplies, materials, equipment or contractual services where immediate procurement is essential to prevent delays which may otherwise hinder the City's efforts to implement programs and provide services intended to prevent or mitigate the risk of spreading and transmitting COVID-19. This also allows the City Manager/Emergency Services Director to suspend any requirements for preparing and publishing "Notices Inviting Bids," soliciting prospective vendors and consultants via "Requests for Proposals" (RFPs) or "Request for Quotes," awarding a contract or purchase to the "Lowest Responsible Bidder," requiring "Bidder's Security," and implementing "Protest Procedures."

Suspending Public Contract Bidding Requirements

This emergency measure allows for a temporary suspension of the competitive bidding process associated with public works contracts. Under the State's Public Contract Code, such a temporary suspension is permitted during a State of Emergency. Basically, this authorizes the City Manager/Emergency Services Director to cause the repair or replacement of any public facility directly related to the COVID-19 Virus Pandemic Emergency, which requires immediate action without having to give notice for bids to let contracts as otherwise required under the Public Contract Code.

Obtaining Vital Supplies, Equipment and Property

This emergency measure authorizes the City Manager/Emergency Services Director or designee, for the duration of the Local State Emergency, to obtain vital supplies, equipment and property identified as lacking and necessary for the protection of life and property and to bind the City for the fair value thereof.

Application & Acceptance of State & Federal Emergency Aid

FEMA has announced that certain emergency protective measures taken by cities to respond to the COVID-19 emergency may be eligible for reimbursement. In addition, there may also be some emergency funding made available by the Health and Human Services or the Centers for Disease Control and Prevention for certain emergency protective measures, the City may implement. Such funding may be made available for costs associated with management, control and reduction of immediate threats to public health and safety, such as Emergency Operation Center costs, training specific to the declared event and disinfection of eligible public facilities, medical facility services and supplies, temporary medical facilities and/or enhanced medical/hospital capacity, use of specialized medical equipment, medical waste disposal, emergency medical transport, medical sheltering, etc. Moreover, it is expected that under the California Disaster Assistance Act, the State may be providing financial assistance for local costs such as, but not limited to, personnel costs, equipment costs, and the cost of supplies and materials used during disaster response activities; matching fund assistance for cost sharing required under federal disaster assistance programs; and indirect administrative

costs and any other assistance deemed necessary by the Director of the Office of Emergency Services.

Moratorium on Late Fees Related to the Nonpayment of Rent

This emergency measure prevents a landlord from evicting a tenant for nonpayment of rent if the tenant demonstrates that the tenant is unable to pay rent due to financial impacts related to COVID-19. In addition, a landlord may not charge or collect any interest or any late fee for rent that is delayed due to the nonpayment of rent caused by the COVID-19 Pandemic. This shall not, however, relieve a tenant of liability for the unpaid rent, and no other legal remedies available to the landlord are affected by this emergency measure. This emergency measure also does not prevent a landlord from evicting a tenant who failed to pay rent when due prior to the Governor's Proclamation of a State of Emergency on March 4, 2020 or for any other lease violation not related or caused by the COVID-19 pandemic.

Granting Qualified Immunity to Medical Professionals and Veterinarians

This emergency measure authorizes the City Manager/Emergency Services Director, for the duration of the Local State of Emergency, to request, expressly or impliedly, the services of certain medical professionals and facilities for purposes related to the Local State of Emergency. This applies to the services provided by any physician or surgeon (whether licensed in California or any other state), hospital, pharmacist, respiratory care practitioner, nurse, or dentist for purposes related to the COVID-19. Pursuant to the California Emergency Services Act, any physician or surgeon (whether licensed in California or any other state), hospital, pharmacist, respiratory care practitioner, nurse, or dentist who renders services during the Local State of Emergency at the express or implied request of the City Disaster Council, City Manager/Emergency Services Director and/or City Council shall have no liability for any injury sustained by any person by reason of such services, regardless of how or under what circumstances or by what cause those injuries are sustained; provided, however, that the immunity herein granted shall not apply in the event of a willful act or omission.

This emergency measure also applies to any veterinarian or registered veterinary technician who renders services during the Local State of Emergency at the express or implied request of the City Disaster Council, City Manager/Emergency Services Director and/or City Council. They too shall have no liability for any injury sustained by any animal by reason of those services, regardless of how or under what circumstances or by what cause those injuries are sustained; provided, however, that the immunity herein granted shall not apply in the event of a willful act or omission.

Providing For Expanded Restaurant Outdoor Seating

This Resolution authorizes the City Manager or designee to set forth a streamlined Temporary Use Permit (TUP) process and fee waiver to temporarily allow existing restaurants within the City to expand outdoor seating capacity on private property in order to implement social distancing measures. In association with this plan to facilitate

operations for existing City restaurant businesses, staff has developed a checklist that provides applicants with a clear and simple understanding of the associated requirements. An over-the-counter approval process has also been made available.

Providing For Temporary Outdoor Business Operations

This Resolution ratified the City Manager's actions on July 22, 2020, to set forth a streamlined Temporary Use Permit (TUP) process and fee waiver to temporarily allow existing businesses to conduct outdoor operations within the City on private property in order to implement social distancing measures and in accordance with applicable State guidelines. In association with this plan to facilitate operations for existing City businesses, staff developed a checklist that provides applicants a clear and simple understanding of the associated requirements. An over-the-counter approval process is also available.

Continuing the Declaration of a Fiscal Emergency

It is difficult to predict with certainty the ultimate reduction in General Fund revenues caused by the COVID-19 Pandemic but the impact has been and likely will continue to be significant. Although the City has taken immediate actions to balance the budget for the best case scenario of a $9.9 million shortfall in FY 2020/21, due to the ongoing impacts of the Governor's Executive Orders and the potential for additional State takeaways from local government in future State budget revisions or other actions, along with not receiving any financial support from either the State or the Federal Government, this situation may continue to create a severe economic crisis at the federal, state and local levels.

Continuing the Declaration of a Fiscal Emergency as a result of COVID-19 provides, in part, for the City Manager/Emergency Services Director to investigate and recommend further actions to mitigate the fiscal impact to the City's 2020/21 and 2021/22 Fiscal Year Budgets, including such measures relating to personnel costs, operations, reduction in service levels, or other measures deemed necessary and reasonable to minimize the accelerated and significant reduction to the General Fund budget and reserves.

The decision to declare a Fiscal Emergency was not made lightly. The City's immediate and significant loss of revenue due to COVID-19 is unprecedented and represents a sudden change of circumstances beyond the City's control and will ultimately draw down its General Fund reserves beyond a traditionally recommended level. Unlike the Great Recession of 2008-2011, where the City had an opportunity to implement cost saving measures over a longer period of time, the COVID-19 Local State of Emergency is immediate, severe and is highly likely going to extend through the next few fiscal years.

The State now has a blueprint for reducing COVID-19 in the State with revised criteria for loosening and tightening restrictions on activities, which includes categories identified as "Minimal" (most indoor business operations are open with modifications),

"Moderate" (some indoor business operations are open with modifications), "Substantial" (some non-essential indoor business operations are closed), and "Widespread" (many non-essential indoor business operations are closed), which are applied on a county by county basis throughout the State based on a 7-day average of daily COVID-19 cases per 100,000 and a 7-day average of all COVID-19 tests performed that are positive. In addition, the County of Riverside now aligns itself with the State's Orders as they now exist or may be issued or amended in the future.

Providing For Seniors Eats, a California Great Plates Delivered Program

Meal delivery for the Senior Eats program began in Moreno Valley on Monday, May 18, 2020. The program has been extended several times with the State submitting a request for approval to FEMA in 30 day increments, based on need. The program allows for the delivery of lunch and dinner for 150 seniors, Monday through Friday at $50 per day ($17 for lunch, $28 for dinner, $5 for incidentals) for 150 seniors at approximately $37,500 per week. The program was adopted with an anticipated reimbursement from the California Office of Emergency Services at 18.75%, FEMA at 75% and a 6.25% final contribution from the City as the local administrator. Continuation of this program will coincide with 30-day FEMA's approval process, however the City reserves the right to end participation at any time.

Based on current emergency resolutions, the City Manager has been previously authorized to amend the current contracts with the restaurants for the continuation of the program within the State's guidance and direction. The current restaurant participation agreements through the end of the calendar year are set at an amount not to exceed $120,000, based on the number of meals delivered. Continuation of the program may require a $40,000 amendment for each 30 day extension.

ALTERNATIVES

1. Adopt the recommended actions set forth within the staff report. This would allow the City Manager/Emergency Services Director to respond in a timely manner in time sensitive situations where delays may frustrate or impede the City's emergency efforts to abate or mitigate the spread and transmission of COVID-19.
2. Reject the recommended actions set forth within the staff report, which would impact the City's ability to respond in a timely manner in time sensitive situations where delays may frustrate or impede on the City's emergency efforts to abate or mitigate the spread and transmission of COVID-19 in a timely manner.

FISCAL IMPACT

See above discussion regarding Resolution Declaring Fiscal Emergency and the Senior Eats Program.

PREPARATION OF STAFF REPORT

Prepared By:
Marshall Eyerman
Assistant City Manager/Chief Financial Officer

Department Head Approval:
Mike Lee
City Manager

Concurred By:
Steve Quintanilla
Interim City Attorney

CITY COUNCIL GOALS

Revenue Diversification and Preservation. Develop a variety of City revenue sources and policies to create a stable revenue base and fiscal policies to support essential City services, regardless of economic climate.

Public Safety. Provide a safe and secure environment for people and property in the community, control the number and severity of fire and hazardous material incidents, and provide protection for citizens who live, work and visit the City of Moreno Valley.

Public Facilities and Capital Projects. Ensure that needed public facilities, roadway improvements, and other infrastructure improvements are constructed and maintained.

CITY COUNCIL STRATEGIC PRIORITIES

1. **Economic Development**
2. **Public Safety**
3. **Library**
4. **Infrastructure**
5. **Beautification, Community Engagement, and Quality of Life**
6. **Youth Programs**

ATTACHMENTS

1. Resolution Extending Local Emergency and COVID-19 Emergency Measures

APPROVALS

Budget Officer Approval	✓ Approved	1/28/21 7:54 AM
City Attorney Approval	✓ Approved	
City Manager Approval	✓ Approved	1/28/21 2:51 PM

RESOLUTION NO. 2021-___

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF MORENO VALLEY, CALIFORNIA, EXTENDING THE LOCAL STATE OF EMERGENCY AND CERTAIN EMERGENCY MEASURES RELATED TO THE LOCAL, STATE AND NATIONAL DECLARATIONS OF EMERGENCY RELATED TO THE COVID-19 PANDEMIC AND EXTENDING THE DECLARATION OF A FISCAL EMERGENCY

WHEREAS, on March 4, 2020, the Governor of the State of California proclaimed a State of Emergency to make additional resources available, formalize emergency actions already underway across multiple state agencies and departments, and help the state prepare for broader spread of COVID-19; and

WHEREAS, on March 7, 2020, Riverside County Public Health Officer Dr. Cameron Kaiser declared a Local Health Emergency; and

WHEREAS, on March 10, 2020, the Riverside County Board of Supervisors ratified the Local Health Emergency and activated the Medical Health Department Operations Center to better coordinate public messaging and planning among community partners as Riverside County officials prepare for the spread of COVID-19; and

WHEREAS, on March 11, 2020, the California Department of Public Health issued guidance that in order to protect public health and slow the rate of transmission of COVID-19, by recommending placing restrictions on gatherings of people and minimum social distancing of six feet; and

WHEREAS, on March 12, 2020, the Governor of the State of California issued Executive Order N-25-20 providing that all residents are to heed any orders and guidance of state and local public health officials, including but not limited to the imposition of social distancing measures, to control the spread of COVID-19 and that authorized local legislative bodies to hold public meetings via teleconferencing and to make public meetings accessible telephonically or otherwise electronically to all members of the public seeking to attend and to address the local legislative body, during the period in which local public officials impose or recommend measures to promote social distancing, including but not limited to limitations on public events; and

WHEREAS, on March 13, 2020, the President of the United States of America proclaimed and declared a National Emergency Concerning the Novel Coronavirus Disease (COVID-19) Outbreak and announced that the federal government would make emergency funding available to assist state and local governments in preventing the spread of and addressing the effects of COVID-19; and

WHEREAS, on March 17, 2020, the Governor issued Executive Order N-33-20 ordering that to protect public health, that all individuals living in the State of California stay home or at their place of residence ("Shelter in Place") except as needed to maintain continuity of operations of the federal critical infrastructure sectors, as outlined at https://www.cisa.gov/critical-infrastructure-sectors; and

WHEREAS, on March 17, 2020, the City Council declared a Local State of Emergency in response to the COVID-19 Pandemic, which prompted the Disaster Council to convene; and

WHEREAS, the Disaster Council consists of the Mayor, City Manager/Director of Emergency Services and the Fire Chief; and

WHEREAS, the Disaster Council's purpose is to develop and recommend for adoption by the City Council emergency plans, mutual aid plans, agreements, ordinances, resolutions and any necessary rules and regulations to implement the aforementioned; and

WHEREAS, since the commencement of the Local State of Emergency, the City Council adopted various temporary emergency measures related to the Local State of Emergency; and

WHEREAS, each of the temporary emergency measures were set to terminate at such time that the Governor's State of Emergency is terminated by a subsequent proclamation of the Governor or a concurrent resolution of the State Legislature, unless the emergency measures are terminated earlier by the City Council, but notwithstanding the foregoing, and in order to prevent inconsistencies, the Disaster Council or the City Council may suspend the effectiveness of any of the emergency measures in the event that the President of the United States, the United States Congress, the Governor of the State of California, the California State Legislature or the Public Health Officer of the County of Riverside adopts legislation, a law, a regulation or order that supersedes any given emergency measure; and

WHEREAS, notwithstanding the above, under the California Emergency Services Act, the City Council must review the need for continuing the existence of the Local State of Emergency at least once every 60 days until the City Council terminates the Local State of Emergency, and pursuant to the California Emergency Services Act, the City Council must terminate the Local State of Emergency at the earliest possible day that the conditions warrant; and

WHEREAS, the Disaster Council has determined there remains a need to continue (extend) the City Council's proclamation of the existence of a Local State of Emergency due to the COVID-19 Virus Pandemic, which continues to endanger the health and welfare of the residents and visitors of the City of Moreno Valley, as reflected in the guidance and related findings published by Riverside County Public Health Officer, the Governor's Office, the California Department of Public Health, the Centers of Disease Control and Prevention and the World Health Organization; and

WHEREAS, on June 2, 2020, at a duly noticed regular meeting of the City Council, the City Council adopted Resolution No. 2020-41 extending the following emergency measures, as described in their respective adopting resolutions, until such time that the Governor's State of Emergency is lifted either by the Governor or a joint resolution of the State Legislature, unless terminated earlier by the City Council, which pursuant to the California Services Act, the City Council is obligated to terminate at the earliest possible day that the conditions warrant:

a. The Existence of a Local State of Emergency due to the COVID-19 Pandemic
b. Direction to the City Disaster Council and/or City Manager/Emergency Services Director to Seek, Apply For and Accept any Financial Assistance, Grants, Reimbursements the City is Eligible to Receive Under any State or Federal Programs, Agencies or Offices including but not limited to the Governor's Office of Emergency Services; the United States Department of Health and Human Services; Centers for Disease Control and Prevention and/or the Federal Emergency Management Agency;

c. Authorization of the City Manager/Emergency Services Director to Obtain Vital Supplies, Equipment and Property Found Lacking and Needed for the Protection of Life and Property During the Local State of Emergency;
d. Temporary Waiver Granted to the City Manager's/Emergency Services Director's Level of Procurement Signature Authority to Mitigate or Prevent the Spread and Transmission of COVID-19;
e. Authorization of the City Manager/Emergency Services Director to Suspend the Purchasing Procedures Set Forth in Chapter 3.12 of The Municipal Code Related to the COVID-19 Virus Pandemic Emergency;
f. Authorization of the City Manager/Emergency Director to Take any Directly Related and Immediate Action Required by the COVID-19 Virus Pandemic Emergency and Procure the Necessary Public Works Construction Contracts for Those Purposes, Without Giving Notice for Bids to Let Contracts;
g. Grant of Qualified Immunity to Certain Medical Professionals and Veterinarians or Registered Veterinary Technicians Who Render Services During the City's Local State of Emergency at the Express or Implied Request of the Disaster Council, City Manager/Emergency Services Director and/or City Council; and
h. Moratorium on Late Fees Related to the Nonpayment of Rent Due to Inability to Pay Related to COVID-19; and

WHEREAS, on June 2, 2020, at a duly noticed regular meeting of the City Council, the City Council adopted Resolution No. 2020-42, an emergency measure authorizing the City Manager/Emergency Director to set forth a streamlined Temporary Use Permit Process and fee waiver to temporarily allow existing restaurants to expand outdoor seating capacity in order to provide social distancing measures during the COVID-19 Pandemic; and

WHEREAS, on June 2, 2020, at a duly noticed regular meeting of the City Council, the City Council adopted Resolution No. 2020-43, unanimously determining and declaring the existence of a Fiscal Emergency within the City of Moreno Valley for the purpose of providing the City with the rights and authorities granted to the City Council, without limitation, under Article XIIIC, section 2(b) of the California Constitution and Government Code section 3504.5, to ensure that the City has the resources and opportunities available to it that are necessary to preserve and protect public health, safety and welfare for the benefit of the City's residents, business owners, and visiting public; and

WHEREAS, on September 1, 2020, at a duly noticed regular meeting of the City Council, the City Council adopted Resolution No. 2020-61, an emergency measure authorizing the City Manager/Emergency Director to set forth a streamlined Temporary Use Permit Process and fee waiver to temporarily allow existing business operations to conduct outdoor use on private property in order to implement social distancing measures during the COVID-19 Pandemic; and

WHEREAS in light of the foregoing, the Disaster Council recommends that the City Council adopt the attached Resolution that extends the existence of a Local State of Emergency due to the COVID-19 Pandemic and extends certain emergency measures, and affirms the need to maintain the state of a Fiscal Emergency, previously adopted by the City Council pursuant to the findings set forth in the recitals contained and set forth in the resolutions adopting said emergency measures; and

WHEREAS, the State has a blueprint for reducing COVID-19 in the state with revised criteria for loosening and tightening restrictions on activities, which includes categories identified as "Minimal" (most indoor business operations are open with modifications), "Moderate" (some

indoor business operations are open with modifications), “Substantial” (some non-essential indoor business operations are closed), and “Widespread” (many non-essential indoor business operations are closed), which are applied on a county by county basis throughout the State based on a 7-day average of daily COVID-19 cases per 100,000 and a 7-day average of all COVID-19 tests performed that are positive; and

WHEREAS, the County of Riverside now aligns itself with the State’s Orders as they now exist or may be issued or amended in the future.

NOW, THEREFORE, THE CITY COUNCIL OF THE CITY OF MORENO VALLEY HERBY FINDS, ORDERS AND RESOLVES:

1. THAT following emergency measures shall be extended and remain in full force and effect, as described in their respective adopting resolutions, until such time that the Governor’s State of Emergency is lifted either by the Governor or a joint resolution of the State Legislature, unless terminated earlier by the City Council, which pursuant to the California Services Act, the City Council is obligated to terminate at the earliest possible day that the conditions warrant:
    a. The Existence of a Local State of Emergency due to the COVID-19 Pandemic; Direction to the City Disaster Council and/or City Manager/Emergency Services Director to Seek, Apply For and Accept any Financial Assistance, Grants, Reimbursements the City is Eligible to Receive Under any State or Federal Programs, Agencies or Offices including but not limited to the Governor’s Office of Emergency Services; the United States Department of Health and Human Services; Centers for Disease Control and Prevention; and/or the Federal Emergency Management Agency;
    b. Authorization of the City Manager/Emergency Services Director to Obtain Vital Supplies, Equipment and Property Found Lacking and Needed for the Protection of Life and Property During the Local State of Emergency;
    c. Temporary Waiver Granted to the City Manager’s/Emergency Services Director’s Level of Procurement Signature Authority to Mitigate or Prevent the Spread and Transmission of COVID-19;
    d. Authorization of the City Manager/Emergency Services Director to Suspend the Purchasing Procedures Set Forth in Chapter 3.12 of the Municipal Code Related to the COVID-19 Virus Pandemic Emergency;
    e. Authorization of the City Manager/Emergency Director to Take any Directly Related and Immediate Action Required by the COVID-19 Virus Pandemic Emergency and Procure the Necessary Public Works Construction Contracts for Those Purposes, Without Giving Notice for Bids to Let Contracts;
    f. Grant of Qualified Immunity to Certain Medical Professionals and Veterinarians or Registered Veterinary Technicians Who Render Services During the City’s Local State of Emergency at the Express or Implied Request of the Disaster Council, City Manager/Emergency Services Director and/or City Council;
    g. Moratorium on Late Fees Related to the Nonpayment of Rent Due to Inability to Pay Related to COVID-19;

h. Order authorizing the City Manager/Emergency Director to set forth a streamlined Temporary Use Permit Process and fee waiver to temporarily allow existing restaurants to expand outdoor seating capacity in order to provide social distancing measures during the COVID-19 Pandemic; and
i. Order authorizing the City Manager/Emergency Director to set forth a streamlined Temporary Use Permit Process and fee waiver to temporarily allow existing business operations to conduct outdoor use on private property in order to implement social distancing measures during the COVID-19 Pandemic; and

2. THAT the economic downturn due to the impact of COVID-19 continues to create an unforeseen situation that poses a threat to the public health, safety and welfare which continues the need for immediate action since there continues to be substantial uncertainty as to whether the City's revenues in the next two years will be sufficient to cover the expenditures necessary to provide a service level consistent with public health and safety demands and expectations of the residents and businesses of the City of Moreno Valley, for the reasons set forth in Resolution No. 2020 - 43; and
3. THAT in light of the foregoing and the fact that the City's need for additional revenue is immediate and will likely continue for the remainder of this Fiscal Year 2020 and well into Fiscal Year 2021 and the extension of the declaration of fiscal emergency in necessary to ensure the City has the resources and opportunities necessary to preserve and protect public health, safety and welfare, the City Council also hereby extends the declaration of a fiscal emergency; and
4. THAT the City Council has determined that the purpose of adopting and implementing protective measures to mitigate and/or abate the transmission of COVID-19, is to prevent harm to those who may violate any protective measure since any such violations may result in exposure to the COVID-19 which may lead to illness and death to the violator and those in the presence of the violator since there is no effective cure or vaccine available; and
5. THAT the City Council has determined that the purpose of adopting and implementing and extending the aforementioned emergency measures, including extending the declaration of fiscal emergency, is to mitigate and/or abate the spread and transmission of COVID-19.; and
6. THAT a violation of any of the aforementioned emergency orders by any member of the pubic shall be subject to any and all other remedies, civil, equitable or criminal, afforded to the City under any City, County, State and Federal laws or regulations; and
7. THAT any section, subdivision, subsection, sentence, clause, or phrase in this Resolution or its application to any person or circumstances, is for any reason held invalid, the validity of the remainder of this Resolution, or the application of such provision contained therein to other persons or circumstances, shall not be affected thereby; and
8. THAT the City Council hereby declares that it would have adopted this Resolution and each section, subdivision, subsection, sentence, clause, or phrase thereof, irrespective of the fact that one or more sections, subdivisions, subsections, sentences, clauses, or phrases, or the application thereof to any person or circumstance, be held invalid; and

9. THAT notwithstanding the foregoing, and in order to prevent inconsistencies, the City Council, Disaster Council or City Manager/Emergency Services Director may suspend the effectiveness of this Resolution in the event that the President of the United States, the United States Congress, the Governor of the State of California, the California State Legislature or the Public Health Officer of the County of Riverside adopts legislation, a law, a regulation or order that supersedes this Resolution.

APPROVED AND ADOPTED this __nd day of February, 2021

_____
Mayor of the City of Moreno Valley

ATTEST

_____
City Clerk

APPROVED AS TO FORM

_____
Interim City Attorney

Resolution No. 2021-
Date Adopted: February __, 2021

Report to City Council

TO:	Mayor and City Council
FROM:	Marshall Eyerman, Assistant City Manager
AGENDA DATE:	February 2, 2021
TITLE:	PURSUANT TO LANDOWNER PETITION, ANNEX CERTAIN PARCELS INTO COMMUNITY FACILITIES DISTRICT NO. 2014-01 (MAINTENANCE SERVICES) - AMENDMENT NO. 54

RECOMMENDED ACTION

Recommendation:

Acting as the legislative body of Community Facilities District No. 2014-01 (Maintenance Services), adopt Resolution No. 2021-__, a Resolution of the City Council of the City of Moreno Valley, California, ordering the annexation of territory to City of Moreno Valley Community Facilities District No. 2014-01 (Maintenance Services) and approving the amended map for said District. (Amendment No. 54). (PEDROHYPJVC, LLC, located on the north side of Kalmia Ave., west of Lasselle St.).

SUMMARY

Approval of the proposed resolution will certify annexation of two parcels into Community Facilities District (CFD) No. 2014-01 (Maintenance Services) ("District"). This action impacts only the property owner identified below, not the general citizens or taxpayers of the City.

The City requires property owners of new development projects to mitigate the cost of certain impacts created by the proposed development (e.g., the cost of operation and maintenance of street lighting and/or public landscaping). The City created CFD No. 2014-01 to provide the development community with a funding mechanism to assist in satisfying the requirement. After a property owner elects to annex their property into the District and the City Council approves the annexation, a special tax can be levied on the annual property tax bill of the annexed parcel to fund the costs.

As a condition of approval for development of their project, the Property Owner, as

defined below, is required to provide a funding source for the operation and maintenance of certain public improvements (i.e., street lighting) and has elected to annex the parcels of their project into the District to satisfy the condition. The Property Owner has submitted the Landowner Petition approving the annexation and the City Clerk has confirmed the petition is valid.

DISCUSSION

The District was formed by adoption of Resolution No. 2014-25 to provide an alternative funding tool for the development community. It provides a mechanism to fund the operation and maintenance of street lighting services and public landscaping. After a landowner approves annexation of their property into the District and the City Council approves the annexation, the City is authorized to levy a special tax onto the annual property tax bill.

The Rate and Method of Apportionment of Special Tax ("RMA") for the District describes the different special tax rate areas, services provided, and formula to calculate the special tax rate for each of the tax rate areas. Several special tax rate areas were created to accommodate a variety of scenarios to ensure costs are fairly shared between property owners. For example, there is a tax rate area for "single-family residential street lighting" and one for "street lighting for property other than single-family residential" (e.g., commercial, industrial, or multi-family projects). Different tax rate areas are needed for street lighting because the spacing and size/type of lights differ based on the type of development. Likewise, there are several tax rate areas for maintenance of public landscaping. A property owner's proportionate share of landscape maintenance costs will vary depending upon the total square footage of landscaping to be maintained and the number of properties sharing in the cost for that development.

On February 10, 2015, the City Council adopted Ordinance No. 889, which designated the entire territory of the City as a future annexation area for the District. With the future annexation area designated, annexations can occur without an additional public hearing as long as the annexing landowner provides unanimous consent. Once annexed, parcels are subject to the annual special tax to fund the service they are receiving.

As a condition of approval for the project identified below, the Property Owner is required to provide an ongoing funding source for the operation and maintenance services of street lighting, which is required to be installed on public streets as part of the development project. The table below provides information for the property under development.

Property Owner/ Project ACP Record #	APNs	Location	Amendment No.
PEDROHYPJVC, LLC 83 single-family residential development PEN19-0217/SCP20-0025	474-110-004 & 474-110-014	North side of Kalmia Ave., west of Lasselle St.	54

A property owner has two options to satisfy the condition of approval:

1. Submit a Landowner Petition unanimously approving annexation of the property into the District. Approval of the petition and special tax rate allows the City to annually levy the special tax on the property tax bill of the property. This option is only available if there are fewer than 12 registered voters living within the proposed annexation area; or

2. Establish a homeowner or property owner association to provide the ongoing operation and maintenance of the improvements.

The Property Owner elected to annex their property into CFD No. 2014-01 and have the special tax applied to the annual property tax bill. The Office of the Riverside County Registrar of Voters confirmed there were no registered voters residing at the property, allowing a special election of the landowner. Adoption of the attached resolution (Attachment 1) adds the property to the tax rate areas identified in the Fiscal Impact section of this report and directs the recordation of the boundary map (Attachment 2) and amended notice of special tax lien for Amendment No. 54. The City Clerk received and reviewed the Landowner Petition and confirmed the Property Owner unanimously approved the annexation of their property into the District (Attachment 3).

Successful completion of the annexation process satisfies the project's condition of approval to provide a funding source for the operation and maintenance of street lighting on public streets.

ALTERNATIVES

1. Adopt the proposed resolution. *Staff recommends this alternative as it will annex the property into CFD No. 2014-01 at the request of the Property Owner and satisfy the condition of approval for the proposed development.*

2. Do not adopt the proposed resolution. *Staff does not recommend this alternative as it is contrary to the request of the Property Owner, will not satisfy the condition of approval, and may delay development of the project.*

3. Do not adopt the proposed resolution but rather continue the item to a future regularly scheduled City Council meeting. *Staff does not recommend this alternative as it will delay the Property Owner from satisfying the condition of approval and may delay development of the project.*

FISCAL IMPACT

Revenue received from the special tax is restricted and can only be used to fund the services for each tax rate area within the District. If the projected revenue from the

maximum special tax exceeds what is necessary to fund the services within each tax rate area, a lower amount will be applied to the property tax bill for all the properties within the affected tax rate area. The special tax can only be applied to a property tax bill of a parcel wherein the qualified electors (i.e., landowners or registered voters, depending upon the number of registered voters) have previously provided approval. The estimated maximum special tax revenue that can be generated from the project is detailed below.

Property Owner/ Project ACP Record #	Tax Rate Area[1]	# of Parcels[2]	FY 2020/21 Maximum Special Tax Rate[3]	FY 2020/21 Maximum Special Tax for the Project[2]
PEDROHYPJVC, LLC[4] 83 single-family residential development PEN19-0217/SCP20-0025	SL-01	83	$264.49	$21,952.67

[1]SL-01 is for Street Lighting for Single-Family Residential Property and is calculated based on a per parcel basis.
[2]Estimated based on proposed parcel configuration. The special tax calculation will be based on final development of the project.
[3]The special tax applied to the property tax bill will be based on the needs of the tax rate area within the District. The applied special tax rate cannot exceed the maximum special tax rate. The FY 2020/21 applied rate for SL-01 is $64.10/parcel.
[4]Thirty-seven street lights are planned to be installed along Kalmia Ave., Slawson Ave. and Streets "A" through "F".

The maximum special tax rates are subject to an annual inflation adjustment based on the change in the Consumer Price Index (CPI) or five percent (5%), whichever is greater. However, the annual adjustment cannot be applied unless the City Council annually authorizes such adjustment. The increase to the maximum special tax rate cannot exceed the annual inflationary adjustment without a two-thirds approval of the qualified electors within the affected tax rate area.

NOTIFICATION

The annexation materials were mailed to the Property Owner on December 17, 2020. A cover letter, Landowner Petition, RMA, and an envelope to return the completed petition were included.

PREPARATION OF STAFF REPORT

Prepared by:
Isa Rojas
Management Analyst

Department Head Approval:
Marshall Eyerman
Assistant City Manager

Concurred by:
Candace E. Cassel
Special Districts Division Manager

CITY COUNCIL GOALS

Revenue Diversification and Preservation. Develop a variety of City revenue sources and policies to create a stable revenue base and fiscal policies to support essential City services, regardless of economic climate.

Community Image, Neighborhood Pride and Cleanliness. Promote a sense of community pride and foster an excellent image about our City by developing and executing programs which will result in quality development, enhanced neighborhood preservation efforts, including home rehabilitation and neighborhood restoration.

CITY COUNCIL STRATEGIC PRIORITIES

1. **Economic Development**
2. **Public Safety**
3. **Library**
4. **Infrastructure**
5. **Beautification, Community Engagement, and Quality of Life**
6. **Youth Programs**

Objective 4.2: Develop and maintain a comprehensive Infrastructure Plan to invest in and deliver City infrastructure.

Objective 5.2: Promote the installation and maintenance of cost effective, low maintenance landscape, hardscape and other improvements which create a clean, inviting community.

ATTACHMENTS

1. Resolution Ordering Annexation - Amendment No. 54
2. Boundary Map - Amendment No. 54
3. Certificate of Election Official - Amendment No. 54

APPROVALS

Budget Officer Approval	✓ Approved	1/21/21 5:46 PM
City Attorney Approval	✓ Approved	
City Manager Approval	✓ Approved	1/22/21 11:28 AM

RESOLUTION NO. 2021-___

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF MORENO VALLEY, CALIFORNIA, ORDERING THE ANNEXATION OF TERRITORY TO CITY OF MORENO VALLEY COMMUNITY FACILITIES DISTRICT NO. 2014-01 (MAINTENANCE SERVICES) AND APPROVING THE AMENDED MAP FOR SAID DISTRICT

WHEREAS, by its Resolution No. 2014-25, the City Council established the City of Moreno Valley Community Facilities District No. 2014-01 (Maintenance Services) (the "CFD"), a citywide district, pursuant to the Mello-Roos Community Facilities Act of 1982 (Government Code Section 53311 *et seq*.) (the "Act"); and

WHEREAS, by its Ordinance No. 874, the City Council authorized an annual special tax to be levied against all non-exempt parcels of real property within the CFD (the "Special Tax") to fund street lighting services and landscape maintenance services; and

WHEREAS, in order to permit landowners to efficiently annex developing parcels to the CFD, the City Council, by its Ordinance No. 889 designated the entire territory of the City as a future annexation area for the CFD and approved the second amended and restated rate and method of apportionment for the Special Tax; and

WHEREAS, the landowner of the parcel(s) listed on Exhibit A to this Resolution, which is attached hereto and incorporated herein by reference, has submitted to the City a petition requesting and approving annexation of the listed parcel(s) (the "Annexation Parcel(s)") to the CFD; and

WHEREAS, the Annexation Parcel(s) are comprised of the territory shown on the boundary map (the "Boundary Map") "Amendment No. 54 to Boundaries of City of Moreno Valley Community Facilities District No. 2014-01 (Maintenance Services), City of Moreno Valley, County of Riverside, State of California" which is included as Exhibit B to this Resolution, and incorporated herein by this reference; and

WHEREAS, the City Council desires to annex the Annexation Parcel(s) to the CFD.

NOW, THEREFORE, THE CITY COUNCIL OF THE CITY OF MORENO VALLEY, CALIFORNIA, DOES HEREBY RESOLVE AS FOLLOWS:

1. Recitals. The above recitals are all true and correct and are herein incorporated.

2. Annexation Approved. The Annexation Parcel(s) are hereby added to and part of the CFD with full legal effect. The Annexation Parcel(s) are subject to the

Special Tax associated with the Tax Rate Area(s) indicated on Exhibit A to this Resolution.

3. Description of Services. The following is a general description of all services (the "Services") provided in the CFD:

A. Landscape Maintenance Services: Maintaining, servicing, and operating landscape improvements and associated appurtenances located within the public right-of-way and within dedicated landscape easements for the CFD. These improvements may include but are not limited to parkways, medians, open space landscaping, fencing, monuments, ornamental lighting, drainage, turf, ground cover, shrubs, vines and trees, irrigation systems, and appurtenant facilities and structures. Fundable costs may include, but are not limited to: (i) contracting costs for landscape maintenance services, including litter removal, (ii) salaries and benefits of City staff, (iii) expenses related to equipment, apparatus, and supplies related to these services, (iv) City administrative and overhead costs associated with providing such services within the CFD, and (v) lifecycle costs associated with the repair and replacement of facilities.

B. Street Lighting Services: Maintaining, servicing, and operating street lights and appurtenant improvements. Fundable costs may include, but are not limited to: (i) contracting costs for street light maintenance, (ii) salaries and benefits of City staff, if the City directly provides street light maintenance services, (iii) utility expenses and the expense related to equipment, apparatus, and supplies related to these services and authorized by the Act, (iv) City administrative and overhead costs associated with providing such services for the CFD, and (v) lifecycle costs associated with the repair and replacement of facilities.

The Annexation Parcel(s) will only be provided with the services indicated on Exhibit A.

4. Amended Boundary Map. The Boundary Map attached hereto as Exhibit B is hereby approved. This map amends, and does not supersede, the existing maps of the CFD. The City Council directs that said map be filed with the Riverside County Recorder pursuant to Section 3113 of the Streets and Highways Code.

5. Notice of Special Tax Lien. The City Council directs that an amended notice of special tax lien be recorded pursuant to Section 3117.5 of the Streets and Highways Code with respect to the Annexation Parcel(s) associated with the Boundary Map.

6. This Resolution shall be effective immediately upon adoption.

7. The City Clerk shall certify to the adoption of this Resolution, and shall maintain on file as a public record this Resolution.

8. Severability. That the City Council declares that, should any provision, section, paragraph, sentence or word of this Resolution be rendered or declared invalid by any final court action in a court of competent jurisdiction or by reason of any preemptive legislation, the remaining provisions, sections, paragraphs, sentences or words of this Resolution as hereby adopted shall remain in full force and effect.

9. Repeal of Conflicting Provisions. That all the provisions heretofore adopted by the City Council that are in conflict with the provisions of this Resolution are hereby repealed.

APPROVED AND ADOPTED this 2nd day of February 2021.

_____
Mayor of the City of Moreno Valley

ATTEST:

_____
City Clerk

APPROVED AS TO FORM:

_____
City Attorney

RESOLUTION JURAT

STATE OF CALIFORNIA)

COUNTY OF RIVERSIDE) ss.

CITY OF MORENO VALLEY)

I, Pat Jacquez-Nares, City Clerk of the City of Moreno Valley, California, do hereby certify that Resolution No. 2021-___ was duly and regularly adopted by the City Council of the City of Moreno Valley at a regular meeting thereof held on the 2nd day of February 2021 by the following vote:

AYES:

NOES:

ABSENT:

ABSTAIN:

(Council Members, Mayor Pro Tem and Mayor)

_____
CITY CLERK

(SEAL)

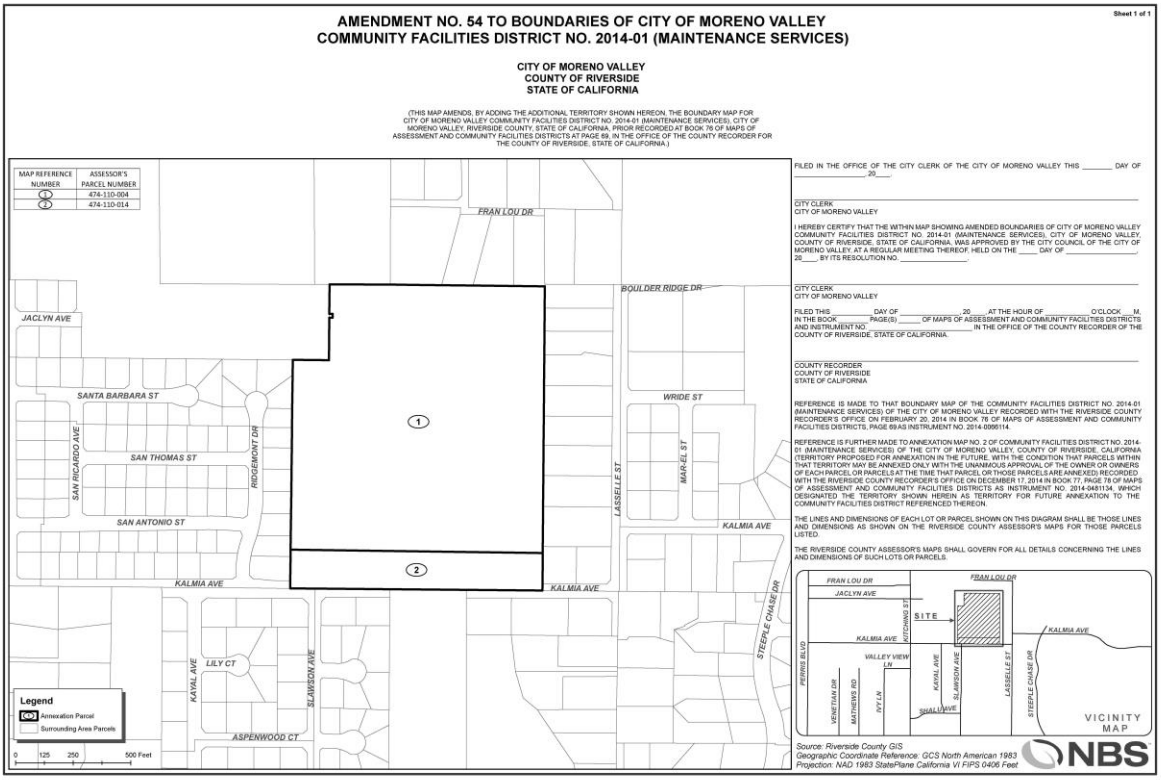
EXHIBIT A

List of Annexation Parcel(s)			
Boundary Map Amendment No.	**Assessor's Parcel Numbers**	**Services**	**Tax Rate Area & Maintenance Category**
Amendment No. 54	474-110-004 474-110-014	Street Lighting	SL-01

Based on current development plans, it is anticipated that the Annexation Group will be in the Maintenance Category listed above; however all taxes will be calculated as set forth in the Rate and Method of Apportionment.

The parcels associated with a given development constitute a separate Annexation Group for purpose of calculating the applicable Maintenance Category (where applicable) for each Tax Rate Area. The anticipated Maintenance Category (where applicable) is shown in parenthesis following the Tax Rate Area. All capitalized terms in this paragraph have the meanings set forth in the Rate and Method of Apportionment.

EXHIBIT B



Sheet 1 of 1

AMENDMENT NO. 54 TO BOUNDARIES OF CITY OF MORENO VALLEY
COMMUNITY FACILITIES DISTRICT NO. 2014-01 (MAINTENANCE SERVICES)

CITY OF MORENO VALLEY
COUNTY OF RIVERSIDE
STATE OF CALIFORNIA

(THIS MAP AMENDS, BY ADDING THE ADDITIONAL TERRITORY SHOWN HEREON, THE BOUNDARY MAP FOR CITY OF MORENO VALLEY COMMUNITY FACILITIES DISTRICT NO. 2014-01 (MAINTENANCE SERVICES), CITY OF MORENO VALLEY, RIVERSIDE COUNTY, STATE OF CALIFORNIA, PRIOR RECORDED AT BOOK 76 OF MAPS OF ASSESSMENT AND COMMUNITY FACILITIES DISTRICTS AT PAGE 69, IN THE OFFICE OF THE COUNTY RECORDER FOR THE COUNTY OF RIVERSIDE, STATE OF CALIFORNIA.)

MAP REFERENCE NUMBER	ASSESSOR'S PARCEL NUMBER
1	474-110-004
2	474-110-014

FILED IN THE OFFICE OF THE CITY CLERK OF THE CITY OF MORENO VALLEY THIS _____ DAY OF _____, 20____.

CITY CLERK
CITY OF MORENO VALLEY

I HEREBY CERTIFY THAT THE WITHIN MAP SHOWING AMENDED BOUNDARIES OF CITY OF MORENO VALLEY COMMUNITY FACILITIES DISTRICT NO. 2014-01 (MAINTENANCE SERVICES), CITY OF MORENO VALLEY, COUNTY OF RIVERSIDE, STATE OF CALIFORNIA, WAS APPROVED BY THE CITY COUNCIL OF THE CITY OF MORENO VALLEY, AT A REGULAR MEETING THEREOF, HELD ON THE ____ DAY OF _____, 20____, BY ITS RESOLUTION NO. _____.

CITY CLERK
CITY OF MORENO VALLEY

FILED THIS _____ DAY OF _____, 20____, AT THE HOUR OF _____ O'CLOCK ___ M. IN THE BOOK _____ PAGE(S) _____ OF MAPS OF ASSESSMENT AND COMMUNITY FACILITIES DISTRICTS AND INSTRUMENT NO. _____ IN THE OFFICE OF THE COUNTY RECORDER OF THE COUNTY OF RIVERSIDE, STATE OF CALIFORNIA.

COUNTY RECORDER
COUNTY OF RIVERSIDE
STATE OF CALIFORNIA

REFERENCE IS MADE TO THAT BOUNDARY MAP OF THE COMMUNITY FACILITIES DISTRICT NO. 2014-01 (MAINTENANCE SERVICES) OF THE CITY OF MORENO VALLEY RECORDED WITH THE RIVERSIDE COUNTY RECORDER'S OFFICE ON FEBRUARY 20, 2014 IN BOOK 76 OF MAPS OF ASSESSMENT AND COMMUNITY FACILITIES DISTRICTS, PAGE 69AS INSTRUMENT NO. 2014-0066114.

REFERENCE IS FURTHER MADE TO ANNEXATION MAP NO. 2 OF COMMUNITY FACILITIES DISTRICT NO. 2014-01 (MAINTENANCE SERVICES) OF THE CITY OF MORENO VALLEY, COUNTY OF RIVERSIDE, CALIFORNIA (TERRITORY PROPOSED FOR ANNEXATION IN THE FUTURE, WITH THE CONDITION THAT PARCELS WITHIN THAT TERRITORY MAY BE ANNEXED ONLY WITH THE UNANIMOUS APPROVAL OF THE OWNER OR OWNERS OF EACH PARCEL OR PARCELS AT THE TIME THAT PARCEL OR THOSE PARCELS ARE ANNEXED RECORDED WITH THE RIVERSIDE COUNTY RECORDER'S OFFICE ON DECEMBER 17, 2014 IN BOOK 77, PAGE 78 OF MAPS OF ASSESSMENT AND COMMUNITY FACILITIES DISTRICTS AS INSTRUMENT NO. 2014-0481134, WHICH DESIGNATED THE TERRITORY SHOWN HEREIN AS TERRITORY FOR FUTURE ANNEXATION TO THE COMMUNITY FACILITIES DISTRICT REFERENCED THEREON.

THE LINES AND DIMENSIONS OF EACH LOT OR PARCEL SHOWN ON THIS DIAGRAM SHALL BE THOSE LINES AND DIMENSIONS AS SHOWN ON THE RIVERSIDE COUNTY ASSESSOR'S MAPS FOR THOSE PARCELS LISTED.

THE RIVERSIDE COUNTY ASSESSOR'S MAPS SHALL GOVERN FOR ALL DETAILS CONCERNING THE LINES AND DIMENSIONS OF SUCH LOTS OR PARCELS.

Source: Riverside County GIS
Geographic Coordinate Reference: GCS North American 1983
Projection: NAD 1983 StatePlane California VI FIPS 0406 Feet

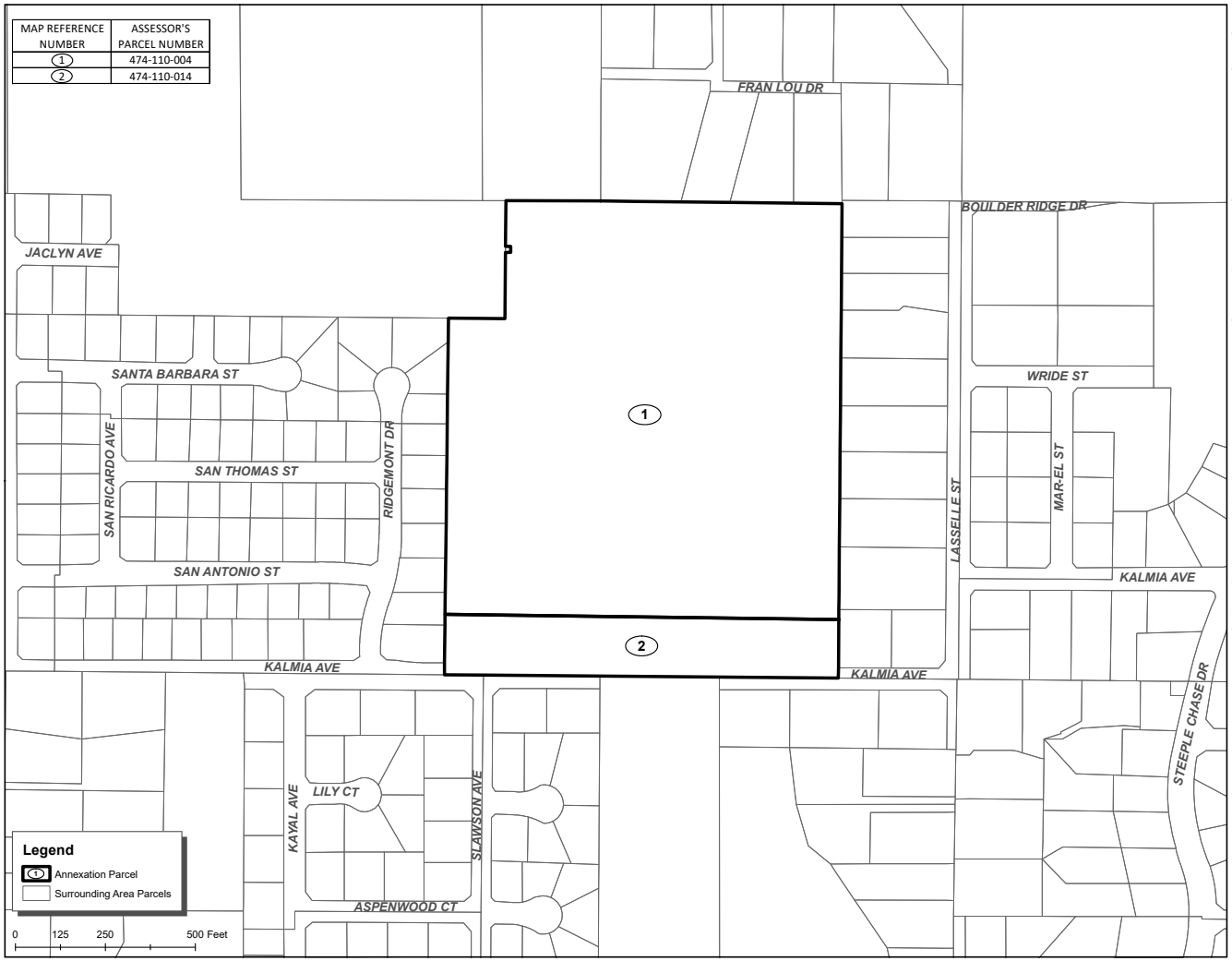
NBS

AMENDMENT NO. 54 TO BOUNDARIES OF CITY OF MORENO VALLEY COMMUNITY FACILITIES DISTRICT NO. 2014-01 (MAINTENANCE SERVICES)

CITY OF MORENO VALLEY
COUNTY OF RIVERSIDE
STATE OF CALIFORNIA

(THIS MAP AMENDS, BY ADDING THE ADDITIONAL TERRITORY SHOWN HEREON, THE BOUNDARY MAP FOR CITY OF MORENO VALLEY COMMUNITY FACILITIES DISTRICT NO. 2014-01 (MAINTENANCE SERVICES), CITY OF MORENO VALLEY, RIVERSIDE COUNTY, STATE OF CALIFORNIA, PRIOR RECORDED AT BOOK 76 OF MAPS OF ASSESSMENT AND COMMUNITY FACILITIES DISTRICTS AT PAGE 69, IN THE OFFICE OF THE COUNTY RECORDER FOR THE COUNTY OF RIVERSIDE, STATE OF CALIFORNIA.)

MAP REFERENCE NUMBER	ASSESSOR'S PARCEL NUMBER
1	474-110-004
2	474-110-014



FILED IN THE OFFICE OF THE CITY CLERK OF THE CITY OF MORENO VALLEY THIS _____ DAY OF _____, 20____.

_____
CITY CLERK
CITY OF MORENO VALLEY

I HEREBY CERTIFY THAT THE WITHIN MAP SHOWING AMENDED BOUNDARIES OF CITY OF MORENO VALLEY COMMUNITY FACILITIES DISTRICT NO. 2014-01 (MAINTENANCE SERVICES), CITY OF MORENO VALLEY, COUNTY OF RIVERSIDE, STATE OF CALIFORNIA, WAS APPROVED BY THE CITY COUNCIL OF THE CITY OF MORENO VALLEY, AT A REGULAR MEETING THEREOF, HELD ON THE _____ DAY OF _____, 20____, BY ITS RESOLUTION NO. _____.

_____
CITY CLERK
CITY OF MORENO VALLEY

FILED THIS _____ DAY OF _____, 20____, AT THE HOUR OF _____ O'CLOCK ___ M, IN THE BOOK _____ PAGE(S) _____ OF MAPS OF ASSESSMENT AND COMMUNITY FACILITIES DISTRICTS AND INSTRUMENT NO. _____ IN THE OFFICE OF THE COUNTY RECORDER OF THE COUNTY OF RIVERSIDE, STATE OF CALIFORNIA.

_____
COUNTY RECORDER
COUNTY OF RIVERSIDE
STATE OF CALIFORNIA

REFERENCE IS MADE TO THAT BOUNDARY MAP OF THE COMMUNITY FACILITIES DISTRICT NO. 2014-01 (MAINTENANCE SERVICES) OF THE CITY OF MORENO VALLEY RECORDED WITH THE RIVERSIDE COUNTY RECORDER'S OFFICE ON FEBRUARY 20, 2014 IN BOOK 76 OF MAPS OF ASSESSMENT AND COMMUNITY FACILITIES DISTRICTS, PAGE 69 AS INSTRUMENT NO. 2014-0066114.

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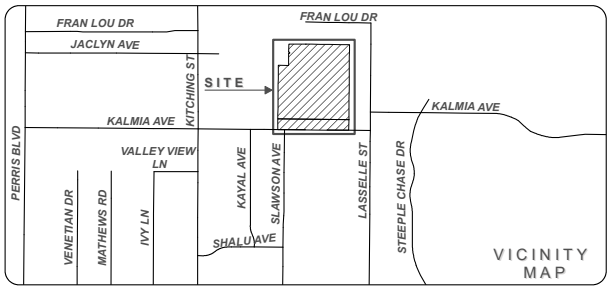


Source: Riverside County GIS
Geographic Coordinate Reference: GCS North American 1983
Projection: NAD 1983 StatePlane California VI FIPS 0406 Feet

NBS

CERTIFICATE OF ELECTION OFFICIAL
AND CONFIRMATION OF LANDOWNER PETITION

STATE OF CALIFORNIA)
COUNTY OF RIVERSIDE) ss.
CITY OF MORENO VALLEY)

The undersigned, Election Official of the City of Moreno Valley, County of Riverside, State of California, Does Hereby Certify that on **January 13, 2021**, I did verify the completeness of the Landowner Petition for the annexation of property into

CITY OF MORENO VALLEY COMMUNITY FACILITIES DISTRICT NO. 2014-01
(MAINTENANCE SERVICES) – AMENDMENT NO. **54**

WITNESS my hand this 13th day of January, 2021.

Regina Flores

ELECTION OFFICIAL
CITY OF MORENO VALLEY
STATE OF CALIFORNIA

Report to City Council

TO:	Mayor and City Council
FROM:	Michael L. Wolfe P.E., Assistant City Manager Patti Solano, Parks & Community Services Director
AGENDA DATE:	February 2, 2021
TITLE:	AUTHORIZATION TO AWARD A PROFESSIONAL CONSULTANT SERVICES AGREEMENT TO TKE ENGINEERING, INC. FOR CONSTRUCTION MANAGEMENT OF THE CIVIC CENTER ELECTRONIC MARQUEE SIGN, PROJECT NO. 803 0044 AND THE CIVIC CENTER DEMONSTRATION GARDEN PROJECT NO. 807 0049

RECOMMENDED ACTION

Recommendations:

1. Award an Agreement for Professional Consultant Services to TKE Engineering, Inc. to provide construction management, construction support, and inspection for the Civic Center Electronic Marquee Sign and the Civic Center Demonstration Garden project construction;

2. Authorize the issuance of a Purchase Order to TKE Engineering, Inc. in the amount of $191,048 ($173,680 proposed amount plus a 10% contingency) when the agreement has been signed by all parties. The Projects are fully funded by Park and Community Services (PCS) Capital Project Funds (3015) and Facility Construction Capital Funds (3000);

3. Authorize the City Manager to execute the contract, in substantial conformance with the attached template, with TKE Engineering, Inc., subject to minor modifications and approval by the City Attorney; and

4. Authorize the Parks & Community Services (PCS) Director to execute any subsequent related amendments to the Agreement for Professional Consultant Services with TKE Engineering, Inc., not to exceed the Purchase Order amount, subject to the approval by the City Attorney.

SUMMARY

This report recommends approval of an agreement for Professional Consultant Services with TKE Engineering, Inc. to provide Construction Management, construction support, and inspection for the Civic Center Electronic Marquee Sign and the Civic Center Demonstration Garden projects.

DISCUSSION

The Civic Center Electronic Marquee Sign project includes construction of a new Monument Sign with a 6MM Electronic Marquee LED Message Board at the southwest corner of Alessandro Boulevard and Frederick Street.

The Civic Center Community Demonstration Garden supports the Healthy MoVal initiative to expand health and wellness opportunities for Moreno Valley residents of all ages. The garden is adjacent to the Conference & Recreation Center and Civic Center Amphitheater, reflecting the spirit of the City's Civic Center design as a hub for Citywide activities and programs. The project includes elements such as raised garden beds, composting, seedling racks, outdoor classroom, vertical planters, hydroponic vegetable towers, fruit trees, pollinator's perennial garden, fruit trellises and more.

On January 19, 2021, City Council approved separate construction contracts for the Civic Center Electronic Marquee Sign project and the Civic Center Demonstration Garden project. As outlined in the January 19th staff reports, funding was identified for both projects for construction management and construction support services. Staff is recommending to obtain a professional consultant team to provide construction management, construction supports, and inspection to balance workload and project delivery.

Requests for Proposals (RFP) for Professional Consultant Services were sent to four current On-call consultant firms with Construction Management expertise. The City received two (2) proposals from TKE Engineering and PPM Group, Inc. in response to the RFP. Following a competitive selection process, TKE Engineering, Inc., was selected as the most qualified consultant to perform the work consisting of construction management, geotechnical and surveying construction support, and inspection. The selection process was pursuant to the City's Municipal Code requirements for professional services procurement.

Staff recommends the award of the Professional Consultant Services with TKE Engineering, Inc. to provide Construction Management, construction support, and inspection for the Civic Center Electronic Marquee Sign and the Civic Center Demonstration Garden projects.

ALTERNATIVES

1. Approve and authorize the recommended actions as presented in this staff

report. *This alternative, as recommended by staff, allows the timely construction of the Civic Center Electronic Marquee Sign and the Civic Center Demonstration Garden projects.*

2. Do not approve and authorize the recommended actions as presented in this staff report. *Staff does not recommend this alternative as it will delay the construction of the Civic Center Electronic Marquee Sign and the Civic Center Demonstration Garden projects.*

FISCAL IMPACT

The projects are funded by the PCS Capital Project Funds (3015) and Facility Construction Capital Funds (3000). There is no impact to the General Fund.

AVAILABLE PROJECT FUNDS:

Facility Construction Capital Fund …….....	$480,000
Parks & Community Services Capital Projects Fund.....	$155,553
California Department of Parks & Recreation Per Capita Grant ……	$177,952
Kaiser Permanente Grants…….	$25,000
DIF Park Improvements Fund ……	$316,495
Total Available Project Funds……...	**$1,155,000**

ESTIMATED PROJECT COSTS:

Construction Marquee Sign (including 15% contingency)…….....	$330,235
Construction Demonstration Garden (including 15% contingency)…..……....	$526,970
CM, Construction Support & Inspection Services for TKE (10% contingency) ..	**$191,048**
Project Administration...	$60,000
Total…….…….	$1,108,253

ANTICIPATED PROJECT SCHEDULE:

Construction is anticipated to begin in spring 2021 once all pre-construction documentation and information is provided by the contractor and approved by the City. The project is anticipated to be completed in the summer 2021, barring any weather or unforeseen site condition delays.

NOTIFICATION

Prior to construction, all utilities, adjacent property owners, business owners, law enforcement, fire department, and other emergency services responders in the area will be notified in a timely manner of the proposed construction.

PREPARATION OF STAFF REPORT

Prepared By:
Henry Ngo, P.E.
Capital Projects Division Manager

Parks & Community Services Approval:
Patti Solano
Parks & Community Services Director

CITY COUNCIL GOALS

Public Safety. Provide a safe and secure environment for people and property in the community, control the number and severity of fire and hazardous material incidents, and provide protection for citizens who live, work and visit the City of Moreno Valley.

Community Image, Neighborhood Pride and Cleanliness. Promote a sense of community pride and foster an excellent image about our City by developing and executing programs which will result in quality development, enhanced neighborhood preservation efforts, including home rehabilitation and neighborhood restoration.

CITY COUNCIL STRATEGIC PRIORITIES

1. **Economic Development**
2. **Public Safety**
3. **Library**
4. **Infrastructure**
5. **Beautification, Community Engagement, and Quality of Life**
6. **Youth Programs**

ATTACHMENTS

1. Location Map Marquee Sign
2. Location Map Demonstration Garden
3. Project Specific Agreement for Professional Consultant Services Template

APPROVALS

Budget Officer Approval	✓ Approved	1/25/21 4:50 PM
City Attorney Approval	✓ Approved	
City Manager Approval	✓ Approved	1/25/21 5:39 PM

LOCATION MAP
Civic Center Electronic Marquee Sign

Legend

- Public Facilities
  - Public Facilities
  - Fire Stations
- Parcels
- City Boundary
- Sphere of Influence

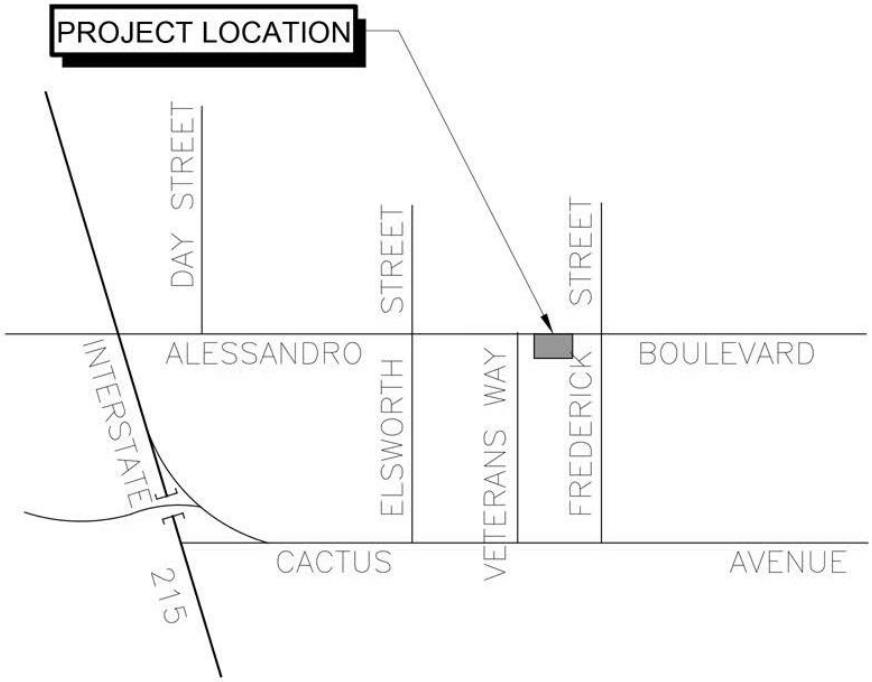
15.5 0 157.74 315.5 Feet

DISCLAIMER: The information shown on this map was compiled from the City of Moreno Valley GIS and Riverside County GIS. The land base and facility information on this map is for display purposes only and should not be relied upon without independent verification as to its accuracy. Riverside County and City of Moreno Valley will not be held responsible for

Notes:

LOCATION MAP

CIVIC CENTER DEMONSTRATION GARDEN



PROJECT SPECIFIC AGREEMENT FOR ON-CALL PROFESSIONAL CONSULTANT SERVICES
PROJECT NAME
PROJECT NO.

This Agreement is made and entered into as of the date signed by the City of Moreno Valley, by and between the City of Moreno Valley, California, a municipal corporation, hereinafter described as “City,” and XYZ a California corporation, hereinafter described as “Consultant.”

RECITALS

WHEREAS, the City has pre-qualified Consultant for On-call Consultant work in an Agreement (“On-Call Agreement”) executed on Month Day, Year for Consultant Specific Services hereinafter described as "Project"; and

WHEREAS, the City wishes to engage the services of Consultant for the Project set forth in Exhibit “A”.

THEREFORE, the City and the Consultant, for the consideration hereinafter described, mutually agree as follows:

1. The previously executed On-Call Agreement and subsequent Amendments between City and Consultant are incorporated herein by reference and made a part of this Agreement as if set forth in full and available for review in the City Engineer’s office. Notwithstanding any expiration or termination of the On-Call Agreement or Amendment, all terms and provisions of the aforementioned On-Call Agreement and Amendments incorporated herein shall survive the expiration or termination of such Agreement or Amendment for the duration of this Project Specific Agreement. In the event of a conflict between this Agreement and the On-Call Agreement, the most current amendment shall prevail.

2. The City’s scope of service is for Project Name and is described in detail in Exhibit “A” attached hereto and incorporated herein by this reference.

3. The Consultant's scope of service is described in detail in Exhibit "B" attached hereto and incorporated herein by this reference.

4. The City's responsibility is described in Exhibit "C" attached hereto and incorporated herein by this reference.

5. The City agrees to pay the Consultant and the Consultant agrees to receive a "Not-to-Exceed" fee of **$Amount** in accordance with the payment terms provided in Exhibit "D", attached hereto and incorporated herein by this reference.

6. The Consultant shall commence services upon receipt of written direction to proceed from the City.

7. This agreement will terminate on **December 31, Year** unless the termination date is extended by an amendment to the agreement.

8. Consultant shall provide updated insurance documentation, certificates or endorsements unless specifically waived by the City Attorney.

SIGNATURE PAGE FOLLOWS

IN WITNESS HEREOF, the parties have each caused their authorized representative to execute this Agreement.

City of Moreno Valley

BY:_____
Department Head

_____
Date

INTERNAL USE ONLY

APPROVED AS TO LEGAL FORM:

_____
City Attorney

_____
Date

Consultant's Name

BY:_____

TITLE:_____
(President or Vice President)

_____
Date

BY:_____

TITLE:_____
(Corporate Secretary)

_____
Date

Enclosures: Exhibit "A" – City Scope of Services
Exhibit "B" – Consultant Proposal
Exhibit "C" – Terms of Payment/Consultant Cost Proposal

EXHIBIT “A”

EXHIBIT “B”

EXHIBIT "C"

TERMS OF PAYMENT/CONSULTANT COST PROPOSAL

The Consultant's compensation shall not exceed **$Amount as included in the attached Consultant Cost Proposal.**

Report to City Council

TO:	Mayor and City Council
FROM:	Michael L. Wolfe P.E., Assistant City Manager
AGENDA DATE:	February 2, 2021
TITLE:	DECLARATION OF EXEMPT SURPLUS LAND AND APPROVAL OF PURCHASE AGREEMENT WITH EASTERN MUNICIPAL WATER DISTRICT INVOLVING THE EXCHANGE OF SURPLUS LAND BETWEEN THE CITY AND DISTRICT

RECOMMENDED ACTION

1. Adopt Resolution No. 2021-___ declaring portions of three parcels of land comprising 0.551 acres of land, which are owned in fee by the City of Moreno Valley, as "Exempt Surplus Lands" for purpose of selling portions of said parcels to the Eastern Municipal Water District for remediation and treatment of groundwater in and around the City of Moreno Valley to produce more potable water for consumer use;
2. Approve the sale of the subject Exempt Surplus Lands to the Eastern Municipal Water District for the development of a public well site as part of the District's Perris North Groundwater Program project; and
3. Authorize the City Manager to execute the Purchase Agreement and Joint Escrow Instructions by and between the City of Moreno Valley and the Eastern Municipal Water District, which includes the exchange of land between the District and the City.

SUMMARY

Staff recommends that the City Council declare portions of three parcels of land as "Exempt Surplus Lands" to allow the sale of a portion of those three parcels to the Eastern Municipal Water District ("District") for the development of a public well site. In addition, staff recommends granting an access easement to the District as outlined in the attached agreement. This new public well site will be an essential component of the District's Perris North Groundwater Contamination and Remediation Program, which will produce potable groundwater in and around the City of Moreno Valley for consumer use. The fee title acquisition by the District includes portions of three parcels which

include 0.551 acres for a well site, and an access easement of approximately 0.279 acres (see Vicinity Map, attached hereto). All subject parcels are a part of the City's Corporate Yard, located at the northeast corner of Perris Boulevard and Santiago Drive. However, the sale of the 0.551-acre area to the District for the new public well site and the 0.279-acre access easement area to the District for the well site will not have any detrimental effects on the current and future operations and administration of the City's Corporate Yard. Furthermore, neither of these areas are necessary for the City's use now or in the foreseeable future, albeit the City and its residents and businesses will benefit from the production of additional potable groundwater by the District.

DISCUSSION

The District received grant funds from the State Water Resources Control Board to address groundwater contamination in the Perris North Groundwater Basin, which includes portions of the City of Moreno Valley. The primary purpose of the grant is to facilitate the District's ability to efficiently and effectively pump groundwater from the groundwater basin for storage, remediation and treatment for purposes of converting the groundwater to "potable water" for general consumer use.

Since the grant was awarded, the District has been in discussion with City staff about the possibility of locating a needed well site on a portion of the City's Corporate Yard located at the northeast corner of Perris Boulevard and Santiago Drive. After extended discussions, District and City staff concluded that the optimal location for the new well site, that would have the least impact on the current and future operations and administration of the Corporate Yard, is on a 0.551-acre portion of the Corporate Yard located just east of the Corporate Yard's administration building which is located along Santiago Drive. In addition, the 0.279-acre portion the District needs as a Public Access Easement is in an area that will not detrimentally impact the Corporate Yard's ingress and egress.

As expressed by District staff, in general, the proposed well site will include the new well, pumps, electrical equipment, pipes, fencing, gates, and an access driveway. The groundwater, however, will not be processed (treated) at the well site; rather, the groundwater will be conveyed via newly installed subsurface pipes to another site/facility owned and operated by the District where the groundwater will be treated.

Incidentally, in addition to the specific and general environmental benefits associated with treating contaminated groundwater within the City, the treated water will be part of the District's retail water production. The District is also willing to pay fair market value for each parcel. The fair market value of each parcel was determined by professionally prepared appraisals reviewed by the City. The fair market value of the 0.551-acre area is $43,200.00, and the 0.279-acre area is $21,589.00. Moreover, as part of this transaction, the District has agreed to compensate the City for any retrofit improvements to the existing water quality basin located at the Corporate Yard. The District has agreed to compensate the City up to $98,500.00 or fifty percent of the actual construction cost, whichever is less. This is in addition to the District agreeing to pay the City the fair market value for the parcels.

Summary of the terms of the Purchase and Sale Agreement (See Attachment 3) are as follows:

- The City will sell the 0.279-acre area of land that is part of APN 486-170-024, which is one of the parcels upon which the Corporate Yard is situated, to the District for the fair market value of $21,859.00, as a Public Access Easement to service the new well site.

- The City will sell the 0.551-acre area of land that is part of APNs 486-170-023, 486-170-024, and 486-170-027, which are some of the parcels upon which the Corporate Yard is situated, to the District for the fair market value of $43,200.00, for the construction and operation of the new public well site that will be owned and operated by the District.

- The District shall compensate the City for any retrofit improvements to the existing water quality basin located at the Corporate Yard, up to $98,500 or fifty percent of the actual construction cost, whichever is less.

- The District will also grant the City a Road Public Utility Easement across a portion of APN 479-690-031, which is valued at $50,000.00.

It is important to note that this transaction will be accomplished via “credits” that shall be applied via an existing Memorandum of Understanding (“MOU”) between the District and the City that the parties entered into on or about August 2, 2011. Under the MOU, the City owes the District certain sums of money associated with the former relocation of a Booster Station at the northwest corner of Nason Street and Dracaea Avenue in exchange for District-owned land that the City has been using (and needs) for various sidewalk and street improvements. (See Attachment 4.)

Prior to approving the proposed transaction, it is necessary that the City Council declare the parcels of land as “surplus lands,” which can be accomplished upon the City Council declaring at a regular public meeting that the subject lands are not necessary for the “agency’s use.” The term "agency's use" includes land that is being used, is planned to be used under a written plan adopted by the local agency's governing body (city council), or is disposed of to support the agency's (city’s) work. In this case, there is no evidence that the subject parcels are necessary for the City’s use, in that there are no official written plans adopted by the City that indicate that the subject lands are planned to be used or that they are currently being used for any of the following: (a) utility sites, (b) watershed property, (c) for conservation purposes, (d) for demonstration, exhibition, or educational purposes related to greenhouse gas emissions, or (e) buffer sites near sensitive governmental uses, including, but not limited to, wastewater treatment plants. As discussed above, the conveyance of both areas will not have any detrimental impacts on the operation or maintenance of the existing water quality basin located at the Corporate Yard. In fact, if this transaction is approved, the existing water quality basin may be subject to certain improvements which the District has agreed to pay for up to certain amounts.

In addition to declaring the subject lands “surplus lands,” the City Attorney recommends that the City Council also determine that the subject lands be declared “exempt” surplus lands. Pursuant to Government Code section 544220 (f), “exempt surplus land” includes surplus land that a local agency is exchanging for another property necessary for the agency’s use or surplus land that a local agency is transferring to another local, state, or federal agency for the agency’s use. In this case, the subject lands will be transferred to the District in order to facilitate the District’s ability to efficiently and effectively pump groundwater from the groundwater basin for remediation and treatment purposes, which will produce “potable” water for use by the City and its residents and businesses. Moreover, the proposed transaction will include an exchange of land between the City and District, since the District has agreed to granting the City a Road Public Utility Easement across a portion of property owned by the District in addition to compensating the City for any retrofit improvements to the existing water quality basin located at the Corporate Yard, up to $98,500 or fifty percent of the actual construction cost, whichever is less. Finally, this transaction is directly related to the terms and conditions of the 2011 MOU, which involved the transfer of land between the two agencies for purposes allowing the District to relocate a Booster Station on a 0.41 acre parcel of land formerly owned by the City and obtain a related Public Access Easement from the City to service and operate the relocated Booster Station. This was done in exchange for District land that allowed the City to maintain certain street and sidewalk improvements and widen a portion of Nason Street consistent with the City's General Plan Circulation Element. In summary, by declaring the subject lands “exempt surplus lands,” it is not necessary that the City (before disposing of the surplus lands) send a written notice of availability of the property to certain entities, as described in Government Code section 54222.

ALTERNATIVES

- Declare the subject areas “Exempt Surplus Lands,” and approve the Purchase Agreement. This alternative supports the District’s Perris North Groundwater Program resulting in the District’s ability to remediate and treat more groundwater in and around the City of Moreno Valley and making more potable water available to the City and its residents and businesses. **Staff recommends this alternative.**

- Decline to declare the subject areas surplus lands and do not approve the Purchase Agreement. This alternative will result in delay to the District’s Perris North Groundwater Program and hinder the District’s ability to increase its capacity to remediate and treat groundwater in and around the City of Moreno Valley to produce potable water for consumers. **Staff does not recommend this alternative.**

FISCAL IMPACT

Approval of staff’s recommendations will reduce the outstanding amount owed by the City to EMWD per the terms of the August 2, 2011 MOU for the relocation of the Booster Station at the northwest corner of Nason Street and Dracaea Avenue. The

amount owed is approximately $1.9 million. Per the terms of the MOU, repayment is earmarked from City DIF Arterial Street funds.

NOTIFICATION

Publication of agenda.

PREPARATION OF STAFF REPORT

Prepared By:
Michael D. Lloyd, P.E.
Engineering Division Manager / Assistant City Engineer

Department Head Approval:
Michael L. Wolfe, P.E.
Public Works Director / City Engineer

CITY COUNCIL GOALS

Revenue Diversification and Preservation. Develop a variety of City revenue sources and policies to create a stable revenue base and fiscal policies to support essential City services, regardless of economic climate.

Public Facilities and Capital Projects. Ensure that needed public facilities, roadway improvements, and other infrastructure improvements are constructed and maintained.

Positive Environment. Create a positive environment for the development of Moreno Valley's future.

CITY COUNCIL STRATEGIC PRIORITIES

1. **Economic Development**
2. **Public Safety**
3. **Library**
4. **Infrastructure**
5. **Beautification, Community Engagement, and Quality of Life**
6. **Youth Programs**

Objective 4.2: Develop and maintain a comprehensive Infrastructure Plan to invest in and deliver City infrastructure.

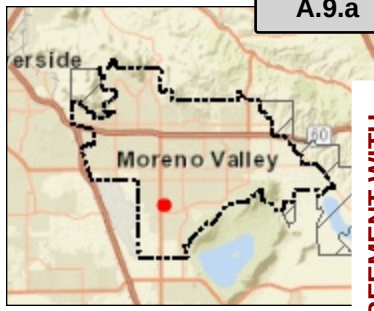
ATTACHMENTS

1. EMWD-Corporate Yard Vicinity Map
2. RESOLUTION 2021-XX EXEMPT SURPLUS LANDS
3. EMWD Purchase Agreement - Corporate Yard
4. 2011 EMWD MOU

APPROVALS

Budget Officer Approval	✓ Approved	1/21/21 10:18 AM
City Attorney Approval	✓ Approved	
City Manager Approval	✓ Approved	1/22/21 11:31 AM

EMWD Real Property Purchase
City Corporate Yard



Legend

Public Facilities
- Public Facilities
- Fire Stations

City Boundary

Sphere of Influence

Image Source: Nearmap

Notes:

308.0 0 154.01 308.0 Feet

WGS_1984_Web_Mercator_Auxiliary_Sphere

Print Date: 12/16/2020

DISCLAIMER: The information shown on this map was compiled from the City of Moreno Valley GIS and Riverside County GIS. The land base and facility information on this map is for display purposes only and should not be relied upon without independent verification as to its accuracy. Riverside County and City of Moreno Valley will not be held responsible for any claims, losses or damages resulting from the use of this map.

RESOLUTION NO. 2021-XX

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF MORENO VALLEY, CALIFORNIA, DECLARING THAT CERTAIN AREAS WITHIN THE PARCELS DEPICTED IN EXHIBIT "A" ARE "EXEMPT SURPLUS LANDS" BASED ON THE FINDINGS SET FORTH IN THE RECITALS OF THIS RESOLUTION.

WHEREAS, the City of Moreno Valley ("City") is a General Law city organized pursuant to Article XI of the California Constitution; and

WHEREAS, in 2011, the City and the Eastern Municipal Water District ("District") entered into a Memorandum of Understanding ("MOU") to relocate a potable water booster station ("Booster Station") to a parcel of land on approximately 0.41 acres that was formerly owned by the City, which parcel is located on the south side of Cottonwood Avenue at Letterman Street; and

WHEREAS, the relocation of the Booster Station onto the City's parcel benefited the City in that the site where the Booster Station was formerly located (which was owned by District) allowed the City to widen Nason Street, consistent with the City's General Plan Circulation Element which designates Nason Street as a four-lane "Divided Arterial" roadway and to maintain certain street and sidewalk improvements; and

WHEREAS, the MOU provided a mechanism for the City and District to exchange properties in the future to resolve disputes the parties had with respect to value of the exchanged lands described in the MOU; and

WHEREAS, in an effort consistent the terms and conditions of the MOU, City staff recommended that the City Council declare portions of three parcels of land owned in fee by the City as "Exempt Surplus Lands" to allow the sale of portions of those three parcels to the District for the development of a public well site consisting of 0.551 acres and an access easement consisting of approximately 0.279 acres; and

WHEREAS, the new public well site will be an essential component of the District's Perris North Groundwater Contamination and Remediation Program which produces potable groundwater in and around the City of Moreno Valley for consumer use; and

WHEREAS, although all the subject areas are a part of the City's Corporate Yard, located at the northeast corner of Perris Boulevard and Santiago Drive, the sale of the subject areas to the District will not have any detrimental effects on the current and future operations and administration of the City's Corporate Yard, nor are these areas necessary for the City's use now or in the foreseeable future, albeit the City and its residents and businesses will benefit from the production of additional potable groundwater by the District; and

WHEREAS, the District received grant funds from the State Water Resources Control Board to address groundwater in the Perris North Groundwater Basin, which includes portions of the City of Moreno Valley, for the purpose of producing more "potable water" for general consumer use; and

WHEREAS, the District is also willing to pay fair market value for each area of land, which was determined by professionally prepared appraisals reviewed by the City, and the District has agreed to compensate the City for any retrofit improvements to the existing water quality basin located at the Corporate Yard up to certain amounts; and

WHEREAS, in summary, (a) the City will sell the 0.279-acre area of land that is part of one of the parcels upon which the Corporate Yard is partially situated, to the District for the fair market value of $21,859.00, as a Public Access Easement to service the new well site; (b) the City will sell the 0.551-acre area of land that is part of three parcels upon which the Corporate Yard is partially situated, to the District for the fair market value of $43,200.00, for the construction and operation of the new public well site that will be owned and operated by the District; (c) the District shall compensate the City for any retrofit improvements to the existing water quality basin located at the Corporate Yard, up to $98,500 or fifty percent of the actual construction cost, whichever is less; and (d) the District will also grant the City a Road Public Utility Easement across a portion of APN 479-690-031, which is valued at $50,000.00; and

WHEREAS, the proposed transaction will be accomplished via "credits" that shall be applied via the terms and conditions of the MOU; and

WHEREAS, prior to approving the proposed transaction, it is necessary that the City Council declare the subject areas of land as "surplus lands," which can be accomplished upon the City Council declaring at a regular public meeting that the subject lands are not necessary for the "agency's use"; and

WHEREAS, the term "agency's use" includes land that is being used, is planned to be used under a written plan adopted by the local agency's governing body (city council), or is disposed of to support the agency's (city's) work; and

WHEREAS, there is no evidence that the subject areas are necessary for the City's use, in that there are no official written plans adopted by the City that indicate that the subject areas are planned to be used or that they are currently being used for any of the following: (a) utility sites, (b) watershed property, (c) for conservation purposes, (d) for demonstration, exhibition, or educational purposes related to greenhouse gas emissions, or (e) buffer sites near sensitive governmental uses, including, but not limited to, wastewater treatment plants; and

WHEREAS, the City Attorney recommended that the City Council also determine that the subject areas be declared "exempt" surplus lands; and

WHEREAS, pursuant to Government Code section 544220 (f), "exempt surplus land" includes surplus land that a local agency is exchanging for another property necessary for the agency's use or surplus land that a local agency is transferring to another local, state, or federal agency for the agency's use; and

WHEREAS, the subject areas of land will be transferred to the District in order to facilitate the District's ability to efficiently and effectively pump contaminated groundwater from the Perris North Groundwater Basin for remediation and treatment purposes, which will produce "potable" water for use by the City and its residents and businesses; and

WHEREAS, the proposed transaction will also include an exchange of land between the City and District, since the District has agreed to granting the City a Road Public Utility Easement across a portion of property owned by the District in addition to compensating the City for any retrofit improvements to the existing water quality basin located at the Corporate Yard, up to $98,500 or fifty percent of the actual construction cost, whichever is less; and

WHEREAS, the proposed transaction is directly related to the terms and conditions of the 2011 MOU, which involved the transfer of land between the two agencies for purposes allowing the District to relocate a Booster Station on a 0.41 acre parcel of land formerly owned by the City and obtain a related Public Access Easement from the City to service and operate the relocated Booster Station, which was done in exchange for District land that allowed the City to maintain certain street and sidewalk improvements and widen a portion of Nason Street consistent with the City's General Plan Circulation Element; and

WHEREAS, in light of the foregoing, by declaring the subject lands "exempt surplus lands," it is not necessary that the City (before disposing of the surplus lands) send a written notice of availability of the property to certain entities, as described in Government Code section 54222.

NOW, THEREFORE, THE CITY COUNCIL OF THE CITY OF MORENO VALLEY, CALIFORNIA, DOES HEREBY RESOLVE AS FOLLOWS:

Section 1. RECITALS AND FINDINGS

That the above recitals are true and correct and are incorporated herein as the necessary findings to support a declaration that the subject areas as depicted in Exhibit A, attached hereto and incorporated herein by this reference, are "Exempt Surplus Lands."

Section 2. EXEMPT SURPLUS LANDS DECLARATION

That the subject areas depicted in Exhibit A, attached hereto and incorporated herein by this reference, are hereby declared to be "Exempt Surplus Lands" based on the findings set forth in the Recitals set forth above in this Resolution.

Section 3. GENERAL PLAN CONFORMITY

That Section 65402 of the Government Code is not applicable to this proposed transaction in that the only reference made to the City's "Corporate Yard" in the General Plan is where it is located; it is not discussed as part of any of the Elements of the General Plan, nor is it referenced in any of the General Plan's Elements' objectives, goals, policies or programs.

Section 4. CEQA EXEMPTION

That this proposed transaction is exempt from review under the California Environmental Quality Act (CEQA) pursuant to the exemption for the sale of surplus government property as set forth in 14 Cal Code Regs §15312 in that the subject areas are not located in an area of critical statewide or areawide environmental sensitivity identified in 14 Cal Code Regs §15206(b)(4), nor do the subject areas have any significant values for wildlife habitat or other environmental purposes as described in 14 Cal Code Regs §15312(a) and none of the subject areas are capable of independent development or use because of physical constraints.

Section 5. SEVERABILITY

That the City Council declares that, should any provision, section, paragraph, sentence or word of this Resolution be rendered or declared invalid by any final court action in a court of competent jurisdiction or by reason of any preemptive legislation, the remaining provisions, sections, paragraphs, sentences or words of this Resolution as hereby adopted shall remain in full force and effect.

Section 6. REPEAL OF CONFLICTING PROVISIONS

That all the provisions heretofore adopted by the City Council that are in conflict with the provisions of this Resolution, are hereby repealed.

Section 7. EFFECTIVE DATE

That this Resolution shall take effect immediately upon its adoption.

Section 8. CERTIFICATION

That the City Clerk shall certify to the passage and adoption of this Resolution, enter the same in the book for original resolutions of the City, and make a minute of passage and adoption thereof in the records of the proceedings of the City Council, in the minutes of the meeting at which this Resolution is passed and adopted.

APPROVED AND ADOPTED this 2nd day of February 2021.

_____
Dr. Yxstian A. Gutierrez
Mayor
City of Moreno Valley

ATTEST:

_____
Pat Jacquez-Nares, City Clerk

APPROVED AS TO FORM:

_____
Steven B. Quintanilla, Interim City Attorney

RESOLUTION JURAT

STATE OF CALIFORNIA)
COUNTY OF RIVERSIDE) ss.
CITY OF MORENO VALLEY)

I, Pat Jacquez-Nares, City Clerk of the City of Moreno Valley, California, do hereby certify that Resolution No. 2021-xx was duly and regularly adopted by the City Council of the City of Moreno Valley at a regular meeting thereof held on the 2nd day of February 2021 by the following vote:

AYES:

NOES:

ABSENT:

ABSTAIN:

(Council Members, Mayor Pro Tem and Mayor)

_____
CITY CLERK

(SEAL)

Exhibit A

EXEMPT SURPLUS LANDS

EXHIBIT "A"

EASTERN MUNICIPAL WATER DISTRICT
GRANT DEED

WO: 19115
APN: 486-170-023, 486-170-024 AND 486-170-027
GRANTOR: CITY OF MORENO VALLEY, A MUNICIPAL CORPORATION

LEGAL DESCRIPTION

A PORTION OF THE SOUTHWEST ONE QUARTER OF SECTION 20, TOWNSHIP 3 SOUTH, RANGE 3 WEST, SAN BERNARDINO MERIDIAN, IN THE CITY OF MORENO VALLEY, COUNTY OF RIVERSIDE, STATE OF CALIFORNIA AS DESCRIBED IN GRANT DEED RECORDED DECEMBER 30, 1986 AS INSTRUMENT NO. 334947 OF OFFICIAL RECORDS IN THE OFFICE OF THE COUNTY RECORDER OF SAID RIVERSIDE COUNTY, BEING PORTIONS OF PARCELS 2 AND 3 OF PARCEL MAP NO. 15686 ON FILE IN BOOK 93, PAGES 31 AND 32 OF PARCEL MAPS IN THE OFFICE OF SAID RIVERSIDE COUNTY RECORDER, MORE PARTICULARLY DESCRIBED AS FOLLOWS:

COMMENCING AT THE SOUTHEAST CORNER OF SAID PARCEL 3;

THENCE ALONG THE SOUTHERLY LINE OF SAID PARCEL 3 NORTH 89°53'45" WEST 189.00 FEET;

THENCE LEAVING SAID SOUTHERLY LINE NORTH 00°42'25" WEST 40.00 FEET TO THE **TRUE POINT OF BEGINNING;**

THENCE CONTINUING NORTH 00°42'25" WEST 120.00 FEET;

THENCE NORTH 89°53'45" WEST 200.00 FEET;

THENCE SOUTH 00°42'25" EAST 120.00 FEET;

THENCE SOUTH 89°53'45" EAST 200.00 FEET TO THE **TRUE POINT OF BEGINNING**.

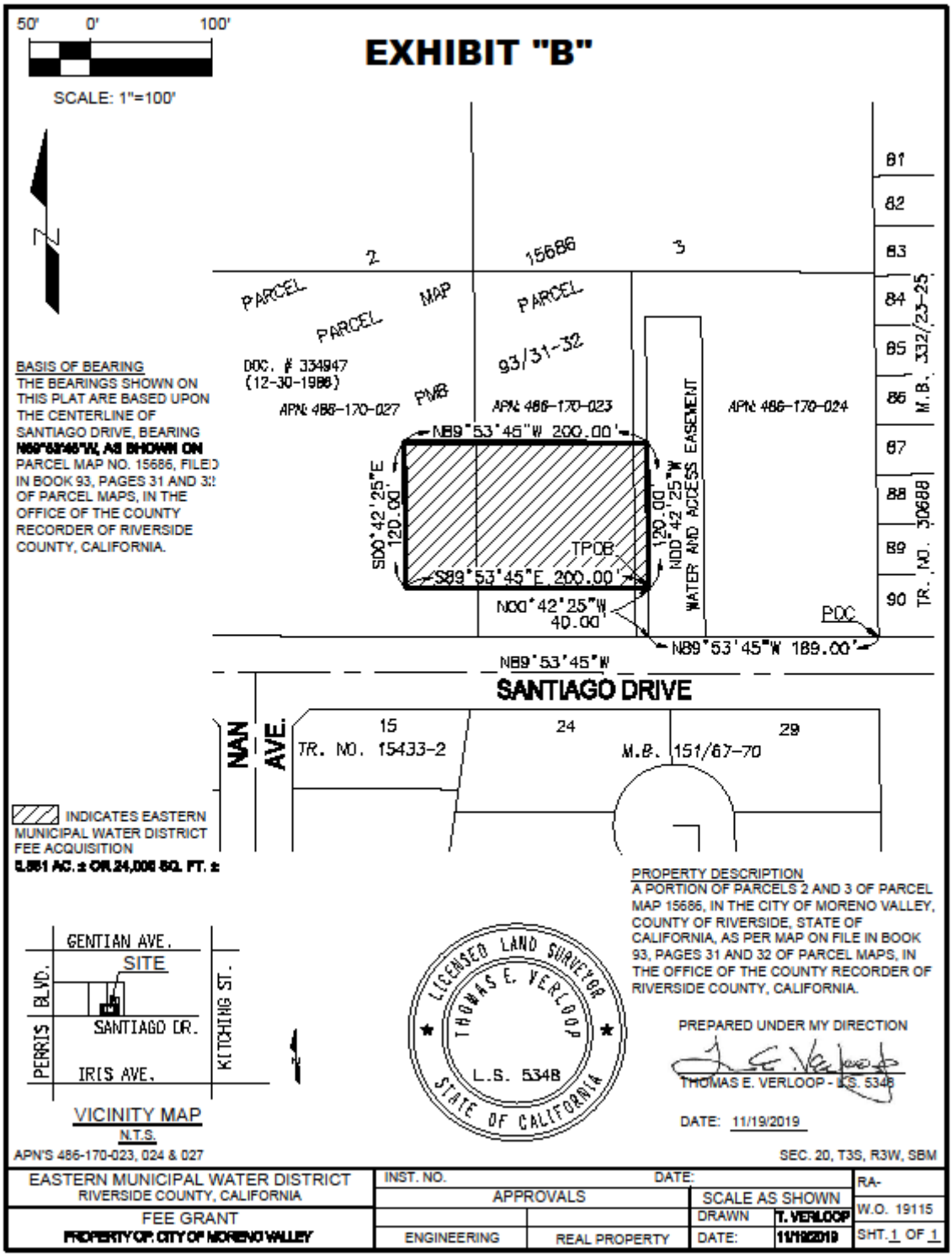
CONTAINING: 24,000 SQUARE FEET OR 0.551 ACRES, MORE OR LESS.

EXHIBIT "B" ATTACHED HERETO AND BY THIS REFERENCE MADE A PART HEREOF.

THIS REAL PROPERTY DESCRIPTION HAS BEEN PREPARED BY ME, OR UNDER MY DIRECTION, IN CONFORMANCE WITH THE PROFESSIONAL LAND SURVEYORS' ACT.

THOMAS E. VERLOOP - L.S. 5348
DATE: 11/19/2019

Page 1 of 1



AGREEMENT FOR PURCHASE OF REAL PROPERTY WITH JOINT ESCROW INSTRUCTIONS

A Portion of Assessor Parcel Number(s) 486-170-23; 024 and 027, City of Moreno Valley, California

By and Between

EASTERN MUNICIPAL WATER DISTRICT,
a public agency organized and existing under and by virtue of the Municipal Water District Law of 1911

and

CITY OF MORENO VALLEY, a municipal corporation

This **AGREEMENT FOR PURCHASE OF REAL PROPERTY WITH JOINT ESCROW INSTRUCTIONS** ("Agreement"), is entered into as of _____, 2020 (the "Effective Date" to be inserted by Escrow) by and between **EASTERN MUNICIPAL WATER DISTRICT**, a public agency organized and existing under and by virtue of the Municipal Water District Law of 1911 ("District"), and the **CITY OF MORENO VALLEY,** a municipal corporation ("City").

RECITALS

The following recitals are a substantive part of this Agreement:

A. City is the owner of that certain real property located on the north side of Santiago Drive, east of Perris Boulevard in the City of Moreno Valley, County of Riverside, State of California, described as Assessor Parcel Number(s) 486-170-023, 486-170-024 and 486-170-027 (collectively "City Property").

B. District is the owner of certain real property located at the southeast corner of Perris Boulevard and Ironwood Avenue in the City of Moreno Valley, County of Riverside, State of California, described as Assessor Parcel Number 479-690-031 ("District Property").

C. On August 2, 2011, District and City entered into that certain Memorandum of Understanding for the Relocation of the Eastern Municipal Water District Booster Station located at the northwest corner of Nason Street and Dracaea in the City of Moreno Valley ("MOU"), which is kept on file and available upon request from District.

D. Section 5.5 of the MOU provides that in the event that, by mutual agreement of both parties, a City-owned property were to become available for the District's use, and if the City has not fully reimbursed the District at that time, such property may be considered as a credit towards the City's reimbursement for their portion of the Nason Street Booster Station relocation costs.

E. As part of the City's Capital Improvement Plan to widen Ironwood Avenue from Perris Boulevard to Nason Street, it constructed intersection improvements at the southeast corner of the District Property consisting of (1) a concrete sidewalk and ramp, (2) a traffic signal poles, (3) traffic conduits, (4) curb and gutter, (("City Improvements").

F. On July 25, 2013, a Record of Survey was recorded as Instrument Number 2013-0358880 of the Official Records of the County of Riverside, State of California ("ROS"). The ROS identified that the City's Improvements were constructed within the District Property.

G. On October 8, 2013 and November 19, 2013, District and City staff met to discuss the City's Improvements and the relocation of the District's Peris and Ironwood Booster Pumping Station ("Perris/Ironwood BPS").

H. It was agreed by the City and District that the City Improvements and the Perris/Ironwood BPS nearing the end of its useful life, necessitated the relocation of the Perris/Ironwood BPS.

I. Without admission of fault or wrongdoing, the Parties agreed that City will pay District the sum of Fifty Thousand Dollars ($50,000) in exchange for District granting an Irrevocable Offer of Dedication ("IOD") to City as more particularly described in Exhibits "A" and "B" of the IOD attached hereto as Attachment "1" ("Perris/Ironwood Settlement").

J. City and District agree that a portion of the City Property as more particularly described in Exhibits "A" and "B" of the Grant Deed attached hereto as Attachment "2" ("Fee Property") and Exhibits "A" and "B" of the Easement Deed attached hereto as Attachment "3" ("Easement"), both of which are incorporated herein by reference, shall be granted to the District on the terms and conditions set forth below.

K. The City and District met to discuss the District's intended use of the City Property. The District's intended use of the site was discussed and presented in a form of a draft site layout. The existing City water quality features at the City property were discussed. City staff was informed that certain State regulations exist with respect to the District's intended use of the City Property (e.g. minimum distances from open bodies of water, minimum distances from infiltration areas, etc.).

L. In order to meet certain State regulations, the City's existing water quality features present a problem for the District's intended use of the City Property. City staff investigated improvements for the water quality features to facilitate the District's intended use of the City Property ("Water Quality Feature Improvements"). Said improvements to be made by the City is estimated to cost $197,000, which City intends to construct using City funds.

M. City shall receive a MOU credit not to exceed $98,500 or fifty percent of the actual cost of the Water Quality Feature Improvements, whichever is less. The credit shall be realized by District no later than thirty (30) days after City has provided District with the invoice showing the actual cost of the Water Quality Feature Improvements.

NOW, THEREFORE, FOR AND IN CONSIDERATION OF THE MUTUAL PROMISES, COVENANTS AND CONDITIONS CONTAINED HEREIN, DISTRICT AND CITY AGREE AS FOLLOWS:

SECTION 1
PURCHASE PRICE AND GENERAL RELEASE

1.1 Fair Market Value. The Parties agree that the appraisal prepared on behalf of the District for the Fee Property and Easement established a fair market value of Forty-Three

Thousand Two Hundred Dollars ($43,200) for the Fee Property and Twenty-One Thousand Eight Hundred and Fifty-Nine Dollars ($21,859) for the Easement.

1.2 Purchase Price. City agrees to grant to District the Fee Property and Easement for Sixty-Five Thousand Fifty-Nine Dollars ($65,059) ("Purchase Price").

1.3 Credits to District.

a. Perris/Ironwood Settlement. Upon District depositing into escrow a fully executed IOD, Escrow shall provide District with a buyer credit of $50,000 towards the Purchase Price.

b. MOU Credit. After applying the Perris and Ironwood Settlement credit, Escrow shall provide District a buyer credit of $15,059 towards the Purchase Price.

1.4 Full Compensation and Mutual Releases. Excepting the duties and obligations imposed by this Agreement and the MOU, each Party does hereby and for its elected officials, directors, officers, shareholders, employees, agents, attorneys, accountants, expert witnesses, representatives, successors, and assigns, release and forever discharge each other Party and its elected officials, directors, officers, shareholders, employees, agents, attorneys, accountants, expert witnesses, representatives, successors, and assigns from any and all claims, actions, causes of action, demands, rights, damages, fees, costs, expenses, and compensation whatsoever, including without limitation, severance damages, if any, pre-condemnation damages, if any, loss of business goodwill, if any, costs, interest, attorneys' fees, relocation assistance or benefits and moving expense due or compensable under the relocation laws, and any claim for compensation or other legal remedy of whatever kind or nature, tangible or intangible, direct or consequential relating to the acquisition of the Fee Property and Easement and the City Improvements.

Except as expressly provided herein, the Parties, by signing this Agreement, agree and warrant that they have read, understand, and expressly release and waive the provisions of California Civil Code Section 1542, which reads as follows:

> **"A general release does not extend to claims that the creditor or releasing party does not know or suspect to exist in his or her favor at the time of executing the release and that, if known by him or her, would have materially affected his or her settlement with the debtor or released party."**

(City's Initial) _____ ***(District's Initial)*** _____

SECTION 2
DUE DILIGENCE AND CONDITION OF TITLE

2.1 Right to Inspect Property. District and its agents, contractors, consultants, employees, representatives, engineers, and designees (collectively, "Districts Agents") shall have reasonable access to the Fee Property at all reasonable times from the Effective Date until the Close of Escrow (or earlier termination of this Agreement), during normal business hours, for the purpose of conducting tests and inspections of the Fee Property, including surveys and architectural, engineering, geotechnical and environmental inspections and tests, or conducting any pre-construction or actual construction activities in connection with this Agreement. As a condition of any such entry, inspection or testing, District shall comply with the following: (a) comply with all applicable laws and governmental regulations; (b) keep the Fee Property free and clear of all mechanic's liens and material men's liens, lis pendens and other liens arising out of the entry and work performed by or on behalf of District; (c) shall notify the City a minimum of 48 hours of District's intent to enter Fee Property and/or Easement.

District shall immediately indemnify, defend and hold harmless City from and against any damages, liability or expense (including reasonable attorney's fees) arising from the entries of District and District Agents upon the Fee Property and Easement; provided, however, the indemnity shall not extend to protect City from any pre-existing liabilities for matters merely discovered by the District (e.g., latent environmental contamination).

2.2 Property Information. Within five (5) days of the Effective Date of this Agreement, City shall deliver or make available to District each of the following documents and information in the City's possession, or under the control of City, regarding the Fee Property and Easement (the "Property Information"):

a. All licenses, leases, and permits affecting or relating to the ownership, subdivision, possession or development of the Fee Property and Easement or the construction of improvements thereon, and all amendments and modifications thereto;

b. applications and correspondence or other written communications to or from any governmental entity, department or agency other than the District regarding any permit, approval, consent or authorization with respect to the development of the Fee Property and Easement or the construction of improvements thereon;

c. the most recent survey, if any, pertaining to the Fee Property and Easement or any portion thereof; and

d. soils reports, engineering data, environmental reports, and other data or studies pertaining to the Fee Property and Easement, or any portion thereof, that have not been previously delivered to District or its consultants.

2.3 Environmental Inspections. The inspections under this Article 2 may include a Phase I environmental assessment of the Fee Property and Easement, and if recommended by the Phase I environmental assessment, a Phase II environmental assessment. District shall give City a copy of all Environmental Assessments prepared on behalf of District for the Fee Property and Easement.

2.4 Title Review. Within fifteen (15) days of the Effective Date, District shall cause Title Company to deliver to District and City a Preliminary Title Report for the Fee Property and Easement, along with all exceptions and a color-coded map depicting each exception.

a. District shall review title to the Fee Property and Easement as disclosed in the Preliminary Title Report and may deliver to City any objections District has to the Title and City shall, within ten (10) days following such notice, advise District of City's intent to remedy any such objections. In the event City advises District that City is not willing to remedy any of the objections, then District may (i) terminate this Agreement by giving written notice to City and Escrow Agent prior to expiration of the Due Diligence Period; or (ii) proceed to Closing and in such case, said objections shall become part of the Permitted Exceptions (as herein defined).

b. Notwithstanding any language herein to the contrary, if any monetary lien (including, but not limited to, mechanic's liens or liens for delinquent unpaid taxes and assessments) is not released by City prior to Closing, then a portion of the Purchase Price shall be applied by Escrow Agent as necessary to release the monetary lien to District's reasonable satisfaction, and the Purchase Price proceeds payable to City shall be reduced accordingly. The term "Permitted Exceptions" means (i) standard exceptions contained in the title insurance policy form, (ii) the specific title exceptions contained in the title insurance policy form that the Title Company has not agreed to insure over or remove from the Title Commitment and that City is unwilling to remove as provided above; (iii) items which would be disclosed by an accurate ALTA survey of the Property; and (iv) real estate taxes not yet due and payable.

c. In the event the Title Company amends or updates the Title Commitment after expiration of the Due Diligence Period but before the Closing Date, (each, a "Title Report Update") and such Title Report Update discloses a new title exception not previously known to District and which was not created or

permitted by District, then District may either (i) terminate this Agreement by giving written notice to City within ten (10) business days after its receipt of such Title Report Update (the "Title Update Due Diligence Period"), or (ii) require City to remove the exception prior to Closing, or (iii) waive the exception and proceed to Closing.

d. From the Effective Date until the earlier of termination of this Agreement or Close of Escrow, City shall not encumber the Fee Property and Easement with any additional monetary liens. Additionally, City shall not take any affirmative action from the Effective Date until Close of Escrow which results in the imposition of any additional exceptions to title to the Fee Property and Easement, without first obtaining Districts written consent.

2.5 Due Diligence Contingency. District may disapprove its due diligence investigation of the Fee Property and Easement in District's sole and absolute discretion. In the event District disapproves of the condition of the Fee Property and/or Easement, for any reason, then District may terminate this Agreement at any time prior to expiration of the Due Diligence Period by giving written notice to City, in which event this Agreement shall terminate and the escrow deposit, if any, and any accrued interest shall be immediately returned by Escrow Agent to District, without any further instructions or direction from any party hereto.

SECTION 3
ESCROW INSTRUCTIONS

3.1 Escrow Agent/Title Company. First American Title Company in its Riverside Office located at 3400 Central Avenue, Ste. 100, Riverside, CA 92506 shall act as the Title Company and Escrow Agent for this transaction.

3.2 Escrow Instructions. This Agreement, together with any standard instructions of Escrow Agent, shall constitute the joint escrow instructions of District and City to Escrow Agent, as well as an agreement between District and City. In the event of any conflict between the provisions of this Agreement and Escrow Agent's standard instructions, this Agreement shall prevail.

3.3 Close of Escrow. The closing of the escrow shall occur on or before **February 28, 2021 or a date for which the parties agree by written amendment**, prepared by Escrow Agent and signed by both City and District ("Close of Escrow").

3.4 Payment of Costs. District shall pay 100% of normal and customary escrow fees/charges and for the ALTA Standard title policy premium.

3.5 Commission. City and the District each represent and warrant to the other that no broker or finder is entitled to any commission or finder's fee in connection with this

transaction, and each agrees to defend and hold harmless the other from any claim to any such commission or fee resulting from any action on its part.

3.6 Proration of Real Property Taxes. Both District and City are public entities and not required to pay property taxes. If any property taxes and/or assessments are charged by the County Assessor during the period of City's ownership of the Fee Property, City shall be responsible for the payment. City may apply for a refund for any portion of taxes and assessments paid by City and allocated to any period after the Closing Date, in accordance with the applicable provisions of the Revenue and Taxation Code.

3.7 Nature Hazard Disclosure. The Parties hereby instruct Escrow Agent to obtain and deliver to District within three (3) days after the Effective Date a Natural Disclosure Statement disclosing whether the Fee Property and/or Easement is located within any of the following: (a) a special flood hazard area designated by the Federal Emergency Management Agency; (b) an area of potential flooding; (c) a very high fire hazard severity zone; (d) an earthquake fault or special studies zone; or (e) a seismic hazard zone.

3.8 General Provisions Applicable to Escrow Agent. The following general provisions shall be applicable to the Escrow Agent.

a. All disbursements shall be made by check or bank wire of the Escrow Agent. All funds received in the Escrow shall be deposited in a separate interest-earning escrow account with any bank doing business in the State of California and approved by District.

b. The Parties to the Escrow jointly and severally agree to pay all costs, damages, judgments and expenses, including reasonable attorneys' fees, suffered or incurred by the Escrow Agent in connection with, or arising out of the Escrow, including, but without limiting the generality of the foregoing, a suit in interpleader brought by the Escrow Agent. In the event that the Escrow Agent files a suit in interpleader, the Escrow Agent shall be fully released and discharged from all obligations imposed upon the Escrow Agent in the Escrow.

c. All proration's and/or adjustments called for in the Escrow shall be made on the basis of a thirty (30) day month unless the Escrow Agent is otherwise instructed in writing.

3.9 Authority of Escrow Agent. The Escrow Agent is authorized to, and shall:

a. If applicable, pay and charge District for any Escrow Costs, charge District for the cost of drawing the Grant Deed, recording fees, notary fees and any state, county or local documentary transfer fees;

b. pay and charge the District for the premium of the Title Policy and, if applicable, pay and charge the District for any upgrade of the Title Policy or Additional Endorsements to the Title Policy which are requested by District;

c. disburse funds and record and deliver to District the Grant Deed when both District's Conditions and the City's Closing Conditions to the Closing are satisfied or waived in writing by the Party for whom the condition was established, provided, however, that funds deposited as part of the Purchase Price shall not be disbursed by the Escrow Agent unless and until the Escrow Agent has recorded the Grant Deed and delivered the Title Policy to District;

d. insert the Effective Date in the introductory paragraph of this Agreement and the appropriate amounts and date of the Closing in documents deposited by the Parties in Escrow;

e. do such other actions as necessary to fulfill the Escrow Agent's obligations under this Agreement, including, if applicable, obtaining the Title Policy and recording any instrument delivered through Escrow if necessary and proper in the issuance of the Title Policy;

f. within the discretion of the Escrow Agent, direct District and City to execute and deliver any instrument, affidavit or statement, and to perform any act reasonably necessary and/or applicable to comply with the provisions of FIRPTA and any similar state act or regulation promulgated thereunder. City agrees to execute a Certificate of Non-Foreign Status by individual transferor, a Certificate of Compliance with Real Estate Reporting Requirement of the 1986 Tax Reform Act and/or a California Franchise Tax Board Form 590 or similar form, if applicable, to assure District that there exist no withholding requirements imposed by application of law as may be required by the Escrow Agent, on forms supplied by the Escrow Agent;

g. prepare and file with all appropriate governmental or taxing authorities a uniform settlement statement, closing statement, tax withholding forms, including an IRS 1099-S form, and be responsible for withholding taxes, if any such forms and/or withholding are provided for or required by law; and

h. prepare and deliver to District and City for their review and approval prior to the Closing an estimated settlement statement.

3.10 Submittals into Escrow. The Parties shall submit documents and funds into Escrow as set forth in this Section.

a. Submittals by City.

i. At least two (2) days prior to the Closing, City shall submit into Escrow the original Certificate of Acceptance of the IOD duly executed by City.

ii. At least two (2) days prior to the Closing, City shall submit into Escrow the original Grant Deed duly executed by City and acknowledged substantially in the form attached hereto as Attachment "2".

iii. At least two (2) days prior to the Closing, City shall submit into Escrow the original Easement Deed duly executed by City and acknowledged substantially in the form attached hereto as Attachment "3"

iv. At least two (2) days prior to the Closing, funds to cover all closing costs to be paid by City, if any.

v. A non-foreign transferor affidavit in a form acceptable to Escrow Agent, if applicable.

vi. An executed Internal Revenue Form W-9 or 1099-S form, if applicable.

b. Submittals by District.

i. At least two (2) days prior to the Closing, District shall submit into Escrow the original IOD duly executed by District and acknowledged, substantially in the form attached hereto as Attachment "1".

ii. At least two (2) days prior to the Closing, District shall submit into Escrow the original Certificate of Acceptance of the Grant Deed duly executed by District.

iii. At least two (2) days prior to the Closing, District shall submit into Escrow the original Certificate of Acceptance of the Easement Deed duly executed by District.

iv. At least two (2) days prior to the Closing, funds equal to the Purchase Price, along with sufficient funds to cover all closing costs to be paid by District, if any.

3.11 Closing Procedure. The Escrow Agent shall close the Escrow as follows:

a. Record the Grant Deed, Easement Deed and Irrevocable Offer of Dedication with the Riverside County Recorder's Office;

b. deliver the Title Policy issued by the Title Company to the District;

c. file any informational reports required by Internal Revenue Code Section 6045(e), as amended and any other applicable requirements;

d. deliver the FIRPTA Certification, if required;

e. forward to District and City a separate accounting of all funds received and disbursed for each Party and copies of all executed, recorded or filed documents deposited into Escrow, with such recording and filing date and information endorsed thereon.

SECTION 4
REPRESENTATIONS AND WARRANTIES

4.1 City's Representations. City hereby makes the following representations, covenants and warranties and acknowledges that the execution of this Agreement by District has been made and the acquisition by District of the Fee Property and Easement will have been made in material reliance by District on such covenants, representations and warranties.

a. Authority. City has full right, power and lawful authority to undertake all obligations as provided herein and the execution, performance and delivery of this Agreement by City has been fully authorized by all requisite actions on the part of the City.

b. Execution of Agreement/Conflicts. This Agreement and all other documents to be executed by City hereunder will, upon execution and delivery thereof, have been duly executed by City and will constitute legal, valid and binding obligations of City, and neither the execution of this Agreement nor the performance of City's obligations hereunder will result in a default by City under any agreement or contract to which City is a party.

c. No Conflict. To the best of the City's knowledge, the City's execution, delivery and performance of its obligations under this Agreement will not constitute a

default or a breach under any contract, agreement or order to which the City is a party or by which it is bound.

d. Existing Agreements. City has not entered into any agreements with any other party to sell or convey the Fee Property or any portion thereof and the Fee Property is not subject to any options or rights of first refusal.

e. No Bankruptcy. The City is not the subject of a bankruptcy, insolvency or receivership proceeding of any kind, whether voluntary or involuntary.

f. Possession. There are no leases or other agreement relating to the right of possession or occupancy of the Fee Property.

g. Title. The City holds a fee title interest in the Fee Property and Easement.

h. Hazardous Substances Disclosure. To City's knowledge, and except as otherwise set forth in the Property Documents or Title Report, the Fee Property and Easement have not at any time been used for the purposes of storing, manufacturing, releasing or dumping Hazardous Materials or Substances. City warrants and represents to District that City is not aware of any Hazardous or Toxic Material or substance located on or beneath the Fee Property and Easement conveyed hereunder. If City becomes aware of any hazardous or toxic material or substance located on or beneath the Fee Property and Easement conveyed hereunder prior to the Closing, City shall, in writing, within ten (10) days, notify District.

"Hazardous Materials" or "Substances" means any substance, material, or waste which is or becomes regulated by any local governmental authority, the State of California, or the United States Government, including, but not limited to, any material or substance which is (i) defined as a "hazardous waste", "acutely hazardous waste", "extremely hazardous waste", or "restricted hazardous waste" under Section 25115, 25117 or 25122.7, or listed pursuant to Section 25140 of the California Health and Safety Code, Division 20, Chapter 6.5 (Hazardous Waste Control Law), (ii) defined as a "hazardous substance" under Section 25316 of the California Health and Safety Code, Division 20, Chapter 6.8 (Carpenter-Presley-Tanner Hazardous Substance Account Act), (iii) defined as a "hazardous material", "hazardous substance", or "hazardous waste" under Section 25501 of the California Health and Safety Code, Division 20, Chapter 6.95 (Hazardous Materials Release Response Plans and Inventory), (iv) defined as a "hazardous substance" under Section 25281 of the California Health and Safety Code, Division 20, Chapter 6.7 (Underground Storage of Hazardous Substances), (v) petroleum, (vi) asbestos, (vii) polychlorinated biphenyls, (viii) listed under Article 9 or defined as "hazardous" or "extremely

hazardous" pursuant to Article 11 of Title 22 of the California Code of Regulations, Chapter 20, (ix) designated as "hazardous substances" pursuant to Section 311 of the Clean Water Act (33 U.S.C. Section 1317), (x) defined as a "hazardous waste" pursuant to Section 1004 of the Resource Conservation and Recovery Act, 42 U.S.C. Section 6901 et seq. (42 U.S.C. Section 6903), (xi) defined as "hazardous substances" pursuant to Section 101 of the Comprehensive Environmental Response, Compensation, and Liability Act, 42 U.S.C. Section 9601 et seq., (xii) methyl-tert butyl ether, or (xiii) any other substance, whether in the form of a solid, liquid, gas or any other form whatsoever, which by any Governmental Requirements either requires special handling in its use, transportation, generation, collection, storage, handling, treatment or disposal, or is defined as "hazardous" or harmful to the environment.

4.2 Governmental Compliance. To the best of the City's knowledge, the City has not received any notice from any governmental agency or authority alleging that the Fee Property is currently in violation of any law, ordinance, rule, regulation or requirement applicable to its use and operation. If any such notice or notices are received by the City, City shall, in writing, within ten (10) days of receipt of such notice, notify District.

All representations and warranties contained herein shall be true and correct on the date hereof and on the Close of Escrow and City's liability from misrepresentation of or breach of warranty, representation or covenant, wherever contained in this Agreement, shall survive the execution and delivery of this Agreement and the Close of Escrow for a period of two (2) years.

If City becomes aware of any act or circumstance which would change or render incorrect, in whole or in part, any representation or warranty by City under this Agreement, whether as of the date given or any time thereafter through the Close of Escrow and whether or not such representation or warranty was based upon City's knowledge and/or belief as of a certain date, then City will give immediate written notice of such changed fact or circumstance to District. City shall not take or authorize, directly or indirectly, any action which would prevent City from representing and warranting as to the truth and accuracy of the statements in Section 4.0 as of the Close of Escrow.

4.3 District's Representations. District represents and warrants to City as of the Effective Date as follows:

a. Authority. District is a public agency organized and existing under and by virtue of the Municipal Water District Law of 1911 and in good standing under the laws of the State of California. District has full right, power and lawful authority to undertake all obligations as provided herein and the execution, performance and delivery of this Agreement by District have been fully authorized by all requisite actions on the part of the District.

b. Execution of Agreement/Conflicts. This Agreement and all other documents to be executed by District hereunder will, upon execution and delivery thereof, have been duly executed by District and will constitute legal, valid and binding obligations of District, and neither the execution of this Agreement nor the performance of District's obligations hereunder will result in a default by District under any agreement or contract to which District is a party.

c. No Conflict. To the best of the District's knowledge, the District's execution, delivery and performance of its obligations under this Agreement will not constitute a default or a breach under any contract, agreement or order to which the District is a party or by which it is bound.

d. Existing Agreements. District has not entered into any agreements with any other party to sell or convey the District Property being conveyed hereunder, or any portion thereof, and the District Property being conveyed hereunder is not subject to any options or rights of first refusal.

e. No Bankruptcy. The District is not the subject of a bankruptcy, insolvency or receivership proceeding of any kind, whether voluntary or involuntary.

f. Possession. There are no leases or other agreement relating to the right of possession or occupancy of the District Property being conveyed hereunder.

g. Title. The District holds a fee title interest in the District Property.

h. Hazardous Substances Disclosure. To District's knowledge, and except as otherwise set forth in the Property Documents or Title Report, the District Property being conveyed hereunder to City has not at any time been used for the purposes of storing, manufacturing, releasing or dumping Hazardous Materials or Substances. District warrants and represents to City that District is not aware of any Hazardous or Toxic Material or substance located on or beneath the District Property being conveyed hereunder. If District becomes aware of any hazardous or toxic material or substance located on or beneath the District Property being conveyed hereunder prior to the Closing, District shall, in writing, within ten (10) days, notify City.

"Hazardous Materials" or "Substances" means any substance, material, or waste which is or becomes regulated by any local governmental authority, the State of California, or the United States Government, including, but not limited to, any material or substance which is (i) defined as a "hazardous waste", "acutely hazardous waste", "extremely hazardous waste", or "restricted hazardous waste" under Section 25115, 25117 or 25122.7, or listed pursuant

to Section 25140 of the California Health and Safety Code, Division 20, Chapter 6.5 (Hazardous Waste Control Law), (ii) defined as a "hazardous substance" under Section 25316 of the California Health and Safety Code, Division 20, Chapter 6.8 (Carpenter-Presley-Tanner Hazardous Substance Account Act), (iii) defined as a "hazardous material", "hazardous substance", or "hazardous waste" under Section 25501 of the California Health and Safety Code, Division 20, Chapter 6.95 (Hazardous Materials Release Response Plans and Inventory), (iv) defined as a "hazardous substance" under Section 25281 of the California Health and Safety Code, Division 20, Chapter 6.7 (Underground Storage of Hazardous Substances), (v) petroleum, (vi) asbestos, (vii) polychlorinated biphenyls, (viii) listed under Article 9 or defined as "hazardous" or "extremely hazardous" pursuant to Article 11 of Title 22 of the California Code of Regulations, Chapter 20, (ix) designated as "hazardous substances" pursuant to Section 311 of the Clean Water Act (33 U.S.C. Section 1317), (x) defined as a "hazardous waste" pursuant to Section 1004 of the Resource Conservation and Recovery Act, 42 U.S.C. Section 6901 et seq. (42 U.S.C. Section 6903), (xi) defined as "hazardous substances" pursuant to Section 101 of the Comprehensive Environmental Response, Compensation, and Liability Act, 42 U.S.C. Section 9601 et seq., (xii) methyl-tert butyl ether, or (xiii) any other substance, whether in the form of a solid, liquid, gas or any other form whatsoever, which by any Governmental Requirements either requires special handling in its use, transportation, generation, collection, storage, handling, treatment or disposal, or is defined as "hazardous" or harmful to the environment.

4.4 Governmental Compliance. To the best of the District's knowledge, the District has not received any notice from any governmental agency or authority alleging that the District Property being conveyed hereunder is currently in violation of any law, ordinance, rule, regulation or requirement applicable to its use and operation. If any such notice or notices are received by the District, District shall, in writing, within ten (10) days of receipt of such notice, notify City.

All representations and warranties contained herein shall be true and correct on the date hereof and on the Close of Escrow and District's liability from misrepresentation of or breach of warranty, representation or covenant, wherever contained in this Agreement, shall survive the execution and delivery of this Agreement and the Close of Escrow for a period of two (2) years.

If District becomes aware of any act or circumstance which would change or render incorrect, in whole or in part, any representation or warranty by District under this Agreement, whether as of the date given or any time thereafter through the Close of Escrow and whether or not such representation or warranty was based upon District's knowledge and/or belief as of a certain date, then District will give immediate written notice of such

changed fact or circumstance to City. District shall not take or authorize, directly or indirectly, any action which would prevent District from representing and warranting as to the truth and accuracy of the statements in this section as of the Close of Escrow.

SECTION 5
CLOSING CONDITIONS

5.1 District's Conditions to Closing. In addition to any other condition set forth in this Agreement in favor of District, District shall have the right to condition its obligation to purchase the Fee Property and Easement Deed and close the escrow upon the satisfaction, or written waiver by District, of each of the following conditions precedent on the Closing Date or such earlier time as provided for herein (collectively, "City Closing Conditions"):

a. City's Due Performance. All of the representations and warranties of City set forth in this Agreement shall be true, correct and complete in all material respects as of the Closing, and City, on or prior to the Closing, shall have complied with and/or performed all of the material obligations, covenants and agreements required on the part of City to be complied with or performed pursuant to the terms of this Agreement, including the execution and delivery by City of all closing documents required under this Agreement.

b. Delivery of Title Policy at Closing. The Title Company is unconditionally and irrevocably committed to issue to District at Closing a CLTA standard coverage owner's title policy, or, upon District's request, an ALTA extended coverage owner's policy of title insurance, insuring District's title to the Fee Property and Easement in the amount of the Purchase Price, subject only to the standard exceptions and exclusions from coverage contained in such form of the policy and title exceptions that District approved.

c. Property Condition. No material adverse change shall have occurred to the condition of the Fee Property from and after the expiration of the Due Diligence Period. The District acknowledges that the Easement crosses a water quality feature, and that the City intends to make improvements to the water quality features on the City Property.

d. No Rights to Use or Possess Property. The Fee Property and Easement shall be free from any tenant leases, tenancies, licenses, or other agreements, allowing any person or entity the right to use or possess the Fee Property and Easement.

e. Bankruptcy. There shall not have occurred at any time on or before the Closing Date the making by City of any general assignment for the benefit of creditors, or the filing against City of a petition to have City adjudged a bankrupt or a

petition for reorganization or arrangement under any law relating to bankruptcy, or the appointment of a trustee or receiver to take possession of substantially all of the interest of City in the Property, or the attachment, execution or judicial seizure of substantially all the assets of City or the interests of City in the Fee Property and Easement or any legal proceeding in which City is adjudicated as being, or stipulates to being, insolvent or unable to pay City's debts as they come due.

f. Deposit of Funds. City shall have deposited all funds and shall have made all payments required to be deposited and made by City, if any, for the Closing pursuant to this Agreement.

g. No Litigation. No litigation shall be pending or threatened by any third parties which seek to enjoin the transactions contemplated herein.

5.2 City's Closing Conditions. In addition to any other condition set forth in this Agreement in favor of City, City shall have the right to condition its obligation to convey the Fee Property and Easement and close the escrow upon the satisfaction, or written waiver by City, of each of the following conditions precedent on the Closing Date or such earlier time as provided for herein (collectively, "City Closing Conditions"):

a. District's Due Performance. All of the representations and warranties of District set forth in this Agreement shall be true, correct and complete in all material respects as of the Closing, and District, on or prior to the Closing, shall have complied with and/or performed all of the material obligations, covenants and agreements required on the part of District to be complied with or performed pursuant to the terms of this Agreement, including the execution and delivery by District of all closing documents required under this Agreement.

b. Property Condition. No material adverse change shall have occurred to the condition of the District Property being conveyed hereunder from and after the expiration of the Due Diligence Period.

c. Bankruptcy. There shall not have occurred at any time on or before the Closing Date the making by District of any general assignment for the benefit of creditors, or the filing against District of a petition to have District adjudged a bankrupt or a petition for reorganization or arrangement under any law relating to bankruptcy, or the appointment of a trustee or receiver to take possession of substantially all of the interest of District in the District Property being conveyed hereunder, or the attachment, execution or judicial seizure of substantially all the assets of District or the interests of District in the District Property being conveyed hereunder or any legal proceeding in which District

is adjudicated as being, or stipulates to being, insolvent or unable to pay District's debts as they come due.

d. Deposit of Funds. District shall have deposited all funds and shall have made all payments required to be deposited and made by District, if any, for the Closing pursuant to this Agreement.

e. No Litigation. No litigation shall be pending or threatened by any third parties which seek to enjoin the transactions contemplated herein.

5.3 Satisfaction of Conditions. Where satisfaction of any of the foregoing conditions requires action by District or City, each party shall use their diligent efforts, in good faith, and at its own cost, to satisfy such condition.

5.4 Waiver of Conditions to Closing. Each of the Parties may at any time or time, at its election, waive any of the conditions set forth in in Section 5 to its obligations hereunder, but any such waiver shall be effective only if contained in a writing signed by both Parties and delivered to Escrow Agent.

5.5 Termination. In the event each of the Closing Conditions set forth in Section 5 are not fulfilled prior to the Close of Escrow, or such earlier time period as provided for herein or waived by either of the Parties, and provided that the terminating party is not in Default of this Agreement, the party may at its option terminate this Agreement and the escrow opened hereunder.

No termination under this Agreement shall release any party then in default from liability for such default. In the event of such termination or any other termination hereunder, the parties agree neither this Agreement, nor any of the negotiations leading up to it, shall constitute nor serves as evidence of any unreasonable delay or other unreasonable pre-condemnation conduct.

SECTION 6
DEFAULTS AND REMEDIES

6.1 Default. In the event of a default by any party under this Agreement, the non-defaulting party shall provide written notice to the defaulting party of the existence of such default, and the defaulting party shall have a period ten (10) days after receipt of such written notice to cure such default; provided, however, if such default cannot reasonably be cured within ten (10) days, the defaulting party shall not be in default if such party commences to cure the default within such ten (10) day period and diligently and in good faith continues to cure the same thereafter. As used in this Agreement, the term "Default" shall refer to a default by a party that is not timely cured as set forth above. In the event of a Default by any party under this Agreement, the non-defaulting party shall have all right and remedies for such breach available at law or in equity, including without limitation the remedy of specific performance.

6.2 Inaction Not a Waiver of Default. Any failures or delays by either Party in asserting any of its rights and remedies as to any Default shall not operate as a waiver of any Default or of any such rights or remedies, or deprive either such Party of its right to institute and maintain any actions or proceedings which it may deem necessary to protect, assert or enforce any such rights or remedies.

6.3 Applicable Law. The laws of the State of California shall govern the interpretation and enforcement of this Agreement. Any legal actions must be instituted in the Superior Court of the County of Riverside, State of California, in an appropriate municipal court in Riverside County, or in the United States District Court for District of California in which Riverside County is located.

SECTION 7
GENERAL PROVISIONS

7.1 Rights and Remedies Are Cumulative. Except as otherwise expressly stated in this Agreement, the rights and remedies of the Parties are cumulative, and the exercise by either Party of one or more of such rights or remedies shall not preclude the exercise by it, at the same or different times, of any other rights or remedies for the same Default or any other Default by the other Party.

7.2 No Third Party Rights. The Parties intend that no rights or remedies be granted to any third party as a beneficiary of this Agreement or of any covenant, duty, obligation or undertaking established herein.

7.3 Counterparts. This Agreement may be signed in multiple counterparts which, when signed by all Parties, shall constitute a binding agreement.

7.4 Integration. This Agreement contains the entire understanding between the Parties relating to the transaction contemplated by this Agreement. All prior or contemporaneous agreements, understandings, representations and statements, oral or written, are merged in this Agreement and shall be of no further force or effect. Each Party is entering this Agreement based solely upon the representations set forth herein and upon each Party's own independent investigation of any and all facts such party deems material. This Agreement and Attachments 1, 2 and 3 hereto constitute the entire understanding and agreement of the Parties, notwithstanding any previous negotiations or agreements between the Parties or their predecessors in interest with respect to all or any part of the subject matter hereof.

7.5 Enforced Delay; Extension of Times of Performance. In addition to specific provisions of this Agreement, performance by either Party hereunder shall not be deemed to be in Default, and all performance and other dates specified in this Agreement shall be extended, where delays or Defaults are due to: war; insurrection; strikes; lockouts; riots; civil disturbances;

floods; earthquakes; fires; casualties; acts of God; acts of the public enemy; epidemics; quarantine; restrictions; freight embargoes; lack of transportation; governmental restrictions or priority; litigation; unusually severe weather; inability to secure or delays in securing necessary labor, materials or tools; delays of any contractor, subcontractor or supplier; delays due to the existence or remediation of Hazardous Materials (other than as provided in this Agreement); acts or omissions of the other Party; acts or failures to act of the District, acting in its governmental capacity, or any other public or governmental entity (other than the acts or failures to act of District hereunder which shall not excuse performance by District); or any other inability or cause beyond the control or without the fault of the Party claiming an extension of time to perform. Notwithstanding anything to the contrary in this Agreement, an extension of time for any such cause shall be for the period of the enforced delay and shall commence to run from the time of the commencement of the cause, if notice by the Party claiming such extension is sent to the other Party within thirty (30) days of the commencement of the cause. If such notice is delivered after such thirty (30) day period, the extension period shall commence to run from the date of such notice. Times of performance under this Agreement may also be extended in writing by the mutual agreement of City and District. The Parties agree to consider requests for such extensions in good faith and with intent to cooperate toward the implementation of the activities contemplated by this Agreement.

7.6 Attorneys' Fees. In any action between the Parties to interpret, enforce, reform, modify, rescind, or otherwise in connection, with any of the terms or provisions of this Agreement, the prevailing Party in the action shall be entitled, in addition to damages, injunctive relief, or any other relief to which it might be entitled, reasonable costs and expenses including, without limitation, litigation costs and reasonable attorneys' fees.

7.7 Notices, Demands and Communications Between the Parties. Any notices, requests, demands, documents, approvals or disapprovals given or sent under this Agreement from one Party to another (collectively, "Notices") may be personally delivered or deposited with the United States Postal Service for mailing, postage prepaid, to the address of the other Party as stated in this Section, and shall be deemed to have been given or sent at the time of personal delivery or, if mailed, on the third day following the date of deposit in the course of transmission with the United States Postal Service. Notices shall be sent as follows:

If to City:
City of Moreno Valley
14177 Frederick Street
Moreno Valley, CA 92553
Attention: Engineering Division Manager/Assistant City Engineer

If to District:
Eastern Municipal Water District
2270 Trumble Road
Perris, CA 92572-8300
Attention: Real Property Manager

7.8 Severability. To the best knowledge and belief of the Parties to this Agreement, this Agreement contains no provision that is contrary to any federal, state or local law or to any regulatory requirement or other ruling or regulation of a federal, state or local agency that would be in breach of the obligations of either or both of the Parties under the terms and provisions of any legally binding agreement. However, if any provision of this Agreement or any part thereof, shall at any time be held to be invalid, in whole or in part, under any applicable federal, state or local law by a court of competent jurisdiction, or by arbitrators or an administrative agency of the federal, state or local government with proper jurisdiction, then such provision or a portion thereof, as appropriate, shall be curtailed and limited only to the extent necessary to bring it within the requirements of the law; in such event, the validity and enforceability of the remaining provisions of this Agreement shall remain in effect and shall in no way be affected, impaired or invalidated, unless the invalidated provision(s) shall uniquely, materially and adversely affect the rights and obligations of a Party to this Agreement.

7.9 Legal Advice. Each Party represents and warrants to the other the following: they have carefully read this Agreement, and in signing this Agreement, they do so with full knowledge of any right which they may have; they have received independent legal advice from their respective legal counsel as to the matter set forth in this Agreement, or have knowingly chosen not to consult legal counsel as to the matters set forth in this Agreement; and, they have freely signed this Agreement without any reliance upon any agreement, promise, statement or representation by or on behalf of the other Party, or their respective agents, employees, or attorneys, except as specifically set forth in this Agreement, and without duress or coercion, whether economic or otherwise.

7.10 Authority. Each individual executing this Agreement individually or on behalf of a corporation, nonprofit corporation, trust, partnership or other entity or organization, represents and warrants that he or she is duly authorized to execute and deliver this Agreement and that this Agreement is binding upon the same in accordance with its terms.

7.11 Titles and Captions. Titles and captions are for convenience of reference only and do not define, describe or limit the scope or the intent of this Agreement or of any of its terms. Reference to section numbers is to sections in this Agreement, unless expressly stated otherwise.

7.12 Interpretation. As used in this Agreement, masculine, feminine or neuter gender and the singular or plural number shall each be deemed to include the others where and when the context so dictates. The word "including" shall be construed as if followed by the words "without limitation." This Agreement shall be interpreted as though prepared jointly by both Parties.

7.13 No Waiver. A waiver by either Party of a breach of any of the covenants, conditions or agreements under this Agreement to be performed by the other Party shall not be construed as a waiver of any succeeding breach of the same or other covenants, agreements, restrictions or conditions of this Agreement.

7.14 Modifications. Any alteration, change or modification of or to this Agreement, in order to become effective, shall be made in writing and in each instance signed on behalf of each Party. The District and City agree to mutually consider reasonable requests for amendments to this Agreement that may be made by any of the Parties hereto, provided such requests are consistent with this Agreement and would not substantially alter the basic terms included herein.

7.15 City MOU Credit. Upon the Closing of Escrow, District shall credit City the amount of $15,059, plus the credit as identified in RECITAL M, towards City's reimbursement for their portion of the Nason Street Booster Station relocation costs under the MOU.

IN WITNESS WHEREOF, the Parties have executed this Agreement on the respective dates set forth below:

Dated: _____

"CITY"

CITY OF MORENO VALLEY,
a municipal corporation

By: _____
Mike Lee,
City Manager

Dated: _____

"DISTRICT"

EASTERN MUNICIPAL WATER DISTRICT,
a public agency organized and existing
under and by virtue of the Municipal
Water District Law of 1911

By: _____
John J. Ward,
Director of Engineering Services

ATTACHMENT "1"
Irrevocable Offer of Dedication

[Attached behind this page]

RECORDING REQUESTED BY AND WHEN
RECORDED RETURN TO:

Eastern Municipal Water District
P.O. Box 8300
Perris, CA 92572-8300
Attn: Real Property Division

EXEMPT FROM RECORDING FEES
(*Government Code* §§6103 & 27383)

(Space above Line for Recorder's Use Only)

APN: 479-690-031 PR
W.O. SP
RA:

IRREVOCABLE OFFER OF DEDICATION

FOR VALUABLE CONSIDERATION, receipt of which is hereby acknowledged, **EASTERN MUNICIPAL WATER DISTRICT,** a public agency organized and existing under and by virtue of the Municipal Water District Law of 1911 ("Grantor") does hereby grant to the **CITY OF MORENO VALLEY**, a municipal corporation, ("Grantee") an irrevocable offer of dedication of an easement for road and public utilities purposes for public use in, on, over, under, upon, above, along and across the land in the City of City of Moreno, County of Riverside, State of California, described and depicted in Exhibits "A" and "B" attached hereto and incorporated by reference herein ("Easement Area").

Grantee, by the acceptance of this offer of dedication, hereby agrees that Grantor may have facilities located within the Easement Area pursuant to rights superior to those of the Grantee. If Grantee requires the relocation/adjustment of Grantor's facilities to accommodate

any future projects by Grantee, Grantor's facilities shall be relocated/adjusted at the Grantee's sole expense.

Dated: _____

EASTERN MUNICIPAL WATER DISTRICT,
a public agency organized and existing under and by virtue of the Municipal Water District Law of 1911

By: _____
Paul D. Jones, II, P.E.,
General Manager

EXHIBIT "A"

CITY OF MORENO VALLEY
IRREVOCABLE OFFER OF DEDICATION
PUBLIC STREET AND PUBLIC UTILITY EASEMENT

WO: 19115
APN: 479-690-031
GRANTOR: EASTERN MUNICIPAL WATER DISTRICT

LEGAL DESCRIPTION

THAT PORTION OF LOT 4 OF BLOCK 18 OF BEAR VALLEY AND ALESSANDRO DEVELOPMENT COMPANY, IN THE CITY OF MORENO VALLEY, COUNTY OF RIVERSIDE, STATE OF CALIFORNIA, AS SHOWN BY MAP ON FILE IN BOOK 11, PAGE 10 OF MAPS, RECORDS OF SAN BERNARDINO COUNTY, CALIFORNIA, AS DESCRIBED AS PARCEL 1 IN THE GRANT DEED RECORDED SEPTEMBER 19, 1962 AS INSTRUMENT NO. 87665 OF OFFICIAL RECORDS IN THE OFFICE OF THE COUNTY RECORDER OF SAID RIVERSIDE COUNTY, TOGETHER WITH THE LAND DESCRIBED IN THE QUITCLAIM DEED RECORDED AUGUST 21, 1969 AS INSTRUMENT NO. 85864 OF SAID OFFICIAL RECORDS, AND LYING WITHIN SECTION 5, TOWNSHIP 3 SOUTH, RANGE 3 WEST, SAN BERNARDINO MERIDIAN.

CONTAINING: 3,850 SQUARE FEET OR 0.088 ACRES, MORE OR LESS.

EXHIBIT "B" ATTACHED HERETO AND BY THIS REFERENCE MADE A PART HEREOF.

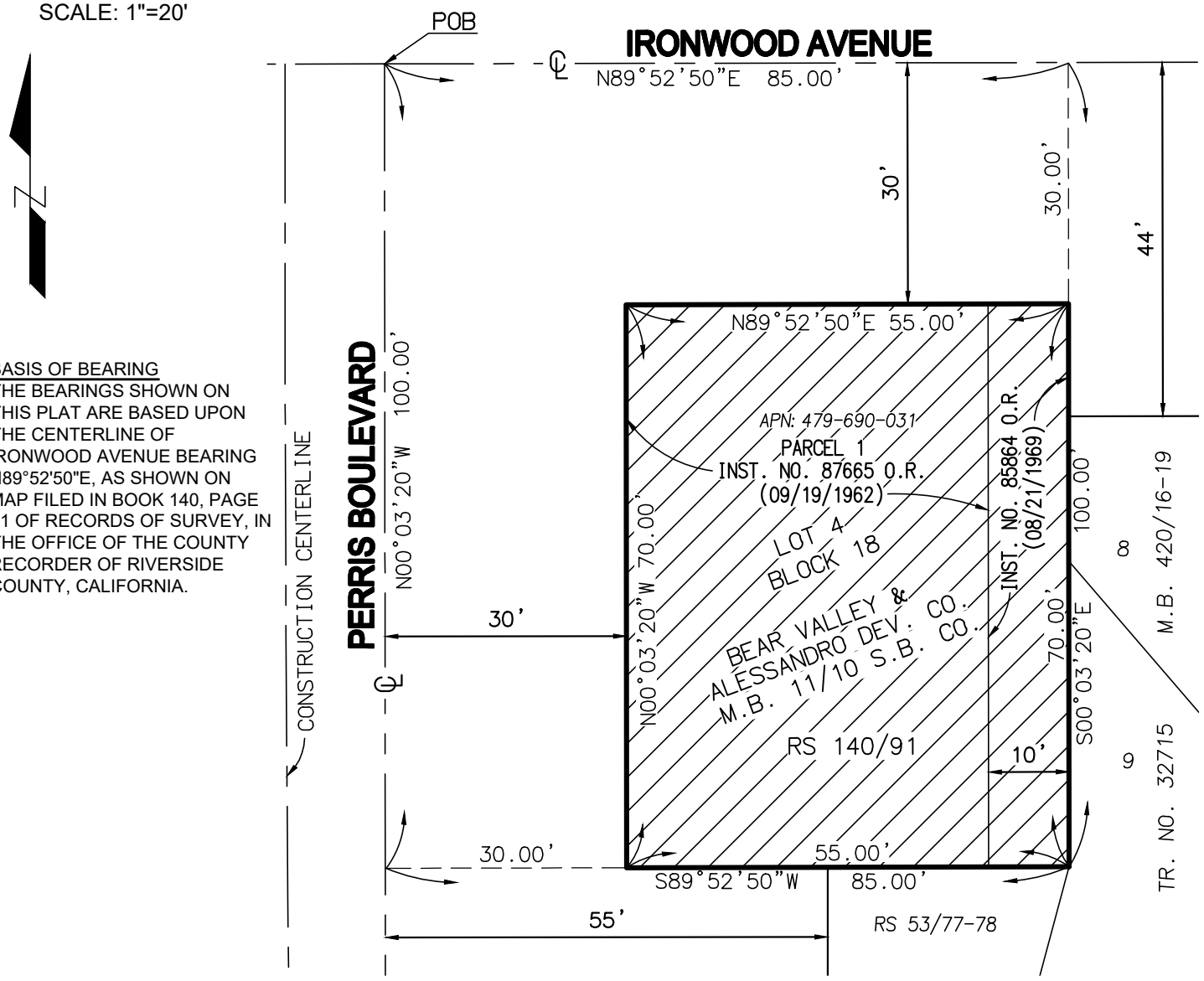
THIS REAL PROPERTY DESCRIPTION HAS BEEN PREPARED BY ME, OR UNDER MY DIRECTION, IN CONFORMANCE WITH THE PROFESSIONAL LAND SURVEYORS' ACT.

09/14/2020
THOMAS E. VERLOOP - L.S. 5348 DATE

EXHIBIT "B"

10' 0' 20'

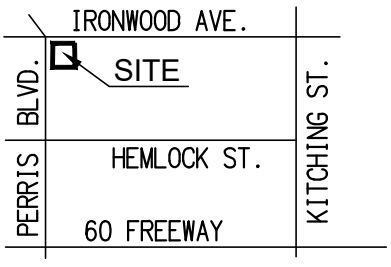
SCALE: 1"=20'



BASIS OF BEARING
THE BEARINGS SHOWN ON THIS PLAT ARE BASED UPON THE CENTERLINE OF IRONWOOD AVENUE BEARING N89°52'50"E, AS SHOWN ON MAP FILED IN BOOK 140, PAGE 91 OF RECORDS OF SURVEY, IN THE OFFICE OF THE COUNTY RECORDER OF RIVERSIDE COUNTY, CALIFORNIA.

INDICATES IRREVOCABLE OFFER OF DEDICATION FOR PUBLIC STREET AND PUBLIC UTILITY EASEMENT TO THE CITY OF MORENO VALLEY
0.088 AC. ± OR 3,850 SQ. FT. ±

PROPERTY DESCRIPTION
A PORTION LOT 4 OF BLOCK 18, BEAR VALLEY AND ALESSANDRO DEVELOPMENT COMPANY, IN THE CITY OF MORENO VALLEY, COUNTY OF RIVERSIDE, STATE OF CALIFORNIA, AS PER MAP ON FILE IN BOOK 11, PAGES 10 OF MAPS, IN THE OFFICE OF THE COUNTY RECORDER OF SAN BERNARDINO COUNTY, CALIFORNIA.



VICINITY MAP
N.T.S.

PREPARED UNDER MY DIRECTION

THOMAS E. VERLOOP - L.S. 5348

DATE: 09/14/2020

APN 479-690-031

SEC. 5, T3S, R3W, SBM

CITY OF MORENO VALLEY RIVERSIDE COUNTY, CALIFORNIA	INST. NO.	DATE:		RA-
	APPROVALS		SCALE AS SHOWN	W.O. 19115
IRREVOCABLE OFFER OF DEDICATION PROPERTY OF: EASTERN MUNICIPAL WATER DISTRICT			DRAWN T. VERLOOP	
	ENGINEERING	REAL PROPERTY	DATE: 09/14/2020	SHT. 1 OF 1

ATTACHMENT "2"
GRANT DEED

[Attached behind this page]

RECORDING REQUESTED BY AND WHEN
RECORDED RETURN TO:

Eastern Municipal Water District
P.O. Box 8300
Perris, CA 92572-8300
Attn: Real Property Division

EXEMPT FROM RECORDING FEES
(*Government Code* §§6103 & 27383)

(Space above Line for Recorder's Use Only)

APN(S): 486-170-023; 024 AND 027 **PR**
WO#: _____
RA#: _____

The undersigned grantor(s) declare(s) documentary transfer tax is $0.00. *Transfer is exempt from transfer tax pursuant to R&T Code §11922.*

GRANT DEED

FOR VALUABLE CONSIDERATION, receipt of which is hereby acknowledged, the **CITY OF MORENO VALLEY**, a municipal corporation does hereby grant to **EASTERN MUNICIPAL WATER DISTRICT,** a public agency organized and existing under and by virtue of the Municipal Water District Law of 1911, all right, title and interest in that that portion of real property situated in the City of Moreno Valley, County of Riverside, State of California, as more particularly described and depicted in Exhibits "A" and "B" attached hereto and incorporated herein by this reference.

Dated: _____

CITY OF MORENO VALLEY,
a municipal corporation

By: _____

CERTIFICATE OF ACCEPTANCE

This is to certify that the interest in real property conveyed by a Grant Deed dated _____ from the **CITY OF MORENO VALLEY,** a municipal corporation to **EASTERN MUNICIPAL WATER DISTRICT,** a public agency organized and existing under and by virtue of the Municipal Water District Law of 1911, is hereby accepted by the undersigned officer or agent on behalf of the Board of Directors pursuant to authority conferred by Resolution No. 80 of the Board of Directors adopted on January 14, 1953, and the Grantee consents to the recordation thereof by its duly authorized officer or agent.

Dated: _____

EASTERN MUNICIPAL WATER DISTRICT,
a public agency organized and existing under and by virtue of the Municipal Water District Law of 1911

By: _____
Sheila Zelaya, Board Secretary

EXHIBIT "A"

EASTERN MUNICIPAL WATER DISTRICT
GRANT DEED

WO: 19115
APN: 486-170-023, 486-170-024 AND 486-170-027
GRANTOR: CITY OF MORENO VALLEY, A MUNICIPAL CORPORATION

LEGAL DESCRIPTION

A PORTION OF THE SOUTHWEST ONE QUARTER OF SECTION 20, TOWNSHIP 3 SOUTH, RANGE 3 WEST, SAN BERNARDINO MERIDIAN, IN THE CITY OF MORENO VALLEY, COUNTY OF RIVERSIDE, STATE OF CALIFORNIA AS DESCRIBED IN GRANT DEED RECORDED DECEMBER 30, 1986 AS INSTRUMENT NO. 334947 OF OFFICIAL RECORDS IN THE OFFICE OF THE COUNTY RECORDER OF SAID RIVERSIDE COUNTY, BEING PORTIONS OF PARCELS 2 AND 3 OF PARCEL MAP NO. 15686 ON FILE IN BOOK 93, PAGES 31 AND 32 OF PARCEL MAPS IN THE OFFICE OF SAID RIVERSIDE COUNTY RECORDER, MORE PARTICULARLY DESCRIBED AS FOLLOWS:

COMMENCING AT THE SOUTHEAST CORNER OF SAID PARCEL 3;

THENCE ALONG THE SOUTHERLY LINE OF SAID PARCEL 3 NORTH 89°53'45" WEST 189.00 FEET;

THENCE LEAVING SAID SOUTHERLY LINE NORTH 00°42'25" WEST 40.00 FEET TO THE **TRUE POINT OF BEGINNING;**

THENCE CONTINUING NORTH 00°42'25" WEST 120.00 FEET;

THENCE NORTH 89°53'45" WEST 200.00 FEET;

THENCE SOUTH 00°42'25" EAST 120.00 FEET;

THENCE SOUTH 89°53'45" EAST 200.00 FEET TO THE **TRUE POINT OF BEGINNING**.

CONTAINING: 24,000 SQUARE FEET OR 0.551 ACRES, MORE OR LESS.

EXHIBIT "B" ATTACHED HERETO AND BY THIS REFERENCE MADE A PART HEREOF.

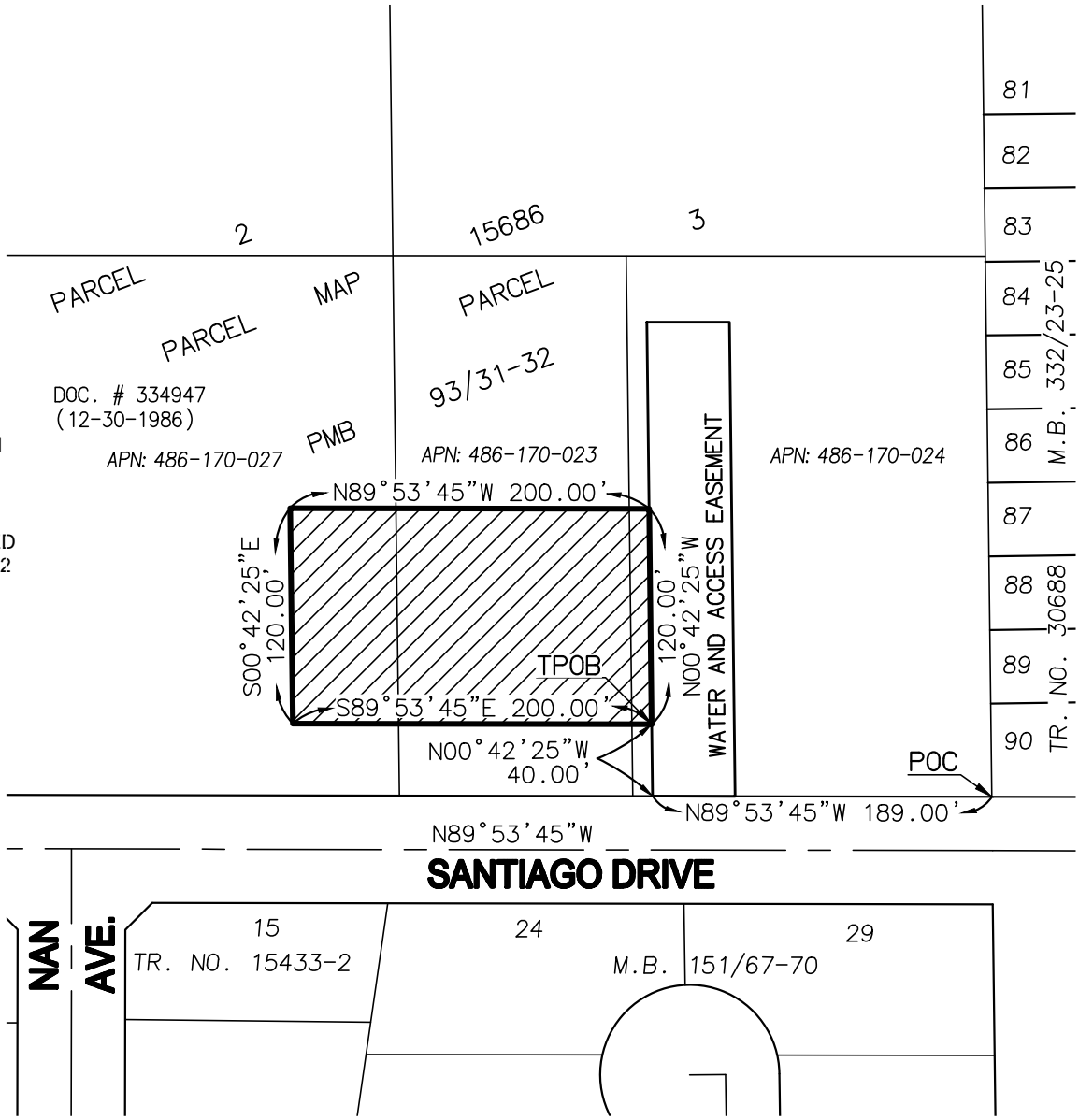
THIS REAL PROPERTY DESCRIPTION HAS BEEN PREPARED BY ME, OR UNDER MY DIRECTION, IN CONFORMANCE WITH THE PROFESSIONAL LAND SURVEYORS' ACT.

THOMAS E. VERLOOP - L.S. 5348
DATE: 11/19/2019

50' 0' 100'

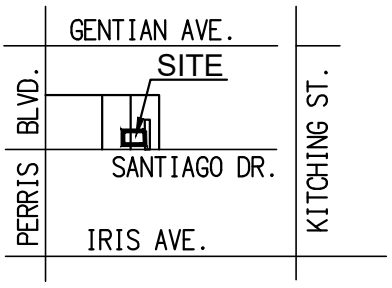
SCALE: 1"=100'

EXHIBIT "B"



BASIS OF BEARING
THE BEARINGS SHOWN ON THIS PLAT ARE BASED UPON THE CENTERLINE OF SANTIAGO DRIVE, BEARING N89°53'45"W, AS SHOWN ON PARCEL MAP NO. 15686, FILED IN BOOK 93, PAGES 31 AND 32 OF PARCEL MAPS, IN THE OFFICE OF THE COUNTY RECORDER OF RIVERSIDE COUNTY, CALIFORNIA.

INDICATES EASTERN MUNICIPAL WATER DISTRICT FEE ACQUISITION
0.551 AC. ± OR 24,000 SQ. FT. ±



VICINITY MAP
N.T.S.

APN'S 486-170-023, 024 & 027

LICENSED LAND SURVEYOR
THOMAS E. VERLOOP
L.S. 5348
STATE OF CALIFORNIA

PROPERTY DESCRIPTION
A PORTION OF PARCELS 2 AND 3 OF PARCEL MAP 15686, IN THE CITY OF MORENO VALLEY, COUNTY OF RIVERSIDE, STATE OF CALIFORNIA, AS PER MAP ON FILE IN BOOK 93, PAGES 31 AND 32 OF PARCEL MAPS, IN THE OFFICE OF THE COUNTY RECORDER OF RIVERSIDE COUNTY, CALIFORNIA.

PREPARED UNDER MY DIRECTION

THOMAS E. VERLOOP - L.S. 5348

DATE: 11/19/2019

SEC. 20, T3S, R3W, SBM

EASTERN MUNICIPAL WATER DISTRICT RIVERSIDE COUNTY, CALIFORNIA	INST. NO.	DATE:	RA-
	APPROVALS	SCALE AS SHOWN	W.O. 19115
FEE GRANT PROPERTY OF: CITY OF MORENO VALLEY		DRAWN T. VERLOOP	
	ENGINEERING / REAL PROPERTY	DATE: 11/19/2019	SHT. 1 OF 1

ATTACHMENT "3"
EASEMENT DEED

[Attached behind this page]

RECORDING REQUESTED BY AND WHEN
RECORDED RETURN TO:

Eastern Municipal Water District
P.O. Box 8300
Perris, CA 92572-8300
Attn: Real Property Division

EXEMPT FROM RECORDING FEES
(*Government Code* §§6103 & 27383)

(Space above Line for Recorder's Use Only)

APN(S): 486-170-024
WO#: _____
RA#: _____

The undersigned grantor(s) declare(s) documentary transfer tax is $0.00. *Transfer is exempt from transfer tax pursuant to R&T Code §11922.*

EASEMENT DEED

FOR VALUABLE CONSIDERATION, receipt of which is hereby acknowledged, the **CITY OF MORENO VALLEY,** a municipal corporation (hereinafter referred to as "Grantor"), does hereby grant to **EASTERN MUNICIPAL WATER DISTRICT,** a public agency organized and existing under and by virtue of the Municipal Water District Law of 1911, its successors and assigns (hereinafter referred to as "Grantee"), a non-exclusive public service easement in, on, over, under, upon, above, along and across the land in the City of Moreno Valley, County of Riverside, State of California, described and depicted in Exhibits "A" and "B" attached hereto and incorporated by reference herein ("Easement Area"), together with all rights of ingress and egress thereto, including the right to enter onto the Easement Area with such vehicles, machinery, and equipment as may be necessary or convenient to the construction, reconstruction, installation, replacement, reconfiguration, operation, maintenance, repair, relocation, removal, inspection, observation, and study of said facilities, pipelines, equipment, structures and/or appurtenances.

Except as otherwise provided herein, Grantee has the right to prevent any activity on or use of the Easement Area that (a) is inconsistent with the purposes of this Easement Deed; (b) interferes with or is harmful to Grantee's rights herein; or (c) interferes with or is harmful to Grantee's facilities, pipelines, equipment and/or appurtenances. Grantor agrees not to use or allow the use of the Easement Area in such a way as to impede, harm, or interfere with the Grantee's rights as defined herein or Grantee's facilities, pipelines, equipment, structures and/or appurtenances.

Each Party represents and warrants that they have carefully read this Easement Deed, and in signing this Easement Deed, they do so with full knowledge of any right which they may have; they have received independent legal advice from their respective legal counsel as to the matters set forth in this Easement Deed, or have knowingly chosen not to consult legal counsel as to the matters set forth in this Easement Deed; and, they have freely signed this Easement Deed without any reliance upon any agreement, promise, statement or representation by or on behalf of the other Party, or their respective agents, employees, or attorneys, except as specifically set forth in this Easement Deed, and without duress or coercion, whether economic or otherwise.

Dated: _____

CITY OF MORENO VALLEY,
a municipal corporation

By: _____

CERTIFICATE OF ACCEPTANCE

This is to certify that the interest in real property conveyed by an Easement Deed dated _____ from the **CITY OF MORENO VALLEY,** a municipal corporation to **EASTERN MUNICIPAL WATER DISTRICT,** a public agency organized and existing under and by virtue of the Municipal Water District Law of 1911, is hereby accepted by the undersigned officer or agent on behalf of the Board of Directors pursuant to authority conferred by Resolution No. 80 of the Board of Directors adopted on January 14, 1953, and the Grantee consents to the recordation thereof by its duly authorized officer or agent.

Dated: _____

EASTERN MUNICIPAL WATER DISTRICT,
a public agency organized and existing under and by virtue of the Municipal Water District Law of 1911

By: _____
Sheila Zelaya, Board Secretary

EXHIBIT "A"

EASTERN MUNICIPAL WATER DISTRICT
WATER AND ACCESS EASEMENT

WO: 19115
APN: 486-170-024
GRANTOR: CITY OF MORENO VALLEY, A MUNICIPAL CORPORATION

LEGAL DESCRIPTION

A PORTION OF THE SOUTHWEST ONE QUARTER OF SECTION 20, TOWNSHIP 3 SOUTH, RANGE 3 WEST, SAN BERNARDINO MERIDIAN, IN THE CITY OF MORENO VALLEY, COUNTY OF RIVERSIDE, STATE OF CALIFORNIA AS DESCRIBED IN GRANT DEED RECORDED DECEMBER 30, 1986 AS INSTRUMENT NO. 334947 OF OFFICIAL RECORDS IN THE OFFICE OF THE COUNTY RECORDER OF SAID RIVERSIDE COUNTY, BEING PORTIONS OF PARCELS 2 AND 3 OF PARCEL MAP NO. 15686 ON FILE IN BOOK 93, PAGES ND 32 OF PARCEL MAPS IN THE OFFICE OF SAID RIVERSIDE COUNTY RECORDER, MORE PARTICULARLY DESCRIBED AS FOLLOWS:

COMMENCING AT THE SOUTHEAST CORNER OF SAID PARCEL 3;

THENCE ALONG THE SOUTHERLY LINE OF SAID PARCEL 3 NORTH 89°53'45" WEST 143.00 FEET TO THE **TRUE POINT OF BEGINNING;**

THENCE CONTINUING NORTH 89°53'45" WEST 46.00 FEET;

THENCE NORTH 00°42'25" WEST 264.00 FEET;

THENCE SOUTH 89°53'45" EAST 46.00 FEET;

THENCE SOUTH 00°42'25" EAST 264.00 FEET TO THE **TRUE POINT OF BEGINNING**.

CONTAINING: 12,144 SQUARE FEET OR 0.279 ACRES, MORE OR LESS.

EXHIBIT "B" ATTACHED HERETO AND BY THIS REFERENCE MADE A PART HEREOF.

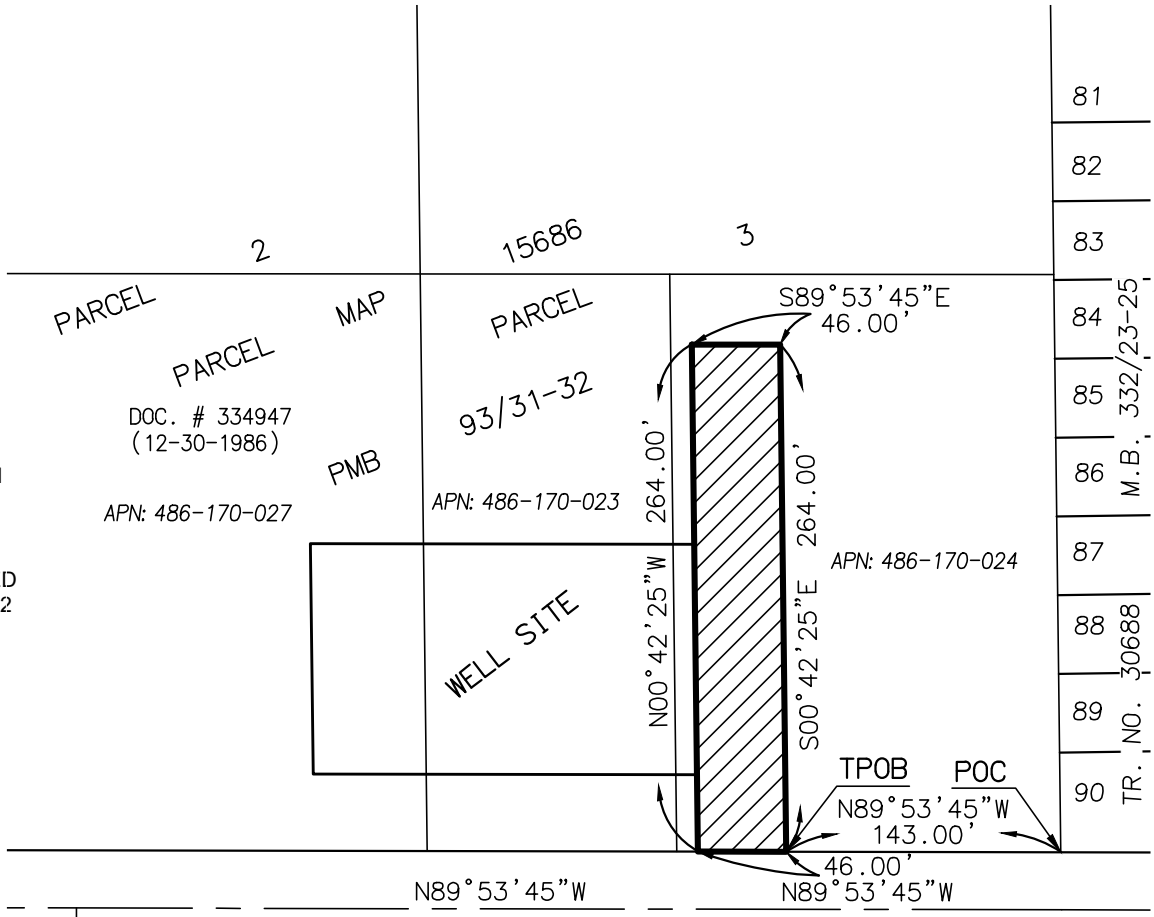
THIS REAL PROPERTY DESCRIPTION HAS BEEN PREPARED BY ME, OR UNDER MY DIRECTION, IN CONFORMANCE WITH THE PROFESSIONAL LAND SURVEYORS' ACT.

THOMAS E. VERLOOP - L.S. 5348
DATE: 11/19/2019

50' 0' 100'

SCALE: 1"=100'

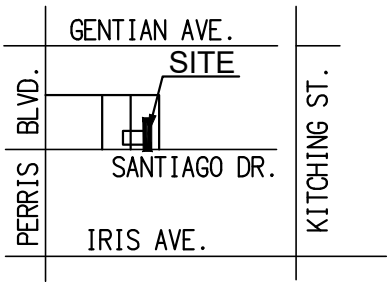
EXHIBIT "B"



BASIS OF BEARING
THE BEARINGS SHOWN ON THIS PLAT ARE BASED UPON THE CENTERLINE OF SANTIAGO DRIVE, BEARING N89°53'45"W, AS SHOWN ON PARCEL MAP NO. 15686, FILED IN BOOK 93, PAGES 31 AND 32 OF PARCEL MAPS, IN THE OFFICE OF THE COUNTY RECORDER OF RIVERSIDE COUNTY, CALIFORNIA.

INDICATES EASTERN MUNICIPAL WATER DISTRICT WATER & ACCESS EASEMENT
0.279 AC. ±, OR 12,144 SQ. FT. ±

PROPERTY DESCRIPTION
A PORTION OF PARCEL 3 OF PARCEL MAP 15686, IN THE CITY OF MORENO VALLEY, COUNTY OF RIVERSIDE, STATE OF CALIFORNIA, AS PER MAP ON FILE IN BOOK 93, PAGES 31 AND 32 OF PARCEL MAPS, IN THE OFFICE OF THE COUNTY RECORDER OF RIVERSIDE COUNTY, CALIFORNIA.



VICINITY MAP
N.T.S.

LICENSED LAND SURVEYOR
THOMAS E. VERLOOP
L.S. 5348
STATE OF CALIFORNIA

PREPARED UNDER MY DIRECTION

THOMAS E. VERLOOP - L.S. 5348

DATE: 11/19/2019

APN'S 486-170-024

SEC. 20, T3S, R3W, SBM

EASTERN MUNICIPAL WATER DISTRICT RIVERSIDE COUNTY, CALIFORNIA	INST. NO.	DATE:	RA-
	APPROVALS	SCALE AS SHOWN	W.O. 19115
GRANT OF EASEMENT PROPERTY OF: CITY OF MORENO VALLEY		DRAWN T. VERLOOP	
	ENGINEERING / REAL PROPERTY	DATE: 11/19/2019	SHT. 1 OF 1

TEL: 951.413.3001
FAX: 951.413.3009
WWW.MOVAL.ORG

RECEIVED
AUG 08 2011
EMWD/EXECUTIVE

MORENO VALLEY
WHERE DREAMS SOAR

RECEIVED
AUG 09 2011
EMWD - MAIL ROOM

14177 FREDERICK STREET
P.O. BOX 88005
MORENO VALLEY, CA 92552-0805

orig. doc kept in M

MAIL		ADD. INFO	
BD		ORIG	X
CI		W/O	
EN	X	W/E	
EX		W/CK	
FI		W/ENV	
HR		W/MAP	
LG		ADV. COPY	
OP			
RD			
SF			

August 4, 2011

General Manager
Eastern Municipal Water District
P.O. Box 8300
Perris, CA 92572-8300

Subject: Memorandum of Understanding for the Relocation of the Eastern Municipal Water District Booster Station

Dear General Manager:

At its special meeting of July 26, 2011, the Moreno Valley City Council authorized the execution of the above-subject agreement. Enclosed is the original, fully-executed agreement.

If you have any questions regarding these documents, please do not hesitate to contact Clement Jimenez, Senior Engineer, at 951. 413.3121. Thank you for your cooperation.

Sincerely,

Jane Halstead
City Clerk

Enclosure

MEMORANDUM OF UNDERSTANDING FOR THE RELOCATION OF THE EASTERN MUNICIPAL WATER DISTRICT BOOSTER STATION

THIS MEMORANDUM OF UNDERSTANDING ("Agreement") is made by and between EASTERN MUNICIPAL WATER DISTRICT ("**District**"), a public agency, and the CITY OF MORENO VALLEY ("**City**"), an incorporated municipality. District and City are sometimes referred to individually as "**Party**" or collectively as "**Parties.**" This Agreement is made and entered into as of the last date that any Party signs this Agreement.

A. District is a municipal water district organized and operating pursuant to the Municipal Water District Act of 1911 (Water Code § 70000 *et seq.*).

B. City is a general law city organized and existing within the State of California.

C. District owns and operates a potable water booster station ("**Booster Station**") on approximately 0.25 acres located at the northwest corner of Nason Street and Dracaea Avenue in the City of Moreno Valley, legally described as "Parcel 1" and depicted on Exhibit "**A**" attached hereto and by this reference incorporated herein ("**Existing Site**"). The Existing Site is fenced around its perimeter with an access gate on Nason Street and Dracaea Avenue.

D. District desires to relocate the Booster Station in order to reconfigure some of the pressure zones and upgrade the booster station capacity to support the area's growth.

E. City desires to facilitate the ultimate intersection and street improvements on Nason Street. The City's General Plan Circulation Element designates Nason Street as a four-lane Divided Arterial which requires 55 feet of half-width right-of-way. The ultimate right-of-way improvements require that the Booster Station be relocated. Only 30 feet of half-street right-of-way for Nason Street was established on the Bear Valley and Alessandro Development Company Map, recorded on November 3, 1890, as Map Book 11, Page 10, records of San Bernardino County. City requires 25 feet of additional right-of-way to meet the Divided Arterial street designation standard for Nason Street in accordance with the City's General Plan Circulation Element. Additional right-of-way beyond the 25 feet may be required to accommodate turning movements at the intersection of Nason Street and Dracaea Avenue.

F. The Existing Site owned by District is located on land City desires to acquire to facilitate the widening of Nason Street. Said land is located outside of the 30-foot half-width right-of-way, but within the additional right-of-way needed to accomplish the widening. District has prior rights and therefore, City intends to compensate District for the Booster Station relocation as the additional right-of-way required and proposed improvements to Nason Street would conflict with the Booster Station and its operation.

G. District desires to acquire and to relocate the Booster Station ("**Relocated Booster Station**") to approximately 0.41 acres currently owned by City on the south side of Cottonwood Avenue at Letterman Street, as legally described and/or depicted on Exhibit "**B**" attached hereto and by this reference incorporated herein ("**Relocation Site**").

H. The purposes of this Agreement are to describe the steps required to execute the relocation and to describe the process to reimburse District for the relocation.

I. The acquisition of the Existing Site and relocation of the Booster Station is included in the City's current Development Impact Fee (DIF) Update Study in Appendix D "Arterial Street Improvements" and, therefore applicable costs may be reimbursed using DIF Arterial Street Funds, subject to fund availability, up to the amount in the DIF Update Study and in accordance with current City policies and procedures.

J. The City collects Development Impact Fees from developers and through this Agreement desires to reimburse the District for the applicable relocation costs of the Booster Station which is necessary to facilitate ultimate intersection improvements at the northwest corner of Nason Street and Dracaea Avenue in order to protect the safety, health, and welfare of residential and non-residential users.

K. The City and District now desire to enter into this Agreement to provide a means by which the District receives reimbursement for the relocation of the Booster Station subject to the terms and limitations set forth in this Agreement.

NOW, THEREFORE, THE PARTIES AGREE AS FOLLOWS:

1. **Preliminary Steps / Design Process / Approvals**

1.1 District and City have coordinated to develop a site layout that is acceptable to both Parties. The approved site layout is shown in Exhibit "**C**" attached hereto and by this reference incorporated herein.

1.2 District will submit rough and precise grading plans, plans for off-site improvements pertaining to Cottonwood Avenue and Letterman Street improvements, and, as may be required by the City's Planning Division, landscape and/or fence/wall plans to City for review and comment.

1.3 District will prepare contract documents (plans and specifications) and a detailed total project cost estimate for the Relocated Booster Station and submit same to City. The detailed total project cost estimate shall identify separately design costs, contract management and administration costs, and all related project costs for the Relocated Booster Station consistent with current District standards. The detailed total project cost estimate will identify the ratio of the existing capacity replacement costs to the proposed expanded capacity costs ("**Relocation Cost Ratio.**")

1.3.1 Public Improvements shall consist of all necessary street improvements on Cottonwood Avenue along project frontage including pavement transitions and on proposed Letterman Street, as shown in the shaded area in Exhibit "C", in accordance with the City of Moreno Valley design Standards. Improvements along project frontage shall consist of pavement, base, curb, gutter, sidewalk, driveway approach, undersidewalk drain, as necessary, street parkway landscaping and irrigation, dry and wet utilities, as shown on Exhibit "C". Soft costs will include any design costs as well as City-related costs including plan review, project coordination efforts, inspection of public improvements within the right-of-way and encroachment permit processing. City-related costs will be tracked as actual time and material costs and shall be credited against the project as part of the City's payment towards the relocation costs. The value of the time for City staff shall be at the fully burdened hourly rate, including operational overhead as determined by the City's Finance Department, and will be charged at 15-minute increments.

1.3.2 A minimum 30-foot wide public access easement along the project site's east boundary coinciding with the future extension of Letterman Street will be required to provide access to the booster station. The easement, granted by the City to the District, shall be maintained by the District. The access road improvement shall be designed to a general local street pavement section, half-width of 20 feet. The intersection with Cottonwood Avenue shall be designed as a commercial driveway approach per City Standard No. 118C.

1.3.3 A Slope and/or Drainage Easement along the project site's south boundary may be required provided the site's grading plan is designed to drain to Cottonwood Avenue. Alternatively, a Drainage Easement coinciding with the point of discharge along the south boundary will be required if the site is graded to follow existing contours. The determination for the need of an easement will be made during final design.

1.3.4 The District shall identify the type(s) of trees located on the south side of Cottonwood Avenue along the proposed project frontage and recommend the trees be protected, relocated, or replaced. If the trees are to be replaced, they shall be done so at a minimum ratio of 3:1 for 24-inch (24") boxed trees or a ratio of 1:1 for 36-inch (36") boxed trees, which is consistent with the City's Municipal Code Section 9.17.030. The District shall coordinate with the City Planning Division staff on the species, size and location of any trees proposed to be planted along the project frontage. Landscape plans for the project, including the type and size of proposed street trees, shall be reviewed by the City's Planning Division during the plan review stage.

1.4 District shall prepare bid documents and solicit bids for the Relocated Booster Station consistent with the plans and specifications furnished to City. The average of the bids received shall be multiplied by the Relocation Cost Ratio to determine the "**Estimated Relocation Costs.**"

1.5 The Parties agree that the fair market value of the Relocation Site at the southwest corner of Cottonwood Avenue and Letterman Street is $95,500.00 and the fair

market value of the Existing Site at the northwest corner of Nason Street and Dracaea is $76,800.00, based on the appraisals dated July 1, 2009 and May 1, 2007, attached as Exhibits "**D**" and "**E**" hereto and by this reference incorporated herein. The fair market value of the Existing Site, less the fair market value of the Relocation Site will be factored into the reimbursement as described in Section 5.1.

1.6 The Parties agree that the District will conduct a Phase I Environmental Site Assessment Report for the Relocation Site at Cottonwood and Letterman and the City will conduct a Phase I Environmental Site Assessment for the Existing Site at Nason and Dracaea, each at its sole cost and expense. If there are issues, each agency will, at its sole cost and expense, conduct an Extended Phase I Environmental Site Assessment Report to adequately determine the issues related to the respective sites, and remediate any hazards determined in the assessment prior to the transfer of the property to the other agency.

2. Transfer of Relocation Site to District

2.1 Prior to circulation of bid documents for construction of the Relocated Booster Station, City shall convey to District good and marketable fee simple title to the Relocation Site, free of any and all encumbrances. Title to the Relocation Site shall be conveyed by way of a grant deed acceptable to District, substantially similar in form and substance to Exhibit "F" attached hereto and by this reference incorporated herein.

2.2 The parties expressly agree that District shall have the same priority of rights in the Relocation Site as the District currently enjoys in the Existing Site.

3. Construction of the Relocated Booster Station

3.1 District shall construct the Relocated Booster Station on the Relocation Site substantially in accordance with the plans and specifications submitted to City. District shall schedule a walk through with a City Public Works Inspector upon completion of improvements. All punch list items must be addressed prior to acceptance of the public street improvements on Cottonwood Avenue. Acceptance of public improvements is one of the requirements the District must comply with in order to receive Reimbursement.

4. Transfer of Existing Site to City

4.1 Within 180 days of the Notice of Acceptance of the Relocated Booster Station, District shall convey to City good and marketable fee simple title to the Existing Site. Title to the Existing Site shall be conveyed by way of a grant deed acceptable to City, substantially similar in form and substance to Exhibit "G" attached hereto and by this reference incorporated herein. District shall terminate all existing utility service feeds to the Existing Booster Station and require the utility agencies to remove their applicable facilities from the site prior to conveyance of property to the City. District is required to remove all facilities within the Existing Site a minimum of three (3) feet below the ultimate Nason Street pavement surface, at a fixed elevation of 1667.80 as depicted in Exhibit "**H**" attached hereto and by this reference incorporated herein.

4.2 City hereby represents and warrants that (i) prior to the transfer of the Existing Site, City will have had the opportunity to investigate all physical and economic aspects of the Existing Site and to make all inspections and investigations of the Existing Site which City deems necessary or desirable to protect its interests in acquiring the Existing Site, including without limitation environmental audits and assessments, toxic reports, surveys, investigation of land use and development rights, development restrictions and conditions that may be imposed by governmental agencies, soils and geological reports, engineering and structural tests, insurance contracts, contracts for work in progress, marketing studies, governmental agreements and approvals, architectural plans, and site plans, and (ii) except as otherwise expressly set forth in this Agreement, neither District nor anyone acting for or on behalf of District has made any representation, warranty, promise, or statement, express or implied, to City or to anyone acting for or on behalf of City, concerning the Existing Site or the development thereof. Except as otherwise provided herein, City shall receive the Existing Site on City's own prior investigation and examination of the Existing Site (or City's election not to do so); and City is receiving the transfer of the Existing Site in an "AS IS" PHYSICAL CONDITION AND IN AN "AS IS" STATE OF REPAIR after demolition. Notwithstanding anything to the contrary herein, City and District acknowledge that any written disclosure made by District prior to the transfer of the Existing Site to City shall constitute notice to City of the matter disclosed, and District shall have no further liability thereafter if City thereafter consummates the transfer contemplated hereby.

4.3 City represents and warrants that, as specified herein, City has, or shall inspect and conduct tests and studies of the Existing Site and that City is familiar with the general conditions of the Existing Site. City understands and acknowledges that the Existing Site may be subject to earthquake, fire, floods, erosion, high water table, dangerous underground soil conditions, hazardous materials, and similar occurrences that may alter its condition or affect its suitability for any proposed use, and that District shall have no responsibility or liability with respect to any such occurrence. City represents and warrants that City is acting, and will act, only upon information obtained by City directly from City's own inspection of the Existing Site. Notwithstanding anything to the contrary contained in this AGREEMENT, the suitability or lack of suitability of the Existing Site for any proposed or intended use, or availability or lack of availability of (i) permits or approvals of governmental or regulatory authorities, or (ii) rights with respect to any such proposed or intended use of Existing Site shall not affect the rights or obligations of City hereunder.

5.0 Reimbursement

5.1 **Actual and Maximum Amounts of Reimbursement.** Subject to fund availability, the City has allocated in its Development Impact Fee (DIF) Fee Update Study (Appendix D Arterial Streets), a maximum of Two Million Dollars ($2,000,000.00) ("**Maximum Reimbursement**") for the site acquisition and relocation of the Booster Station including all soft costs. The actual amount of reimbursement ("Actual Reimbursement") shall be calculated as the Estimated Relocation Costs determined in Section 1.4 above, plus the fair market value of the Existing Site including all applicable soft costs, as determined by the appraisal obtained pursuant to Section 1.5

above, less the fair market value of the Relocation Site including all applicable soft costs, as determined by the appraisal obtained pursuant to Section 1.5 above, not to exceed the Maximum Reimbursement as defined above.

5.2 **Timing of Reimbursement.** Upon Notice of Acceptance of the Relocated Booster Station, District shall be entitled to reimbursement subject to the procedures and limitations contained in this Agreement and subject to available funds in the DIF Arterial Streets Fund. Actual DIF Reimbursement is subject to available funding from the Arterial Streets Fund of the DIF Program per the applicable sections of the City's DIF Policy No. 3.24 approved by City Council on August 26, 2008, subject to the terms and conditions of this Agreement. District will be placed in line on a DIF Reimbursement List. District's priority on the DIF Reimbursement List shall not be lowered and no other entity shall be moved or placed on the DIF Reimbursement List ahead of District. District's eligibility for reimbursement shall not expire.

5.3 **DIF Reimbursement Eligibility**. Reimbursement shall be paid only from the DIF Arterial Streets Fund and only when funds are available. Any Reimbursement shall be in accordance with applicable sections of City Policy No. 3.24, approved by City Council on August 26, 2008, subject to the terms and conditions of this Agreement, except as may arise under Section 5.5 below. District shall have no right to Reimbursement from any other funds of the City or any of its related entities.

5.4 **Term of Agreement.** For purposes of Reimbursement Eligibility, this Agreement shall remain in effect until such time as the District has received the full amount of the reimbursement as calculated in Section 5.1 above.

5.5 **Future Reimbursement Opportunities**. In the event that, by mutual agreement of both parties, another parcel of City-owned property ("**Additional Property**") were to become available for District use sometime in the future, and if the City has not fully reimbursed the District at that time, such Additional Property may be made a part of this Agreement and considered as a credit towards the City's reimbursement for their portion of the Nason Street booster station relocation costs. As with the Relocation Site, the fair market value of the Additional Property will be based on an appraisal by a licensed appraiser, to be selected and retained by District from a list of not less than five (5) qualified appraisers furnished by City, and City shall convey to District good and marketable fee simple title to the Additional Property, free of any and all encumbrances. District may, at its sole cost and expense, conduct a Phase I Environmental Site Assessment Report for the Additional Property. If there are issues, District may, at its sole cost and expense, conduct an Extended Phase I Environmental Site assessment Report to adequately determine the issues related to the Additional Property, and remediate any hazards determined in the assessment prior to the transfer of the property to District. Title to the Additional Property shall be conveyed by way of a grant deed acceptable to District, substantially similar in form and substance to Exhibit "B" attached hereto and by this reference incorporated herein.

6. General Provisions

6.1. This Agreement shall inure to the benefit of and be binding on each of the Parties and their successors and assigns.

6.2. All work to be performed shall conform with all applicable laws regarding prevailing wage rates.

6.3. District shall indemnify, defend, and hold harmless City and its officers, directors, and Representatives (as defined below) (collectively, "**City Indemnitees**") from and against any and all claims, costs, liabilities, debts, demands, suits, actions, causes of action, proceedings, damages, judgments, liens, expenses or obligations of whatever kind or nature, including attorneys' fees and charges and the costs of all other professional and court or arbitration or other dispute resolution costs (collectively, "**Costs**") which may be made against the City Indemnitees arising out of or in connection with this Agreement. The foregoing indemnity shall not apply to the extent any such Costs are ultimately established by a court of competent jurisdiction to have been caused by the gross negligence or willful misconduct of the City Indemnitees or any of them. City shall make all decisions with respect to its representation in any legal proceeding concerning this section. If District fails to do so, City shall have the right, but not the obligation, to defend the same and charge all of the direct or incidental Costs of such defense, including fees and costs, to District and to recover the same from District. The term "**Representative**" shall mean employees, representatives, agents, contractors, subcontractors, or any other person directly or indirectly employed by any of the foregoing or reasonably under the control of any of the foregoing or for whose acts any of the foregoing may be liable.

6.4. City shall indemnify, defend, and hold harmless District and its officers, officials, and Representatives (collectively, "**District Indemnitees**") from and against any and all Costs which may be made against the District Indemnitees arising out of or in connection with this Agreement. The foregoing indemnity shall not apply to the extent any such Costs are ultimately established by a court of competent jurisdiction to have been caused by the gross negligence or willful misconduct of the District Indemnitees or any of them. District shall make all decisions with respect to its representation in any legal proceeding concerning this section. If City fails to do so, District shall have the right, but not the obligation, to defend the same and charge all of the direct or incidental Costs of such defense, including fees and costs, to City and to recover the same from City.

6.5. This Agreement contains the full and complete agreement between the Parties with respect to the matters herein discussed and supersedes all previous communications and agreements between them, either oral or written.

6.6. This Agreement may be modified only by another written instrument duly authorized, executed, acknowledged, and recorded, by both Parties.

6.7. All notices shall be in writing and shall be considered given and received: (i) when delivered in person to the recipient named below; or (ii) three (3) days after depositing in the United States mail, postage prepaid, addressed to the recipient named below; or (iii) on the date of delivery shown in the records of an express courier such as Federal Express or DHL. All notices shall be addressed as follows:

If to District:

General Manager
Eastern Municipal Water District
P.O. Box 8300
Perris, CA 92572-8300

If to City:

City Engineer
City of Moreno Valley
P.O. Box 88005
14177 Frederick Street
Moreno Valley, CA 92552-0805
Attn: Mark W. Sambito, P.E., Engineering Division Manager

Any Party may, by notice given at any time, require subsequent notices to be given to another person or entity, whether a Party or an officer or representative of a Party, or to a different address, or both. Notices given before actual receipt of notices of change shall not be invalidated by the change.

6.8. This Agreement and all of its provisions shall in all respects be interpreted, construed, enforced, and governed by and under the laws of the State of California, without regard to its conflict of laws principles.

6.9. Any action or proceeding brought respecting this Agreement shall be exclusively instituted and maintained in the Riverside Superior Court, California, and the Parties hereto consent to the exercise of the personal jurisdiction over them by any such courts for purposes of any such action or proceeding.

6.10. The language in all parts of this Agreement shall in all respects be construed as a whole according to its fair meaning, and not strictly for or against any other Party. This Agreement is the product of mutual negotiation and drafting efforts. Accordingly, the judicial rule of construction that ambiguities in a document are to be construed against the drafter of that document shall have no application to the interpretation or enforcement of this Agreement.

6.11. This Agreement may be executed in one or more counterparts, each of which shall be an original and all such counterparts together shall constitute the entire agreement of the Parties hereto.

6.12. Each individual executing this Agreement hereby represents and warrants that he or she has the full power and authority to execute this Agreement on behalf of the Party identified.

IN WITNESS THEREOF, the parties hereto have executed this Agreement as of the date indicated above.

Dated: 8/2/11, 2010.

CITY OF MORENO VALLEY

By: Michelle Dawson
City Manager

ATTEST:

By:
City Clerk

APPROVED AS TO FORM:

By:
City Attorney

Dated: July 22, , 2011.

EASTERN MUNICIPAL WATER DISTRICT

By: _____
Anthony J. Pack
General Manager

ATTEST:

By: Rosemarie Howard
Rosemarie Howard
Secretary

APPROVED AS TO FORM:

REDWINE AND SHERRILL

By: _____
Gerald D. Shoaf
General Counsel

W:\LandDev\Mark Sambito\Projects\Booster Pump Station – Cottonwood\2011-06-02 EMWD Nason Booster Relocation Agreement.doc

EXHIBIT "A"

Existing Site
Grant Deed, Legal Description and Plat

RECORDING REQUESTED BY

2028
2028

AND WHEN RECORDED MAIL TO

Name EASTERN MUNICIPAL WATER DISTRICT
Street Address c/o MR. M. SHERRILL
City & State 4075 Main Street
Riverside, California

RECEIVED FOR RECORD
JAN 12 1970
AT 9:00 O'CLOCK A.M.
At Request of
TITLE INS. & TRUST CO.
Recorded in Official Records
of Riverside County, California
Wm. Doolittle Recorder
FEES $ [illegible]

Microfilm recording from 4-1-66. Book and Page to be located and identified by document number and year of filing.

MAIL TAX STATEMENTS TO

Name
Street Address SAME AS ABOVE
City & State

SPACE ABOVE THIS LINE FOR RECORDER'S USE

COMPUTED ON FULL VALUE OF PROPERTY CONVEYED
DOCUMENTARY TRANSFER TAX $ NONE
Requested

SIGNED - PARTY OR AGENT | FIRM NAME

Corporation Grant Deed

TO 405 2 CA (5-68) THIS FORM FURNISHED BY TITLE INSURANCE AND TRUST COMPANY

FOR A VALUABLE CONSIDERATION, receipt of which is hereby acknowledged,
SOUTHERN CALIFORNIA FINANCIAL CORPORATION

a corporation organized under the laws of the state of California
hereby GRANTS to

EASTERN MUNICIPAL WATER DISTRICT,
a Municipal Corporation

the following described real property in the
County of Riverside, State of California:

LEGAL DESCRIPTION ATTACHED HERETO AND MADE A PART HEREOF.

UNINCORPORATED AREA

SUBJECT TO:
(1) Second half taxes for the fiscal year 1969-1970, a lien not yet payable.
(2) Covenants, conditions, restrictions and public utility easements of record.
(3) Lis Pendens of record.

In Witness Whereof, said corporation has caused its corporate name and seal to be affixed hereto and this instrument to be executed by its Vice President and Secretary thereunto duly authorized.

Dated: October 10, 1969

SOUTHERN CALIFORNIA FINANCIAL CORPORATION

By [signature]

STATE OF CALIFORNIA)

Exhibit "A"

S. F. 8-4

CERTIFICATE OF ACCEPTANCE

This is to certify that the interest in real property conveyed by Corporation Grant Deed date October 10, 1969 from Southern California Financial Corporation to the Eastern Municipal Water District, a municipal corporation, is hereby accepted by the undersigne officer or agent on behalf of the Board of Directors pursuant to authority conferred by Resolution No. 8 of the Board of Directors adopted on January 14, 1958, and the Grantee consents to the recordatio thereof by its duly authorized officer or agent.

Dated: November 10, 1969

(SEAL)

Eastern Municipal Water Distric

By Shirley J. Scott

Shirley J. Scott, Secretar

262

PARCEL 1: Nason Street Plant site

That certain parcel of land situated in the County of Riverside, State of California, which is particularly described as follows:

The Easterly 120.00 feet (measured from the center line of Nason Street) of the Southerly 160.00 feet (measured from the center line of Dracaea Avenue) of Lot 8 of Block 65, as said lot, block, street and avenue are shown on Map No. 1 BEAR VALLEY AND ALESSANDRO DEVELOPMENT CO., on file in Book 11, page 10, of Maps, Records of San Bernardino County, California;

EXCEPT FROM the above-described parcel of land any portion thereof lying within Nason Street, a county road, as said Nason Street currently exists.

PARCEL 2: Pettit Tract Site

That certain parcel of land situated in the County of Riverside, State of California, which is particularly described as follows:

That particular portion of the Northeast quarter of Section 10, Township 3 South, Range 3 West, San Bernardino Meridian, which is more particularly described as follows:

Beginning at the intersection of the center line of Bay Avenue with the center line of Pettit Street, as said intersection is shown on Map No. 1 BEAR VALLEY AND ALESSANDRO DEVELOPMENT CO., on file in Book 11, page 10, of Maps, Records of San Bernardino County, California; thence Northerly along said center line of Pettit Street to its intersection with the center line of Cottonwood Avenue also as shown on said Map No. 1 BEAR VALLEY AND ALESSANDRO DEVELOPMENT CO.; thence continuing Northerly along a Northerly prolongation of said center line of Pettit Street a distance of 835.00 feet; thence Westerly at right angles to said Northerly prolongation of the center line of Pettit Street a distance of 30.00 feet to the True Point of Beginning for this parcel description; thence Northerly parallel with and 30.00 feet Westerly of, measured at right angles, said Northerly prolongation of the center line of Pattit Street a distance of 220.00 feet; thence Westerly at right angles to said last mentioned course a distance of 270.00 feet; thence Southerly at right angles to said last mentioned course a distance of 220.00 feet; thence Easterly at right angles to said last mentioned course a distance of 270.00 feet to the True Point of Beginning.

Orig. Doc. File: lb
Cross Doc. File: lb
Name Index Card: lb
Coordinate Card: lb
Recorded R.P.B.: lb
Index in R.P.B.: lb
Checked By: lb

2628

Parcel 3:

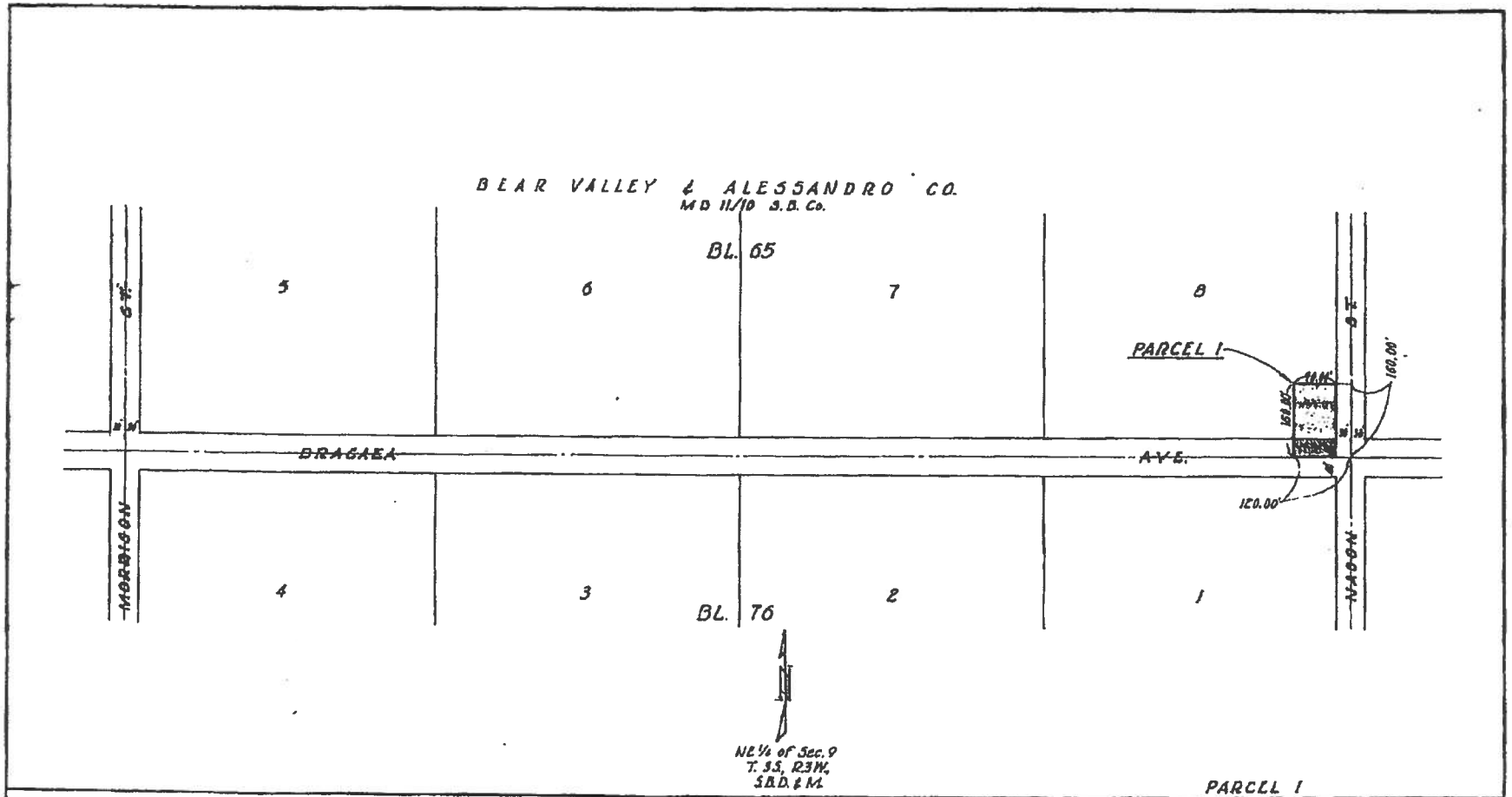
A right of way easement over, under and along the property described below for the construction, installation, replacement, repair and maintenance of a water pipe line or pipe lines for the transmission of water with right of ingress and egress for such purposes, situated in the County of Riverside, State of California, which is particularly described as follows:

A strip of land 25.00 feet in width lying over, under, through, along and across a portion of the Northeast quarter of Section 10, Township 3 South, Range 3 West, San Bernardino Meridian, which 25.00 foot wide strip of land is more particularly described as follows:

A strip of land 25.00 feet in width lying 12.50 feet, measured at right angles on each side of the following described center line:

Beginning at the intersection of the center line of Pettit Street with the center line of Cottonwood Avenue as said intersection is shown on Map No. 1 BEAR VALLEY AND ALESSANDRO DEVELOPMENT CO. on file in book 11, page 10 of Maps, records of San Bernardino County, California; thence Westerly along said center line of Cottonwood Avenue a distance of 42.50 feet to the true point of beginning for this description; thence Northerly parallel with and 42.50 feet Westerly of the Northerly prolongation of that particular portion of the center line of said Pettit Street which extends from the center line of Bay Avenue to said center line of Cottonwood Avenue as shown on said Map No. BEAR VALLEY AND ALESSANDRO DEVELOPMENT CO. a distance of 1,055.00 feet;

EXCEPT from the above described 25.00 foot wide strip of land any portion thereof which lies within Cottonwood, a county road, as said Cottonwood Avenue presently exists.



PARCEL 1

REVISIONS					REFERENCES						
NO.	DATE	INITIAL	DESCRIPTION	APP'D	INST. NO. 8688 REC. 1/12/1970				SCALE	1" = 200'	DATE
									DESIGNED		
									DRAWN	McM	7-19-68
									TRACED		
									CHECKED	EAH	7-25-68
					APPROVALS				SUBMITTED		
					DESIGN	CONSTRUCTION	OPERATIONS		RECOMMENDED		

EASTERN MUNICIPAL WATER DISTRICT
RIVERSIDE COUNTY, CALIFORNIA

RIGHT OF WAY MAP - I.D. No. 3
PROPERTY OF
CAROLINE H. TRAUTWEIN, ETAL

APPROVED _____ GENERAL MANAGER & CHIEF ENGINEER

RB-821

EXHIBIT "B"

Relocation Site
Legal Description and Plat

EXHIBIT

EASTERN MUNICIPAL WATER DISTRICT
LETTERMAN BOOSTER STATION
GRANT OF FEE TITLE INTEREST

W.O. 11361
APN: 487-470-013
GRANTOR: CITY OF MORENO VALLEY, CALIFORNIA
A MUNICIPAL CORPORATION

IN THE CITY OF MORENO VALLEY, COUNTY OF RIVERSIDE, STATE OF CALIFORNIA, THAT PORTION OF LOT 2 IN BLOCK 93 OF MAP NO.1 OF THE BEAR VALLEY AND ALESSANDRO DEVELOPMENT COMPANY, PER MAP ON FILE IN BOOK 11 AT PAGE 10, RECORDS OF SAN BERNARDINO COUNTY, STATE OF CALIFORNIA (AS SHOWN ON RECORD OF SURVEY ON FILE IN BOOK 80 AT PAGE 53, RECORDS OF SAID RIVERSIDE COUNTY), MORE PARTICULARLY DESCRIBED AS FOLLOWS:

COMMENCING AT THE CENTERLINE INTERSECTION OF COTTONWOOD AVENUE AND LETTERMAN STREET AS SHOWN BY MAP ON FILE IN BOOK 333 AT PAGES 80 THROUGH 85 INCLUSIVE, RECORDS OF SAID RIVERSIDE COUNTY;

THENCE NORTH 89°33'15" WEST, ALONG THE CENTERLINE OF COTTONWOOD AVENUE (HALF WIDTH OF 40 FEET) AS SHOWN ON SAID RECORD OF SURVEY ON FILE IN BOOK 80 AT PAGE 53, A DISTANCE OF 134.85 FEET, TO ITS INTERSECTION WITH THE NORTHERLY PROLONGATION OF THE WEST LINE OF SAID LOT 2;

THENCE SOUTH 00°26'10" WEST, ALONG SAID PROLONGATION, A DISTANCE OF 44.00 FEET, TO A POINT ON THE SOUTHERLY LINE OF AN EXISTING PUBLIC STREET AND UTILITY EASEMENT AS DESCRIBED BY DEED RECORDED JUNE 7, 1993, AS INSTRUMENT NO. 211297, SAID RECORDS OF RIVERSIDE COUNTY, AND THE **POINT OF BEGINNING.**

THENCE CONTINUING SOUTH 00°26'10" WEST, ALONG SAID WEST LINE OF LOT 2, A DISTANCE OF 173.00 FEET;

THENCE LEAVING SAID WEST LINE, AT A RIGHT ANGLE, SOUTH 89°33'50" EAST TO A POINT ON A LINE, PARALLEL WITH AND 104.82 FEET DISTANT FROM SAID WEST LINE OF LOT 2;

THENCE NORTH 00°26'10" EAST, ALONG SAID PARALLEL LINE, A DISTANCE OF 150.00 FEET;

THENCE NORTH 46°57'44" WEST, A DISTANCE OF 33.96 FEET TO A POINT ON SAID SOUTHERLY LINE OF THE EXISTING PUBLIC STREET AND UTILITY EASEMENT;

THENCE NORTH 89°33'15" WEST, ALONG SAID SOUTHERLY LINE, A DISTANCE OF 79.83 FEET TO THE **POINT OF BEGINNING.**

Exhibit "B"

EASTERN MUNICIPAL WATER DISTRICT
EXHIBIT "A": GRANT OF FEE TITLE INTEREST
W.O. 11361; APN: 487-470-013
GRANTOR: CITY OF MORENO VALLEY, CALIFORNIA
A MUNICIPAL CORPORATION

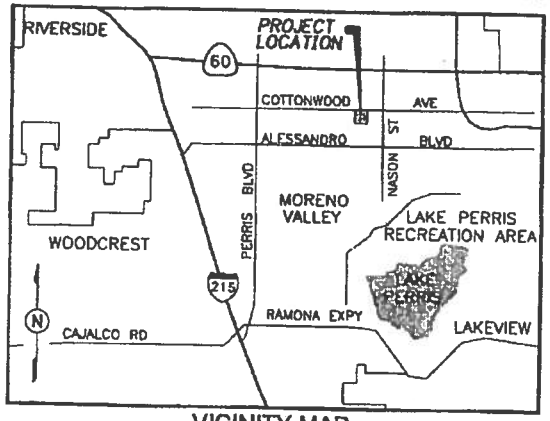
CONTAINS 0.41 ACRES, MORE OR LESS.

EXHIBIT "B" ATTACHED HERETO AND BY THIS REFERENCE MADE A PART HEREOF.

THIS DESCRIPTION WAS PREPARED BY ME OR UNDER MY DIRECTION:

Erik T. Howard 7. JAN. 10

ERIK T. HOWARD, PLS 7648 DATE
EXPIRES: DECEMBER 31, 2010



VICINITY MAP
N.T.S.

PREPARED UNDER MY DIRECTION

ERIK T. HOWARD PLS NO. 7648
EXPIRES 12/31/2010
DATE: 7 JAN. 10

LICENSED LAND SURVEYOR ERIK THOMAS HOWARD Exp. 12/31/2010 7648 STATE OF CALIFORNIA

Engineering Planning Surveying Construction Services PBSJ
10370 Hemet Street Suite 200 Riverside, CA 92503 Tel: (951) 358-1433 Fax: (951) 358-1434

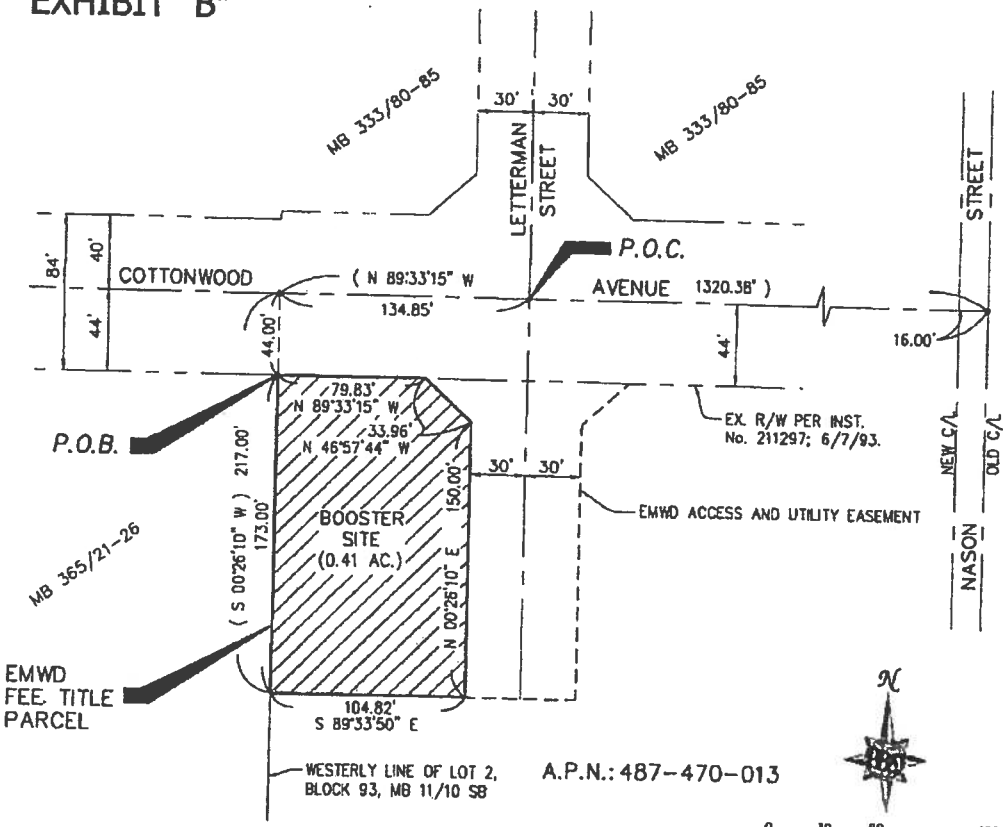
PROPERTY DESCRIPTION

IN THE CITY OF MORENO VALLEY, COUNTY OF RIVERSIDE, STATE OF CALIFORNIA, THAT PORTION OF LOT 2 IN BLOCK 93 OF MAP No. 1 OF THE BEAR VALLEY AND ALESSANDRO DEVELOPMENT COMPANY, PER MAP ON FILE IN BOOK 11 AT PAGE 10, RECORDS OF SAN BERNARDINO COUNTY, STATE OF CALIFORNIA (AS SHOWN ON RECORD OF SURVEY ON FILE IN BOOK 80 AT PAGE 53, RECORDS OF RIVERSIDE COUNTY).

BASIS OF BEARINGS

THE BASIS OF BEARINGS FOR THIS MAP IS THE CENTER LINE OF COTTONWOOD AVENUE TAKEN AS N 89° 33' 15" W PER RECORD OF SURVEY ON FILE IN BOOK 80 AT PAGE 53, RECORDS OF RIVERSIDE COUNTY, STATE OF CALIFORNIA.

EXHIBIT "B"



LEGEND:

P.O.C. – POINT OF COMMENCEMENT
P.O.B. – POINT OF BEGINNING
( ) – RECORD DATA PER RS 80/53

SE 1/4 OF SECTION 9, T.3S, R.3W S.A. NO.

NO.	DATE	INITIAL	REVISIONS DESCRIPTION	APP'VD

REFERENCES	
RS 80/53, MB 11/10 (SB), MB 333/80-85	
INST. 211297 (6/7/93)	
INST. 74798 (1/31/07)	

APPROVALS	
ENGINEERING	RIGHT OF WAY

		DATE
SCALE:	1"=60'	
DESIGNED:	JAU	12/16/09
DRAWN:	JAU	12/16/09
TRACED:		
CHECKED:	ETH	12/16/09
RECORDING DATA		
INST. NO.:		
DATE:		

EASTERN MUNICIPAL WATER DISTRICT
RIVERSIDE COUNTY, CALIFORNIA

EMWD GRANT DEED PLAT
PROPERTY OF:
CITY OF MORENO VALLEY, CALIFORNIA

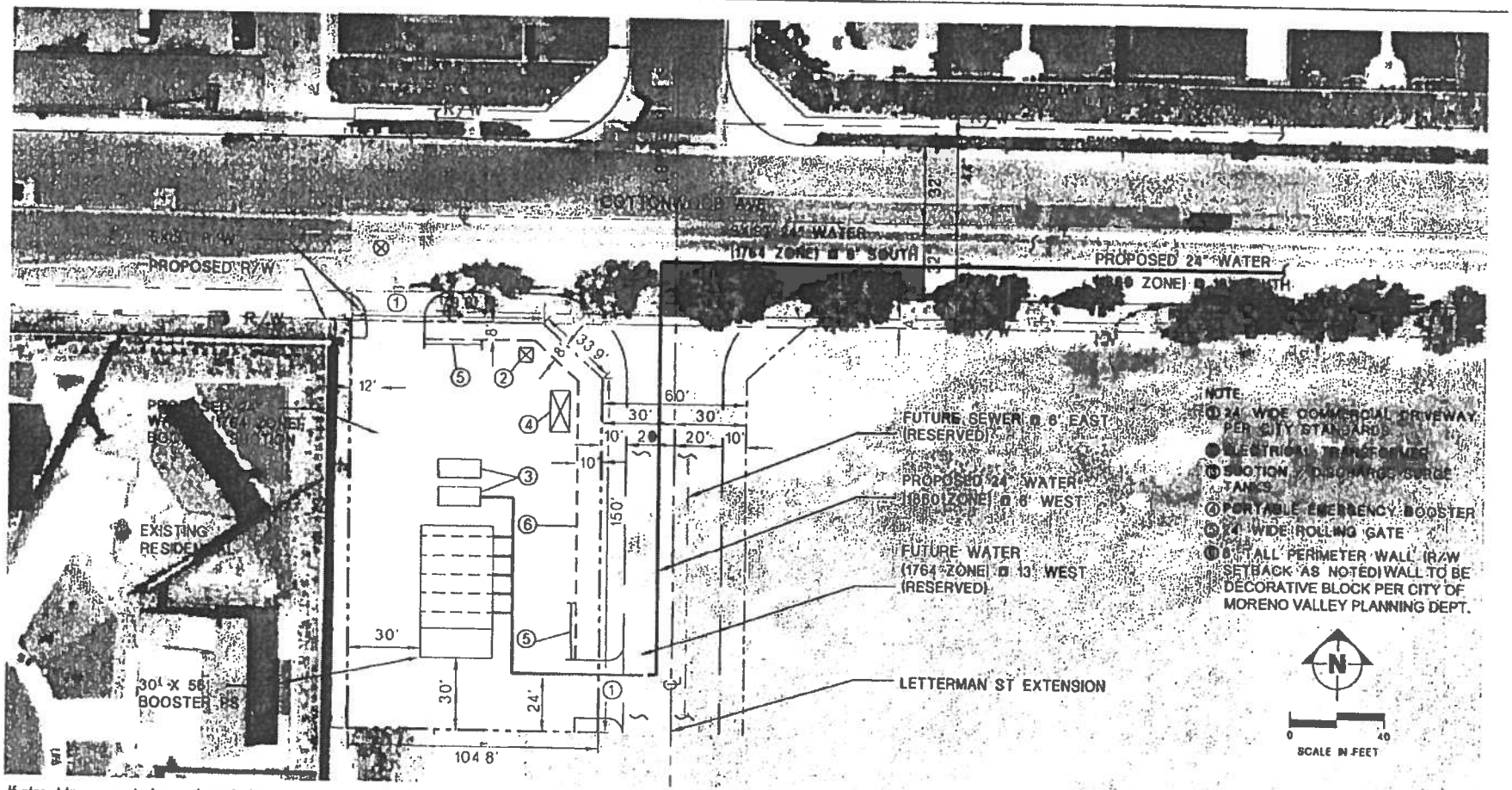
APPROVED EASTERN MUNICIPAL WATER DISTRICT DATE

W.O. 11361
C.O.
COORD.
SHT. 1 OF 1
RB

EXHIBIT "C"

Approved Site Layout

Exhibit "C"



If street trees are to be replaced along the south side of Cottonwood Avenue along the project frontage, they shall be done so at a minimum ratio of 3:1 for 24-inch boxed trees or a ratio of 1:1 for 36-inch boxed trees consistent with the City's Municipal Code Section 9.17.030

Limits of District's Responsibility for Street Improvements

\design\89 Riverside\89016OnasonPS\89016Osite-Aerial-SitePlan.dwg September 11, 2008

PBSJ

DRAFT

LETTERMAN BOOSTER
(NASON BOOSTER RELOCATION)

FIGURE 2

EMWD Nason Dracaea Pump Station
September 2008

EXHIBIT "C"

EXHIBIT "D"

Relocation Site Appraisal

APPRAISAL SUMMARY

PROJECT:	*Disposition of Nason & Dracaea Booster Site; Acquisition of Letterman Booster Site*
DATE OF VALUATION:	*July 1, 2009*
OWNERSHIP:	*City of Moreno Valley, California*
PROPERTY LOCATION:	*S/s Cottonwood Avenue at Letterman Street; City of Moreno Valley, CA Thomas Guide: 688 A4*
ASSESSOR'S PARCEL NO.:	*487-470-013*
ZONING/GENERAL PLAN:	*"Public Facilities" in neighborhood of primarily "R2" and "R5, Residential" up to a maximum 5 du/ac*
ACCESS/UTILITIES:	*Unrestricted legal access along Cottonwood frontage; Connecting to area public rights-of-way; utilities all available in the public ROW*
HAZARDS/LIMITATIONS:	*Not within ½-mile of a fault zone; not a high fire area, nor flood zones; not located within an WRCMSHCP area plan, cellgroup or cell; not located within an RCA acquisitions/gains area or an RCA agricultural operations area. No title report was provided; site inspection did not disclose any impairments to use.*
PRESENT USE:	*Vacant, unimproved land*
HIGHEST AND BEST USE:	*Public facilities use, examples include schools, parks, and utilities.*
INTEREST TO BE ACQUIRED:	*(1) Fee simple interest in booster site, 0.41± ac; (2) Permanent access & utility easement, 0.25± ac.*
LARGER PARCEL SIZE:	*23.08 ± acres gross*

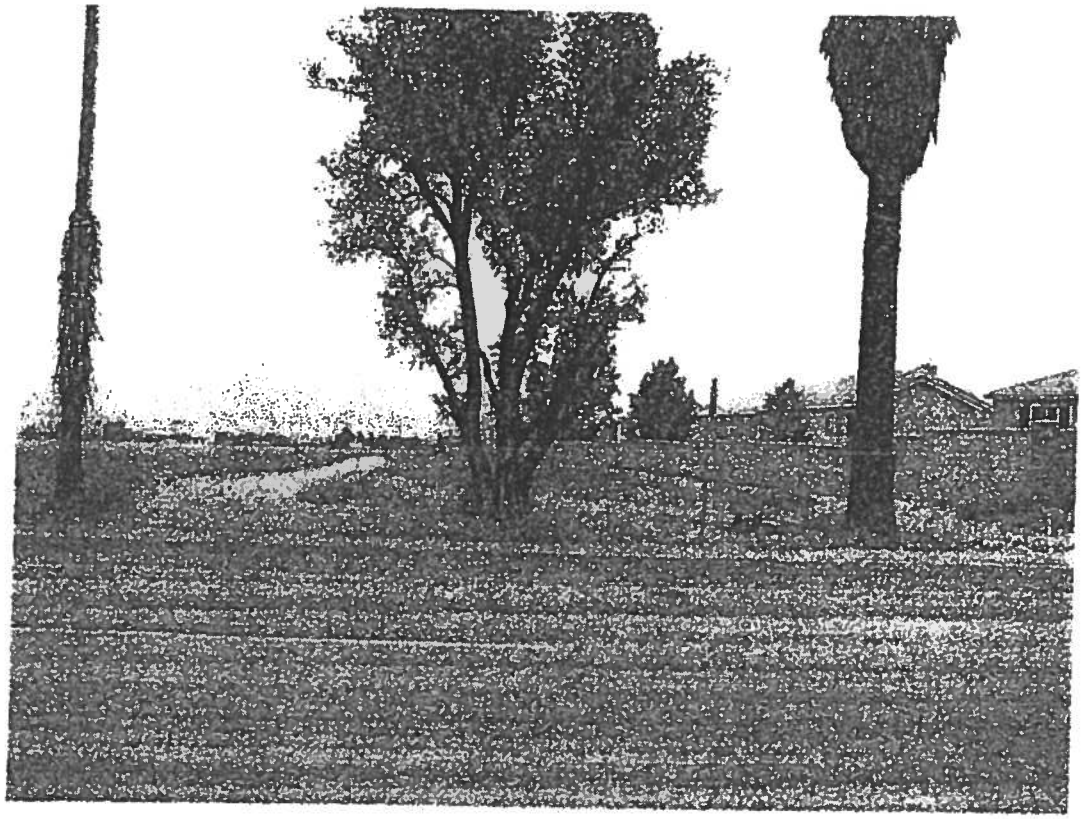
SUMMARY OF MARKET VALUE:

Parcel 1, booster site:	$90,000
Parcel 2, utility and access easement:	$ 5,500
Damages:	0
Benefits:	N/A

ESTIMATE OF TOTAL CURRENT MARKET VALUE: ***$95,500.00***

Exhibit "D"

NOTE: *The current market value estimated for the property to be acquired is derived from a thorough market valuation study conducted in accordance with uniform appraisal standards and the laws of the State of California. The valuation of the property has in part been based upon an analysis of a range of market information including recent sales of "atf" vacant land. The appraiser has given full and careful consideration to the highest and best use for the subject property, to the terms and provisions of the described easement interest, and to all features inherent in the property affecting its market value. The Market Data which follows the subject photographs provides specific details of the most comparable market transactions.*



Subject site on south side of Cottonwood Avenue, at Letterman Street, Moreno Valley, CA.

EXHIBIT "E"

Existing Site Appraisal

EMWD PARCEL "A"

NASON AND DRACAEA

APPRAISAL SUMMARY

PROJECT:	*Disposition of Nason & Dracaea Booster Site; Acquisition of Letterman Booster Site*
DATE OF VALUATION:	*July 1, 2009*
OWNERSHIP:	*Eastern Municipal Water District; c/o Right-of-Way Dept., 2270 Trumble Road; Perris, CA 92570*
PROPERTY LOCATION:	*NWC Nason Street and Dracaea Avenue; City of Moreno Valley, CA Thomas Guide: 688 B4*
ASSESSOR'S PARCEL NO.:	*487-370-009*
ZONING/GENERAL PLAN:	*"Public Facilities" in neighborhood of primarily "R2" and "R5, Residential" up to a maximum 5 du/ac*
ACCESS/UTILITIES:	*Unrestricted legal access along both frontage streets Connecting to area public rights-of-way; utilities all available in the public ROW (See note below.)*
HAZARDS/LIMITATIONS:	*Not within ½-mile of a fault zone; not a high fire area, nor flood zones; not located within an WRCMSHCP area plan, cellgroup or cell; not located within an RCA acquisitions/gains area or an RCA agricultural operations area. No title report was provided; site inspection did not disclose any impairments to use.*
PRESENT USE:	*Assumed to be vacant land only, i.e. that the public use improvements have been completely removed and that the raw land has been returned to a flat-and-level condition, available and suitable for its highest-and-best-use development.*
HIGHEST AND BEST USE:	*Assemblage with contiguous public property*
INTEREST TO BE ACQUIRED:	*Fee simple interest in entire property*
SUBJECT PARCEL SIZE:	*0.17 ± acre; 7,315 ± sf*

ESTIMATE OF CURRENT MARKET VALUE: ***$58,500.00***

NOTE: *The current market value estimated for the property to be acquired is derived from a thorough market valuation study conducted in accordance with uniform appraisal standards and the laws of the State of California. The valuation of the property has in part been based upon an analysis of a range of market information including recent sales of "all" vacant land. The appraiser has*

Exhibit "E"

EMWD PARCEL "B"

NASON AND DRACAEA – Part-Take

APPRAISAL SUMMARY

PROJECT:	*City of Moreno Valley Street Widening Project*
DATE OF VALUATION:	*May 1, 2007*
OWNERSHIP:	*Eastern Municipal Water District; c/o Right-of-Way Dept., 2270 Trumble Road; Perris, CA 92570*
PROPERTY LOCATION:	*NWC Nason Street and Dracaea Avenue; City of Moreno Valley, CA*
ASSESSOR'S PARCEL NO.:	*477-160-040*
ZONING/GENERAL PLAN:	*"Public Facilities" in neighborhood of primarily "R5, Residential: Maximum 5 du/ac"*
PRESENT USE:	*Public Facilities*
HIGHEST AND BEST USE:	*Continued public use as part of EMWD's facilities*
INTEREST TO BE ACQUIRED:	*Permanent easement in a portion of the larger parcel, for street-widening dedication to City of Moreno Valley NOTE: It is a specific assumption of this appraisal that the easement to be conveyed does not interfere with or limit in any way the continued used by EMWD of the subsurface for its public facilities.*
LARGER PARCEL SIZE:	*0.25 ± acre; 10,890 ± sf*
AREA TO BE ACQUIRED:	*0.08 acre; equates to 3,485 ± sf*

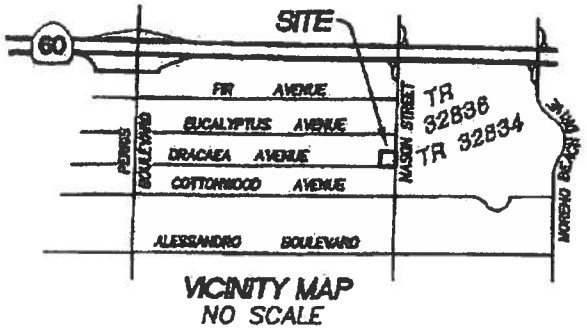
SUMMARY OF MARKET VALUE:

Partial-take land:	$18,300.00
Improvements:	0
Severance damages:	0
Benefits:	N/A

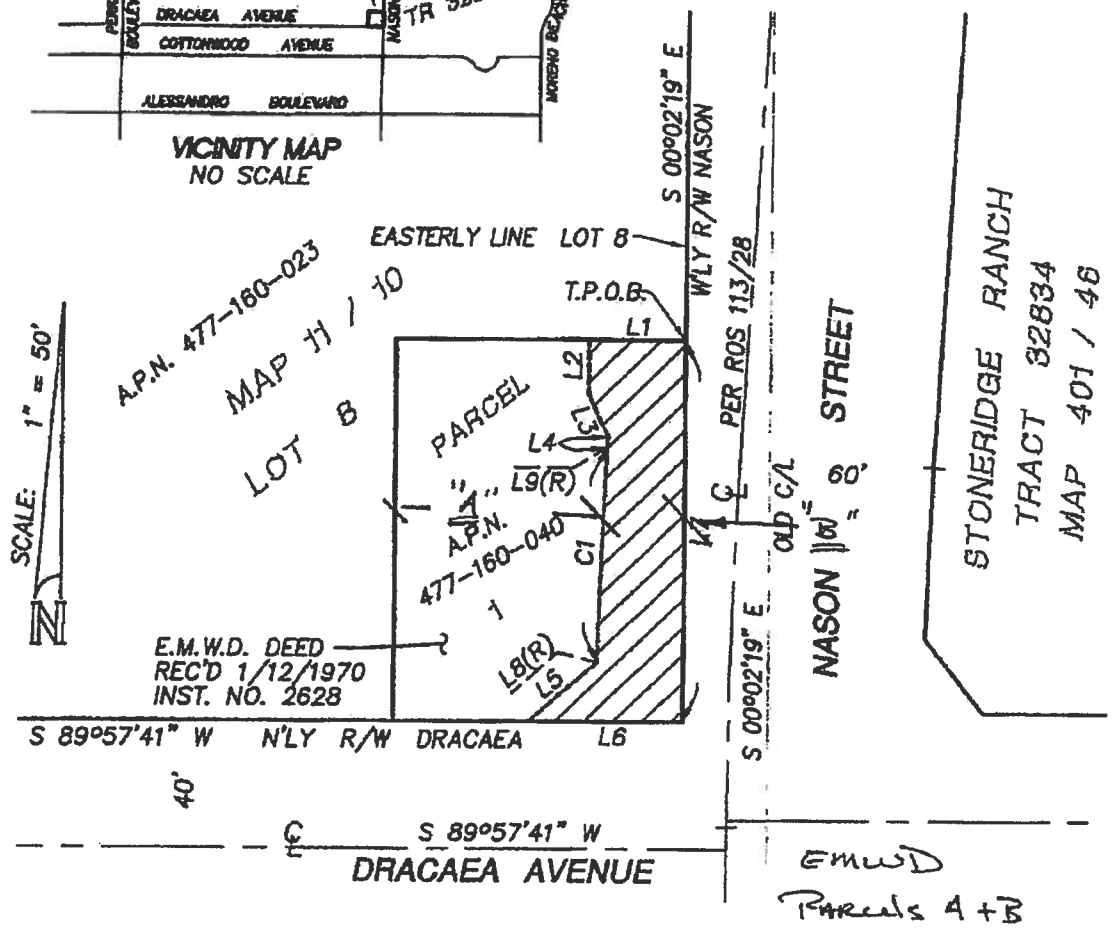
TOTAL CURRENT MARKET VALUE: *$18,300.00/$5.25 psf*

NOTE: *The current market value estimated for the property to be acquired is derived from a thorough market valuation study conducted in accordance with uniform appraisal standards and the laws of the State of California. The valuation of the property has in part been based upon an analysis of a range of market information including recent sales of vacant residential land. The appraiser has given full and careful consideration to the highest and best use for the subject property, to the terms and provisions of the described easement interest, and to all features inherent in the property affecting its market value. The following Addendum to the Appraisal Summary provides specific details of the most comparable market transactions. Under the assumption that the existing*

EXHIBIT 'B'



VICINITY MAP
NO SCALE



EMWD
Parcels A + B
= $76,800

LINE / CURVE DATA

NO.	BEARING	DISTANCE
L1	N89°57'41"E	29.59'
L2	N00°02'19"W	17.07'
L3	N25°19'45"W	14.56'
L4	N03°18'50"E	3.18'
L5	N48°37'15"E	28.21'

NO.	BEARING	DISTANCE
L6	S89°57'41"W	47.59'
L7	S00°02'19"E	120.00'
L8	N88°35'40"W(R)	2042.31'
L9	N86°41'10"W(R)	2042.31'

NO.	Δ	R	L
C1	1°54'30"	2042.31'	68.03'

LEGEND:

EASEMENT AREA (0.08 ACRES)

T.P.O.B. . . . TRUE POINT OF BEGINNING

. . . PROPERTY LINE

℄ — — . . . CENTERLINE

PORTION OF PARCEL 1, DEED REC'D JANUARY 12, 1970, FILE NO. 2628

HALE ENGINEERING
7910 CONVOY COURT
SAN DIEGO, CA 92111
(858) 715-1420
(858) 715-1424 FAX

JOB NO. 0336

EXHIBIT "F"

Grant Deed
City of Moreno Valley to Eastern Municipal Water District

RECORDING REQUESTED BY AND
WHEN RECORDED RETURN TO:

Eastern Municipal Water District
P.O. Box 8300
Perris, CA 92572-8300

Attn: Right of Way Department

This Document Must Be Signed in Presence of Notary & Notarized.

APN: 487-470-013
W.O. 11361
RB-5441

No Recording Fee Required Pursuant to Government Code Section 27383

The undersigned grantor(s) declare(s):
Documentary transfer tax is $_____0
(☐) computed on full value of property conveyed, or
(☐) computed on full value less value of liens and encumbrances remaining at time of sale.
(☐) Unincorporated area (☒) City of Moreno Valley

FOR VALUABLE CONSIDERATION, receipt of which is hereby acknowledged,

Grantor: CITY OF MORENO VALLEY, A CALIFORNIA MUNICIPAL CORPORATION

(hereinafter referred to as "Grantor") does hereby grant to **EASTERN MUNICIPAL WATER DISTRICT,** a public agency of the State of California, (hereinafter referred to as "Grantee") the real property situated in the City of Moreno Valley County of Riverside, State of California, described as follows:

(SEE EXHIBITS "A" AND "B" ATTACHED HERETO AND MADE A PART HEREOF)

IN WITNESS WHEREOF, this instrument has been executed this _____ day of _____, 20____.

GRANTOR (S):

DATE:_____ BY:_____

(TYPE OR PRINT NAME & TITLE)

DATE:_____ BY:_____

(TYPE OR PRINT NAME & TITLE)

Exhibit "F"

EXHIBIT "G"

Grant Deed
Eastern Municipal Water District to City of Moreno Valley

RECORDING REQUESTED BY AND
WHEN RECORDED RETURN TO:

Eastern Municipal Water District
P.O. Box 8300
Perris, CA 92572-8300

Attn: Right of Way Department

This Document Must Be Signed in Presence of Notary & Notarized.

APN: 487-370-009
W.O. 11361
RB- 5441

No Recording Fee Required Pursuant to Government Code Section 27383

GRANT DEED

The undersigned grantor(s) declare(s):
Documentary transfer tax is $-0-.
(☐) computed on full value of property conveyed, or
(☐) computed on full value less value of liens and encumbrances remaining at time of sale.
(☐) Unincorporated area of the County of Riverside.
(☒) City of Moreno Valley

FOR VALUABLE CONSIDERATION, receipt of which is hereby acknowledged,

EASTERN MUNICIPAL WATER DISTRICT, A PUBLIC AGENCY OF THE STATE OF CALIFORNIA

(hereinafter referred to as "Grantor") does hereby grant to **CITY OF MORENO VALLEY,** a California Municipal Corporation, (hereinafter referred to as "Grantee") the real property situated in the City of Moreno Valley County of Riverside, State of California, described as follows:

(SEE EXHIBITS "A" AND "B" ATTACHED HERETO AND MADE A PART HEREOF)

IN WITNESS WHEREOF, this instrument has been executed this _____ day of _____, 20____.

GRANTOR (S):

DATE:_____ BY:_____

(TYPE OR PRINT NAME & TITLE)

DATE:_____ BY:_____

(TYPE OR PRINT NAME & TITLE)

Exhibit "G"

EXHIBIT "H"

Existing Site Removal Elevation Limit

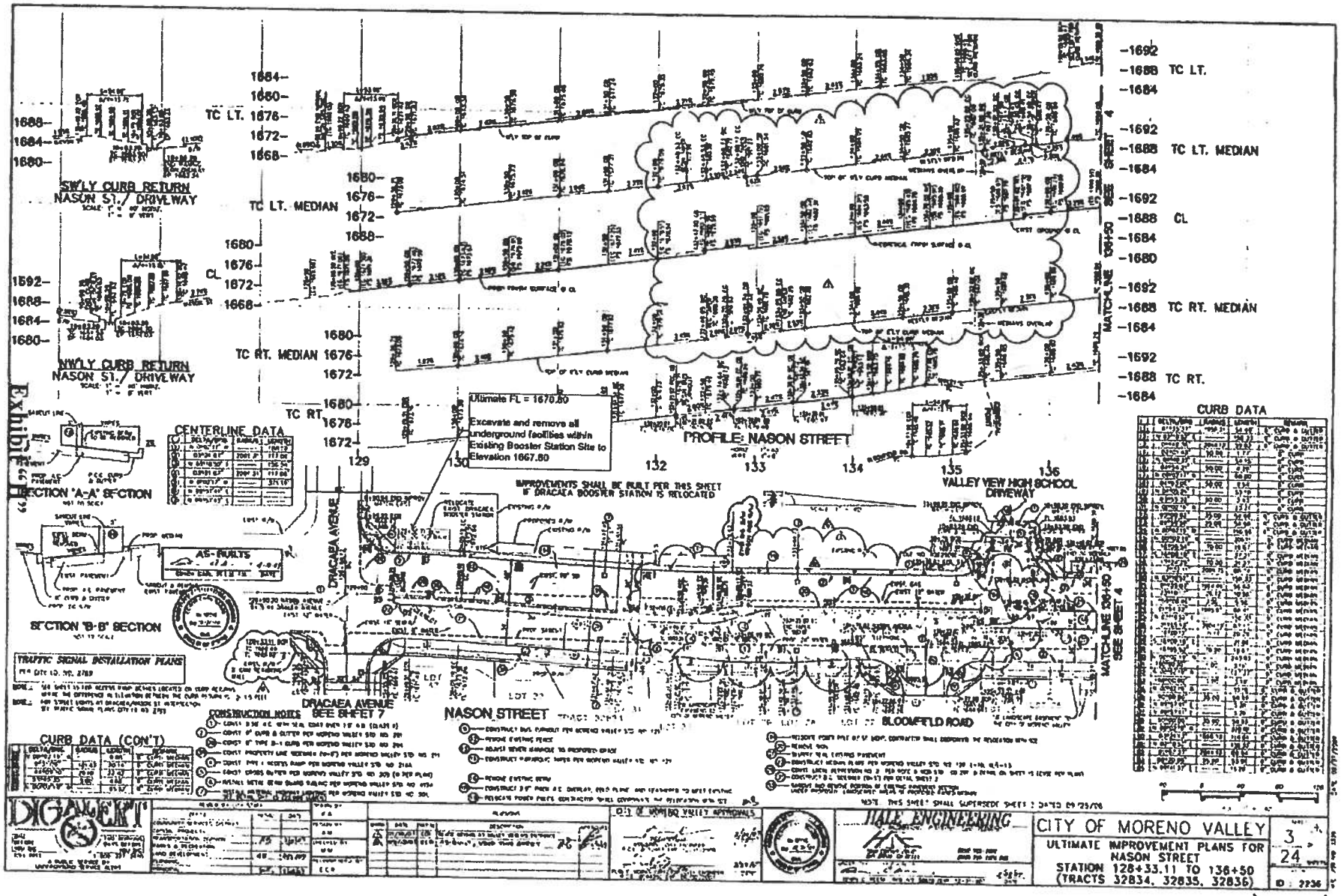


Exhibit "H"
SWLY CURB RETURN NASON ST./ DRIVEWAY
NWLY CURB RETURN NASON ST./ DRIVEWAY
TC LT.
TC LT. MEDIAN
TC RT. MEDIAN
TC RT
CL
MATCHLINE STA 130+50 SEE SHEET 4
Ultimate FL = 1670.80
Excavate and remove all underground facilities within Existing Booster Station Site to Elevation 1667.80
PROFILE: NASON STREET
CENTERLINE DATA
CURB DATA
SECTION "A-A" SECTION
SECTION "B-B" SECTION
AS-BUILTS
IMPROVEMENTS SHALL BE BUILT PER THIS SHEET IF DRACAEA BOOSTER STATION IS RELOCATED
VALLEY VIEW HIGH SCHOOL DRIVEWAY
DRACAEA AVENUE
DRACAEA AVENUE SEE SHEET 7
NASON STREET
BLOOMFIELD ROAD
TRAFFIC SIGNAL INSTALLATION PLANS
CONSTRUCTION NOTES
CURB DATA (CON'T)
DIGALERT
HALE ENGINEERING
CITY OF MORENO VALLEY
ULTIMATE IMPROVEMENT PLANS FOR NASON STREET
STATION 128+33.11 TO 136+50
(TRACTS 32834, 32835, 32836)
3
24
EXHIBIT "H"

Report to City Council

TO:	Mayor and City Council
FROM:	Michael L. Wolfe P.E., Assistant City Manager
AGENDA DATE:	February 2, 2021
TITLE:	ADOPT RESOLUTION NO. 2021-XX, A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF MORENO VALLEY, CALIFORNIA, APPROVING AN UPDATED WILDFIRE MITIGATION PLAN FOR MORENO VALLEY UTILITY

RECOMMENDED ACTION

Recommendation:

1. Adopt Resolution No. 2021-XX, a Resolution of the City Council of the City of Moreno Valley, California, approving an updated Wildfire Mitigation Plan for Moreno Valley Utility.

SUMMARY

Staff recommends City Council approve the Moreno Valley Utility (MVU) Wildfire Mitigation Plan Version 2.0. The Plan conforms to the requirements of Senate Bill 901 (SB 901) and Assembly Bill 1054 (AB 1054) which were signed into law in September 2018, and July 2019 respectively. This update incorporates recommended additions and changes outlined in the Guidance Advisory Opinion issued by the California Wildfire Safety Advisory Board on December 15, 2020.

Moreno Valley Utility's (MVU) entire electric distribution system is located underground in conduit and vaults. The undergrounding of electrical infrastructure is an effective mitigation measure to reduce the cause of power-line ignited wildfires. Despite this low risk, MVU takes appropriate actions to help prevent and respond to increasing risk of devastating wildfires. MVU follows all applicable design, construction, operation, and maintenance requirements reducing safety risks associated with its system. The Wildfire Mitigation Plan describes the measures MVU follows to reduce its risk of causing wildfires. This Wildfire Mitigation Plan helps meet MVU's overarching goal to provide safe, reliable, and economical electric service to the community.

DISCUSSION

In 2016, Governor Brown signed Senate Bill ("SB") 1028 (stats. 2016), which required publicly owned utilities ("POUs") to identify additional wildfire mitigation measures that the POU could take if the POU governing board first found that its overhead electric lines and equipment posed a significant risk of causing a catastrophic wildfire. SB 1028 required that the POU governing board (City Council) must base this determination on "historical fires and local conditions," and must consult with local fire departments and other entities with responsibilities for the control of wildfires within the relevant area. These requirements were specified in the newly added Public Utilities Code Section 8387.

In 2018, the California Public Utilities Commission (CPUC) completed the development of the statewide Fire Threat Map that designates areas of the state at an elevated risk of electric line-ignited wildfires.[1] This updated map incorporated historical fire data, fire-behavior modeling, assessments of fuel, weather modeling, and a host of other factors. The map development and approval process involved detailed review by the relevant utility staff and local fire officials, a peer review process, and ultimate approval by a team of technical experts led by the California Department of Forestry and Fire Protection ("CAL FIRE"). The CPUC's Fire Threat Map includes three Tiers/Levels of fire threat risk. Tier 1 consists of areas that have the lowest hazards and risks. Tier 2 consists of areas where there is an *elevated risk* for destructive electric line-ignited wildfires. Finally, Tier 3 consists of areas where there is an *extreme risk* for destructive electric line-ignited wildfires.

Governor Brown signed SB 901 (stats. 2018), which addressed a wide range of issues relating to wildfire prevention, response, and recovery. SB 901 substantially revised the Public Utilities Code Section 8387, eliminating the prior process established by SB 1028 and instead making it mandatory for all POUs (regardless of size or wildfire risk) to develop a wildfire mitigation plan. Pursuant to the amended Section 8387, all POUs must present a wildfire mitigation plan to its governing board prior to January 1, 2020, and annually thereafter. Section 8387(b)(2) specifies the topics that must be addressed in the POU wildfire mitigation plans, which includes: (a) the responsibilities of the persons tasked with executing the plan; (b) a description of the POU's wildfire mitigation preventative strategies and programs; (c) a description of the metrics the POU will use to evaluate the wildfire mitigation plan's performance and discussion of how those metrics informed the current wildfire mitigation plan; (d) protocols for disabling reclosers and deenergizing portions of the electrical system; and (e) identification, description, and prioritization of all wildfire risks within the POU's service territory.

SB 901 requires that POUs must present their wildfire mitigation plan at an

[1] PG&E Advice Letter 5211-E/3172-E, "Joint Filing – Adoption of Final California Public Utilities Commission Fire-Threat Map," Jan. 5, 2018, *available at* https://www.pge.com/tariffs/assets/pdf/adviceletter/ELEC_5211-E.pdf; SED Disposition Letter Approving Advice Letter 5211-E/3172-E, January 19, 2018, *available at* https://www.pge.com/tariffs/assets/pdf/adviceletter/ELEC_5211-E.pdf.

appropriately noticed public meeting and receive public comment. The POU must also verify that the wildfire mitigation plan complies with all applicable rules, regulations, and standards. POUs must also have their plan reviewed by a qualified independent evaluator to assess the comprehensiveness of the plan every three years, which occurred last year.

In 2019, two new bills (SB 1054 and SB 111) made additional major reforms relating to wildfires. As part of these reforms, SB 111 created a new state agency called the California Wildfire Safety Advisory Board ("Board"). The members of the board must be selected from industry experts, academics, and people with labor and workforce safety experience. At least three members must be experienced in the safe operation, design, and engineering of electrical infrastructure. SB 1054 requires that all POUs must submit their wildfire mitigation plans to the Board by July 1 of each year, starting in 2020. The Board will then review the POU plans and will provide comments and advisory opinions on the content and sufficiency of the plans. If additional Board requirements are received this year, further revisions of the adopted updated MVU Wildfire Mitigation Plan may be required. Any substantive changes will be brought to the City Council for consideration.

Pursuant to Public Utilities Code, Section 8387, MVU has prepared the required update to the wildfire mitigation plan. Staff has reviewed MVU's wildfire mitigation plan and concluded that the plan meets all the required criteria as provided in Section 8387. Staff recommends adopting MVU's updated Wildfire Mitigation Plan.

MVU will submit its adopted updated wildfire mitigation plan to the California Wildfire Safety Advisory Board prior to July 1, 2021.

ALTERNATIVES

1. Approve the updated MVU Wildfire Mitigation Plan. *The plan provides baseline procedure and practice of safe and effective operation of the MVU electric system while minimizing risks of wildfires. Adoption of the plan will keep MVU in compliance with state mandates. This update incorporates current recommended additions and changes outlined in the Guidance Advisory Opinion issued by the California Wildfire Safety Advisory Board.* Staff recommends this alternative.

2. Do not approve the MVU Wildfire Mitigation Plan. *This action would delay the submission of an adopted Wildfire Mitigation Plan and MVU will not be in compliance with state mandates.* Staff does not recommend this action.

FISCAL IMPACT

There is no cost associated with the approval of the MVU Wildfire Mitigation Plan.

NOTIFICATION

Publication of the Agenda.

PREPARATION OF STAFF REPORT

Prepared By:
Dean Ayer
Management Analyst

Department Head Approval:
Michael Wolfe
Assistant City Manager/Public Works Director/City Engineer

Concurred By:
Jeannette Olko
Electric Utility Division Manager

CITY COUNCIL GOALS

Advocacy. Develop cooperative intergovernmental relationships and be a forceful advocate of City policies, objectives, and goals to appropriate external governments, agencies and corporations.

CITY COUNCIL STRATEGIC PRIORITIES

1. **Economic Development**
2. **Public Safety**
3. **Library**
4. **Infrastructure**
5. **Beautification, Community Engagement, and Quality of Life**
6. **Youth Programs**

Objective 4.1: Develop a Moreno Valley Utility Strategic Plan to prepare for the 2022 expiration of the ENCO Utility Systems agreement.

ATTACHMENTS

1. Resolution Wildfire Mitigation Plan 02022021
2. MVU Wildfire Mitigation Plan Update 2021

APPROVALS

Budget Officer Approval	✓ Approved	1/22/21 9:01 AM
City Attorney Approval	✓ Approved	
City Manager Approval	✓ Approved	1/22/21 11:27 AM

RESOLUTION NO. 2021-XX

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF MORENO VALLEY, CALIFORNIA, TO ADOPT THE ANNUAL WILDFIRE MITIGATION PLAN

WHEREAS, the City of Moreno Valley (the "City"), a municipal corporation, is authorized pursuant to Article XI, Section 9(a) of the California Constitution to establish, purchase, and operate public works to furnish its inhabitants with light, water, power, heat, transportation, or means of communication; and

WHEREAS, on June 26, 2001, the City Council of the City of Moreno Valley approved Resolution No. 2001-33 and, as amended by Resolution 2002-46, authorized the formation of a municipally owned utility for the purpose of providing electrical power, storm water, telephone telecommunications, cable TV, water, natural gas, and sanitary sewer; and

WHEREAS, Moreno Valley Utility is generally subject to the legislative and regulatory requirements applicable to local publicly owned electric utilities ("POUs"); and

WHEREAS, Senate Bill ("SB") 1028 (stats. 2016), adding California Public Utilities Code, Section 8387, requires each POU to construct, maintain, and operate its electrical lines and equipment in a manner that will minimize the risk of wildfire posed by those electrical lines and equipment; and

WHEREAS, SB 901 (stats. 2018), amending California Public Utilities Code Section 8387, requires all POUs to prepare a wildfire mitigation plan before January 1, 2020, and annually thereafter; and

WHEREAS, California Public Utilities Code Section 8387(b)(2) specifies the content that must be included in each POU's wildfire mitigation plan; and

WHEREAS, California Public Utilities Code Section 8387(c) requires each POU to have a qualified independent evaluator review its wildfire mitigation plan to assess the comprehensiveness of its plan and to issue a report that is made available on the POU's website and presented at a public meeting; and

WHEREAS, California Public Utilities Code Section 8387(b)(3) requires each POU to present its wildfire mitigation plan at an appropriately noticed public meeting and to verify that its plan complies with all applicable rules, regulations, and standards, as appropriate; and

WHEREAS, SB 111 (stats. 2019), adding California Public Utilities Code Section 326.1, established the California Wildfire Safety Advisory Board; and

WHEREAS, SB 1054 (stats. 2019), amending California Public Utilities Code Section 8387, requires each POU to submit its wildfire mitigation plan to the California Wildfire Safety Advisory Board by July 1 of each year, starting in the year 2020; and

WHEREAS, pursuant to California Public Utilities Code Section 326.2, the California Wildfire Safety Advisory Board will review each POU's wildfire mitigation plan and will provide comments and advisory opinions on the content and sufficiency of each plan; and

WHEREAS, Moreno Valley Utility staff prepared a wildfire mitigation plan for calendar year 2021, addressing all statutory criteria; and

WHEREAS, Moreno Valley Utility staff verified that the wildfire mitigation plan complies with all applicable rules, regulations, and standards; and

WHEREAS, Moreno Valley Utility staff will submit its wildfire mitigation plan, adopted today by the City Council of the City of Moreno Valley, California, to the California Wildfire Safety Advisory Board before July 1, 2021.

NOW, THEREFORE, THE CITY COUNCIL OF THE CITY OF MORENO VALLEY, CALIFORNIA, DOES HEREBY RESOLVE AS FOLLOWS:

1. The City Council, pursuant to California Public Utilities Code Section 8387, hereby adopts Moreno Valley Utility's Wildfire Mitigation Plan, attached hereto as Exhibit A (incorporated herein by reference).

APPROVED AND ADOPTED this 2nd day of February 2021.

_____
Mayor of the City of Moreno Valley

ATTEST:

_____
City Clerk

APPROVED AS TO FORM:

_____
City Attorney

RESOLUTION JURAT

STATE OF CALIFORNIA)

COUNTY OF RIVERSIDE) ss.

CITY OF MORENO VALLEY)

I, Pat Jacquez-Nares, City Clerk of the City of Moreno Valley, California, do hereby certify that Resolution No. 2021-XX was duly and regularly adopted by the City Council of the City of Moreno Valley at a regular meeting thereof held on the 2nd day of February 2021 by the following vote:

AYES:

NOES:

ABSENT:

ABSTAIN:

(Council Members, Mayor Pro Tem and Mayor)

_____

CITY CLERK

(SEAL)

Wildfire Mitigation Plan

Version 2.0

February 02, 2021

Table of Contents

I. Utility Context Summary

Utility Name	Utility Name
Size in Square Miles	*33.48 square miles*
Assets	☐ Transmission ☑ Distribution ☑ Generation
Number of Customers Served	*6,524 as of December 2020*
Customer Classes	☑ Residential ☑ Government ☐ Agricultural ☑ Small/Medium Business ☑ Commercial/Industrial
Location/Topography	☑ Urban ☐ Wildland Urban Interface ☐ Rural/Forest ☐ Rural/Desert ☐ Rural/Agriculture
Percent Territory in CPUC High Fire Threat Districts	☑ Includes maps 0% in Tier 2 0% in Tier 3
CAL FIRE FRAP Map Fire Threat Zones	☑ Includes maps 0% Extreme 0% Very High 0% High
Existing Grid Hardening Measures	☑ Describes hardened & non-hardened infrastructure
Utility Fire Threat Risk Level	☐ High ☑ Low ☐ Mixed
Impacted by another utility's PSPS?	☑ Yes ☐ No
Mitigates impact of another utility's PSPS?	☑ Yes ☐ No
Expects to initiate its own PSPS?	☐ Yes ☑ No
Prevailing wind directions & speeds by season	☐ Includes maps ☐ Includes a description

II. Overview

A. Policy Statement

Moreno Valley Utility's overarching goal is to provide safe, reliable, and economic electric service to its local community. In order to meet this goal, Moreno Valley Utility constructs, maintains, and operates its electrical lines and equipment in a manner that minimizes the risk of catastrophic wildfire posed by its electrical lines and equipment.

B. Purpose of the Wildfire Mitigation Plan

Moreno Valley Utility's (MVU) entire electric supply system is located underground in conduit and vaults. Historically, undergrounded electric lines have not been associated with catastrophic wildfires. The undergrounding of electric lines serves as an effective mitigation measure to reduce the potential of power-line ignited wildfires. Based on a review of local conditions and historical fires, MVU has determined that its electrical lines and equipment do not pose a significant risk of catastrophic wildfire.

Despite this low risk, MVU takes appropriate actions to help its region prevent and respond to the increasing risk of devastating wildfires. In its role as a public agency, MVU closely coordinates with other local safety and emergency officials to help protect against fires and respond to emergencies. In its role as a utility, MVU follows all applicable design, construction, operation, and maintenance requirements that reduce safety risks associated with its system. This Wildfire Mitigation Plan describes the safety-related measures that MVU follows to reduce its risk of causing wildfires.

C. Organization of the Wildfire Mitigation Plan

This Wildfire Mitigation Plan included the following elements:

- Objectives of the plan;
- Roles and responsibilities for carrying out the plan;
- Identification of key wildfire risks and risk drivers;

- Description of wildfire prevention, mitigation, and response strategies and programs;
- Metrics for evaluating the performance of the plan and identifying areas for improvement;
- Review and validation of the plan; and
- Timelines.

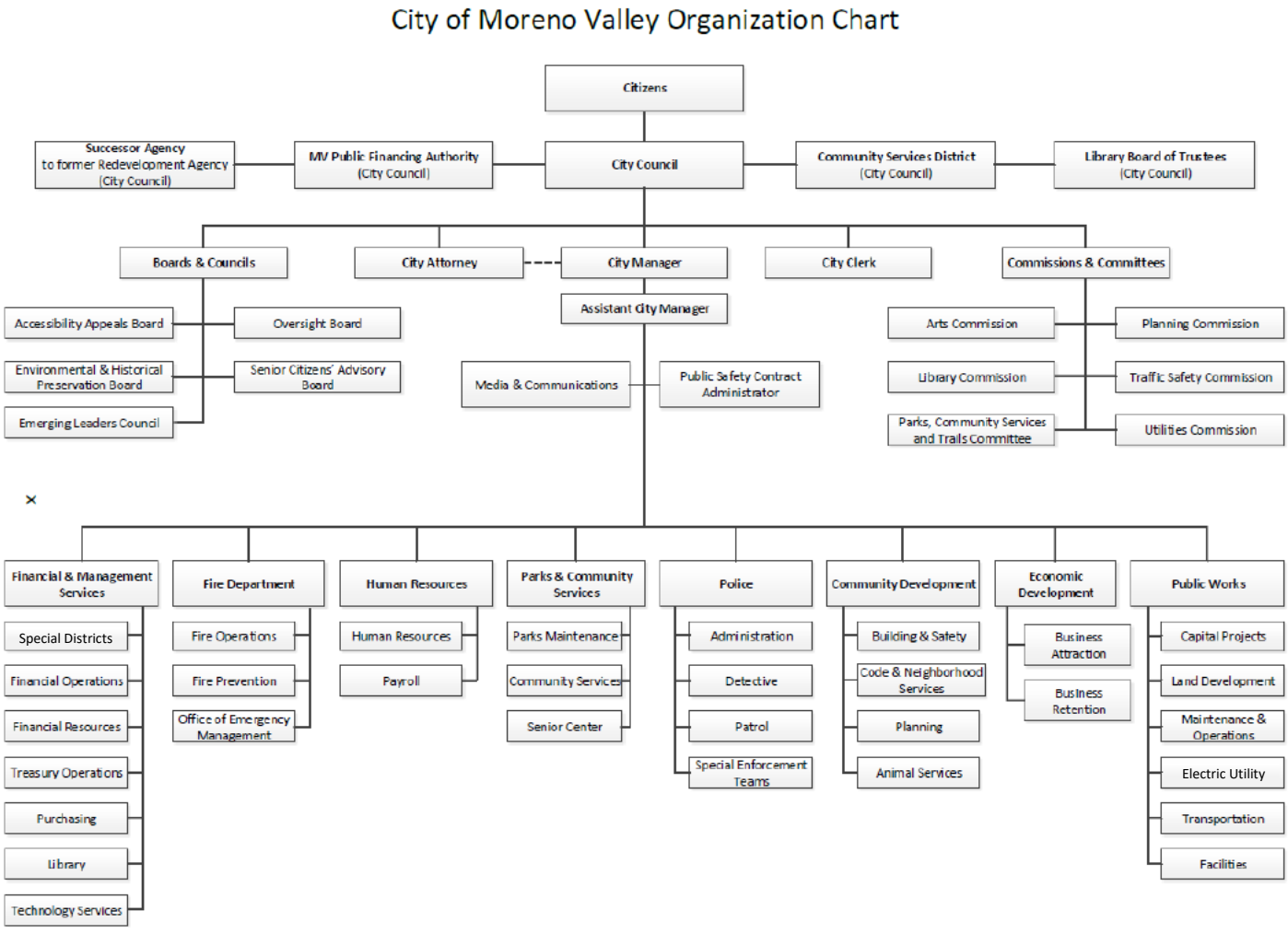
III. Objectives of the Wildfire Mitigation Plan

The primary goal of this Wildfire Mitigation Plan is to describe MVU's existing programs, practices, and measures that effectively reduce the probability that MVU's electric supply system could be the origin or contributing source for the ignition of a wildfire. To support this goal, MVU regularly evaluates the prudent and cost-effective improvements to its physical assets, operations, and training that can help reduce the risk of equipment-related fires.

The secondary goal of this Wildfire Mitigation Plan is to improve the resiliency of the electric grid. As part of the development of this plan, MVU assesses new industry practices and technologies that will reduce the likelihood of an interruption (frequency) in service and improve the restoration (duration) of service.

IV. Roles and Responsibilities

A. Utility Governance Structure



The City of Moreno Valley is a general law city that operates under a Council-Manager form of government. MVU is governed by a five-member City Council. Four Council Members are elected by district to staggered, four-year terms, while the Mayor is directly elected. The council appoints the City Manager, who oversees the daily operations of the City. Volunteer Commissions and Boards, as well as several Citizen Advisory Committees help guide the Council in its decisions. The City Council formed a five-member Utilities Commission, whose purpose is to provide additional review for all matters pertaining to MVU. Commissioners are citizen volunteers, appointed by the City Council for three-year terms.

MVU's Wildfire Mitigation Plan is developed by staff and then reviewed by the Division Manager, Public Works Director, Assistant City Manager, City Manager, Utilities Commission, and the five-member City Council. City Council votes on approval and the plan is approved with a majority vote.

MVU funds wildfire mitigation activities through current rate payer revenues. These funds are augmented by grant awards. Mitigation projects typically take the form of revised equipment design standards and system hardening Capital Improvement Projects.

B. Wildfire Prevention

MVU staff, in partnership with its maintenance and operations provider, is responsible for electric facility design, maintenance, and inspection, including vegetation management. Although MVU's electrical distribution system is 100% underground, MVU follows best practices to prevent ignition of wildfires from its equipment. These items include:

- MVU performs routine maintenance of all distribution facilities.
- MVU adheres to a seasonal weed abatement and vegetation management schedule to maintain at-risk sites.
- MVU contracts for seasonal weed abatement services. Standard clearances as defined by General Orders 95, 128, 165, and 174, are maintained as part of routine maintenance cycles. All electric distribution facility equipment requiring repair and maintenance are addressed and corrected as they are identified. Annual inspections and maintenances of MVU substation facilities identified no deficiencies for 2020.
- MVU abides by Municipal Code 6.40 to abate trees, shrubs, weeds, and grass at all MVU facilities. Including Landscaping, vegetation, or improved or unimproved property in any of the following conditions: containing weeds, dry grasses, dead trees, dead shrubs, or any other material which bears seeds of a wingy or downy nature or which by reason of their size, manner of growth or location, constitute a fire hazard or a threat to public health, or containing weeds, vegetation, grasses, trees or shrubs, including, but not limited to sagebrush, chaparral, and Russian Thistle (tumbleweed) which, when dry, will in reasonable probability constitute a fire hazard or be blown onto adjoining property by prevailing winds; trees and shrubs containing dead or fallen limbs or branches that may present a safety hazard; trees or shrubs which are overgrown or contain limbs or branches that restrict, impede or obstruct the use of or obscure the visibility of pedestrians or drivers using the public rights-of-way, easements, sidewalks or roadways; overgrown vegetation likely to harbor vermin, insects or rodents of any kind.
- Electric system operates in a manner that will minimize potential wildfire risks.
- Take all reasonable and practicable actions to minimize the risk of a catastrophic wildfire caused by MVU electric facilities.
- Coordinate with federal, state, and local fire management personnel as necessary or appropriate to implement MVU's Wildfire Mitigation Plan.
- Immediately report fires to local fire department, Emergency Management Program Manager, MVU administration, and other City Officials, pursuant to existing MVU practices and the requirements of this Wildfire Mitigation Plan.

- Coordinate with City Emergency Operations Center to disseminate safety warnings, emergency public information, and evacuation notices to local residents.
- MVU adheres to City of Moreno Valley personnel policy 5.11 for Employee Disaster Notification and Reporting.
- Take corrective action when the staff witnesses or is notified that fire protection measures have not been properly installed and maintained.
- Comply with relevant federal, state, and industry standard requirements, including the industry standards established by the California Public Utilities Commission.

C. Wildfire Response and Recovery

Internally, MVU's distribution system is controllable remotely through a Supervisory Control and Data Acquisition (SCADA) system networked to all substations and circuits. MVU field staff utilize hard line telephones, cellular telephones, and portable radios to communicate with internal and external stakeholders during an outage or emergency. MVU's Outage Management System, Utility Maintenance Management System, and Dispatching System all auto-generate notifications to field, office, and administrative staff. MVU is enrolled in several mutual aid networks (APPA, CA Disaster & Civil Defense, CA Utilities Emergency Association) to facilitate expedited response and recovery from severe storms, natural disasters, or mass outages.

The City of Moreno Valley maintains a two-way (LF, HF, VHF, and UHF) mobile and base stations for communications enhanced by repeater system to extend the coverage area. This includes three repeater channels and three unit-to-unit/talk-around channels in the 800 MHz Public Safety band. The City of Moreno Valley owns ten iridium satellite phones that are issued to key personnel in the city during an emergency. Mobile radio communications are available utilizing the Moreno Valley Police Mobile Command Center (MCC). The command center has the capability of patching Sheriff, California Highway Patrol (CHP), Riverside Police, CALFIRE, March Air Reserve Base and Moreno Valley Park Rangers all on the same frequency at the same time. Moreno Valley has an Amateur Civil Emergency Services/Radio Amateur Civil Emergency Services (MV ACES/RACES) group, which operates on ham radio frequencies in support of governmental emergency communications. MV ACES/RACES can augment existing systems and establish communication links with otherwise inaccessible areas. They are also capable of sending live video and audio from an incident site to our City's emergency operations center via the ham radio.

At the county level, a Riverside County Emergency Operations Center (EOC) talk group is programmed into the Omniquest radio and is used to communicate with EOCs within Riverside County during a disaster or emergency. The City of Moreno Valley also has low-band disaster net radios to communicate with all EOCs within Riverside County during a disaster or emergency. This system uses low frequency bands and has several back up channels in case of an outage. Additionally, the City has a portable disaster case radio system. This system allows communications with other agencies such as County Emergency Services, County Fire, County Police, Hospitals, Cities within Riverside County, Moreno Valley Unified School District and Valley View Unified School District.

MVU adheres to California Public Utility Commission GO 95, 128, 165, and 174 for all system infrastructure inspection, maintenance, and reporting.

City of Moreno Valley Office of Emergency Management maintains a city-wide Hazard Mitigation Plan identifying potential fire hazards and mitigation strategies.

City of Moreno Valley also maintains a reporting hotline for all employees to properly notify the city for code violations, hazards, safety concerns, and overgrown landscaping and weeds.

MVU is impacted by Southern California Edison (SCE) Public Safety Power Shutoff (PSPS) events. MVU receives advanced notification from SCE when impacted circuits are being monitored against weather projections for a potential PSPS

event. SCE provides the names of circuits being monitored as well as the impacted City accounts, along with the projected period of concern for the PSPS event. As the situation develops, MVU receives updated data from SCE on weather, circuits and accounts being monitored, and if a PSPS is triggered. MVU monitors the SCE status reports and stages mitigation assets appropriately in advance of a SCE triggered PSPS event. If the PSPS event affects any MVU facilities, MVU customers are notified as early as possible of pending power shutoffs.

When a SCE PSPS event is triggered that impacts MVU facilities, MVU notifies its customers of potential service interruption in a variety of ways. Alert notices are pushed out to customers via the MyMVU mobile application, email blasts, direct telephone communication with critical customers, as well as public messaging available on the MVU web site and through MVU's 24/7 call center. PSPS and outage notices will be translated into Spanish for non-English speakers in the future.

With all of MVU's distribution lines undergrounded, the utility does not de-energize its system during severe weather events. In the event MVU is impacted by an SCE PSPS, MVU does have backup generation assets to keep critical infrastructure operational, including a portable back-up generator that can be distributed to impacted MVU customers.

D. Standardized Emergency Management System

As a local governmental agency,[1] MVU has planning, communication, and coordination obligations pursuant to the California Office of Emergency Services' Standardized Emergency Management System ("SEMS") Regulations,[2] adopted in accordance with Government Code section 8607. The SEMS Regulations specify roles, responsibilities, and structures of communications at five different levels: field response, local government, operational area, regional, and state.[3] Pursuant to this structure, MVU annually coordinates and communicates with the relevant safety agencies as well as other relevant local and state agencies. When activated, MVU serves as the Utilities Unit Leader under the Operations Section Chief as part of the City of Moreno Valley's Emergency Operations Center. In the event that the incident centered on MVU facilities, MVU would serve as the Operations Section Chief.

Under the SEMS structure, a significant amount of preparation is done through advanced planning at the county level, including the coordination of effort of public, private, and nonprofit organizations. Riverside County serves as the Operational Area and is guided by the California Office of Emergency Services, Southern Region. The Operational Area includes local and regional organizations that bring relevant expertise to the wildfire prevention and recovery planning process. These participants include:

[1] As defined in Cal. Gov. Code § 8680.2.
[2] 19 CCR § 2407.
[3] Cal. Gov. Code § 2403(b):

1) "Field response level" commands emergency response personnel and resources to carry out tactical decisions and activities in direct response to an incident or threat.
2) "Local government level" manages and coordinates the overall emergency response and recovery activities within their jurisdiction.
3) "Operational area level" manages and/or coordinates information, resources, and priorities among local governments within the operational area and serves as the coordination and communication link between the local government level and the regional level.
4) "Regional level" manages and coordinates information and resources among operational areas within the mutual aid region designated pursuant to Government Code §8600 and between the operational areas and the state level. This level along with the state level coordinates overall state agency support for emergency response activities.
5) "State level" manages state resources in response to the emergency needs of the other levels, manages and coordinates mutual aid among the mutual aid regions and between the regional level and state level, and serves as the coordination and communication link with the federal disaster response system.

Agency/ Dept.	Mailing Address	Contact	Phone	Fax
AMR American Medical Response	879 Marlborough Ave. Riverside, CA. 92507		951.782.5234	951.782.5617
AMR American Medical Response	879 Marlborough Ave. Riverside, CA. 92507	Dispatch	877.267.6622	951.782.5605
Kaiser Permanente: Medical Center	12815 Heacock Moreno Valley, CA. 92552	Administration	951.601.6327	951.601.6181
Kaiser Foundation Moreno Valley: Community Hospital	27300 Iris Ave. Moreno Valley, CA. 92555	Facilities Services Manager	951.251.6594	951.251.6601
Moreno Valley Fire/Office of Emergency Management	14177 Frederic St. Moreno Valley, CA 92553	Emergency Management Program Manager	951.413.3800	951-413-3801
Moreno Valley: Special Districts	14331 Frederick Street Moreno Valley, CA 92253	Division Manager	951.413.3480	
Moreno Valley: Fire Dept.	14177 Frederick Street Moreno Valley, CA. 92553	Fire Marshal	951.413.3370	
Moreno Valley: Fire Dept.	22850 Calle San Juan De Los Lagos Moreno Valley, CA 92553	Fire Chief	951.486.6780	951.486.6790
Moreno Valley: Operations & Maintenance	14177 Frederick Street Moreno Valley, CA. 92553	Manager	951.413.3160	951.413.3141
Moreno Valley: Police Dept.	22850 San Juan De Los Lagos Moreno Valley, CA. 92552	Police Chief	951.486.6700	
Moreno Valley: Public Works	14177 Frederick Street Moreno Valley, CA. 92553	Public Works Director	951.413.3100	951.413.3141
Moreno Valley Traffic & Transportation	14177 Frederick Street Moreno Valley, CA. 92553	City Traffic Engineer	951.413.3140	951.413.3140
Moreno Valley: City Management	14177 Frederick Street Moreno Valley, CA. 92553	City Manager	951.413.3020	
Moreno Valley: Facilities Management	14177 Frederick Street Moreno Valley, CA. 92553	Division Manager	951.413.3740	
Moreno Valley: TV3	14177 Frederick Street Moreno Valley, CA. 92553	Media & Production Supervisor	951.413.3056	951.413.3053
Moreno Valley: Unified School District	25634 Alessandro Blvd. Moreno Valley, CA. 92553	Maintenance Supervisor	951.571.7865	951.571.7811
Riverside Medical Clinic: Canyon Springs Plaza	6405 Day Street Moreno Valley, CA. 92552	Facilities	951.321.6331	951.248.6703
Riverside County: Dept. of Environmental Health	4065 County Circle Riverside, CA.	Deputy Director	951.358.5172	951.358.5017
Riverside County: Dept. of Environmental Health	4065 County Circle Riverside, CA.	Supervising Environmental Health Specialist	951.358.5172	951.358.5017
Riverside County: Dept. of Environmental Health	800 S. Sanderson Ave. #200 Hemet, CA. 92545	Supervising Environmental Health Specialist	951.766.2824	
Riverside County: Dept. of Environmental Health	800 S. Sanderson Ave. #200 Hemet, CA. 92545	Supervising Environmental Health Specialist	951.766.2824	
Riverside Regional: Medical Center	26520 Cactus Ave. Moreno Valley, CA. 92552	Deputy Director	951.955.4878	951.955.8405
Riverside Regional: Medical Center	26520 Cactus Ave. Moreno Valley, CA. 92555	Chief of Hospital Plant Op.	951.486.4066	951.486.4105
Val Verde: Unified School District	975 W. Morgan Street Perris, CA. 92581	Emergency Services	951.940.6100 ext. 10672	951.940.6118
Val Verde: Unified School District - March Middle School	15800 Indian Ave	Director of Facilities, Maintenance, & Purchasing	951.940.6136 ext. 10652	
Verizon Public Relations		Director of Public Relations	(213) 800-3184	
Eastern Municipal Water District	Central Control 2270 Trumble Road Perris, CA 92572-8300		951.928.3777 ext. 6265	951.928.6170
Davita Canyon Springs Dialysis	22555 Alessandro Blvd Bldg. 5		951.653.6400	
Kaiser Permanente	27200 Iris Ave Medical Bldg.		951.353.4359	
United States Postal Services	23800 Cactus Ave	Facility Manager	951.697.4661	
Waste Management	17700 Indian St	Fleet Manager - Fleet Maintenance	951.601.1129 951.339.6681	

Pursuant to the SEMS structure, MVU participates in annual training exercises. Training exercises include workshops, tabletop exercises, and field drills. A sample of topics covered include; earthquake safety, disaster response & management, active shooter, crisis leadership, and NIMS/SEMS/ICS compliance.

MVU is a member of the California Utility Emergency Association, which plays a key role in ensuring communications between utilities during emergencies and provides mutual aid. MVU also participates in the American Public Power Association Mutual Assistance Agreement, which covers public utilities across the United States. The City of Moreno Valley is a participant in the California Disaster and Civil Defense Mutual Aid Agreement which allocates state resources to cope with any type of disaster.

V. Wildfire Risks and Drivers Associated with Design, Construction, Operation, and Maintenance

A. Particular Risks and Risk Drivers Associated with Topographic and Climatological Risk Factors

Due to MVU's distribution system being 100% underground, there is limited risk specific to wildfires. As an undergrounded utility, MVU does not monitor prevailing wind speed or direction. Weather intelligence monitoring assets have not been installed on the MVU distribution system due to the associated costs and limited benefit the utility would gain from collecting such data.

B. Enterprise-wide Safety Risks

The safety risks discussed below apply to the City of Moreno Valley as a municipal jurisdiction and include both Moreno Valley Utility and Southern California Edison service territories.

Earthquake profile - There are three major faults/fault zones that directly affect Moreno Valley. They are the southern section of the San Andreas Fault, the San Jacinto Fault Zone, and the Elsinore Fault Zone. The San Jacinto Fault Zone is considered to be the most active fault in Southern California. It is the closest fault to Moreno Valley and runs through the eastern portion of the city, followed by the Elsinore Fault Zone which is located approximately 12-18 miles south of Moreno Valley. The San Andreas Fault Zone is located approximately 15-20 miles north of Moreno Valley The largest earthquake to occur within 100 miles of Moreno Valley was the 7.4 magnitude Hector Mine earthquake in 1999.

The City of Moreno Valley could be affected by large earthquakes occurring in many parts of the Southern California region. However, the degree to which the earthquakes are felt, and the damages associated with them may vary. At risk from earthquake damage are critical facilities, buildings, bridges, highways and roads; hazardous materials facilities; sewer, water, and natural gas pipelines; earth dams; petroleum pipelines; and private property located in the city. The relative or secondary earthquake hazards, which are liquefaction, ground shaking, amplification, and earthquake-induced landslides, can be just as devastating as the earthquake. The USGS estimates that there is a greater than 99% chance of a major earthquake occurring within 31 miles of Moreno Valley within the next 50 years.

Flooding profile - There are four types flooding conditions that exist within the Moreno Valley area: flooding in defined watercourses; ponding; sheet flow; and dam inundation. Flooding within defined watercourses occurs within drainage channels and immediately adjacent floodplains. Ponding occurs when water flow is obstructed due to manmade obstacles such as the embankments of SR-60 and other roadways, where they cross-defined watercourses. Sheet flow occurs when capacities of defined watercourses are exceeded and water flows over broad areas.

Known flood-prone areas as noted in the General Plan as well as recorded in city maintenance files, include:

- Along the Quincy Channel between Cottonwood Avenue and Cactus Avenue.
- An extensive floodplain that extends along the Oliver Street alignment from a point north of Alessandro Boulevard to John F. Kennedy Drive and extending in a southwesterly direction as far as the northeast corner of Morrison Street and Filaree Avenue and the northeast corner of Nason Street and Iris Avenue.

- Along Heacock Street and Lateral A of the Perris Valley Channel between Cactus Avenue and a point north of the intersection of Lateral A and Indian Street (next to March Air Reserve Base).
- Along Sunnymead Boulevard between Frederick Street and Graham Street.
- Along Pigeon Pass Road, between Sunnymead Ranch Parkway and Lawless Road.
- Along Moreno Beach Boulevard, between Juniper Avenue and Locust Avenue.
- Along Highland Avenue, between Redlands Boulevard and Alessandro Boulevard.
- Along Locust Avenue, between Moreno Beach Boulevard and northerly city limits.
- Along Heacock Street, between Lake Summit Drive and Reche Vista Drive.
- Along Hubbard Street, between Skyland Drive and Ironwood Avenue.
- Along Cottonwood Avenue, between Nason St and Martha Crawford Street.
- Alessandro Boulevard, between Gilman Springs Road and Theodore Street.
- Neighborhood bounded by Alessandro Boulevard, Brodiaea Avenue, Redlands Boulevard, and Merwin Street.
- Miramontes Court, north of Via Solana Court.
- Easterly side of neighborhood east of Perris Boulevard, between Covey Road and Manzanita Avenue.

VI. Wildfire Preventative Strategies

A. High Fire Threat District

MVU directly participated in the development of the CPUC's Fire-Threat Map,[4] which designates a High-Fire Threat District. In the map development process, MVU coordinated with Southern California Edison Company (SCE) and determined that because MVU's system is entirely undergrounded, that SCE would serve as territory lead for the region served by MVU. MVU has incorporated the High Fire Threat District into its construction, inspection, maintenance, repair, and clearance practices, where applicable.

B. Design and Construction Standards

MVU's electric facilities are designed and constructed to meet or exceed the relevant federal, state, or industry standard. MVU treats CPUC General Orders (GO) 95 and 128 as a key industry standard for design and construction standards for underground electrical facilities. MVU meets or exceeds all standards in GO 95 and 128. Additionally, MVU monitors and follows, as appropriate, the National Electric Safety Code.

C. Vegetation Management

MVU meets or exceeds the minimum industry standard vegetation management practices. For transmission-level facilities, MVU complies with NERC FAC-003-4, where applicable. For both transmission and distribution level facilities, MVU meets: (1) Public Resources Code section 4292; (2) Public Resources Code section 4293; (3) CPUC GO 95, 128, 165, and 174.

D. Inspections

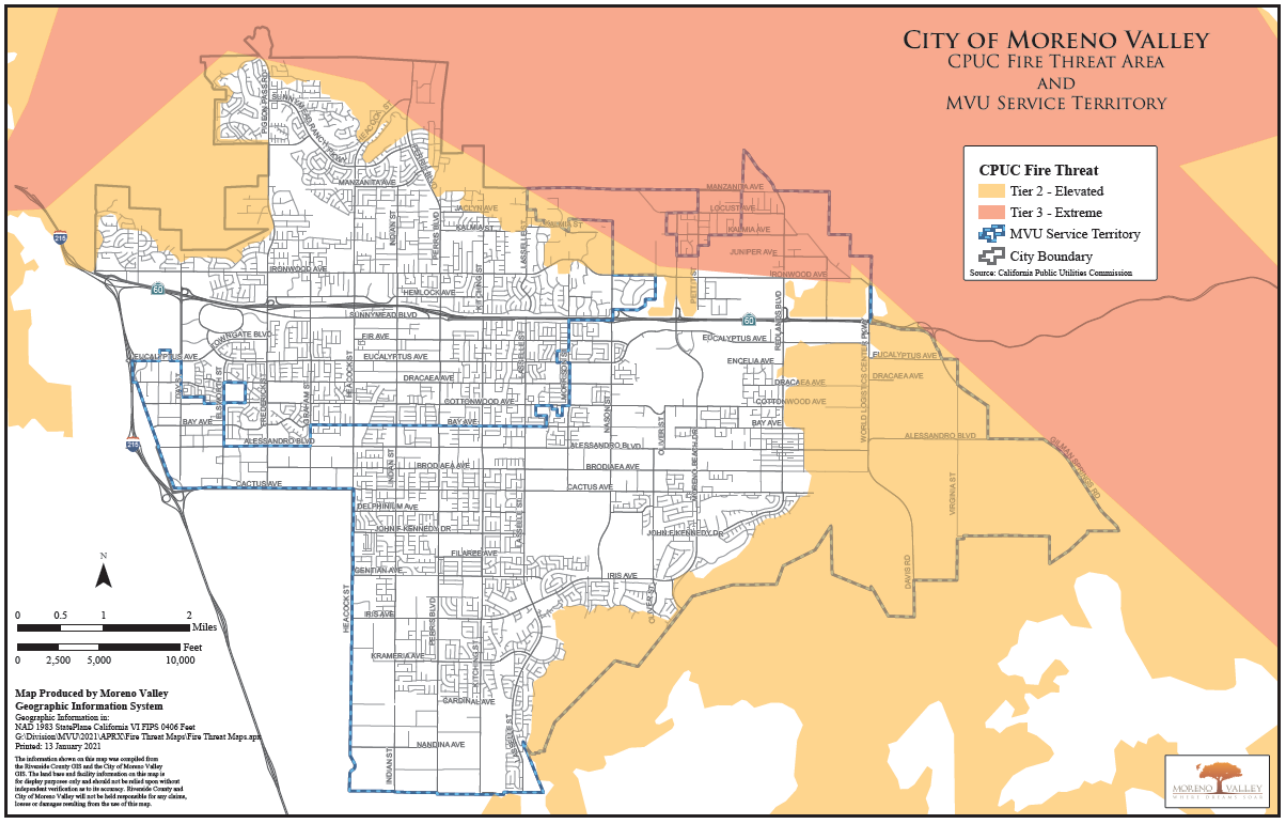
MVU meets or exceeds the minimum inspection requirements provided in CPUC GO 165 and 174. Pursuant to these rules, utilities inspect electric facilities in the High Fire Threat District more frequently than the other areas of its service territory. As described above, MVU currently does not have any overhead power lines located within or near the High-Fire Threat District within the CPUC's Fire Threat Map. However, MVU staff uses their knowledge of the specific environmental and geographical conditions of MVU's service territory to determine if any particular areas require more frequent inspections.

[4] Adopted by CPUC Decision 17-12-024.

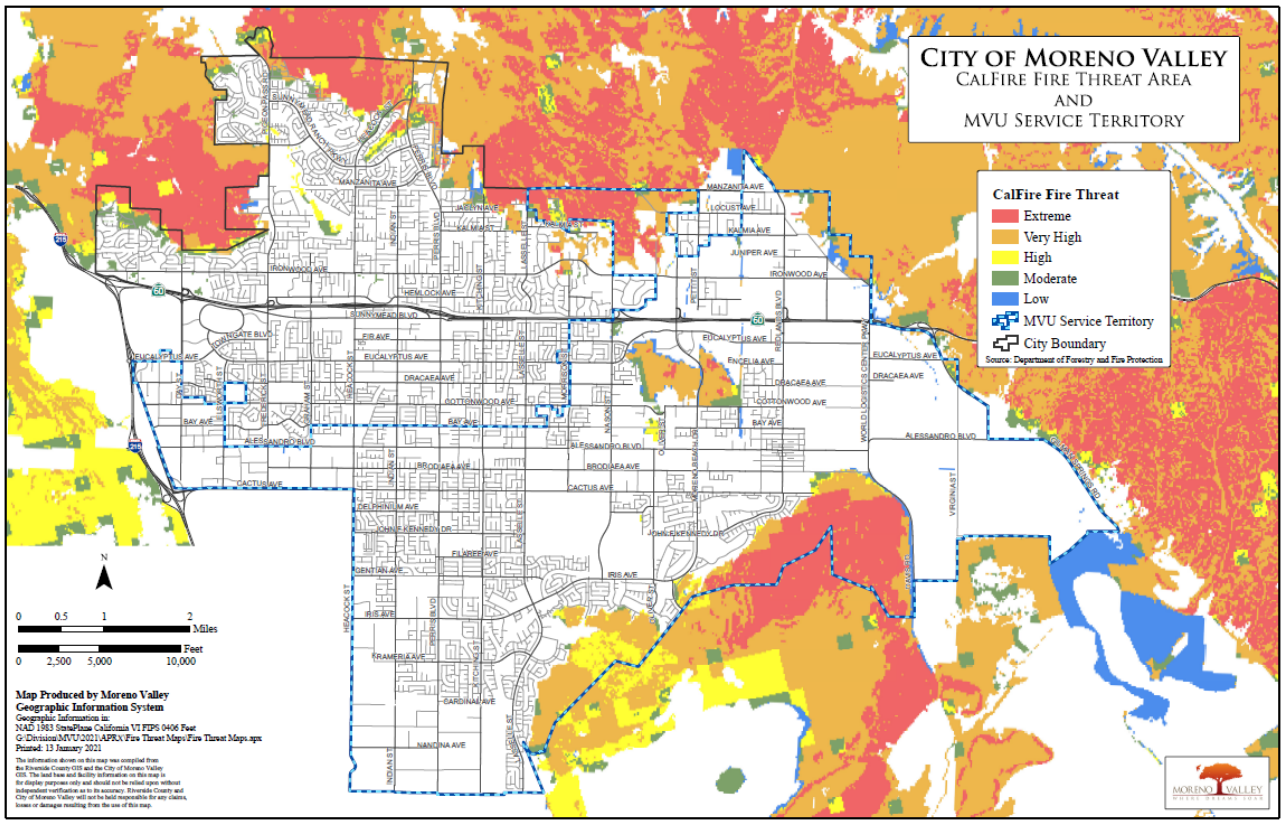
If MVU staff discovers a facility in need of repair that is owned by an entity other than MVU, MVU will issue a notice to repair to the facility owner and work to ensure that necessary repairs are completed promptly.

MVU has conducted an analysis of all circuits to identify essential facilities and prioritize the deployment of back-up power facilities. Grant funding is also being sought to install back-up generation at additional strategic facilities throughout the service territory. MVU is fully capable of sectionalizing any outage to mitigate the number of customers impacted. This mitigation technique will also be employed during PSPS events to reduce any service interruptions to MVU customers. MVU will explore the possibility of back feeding the distribution system with customer owned battery storage systems.

E. California Public Utility Commission Wildfire Threat Map



F. CalFire Fire Threat Map



G. Reclosing Policy

MVU's system is 100% underground. Reclosers are not installed on underground circuits. MVU does not change substation relay settings.

H. De-energization

MVU has the authority to preemptively shut off power due to fire-threat conditions, however, this option will only be used in extraordinary circumstances. Due to the minimal risk of MVU's electrical supply facilities causing a power-line ignited wildfire, MVU is not adopting specific protocols for de-energizing any portions of its electric distribution system. MVU will re-evaluate this determination in future updates to this Wildfire Mitigation Plan.

VII. Restoration of Service

MVU's electric distribution system is completely underground. However, MVU is interconnected with SCE's transmission and distribution systems, much of which is overhead and exposed to wind, rain and lightning. This is MVU's primary source of vulnerability to potential electrical service interruptions during rain and wind storms such as the ones that can be precipitated by El Nino.

MVU's underground electric distribution system is designed, and has be constructed, with redundant sources of feed. These do not guarantee the elimination of outages but can facilitate service restoration and reduce the duration of such outages.

Preparation in advance of predicted storms: Since, as discussed in the introduction, the primary trouble source during storms is outages on SCE's transmission and distribution lines, many of which are overhead, MVU will patrol, to the extent practical, SCE's primary interconnect lines for any potential trouble spots including but not limited to broken tree

limbs or other vulnerabilities. MVU will also double check the loading conditions of our underground lines to satisfy ourselves that alternate sources have the capacity to serve the electric load (customers) in the event that it is necessary.

MVU's underground system will be patrolled in advance of storms for any open trenches or excavations at construction sites to minimize water intrusion into the underground system. Although the underground system is designed to operate under such conditions, small pinholes in splices or cable can cause problems, including possible electrical shorts/faults, that can interrupt service to customers. Likewise, after the storm, each underground vault, manhole or other structure will be inspected for water intrusion and pumped, when necessary, in accordance proper utility practice and environmental guidelines.

All vehicular equipment, man-lifts, tools and appurtenances will be thoroughly inspected for proper operation. All operating personnel will be placed on standby in the event of weather-related problems.

The MVU Operations and Call Center will be appropriately staffed for handling of trouble calls from customers and dispatching to field personnel.

Call Center support includes:

- Outage Management System (OMS)
- Field Dispatching
- Customer Callbacks

Response Prioritization:

- First Priority: Response to imminent threats to life and/or public property
- Second Priority: Removals of immediate hazards (fallen trees, power poles, etc.)
- Third Priority: Clearing of arterial roadway
- Fourth Priority: Maintenance of traffic control/closures to prevent potential accidents
- Fifth Priority (Post Storm Activity): Follow-up work such as addressing storm-related potholes and residual clean-up of all streets that have remained in a "passable and drivable" state

Referral Protocol:

- Flooding of structures on private property- Residents will be advised to call 911 for Fire Department assistance
- Facilities associated with other government agencies (RCFCD) or private utilities will be referred to appropriate agencies/company
- All storm related issues involving streets, curbs and gutters, sidewalks, residential trees in the right of way, catch basins, and miscellaneous drainage facilities will be referred to the City's Maintenance and Operations Division.

During EOC activation period, all routine maintenance programs and requests will be suspended and deferred.

VIII. Evaluation of the Plan

A. Metrics and Assumptions for Measuring Plan Performance

MVU will track the following metric to measure the performance of this Wildfire Mitigation Plan: (1) number of fire ignitions caused by utility equipment.

Metric 1: Fire Ignitions

For purposes of this metric, a fire ignition is defined as follows:

- MVU facility was associated with the fire;
- The fire was self-propagating and of a material other than electrical and/or communication facilities;
- The resulting fire traveled greater than one linear meter from the ignition point; and
- MVU has knowledge that the fire occurred.

In future Wildfire Mitigation Plans, MVU will provide the number of fires that occurred that were less than 10 acres in size. Any fires greater than 10 acres will be individually described.

Reporting Year	Fire Ignitions
2020	0
2019	0

B. Impact of Metrics on Plan

In the initial years, MVU anticipates that there will be relatively limited data gathered through the metric. However, as the data collection history becomes more robust, MVU will be able to identify areas of its operations and service territory that are disproportionately impacted. MVU will then evaluate potential improvements to the plan.

C. Monitoring and Auditing the Plan

This Wildfire Mitigation Plan will be presented to the MVU Utilities Commission and the Moreno Valley City Council. MVU will present updates to this plan to the MVU Utilities Commission and the City Council on an annual basis.

D. Identifying and Correcting Deficiencies in the Plan

Based on the recommendations of the MVU Utilities Commission and the Moreno Valley City Council, MVU will correct any identified deficiencies.

E. Monitoring the Effectiveness of Inspections

MVU reviews and evaluates its reliability indices regularly to monitor inspection and maintenance procedures. SAIDI, SAIFI, CAIDI, and MAIFI statistics show that MVU maintains an electric system that operates well below the State and National averages for outage incidents per the American Public Power Association's eReliability Tracker program. MVU's Utility Maintenance Management System (UMMS) is used to collect all data subject to GO165. The UMMS prepares monthly inspection and maintenance reports for all electric distribution facilities. Maintenance history for each piece of equipment is archived in the UMMS. Additionally, MVU's substation inspection and maintenance program complies with GO 174 guidelines as well as manufacturer specifications, standards, and recommendations. MVU performs monthly inspections of all substation components including recording and analysis of all alarms, fluid levels, meters, and Load Tap Changer settings.

Although MVU does not fall under the jurisdiction of the California Public Utilities Commission (CPUC), MVU has cooperated with the CPUC's Utilities Safety and Reliability Branch and their requests for periodic audits. The audit in October 2008 noted no GO 95 infractions, and identified two GO 128 infractions to MVU Pad Mounted Electric structures. Repairs were made to correct the violation the day they were identified by the CPUC. Again, in March of 2013 the CPUC audit identified three vegetation obstructions that were immediately corrected in the field as they were identified. No additional infractions have been identified by the CPUC.

Report to City Council

TO:	Mayor and City Council
FROM:	Michael L. Wolfe P.E., Assistant City Manager
AGENDA DATE:	February 2, 2021
TITLE:	AUTHORIZATION TO AWARD A CONSTRUCTION CONTRACT TO O'DUFFY BROTHERS, INC. FOR SUNNYMEAD - FLAMING ARROW DRIVE STORM DRAIN (SUNNYMEAD MDP LINE M-11 EXTENSION) – PROJECT NO. 804 0014

RECOMMENDED ACTION

Recommendations:

1. Award a construction contract to O'Duffy Brothers, Inc. for the Sunnymead - Flaming Arrow Drive Storm Drain (Sunnymead MDP Line M-11 Extension) project and authorize the City Manager to execute a contract with O'Duffy Brothers, Inc. in substantial conformance with the attached contract in the amount of $540,040 for the construction of the project, funded by Community Development Block Grant (CDBG) (Fund 2512), Riverside County Flood Control and Water Conservation District (RCFC&WCD) (Fund 3002), Measure A (Fund 2001), and Reimbursement Agreement with Eastern Municipal Water District (EMWD) (Fund 3002);

2. Authorize the issuance of a Purchase Order for O'Duffy Brothers, Inc. in the amount of $594,044 ($540,040 bid amount plus a 10% contingency) when the contract has been signed by all parties; and

3. Authorize the Public Works Director/City Engineer to execute any subsequent change orders to the contract, but not exceeding the total contingency of $54,004, subject to the approval of the City Attorney.

SUMMARY

This report recommends approval of a contract with O'Duffy Brothers, Inc. for the construction of the Sunnymead - Flaming Arrow Drive Storm Drain (Sunnymead MDP

Line M-11 Extension) project.

DISCUSSION

This project involves the construction of an approximately 1,200-foot long, 24-inch storm drain pipe connecting to the existing 42-inch reinforced concrete pipe (RCP) Sunnymead Master Drainage Plan (MDP) Line M-11 within Flaming Arrow Drive, just north of Bay Avenue. A 48-inch corrugated metal pipe (CMP) riser with openings and a grate will be constructed at the upstream end of the proposed storm drain where it will collect storm water from the eastern terminus of Saint Christopher Lane and adjoining properties in order to convey flows and mitigate flooding. The project design and bidding documents were completed jointly by the City and Riverside County Flood Control and Water Conservation District (RCFC&WCD).

The project was first advertised for construction bids in Spring 2020. The one bid received was considerably higher than the Engineer's estimate and the budgeted amount for construction. On July 7, 2020, City Council approved the rejection of all bids.

City staff worked closely with RCFC&WCD to analyze and repackage the project to include alternative items that might produce bids within budget. The project was re-advertised for construction bids on November 10, 2020 and formal bidding procedures were followed in conformance with the Public Contract Code. Five (5) bids were received via the electronic bid management system, PlanetBids, on January 11, 2021 as follows:

CONTRACTORS	Base Bid + Additive Alternate Bid
1. O'Duffy Brothers, Inc.	**$819,010**
2. Wright Construction Engineering Corporation	**$858,292**
3. H&H General Contractors, Inc.	**$961,696**
4. Ferreira Coastal Construction Company	**$1,019,841**
5. G. Hurtado Construction, Inc.	**$1,299,600**

The lowest responsible bidder was determined by comparing the cumulative total for all base bid items plus Additive Alternate No.1 as stipulated in the bidding documents. Staff has reviewed the bid by O'Duffy Brothers, Inc. and finds it to be the lowest responsible bidder in possession of a valid license and bid bond. No outstanding issues were identified through review of the references submitted by O'Duffy Brothers, Inc. in their bid. Additive Alternate Bid No. 1, Items 21 & 22 are Polypropylene Pipe which was included as an acceptable replacement for RCP (Base Bids Items 4 & 5) to the City and RCFC&WCD. Staff recommends to award a total contract amount of $540,040, which includes Additive Alternate Bid Items 21 & 22.

A contingency of 10% of the bid amount ($54,004) is recommended to account for any changed field condition, underground utility issue, or unforeseen circumstances that arise during construction. The contingency will allow for rapid resolution of any construction issues that may arise, mitigating any potential delay costs to the City.

The project includes relocation of existing EMWD facilities during the time that the storm drain trench is open in order to minimize inconvenience to the residents. The City and EMWD have a Council-approved Reimbursement Agreement allowing the City's contractor to perform any relocations and EMWD will reimburse the City for the cost of the work.

On June 18, 2019, the City Council certified the Mitigated Negative Declaration and the Mitigation Monitoring and Reporting Program for the project in compliance with the provisions of the California Environmental Quality Act (CEQA). Various mitigation measures were identified and have been incorporated into the project specifications for reducing all potential environmental impacts to an acceptable level.

Approval of the recommended actions would support Objective 4 of the Momentum MoVal Strategic Plan: "Manage and maximize Moreno Valley's public infrastructure to ensure an excellent quality of life, develop and implement innovative, cost effective infrastructure maintenance programs, public facilities management strategies, and capital improvement programming and project delivery."

ALTERNATIVES

1. Approve and authorize the recommended actions as presented in this staff report. *This alternative will provide for the timely construction of the Sunnymead - Flaming Arrow Drive Storm Drain (Sunnymead MDP Line M-11 Extension) project.*

2. Do not approve and authorize the recommended actions as presented in this staff report. *Staff does not recommend this alternative as it will delay completion of the Sunnymead - Flaming Arrow Drive Storm Drain (Sunnymead MDP Line M-11 Extension) project and may result in losing funding from RCFC&WCD and CDBG.*

FISCAL IMPACT

This project is funded by Community Development Block Grant (Fund 2512), Riverside County Flood Control and Water Conservation District (Public Works Capital Projects Fund 3002), and Measure A (Fund 2001). As stated in the discussion section, the City entered into a Reimbursement Agreement with Eastern Municipal Water District (EMWD) and their relocation costs will be recovered. The actual EMWD amount will be based on the final contractor invoice when the applicable items are completed, which may require a future adjustment to the agreement.

PROJECT BUDGET:
Community Development Block Grant
(2512-70-77-80004-720199) (Project No. 804 0014-2512-99)……..……$250,000
Public Works Capital Projects – RCFC&WCD
(3002-70-77-80004-720199) (Project No. 804 0014-3002-99) $355,510

Public Works Capital Projects – RCFC&WCD*
(3002-70-77-80004-720199) (Project No. 804 0014-3002-99) $65,375
**Project savings from 804 0014*
Measure A
(2001-70-77-80004-720199) (Project No. 804 0014-2001-99)……..……$136,882
Public Works Capital Projects – EMWD**
(3002-70-77-80004-720199) (Project No. 804 0014-3002-99)……..……$140,050
***Estimated*
Total $926,642

ESTIMATED PROJECT COSTS:
Environmental …… $74,000
Right of Way and Utility……...$17,000
Miscellaneous Fees…… ..$3,000
Filing and Permit Fees……...$9,000
Construction Contract (including contingency and EMWD relocations)..... $594,044
Survey Services……..……..$20,000
Geotechnical and Materials Testing $20,000
Tribal Monitoring during Construction..... $15,000
Construction Management and Inspection $45,000
Staff Salaries*…….. .$115,000
Total $922,044
**Project administration and inspection will be provided by City staff*

PROJECT SCHEDULE:
Construction ..... Spring 2021 – Fall 2021

NOTIFICATION

Prior to construction, utilities, adjacent property owners, business owners, law enforcement, fire department, churches, public transportation, and other emergency service responders in the area will be notified in a timely manner of the proposed construction.

PREPARATION OF STAFF REPORT

Prepared By:
Margery Lazarus
Senior Engineer, PE

Department Head Approval:
Michael L. Wolfe, PE
Public Works Director/City Engineer

Concurred By:
Henry Ngo, PE
Capital Projects Division Manager

CITY COUNCIL GOALS

Public Safety. Provide a safe and secure environment for people and property in the community, control the number and severity of fire and hazardous material incidents, and provide protection for citizens who live, work and visit the City of Moreno Valley.

Public Facilities and Capital Projects. Ensure that needed public facilities, roadway improvements, and other infrastructure improvements are constructed and maintained.

Community Image, Neighborhood Pride and Cleanliness. Promote a sense of community pride and foster an excellent image about our City by developing and executing programs which will result in quality development, enhanced neighborhood preservation efforts, including home rehabilitation and neighborhood restoration.

CITY COUNCIL STRATEGIC PRIORITIES

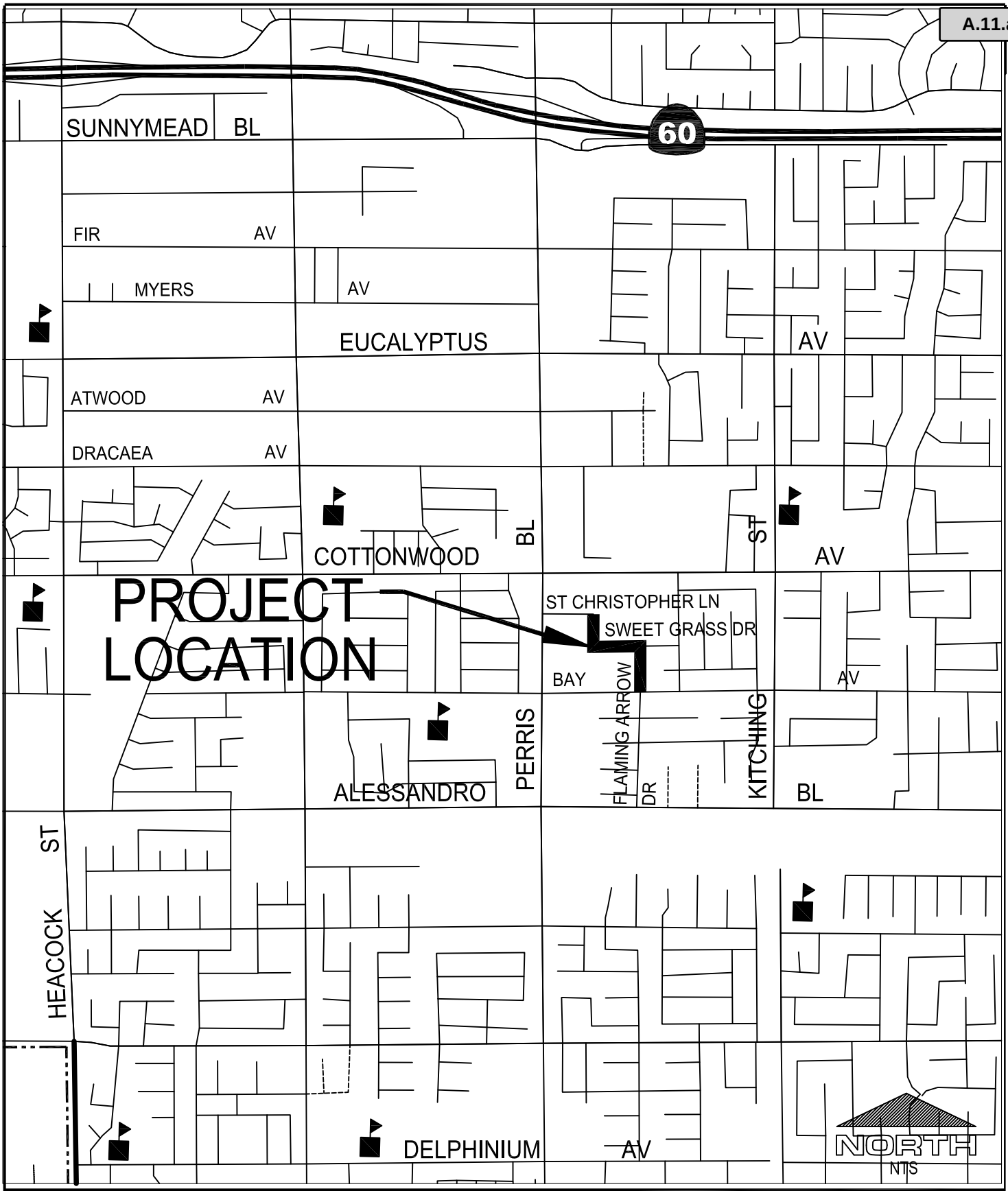
1. **Economic Development**
2. **Public Safety**
3. **Library**
4. **Infrastructure**
5. **Beautification, Community Engagement, and Quality of Life**
6. **Youth Programs**

ATTACHMENTS

1. Location Map
2. Agreement

APPROVALS

Budget Officer Approval	✓ Approved	1/25/21 4:47 PM
City Attorney Approval	✓ Approved	
City Manager Approval	✓ Approved	1/25/21 5:35 PM



LOCATION MAP

Public Works Department
Capital Projects Division

ATTACHMENT 1

SUNNYMEAD - FLAMING ARROW DRIVE STORM DRAIN

PROJECT No 804 0014

Attachment: Location Map (4258 : AUTHORIZATION TO AWARD A CONSTRUCTION CONTRACT TO O'DUFFY BROTHERS, INC. FOR

Agreement No._____

AGREEMENT

PROJECT No. 804 0014
Sunnymead - Flaming Arrow Drive Storm Drain

THIS Agreement, effective as of the date signed by the City of Moreno Valley by and between the City of Moreno Valley, a municipal corporation, County of Riverside, State of California, hereinafter called the "City" and **O'Duffy Brothers, Inc.**, hereinafter called the "Contractor."

That the City and the Contractor for the consideration hereinafter named, agree as follows:

1. CONTRACT DOCUMENTS. The Contract Documents consist of the following, which are incorporated herein by this reference:

A. This Agreement
B. Any and all Contract Change Orders and Construction Change Directives issued after execution of this Agreement
C. Addenda Nos. **0** inclusive, issued prior to the Bid Deadline
D. Federal Provisions and Requirements
E. Any Federal Certifications, documentation, and reports, as required, including, but not limited to, Contractor's Certification on Federal Contract Requirements, Certification of Nonsegregated Facilities, Certification of Equal Employment Opportunity, Certification on Good Faith Efforts Regarding Minority Based Enterprise (MBE) and Women Based Enterprise (WBE), and Race and Ethnic Data Reporting Form
F. City of Moreno Valley Supplementary General Conditions, if any
G. The bound Contract Documents that includes City Special Provisions, General Provisions, and Technical Provisions
H. Standard Specifications for Public Works Construction ("Greenbook") – latest edition in effect at the Bid Deadline, as modified by the City Special Provisions
I. Reference Specifications/Reference Documents other than those listed in paragraph 2, below
J. Project Plans
K. City Standard Plans
L. Caltrans Standard Plans
M. RCFC&WCD Standard Plans
N. EMWD Standard Plans
O. EMWD 8" Water Line Relocation Plan
P. EMWD 8" Water Line Relocation Specifications
Q. SCE Electrical Relocation Plans
R. Governmental approvals, including, but not limited to, permits required for the Work
S. Contractor's Labor and Materials Payment Bond (for reference only)
T. Contractor's Faithful Performance Bond (for reference only)
U. Contractor's Certificates of Insurance and Additional Insured Endorsements
V. Contractor's Bid Schedule, Bidder's Proposal, Subcontractor List, and Material Supplier Listing

In the event of conflict between any of the Contract Documents, the provisions placing a more stringent requirement on the Contractor shall prevail. The Contractor shall provide the better quality or greater quantity of Work and/or materials unless otherwise directed by City in writing. In the event none of the Contract Documents place a more stringent requirement or greater burden on the Contractor, the controlling provision shall be that which is found in the document with higher precedence in accordance with the above order of precedence.

2. REFERENCE DOCUMENTS. The following Reference Documents are not considered Contract Documents and are made available to the Contractor for informational purposes:

A. None

3. SCOPE OF WORK. The Contractor shall perform and provide all materials, tools, equipment, labor, and services necessary to complete the Work described in the Contract Documents, except as otherwise provided in the Plans, Standard Specifications, or City Special Provisions to be the responsibility of others.

4. PAYMENT.

4.1. **Contract Price and Basis for Payment**. In consideration for the Contractor's full, complete, timely, and faithful performance of the Work required by the Contract Documents, the City shall pay Contractor for the actual quantity of Work required under the Bid Items awarded by the City performed in accordance with the lump sum prices and unit prices for Bid Items set forth the Bid Schedule submitted with the Bid. The sum of the unit prices and lump sum prices for the Base Bid Items (excluding Base Bid Items 4 & 5), and Additive Alternate Bid No.1 Items awarded by the City is Five Hundred Forty Thousand Forty and 00/100 Dollars ($540,040.00) ("Contract Price"). The Additive Alternate Bid Items selected by the City and included in the Contract are Bid Items: 21 and 22. It is understood and agreed that the quantities set forth in the Bid Schedule for which unit prices are fixed are estimates only and that City will pay and Contractor will accept, as full payment for these items of Work, the unit prices set forth in the Bid Schedule multiplied by the actual number of units performed, constructed, or completed as directed and measured by the City Engineer.

4.2. **Payment Procedures**. Based upon applications for payment submitted by the Contractor to the City, the City shall make payments to the Contractor in accordance with Section 7 of the Standard Specifications, as modified by Section 7 of the City Special Provisions.

5. CONTRACT TIME.

A. Contract Time. The Contract Time shall be determined in accordance with the following:

Base Bid with Additive Alternate Bid No. 1	110 Working Days

B. Initial Notice to Proceed. After the Agreement has been fully executed by the Contractor and the City, the City shall issue the "Notice to Proceed to Fulfill Preconstruction Requirements and Notice to Proceed to Pothole." The date specified in the Notice to Proceed to Fulfill Preconstruction Requirements and Notice to Proceed to Pothole constitutes the date of

commencement of the Contract Time of **One Hundred Ten (110) days to complete the work for the Base Bid, or the Base Bid with Additive Alternate No. 1. This Contract Time includes 100 working days and 10 additional days for relocating conflicting utilities.** The Contract Time includes the time necessary to fulfill preconstruction requirements and to complete construction of the Project (except as adjusted by subsequent Change Orders).

The Notice to Proceed to Fulfill Preconstruction Requirements and Notice to Proceed to Pothole shall further specify that Contractor must complete the preconstruction requirements and proceed with Potholing within **Ten (10) Working Days** after the date of commencement of the Contract Time; this duration is part of the Contract Time.

Preconstruction requirements include, but are not limited to, the following:

- Submitting and obtaining approval of any Traffic Control Plans
- Submitting and obtaining approval of the Stormwater Pollution Prevention Plan (SWPPP)/Water Pollution Control Plan (WPCP)
- Submitting and obtaining approval of critical required submittals
- Installation of the approved Project Identification Signs
- Obtaining an approved no fee Encroachment Permit
- Obtaining a Temporary Use Permit for a construction yard
- Notifying all agencies, utilities, residents, etc., as outlined in the Contract Documents

If the City's issuance of a Notice to Proceed to Fulfill Preconstruction Requirements and Notice to Proceed to Pothole is delayed due to Contractor's failure to return the fully executed Agreement and insurance and bond documents within ten (10) Working Days after Contract award, then Contractor agrees to the deduction of one (1) Working Day from the number of days to complete the Project for every Working Day of delay in the City's receipt of said documents. This right is in addition to and does not affect the City's right to demand forfeiture of Contractor's Bid Security if Contractor persistently delays in providing the required documentation.

C. Notice to Proceed with Construction. After all preconstruction requirements are met and materials have been ordered in accordance with the Notice to Proceed to Fulfill Preconstruction Requirements and Notice to Proceed to Pothole, the City shall issue the "Notice to Proceed with Construction," at which time the Contractor shall diligently prosecute the Work, including corrective items of Work, day to day thereafter, within the remaining Contract Time.

6. LIQUIDATED DAMAGES AND CONTROL OF WORK.

6.1. **Liquidated Damages.** The Contractor and City (collectively, the "Parties") have agreed to liquidate damages with respect to Contractor's failure to complete the Work within the Contract Time, which includes the time necessary to fulfill preconstruction requirements, place the order of materials, proceed with potholing, and to complete construction of the Project (except as adjusted by subsequent Change Orders) in accordance with **Article 5** above. The Parties intend for the liquidated damages set forth herein to apply to this Contract as set forth in Government Code Section 53069.85 and in Public Contract Code Section 7203. Contractor acknowledges and agrees that the liquidated damages are intended to compensate the City solely for Contractor's failure to meet the deadlines for completion of the Work and will not excuse

Contractor from liability from any other breach, including any failure of the Work to conform to the requirements of the Contract Documents.

In the event that Contractor fails to complete the Work within the Contract Time, Contractor agrees to pay the City **$615.00 per Calendar Day** that completion of the each such portion of the Work is delayed beyond the Contract Time. The Contractor will not be assessed liquidated damages for delays occasioned by the failure of the City or of the owner of a utility to provide for the removal or relocation of utility facilities.

The Contractor and City acknowledge and agree that the foregoing liquidated damages have been set based on an evaluation of damages that the City will incur in the event of late completion of portions of the Work. The Contractor and City acknowledge and agree that the amount of such damages are impossible to ascertain as of the date of execution hereof and have agreed to such liquidated damages to fix the City's damages and to avoid later disputes. It is understood and agreed by Contractor that liquidated damages payable pursuant to this Agreement are not a penalty and that such amounts are not manifestly unreasonable under the circumstances existing as of the date of execution of this Agreement.

It is further mutually agreed that the City will have the right to deduct liquidated damages against progress payments or retainage and that the City will issue a Change Order or Construction Change Directive and reduce the Contract Price accordingly. In the event the remaining unpaid Contract Price is insufficient to cover the full amount of liquidated damages, Contractor shall pay the difference to the City.

Liquidated damages are owed automatically and without notice of any kind upon the accrual of each day of delay. City may at any time deduct liquidated damages as are payable hereunder from money due or to become due to Contractor, or pursue any other legal remedy to collect such liquidated damages from Contractor and/or its Surety. Neither the City's failure or delay in deducting liquidated damages from payments otherwise due Contractor, nor City's failure or delay in notifying Contractor of the accrual of liquidated damages, shall be deemed a waiver of City's right to liquidated damages.

City's rights under this Section shall not be interpreted as precluding or limiting: (1) any right or remedy of City arising from an event of Contractor default other than a failure to complete the Work within the Contract Time; or (2) City's right to order an acceleration, at Contractor's expense, of performance of the Work to overcome delay, including, without limitation, a delay for which City has the right to assess and/or accrue liquidated damages. The availability of liquidated damages shall not limit City's right to terminate the Contractor's performance and accrual and/or assessment of liquidated damages does not constitute a waiver of such rights.

6.2. **Owner is Exempt from Liability for Early Completion Delay Damages**. While the Contractor may schedule completion of all of the Work, or portions thereof, earlier than the Contract Time, the Owner is exempt from liability for and the Contractor will not be entitled to an adjustment of the Contract Sum or to any additional costs, damages, including, but not limited to, claims for extended general conditions costs, home office overhead, jobsite overhead, and management or administrative costs, or compensation whatsoever, for use of float time or for Contractor's inability to complete the Work earlier than the Contract Time for any reason whatsoever, including but not limited to, delay cause by Owner or other Excusable Compensable

Delay. See Section 6-4 of the Standard Specifications and City Special Provisions regarding compensation for delays.

6.3. Any work completed by the Contractor after the issuance of a Stop Work Notice by the City shall be rejected and/or removed and replaced as specified in Section **3-5** of the City Special Provisions.

7. INSURANCE.

7.1. **General**. The Contractor shall procure and maintain at its sole expense and throughout the term of this Agreement, any extension thereof, Commercial General Liability, Automobile Liability, and Workers' Compensation Insurance with such coverage limits as described herein.

7.2. **Additional Insured Endorsements**. The Contractor shall cause the insurance required by the Contract Document to include the City of Moreno Valley, the City Council and each member thereof, the Moreno Valley Housing Authority (MVHA), and the Moreno Valley Community Services District (CSD) and their respective officials, employees, commission members, officers, directors, agents, employees, volunteers and representatives as an additional insureds. For the Commercial General Liability coverage, said parties shall be named as additional insureds utilizing either:

1. Insurance Services Office ("ISO") Additional Insured endorsement CG 20 10 (11/85); or

2. ISO Additional Insured endorsement CG 20 10 (10/01) and Additional Insured Completed Operations endorsement CG 20 37 (10/01); or

3. Substitute endorsements providing equivalent coverage, approved by the City.

The endorsements shall be signed by a person authorized by the insurer to bind coverage on its behalf. The coverage shall contain no special limitations on the scope of protection afforded to such additional insureds. Coverage for such additional insureds does not extend to liability to the extent prohibited by Insurance Code Section 11580.4.

7.3. **Waivers of Subrogation**. All policies of insurance required by the Contract Documents shall include or be endorsed to provide a waiver by the insurers of any rights of recovery or subrogation that the insurers may have at any time against the City of Moreno Valley, the City Council and each member thereof, the Moreno Valley Housing Authority (MVHA), and the Moreno Valley Community Services District (CSD) and their respective officials, employees, commission members, officers, directors, agents, employees, volunteers, and representatives.

7.4. **Primary Coverage**. All policies and endorsements shall stipulate that the Contractor's (and the Subcontractors') insurance coverage shall be primary insurance as respects the City of Moreno Valley, the City Council and each member thereof, the Moreno Valley Housing Authority (MVHA), and the Moreno Valley Community Services District (CSD) and their respective officials, employees, commission members, officers, directors, agents, employees, volunteers, and representatives, and shall be excess of the Contractor's (and its Subcontractors') insurance and shall not contribute with it.

7.5. **Coverage Applies Separately to Each Insured and Additional Insured**. Coverage shall state that the Contractor's (and its Subcontractors') insurance shall apply separately to each insured or additional insured against whom claim is made or suit is brought, except with respect to the limits of the insurer's liability. Coverage shall apply to any claim or suit brought by an additional insured against a named insured or other insured.

7.6. **Self-Insurance**. Any self-insurance (including deductibles or self-insured retention in excess of $50,000) in lieu of liability insurance must be declared by Contractor and approved by the City in writing prior to execution of the Agreement. The City's approval of self-insurance, if any, is within the City's sole discretion and is subject to the following conditions:

1. Contractor must, at all times during the term of the Agreement and for a period of at least **one (1)** year after completion of the Project and any extension of the one-year correction guarantee period in accordance with Section 3-13.3 of the City Special Provisions, maintain and upon Owner's reasonable request provide evidence of:

   (a) Contractor's "net worth" (defined as "total assets" [defined as all items of value owned by the Contractor including tangible items such as cash, land, personal property, and equipment, and intangible items such as copyrights and business goodwill]) minus total outside liabilities must be reflected in a financial statement for the prior fiscal year reflecting sufficient income and budget for Contractor to afford at least one loss in an amount equal to the amount of self-insurance;

   (b) Financial statements showing that Contractor has funds set aside/budgeted to finance the self-insured fund (i.e., Contractor has a program that fulfills functions that a primary insurer would fill); and

   (c) A claims procedure that identifies how a claim is supposed to be tendered to reach the financing provided by the self-insured fund.

2. If at any time after such self-insurance has been approved, the Contractor fails to meet the financial thresholds or otherwise fails to comply with the provisions set forth in this Paragraph 7, at the option of the City:

   (a) The Contractor shall immediately obtain and thereafter maintain the third party insurance required under this Paragraph 7 and otherwise on the terms required above; or

   (b) The insurer shall reduce or eliminate such deductibles or self-insured retention as respects the City, its officers, officials, employees, and volunteers; or

   (c) The Contractor shall procure a bond guaranteeing payment of losses and related investigation, claim administration, and defense expenses.

7.7. **Insurer Financial Rating**. Insurance companies providing insurance hereunder shall be rated A-VII or better in Best's Insurance Rating Guide and shall be legally licensed and qualified to conduct insurance business in the State of California.

7.8. **Notices to City of Cancellation or Changes**. Each insurance policy described in this Paragraph 7 shall contain a provision or be endorsed to state that coverage will not be cancelled without **thirty (30) days'** prior written notice by certified or registered mail to the City (this obligation may be satisfied in the alternative by requiring such notice to be provided by Contractor's insurance broker and set forth on its Certificate of Insurance provided to the City), except that cancellation for non-payment of premium shall require (10) days prior written notice by certified or registered mail. If an insurance carrier cancels any policy or elects not to renew any policy required to be maintained by Contractor pursuant to the Contract Documents, Contractor agrees to give written notice to the City at the address indicated on the first page of the Agreement. Contractor agrees to provide the same notice of cancellation and non-renewal to the City that is required by such policy(ies) to be provided to the First Named Insured under such policy(ies). Contractor shall provide confirmation that the required policies have been renewed not less than seven (7) days prior to the expiration of existing coverages and shall deliver renewal or replacement policies, certificates and endorsements to the City Clerk within fourteen (14) days of the expiration of existing coverages. Contractor agrees that upon receipt of any notice of cancellation or alteration of the policies, Contractor shall procure within five (5) days, other policies of insurance similar in all respects to the policy or policies to be cancelled or altered. Contractor shall furnish to the City Clerk copies of any endorsements that are subsequently issued amending coverage or limits within fourteen (14) days of the amendment.

7.9. **Commercial General Liability**. Coverage shall be written on an ISO Commercial General Liability "occurrence" form CG 00 01 (10/01 or later edition) or equivalent form approved by the City for coverage on an occurrence basis. The insurance shall cover liability, including, but not limited to, that arising from premises operations, stop gap liability, independent contractors, products-completed operations, personal injury, advertising injury, and liability assumed under an insured contract. The policy shall be endorsed to provide the Aggregate Per Project Endorsement ISO form CG 25 03 (11/85). Coverage shall contain no contractors' limitation or other endorsement limiting the scope of coverage for liability arising from pollution, explosion, collapse, or underground (x, c, u) property damage. Contractor shall provide Products/Completed Operations coverage to be maintained continuously for a minimum of **one (1) year** after Final Acceptance of the Work, and any extension of the one-year correction guarantee period in accordance with Section 3-13.3 of the City Special Provisions.

Contractor shall maintain Commercial General Liability insurance with the following minimum limits: $1,000,000 per occurrence / $2,000,000 aggregate / $2,000,000 products-completed operations.

7.10. **Business Automobile Liability**. Coverage shall be written on ISO form CA 00 01 (12/93 or later edition) or a substitute form providing equivalent coverage for owned, hired, leased and non-owned vehicles, whether scheduled or not, with $1,000,000 combined single limit per accident for bodily injury and property damage. If necessary, the policy shall be endorsed to provide contractual liability coverage.

7.11. **Workers' Compensation**. Contractor shall comply with the applicable sections of the California Labor Code concerning workers' compensation for injuries on the job. Compliance is accomplished in one of the following manners:

1. Provide copy of permissive self-insurance certificate approved by the State of California; or

2. Secure and maintain in force a policy of workers' compensation insurance with statutory limits and Employer's Liability Insurance with a minimal limit of **$1,000,000** per accident; or

3. Provide a "waiver" form certifying that no employees subject to the Labor Code's Workers' Compensation provision will be used in performance of this Contract.

7.12. **Subcontractors' Insurance**. The Contractor shall include all Subcontractors as insureds under its policies or shall furnish separate certificates and endorsements for each Subcontractor. All coverages for Subcontractors shall be subject to all of the requirements stated herein.

8. BONDS. The Contractor shall provide two surety bonds. The Contractor shall furnish a satisfactory Performance Bond meeting all statutory requirements of the State of California on the form provided by the City. The bond shall be furnished as a guarantee of the faithful performance of the requirements of the Contract Documents as may be amended from time to time, including, but not limited to, liability for delays and damages (both direct and consequential) to the City and the City's Separate Contractors and consultants, warranties, guarantees, and indemnity obligations, in an amount that shall remain equal to one hundred percent (100%) of the Contract Price.

The Contractor shall furnish a separate satisfactory Labor and Materials Payment Bond meeting all statutory requirements of the State of California on the form provided by the City in an amount that shall remain equal to one hundred percent (100%) of the Contract Price to secure payment of all claims, demands, stop payment notices, or charges of the State of California, of material suppliers, mechanics, or laborers employed by the Contractor or by any Subcontractor, or any person, form, or entity eligible to file a stop payment notice with respect to the Work.

All bonds shall be executed by a California-admitted surety insurer. Bonds issued by a California-admitted surety insurer listed on the latest version of the U.S Department of Treasury Circular 570 shall be deemed accepted unless specifically rejected by the City. Bonds issued by sureties not listed in Treasury Circular 570 must be accompanied by all documents enumerated in California Code of Civil Procedure Section 995.660(a). The bonds shall bear the same date as the Contract. The attorney-in-fact who executes the required bonds on behalf of the surety shall affix thereto a certified and current copy of the power of attorney. In the event of changes that increase the Contract Price, the amount of each bond shall be deemed to increase and at all times remain equal to the Contract Price. The signatures shall be acknowledged by a notary public. Every bond must display the surety's bond number and incorporate the Contract for construction of the Work by reference. The terms of the bonds shall provide that the surety agrees that no change, extension of time, alteration, or modification of the Contract Documents or the Work to be performed thereunder shall in any way affect its obligations and shall waive notice of any such

change, extension of time, alteration, or modification of the Contract Documents. The surety further agrees that it is obligated under the bonds to any successor, grantee, or assignee of the City.

Upon the request of any person or entity appearing to be a potential beneficiary of bonds covering payment of obligations arising under the Contract, the Contractor shall promptly furnish a copy of the bonds or shall authorize a copy to be furnished.

Should any bond become insufficient, or should any of the sureties, in the opinion of the City, become non-responsible or unacceptable, the Contractor shall, within ten (10) Calendar Days after receiving notice from the City, provide written documentation to the Satisfaction of the City that Contractor has secured new or additional sureties for the bonds; otherwise the Contractor shall be in default of the Contract. No further payments shall be deemed due or will be made under Contract until a new surety(ies) qualifies and is accepted by the City.

Contractor agrees that the Labor and Materials Payment Bond and Faithful Performance Bond attached to this Agreement are for reference purposes only, and shall not be considered a part of this Agreement. Contractor further agrees that said bonds are separate obligations of the Contractor and its Surety, and that any attorney's fee provision contained in any payment bond or performance bond shall not apply to this Agreement. In the event there is any litigation between the parties arising from the breach of this Agreement, each party will bear its own attorneys' fees in the litigation.

9. RECORDS. The Contractor and its Subcontractors shall maintain and keep books, payrolls, invoices of materials, and Project records current, and shall record all transactions pertaining to the Contract in accordance with generally acceptable accounting principles. Said books and records shall be made available to the City of Moreno Valley, Riverside County, the State of California, the Federal Government, and to any authorized representative thereof for purposes of audit and inspection at all reasonable times and places. All such books, payrolls, invoices of materials, and records shall be retained for at least five (5) years after Final Acceptance.

10. INDEMNIFICATION.

10.1. **General**. To the fullest extent permitted by law, the Contractor assumes liability for and agrees, at the Contractor's sole cost and expense, to promptly and fully indemnify, protect, hold harmless and defend (even if the allegations are false, fraudulent, or groundless), the City of Moreno Valley, its City Council, the Moreno Valley Housing Authority (MVHA), and the Moreno Valley Community Services District (CSD), and all of their respective officials, officers, directors, employees, commission members, representatives and agents ("Indemnitees"), from and against any and all claims, allegations, actions, suits, arbitrations, administrative proceedings, regulatory proceedings, or other legal proceeds, causes of action, demands, costs, judgments, liens, stop payment notices, penalties, liabilities, damages, losses, anticipated losses of revenues, and expenses (including, but not limited to, any fees of accountants, attorneys, experts or other professionals, or investigation expenses), or losses of any kind or nature whatsoever, whether actual, threatened or alleged, arising out of, resulting from, or in any way (either directly or indirectly), related to the Work, the Project or any breach of the Contract by Contractor or any of its officers, agents, employees, Subcontractors, Sub-subcontractors, or any person performing

any of the Work, pursuant to a direct or indirect contract with the Contractor ("Indemnity Claims"). Such Indemnity Claims include, but are not limited to, claims for:

A. Any activity on or use of the City's premises or facilities;
B. Any liability incurred due to Contractor acting outside the scope of its authority pursuant to the Contract, whether or not caused in part by an Indemnified Party;
C. The failure of Contractor or the Work to comply with any Applicable Law, permit or orders;
D. Any misrepresentation, misstatement or omission with respect to any statement made in the Contract Documents or any document furnished by the Contractor in connection therewith;
E. Any breach of any duty, obligation or requirement under the Contract Documents, including, but not limited to any breach of Contractor's warranties, representations or agreements set forth in the Contract Documents;
F. Any failure to coordinate the Work with City's Separate Contractors;
G. Any failure to provide notice to any party as required under the Contract Documents;
H. Any failure to act in such a manner as to protect the Project from loss, cost, expense or liability;
I. Bodily or personal injury, emotional injury, sickness or disease, or death at any time to any persons including without limitation employees of Contractor;
J. Damage or injury to real property or personal property, equipment and materials (including, but without limitation, property under the care and custody of the Contractor or the City) sustained by any person or persons (including, but not limited to, companies, corporations, utility company or property owner, Contractor and its employees or agents, and members of the general public);
K. Any liability imposed by Applicable Law including, but not limited to criminal or civil fines or penalties;
L. Any dangerous, hazardous, unsafe or defective condition of, in or on the Site, of any nature whatsoever, which may exist by reason of any act, omission, neglect, or any use or occupation of the Site by Contractor, its officers, agents, employees, or Subcontractors;
M. Any operation conducted upon or any use or occupation of the Site by the Contractor, its officers, agents, employees, or Subcontractors under or pursuant to the provisions of the Contract or otherwise;
N. Any acts, errors, omission or negligence of Contractor, its officers, agents, employees, or Subcontractors;
O. Infringement of any patent rights, licenses, copyrights, or intellectual property which may be brought against the Contractor or Owner arising out of Contractor's Work, for which the Contractor is responsible; and
P. Any and all claims against the City seeking compensation for labor performed or materials used or furnished to be used in the Work or alleged to have been furnished on the Project, including all incidental or consequential damages resulting to the City from such claims.

10.2. **Effect of Indemnitees' Active Negligence**. Contractor's obligations to indemnify and hold the Indemnitees harmless **exclude** only such portion of any Indemnity Claim which is attributable to the active negligence or willful misconduct of the Indemnitee, provided such active negligence or willful misconduct is determined by agreement of the parties or by findings of a court of competent jurisdiction. In instances where an Indemnitee's active negligence accounts for only a percentage of the liability for the Indemnity Claim involved, the obligation of Contractor will be for that entire percentage of liability for the Indemnity Claim not attributable to the active negligence or willful misconduct of the Indemnitee(s). Such obligation shall not be construed to negate, abridge or otherwise reduce any other right or obligation of indemnity which would otherwise exist as to any party or person described in this Paragraph 10. Subject to the limits set forth herein, the Contractor, at its own expense, shall satisfy any resulting judgment that may be rendered against any Indemnitee resulting from an Indemnity Claim. The Indemnitees shall be consulted with regard to any proposed settlement.

10.3. **Independent Defense Obligation.** The duty of the Contractor to indemnify and hold harmless the Indemnitees includes the separate and independent duty to defend the Indemnitees, which duty arises immediately upon receipt by Contractor of the tender of any Indemnity Claim from an Indemnitee. The Contractor's obligation to defend the Indemnitee(s) shall be at Contractor's sole expense, and not be excused because of the Contractor's inability to evaluate liability or because the Contractor evaluates liability and determines that the Contractor is not liable. This duty to defend shall apply whether or not an Indemnity Claim has merit or is meritless, or which involves claims or allegations that any or all of the Indemnitees were actively, passively, or concurrently negligent, or which otherwise asserts that the Indemnitees are responsible, in whole or in part, for any Indemnity Claim. The Contractor shall respond within thirty (30) Calendar Days to the tender of any Indemnity Claim for defense and/or indemnity by an Indemnitee, unless the Indemnitee agrees in writing to an extension of this time. The defense provided to the Indemnitees by Contractor shall be by well qualified, adequately insured and experienced legal counsel acceptable to the City.

10.4. **Intent of Parties Regarding Scope of Indemnity.** It is the intent of the parties that the Contractor and its Subcontractors of all tiers shall provide the Indemnitees with the broadest defense and indemnity permitted by Applicable Law. In the event that any of the defense, indemnity, or hold harmless provisions in the Contract Documents are found to be ambiguous or in conflict with one another, it is the parties' intent that the broadest and most expansive interpretation in favor of providing defense and/or indemnity to the Indemnitees be given effect.

10.5. **Waiver of Indemnity Rights Against Indemnitees.** With respect to third party claims against the Contractor, to the fullest extent permitted by law, the Contractor waives any and all rights to any type of express or implied indemnity against the Indemnitees.

10.6. **Subcontractor Requirements.** In addition to the requirements set forth hereinabove, Contractor shall ensure, by written subcontract agreement, that each of Contractor's Subcontractors of every tier shall protect, defend, indemnify and hold harmless the Indemnitees with respect to Indemnity Claims arising out of, in connection with, or in any way related to each such Subcontractors' Work on the Project in the same manner in which Contractor is required to protect, defend, indemnify and hold the Indemnitees harmless. In the event Contractor fails to obtain such defense and indemnity obligations from others as required herein, Contractor agrees to be fully responsible to the Indemnitees according to the terms of this Paragraph 10.

10.7. **No Limitation or Waiver of Rights.** Contractor's obligations under this Paragraph 10 are in addition to any other rights or remedies which the Indemnitees may have under the law or under the Contract Documents. Contractor's indemnification and defense obligations set forth in this Paragraph 10 are separate and independent from the insurance provisions set forth in the Contract Documents, and do not limit, in any way, the applicability, scope, or obligations set forth in such insurance provisions. The purchase of insurance by the Contractor with respect to the obligations required herein shall in no event be construed as fulfillment or discharge of such obligations. In any and all claims against the Indemnitees by any employee of the Contractor, any Subcontractor, any supplier of the Contractor or Subcontractors, anyone directly or indirectly employed by any of them, or anyone for whose acts any of them may be liable, the obligations under this Paragraph 10 shall not be limited in any way by any limitation on the amount or type of damages, compensation or benefits payable by or for the Contractor or any Subcontractor or any supplier of either of them, under workers' or workmen's compensation acts, disability benefit acts or other employee benefit acts. Failure of the City to monitor compliance with these requirements imposes no additional obligations on the City and will in no way act as a waiver of any rights hereunder.

10.8. **Withholding to Secure Obligations.** In the event an Indemnity Claim arises prior to final payment to Contractor, the City may, in its sole discretion, reserve, retain or apply any monies due Contractor for the purpose of resolving such Indemnity Claims; provided, however, the City may release such funds if the Contractor provides the City with reasonable assurances of protection of the Indemnitees' interests. The City shall, in its sole discretion, determine whether such assurances are reasonable.

10.9. **Survival of Indemnity Obligations.** Contractor's obligations under this Paragraph 10 are binding on Contractor's and its Subcontractors' successors, heirs, and assigns and shall survive the completion of the Work or termination of the Contractor's performance of the Work.

11. FEDERAL REQUIREMENTS. If the Contractor or Subcontractor is performing work on Section 3, Housing and Urban Development Act of 1968, projects for which the amount of the assistance exceeds $200,000 and the contract or subcontract exceeds $100,000:

11.1 The work to be performed under this contract is subject to the requirements of Section 3 of the Housing and Urban Development Act of 1968, as amended, 12 U.S.C. 1701u (Section 3). The purpose of Section 3 is to ensure that employment and other economic opportunities generated by HUD assistance or HUD-assisted projects covered by Section 3, shall, to the greatest extent feasible, be directed to low- and very low-income persons, particularly persons who are recipients of HUD assistance for housing.

11.2 The parties to this contract agree to comply with HUD's regulations in 24 CFR part 135, which implements Section 3. As evidenced by their execution of this contract, the parties to this contract certify that they are under no contractual or other impediment that would prevent them from complying with the part 135 regulations.

11.3 The contractor agrees to send to each labor organization or representative of workers with which the contractor has a collective bargaining agreement or other understanding, if any, a notice advising the labor organization or workers' representative of the contractor's

commitments under this Section 3 clause, and will post copies of the notice in conspicuous places at the work site where both employees and applicants for training and employment positions can see the notice. The notice shall describe the Section 3 preference, shall set forth minimum number and job titles subject to hire, availability of apprenticeship and training positions, the qualifications for each; and the name and location of the person(s) taking applications for each of the positions; and the anticipated date the work shall begin.

11.4 The contractor agrees to include this Section 3 Clause in every subcontract subject to compliance with regulations in 24 CFR part 135, and agrees to take appropriate action, as provided in an applicable provision of the subcontract or in this Section 3 Clause, upon a finding that the subcontractor is in violation of the regulations in 24 CFR part 135. The contractor will not subcontract with any subcontractor where the contractor has notice or knowledge that the subcontractor has been found in violation of the regulations in 24 CFR part 135.

11.5 The contractor will certify that any vacant employment positions, including training positions, that are filled (1) after the contractor is selected but before the contract is executed, and (2) with persons other than those to whom the regulations of 24 CFR part 135 require employment opportunities to be directed, were not filled to circumvent the contractor's obligations under 24 CFR part 135.

11.6 Noncompliance with HUD's regulations in 24 CFR part 135 may result in sanctions, termination of this contract for default, and debarment or suspension from future HUD assisted contracts.

11.7 With respect to work performed in connection with Section 3 covered Indian housing assistance, Section 7(b) of the Indian Self-Determination and Education Assistance Act (25 U.S.C. 450e) also applies to the work to be performed under this contract. Section 7(b) requires that to the greatest extent feasible (i) preference and opportunities for training and employment shall be given to Indians, and (ii) preference in the award of contracts and subcontracts shall be given to Indian organizations and Indian-owned Economic Enterprises. Parties to this contract that are subject to the provisions of Section 3 and Section 7(b) agree to comply with Section 3 to the maximum extent feasible, but not in derogation of compliance with Section 7(b).

12. SUCCESSORS AND ASSIGNS. The Parties bind themselves, their heirs, executors, administrators, successors and assigns the covenants, agreements and obligations contained in the Contract Documents. The Contractor shall not, either voluntarily or by action of law, assign any right or obligation of the Contractor under the Contract Documents without prior written consent of the City.

(SIGNATURE PAGE FOLLOWS)

City of Moreno Valley
Project No. 804 0014

CITY OF MORENO VALLEY, a Municipal Corporation

BY: _____
Mike Lee, City Manager

DATE: _____

INTERNAL USE ONLY

APPROVED AS TO LEGAL FORM:

_____
City Attorney

_____
Date

RECOMMENDED FOR APPROVAL:

_____
Public Works Director/City Engineer

_____
Date

O'Duffy Brothers, Inc.

License No./
Classification: _____

Expiration Date: _____

Federal I.D. No.: _____

PRINT NAME: _____

SIGNATURE: _____

TITLE: _____

DATE: _____

PRINT NAME: _____

SIGNATURE: _____

TITLE: _____

DATE: _____

SIGNING INSTRUCTIONS TO THE CONTRACTOR:

Signature(s) must be accompanied by a completed notary certificate of acknowledgement attached hereto. A general partner must sign on behalf of a partnership. **Two (2)** corporate officers must sign on behalf of a corporation unless the corporation has a corporate resolution that allows one person to sign on behalf of the corporation; if applicable, said resolution must be attached hereto. The corporate seal may be affixed hereto.

CALIFORNIA ALL-PURPOSE CERTIFICATE OF ACKNOWLEDGMENT

SAMPLE

State of California

County of _____

On _____ before me, _____,
(Here insert name and title of the officer)

personally appeared _____,

who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledgement to me that he/she they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

_____ (Notary Seal)
Signature of Notary Public

ADDITIONAL OPTIONAL INFORMATION

DESCRIPTION OF THE ATTACHED DOCUMENT

AGREEMENT SIGNATURE PAGE
(Title or description of attached document)

_____
(Title or description of attached document continued)

Number of Pages _____

Document Date _____

_____
Additional Information

CAPACITY CLAIMED BY THE SIGNER

- ☐ Individual(s)
- ☐ Corporate Officer
  _____
  (Title)
- ☐ Partner (s)
- ☐ Attorney-in-Fact
- ☐ Other _____

INSTRUCTIONS FOR COMPLETING THIS FORM

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- The notary public must print his or her name as it appears within his or her commission followed by a comma and then your title (notary public).
- Print the name(s) of document signer(s) who personally appear at the time of notarization.
- Indicate the correct singular or plural forms by crossing off incorrect forms (i.e. ~~he~~/she/~~they~~, is/~~are~~) or circling the correct forms. Failure to correctly indicate this information may lead to rejection of document recording.
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- Signature of the notary public must match the signature on file with the office of the county clerk.
- Additional information is not required but could help to ensure this acknowledgment is not misused or attached to a different document.
- Indicate title or type of attached document, number of pages and date.
- Indicate the capacity claimed by the signer. If the claimed capacity is a corporate officer, indicate the title (i.e. CEO, CFO, Secretary).
- Securely attach this document to the signed document.

CONTRACTOR'S BONDS

A.11.b

BOND No. _____

PREMIUM $_____

FAITHFUL PERFORMANCE BOND
(100% of Total Contract Price)

PROJECT No. 804 0014
Sunnymead - Flaming Arrow Drive Storm Drain

KNOW ALL MEN AND WOMEN BY THESE PRESENTS:

THAT WHEREAS, the City Council of the City of Moreno Valley, State of California, known as "City," has awarded to **O'Duffy Brothers, Inc.,** as Principal hereinafter designated as "Contractor" and have entered into an Agreement whereby the Contractor agrees to construct or install and complete certain designated public improvements, which said Agreement, effective on the date signed by the City of Moreno Valley, and identified as **Project No. 804 0014**, and all Contract Documents are hereby referred to and made a part hereof; and

WHEREAS, said Contractor under the terms of said Contract Documents is required to furnish a bond guaranteeing the faithful performance of said Agreement;

NOW THEREFORE, we the undersigned Contractor and _____, as Surety, are held and firmly bound unto the City of Moreno Valley, County of Riverside in the penal sum of _____ dollars, ($_____), lawful money of the United States, to be paid to the said City or its certain attorney, its successors and assigns; for which payment, well and truly to be made, we bind ourselves, our heirs, executors and administrators, successors, and assigns, jointly and severally liable (CCP 995.320 (a)(1)), firmly by these presents.

THE CONDITION OF THIS OBLIGATION IS SUCH, that if the above bound Contractor, his or her or its heirs, executors, administrators, successors, or assigns, shall in all things stand to and abide by, and well and truly keep and perform the covenants, conditions, and provisions in said Contract Documents and any alterations thereof made as therein provided, on his or her or their part, to be kept and performed at the time and in the manner therein specified, and in all respects according to their true intent and meaning, and shall indemnify and save harmless the City of Moreno Valley, its officers, agents, and employees, as therein stipulated, then this obligation shall become null and void; otherwise it shall be and remain in full force and effect. In the event suit is brought upon this bond by the City and judgement is recovered, the Surety shall pay all costs incurred by the City in such suit, including a reasonable attorney fee to be fixed by the court.

Contractor and Surety agree that this Faithful Performance Bond shall not be considered a part of this Agreement between Contractor and the City ("Agreement"). Contractor and Surety further agree that this Faithful Performance Bond is a separate obligation of the Contractor and its Surety, and that any attorney's fee provision contained in this Faithful Performance Bond shall not apply to the Agreement. In the event there is any litigation between the parties arising from the breach of the Agreement, each party will bear its own attorneys' fees in the litigation.

The Surety hereby stipulates and agrees that no change, extension of time, alteration, or addition to the terms of the Contract Documents or to the Work to be performed thereunder, or the Provisions accompanying the same shall in any way affect its obligations on this bond, and it does hereby waive notice of any such change, extension of time, alteration, or addition to the terms of the Contract Documents or to the Work or the Provisions.

(SIGNATURE PAGE FOLLOWS)

City of Moreno Valley
Project No. 804 0014

BOND No. _____

IN WITNESS WHEREOF, we have hereunto set our hands, and seals on this _____ day of _____ 20____.

CONTRACTOR (Principal)	SURETY
Contractor Name: _____	Name: _____
Address: _____	Address: _____
_____	_____
Telephone No.: _____	Telephone No.: _____
Print Name: _____	Print Name: _____ Attorney-in-Fact
Signature: _____	Signature: _____

Approved as to Form this

_____ day of _____20___

_____
City Attorney
City of Moreno Valley

NOTE:

- **The bond shall be executed by a California admitted surety insurer (CCP 995.311).**
- **The bond shall include an attached Notary Certificate for the Attorney-in-Fact.**
- **The bond shall include an attached Notary Certificate for the Contractor.**
- **The bond shall include an attached original Power of Attorney only authorizing the Attorney-in-Fact to act for the Surety.**
- **The bond shall include the address at which the Principal (Contractor) and Surety may be served with notices, papers and other documents.**
- **The Contractor's and Surety's corporate seal may be affixed hereto.**

CALIFORNIA ALL-PURPOSE CERTIFICATE OF ACKNOWLEDGMENT

SAMPLE

State of California

County of _____

On _____ before me, _____,
(Here insert name and title of the officer)

personally appeared _____,

who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledgement to me that he/she they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

_____ (Notary Seal)
Signature of Notary Public

ADDITIONAL OPTIONAL INFORMATION

DESCRIPTION OF THE ATTACHED DOCUMENT

PERFORMANCE BOND SIGNATURE PAGE
(Title or description of attached document)

_____
(Title or description of attached document continued)

Number of Pages _____

Document Date _____

_____
Additional Information

CAPACITY CLAIMED BY THE SIGNER

☐ Individual(s)
☐ Corporate Officer
_____
(Title)
☐ Partner (s)
☐ Attorney-in-Fact
☐ Other _____

INSTRUCTIONS FOR COMPLETING THIS FORM

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- Indicate the capacity claimed by the signer. If the claimed capacity is a corporate officer, indicate the title (i.e. CEO, CFO, Secretary).
- Securely attach this document to the signed document.

City of Moreno Valley
Project No. 804 0014

BOND No. _____
PREMIUM $_____

LABOR AND MATERIALS PAYMENT BOND
(100% of Total Contract Amount)

PROJECT No. 804 0014
Sunnymead - Flaming Arrow Drive Storm Drain

KNOW ALL MEN AND WOMEN BY THESE PRESENTS:

THAT WHEREAS, the City Council of the City of Moreno Valley, State of California, known as "City", has awarded to **O'Duffy Brothers, Inc.,** as Principal hereinafter designated as "Contractor" and have entered into an Agreement whereby the Contractor agrees to construct or install and complete certain designated public improvements, which said Agreement, effective on the date signed by the City of Moreno Valley, and identified as **Project No. 804 0014**, and Contract Documents are hereby referred to and made a part hereof; and

WHEREAS, said Contractor under the terms of said Contract Documents is required to furnish a bond to secure the payment of claims of laborers, mechanics, materialmen, and other persons, as provided by law;

NOW, THEREFORE, we the undersigned Contractor and _____, as Surety are held and firmly bound unto the City of Moreno Valley, County of Riverside, in the penal sum of _____dollars, ($_____), lawful money of the United States, for which payment, well and truly to be made, we bind ourselves, our heirs, executors and administrators, successors, and assigns, jointly and severally liable (CCP 995.320 (a)(1)), firmly by these presents.

THE CONDITION OF THIS OBLIGATION IS SUCH, that if said Contractor, his or her or its heirs, executors, administrator, successors, or assigns, or subcontractors, shall fail to pay any of the persons described in the State of California Civil Code, Section 9100, or amounts due under the Unemployment Insurance Code with respect to work or labor performed by any such claimant, or any amounts required to be deducted, withheld, and paid over to the Franchise Tax Board from the wages of employees of the Contractor and his or her subcontractors, pursuant to Section 13020, of the Unemployment Insurance Code, with respect to such work and labor, that the Surety or Sureties herein will pay for the same in an amount not exceeding the sum specified in this bond, otherwise the above obligation shall be void. In the event suit is brought upon this bond by the City or other person entitled to bring such an action and judgement is recovered, the Surety shall pay all costs incurred by the City in such suit, including a reasonable attorney fee to be fixed by the court.

Contractor and Surety agree that this Labor and Materials Payment Bond shall not be considered a part of this Agreement between Contractor and the City ("Agreement"). Contractor and Surety further agree that this Labor and Materials Payment Bond is a separate obligation of the Contractor and its Surety, and that any attorney's fee provision contained in this Labor and Materials Payment Bond shall not apply to the Agreement. In the event there is any litigation between the parties arising from the breach of the Agreement, each party will bear its own attorneys' fees in the litigation.

This bond shall inure to the benefit of any of the persons described in the State of California Civil Code Section9100, to give a right of action to such persons or their assigns in any suit brought upon this bond.

(SIGNATURE PAGE FOLLOWS)

City of Moreno Valley
Project No. 804 0014

BOND No. _____

IN WITNESS WHEREOF, we have hereunto set our hands, and seals on this _____ day of _____ 20____.

CONTRACTOR (Principal)	SURETY
Contractor Name: _____	Name: _____
Address: _____	Address: _____
_____	_____
Telephone No.: _____	Telephone No.: _____
Print Name: _____	Print Name: _____ Attorney-in-Fact
Signature: _____	Signature: _____

Approved as to Form this

_____ day of _____20____

_____
City Attorney
City of Moreno Valley

NOTE:

- **The bond shall be executed by a California admitted surety insurer (CCP 995.311).**
- **The bond shall include an attached Notary Certificate for the Attorney-in-Fact.**
- **The bond shall include an attached Notary Certificate for the Contractor.**
- **The bond shall include an attached original Power of Attorney only authorizing the Attorney-in-Fact to act for the Surety.**
- **The bond shall include the address at which the Principal (Contractor) and Surety may be served with notices, papers and other documents.**
- **The Contractor's and Surety's corporate seal may be affixed hereto.**

City of Moreno Valley
Project No. 804 0014

CALIFORNIA ALL-PURPOSE CERTIFICATE OF ACKNOWLEDGMENT

SAMPLE

State of California

County of _____

On _____ before me, _____,
(Here insert name and title of the officer)

personally appeared _____,

who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledgement to me that he/she they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

_____ (Notary Seal)
Signature of Notary Public

ADDITIONAL OPTIONAL INFORMATION

DESCRIPTION OF THE ATTACHED DOCUMENT

PAYMENT BOND SIGNATURE PAGE
(Title or description of attached document)

_____
(Title or description of attached document continued)

Number of Pages _____

Document Date _____

_____
Additional Information

CAPACITY CLAIMED BY THE SIGNER

- ☐ Individual(s)
- ☐ Corporate Officer
  _____
  (Title)
- ☐ Partner (s)
- ☐ Attorney-in-Fact
- ☐ Other _____

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- Print the name(s) of document signer(s) who personally appear at the time of notarization.
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- Securely attach this document to the signed document.

CITY OF MORENO VALLEY
SUPPLEMENTARY GENERAL CONDITIONS

The following provisions, pursuant to 44 Code of Federal Regulations, Part 13, Subpart C, Section 13.36, as it may be amended from time to time, are included in the Agreement and are required to be included in all subcontracts entered into by CONTRACTOR for work pursuant to the Agreement, unless otherwise expressly provided herein. These provisions supersede any conflicting provisions in the General Conditions and shall take precedence over the General Conditions for purposes of interpretation of the General Conditions. These provisions do not otherwise modify or replace General Conditions not in direct conflict with these provisions. Definitions used in these provisions are as contained in the General Conditions.

(1) CONTRACTOR shall be subject to the administrative, contractual, and legal remedies provided in the General Conditions in the event CONTRACTOR violates or breaches terms of the Agreement.

(2) CITY may terminate the Agreement for cause or for convenience, and CONTRACTOR may terminate the Agreement, as provided the General Conditions.

(3) CONTRACTOR shall comply with Executive Order 11246 of September 24, 1965, entitled Equal Employment Opportunity, as amended by Executive Order 11375 of October 13, 1967, and as supplemented in Department of Labor regulations (41 CFR chapter 60). (All construction contracts awarded in excess of $10,000 by CITY and/or subcontracts in excess of $10,000 entered into by CONTRACTOR.)

(4) CONTRACTOR shall comply with the Copeland Anti-Kickback Act (18 U.S.C. 874) as supplemented in Department of Labor regulations (29 CFR Part 3) (All contracts and subcontracts for construction or repair.)

(5) CONTRACTOR shall comply with the Davis-Bacon Act (40 U.S.C. 276a to 276a7) as supplemented by Department of Labor regulations (29 CFR Part 5).

(6) CONTRACTOR shall comply with Sections 103 and 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C. *327330*) as supplemented by Department of Labor regulations (29 CFR Part 5).

(7) CONTRACTOR shall observe CITY requirements and regulations pertaining to reporting included in the General Conditions.

(8) Patent rights with respect to any discovery or invention which arises or is developed in the course of or under the Agreement shall be retained by the CITY.

(9) Copyrights and rights in data developed in the course of or under the Agreement shall be the property of the CITY. FEMA/CalOES reserve a royalty-free, nonexclusive, irrevocable license to reproduce, publish or otherwise use or authorize to others to use for federal purposes a

copyright in any work developed under the Agreement and/or subcontracts for work pursuant to the Agreement.

(10) CONTRACTOR shall provide access by the City, the Federal grantor agency, the Comptroller General of the United States, or any of their duly authorized representatives to any books, documents, papers, and records of the contractor which are directly pertinent to that specific contract for the purpose of making audit, examination, excerpts, and transcriptions.

(11) CONTRACTOR shall retain all required records for three years after CITY makes final payments and all other pending matters relating to the Agreement are closed.

(12) CONTRACTOR shall comply with all applicable standards, orders, or requirements issued under section 306 of the Clean Air Act (42 U.S.C. *1857*(h)), section 508 of the Clean Water Act (33 U.S.C. 1368), Executive Order 11738, and Environmental Protection Agency regulations (40 CFR part 15). (This provision applies to contracts exceeding $100,000 and to subcontracts entered into pursuant to such contracts.)

(13) CONTRACTOR shall comply with mandatory standards and policies relating to energy efficiency which are contained in the State energy conservation plan issued in compliance with the Energy Policy and Conservation Act (Pub. L. 94163, 89 Stat. 871).

City of Moreno Valley

BY: _____
Mike Lee, City Manager

_____
Date

INTERNAL USE ONLY

APPROVED AS TO LEGAL FORM:

_____
City Attorney

_____
Date

RECOMMENDED FOR APPROVAL:

_____
Public Works Director/City Engineer

_____
Date

O'Duffy Brothers, Inc.

BY: _____

TITLE: _____
(Select only one please)
(President or Vice President)

_____
Date

BY: _____

TITLE: _____
(Corporate Secretary)

_____
Date

Report to City Council

TO: Mayor and City Council Acting in its Capacity as President and Members of the Board of Directors of the Moreno Valley Community Services District (CSD)

FROM: Marshall Eyerman, Assistant City Manager

AGENDA DATE: February 2, 2021

TITLE: PURSUANT TO LANDOWNER PETITIONS, ANNEX CERTAIN PARCELS INTO COMMUNITY FACILITIES DISTRICT NO. 1 (PARK MAINTENANCE) - AS ANNEXATION NO. 2021-62 AND ANNEXATION NO. 2021-64

RECOMMENDED ACTION

Recommendations:

1. Acting as the legislative body of Community Facilities District No. 1 (Park Maintenance) adopt Resolution No. CSD 2021-__, a Resolution of the Board of Directors of the Moreno Valley Community Services District, California, ordering the annexation of territory for Annexation No. 2021-62 to its Community Facilities District No. 1 and approving the amended map for said District. (PEDROHYPJVC, LLC, located on the north side of Kalmia Ave., west of Lasselle St.).

2. Acting as the legislative body of Community Facilities District No. 1 (Park Maintenance) adopt Resolution No. CSD 2021-____, a Resolution of the Board of Directors of the Moreno Valley Community Services District, California, ordering the annexation of territory for Annexation No. 2021-64 to its Community Facilities District No. 1 and approving the amended map for said District. (ROC III CA Belago, located at the south side of John F. Kennedy Dr., east of Moreno Beach Dr.).

SUMMARY

Approval of the proposed resolutions will certify the annexation of three parcels into Community Facilities District (CFD) No. 1 (Park Maintenance) ("District"). This action impacts only the property owners identified below, not the general citizens or taxpayers of the City or the CSD.

The City requires property owners of new development projects to mitigate the cost of certain impacts created by the proposed development (e.g., the increase in demand on parks created by residential development). The CSD Board created CFD No. 1 to provide the development community with a funding mechanism to assist in satisfying the requirement. After a property owner elects to annex their property into the District and the CSD Board approves the annexation, a special tax can be levied on the annual property tax bills of the annexed parcels to fund the cost of increased demands on parks.

As a condition of approval for development of their projects, the Property Owners, as defined below, are required to provide a funding source to maintain parks and have elected to annex the parcels of their projects into the District to satisfy the condition. The Property Owners submitted Landowner Petitions approving the annexations and the City Clerk, acting in the capacity of Secretary of the CSD, has confirmed the petitions are valid.

DISCUSSION

The District was formed on July 8, 2003, to provide an alternative funding tool for the development community. It provides a mechanism to fund the continued maintenance, enhancement, and/or retrofit of parks, open spaces, linear parks, and/or trail systems included within the District.

At the time CFD No. 1 was formed, the CSD Board designated a future annexation area for the District. With the future annexation area designated, annexations can occur without an additional public hearing as long as the annexing landowner provides unanimous consent. Once annexed, parcels are subject to the annual special tax to fund the park maintenance services of the District.

As a condition of approval for the projects identified below, the Property Owners are required to provide an ongoing funding source for park maintenance. The table below provides information for the parcels under development ("Subject Property").

Property Owner/ Project ACP Record #	APNs	Location	Annexation #
PEDROHYPJVC, LLC 83 single-family residential development PEN19-0217/SCP20-0024	474-110-004 & 474-110-014	North side of Kalmia Ave., west of Lasselle St.	2021-62
ROC III CA Belago 417-unit multi-family housing PEN16-0130/SCP20-0032	304-100-007	South side of John F. Kennedy Dr., east of Moreno Beach Dr.	2021-64

A property owner has two options to satisfy the condition of approval:

1) Submit a Landowner Petition unanimously approving annexation of their property into the District. Approval of the petition and special tax rate allows the CSD to levy the special tax on the annual property tax bill for their property. This option is only available if there are fewer than 12 registered voters living within the proposed annexation area; or

2) Fund an endowment to satisfy the annual requirement.

The Property Owners elected to annex the Subject Property into CFD No. 1, which authorizes the CSD to apply the special tax to the annual property tax bill. The Office of the Riverside County Registrar of Voters confirmed there were no registered voters residing at the Subject Property, allowing for a special election of the landowner. Adoption of the attached resolutions (Attachments 1-2) adds the Subject Property to the District and directs the recordation of the boundary maps (Attachments 3-4) and amended notice of special tax liens for Annexation No. 2021-62 and 2021-64. The Secretary of the CSD received and reviewed the Landowner Petitions and confirmed the Property Owners unanimously approved annexation of the Subject Property into the District (Attachments 5-6).

Successful completion of the annexation process satisfies each project's condition of approval to provide an ongoing funding source for park maintenance.

ALTERNATIVES

1. Adopt the proposed resolutions. *Staff recommends this alternative as it will annex the Subject Property into CFD No. 1 at the request of the Property Owners and satisfy the condition of approval for the proposed developments.*

2. Do not adopt the proposed resolutions. *Staff does not recommend this alternative as it is contrary to each Property Owner's request, will not satisfy the condition of approval, and may delay development of the projects.*

3. Do not adopt the proposed resolutions but rather continue the item to a future regularly scheduled CSD Board meeting. *Staff does not recommend this alternative as it will delay the Property Owners from satisfying the condition of approval and may delay development of their projects.*

FISCAL IMPACT

Revenue received from the special tax is restricted and can only be used to fund the maintenance and operation of CFD No. 1 park facilities and services. The special tax can be applied only to the property tax bill of a parcel wherein the qualified electors (i.e.,

landowners or registered voters, depending on the number of registered voters) have previously provided approval. The estimated maximum special tax revenue that can be generated from each project is detailed below:

Property Owner/ Project ACP Record #	Proposed DUs[1,2]	FY 2020/21 Maximum Special Tax[3]	FY 2020/21 Maximum Special Tax for the Project[2]
PEDROHYPJVC, LLC 83 single-family residential development PEN19-0217/SCP20-0024	83	$181.59/DU	$15,071.97
ROC III CA Belago 417-unit multi-family housing PEN16-0130/SCP20-0032	417	$181.59/DU	$75,723.03

[1] DU = Dwelling Unit (single-family residential lot or dwelling unit for multi-family).
[2] Based on the current project description. The special tax will be calculated based on the final development of the project.
[3] The special tax applied to the property tax bill will be based on the needs of the District. The applied special tax rate cannot exceed the maximum special tax rate. The FY 2020/21 applied rate is $146.32 per DU.

The maximum special tax rate is subject to an annual inflation adjustment based on the change in Consumer Price Index (CPI) or by two percent (2%), whichever is greater. However, the annual adjustment cannot be applied unless the CSD Board annually authorizes such adjustment. The increase to the maximum special tax rate cannot exceed the annual inflationary adjustment without a two-thirds approval of the qualified electors within the District.

NOTIFICATION

On December 17, 2020, the annexation materials were mailed to the Property Owners. A cover letter, Landowner Petition, Rates and Method of Apportionment of Special Tax, and an envelope to return the completed petition were included.

PREPARATION OF STAFF REPORT

Prepared by:
Isa Rojas
Management Analyst

Department Head Approval:
Marshall Eyerman
Assistant City Manager

Concurred by:
Candace E. Cassel
Special Districts Division Manager

Concurred by:
Patti Solano
Parks & Community Services Director

CITY COUNCIL GOALS

Revenue Diversification and Preservation. Develop a variety of City revenue sources and policies to create a stable revenue base and fiscal policies to support essential City services, regardless of economic climate.

Community Image, Neighborhood Pride and Cleanliness. Promote a sense of community pride and foster an excellent image about our City by developing and executing programs which will result in quality development, enhanced neighborhood preservation efforts, including home rehabilitation and neighborhood restoration.

CITY COUNCIL STRATEGIC PRIORITIES

1. **Economic Development**
2. **Public Safety**
3. **Library**
4. **Infrastructure**
5. **Beautification, Community Engagement, and Quality of Life**
6. **Youth Programs**

Objective 5.2: Promote the installation and maintenance of cost effective, low maintenance landscape, hardscape and other improvements which create a clean, inviting community.

ATTACHMENTS

1. Resolution Ordering Annexation No 2021-62
2. Resolution Ordering Annexation No 2021-64
3. Boundary Map - Annexation 2021-62
4. Boundary Map - Annexation 2021-64
5. Certificate of Election Official - Annexation 2021-62
6. Certificate of Election Official - Annexation 2021-64

APPROVALS

Budget Officer Approval	✓ Approved	1/21/21 10:40 AM
City Attorney Approval	✓ Approved	
City Manager Approval	✓ Approved	1/22/21 11:29 AM

RESOLUTION NO. CSD 2021-___

A RESOLUTION OF THE BOARD OF DIRECTORS OF THE MORENO VALLEY COMMUNITY SERVICES DISTRICT, CALIFORNIA, ORDERING THE ANNEXATION OF TERRITORY FOR ANNEXATION NO. 2021-62 TO ITS COMMUNITY FACILITIES DISTRICT NO. 1 AND APPROVING THE AMENDED MAP FOR SAID DISTRICT

WHEREAS, by its Resolution No. CSD 2003-23, the Board of Directors of the Moreno Valley Community Services District (the "CSD") established the CSD's Community Facilities District No. 1 (the "CFD"), a citywide district, pursuant to the Mello-Roos Community Facilities Act of 1982 (Government Code Section 53311 *et seq*.) (the "Act"); and

WHEREAS, by its Ordinance No. 41, the Board of Directors levied an annual special tax against all non-exempt parcels of real property within the CFD (the "Special Tax") to fund parks and park improvements; and

WHEREAS, by its Resolution No. CSD 2003-26, the Board of Directors designated all territory within the City of Moreno Valley to be a Future Annexation Area for the CFD; and

WHEREAS, pursuant to Resolution No. CSD 2003-26 territory located within the Future Annexation Area may be annexed to the CFD upon the unanimous approval of the owner or owners of each parcel or parcels at the time that the parcel or parcels are annexed, without additional hearings; and

WHEREAS, the landowners of the parcels listed on Exhibit A to this Resolution, which is attached hereto and incorporated herein by reference, have submitted a petition requesting and approving annexation of the listed parcels (the "Annexation Parcels") to the CFD; and

WHEREAS, the boundary map entitled "Annexation Map No. 2021-62 of Community Facilities District No. 1 of the Moreno Valley Community Services District City of Moreno Valley, County of Riverside, State of California," showing the extent of the proposed annexation is included as Exhibit B to this Resolution and incorporated herein by reference (the "Boundary Map"); and

WHEREAS, the Board of Directors desires to annex the Annexation Parcels to the CFD.

NOW, THEREFORE, THE BOARD OF DIRECTORS OF THE MORENO VALLEY COMMUNITY SERVICES DISTRICT OF THE CITY OF MORENO VALLEY, CALIFORNIA, DOES HEREBY RESOLVE AS FOLLOWS:

1. Recitals. The above recitals are all true and correct and are herein incorporated.

2. Annexation Ordered. The Annexation Parcels are hereby added to and part of the CFD with full legal effect. The Annexation Parcels are subject to the Special Tax levied in connection with the CFD.

3. Description of Services. The following is a general description of the services provided in the CFD:

The maintenance and/or repair of Parks and Park Improvements including, but not limited to, the planting, replanting, mowing, trimming, irrigation and fertilization of grass, trees, shrubs, and other ornamental plants and vegetation, the operation, maintenance, repair, and replacement of irrigation systems associated with Parks and Park Improvements, and all the effort by Park Rangers that is devoted to the maintenance of the Parks and Park Improvements and public safety. "Parks and Park Improvement" means parks and park improvements which are to be developed, constructed, installed, and maintained within and in the area of the CSD and which will be owned and operated by the CSD for the benefit of the residents of the CFD.

Such maintenance shall include, but not be limited to, the provision of all labor, material, administration, personnel, equipment and utilities necessary to maintain such Parks and Park Improvements.

It is the intention of the Board of Directors to fund all direct, administrative and incidental annual costs and expenses necessary to provide the authorized maintenance and services.

4. Amended Boundary Map. The Boundary Map attached hereto as Exhibit B is hereby approved. This map amends, and does not supersede, the existing map of the CFD. The City Council directs that said map be filed with the Riverside County Recorder pursuant to Section 3113 of the Streets and Highways Code.

5. Notice of Special Tax Lien. The City Council directs that an amended notice of special tax lien be recorded pursuant to Section 3117.5 of the Streets and Highways Code with respect to the Annexation Parcel associated with the Boundary Map.

6. Severability. That should any provision, section, paragraph, sentence or word of this Resolution be rendered or declared invalid by any final court action in a court of competent jurisdiction or by reason of any preemptive legislation, the remaining provisions, sections, paragraphs, sentences or words of this resolution as hereby adopted shall remain in full force and effect.

7. This Resolution shall be effective immediately upon adoption.

8. The City Clerk shall certify to the adoption of this Resolution, and shall maintain on file

as a public record this Resolution.

APPROVED AND ADOPTED this 2nd day of February 2021.

_____
Mayor of the City of Moreno Valley,
Acting in the capacity of President of the
Moreno Valley Community Services District

ATTEST:

_____
City Clerk, acting in the capacity of
Secretary of the Moreno Valley
Community Services District

APPROVED AS TO FORM:

_____
City Attorney, acting in the capacity
of General Counsel of the Moreno
Valley Community Services District

RESOLUTION JURAT

STATE OF CALIFORNIA)

COUNTY OF RIVERSIDE) ss.

CITY OF MORENO VALLEY)

I, Pat Jacquez-Nares, Secretary of the Moreno Valley Community Services District, Moreno Valley, California do hereby certify that Resolution No. CSD 2021-___ was duly and regularly adopted by the Board of Directors of the Moreno Valley Community Services District at a regular meeting held on the 2nd day of February 2021, by the following vote:

AYES:

NOES:

ABSENT:

ABSTAIN:

(Boardmembers, Vice-President and President)

_____
SECRETARY

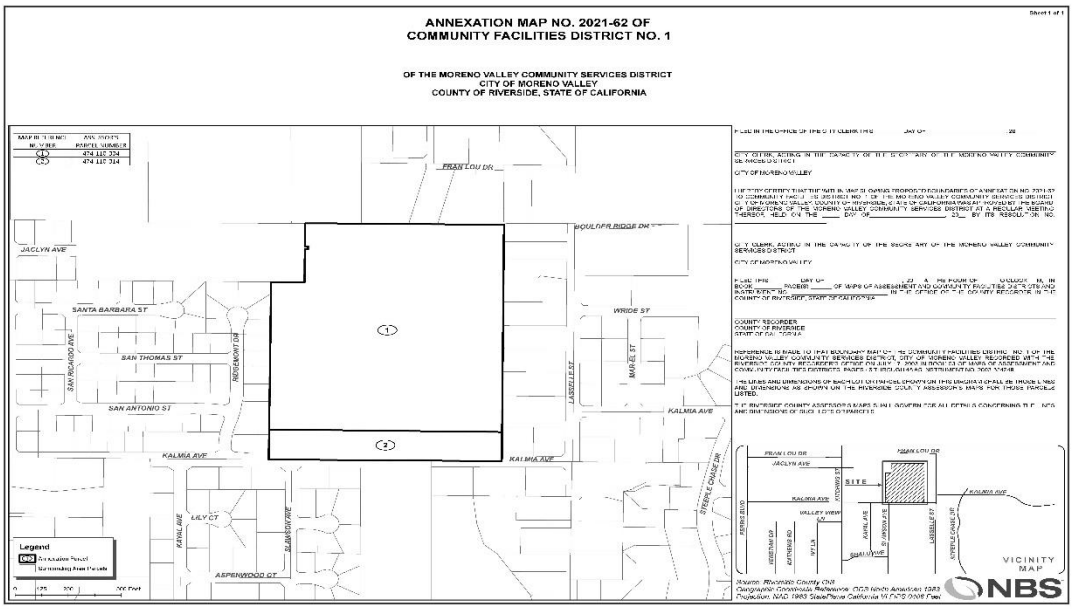
(SEAL)

EXHIBIT A

List of Annexation Parcel(s)	
Annexation Map No.	Assessor's Parcel Numbers
2021-62	474-110-004
	474-110-014

EXHIBIT B

Annexation Map No. 2021-62



Resolution No. CSD 2021-____
Date Adopted: February 2, 2021

RESOLUTION NO. CSD 2021-___

A RESOLUTION OF THE BOARD OF DIRECTORS OF THE MORENO VALLEY COMMUNITY SERVICES DISTRICT, CALIFORNIA, ORDERING THE ANNEXATION OF TERRITORY FOR ANNEXATION NO. 2021-64 TO ITS COMMUNITY FACILITIES DISTRICT NO. 1 AND APPROVING THE AMENDED MAP FOR SAID DISTRICT

WHEREAS, by its Resolution No. CSD 2003-23, the Board of Directors of the Moreno Valley Community Services District (the "CSD") established the CSD's Community Facilities District No. 1 (the "CFD"), a citywide district, pursuant to the Mello-Roos Community Facilities Act of 1982 (Government Code Section 53311 *et seq*.) (the "Act"); and

WHEREAS, by its Ordinance No. 41, the Board of Directors levied an annual special tax against all non-exempt parcels of real property within the CFD (the "Special Tax") to fund parks and park improvements; and

WHEREAS, by its Resolution No. CSD 2003-26, the Board of Directors designated all territory within the City of Moreno Valley to be a Future Annexation Area for the CFD; and

WHEREAS, pursuant to Resolution No. CSD 2003-26 territory located within the Future Annexation Area may be annexed to the CFD upon the unanimous approval of the owner or owners of each parcel or parcels at the time that the parcel or parcels are annexed, without additional hearings; and

WHEREAS, the landowners of the parcels listed on Exhibit A to this Resolution, which is attached hereto and incorporated herein by reference, have submitted a petition requesting and approving annexation of the listed parcels (the "Annexation Parcels") to the CFD; and

WHEREAS, the boundary map entitled "Annexation Map No. 2021-64 of Community Facilities District No. 1 of the Moreno Valley Community Services District City of Moreno Valley, County of Riverside, State of California," showing the extent of the proposed annexation is included as Exhibit B to this Resolution and incorporated herein by reference (the "Boundary Map"); and

WHEREAS, the Board of Directors desires to annex the Annexation Parcels to the CFD.

NOW, THEREFORE, THE BOARD OF DIRECTORS OF THE MORENO VALLEY COMMUNITY SERVICES DISTRICT OF THE CITY OF MORENO VALLEY, CALIFORNIA, DOES HEREBY RESOLVE AS FOLLOWS:

1. Recitals. The above recitals are all true and correct and are herein incorporated.

2. Annexation Ordered. The Annexation Parcels are hereby added to and part of the CFD with full legal effect. The Annexation Parcels are subject to the Special Tax levied in connection with the CFD.

3. Description of Services. The following is a general description of the services provided in the CFD:

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Such maintenance shall include, but not be limited to, the provision of all labor, material, administration, personnel, equipment and utilities necessary to maintain such Parks and Park Improvements.

It is the intention of the Board of Directors to fund all direct, administrative and incidental annual costs and expenses necessary to provide the authorized maintenance and services.

4. Amended Boundary Map. The Boundary Map attached hereto as Exhibit B is hereby approved. This map amends, and does not supersede, the existing map of the CFD. The City Council directs that said map be filed with the Riverside County Recorder pursuant to Section 3113 of the Streets and Highways Code.

5. Notice of Special Tax Lien. The City Council directs that an amended notice of special tax lien be recorded pursuant to Section 3117.5 of the Streets and Highways Code with respect to the Annexation Parcel associated with the Boundary Map.

6. Severability. That should any provision, section, paragraph, sentence or word of this Resolution be rendered or declared invalid by any final court action in a court of competent jurisdiction or by reason of any preemptive legislation, the remaining provisions, sections, paragraphs, sentences or words of this resolution as hereby adopted shall remain in full force and effect.

7. This Resolution shall be effective immediately upon adoption.

8. The City Clerk shall certify to the adoption of this Resolution, and shall maintain on file

as a public record this Resolution.

APPROVED AND ADOPTED this 2nd day of February 2021.

_____
Mayor of the City of Moreno Valley,
Acting in the capacity of President of the
Moreno Valley Community Services District

ATTEST:

_____
City Clerk, acting in the capacity of
Secretary of the Moreno Valley
Community Services District

APPROVED AS TO FORM:

_____
City Attorney, acting in the capacity
of General Counsel of the Moreno
Valley Community Services District

RESOLUTION JURAT

STATE OF CALIFORNIA)

COUNTY OF RIVERSIDE) ss.

CITY OF MORENO VALLEY)

I, Pat Jacquez-Nares, Secretary of the Moreno Valley Community Services District, Moreno Valley, California do hereby certify that Resolution No. CSD 2021-__ was duly and regularly adopted by the Board of Directors of the Moreno Valley Community Services District at a regular meeting held on the 2nd day of February 2021, by the following vote:

AYES:

NOES:

ABSENT:

ABSTAIN:

(Boardmembers, Vice-President and President)

_____

SECRETARY

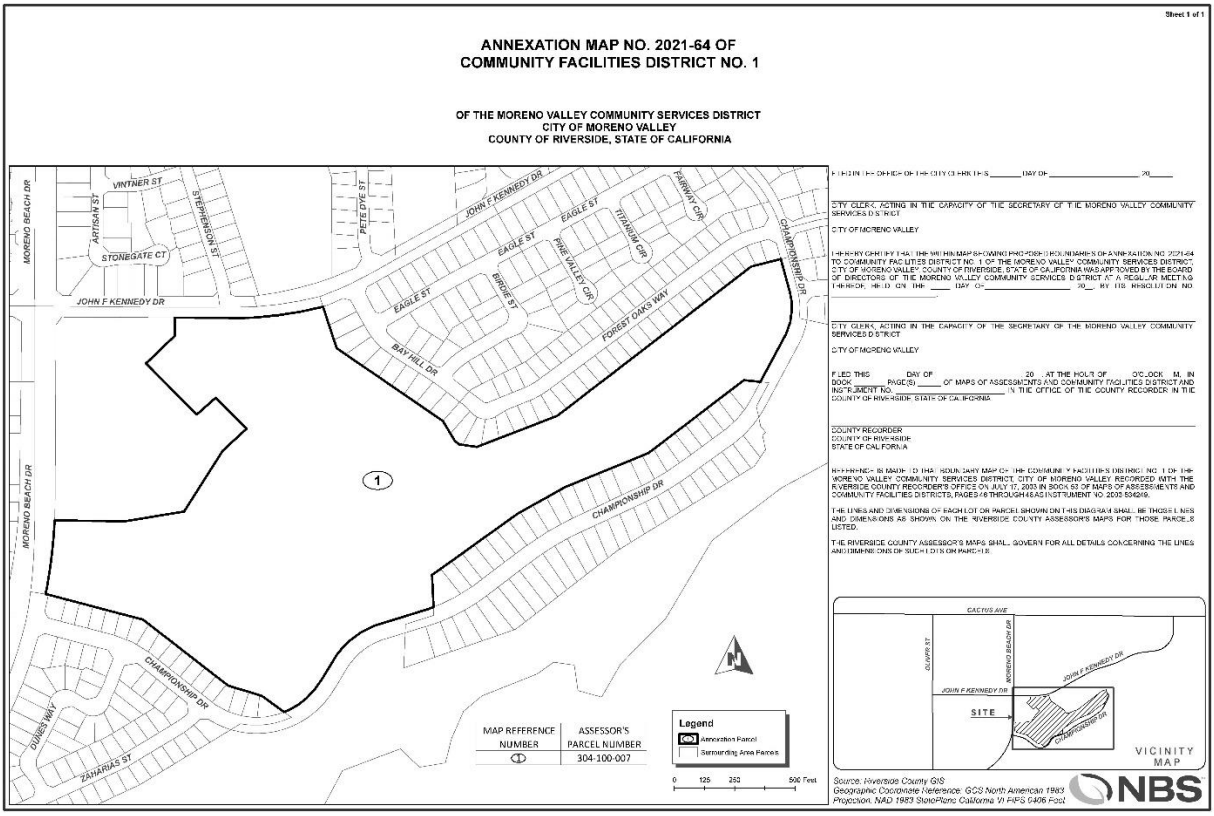
(SEAL)

EXHIBIT A

List of Annexation Parcel(s)	
Annexation Map No.	Assessor's Parcel Numbers
2021-64	304-100-007

EXHIBIT B

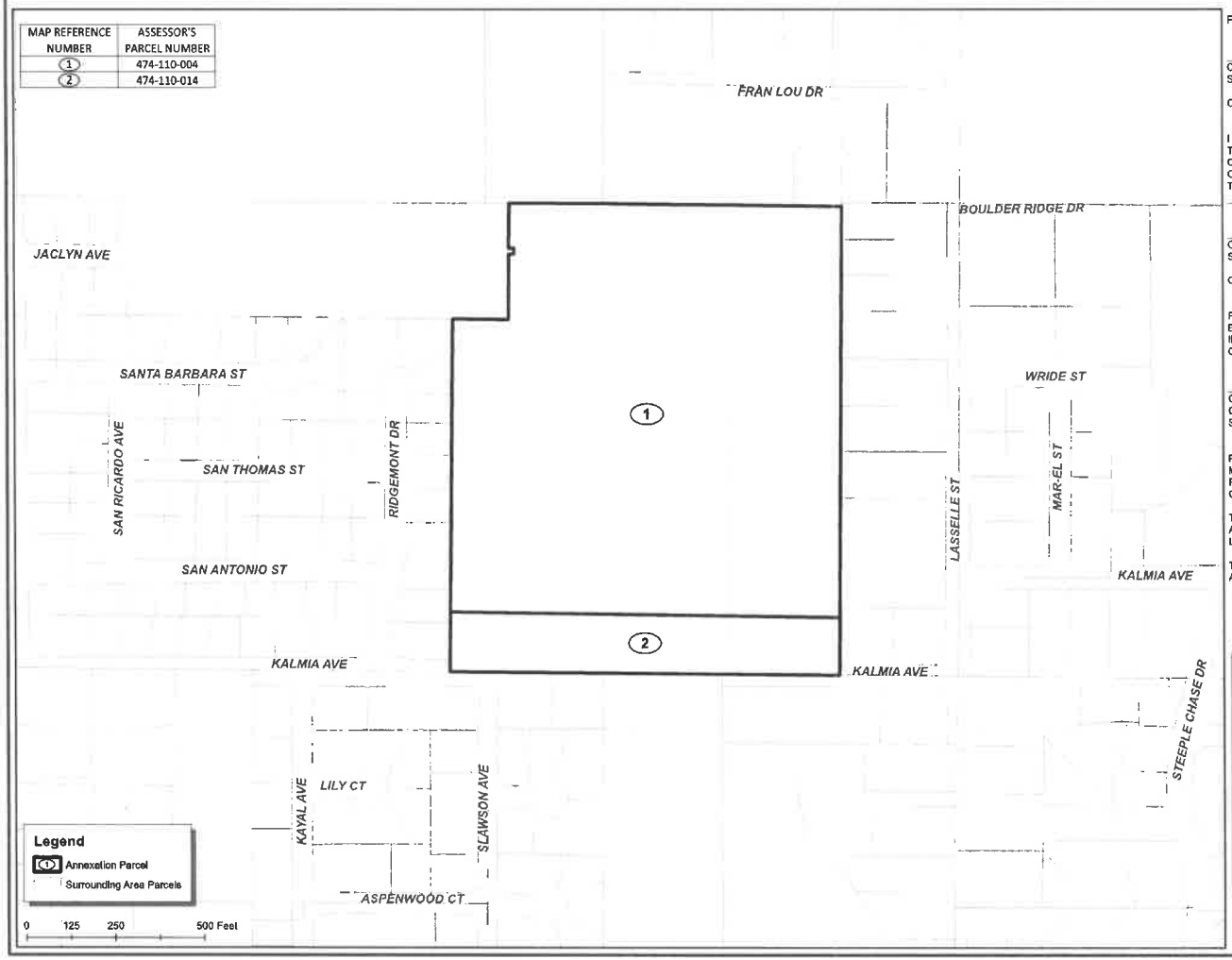
Annexation Map No. 2021-64



ANNEXATION MAP NO. 2021-62 OF COMMUNITY FACILITIES DISTRICT NO. 1

OF THE MORENO VALLEY COMMUNITY SERVICES DISTRICT
CITY OF MORENO VALLEY
COUNTY OF RIVERSIDE, STATE OF CALIFORNIA

MAP REFERENCE NUMBER	ASSESSOR'S PARCEL NUMBER
1	474-110-004
2	474-110-014



FILED IN THE OFFICE OF THE CITY CLERK THIS _____ DAY OF _____, 20_____.

_____
CITY CLERK, ACTING IN THE CAPACITY OF THE SECRETARY OF THE MORENO VALLEY COMMUNITY SERVICES DISTRICT

CITY OF MORENO VALLEY

I HEREBY CERTIFY THAT THE WITHIN MAP SHOWING PROPOSED BOUNDARIES OF ANNEXATION NO. 2021-62 TO COMMUNITY FACILITIES DISTRICT NO. 1 OF THE MORENO VALLEY COMMUNITY SERVICES DISTRICT, CITY OF MORENO VALLEY, COUNTY OF RIVERSIDE, STATE OF CALIFORNIA WAS APPROVED BY THE BOARD OF DIRECTORS OF THE MORENO VALLEY COMMUNITY SERVICES DISTRICT AT A REGULAR MEETING THEREOF, HELD ON THE ____ DAY OF _____, 20__, BY ITS RESOLUTION NO. _____

_____
CITY CLERK, ACTING IN THE CAPACITY OF THE SECRETARY OF THE MORENO VALLEY COMMUNITY SERVICES DISTRICT

CITY OF MORENO VALLEY

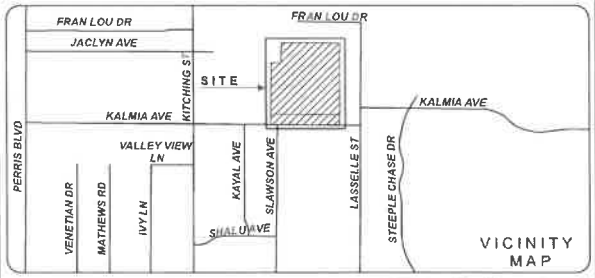
FILED THIS _____ DAY OF _____, 20__, AT THE HOUR OF ____ O'CLOCK __M. IN BOOK _____ PAGE(S) _____ OF MAPS OF ASSESSMENT AND COMMUNITY FACILITIES DISTRICTS AND INSTRUMENT NO. _____ IN THE OFFICE OF THE COUNTY RECORDER IN THE COUNTY OF RIVERSIDE, STATE OF CALIFORNIA.

_____
COUNTY RECORDER
COUNTY OF RIVERSIDE
STATE OF CALIFORNIA

REFERENCE IS MADE TO THAT BOUNDARY MAP OF THE COMMUNITY FACILITIES DISTRICT NO. 1 OF THE MORENO VALLEY COMMUNITY SERVICES DISTRICT, CITY OF MORENO VALLEY RECORDED WITH THE RIVERSIDE COUNTY RECORDER'S OFFICE ON JULY 17, 2003 IN BOOK 53 OF MAPS OF ASSESSMENT AND COMMUNITY FACILITIES DISTRICTS, PAGES 46 THROUGH 48 AS INSTRUMENT NO. 2003-534249.

THE LINES AND DIMENSIONS OF EACH LOT OR PARCEL SHOWN ON THIS DIAGRAM SHALL BE THOSE LINES AND DIMENSIONS AS SHOWN ON THE RIVERSIDE COUNTY ASSESSOR'S MAPS FOR THOSE PARCELS LISTED.

THE RIVERSIDE COUNTY ASSESSOR'S MAPS SHALL GOVERN FOR ALL DETAILS CONCERNING THE LINES AND DIMENSIONS OF SUCH LOTS OR PARCELS.



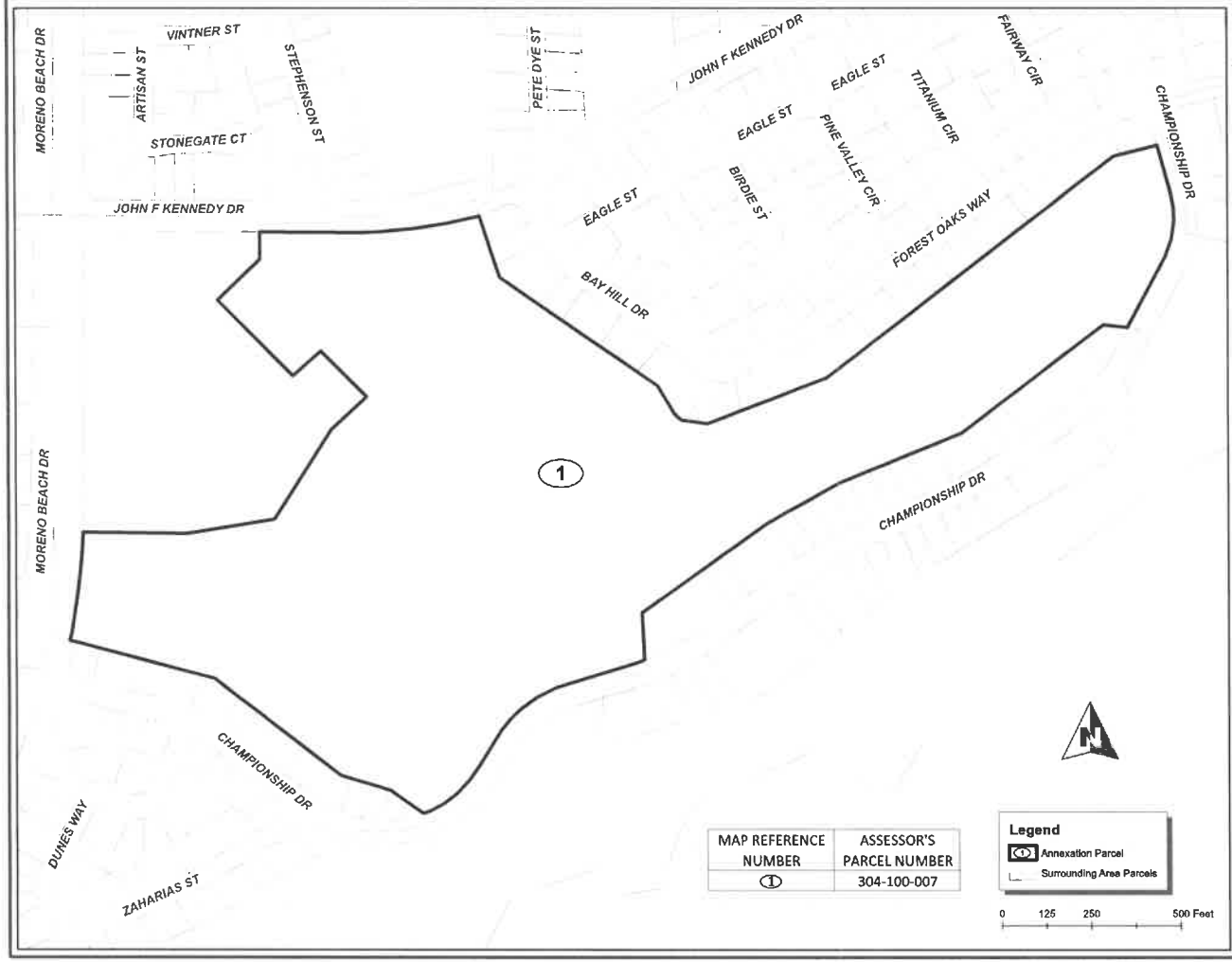
Source: Riverside County GIS
Geographic Coordinate Reference: GCS North American 1983
Projection: NAD 1983 StatePlane California VI FIPS 0406 Feet

NBS

Sheet 1 of 1

ANNEXATION MAP NO. 2021-64 OF COMMUNITY FACILITIES DISTRICT NO. 1

OF THE MORENO VALLEY COMMUNITY SERVICES DISTRICT
CITY OF MORENO VALLEY
COUNTY OF RIVERSIDE, STATE OF CALIFORNIA



FILED IN THE OFFICE OF THE CITY CLERK THIS _____ DAY OF _____, 20_____.

_____
CITY CLERK, ACTING IN THE CAPACITY OF THE SECRETARY OF THE MORENO VALLEY COMMUNITY SERVICES DISTRICT

CITY OF MORENO VALLEY

I HEREBY CERTIFY THAT THE WITHIN MAP SHOWING PROPOSED BOUNDARIES OF ANNEXATION NO. 2021-64 TO COMMUNITY FACILITIES DISTRICT NO. 1 OF THE MORENO VALLEY COMMUNITY SERVICES DISTRICT, CITY OF MORENO VALLEY, COUNTY OF RIVERSIDE, STATE OF CALIFORNIA WAS APPROVED BY THE BOARD OF DIRECTORS OF THE MORENO VALLEY COMMUNITY SERVICES DISTRICT AT A REGULAR MEETING THEREOF, HELD ON THE ____ DAY OF _____, 20__, BY ITS RESOLUTION NO. _____

_____
CITY CLERK, ACTING IN THE CAPACITY OF THE SECRETARY OF THE MORENO VALLEY COMMUNITY SERVICES DISTRICT

CITY OF MORENO VALLEY

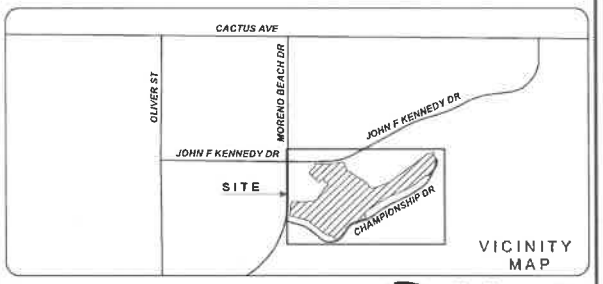
FILED THIS _____ DAY OF _____, 20__, AT THE HOUR OF _____ O'CLOCK __M. IN BOOK _____ PAGE(S) _____ OF MAPS OF ASSESSMENTS AND COMMUNITY FACILITIES DISTRICT AND INSTRUMENT NO. _____ IN THE OFFICE OF THE COUNTY RECORDER IN THE COUNTY OF RIVERSIDE, STATE OF CALIFORNIA.

_____
COUNTY RECORDER
COUNTY OF RIVERSIDE
STATE OF CALIFORNIA

REFERENCE IS MADE TO THAT BOUNDARY MAP OF THE COMMUNITY FACILITIES DISTRICT NO. 1 OF THE MORENO VALLEY COMMUNITY SERVICES DISTRICT, CITY OF MORENO VALLEY RECORDED WITH THE RIVERSIDE COUNTY RECORDER'S OFFICE ON JULY 17, 2003 IN BOOK 53 OF MAPS OF ASSESSMENTS AND COMMUNITY FACILITIES DISTRICTS, PAGES 46 THROUGH 48 AS INSTRUMENT NO. 2003-534249.

THE LINES AND DIMENSIONS OF EACH LOT OR PARCEL SHOWN ON THIS DIAGRAM SHALL BE THOSE LINES AND DIMENSIONS AS SHOWN ON THE RIVERSIDE COUNTY ASSESSOR'S MAPS FOR THOSE PARCELS LISTED.

THE RIVERSIDE COUNTY ASSESSOR'S MAPS SHALL GOVERN FOR ALL DETAILS CONCERNING THE LINES AND DIMENSIONS OF SUCH LOTS OR PARCELS.



Source: Riverside County GIS
Geographic Coordinate Reference: GCS North American 1983
Projection: NAD 1983 StatePlane California VI FIPS 0406 Feet

NBS

CERTIFICATE OF ELECTION OFFICIAL AND CONFIRMATION OF LANDOWNER PETITION

STATE OF CALIFORNIA)
COUNTY OF RIVERSIDE) ss.
CITY OF MORENO VALLEY)

The undersigned, Election Official of the City of Moreno Valley, County of Riverside, State of California, Does Hereby Certify that on **January 13, 2021**, I did verify the completeness of the Landowner Petition for the annexation of property into

COMMUNITY FACILITIES DISTRICT NO. 1 OF THE
MORENO VALLEY COMMUNITY SERVICES DISTRICT
OF THE CITY OF MORENO VALLEY

ANNEXATION NO. 2021-62

WITNESS my hand this 13th day of January, 2021.

Regina Flores

ELECTION OFFICIAL
CITY OF MORENO VALLEY
STATE OF CALIFORNIA

CERTIFICATE OF ELECTION OFFICIAL
AND CONFIRMATION OF LANDOWNER PETITION

STATE OF CALIFORNIA)
COUNTY OF RIVERSIDE) ss.
CITY OF MORENO VALLEY)

The undersigned, Election Official of the City of Moreno Valley, County of Riverside, State of California, Does Hereby Certify that on **January 6, 2021**, I did verify the completeness of the Landowner Petition for the annexation of property into

COMMUNITY FACILITIES DISTRICT NO. 1 OF THE
MORENO VALLEY COMMUNITY SERVICES DISTRICT
OF THE CITY OF MORENO VALLEY

ANNEXATION NO. 2021- 64

WITNESS my hand this 6th day of January, 2021.

Regina Flores

ELECTION OFFICIAL
CITY OF MORENO VALLEY
STATE OF CALIFORNIA

Report to City Council

TO:	Mayor and City Council Acting in its Capacity as President and Members of the Board of Directors of the Moreno Valley Community Services District (CSD)
FROM:	Patti Solano, Parks & Community Services Director
AGENDA DATE:	February 2, 2021
TITLE:	APPROVE AGREEMENT FOR PROFESSIONAL CONSULTANT SERVICES WITH KIMLEY-HORN AND ASSOCIATES, INC., FOR DESIGN AND CONSTRUCTION SERVICES FOR MORENO VALLEY BARK PARK PROJECT NO. 807 0054 (FUNDED WITH PARK DIF FUNDS)

RECOMMENDED ACTION

Recommendations:

1. Award an Agreement for Professional Consultant Services with Kimley-Horn and Associates, Inc., for the Moreno Valley Bark Park project.

2. Authorize the issuance of a purchase order in the amount of $171,560 upon execution of the Agreement for Professional Consultant Services with Kimley-Horn and Associates, Inc. Funds are available in the Parks and Community Services (PCS) Capital Projects Fund (3015);

3. Authorize the City Manager to execute the contract with Kimley-Horn subject to minor modifications; and

4. Authorize the Parks and Community Services Director to execute subsequent Amendments to the Agreement within Council approved annual budgeted amounts, including the authority to authorize the associated purchase orders in accordance with the terms of the Agreement, subject to the approval of the City Attorney.

SUMMARY

This report recommends approval of the Agreement for Professional Consultant Services with Kimley-Horn and Associates, Inc., for design services and construction support services for the Moreno Valley Bark Park project. The funding for design services is currently available through development impact fees (DIF) and is eligible for reimbursement from Statewide Park Development and Community Revitalization Program (SPP) grant funds, if awarded. Construction support services will be performed contingent upon award of SPP grant funds.

DISCUSSION

On June 5, 2018, California voters approved the Parks and Water Bond Act of 2018 (Proposition 68), which authorized $4 billion in general obligation bonds for state and local parks, environmental protection projects, water infrastructure projects, and flood protection projects.

The California Department of Parks and Recreation is accepting competitive applications for the $395.3 million Round Four Statewide Park Program (SPP). This is the final round of funding for SPP grant funds. The goal of SPP competitive grants is to create new parks and new recreation opportunities in critically underserved communities across California.

On November 17, 2020, the City Council authorized the Parks and Community Services Department to submit an application for SPP grant funds. The department is developing a project application to develop the vacant lot west of the Moreno Valley Animal Shelter into a dog park. This project will provide recreation opportunities for dog owners and Animal Shelter visitors and personnel to socialize and exercise their dogs in a safe environment. The application deadline was extended by the California Department of Parks and Recreation to March 12, 2021.

The consultant's scope of work consists of three (3) tasks. The first task is conceptual plan development, the second task is preparation of construction documents and related reports, and the third task is construction support services. The first task is required for completion and submittal of the grant application. If grant funds are awarded, the costs associated with conceptual plan development are eligible for reimbursement. Tasks two and three will be performed contingent upon award of grant funds.

Requests for Proposal (RFP) for professional landscape architect design services were sent by invitation only to the three design firms on the City's On-Call List for Landscape and Irrigation Design Consultants. The City received two (2) proposals in response to the RFP, from Architerra Design Group and Kimley-Horn and Associates, Inc.

A selection committee, comprised of City staff from the Parks and Community Services and Public Works Departments, independently reviewed and rated the proposals, based on qualifications-based selection criteria. All members of the selection committee rated the same proposal as the top qualified. Kimley-Horn and Associates, Inc., was selected as a result of a competitive selection process as the most qualified consultant for this

project. The firm demonstrated a very thorough understanding of the work, had strong previous history with similar projects, and demonstrated excellent technical ability in critical areas. City staff and Kimley-Horn and Associates, Inc., agreed to Kimley-Horn's final fee proposal. The final proposal includes $32,920 for conceptual plan development, $79,650 for construction documents and reports, and $58,990 for construction phase services.

ALTERNATIVES

1. Approve the recommended actions as presented in this staff report. **Staff recommends this alternative.**

2. Do not approve the recommended actions as presented in this staff report. **Staff does not recommend this alternative.**

FISCAL IMPACT

There is no impact to the General Fund. Professional consultant services will be funded from Park Improvements DIF (Fund 2905). These costs are eligible for reimbursement if SPP Grant funds are awarded. Construction services will be provided contingent upon award of SPP Grant funds.

Description	Fund	GL Account No. Project No.	Type (Rev/Exp)	FY 20/21 Budget	Proposed Adjustments	FY 20/21 Amended Budget
Transfer Out	DIF – Park Improvements	2905-99-95-92905-903015	Exp	$380,000	$171,560	$551,560
Transfer In	DIF – Park Improvements	3015-99-99-93015-802905	Rev	$380,000	$171,560	$551,560
Improvements	PCS Capital Proj (Park Improvements)	3015-50-57-80007-720199 807 0054-3015-99	Exp	$0	$171,560	$171,560

NOTIFICATION

Posting of the Agenda.

PREPARATION OF STAFF REPORT

Prepared By:
Lee Withers
Senior Management Analyst

Department Head Approval:
Patti Solano
Parks & Community Services Director

CITY COUNCIL GOALS

Public Facilities and Capital Projects. Ensure that needed public facilities, roadway improvements, and other infrastructure improvements are constructed and maintained.

Positive Environment. Create a positive environment for the development of Moreno Valley's future.

Community Image, Neighborhood Pride and Cleanliness. Promote a sense of community pride and foster an excellent image about our City by developing and executing programs which will result in quality development, enhanced neighborhood preservation efforts, including home rehabilitation and neighborhood restoration.

CITY COUNCIL STRATEGIC PRIORITIES

1. **Economic Development**
2. **Public Safety**
3. **Library**
4. **Infrastructure**
5. **Beautification, Community Engagement, and Quality of Life**
6. **Youth Programs**

Objective 5.2: Promote the installation and maintenance of cost effective, low maintenance landscape, hardscape and other improvements which create a clean, inviting community.

Objective 5.5: Promote a healthy community and lifestyle.

ATTACHMENTS

1. MV Bark Park - Request for Proposal
2. MV Bark Park - Consultant Proposal
3. MV Bark Park - Consultant Cost Proposal
4. MV Bark Park - Agreement for Design Services_v2 KHA Signed

APPROVALS

Budget Officer Approval	✓ Approved	1/25/21 4:46 PM
City Attorney Approval	✓ Approved	
City Manager Approval	✓ Approved	1/25/21 5:37 PM

REQUEST FOR PROPOSAL
FOR LANDSCAPE ARCHITECTURE DESIGN SERVICES
FOR MORENO VALLEY BARK PARK PROJECT
FOR THE CITY OF MORENO VALLEY
PARKS AND COMMUNITY SERVICES DEPARTMENT

I. INVITATION

You are hereby invited to submit a Proposal for Landscape Architecture Design Services for Moreno Valley Bark Park Project, to be located at the open lot immediately west of the Moreno Valley Animal Shelter, located at 14041 Elsworth Street.

The work will be in accordance with the On-Call Agreement for Professional Consultant Services including subsequent Amendments to the Agreement.

This Request for Proposals (RFP) is limited to the City's On-Call consultants in the Landscape Architecture Design Services category, and proposals will only be accepted from those invited to propose. Interested consultants may download copies of the RFP by visiting the City's web site, www.moval.org, selecting "City Bids and RFP's" under the "City Hall" Resources link at the home page and selecting the "Online Bidding System" link. **To download proposal packages and submit proposals, vendors will be required to pay an online usage download fee of $10.00.** All documents associated with this RFP will be downloadable after the fee has been paid**.** Once the prospective Offeror downloads any documents relative to a solicitation, that Offeror's name will appear on the Prospective Bidders List.

Online Q&A will be accepted until 2:00pm on Thursday, October 22, 2020.

Proposals will be accepted until 2:00pm on Wednesday, 28, 2020.

Proposals shall be submitted electronically (in PDF format via the City's vendor portal website, located at http://www.planetbids.com/portal/portal.cfm?CompanyID=24660.

Proposals shall include, but not be limited to, the following items:

1. Proposer should describe in detail their approach and understanding of all necessary tasks and steps involved in the project;
2. Related experience including relevant experience date, name of agency, and Reference name/contact information;
3. Cost proposal; and
4. Completed forms as required.

The proposer is solely responsible for "on time" submission of their electronic proposals. The City will only consider proposals that have been transmitted successfully and have been issued an ebid confirmation number with a time stamp from the Bid Management System indicating that bid was submitted successfully. Transmission of proposals by any other means will not be accepted. Proposer shall be solely responsible for informing itself with respect to the proper utilization of the proposal management system, for ensuring the capability of their computer system to upload the required documents, and for the stability of their internet service. Proposers are advised to allow sufficient time to submit electronically. Failure of the proposer to successfully submit an electronic proposal shall be at the proposer's sole risk and no relief will be given for late and/or improperly submitted proposals. Proposers experiencing any technical difficulties with the proposal

submission process may contact PlanetBids at (818) 992-1771. Questions of an operational nature may be directed to the City's Parks and Community Services Department at (951) 413-3163. Neither the City, nor PlanetBids, makes any guarantee as to the timely availability of assistance, or assurance that any given problem will be resolved by the proposal submission deadline.

All questions regarding this RFP must be submitted through the vendor portal noted above and must be submitted no later than the date and time listed above.

II. PROJECT DESCRIPTION

The project includes but is not limited to the preparation of color renderings and conceptual drawings, plans, specifications and estimates, utility research, and all necessary permitting and coordination with City as required for preparation of public bidding documents to construct a bark park on the open lot west of the Moreno Valley Animal Shelter located at 14041 Elsworth Street.

The bark park project will be submitted to the California Department of Parks and Recreation for consideration in Round Four of the Statewide Park Development and Community Revitalization Program grant funds. Project application deadline is December 14, 2020.

All work shall be in accordance with the requirements of the City of Moreno Valley standards, California Building Code, Standard Specifications for Public Works Construction (Greenbook), Americans with Disabilities Act (ADA) standards, the California Manual on Uniform Traffic Control Devices (latest version), and the Riverside County Flood Control and Water Conservation District (RCFC & WCD) (latest version), as applicable.

III. PROJECT BUDGET AND SCHEDULE

The City of Moreno Valley will fund the design with local funding only. The construction phase is contingent upon award of grant funding, and may include State and Federal funding sources. Total project costs, including architectural design services, are estimated at $1 million.

The California State Department of Parks and Recreation anticipates grant award announcements in summer of 2021. If funded, the City anticipates construction in fall/winter of 2021 with completion in spring of 2022.

IV. GENERAL TASKS

Typical Landscape Architecture Design Services shall include, but not be limited to:

1. Complete and thorough Bark Park design, including all necessary disciplines, and including revisions resulting from plan review and plan check processes, until approved plans are achieved.
2. Attend and present the project to City Council as required.
3. Prepare construction documents and related project specifications and bidding documents.
4. Assist with bidding process including attend pre-bid meeting, answer RFIs, prepare addenda, review bid results.
5. Oversee and ensure that all measures of the specific project's scope of services are completed in a timely and professional manner with an emphasis on providing the City with a high quality project, including submittal review, shop drawing review, and construction observations.

6. In order to receive maximum points in the project application selection process, the design must provide efficient use of water and other natural resources as described in the Round Four Final Application Guide (Selection Criterion #7 – Environmental Design, pages 27-29).

7. The design shall incorporate input from residents on amenities, location of amenities within the park, and ideas for safe public use and beautification (Selection Criterion #4 – Community Based Planning). Community-based planning sessions are tentatively scheduled for 5:30 pm on October 27, 9:00 am on October 31, 5:30 pm on November 5, and 9:00 am on November 7. A virtual meeting is tentatively scheduled for noon on November 10.

8. Prepare a conceptual drawing for submittal with the project application by December 14, 2020.

9. Assist with preparing design-related project application responses as needed.

10. Assist with development of final project budget for grant application submittals.

VIII. CONSULTANT'S PROPOSAL AND COMPENSATION

At a minimum, the Proposal shall include the following sections:

A. Project Understanding: This section should clearly convey clear understanding of the nature of the work, identification of major project issues, and proposed solutions thereof, from both the Consultant and sub-consultants.

B. Qualifications and Experience: Provide qualifications and experience of the team for this project. Emphasize the specific qualifications and experience from projects similar to this project for the key team members including references. Identify and provide in-depth information for the proposed project manager's qualifications, track record and relevant experience.

C. Additional Relevant Information: Provide additional relevant information that may be helpful in the selection process (not to exceed two pages).

The Consultant's Proposal shall include the following statements:

a. A statement that this Request for Proposal (RFP) shall be incorporated in its entirety as a part of the Consultant's Proposal.

b. A statement that this RFP and the Consultant's Proposal will jointly become part of the Agreement for Professional Consultant Services for this project when said Agreement is fully executed by the Consultant and the Mayor or City Manager of Moreno Valley.

c. A statement that the Consultant's Services to be provided, and fees therefore, will be in accordance with the City's RFP except as otherwise specified in the Consultant's Proposal under the heading "ADDITIONS OR EXCEPTIONS TO THE CITY'S REQUEST FOR PROPOSAL."

d. A single and separate section with the heading "ADDITIONS OR EXCEPTIONS TO THE CITY'S REQUEST FOR PROPOSAL" containing a complete and detailed description of all of the exceptions to the provisions and conditions of this Request for Proposal upon

which the Consultant's Proposal is contingent and which shall take precedent over this RFP for Professional Consultant Services. **EXCEPTIONS TO THE INDEMNIFICATION/ LIABILITIES/ TERMINATION FOR CONVENIENCE OF THE CITY CLAUSES OF "THE CITY'S STANDARD CONTRACT AGREEMENT" SHALL NOT BE ACCEPTABLE. AN EXCEPTION TO THIS CLAUSE SHALL DISQUALIFY THE CONSULTANT PROPOSAL FROM FURTHER CONSIDERATION.**
A Sample Agreement is attached for your reference. Exceptions/ Changes to the Agreement are not acceptable.

e. A statement of qualifications applicable to this project including the names, qualifications and proposed duties of the Consultant's Staff to be assigned to this project; a listing of recent similar projects completed including the names, titles, addresses and telephone numbers of the appropriate persons whom the City could contact. If one or more of the Consultant's staff should become unavailable, the Consultant may substitute other staff of at least equal competence only after prior written approval by the City.

f. A detailed Cost Proposal, including a statement that all charges for Consultant services is a "Not-to-Exceed Fee" which must include conservatively estimated reimbursable expenses, as submitted with and made a part of said Consultant's Proposal.

g. A statement that the Consultant will document and provide the results of the work to the satisfaction of the City. This may include preparation of final reports, or similar evidence of attainment of the Agreement objectives.

h. A statement that the Consultant will immediately document and notify the City of any defects or hazardous conditions observed in the vicinity of the project site prior, during, or after the construction work.

i. All extra work will require prior approval from the City.

j. A statement that the Consultant will not discriminate against any employee or applicant for employment because of race, color, religion, sex, or national origin.

k. A statement that all federal laws and regulations shall be adhered to notwithstanding any state or local laws and regulations. In a case of conflict between federal, state or local laws or regulations the strictest shall be adhered to.

l. A statement that the Consultant shall allow all authorized federal, state, county, and City officials access to place of work, books, documents, papers, fiscal, payroll, materials, and other relevant contract records pertinent to this special project. All relevant records shall be retained for at least three years.

m. A statement that the Consultant shall comply with the Davis-Bacon Fair Labor Standards Act (40 USC 276-a through a-7), and the implementation regulations issued pursuant thereto (29 CFR Section 1, 5), any amendments thereof and the California Labor Code. Pursuant to the said regulations, entitled "Federal Labor Standards Provisions," Federal Prevailing Wage Decision" and State of California prevailing wage rates, respectively.

n. A statement that the Consultant shall comply with the Copeland Anti-Kickback Act (18 USC 874) and the Implementation Regulation (29 CFR 3) issued pursuant thereto, and any amendments thereof.

o. A statement that the Consultant offers and agrees to assign to the City all rights, title, and interest in and to all causes of action it may have under Section 4 of the Clayton Act (15 USC Sec. 15) or under the Cartwright Act (Chapter 2 [commencing with Section 16700] of Part 2 of Division 7 of the Business and Professions Code), arising from purchases of goods, services, or materials pursuant to the public works or the subcontract. This assignment shall be made and become effective at the time the City tenders final payment to the Consultant, without further acknowledgment by the parties.

IX. GENERAL COMPLIANCE WITH LAWS AND WAGE RATES

a. The Consultant shall be required to comply with all federal, state, and local laws and ordinances applicable to the work. This includes compliance with prevailing wage rates and their payment in accordance with California Labor Code, Section 1775.

X. FEDERAL EMPLOYEE BENEFIT

No member of, or delegate to, the Congress of the United States, and no Resident Commissioner shall be admitted to any share or part of the Agreement to the said project or to any benefit to arise from the same.

XI. PAYMENT TO CONSULTANT

a. This work is to be performed for a “Not-to-Exceed Fee.”

b. The Consultant shall provide a Cost Proposal indicating the fee for individual tasks with a “Not-to-Exceed Fee” which shall be the sum of all tasks by part, phase, and milestone.

c. Tasks shall include, but not be limited to, all Professional Consultant Services necessary to complete the work covered by this Proposal.

d. Reimbursement costs such as mileage, printing, telephone, photographs, postage and delivery, are to be included in the “Not-to-Exceed Fee.”

e. All tasks including labor and reimbursable costs such as printing, postage, and delivery shall have supporting documentation presented at the time payment is requested.

f. The City will pay the Consultant for all acceptable services rendered in accordance with the “Agreement for Professional Consultant Services.”

g. When the Consultant is performing, or is requested to perform, work beyond the scope of service in the “Agreement for Professional Consultant Services,” an “Amendment to the Agreement” will be executed between the City and Consultant.

h. The Consultant shall receive no compensation for any re-work necessary as result of the Consultant’s errors or oversight.

XII. INSURANCE

a. The Contractor will comply with the following insurance requirements at its sole expense. Insurance companies shall be rated (A Minus: VII—Admitted) or better in Best’s Insurance Rating Guide and shall be legally licensed and qualified to conduct business in the State of California:

The Contractor shall procure and maintain, at its sole expense, Workers' Compensation Insurance in such amounts as will fully comply with the laws of the State of California and which shall indemnify, insure and provide legal defense for the Contractor and the City, the Housing Authority and CSD against any loss, claim, or damage arising from any injuries or occupational diseases happening to any worker employed by the Contractor in the course of carrying out the Agreement. This coverage may be waived if the Contractor is determined to be functioning as a sole proprietor and the city provided form "Exception to Worker's Compensation Coverage" is signed, notarized and attached to this Agreement

☑ General Liability Insurance—to protect against loss from liability imposed by law for damages on account of bodily injury, including death, and/or property damage suffered or alleged to be suffered by any person or persons whomever, resulting directly or indirectly from any act or activities of the Contractor, sub-Contractor, or any person acting for the Contractor or under its control or direction. Such insurance shall be maintained in full force and effect throughout the terms of the Agreement and any extension thereof in the minimum amounts provided below:

Bodily Injury	$1,000,000 per occurrence/ $2,000,000 aggregate
Property Damage	$500,000 per occurrence/ $500,000 aggregate

☑ Professional Errors and Omission Insurance—such coverage shall not be less than $1,000,000 per claim and aggregate.

☑ Liability and Property Damage Insurance coverage for owned and non-owned automotive equipment operated on City/CSD/Housing Authority premises. Such coverage limits shall not be less than $1,000,000 combined single limit.

† A Certificate of Insurance and appropriate additional insured endorsement evidencing the above applicable insurance coverage shall be submitted to the City prior to the execution of this Agreement. The Certificate of Insurance or an appropriate binder shall bear an endorsement containing the following provisions:

Solely as respect to services done by or on behalf of the named insured for the City of Moreno Valley, it is agreed that the City of Moreno Valley, the Moreno Valley Housing Authority, and the Moreno Valley Community Services District, their officers, employees and agents are included as additional insured under this policy and the coverage(s) provided shall be primary insurance and not contributing with any other insurance available to the City of Moreno Valley, the Moreno Valley Housing Authority, and the Moreno Valley Community Services District, its officers, employees and agents, under any third party liability policy

The terms of the insurance policy or policies issued to provide the above coverage shall neither be amended to reduce the required insurance limits and coverages nor shall such policies be canceled by the carrier without thirty (30) days prior written notice by certified or registered mail of amendment or cancellation to the City, except that cancellation for non-payment of premium shall require ten (10) days prior written notice by certified or registered mail. In the event the insurance is canceled, the Contractor shall, prior to the cancellation date, submit new evidence of insurance in the amounts established.

b. It is the consultant's responsibility to ensure that all subconsultants comply with the following: Each subconsultant that encroaches within the City's right-of-way **and** affects

(i.e., damages or impacts) City infrastructure must comply with the liability insurance requirements of the Parks and Community Services Department. Examples of such subconsultant work include soil sample borings, utility potholing, etc.

The "Application for Encroachment Permit" form (five pages) and the "Application for Encroachment Permit Liability Insurance Requirements," is available from the City's Project Manager and must be completed and submitted in full to the City Project Manager. It is the Consultant's responsibility to ensure that all subconsultants submit the appropriate encroachment permit and insurance documentation at the same time that the Consultant's insurance documentation is submitted.

XIII. INDEMNIFICATION

a. Consultant Indemnification. Consultant shall indemnify, defend and hold the City, the Moreno Valley Housing Authority, and the Moreno Valley Community Services District (CSD), their officers, agents and employees harmless from any and all claims, damages, losses, causes of action and demands, including, without limitation, the payment of all consequential damages, expert witness fees, reasonable attorney's fees and other related costs and expenses, incurred in connection with or in any manner arising out of Consultant's performance of the work contemplated by this Agreement and this Agreement. Acceptance of this Agreement signifies that the Consultant is not covered under the City's general liability insurance, employee benefits, or worker's compensation. It further establishes that the Consultant shall be fully responsible for such coverage. Consultant's obligation to indemnify shall survive expiration or termination of this Agreement, and shall not be restricted to insurance proceeds, if any, received by the City, the Moreno Valley Housing Authority, and the CSD, and their officers, agents and employees.

b. Additional Indemnity Obligations. Consultant shall defend, with counsel of City's choosing and at Consultant's own cost, expense and risk, any and all claims, suits, actions or other proceedings of every kind covered by Section "a" that may be brought or instituted against City, the Moreno Valley Housing Authority, and the CSD, and their officers, agents and employees. Consultant shall pay and satisfy any judgment, award or decree that may be rendered against City, the Moreno Valley Housing Authority, and the CSD, and their officers, agents and employees as part of any such claim, suit, action or other proceeding. Consultant shall also reimburse City for the cost of any settlement paid by City, the Moreno Valley Housing Authority, and the CSD, and their officers, agents and employees as part of any such claim, suit, action or other proceeding. Such reimbursement shall include payment for City's attorney's fees and costs, including expert witness fees. Consultant shall reimburse City, the Moreno Valley Housing Authority, and the CSD, and their officers, agents and employees for any and all legal expenses and costs incurred by each of them in connection therewith or in enforcing the indemnity herein provided.

XIV. TERMINATION FOR CONVENIENCE OF THE CITY

The City reserves the right to terminate the "Agreement for Professional Consultant Services" for the "convenience of the City" at any time by giving ten (10) days written notice to the Consultant of such termination and specifying the effective date thereof. All finished or unfinished drawings, maps, documents, field notes and other materials produced and procured by the Consultant under the said aforementioned Agreement is, at the option of the City, City property and shall be delivered to the City by the Consultant within ten (10) working days from the date of such termination. The City will reimburse the Consultant for all acceptable work performed as set forth in the executed Agreement.

XV. INDEPENDENT CONTRACTOR

The Consultant's relationship to the City in the performance of the Consultant's services for this project is that of an independent Contractor. The personnel performing said Surveying Services shall at all times be under the Consultant's exclusive direction and control and shall be employees of the Consultant and not employees of the City. The Consultant shall pay all wages, salaries and other amounts due his employees in connection with the performance of said work shall be responsible for all employee reports and obligations, including but not necessarily restricted to, social security, income tax withholding, unemployment compensation, and Workers' Compensation.

XVI. CONTRACT

The Contract includes the Agreement for Professional Consultant Services, City's Request for Proposal, Consultant's Proposal, and Exhibits.

The Political Reform Act and the City's Conflict of Interest Code require that consultants be considered as potential filers of Statements of Economic Interest. Consultants, as defined by Section 18701, may be required to file an Economic Interest Statement (Form 700) within 30 days of signing a Consultant Agreement with the City, on an annual basis thereafter if the contract is still in place, and within 30 days of completion of the contract.

XVII. GENERAL CONDITIONS

a. Pre-contractual expenses are defined as expenses incurred by the Consultant in: (1) preparing the Proposal; (2) submitting the Proposal to the City; (3) presentation during selection interview; (4) negotiating with the City any matter related to this Proposal; (5) any other expenses incurred by the Consultant prior to an executed Agreement.

   The City shall not, in any event, be liable for any pre-contractual expenses incurred by the Consultant.

b. The Consultant is responsible for notifying Underground Service Alert and providing proper traffic control, at no additional expense to the City.

c. The City reserves the right to withdraw this RFP at any time without prior notice. Further, the City makes no representations that any Agreement will be awarded to any Consultant responding to this RFP. The City expressly reserves the right to postpone reviewing the Proposal for its own convenience and to reject any and all Proposals responding to this RFP without indicating any reasons for such rejection(s).

d. The City reserves the right to reject any or all Proposals submitted. Any Contract awarded for these Consultant engagements will be made to the Consultant who, in the opinion of the City, is best qualified.

XVIII. SELECTION CRITERIA

The Consultant may be invited to a selection interview. The Proposals will be rated/ranked according to the following criteria:

a. The Firm's General Experience and Qualification Information (35 points) – Information about the company (and all sub-consultants) including professional licenses held; ability to furnish required insurance and meet stipulations of the City's "boiler plate" agreement; details about comparable projects completed by the firm, as well as local experience; and its ability to provide the required services.

b. Project Approach/Understanding (45 points) – Discussion of major issues identified on the project and how the consultant team plans to address them; the management approach and organization necessary to complete the specific project; and outline quality control measures to ensure delivery of a quality product on time and within budget. Includes ability to comply with grant-required design elements.

c. Cost (20 points)

Exhibits/Attachments (incorporated by reference):

Attachment 1	Sample Agreement
Attachment 2	Statewide Park Development and Community Revitalization Program July 1, 2020 Round Four Final Application Guide
Attachment 3	Site Map

Prepared for

CITY OF MORENO VALLEY
People • Pride • Progress
DECEMBER 3, 1984

PROPOSAL FOR

Landscape Architecture Design Services, RFP # 2020-024

Moreno Valley Bark Park Project

Prepared by Kimley»Horn

Cover Letter

Kimley-Horn
3880 Lemon Street, Suite 420
Riverside, CA 92501
951.543.9868
www.kimley-horn.com

October 28, 2020

City of Moreno Valley
Parks and Community Services Department
14177 Frederick Street
Moreno Valley, CA 92552

RE: Proposal for Landscape Architecture Design Services for Moreno Valley Bark Park Project

Dear Members of the Selection Committee:

The American Veterinary Medical Association found that 66 percent of dog owners consider their pets to be family members. Dogs provide love and companionship and break down social barriers. Recognizing the demand for places where people can exercise their dogs off leash, the City of Moreno Valley Parks and Community Services Department has recognized this and made it a goal to utilize Statewide Park Development and Community Revitalization Program grant funds to develop another dog park for the City. The location and popularity of the existing Hound Town Dog Park on the City's north side has clearly driven the need for another dog park on the opposite side of Moreno Valley. This approximately 1.5-acre dog park will not only alleviate overuse and augment the amenities offered at Hound Town, but has the opportunity to become a special oasis that will capture and celebrate the unique bond between dogs and humans, serving multiple community needs.

The **Kimley-Horn** team was developed to help the City achieve their vision and goals for this project. Our team specializes in parks and recreation projects, offering particular knowledge in and familiarity with master planning, design, and phased implementation of parks of various scale with diverse programming. Our team offers the City a combination of proven local and national experience combined with a collaborative approach that will lead to the realization of your goals. **The Kimley-Horn team is positioned to provide the City with a legacy project, one that you and Moreno Valley residents can be proud of and appreciate.** As you select your consultant for this exciting project, please consider the following benefits the Kimley-Horn team offers:

Multidisciplinary Prime Consultant. Our team is unique and provides the full complement of technical know-how that allows us to draw from the best examples of successful parks and recreation projects in the U.S. With a local office in Riverside and the resources of a national firm, we provide the full range of multidisciplinary services required for this project. Through our partnership with our subconsultants, **Cabrinha, Hearn & Associates** (CH&A) for survey, and **Leighton Consulting, Inc.** for geotechnical, our team provides best-in-class experience for all elements of this project. We are confident our team is the best qualified to complete this project due to our collective depth of project experience, portfolios brimming with cutting-edge design and award-winning park projects, and a track record of similar project success.

Expertise in Parks and Master Planning. Kimley-Horn has completed over 350 parks projects over the last seven years across the country, including 18 dog parks. We are highly experienced at master planning, consensus building, placemaking, and designing parks that have been successfully implemented for communities to enjoy. Kimley-Horn, together with our outstanding subconsultants, brings you a team with the highest caliber of relevant experience in this type of recreation facility—a team that provides creative and realistic ideas that are grounded in sustainability, constructability, maintainability, and safety.

Excellent Local Experience and Knowledge. In addition to our team's extensive parks and recreation experience, we also offer significant civil engineering and landscape architecture experience in the greater Inland Empire area. With a local office in Riverside, we have the knowledge and familiarity of the region coupled with excellent working relationships to make this project successful. The City can take comfort in knowing your project will be under the management and quality control of a firm with national resources and local roots in municipal services. **Project manager Randall A. Kopff, PLA, a 19-year dry climate parks and recreation design specialist (and dog owner), understands the needs of the community and has a personal investment in this project.**

The Kimley-Horn team is ready and excited to help the City create this landmark space with the ability to draw the community together around its residents' mutual connection to their dogs. We are the team with the knowledge and technical understanding you need to deliver a quality project on time and within budget. We sincerely appreciate the opportunity to present our qualifications. **Randall A. Kopff, PLA** is our project manager and your primary point of contact. He can be reached by phone at **602.906.1154** or by email at **randall.kopff@kimley-horn.com**. We look forward to working with the City on this exciting project.

Sincerely,

KIMLEY-HORN AND ASSOCIATES, INC.

Randall A. Kopff, PLA (CA# 6633)
Project Manager

TABLE OF CONTENTS

A. Project Understanding

It is our understanding that the City is seeking a design team to complete an overall conceptual plan, design, and construction phase services for a 1.50-acre dog park in the southwest portion of Moreno Valley, directly adjacent to the Moreno Valley Animal Shelter. The City of Moreno Valley Parks and Community Services Department has made a commitment to pursuing Statewide Park Development and Community Revitalization Program grant funds to develop this new dog park. The location and popularity of the existing Hound Town Dog Park on the City's north side has clearly driven the need for another dog park on the opposite side of Moreno Valley. This approximately 1.5-acre dog park will not only alleviate overuse and augment the amenities offered at Hound Town, but has the opportunity to become a special oasis that will capture and celebrate the unique bond between dogs and humans, serving multiple community needs.

We understand that the City of Moreno Valley will fund the design with local funding and that the construction phase is contingent upon award of grant funding, and may include state and federal funding sources. The total project costs, including design services, are estimated at $1 million. The City anticipates grant award announcements this summer and if awarded, construction is anticipated to begin in the fall of 2021 with a targeted completion date of spring 2022.

The dog park design will incorporate input from residents and stakeholders on amenities, location of amenities within the park, and ideas for safe public use and beautification. The City already has scheduled community-based planning sessions on October 27, October 31, November 5, November 7, and November 10 to gather public comments and consensus. Our design team will utilize the information gathered as a part of these community meetings, along with staff direction to develop the program and preliminary dog park concept to present to the grant agency.

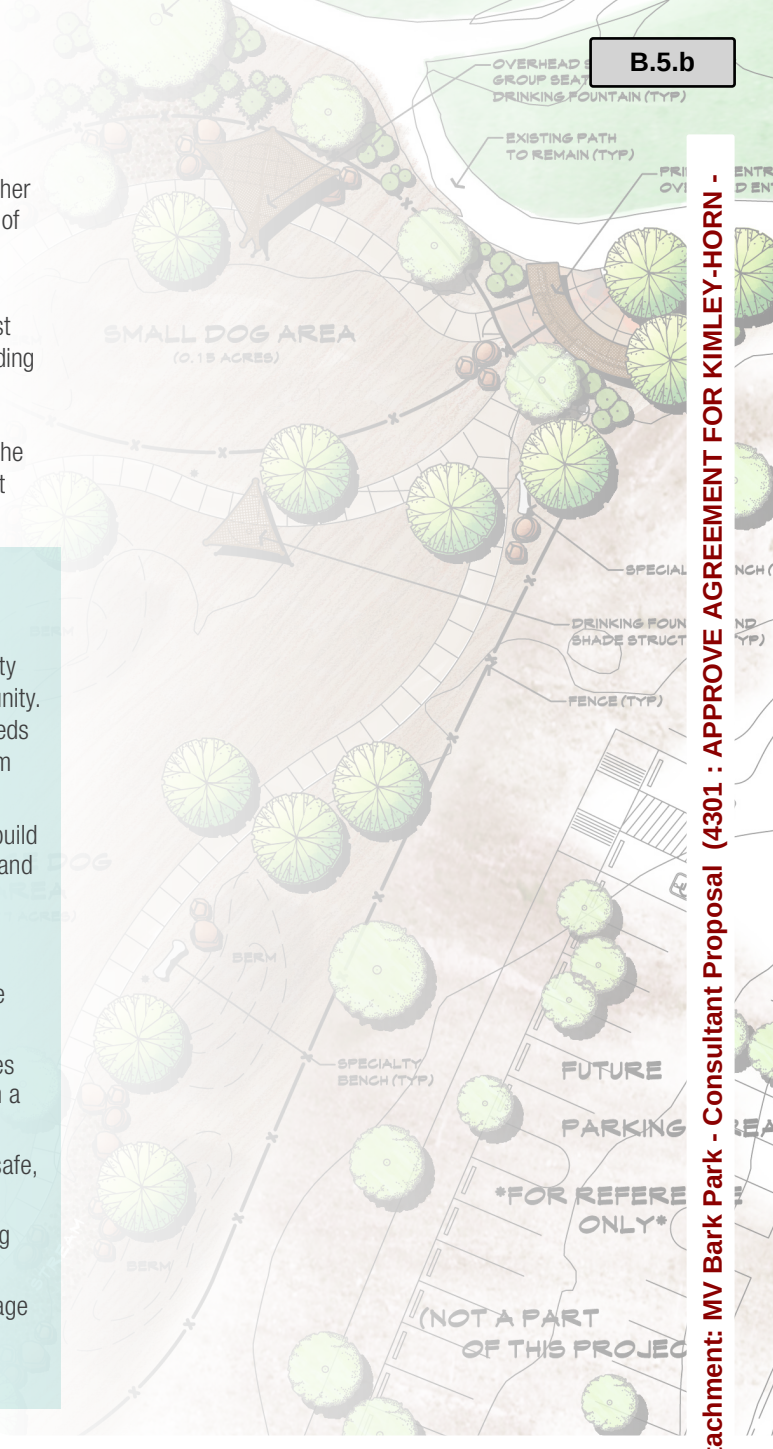
Our team has worked with multiple agencies to secure grant funding through Prop 68, so we understand the scoring nuances and will assist staff in interpreting and balancing the community input gathered with proven methods which will maximize grant scoring and the City's opportunity to secure funding. We can assist staff with carbon sequestration calculations and ensuring that the proposed design provides efficient use of water and other natural resources, while meeting an application submittal date of December 14, 2020.

All design work on the project from concept to construction drawings will be in accordance with the requirements and latest versions of the City of Moreno Valley standards, California Building Code, Standard Specifications for Public Works Construction (Greenbook), Americans with Disabilities Act (ADA) standards, the California Manual on Uniform Traffic Control Devices, and the Riverside County Flood Control and Water Conservation District (RCFC & WCD), as applicable.

Project Goals

The master site plan, based on input from the community, stakeholders, and staff, will identify park and recreational facility improvements and amenities that are supported by the community. It is critical to create a plan that balances specific dog park needs with the overall community recreational needs. Our design team will assist the City to:

- Engage stakeholders, inspire community participation, build consensus, and develop support within the Community and City Council
- Define a conceptual plan and estimate of probable construction costs to a level that will provide detailed information for subsequent design phases and maximize grant funding opportunities
- Provide design solutions which bring creative approaches to problem solving and generate unique placemaking on a community and regional level
- Provide an aesthetically pleasing dog park design with safe, enjoyable, and usable spaces
- Design park elements to foster social interactions among humans while maintaining safety for animals
- Emphasize long-term maintainability and minimize damage due to overuse through creative rotational management techniques and thoughtful surface material selection



Identification of Project Issues and Key Considerations

Creating a Community Asset

Successful project implementation will include achieving a balance between a destination dog park and a unique recreation amenity. This can be achieved through a mix of shared programming, successful site circulation, multi-use connectivity, and shared amenity areas. This can be done by incorporating multi-use paths, traditional recreation amenities, or even through a memorial for residents who have lost their pets.

Separation, Rotation Techniques, and Maintenance

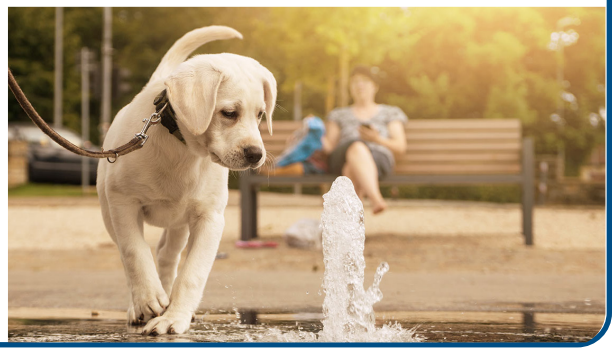
It is vital to have the versatility to close off-leash areas to allow turf to recover or to maintain other surface materials. Strategically separating off-leash areas into categories such as passive play for small dogs, active play for large dogs, an area for senior dogs or more child-safe areas, and sizing these areas appropriately is key to the long-term viability and maintainability of these off-leash environments. Providing multiple fenced areas solely for the purposes of rotation is often utilized to allow an area or areas to recover and be maintained on a regular basis without having to close the entire park for a day or restricting user groups.

Stormwater Quality

Given the existing soil types in the project area, infiltration may not be feasible. Without storm drains for BMP connections, our design goal will be to remain under 10,000 square feet of impervious area and to create and use low impact design measures for stormwater quality. Confirming that all impervious areas drain to pervious ones, while keeping sheet flow drainage as close to existing conditions will be critical to ensure that stormwater quality measures are properly met and impacts to the project budget are minimized.

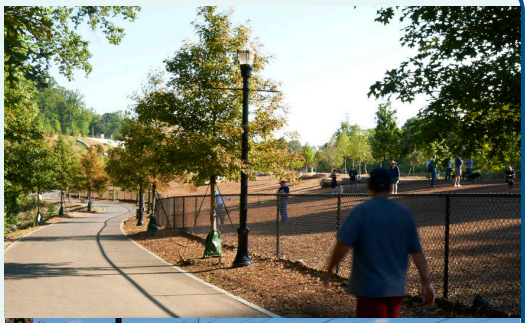
Irrigation and Efficient Water Use

A key to the success of any park project, particularly those in dry or desert climates, is a clear understanding and effective strategy for providing and sustaining healthy plant growth while posing no health threats to the animals and humans who will be using the park. Additionally, calculating the anticipated seasonal and annual water demands for the irrigation system will need to be addressed during the master planning and design phases. Understanding the irrigation maintenance practices (including peak-season water window parameters, control system programming parameters, seasonal adjustment and winterization strategies, drought mitigation or response strategies, etc.) and equipment standards that are currently being used by the Moreno Valley Parks and Community Services Department maintenance staff, so that the irrigation system can be designed to meet those parameters.



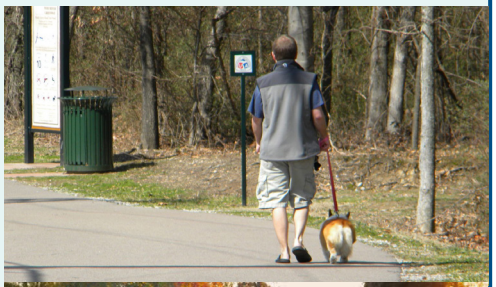
Lighting

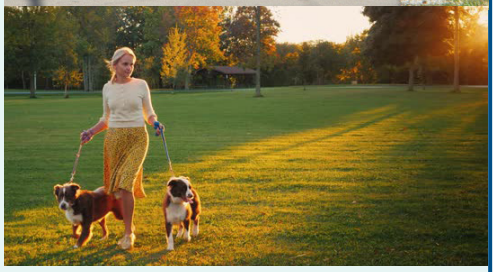
Creating a lighted park for night use is desired to maximize park hours and safety. In our experience, the use of large format lighting can result in resident concerns over quality of life impacts; however, this site's proximity to industrial and commercial uses should alleviate that concern. The understanding, support, and acceptance of surrounding land uses will be essential to the success of the lighting design.



Pedestrian Access and Circulation

Providing multi-use path loops of different lengths around the park can also help encourage activity and use of the park by people and dogs with different levels of mobility. Off-leash areas should utilize dual-entry gates on concrete pads and keep any turf areas as far away as possible from the entry/exit areas. Separate maintenance access to these areas should also be provided. Maintaining a usable and accessible surface with positive drainage is also critical. Whether concrete, turf, mulch, decomposed granite, artificial turf, or a combination is utilized, no standing water can be present after a rain event to keep these areas highly functional and to maintain pet safety.





Shade and Social Spaces

The inclusion of shade opportunities around the park through trees and ramadas is critical to the success of a dog park. It also assists in creating social spaces for users to gather and socialize. Dog parks should improve the quality of life of the owners by increasing interactions between owners while maintaining a positive design aesthetic and providing a safe and functional outdoor space for both owners and dogs.

The Kimley-Horn team is poised to provide our planning and design experience to assist the City in developing this exciting new dog park. The team brings a proven consensus-building approach to engage and unify the community and project stakeholders to reach a successful shared vision.

Kimley-Horn has the parks and recreation experience to provide the City with unique and creative problem-solving approaches built on proven parks and recreation, and specifically dog parks.

Project Process

1 Project Initiation and Kick-off

The Kimley-Horn team will facilitate a project kick-off meeting and site tour with City staff and project stakeholders to discuss the project schedule, master planning and design intent, budget, and deliverables. The City shall provide direction on key design intent, site constraints, and issues prior to starting the master planning design process.

- The project lines of communication will be established between the Kimley-Horn team, City, and others as necessary. The level of involvement and roles for each phase and task will also be identified.
- Our team will develop the project schedule as detailed in the scope to deliver the project, achieve project goals and objectives, and clarify any assumptions.
- The outlined process will be organized and mapped to show the relationship between tasks to allow effective and timely planning of tasks and designate key project milestones and deliverable dates for each phase. The project schedule will evaluate and incorporate the time relationships between design, procurement, permitting, construction, and delivery.

2 Staff Progress Meetings

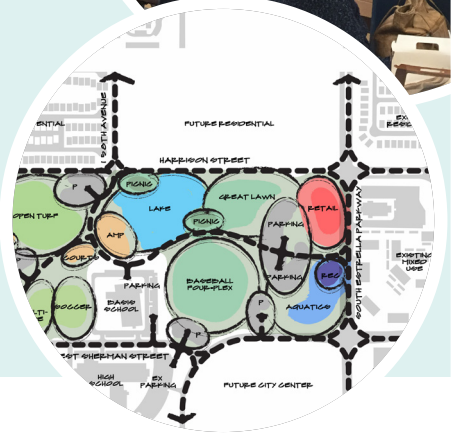
The project team will hold periodic progress meetings to engage City staff and key stakeholders in the development of the conceptual plan and construction documents. Meeting topics will include soliciting design feedback, notice of schedule updates, and coordination related to the design process.

3 Inventory/Analysis

Responding to the understanding gained from the kick-off meeting and site visit, our team will carefully review the existing site conditions to generate a preliminary inventory and analysis of the site. Adjacent parcels will be included in this review to make sure viewsheds, drainage patterns, traffic flows, and other important elements are included in the project context. Understanding the strengths and weaknesses of the entire site is important to make sure the appropriate programming elements are sited in the best locations. Based on the review of the project data, the team will create initial project assessments that summarize findings, outline agency requirements, and present design considerations and options.

4 Concept Development

The team will take a sequence approach to concept development based on staff, stakeholder, and community inputs to refine into one overall site master plan. Concept development will include programming diagrams and a concept plan.



5 Opinion of Probable Cost

To develop the cost model, we will utilize previous project experience, bid tabulations, and relationships with local contractors and site furnishing and material manufacturers. This cost model responds dynamically to provide the City with an understanding of the cost relationships and cost escalation.

6 Construction Bid Documents

Upon completion of the conceptual master plan for the park site and grant award, we will focus on your available funding and customize a detailed plan to maximize it with thoughtful design. Proceeding with final design plans and specifications for the entire park will allow you the flexibility to build the full site, to create bid alternates as needed, or to initially construct as much of the park as possible and strategically plan for future phasing, including providing adequate irrigation and electrical infrastructure and stub-outs to serve the site in the future at its full build-out.

From the final master plan, we will quickly transfer that concept into the 60% construction document set for review. From there, we will further the design into the 90% plan set, and review with City staff before heading into the final stretch of 100% plan set for final review and comment to prepare final stamped/sealed construction documents. At each plan set phase, the cost model will continuously be updated as a living document with revisions as well as further refined with each additional design detail that is developed. Once complete, Kimley-Horn will submit the construction plans as well as any required project manuals to the City for bidding.

7 Implementation Plan

The implementation plan will include updated cost estimating with construction escalation, construction sequencing, and schedules for anticipated project completion.

8 Construction Phase Services

Kimley-Horn will provide construction phase services as requested in addition to design. The key Kimley-Horn team staff who completed the design phase will be the personnel assigned to construction phase tasks. Once the notice to proceed has been issued to the contractor, Kimley-Horn will:

- Attend a pre-construction meeting
- Review shop drawings
- Review material submissions
- Review the contractor's compliance of permit requirements
- Process Requests for Information (RFI) from the contractor, and
- Attend construction progress meetings

Once the work has reached substantial completion, Kimley-Horn will attend a site visit with all disciplines to compile a punch list of items not in compliance with the contract documents. The punch list will be provided to the contractor and City Project Manager. Once the contractor has completed all items on the punch list, a final visit to verify that all items have been completed in an acceptable manner will be performed. Kimley-Horn will coordinate the completion of the project closeout that will include a set of "as-built" plans.

Cost Control Ability

Design Cost Control

Controlling design costs begins by ensuring that all stakeholders are actively engaged in the initial scoping process when the contract is being developed. We will provide a task item list with identified deliverables developed from the approved project scope of work to be utilized by the City's project manager to chart design progress and evaluate pay applications.

Another key to design cost control is ensuring that the proposed improvements have been reviewed and approved by key staff and stakeholders during the first few months of the design phase. It will be critical to define the required utility infrastructure improvements as several will require close coordination with multiple City departments. This will need to be clearly defined at the project onset and scoping stage and should involve the City and necessary stakeholders to clearly understand the demand and approach to bringing utilities to the site. This will be the same in terms any necessary offsite/right-of-way and traffic access improvements. It will be important to have City staff approve the proposed design direction before investing significant effort in final design.

Construction Cost Control

Construction costs are where the most substantial cost impacts can occur. Monitoring the cost model from the master plan phase and through each phase of the design phase is very important. This will allow for pricing input at the project onset instead of making large project cuts at the end of the design process. The Kimley-Horn approach is to provide detailed submittals that allow for accurate cost model development and updates at each milestone.

Scope of Services

Kimley-Horn will provide the following services for each independent task:

Task 1: Conceptual Master Plan Development

Task 1.1 Project Kick-off Meeting/Site Visit:

The Kimley-Horn team will attend a project kick-off meeting at the City of Moreno Valley offices with City staff and stakeholders to discuss the project schedule and submittals; establish the team organization and communication procedures; discuss the design intent and project goals; and discuss budget control procedures. The City shall provide direction on key design intent, site constraints, and issues prior to starting the schematic design process. At the end of the kick-off meeting, the Kimley-Horn team and City Staff will walk the park site with all relevant background data to confirm the site conditions and key issues to be addressed during the design process.

Task 1.2 Data Collection:

The Kimley-Horn team will develop an understanding of the physical conditions within the project limits through data collection efforts. The Kimley-Horn team will conduct utility research to obtain readily available records for existing sewer, water, and storm drain. The detailed background information gathered for the project will be confirmed through the site visit performed by the Kimley-Horn team including subconsultants. Results of the investigations will be integrated into an existing utility CAD base map that will be used by the project team to develop the final design plans.

Task 1.3 Community Based Planning Sessions:

The Kimley-Horn team project manager will attend the Community Based Planning Sessions led by City staff. We assume virtual attendance at up to three (3) of the five (5) currently scheduled meetings, as well as time to assist staff in interpreting input received. If additional meetings or attendance is required for this task, additional budget will be requested.

Task 1.4 Draft Conceptual Master Plan:

The Kimley-Horn team will develop a conceptual design plan based on input from the community-based planning sessions which incorporates the specific program elements identified and requested by staff. The concept plan will illustrate the proposed improvements within the park (i.e., amenities, lighting, parking improvements, paths, and shade structures), existing conditions, existing and proposed utilities, stormwater quality options as well as character imagery of the proposed project.

Task 1.5 Conceptual Design Comment Resolution Meeting and Final Conceptual Plan:

The Kimley-Horn team will coordinate with City Staff to compile all comments received on the draft master plan and schedule a meeting to review comments and determine the final comment resolution. It is assumed that this meeting will coincide with one of the scheduled monthly progress meetings. The design team will respond to one (1) round of consolidated comments from the City and project stakeholders on the conceptual design plans and will prepare revisions accordingly and submit as the final conceptual master plan.

Task 1.6 Preliminary Opinion of Probable Construction Costs (OPCC):

The Kimley-Horn team will prepare a preliminary OPCC based on the final conceptual master plan, that will identify the proposed improvements, unit prices, contingencies, and an overall cost for each proposed element in the project.

Task 1.7 City Council Presentation:

The Kimley-Horn team project manager will present the final conceptual master plan to City Council. A PowerPoint presentation, pamphlets, and up to two (2) color exhibits will be prepared for the presentations. This task assumes up to one (1) in person, presentation. The design team will make up to one (1) round of additional revisions to the final conceptual design plans based on feedback from the City Council presentations.

Task 1.0B Topographical Survey

The Kimley-Horn team will conduct a topographical survey including locating property lines, right-of-way, and above ground utility appurtenances that will be utilized for project base mapping. The Kimley-Horn team will field collect existing survey monuments, curb & gutter, sidewalk, fences, grade breaks and visible utility appurtenances within the limits of work to verify existing utility facilities within the project area. Coordination meetings with the utility companies will be required to update project information and verify project submittal, approval, and permitting requirements. Project topographic base mapping will be produced in AutoCAD format.

Task 2: Construction Documents and Reports

Kimley-Horn assumes that the conceptual master plan will provide sufficient information to proceed directly to 60% level construction plans. We will prepare 60%, 90%, and Final (100%) construction documents and reports for City review and comment. All design work will be in accordance with the requirements and latest versions of the City of Moreno Valley standards, California Building Code, Standard Specifications for Public Works Construction (Greenbook), Americans with Disabilities Act (ADA) standards, the California Manual on Uniform Traffic Control Devices, and the Riverside County Flood Control and Water Conservation District (RCFC & WCD), as applicable. It is assumed that the City will provide one set of consolidated client comments and that these comments will not require major design changes. After each submittal, a two-hour review meeting will be held between the City, the project's construction manager, and up to two (2) Kimley-Horn staff to review the consolidated comments and determine final comment resolution. It is assumed that this meeting will coincide with one of the in-person, monthly progress meetings. All comments and revisions will be addressed as part of the 90% and Final submittal, respectively. The plans will be prepared for a single phase of construction in a format and scale deemed appropriate by Kimley-Horn. If the City desires to phase the project, Kimley-Horn can provide a detailed phasing plan and separate design packages for an additional service fee.

Task 2.1 Construction Documents:

The construction documents will consist of the following discipline sheets:

Cover Sheet – Kimley-Horn will prepare a cover sheet that includes: vicinity map, location map, City general notes, project description, legend, abbreviations, and limits of work that summarizes the overall project plan set.

General Notes – Kimley-Horn will prepare a sheet that includes general notes, abbreviations, and site specific notes as needed.

Existing Conditions/Demolition Plans - Kimley-Horn will prepare plan view sheets showing existing facilities to be removed, relocated, and protected in place. The plan view sheets shall reflect existing topography, existing right-of-way, and existing utilities.

Site Plan – Kimley-Horn will prepare plan view sheets showing horizontal control and proposed improvements. The plan view sheets will reflect existing topography, existing right-of-way, and existing utilities.

Utility Plans – Kimley-Horn will prepare plan view sheets with existing and proposed utility locations including: water, sewer, storm drain, and dry utilities. Existing as-built information will be reviewed and coordinated with City staff for utility location. Two points of connection are assumed: one for irrigation water and one for domestic water. If potholing (by others/City) is required, the Kimley-Horn team will provide a pothole exhibit and work with the City on including the results of the potholing effort into the plans and design. The storm drain layout will include storm drain sizing and treatment requirements for this project. The 60% submittal will show findings of existing locations, and proposed utilities will be included during 90% and Final submittal.

Improvement Plan and Details – Kimley-Horn will prepare plan view sheets showing proposed improvements on site including curb, curb and gutter, walkways (DG and PCC), pavement structural section, parking layout, and ADA enlargement details.

Horizontal and Vertical Control Plans – Kimley-Horn will prepare plan view sheets illustrating the proposed grading condition with data tables and elevations to control all hardscape features such as curb, walkways, and parking. The 60% plans will include contours and spot elevation information only; the 90% plans will include data tables and additional enlargements, as required, to control ADA facilities on site.

Erosion Control Plans and Details (Submitted at 90% and Final) – Kimley-Horn will prepare plans and details for temporary erosion control facilities for the project. Design of these facilities will include current Best Management Practices and will conform to the requirements of the City.

Hardscape Plans and Details – Kimley-Horn will prepare hardscape plans based on the input provided by the City and amenities identified on conceptual design plans. The hardscape plans will provide various colors, finishes, and limits for different types of flatwork throughout the site.

Landscape Plans and Details – Kimley-Horn will prepare landscape plans and work with the City to develop the initial plant palette.

Irrigation Plans and Details – Kimley-Horn will prepare landscape irrigation plans indicating the anticipated point of connection, controller locations, and proposed irrigation mainline routing with anticipated pipe sizing.

Lighting and Electrical Plans and Details (Site) – Kimley-Horn will prepare electrical and lighting engineering design plans including all equipment and lighting locations, preliminary conduit routing locations, lighting and equipment installation details, and preliminary calculations.

Traffic Control Plans – Kimley-Horn will prepare traffic control plans for the work associated with the proposed parking lot improvements on Business Center Drive. Up to two (2) review cycles are anticipated for the approval of the traffic control plans.

Task 2.2 Project Management, Schedule and Quality Assurances and Control:

The Kimley-Horn team project manager will provide coordination between the design team and the City and monitor project progress and the project schedule on a regular basis. The project manager will attend monthly progress meetings with the City and project stakeholders. The project manager will coordinate all monthly project invoicing. The Kimley-Horn team will provide an extensive in-house quality control review to reduce plan error sothat proper coordination has taken place between the City, affected utilities, and the Kimley-Horn team.

Task 2.3 Specifications, Reports and Estimates

Task 2.3.1 Special Provisions

Kimley-Horn will prepare technical specifications to accompany the construction plans. The technical specifications will be prepared utilizing City standards and the 2018 APWA standard specifications ("Green Book") for onsite construction. Specifications will be submitted at 90% and Final submittals.

Task 2.3.2 Opinion of Probable Construction Costs

Kimley-Horn will prepare the Engineer's Opinion of Probable Construction Cost (OPCC), based on the latest design quantity takeoffs and current unit prices. The OPCC will provide a bid item description, bid unit, bid quantity, unit price, and total price for each bid item. The item description will correspond with the Bid Schedule item description to be used when advertising the project for construction bids.

Task 2.3.3 Drainage Technical Memorandum

The Kimley-Horn team will prepare a drainage technical memorandum for the final park design. The drainage memorandum will be done using AES HydroWin (Riverside County Module) for the 1 hour, 3 hour, 6 hour, and 24 hour durations.

The increase in peak flow as a result of development is assumed to be nominal and acceptable to the approving agency (City of Moreno Valley). Based on the surrounding developments, it is assumed that there is no storm drain infrastructure in the adjacent roadway and the goal of the site will be to utilize the existing condition sheet flow for runoff to Business Center Drive. No detention basin design or other mitigation features are assumed warranted, and therefore not included. Offset hydrology and/or offsite hydraulic analysis is considered unwarranted and not included. No floodplain mapping or similar analysis is included or considered warranted. A preliminary drainage technical memorandum will be included with the 60% design submittal for review and comment by the City. A final drainage technical memorandum will be submitted addressing one round of consolidated City review comments with the final submittal.

Task 2.3.4 Water Quality Management Plan (WQMP)

The Kimley-Horn team will prepare a WQMP using the City's standard template. The Team will work with City Staff during the conceptual site plan phase to understand how the site configuration impacts locations for stormwater treatment (project will not be a PDP). The amount of impervious area proposed on site will dictate the type of stormwater treatment required for the project. The Kimley-Horn team assumes that the project will be kept below the 10,000 sq-ft threshold for new development projects, which would eliminate the need for post-construction structural BMPs. Reducing the impervious area proposed on site will be a goal throughout the design process as it is linked to project cost and long-term maintenance parameters.

Task 2.3.5 Geotechnical Investigation

The Kimley-Horn team will provide geotechnical investigation services that will consist of a subsurface field investigation and recommendations for retaining wall and shade structure footings, flatwork and roadway pavement sections, and infiltration testing and results. Additionally, background information including readily available geotechnical reports, geologic maps, groundwater data, and aerial photographs will be researched. The Kimley-Horn team will develop a geotechnical evaluation report by compiling the analysis of the data obtained and discussing the findings, conclusions, and recommendations. As part of this task it is assumed that one (1) shallow exploratory boring will be completed as well as one (1) infiltration test will be conducted.

Web Soil Survey suggests hydrologic soil type C which typically does provide high infiltration opportunities for storm water.

Task 3: Construction Phase Services

The Kimley-Horn team will prepare final bid document plans, specifications, bid form, and OPCC for use by the City in project bidding. Kimley-Horn will incorporate consolidated comments from final submittal into the package before submitting to the City. Bid documents will be prepared from the final signed plans, specifications, bid form, OPCC, and other technical documents reviewed and approved.

Task 3.1 Bid Phase Services

Kimley-Horn will provide bid phase support services as requested by the City of Moreno Valley project manager. Bid phase service may include: pre-bid meeting attendance, answering RFIs, preparing addenda, and preparing conform documents. A total of twenty-four (24) hours is assumed for this task. Any additional effort will be considered additional services.

Task 3.2 Construction Phase Services

Kimley-Horn will provide Construction Phase Services as requested by the City's project manager. Up to eighty (80) hours are assumed for the following:

a. Preparing supplementary sketches required to resolve design-related items within the above outlined Scope of Services due to field conditions.

b. Attendance at up to four (4) construction meeting at the site within this Scope of Services.

c. Review of design-related submittal packages within the above outlined Scope of Services.

d. Attendance at one (1) preliminary punch walk list meeting.

e. Attendance at one (1) final punch walk list meeting.

Additional site visits not outlined in the scope of services and directed by the City will be considered an additional service.

Task 3.3 Record Documents

Kimley-Horn will revise the approved final design plans for the project based upon field changes and revisions as provided in the plan redlines/markups by the contractor's field superintendent and approved by the City. These plans will be provided to the City's project manager in Adobe PDF format.

ASSUMPTIONS/EXCLUSIONS

Any services not specifically provided for in our scope of services as well as any changes in scope made at the City's request, will be considered additional services and will be performed at our then current hourly rates. This will require approval in writing before any work will continue. Additional services Kimley-Horn can provide include, but are not limited to, the following:

1. Hours noted for tasks are estimates only. If more time is required for the scope of work, additional budget will be requested
2. This proposal assumes that the standards and practices in effect at the City of Moreno Valley, at the time of this proposal, will remain in effect throughout the course of development.
3. Meetings beyond those identified in this Scope and Fee Proposal
4. Water Pressure readings and/or pump station design
5. Value Engineering or Phased Construction Plans
6. All submittals and deliverables are assumed to be digital and in Adobe PDF format
7. Submittal and/or Permitting Fees
8. Environmental Services
9. Existing Plant Inventory or Landscape Preservation Plans
10. Water Features and/or fountains
11. Structural Review and Certification
12. Storm Water Pollution Prevention Plan (SWPPP) and SWPPP inspections
13. Notice of Intent (NOI) and Notice of Termination (NOT) to the Regional Water Board
14. Warranty and/or Maintenance Administration
15. A soils consultant and soil analysis will be coordinated/ prepared by the contractor upon the completion of mass grading. The existing soil nutrient information will be compared against the proposed plant palette to determine the appropriate amendment recommendations
16. Any continuous simulation modeling and/or the design of structural BMPs, if needed, would be considered additional services

B. Qualifications and Experience

Kimley-Horn Firm Background

Kimley-Horn is a full-service engineering, planning, and consulting corporation providing services to both public and private sector clients nationwide. Founded in 1967, Kimley-Horn has grown from a small group of traffic engineers and transportation planners to a firm of more than 4,500 employees with 95 offices nationwide, including 11 in California. Our well-established Riverside, San Diego, and Orange locations staffed with engineers, planners, designers, and technicians has worked with public agencies throughout the region, thus giving them broad local project experience.

Kimley-Horn's growth over the last 53 years is the result of our commitment to integrity and our dedication to providing quality services. We offer clients the local knowledge and responsiveness of a small organization, backed by the depth of resources only a national firm can offer.

Kimley-Horn's team specializes in:

- Park, Trail, and Greenway Planning and Design
- Athletic Fields and Pool Design
- Urban Planning and Design
- Land Use and Master Planning
- Community Centers and Public Libraries
- Streetscape Planning and Design
- Signage and Wayfinding Planning and Design
- Water Harvesting and Conservation Solutions
- Landscape and Irrigation Design
- Development Design Guidelines and Standards
- Site Feasibility Studies, Inventory, and Analysis
- 3D Modeling and Visualizations
- Visual Analysis and Impact Assessment
- Site Programming
- Public Outreach and Community Engagement

Kimley-Horn's project managers are backed by the resources and talents of a nationally-ranked organization comprised of creative and result-oriented landscape architects, engineers, planners, economists, environmental specialists, and technicians. With offices located throughout the nation, our staff utilizes the latest technology and information to achieve successful results for our clients. Our project managers serve as the primary liaison to clients, and with the support of our technical and administrative staff, meet the needs and expectations of the client.

Subconsultants

We have included the following subconsultants on our team specifically for this project. These firms are known as specialists in their field and we have a history of successful past projects working together.

Cabrinha, Hearn & Associates - Survey

Over the past 43 years, **Cabrinha, Hearn & Associates** (CH&A) has successfully provided land surveying and mapping services on five- and six-figure work orders on hundreds of projects throughout Southern California. Their quality surveying and mapping services are provided to their clients in a timely and economic fashion, they anticipate and solve potential problems before they arise by ensuring hands-on project participation by the principals, they maintain consistent and clear communication with their clients, and use the latest technology in surveying equipment and methods.

Leighton Consulting – Geotechnical

Leighton Consulting, Inc. (Leighton) is an experienced team of consulting geotechnical engineers, geologists, technicians, and special inspectors providing solutions to geologic impacts for municipalities across Southern California. Having successfully completed a myriad of projects, Leighton is familiar with the local geotechnical and geological conditions, and the opportunities and constraints that result from those conditions. Their proactive approach and experience with various public agencies allows them to respond quickly to unexpected construction related issues and provide efficient testing procedures. Their services will be primarily provided out of their local San Diego office and laboratory with additional resources available to the City should the need arise. This includes additional California registered professionals, technicians, inspectors, and laboratories in Irvine and Temecula, ready and able to serve their clients.

Leighton has served on numerous geotechnical and engineering geologist on-call contracts, completing thousands of public works, water infrastructure, and transportation projects. Leighton's project team has successfully managed and/or worked on projects adhering to the requirements of local and state regulatory agencies.

Team Organization

Kimley-Horn's team organizational chart identifying roles and responsibilities of key personnel is provided below. Our team of experienced professionals are ready and enthusiastic to serve the City of Moreno Valley's Bark Park Project. Project manager **Randall A. Kopff, Jr., PLA** will serve as the primary point of contact.

Project Manager
Randall Kopff, PLA, CLARB

QC/QA; Constructability
Kirk Ammerman, P.E.

KEY DISCIPLINES

Landscape Architecture
Corey Cameron, PLA

Civil Engineering
Megan Ulery, P.E., LEED AP

Drainage/Stormwater
Rich Lucera, P.E., QSD/P, CFM

Electrical Engineering
Brian Herting, P.E.

ADDITIONAL DISCIPLINES

Survey[1]

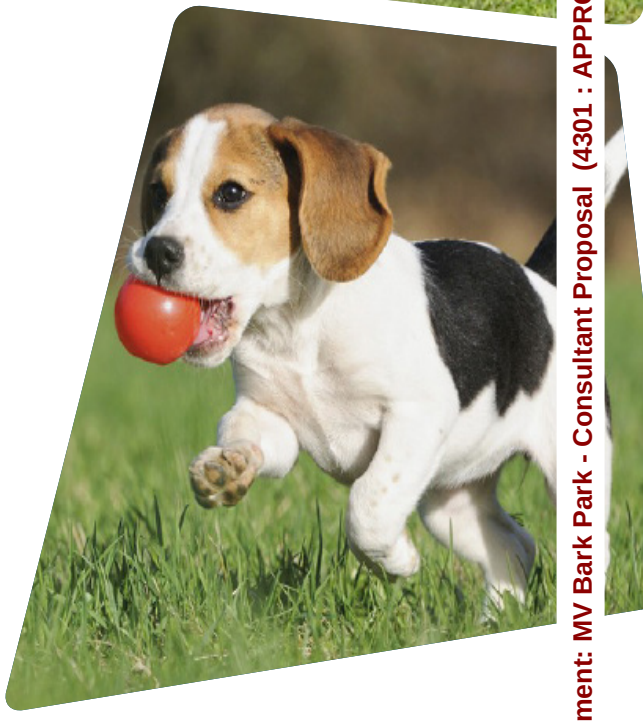
Geotechnical[2]

In-House Support Services

- Traffic
- Structures
- Geographic Information Systems (GIS)
- Graphics/3D Visualization
- Environmental
- Grant Writing

Subconsultants

1. Cabrinha, Hearn & Associates
2. Leighton Consulting, Inc.



Randall Kopff, PLA, CLARB

Project Manager

With more than 19 years of professional experience, Randall's skills have encompassed a wide variety of landscape architectural, planning, and graphic services on parks and recreation projects throughout the U.S. His skills include site inventory/analysis, master planning, design development, graphic presentations, 3D modeling, project management, and detailed technical drawings. Randall utilizes his diverse project background to work closely with individual clients to interpret public input and ensure that the proper vision has been achieved throughout the planning and design implementation processes.

Professional Credentials

- Bachelor of Science, Landscape Architecture, Ohio State University
- Professional Landscape Architect in California #6633, Arizona, Nevada, and Oregon
- The Council of Landscape Architectural Registration Boards, Member #40708

Relevant Experience

- **City of El Centro, Plank Park, El Centro, CA** – Project Manager
- **City of Tucson Dog Park Standards, Tucson, AZ** – Project Planner
- **City of Chula Vista, Millennia Park, Chula Vista, CA** – Landscape Architect
- **City of El Centro, El Centro Aquatic Center, El Centro, CA** – Project Manager
- **City of San Diego, Kindred Rooftop Dog Park, San Diego, CA** – Landscape Architect
- **City of Tucson, Ivan's Spot Dog Park, Tucson, AZ** – Landscape Architect
- **City of National City, Kimball Park, National City, CA** – Landscape Architect
- **City of Fountain Hills, Desert Vista Dog Park, Fountain Hills, AZ** – Landscape Architect
- **City of Fountain Hills, Desert Vista Park, Fountain Hills, AZ** – Landscape Architect
- **Thompson Peak Park, Scottsdale, AZ** – Landscape Architect
- **Egger/South Bay Community Park ADA Improvements, San Diego, CA** – Landscape Architect
- **Friendship Dog Park, Avondale, AZ** – Landscape Architect
- **Roscoe Dog Park, Goodyear, AZ** – Landscape Architect
- **Bates Park Master Plan, Seeley, CA** – Project Manager

Kirk Ammerman, P.E.

QC/QA; Constructability

Kirk has 34 years of civil engineering, managerial, and supervisory experience. He has knowledge and experience over a broad range of civil engineering topics, including project management; contract management and administration; civil engineering processes; budget processes; and pertinent local, State, and Federal rules, regulations, and laws. His expertise involves design and construction of public works projects, construction management/resident engineer, and administration. Kirk has performed design, numerous constructability reviews, value analyses, and quality reviews on a variety of construction projects, including parks, roadway widening projects, green streets, and channel revegetation projects.

Professional Credentials

- Bachelor of Science, Civil Engineering, San Diego State University
- Professional Engineer in California #C46482

Relevant Experience

- **City of National City, Kimball Park and A Avenue Green Street, National City, CA** – QC/QA Reviewer
- **City of National City, Paradise Creek Restoration, National City, CA** – Project Engineer
- **City of Chula Vista, Third Avenue Streetscape Implementation, Chula Vista, CA** – Project Manager/Project Engineer
- **City of San Diego, North Park/Mid-City Bikeways, San Diego, CA** – QC/QA Manager/Reviewer
- **City of San Diego, Uptown Bikeways, San Diego, CA** – QC/QA Reviewer
- **City of San Diego, Mission Bay Athletic Area, San Diego, CA** – QC/QA Reviewer
- **City of Salinas, Downtown Main Street Improvements, Salinas, CA** – QC/QA Reviewer
- **City of Oceanside, Mission Avenue Streetscape Improvements, Oceanside, CA** – QC/QA Reviewer
- **City of El Centro, Aquatic Center, El Centro, CA** – Project Engineer
- **City of National City, Community Corridors, National City, CA** – Project Engineer
- **City of Chula Vista, South Bay Bus Rapid Transit, Chula Vista, CA** – Project Manager/Project Engineer

Corey Cameron, PLA, CLARB

Landscape Architecture

Corey has five years of experience practicing landscape architecture with extensive work in various fields of construction and design. He has experience providing solutions to both private and public-sector work, with more notably emphasis on school campus design. His graphic abilities to illustrate the vision and his understanding of the constructability provides practical designs and brings the vision to reality. His fascination with the built environment and a respect for the natural systems we inhabit drives Corey to search for ways to design and develop spaces that focus on the users experience and draws attention to a symbiotic relationship between human and nature. He also strives to improve and learn innovative approaches to design and development, gaining excitement from a new challenge, and ambitiously searching for the right solution.

Professional Credentials

- Bachelor of Arts, Landscape Architecture, California State Polytechnic University, Pomona
- Associate of Arts, General Education, Mira Costa College
- Professional Landscape Architect in California #6625

Relevant Experience

- **City of El Centro, Plank Park, El Centro, CA** – Landscape Analyst
- **City of Chula Vista, Millennia Park, Chula Vista, CA** – Landscape Analyst
- **Affirmed Housing Group, Zephyr Affordable Housing, San Diego, CA** – Landscape Analyst
- **City of El Monte, Ramona Boulevard at Valley Boulevard Intersection Improvement Project, El Monte, CA** – Landscape Analyst
- **City of Monterey, North Fremont Street Bike and Pedestrian Access, and Safety Improvements, Monterey, CA** – Landscape Analyst
- **Ocean View School District, College View Elementary School STEM Campus Improvements, Huntington Beach, CA** – Landscape Architect
- **Ocean View School District, Westmont Elementary School Modernization, Westminster, CA** – Landscape Architect
- **Beaumont Unified School District, Beaumont High School Modernization, Beaumont, CA** – Landscape Analyst
- **Town of Bethany Beach, Central Park Master Plan, Bethany Beach, DE** – Landscape Analyst/Irrigation Designer

Megan Ulery, P.E., LEED AP

Civil Engineering

Megan has over 16 years of land development and capital improvement project experience. She routinely provides project management and civil engineering services for both municipalities and private developers. Megan is well-versed in park design, mass grading, rough grading, precise grading, street improvements, bikeway design, ADA compliance, sewer and water design, storm drain system design, hydrology, and hydraulics.

Professional Credentials

- Bachelor of Science, Civil and Environmental Engineering, University of Iowa
- Professional Engineer in California #73385
- LEED Accredited Professional

Relevant Experience

- **City of San Diego, Torrey Highlands Neighborhood Park and Dog Park Improvements, San Diego, CA** – Project Engineer
- **City of San Diego, Ocean Beach Dog Beach ADA Improvements, San Diego, CA** – Project Engineer
- **City of San Diego, Mission Bay Athletic Center Improvements, San Diego, CA** – Project Engineer
- **City of San Diego, Egger/South Bay Community Park ADA Improvements, San Diego, CA** – Project Engineer
- **City of San Diego, Environmental Monitoring & Technical Services Building Esplanade, San Diego, CA** – Project Engineer
- **City of San Diego, J Street Mini Park Improvements, San Diego, CA** – Project Engineer
- **City of San Diego, Santa Clara Park Improvements, San Diego, CA** – Project Engineer
- **City of San Diego, Crown Point Playground & Parking Lot Improvements, San Diego, CA** – Project Engineer
- **City of San Diego, Ocean Air Comfort Station & Park Improvements, San Diego, CA** – Project Engineer
- **City of San Diego, Carmel Valley Park ADA and Joint Use Field Improvements, San Diego, CA** – Project Engineer
- **City of San Diego, Mira Mesa Community Park Phase II Improvements, San Diego, CA** – Project Engineer

Rich Lucera, P.E., QSD/P, CFM

Drainage/Stormwater

Rich is a recognized industry leader with 29 years of experience in the fields of stormwater design and water quality analysis, his work includes hydrology/hydraulics, BMP siting and construction, drainage improvements, stormwater permit compliance, feasibility studies, plan checking, and third-party review for cities, counties, schools, Caltrans, private developers, and the U.S. Navy. He was an active participant in the creation of the recently published County of San Diego Low Impact Development Handbook and he also served as a member of the San Diego County Technical Advisory Committee, contributing to the creation of the local hydromodification management plan.

Professional Credentials

- Master of Science, Environmental Engineering, Pennsylvania State University
- Bachelor of Science, Civil Engineering, University of Delaware
- Professional Engineer in California #C58089
- Qualified SWPPP Developer/Practitioner
- Certified Floodplain Manager #06-02109
- California Stormwater Quality Association (CASQA) BMP Sub Committee

Relevant Experience

- **City of San Clemente, East Avenida Cordoba Drainage Improvements, San Clemente, CA** – Project Manager
- **County of Orange, State Route 57 Northbound Widening Final PS&E, Orange County, CA** – Discipline Lead for Stormwater Design
- **City of Escondido, Hale Avenue Resource Recovery Facility BMP Retrofit Design, Escondido, CA** – Project Manager and Engineer*
- **City of Escondido, Spruce Street Channel Improvements, Escondido, CA** – Project Manager and Engineer*
- **City of San Diego, Logan Heights LID Retrofit, San Diego, CA** – Project Manager*
- **City of Lakeside, Woodside Avenue Drainage Improvements, Lakeside, CA** – Drainage Task Manager*
- **County of Los Angeles, Green Alley Master Plan, Los Angeles County, CA** – Project Manager and Engineer in Responsible Charge*

** Prior to joining Kimley-Horn*

Brian Herting, P.E.

Electrical Engineering

Brian has more than 12 years of civil engineering design experience on a variety of transportation design projects with an emphasis on Intelligent Transportation Systems (ITS). He has completed several design projects for local municipalities, transit agencies, and State DOTs in California and Nevada. His experience includes PS&E preparation, coordination between multiple jurisdictions, communication systems, traffic signals, signing and marking, lighting and photometric analysis, and stage construction and traffic handling.

Professional Credentials

- Bachelor of Science, Civl Engineering, Montana State University
- Professional Engineer in California #C84337 and Nevada #22133

Relevant Experience

- **Caltrans D11, Voigt Drive/I-5 North Coast Corridor (NCC) Improvements (PS&E), San Diego, CA** – Project Engineer
- **City of Encinitas, HSIP Design of LED Street Lighting Engineering, Encinitas, CA** – Project Manager
- **City of National City, El Toyon/Las Palmas Bike Corridor Final Design ATP, National City, CA** – Project Engineer
- **City of Oceanside, Mission Avenue Streetscape - A Green/Complete Streets, Oceanside, CA** – Project Engineer
- **City of San Diego On-Call Mini Park Improvements, J-Street (2017), San Diego, CA** – Project Engineer
- **City of San Diego, Community Plan for Uptown, Greater North Park and Greater Golden Hill (Transportation Planning and Analysis), San Diego, CA** – Project Engineer
- **Expo Metro Line Construction Authority, Design of Metro E Line (Expo) LRT Phase 2, Los Angeles, CA** – Project Engineer
- **Homestead Road and Kiely Boulevard Traffic Signal Interconnect and Coordination, Santa Clara, CA** – Project Engineer
- **Jamul Indian Village, SR 94 Improvements - NEPA, EIR, PA/ED, and PS&E, Jamul, CA** – Project Engineer

Camden Cabrinha, PLS

Survey

CABRINHA, HEARN & ASSOCIATES surveying & mapping

Camden began his surveying career in 1981, from chainman to operating a survey company, Camden has worked in every survey position, and has been chief of parties/project manager since 1993. He has experience in field and office surveying work. His field and office experience includes plane table, control (GPS and conventional), construction layout, topographic, ALTA, boundary, right-of-way, and map processing projects. He has had extensive training and considerable experience in deformation surveys and computer aided mapping and electronic gathering and transferring of GIS survey data.

Professional Credentials

- Surveying, Pasadena City College
- Surveying, Rancho Santiago College
- Professional Licensed Surveyor in California #6755

Professional Affiliations

- CSLA State Representative LA County
- ACEC California - Professional Surveyors Committee Member

Relevant Experience

- **City of Los Angeles, Westside Extension, Segment 1 - Los Angeles, CA** – Survey Project Manager
- **Geocomp, Crenshaw/LAX Transit Corridor, Los Angeles, CA** – Survey Project Manager
- **County of San Bernardino/County of Riverside, On-Call Surveying Services 08A2868, San Bernardino and Riverside Counties, CA** – Project Surveyor
- **County of Inyo/County of Mono, On-Call Surveying Services 09A0710, Inyo and Mono Counties, CA** – Project Surveyor
- **Los Angeles Community College District, Los Angeles, CA** – Party Chief/Project Manager
- **City of Pasadena, Multi-Year On-Call Survey Contracts, Pasadena, CA** – Survey Project Manager
- **City of Santa Monica On-Call Surveys, Santa Monica, CA** – Survey Project Manager

Simon Saiid, P.E., G.E.

Geotechnical Engineering

Leighton Consulting, Inc.
SOLUTIONS YOU CAN BUILD ON

Simon has over 30 years of geotechnical engineering and materials testing experience involving public work projects, including street rehabilitation, public buildings, pipelines, and water facilities in Riverside County. He is experienced in geotechnical site investigations, foundation design, buttress and structural landslide mitigation, seismic hazard evaluations and mitigation design, grading control, ground improvement, pipelines, pavement, and forensic evaluations. Further, Simon contributes to the success of construction projects by interacting with the project team during the planning and design phase, and providing cost-effective solutions for unexpected/ challenging geologic conditions during construction.

Professional Credentials

- Master of Science, Civil Engineering, Rensselaer Polytechnic Institute, Troy, NY
- Bachelor of Science, Civil Engineering, Rensselaer Polytechnic Institute, Troy, NY
- CA Geotechnical Engineer #2641
- Professional Engineer in California #C62375

Relevant Experience

- **City of Moreno Valley, CA Projects:**
  - **Proposed SR-60/WLC Parkway Interchange Improvements** – Project Manager
  - **SR-60/Nason Street Bridge Improvements** – Geotechnical Engineer/Project Manager
  - **Cactus Avenue and Nason Street Improvements –** Geotechnical Engineer/Project Manager
  - **Traffic Signal and Street Improvements at Cottonwood Avenue and Elsworth Street –** Geotechnical Engineer
  - **Heacock Bridge Widening –** Geotechnical Engineer/Project Manager
  - **Lasselle Street Road Widening –** Geotechnical Engineer
  - **SR-60 Widening, Between Theodore Street and Redlands Boulevard** – Geotechnical Engineer
  - **Theodore Street –** Geotechnical Engineer
- **RCTC Perris Valley Line, Metrolink Extension, Riverside County, CA** – Project Manager

Similar Projects Designed by the Team

Knowledge of the Project/Unique Features Specific to Dog Parks

Kimley-Horn has a history of success with projects similar to the City of Moreno Valley Bark Park project. By selecting Kimley-Horn, the City and its stakeholders will benefit from our team's extensive knowledge of dog parks and the skills of our national professionals. We understand that designing a dog park requires a unique understanding of the needs of those who will use the park. Small dogs and large dogs should be separated, adequate shade and seating needs to be provided, and plenty of open space should be available for dogs to exercise. Great care needs to be taken in deciding what plants can be maintained in the area to keep animals safe. Unlike other parks, water features in dog parks are not just for looks. They serve a very important function to provide important play time for the dogs while also keeping them cool. Our team is well-equipped to analyze and design the City's dog park while addressing your community's specific needs and desires. The projects on the following pages demonstrate the wide range of project experience we have in dog parks.

Torrey Highlands Neighborhood Park and Dog Park

San Diego, CA

The Torrey Highlands Neighborhood Park and Dog Park renovations project includes demolition and construction to provide 50 new parking spaces along Torrey Highlands Park Road, provide accessibility upgrades for sidewalk, walkways and parking onsite, and provide accessible upgrades and a shade structure within the dog park. Plans and design include demolition plans, improvement plans, horizontal and vertical control plans, ADA enlargements, construction details, a BMP Map and a Storm Water Quality Management Plan (SWQMP) for the City of San Diego. Kimley-Horn provided civil and drainage/stormwater engineering for this project. This project is currently in the bid phase and ready for construction.

Unique Characteristics/Innovative Approaches

- Expanded parking for users
- Creative grading solutions to ensure ADA accessibility

Client:

City of San Diego

Public Works/Architectural Engineering and Parks

Contact Information

Yovanna L. Lewis, Associate Engineer

619.533.5130

ylewis@sandiego.gov

Ivan's Spot Dog Park
Tucson, AZ

Prior to joining Kimley-Horn, key members of our project team designed this one-acre dog park inside the City's Purple Heart Park. The park is a tribute to Ivan, a two-year-old Belgian Malinois K-9 killed in the line of duty with the Tucson Police Department. The site consists of separate fenced-in areas encompassing concrete walking paths and dog-friendly drinking fountains. The design includes boulders for sitting and climbing along with environmentally-friendly and cost-efficient solar lighting and drought-tolerant landscaping.

Unique Characteristics/Innovative Approaches

- Separate small and large dog areas
- Low water use plant materials
- Custom gateways
- Shaded seating nodes

Client:

City of Tucson

Contact Information

Julie Parizek, (Previous Project Manager for Parks and Recreation at City of Tucson, now at Pima County)

520.724.3085

julie.parizek@pima.gov

Awesome!

"We're currently on a cross country road trip and this has to be the best dog park so far. There are two separate fenced in areas for small dogs (under 30lbs) and large dogs.

There are benches, picnic tables, multiple trash cans with scoops/ brooms, loads of tennis balls, rope toys, pretty much everything you could want in a dog park."

-Arlo, bringfido.com

Kindred Rooftop Dog Park
San Diego, CA

Kimley-Horn is partnering with BRIDGE Housing on the Kindred project in downtown San Diego, which combines affordable and senior living. The residential project will be divided into two separate structures above level 4. Family housing is located in the North structure and senior housing in the South structure. Areas involving landscape architectural consideration include: Level 1 for ROW planting and sidewalk design per the City of San Diego's design guidelines, large outdoor spaces on the Level 4 podium including play areas with equipment, dedicated dog walks, and dedicated garden spaces catering to families and seniors, and Level 6 that includes a senior amenity deck. Grills and outdoor cooking areas will be provided in these developments per discussions with the design team.

Unique Characteristics/Innovative Approaches

- Maximization of available space
- Unique rooftop application
- Low water use plant materials

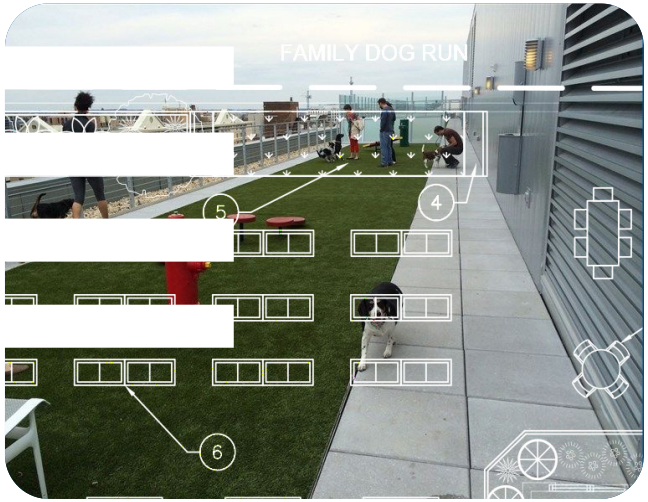
Client:

AVRP Skyport

Contact Information

Charles Brinton

619.704.2700



Desert Vista Park
Fountain Hills, AZ

Desert Vista Park is situated on an elevated plane surrounded by the picturesque views of the McDowell Mountains. The 12-acre park also offers views of the much-renowned fountain of Fountain Hills, AZ. Prior to joining Kimley-Horn, key members of our project team provided master planning, design, and construction documents for improvements to Desert Vista Park. Improvements to the park included a dog park, sports fields and site lighting, a concession/ restroom building, multi-use pathways, parking, and overall upgrades for pedestrian circulation and accessibility throughout the site, complying with standards of the Americans with Disabilities Act (ADA). The dog park area provided two cells, one for larger, active dogs and a second for smaller, passive dogs. Dog park amenities include over three acres of turf, three large shade ramadas with picnic tables and benches, drinking fountains with pet fountains, irrigation, and lighting for safe night use. The project team provided experience in landscape architecture, civil engineering, traffic engineering, electrical engineering, and surveying, as well as construction administration and observation services during the construction phase, which included 12 acres of improvements.

Unique Characteristics/Innovative Approaches

- Connectivity with the adjacent neighborhood park amenities
- Large dog areas that provide rotation opportunities to maintain natural turfgrass health
- Landscape screening between large and small dog areas to minimize potential conflicts
- Double-gate access control
- Dog waste bag dispenser

Client:

Town of Fountain Hills

Contact Information

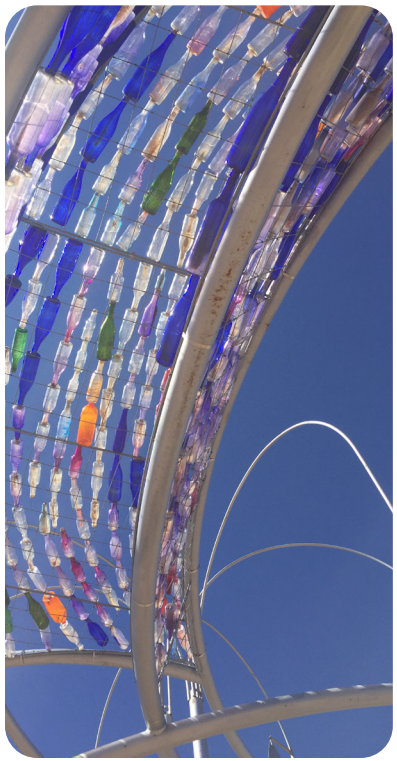
Don Clark, Town of Fountain Hills
Recreation Coordinator
480.816.5130
Dsclark@fh.az.gov

Roscoe Dog Park
Goodyear, AZ

Roscoe Dog Park is situated in Goodyear, AZ and provides 6.5 acres of area for both passive and active dog areas with shade ramadas with picnic tables and benches and lighting for safe night use. The park utilizes a perimeter band of decomposed granite with concrete header to provide a walking path with large open turf areas for off-leash opportunities for the dogs. Prior to joining Kimley-Horn, key members of our project team provided master planning, design, and construction documents for improvements to Roscoe Dog Park. The project team provided experience in landscape architecture, civil engineering, electrical engineering, and surveying.

Unique Characteristics/Innovative Approaches

- Large dog areas that provide rotation opportunities to maintain natural turfgrass health
- Double-gate access control
- Water Fountains for dogs and people



Client:

City of Goodyear

Contact Information

The previous Director and Project Manager are no longer with the City of Goodyear. The following references are currently working with those team members/Kimley-Horn on the Recreation Campus project.

Nathan Torres, City of Goodyear
Parks and Recreation Director

623.882.3121

nathan.torres@goodyearaz.gov

C. Cost Proposal

TASK	DESCRIPTION	TOTAL
1.0	**Conceptual Master Plan Development**	**$13,830**
1.1	*Project Kick-off Meeting/Site Visit*	*$2,050*
1.2	*Data Collection*	*$1,460*
1.3	*Community Based Planning Sessions*	*$1,930*
1.4	*Draft Conceptual Master Plan*	*$3,820*
1.5	*Conceptual Design Comment Resolution Meeting and Final Conceptual Plan*	*$2,790*
1.6	*Preliminary Opinion of Probable Construction Costs (OPCC)*	*$500*
1.7	*City Council Presentation*	*$780*
	Expenses	$500
1.0B	**Topographical Survey**	**$10,140**
1.1B	Topographical Survey	
2.0	**Construction Documents and Reports**	**$61,270**
2.1	Construction Documents	
	60% Construction Documents	*$13,390*
	90% Construction Documents	*$10,990*
	100% / Final Construction Documents	*$6,280*
2.2	*Project Management, Schedule, and Quality Assurance and Control*	*$2,580*
2.3	Specifications, Reports, and Estimates	
2.3.1	*Special Provisions*	*$3,970*
2.3.2	*Opinion of Probable Costs*	*$3,000*
2.3.3	*Drainage Technical Memorandum*	*$6,800*
2.3.4	*Water Quality Management Plan (WQMP)*	*$5,900*
2.3.5	*Geotechnical Investigation*	*$6,860*
	Expenses	$1,500
3.0	**Construction Phase Services**	**$24,570**
3.1	*Bid Phase Services*	*$4,070*
3.2	*Construction Phase Services*	*$13,820*
3.3	*Record Documents*	*$4,180*
	Expenses	$2,500
	TOTAL TASKS 1.0, 1.0B, 2.0, AND 3.0	**$109,810**

D. Required Statements

a. This Request for Proposal (RFP) shall be incorporated in its entirety as a part of Kimley-Horn's Proposal.

b. This RFP and Kimley-Horn's Proposal will jointly become part of the Agreement for Professional Consultant Services for this project when said Agreement is fully executed by Kimley-Horn and the Mayor or City Manager of Moreno Valley.

c. Kimley-Horn's services to be provided, and fees therefore, will be in accordance with the City's RFP except as otherwise specified in Kimley-Horn's Proposal under the heading "ADDITIONS OR EXCEPTIONS TO THE CITY'S REQUEST FOR PROPOSAL.

d. The contract terms as stated in the Sample Agreement are acceptable. Kimley-Horn does not have any exceptions. Kimley-Horn also has the ability to furnish the required insurance.

e. Kimley-Horn's statement of qualifications is provided in Section B of our proposal.

f. Kimley-Horn's Cost Proposal is provided in Section C. All charges for Kimley-Horn's services is a "Not-to-Exceed Fee" which include a conservatively estimated reimbursable expenses, as submitted with and made a part of Kimley-Horn's Proposal.

g. Kimley-Horn will document and provide the results of the work to the satisfaction of the City. This may include preparation of final reports, or similar evidence of attainment of the Agreement objectives.

h. Kimley-Horn will immediately document and notify the City of any defects or hazardous conditions observed in the vicinity of the project site prior, during, or after the construction work.

i. Kimley-Horn acknowledges that all extra work will require prior approval from the City.

j. Kimley-Horn will not discriminate against any employee or applicant for employment because of race, color, religion, sex, or national origin.

k. All federal laws and regulations shall be adhered to notwithstanding any state or local laws and regulations. In a case of conflict between federal, state or local laws or regulations the strictest shall be adhered to.

l. Kimley-Horn shall allow all authorized federal, state, county, and City officials access to place of work, books, documents, papers, fiscal, payroll, materials, and other relevant contract records pertinent to this special project. All relevant records shall be retained for at least three years.

m. Kimley-Horn shall comply with the Davis-Bacon Fair Labor Standards Act (40 USC 276-a through a-7), and the implementation regulations issued pursuant thereto (29 CFR Section 1, 5), any amendments thereof and the California Labor Code. Pursuant to the said regulations, entitled "Federal Labor Standards Provisions," Federal Prevailing Wage Decision" and State of California prevailing wage rates, respectively.

n. Kimley-Horn shall comply with the Copeland Anti-Kickback Act (18 USC 874) and the Implementation Regulation (29 CFR 3) issued pursuant thereto, and any amendments thereof.

o. Kimley-Horn offers and agrees to assign to the City all rights, title, and interest in and to all causes of action it may have under Section 4 of the Clayton Act (15 USC Sec. 15) or under the Cartwright Act (Chapter 2 [commencing with Section 16700] of Part 2 of Division 7 of the Business and Professions Code), arising from purchases of goods, services, or materials pursuant to the public works or the subcontract. This assignment shall be made and become effective at the time the City tenders final payment to Kimley-Horn, without further acknowledgment by the parties.

CONTACT

Randall A. Kopff, PLA
602.906.1154
randall.kopff@kimley-horn.com

Kimley»Horn

3880 Lemon Street, Suite 420
Suite 420
Riverside, CA 92501

www.Kimley-Horn.com

Kimley»Horn

PROJECT UNDERSTANDING

The City is seeking a design team to complete an overall conceptual plan, design, and construction phase services for an approximately 1.50-acre dog park in the southwest portion of Moreno Valley, directly adjacent to the Moreno Valley Animal Shelter.

The City of Moreno Valley Parks and Community Services Department plans to pursue Statewide Park Development and Community Revitalization Program grant funds to develop this new dog park. The location and popularity of the existing Hound Town Dog Park on the City's north side has driven the need for another dog park on the opposite side of Moreno Valley. The City plans for this dog park to alleviate overuse and augment the amenities offered at Hound Town, and also has the opportunity to become a special oasis that will capture and celebrate the unique bond between dogs and humans, serving multiple community needs.

We understand that the City of Moreno Valley will fund the design with local funding and that the construction phase is contingent upon award of grant funding. The total project costs, including design services, are estimated at $1 million. The City anticipates grant submittal on March 16, 2021 and award announcements this summer.

All design work on the project from concept to construction drawings will be in accordance with the requirements and latest versions of the City of Moreno Valley standards, California Building Code, Standard Specifications for Public Works Construction (Greenbook), Americans with Disabilities Act (ADA) standards, the California Manual on Uniform Traffic Control Devices, and the Riverside County Flood Control and Water Conservation District (RCFC & WCD), as applicable.

Due to the everchanging circumstances surrounding the COVID-19 Virus, situations may arise during the performance of this Agreement that affect availability of resources and staff of Kimley-Horn, the client, other consultants, and public agencies. There could be changes in anticipated delivery times, jurisdictional approvals, and project costs. Kimley-Horn will exercise reasonable efforts to overcome the challenges presented by current circumstances, but Kimley-Horn will not be liable to Client for any delays, expenses, losses, or damages of any kind arising out of the impact of the COVID-19 Virus.

SCOPE OF SERVICES

Kimley-Horn will provide the following services for each independent task:

Task 1: Conceptual Master Plan Development

Task 1.1 Project Kick-off Meeting/Site Visit:
The Kimley-Horn team will attend a project kick-off meeting at the City of Moreno Valley offices with City staff and stakeholders to discuss the project schedule and submittals; establish the team organization and communication procedures; discuss the design intent and project goals; and discuss budget control procedures. The City shall provide direction on key design intent, site constraints, and issues prior to starting the schematic design process. At the end of the kick-off meeting, the Kimley-Horn team and City Staff will walk the park site with all relevant background data to confirm the site conditions and key issues to be addressed during the design process.

Task 1.2 Data Collection:
The Kimley-Horn team will develop an understanding of the physical conditions within the project limits through data collection efforts. The Kimley-Horn team will review the available as-built records for existing sewer, water, and storm drain provided by the City. The detailed background information gathered for the project will be confirmed through the site visit performed by the Kimley-Horn team. Results of the investigations will be integrated into an existing utility CAD base map that will be used by the project team to develop the final design plans.

Task 1.3 Topographical Survey
The Kimley-Horn team will conduct a topographical survey including locating property lines, right-of-way, and above ground utility appurtenances that will be utilized for project base mapping. The Kimley-Horn team will field collect existing survey monuments, curb & gutter, sidewalk, fences, grade breaks and visible utility appurtenances within the limits of work to verify existing utility facilities within the project area. Project topographic base mapping will be produced in AutoCAD format.

Task 1.4 Community Based Planning Session Data Review:
The Kimley-Horn team will review the results of the Community Based Planning Sessions provided by City staff, summarize the results and formulate a one-page written design program which will be the basis of the conceptual master plan.

Task 1.5 Preliminary Master Plan Concept Bubble/ Relationship Diagrams:
The Kimley-Horn team will develop, up to three (3), preliminary master plan concept bubble diagrams which illustrate the horizontal relationships of the programming elements proposed. Comments received and selection of the preferred concept will be consolidated and used to develop the Draft Conceptual Master Plan (Task 1.6).

Task 1.6 Draft Conceptual Master Plan:
The Kimley-Horn team will develop a conceptual design plan based on input from the community-based planning sessions which incorporates the specific program elements identified and requested by staff. The concept plan will illustrate the location of proposed improvements within the park (i.e., amenities, lighting, parking improvements, paths, and shade structures), existing conditions, existing and proposed utilities, stormwater quality options as well as character imagery of the proposed project.

Task 1.7 Conceptual Design Comment Resolution Meeting and Final Conceptual Plan:
The Kimley-Horn team will utilize the consolidated comments received from City Staff on the draft master plan to schedule a meeting in which final comment resolution will be decided. It is assumed that this meeting will coincide with one of the scheduled monthly virtual progress meetings (task 1.9). The design team will respond to one (1) round of consolidated comments from the City and project stakeholders on the conceptual design plan and will prepare revisions accordingly and submit as the Final Conceptual Master Plan (pdf).

Task 1.8 Preliminary Opinion of Probable Construction Costs (OPCC):
The Kimley-Horn team will prepare a preliminary OPCC (pdf) based on the Final Conceptual Master Plan, that will identify the proposed improvements, unit prices, contingencies, and an overall cost for each proposed element in the project.

Task 1.9 City Council Presentation:
The Kimley-Horn team project manager will present the final conceptual master plan to City Council. A PowerPoint presentation will be prepared which outlines the conceptual design process. This task assumes up to one (1) in person, presentation. The design team will make up to one (1) round of additional revisions to the final conceptual design plans based on feedback from the City Council presentation.

Task 1.10 Project Management, Schedule and Quality Assurances and Control:
The Kimley-Horn team project manager will provide coordination between the design team and the City and monitor project progress and the project schedule on a regular basis. The project manager will virtually attend up to three (3) progress meetings with the City and project stakeholders. The project manager will coordinate all monthly project invoicing. The Kimley-Horn team will provide an in-house quality control review.

Task 2: Construction Documents and Reports
Kimley-Horn assumes that the conceptual master plan will provide sufficient information to proceed directly to 60% level construction plans. We will prepare 60%, 90%, and Final (100%) construction documents and reports for City review and comment. All design work will be in accordance with the requirements and latest versions of the City of Moreno Valley standards, California Building Code, Standard Specifications for Public Works Construction (Greenbook), Americans with Disabilities Act (ADA) standards, the California Manual on Uniform Traffic Control Devices, and the Riverside County Flood Control and Water Conservation District (RCFC & WCD), as applicable. It is assumed that the City will provide one set of consolidated client comments and that these comments will not require major design changes. After each submittal, a two-hour virtual review meeting will be held between the City, the project's construction manager, and up to two (2) Kimley-Horn staff to review the consolidated comments and determine final comment resolution. It is assumed that this meeting will coincide with one of the scheduled progress meetings (Task 2.2). All comments and revisions will be addressed as part of the 90% and Final submittal, respectively. The plans will be prepared for a single phase of construction in a format and scale deemed appropriate by Kimley-Horn. If the City desires to phase the project, Kimley-Horn can provide a detailed phasing plan and separate design packages for an additional service fee.

Task 2.1 Construction Documents:
The construction documents will consist of the following discipline sheets:

Cover Sheet (1 Sheet) – Kimley-Horn will prepare a cover sheet that includes: vicinity map, location map, City general notes, project description, legend, abbreviations, and limits of work that summarizes the overall project plan set.

General Notes (2 Sheets) – Kimley-Horn will prepare sheets that include general notes, abbreviations, and site-specific notes as needed.

Existing Conditions/Demolition Plans (1 Sheet) - Kimley-Horn will prepare plan view sheets showing existing facilities to be removed, relocated, and protected in place. The plan view sheets shall reflect existing topography, existing right-of-way, and existing utilities.

Site Plan (1 Sheet) – Kimley-Horn will prepare plan view sheets showing horizontal control and proposed improvements. The plan view sheets will reflect existing topography, existing right-of-way, and existing utilities.

Utility Plans (1 Sheet) – Kimley-Horn will prepare plan view sheets with existing and proposed utility locations illustrating: water, sewer, storm drain, and dry utilities. Existing as-built information is assumed to be provided by the City for the site and adjacent roadway and will be reviewed and coordinated with City staff. Three utility connections are assumed for this project, two for water and one for electrical/lighting. Two water points of connection are assumed: one for irrigation water and one for domestic water. No sewer connections are proposed for this project. If potholing (by others/City) is required, the Kimley-Horn team will provide a pothole exhibit and work with the City on including the results of the potholing effort into the plans and design. The storm drain layout will illustrate storm drain sizing and treatment requirements for this project. The 60% submittal will show findings of existing locations, and proposed utilities will be included during 90% and Final submittal. A bioswale is anticipated for stormwater quality onsite to convey runoff to the existing condition outlet in the southwest corner of the site. We assume there is no offsite stormwater run-on to the project site and any traffic control required for offsite utility connections in the public right-of-way will be provided by the Contractor.

Improvement Plan and Details (2 Sheets) – Kimley-Horn will prepare plan view sheets showing proposed improvements on site including curb, curb and gutter, walkways (DG and PCC), pavement structural section, parking layout, decorative flatwork and ADA enlargement details. We assume the site will utilize the existing driveway and a new driveway will not be required.

Horizontal and Vertical Control Plans (1 Sheet) – Kimley-Horn will prepare plan view sheets illustrating the proposed grading condition with data tables and elevations to control all hardscape features such as curb, walkways, and parking. The 60% plans will illustrate contours and spot elevation information only; the 90% plans will include data tables and additional enlargements, as required, to control ADA facilities on-site.

Site Furnishings Plans and Details (4 Sheets) – Kimley-Horn will prepare site furnishings plans and details based on the input provided by the City and amenities identified on conceptual design plans. The plans and details will provide various colors, finishes, locations and limits for different types of amenities proposed throughout the site such as shade structures, benches, trash receptacles, fences and signage. The details will provide the design intent for color, size and general fabrication parameters. For any signage or site wayfinding elements, it is assumed that the City will provide all images and logos (300 dpi or greater) and all final approved copy (text, quotes, names, etc.) for each proposed sign in digital format.

Landscape Plans and Details (3 Sheets) – Kimley-Horn will prepare landscape plans, work with the City to develop the initial plant palette and comply with California's Water Use Classification of Landscape Species (WUCOLS) information

Irrigation Plans and Details (3 Sheets) – Kimley-Horn will prepare landscape irrigation plans which comply with California's Water Efficient Ordinance and indicate the anticipated point of connection, controller locations, and proposed irrigation mainline routing with anticipated pipe sizing.

Lighting and Electrical Plans and Details (3 Sheets) – Kimley-Horn will prepare electrical and lighting engineering design plans including all equipment and lighting locations, conduit routing locations, lighting and equipment installation details, and calculations.

Task 2.2 Project Management, Schedule and Quality Assurances and Control:
The Kimley-Horn team project manager will provide coordination between the design team and the City and monitor project progress and the project schedule on a regular basis. The project manager will virtually attend up to six (6) progress meetings with the City and project stakeholders. The project manager will coordinate all monthly project invoicing. The Kimley-Horn team will provide an in-house quality control review.

Task 2.3 Specifications, Reports and Estimates

Task 2.3.1 Special Provisions
Kimley-Horn will prepare technical specifications to accompany the construction plans. The technical specifications will be prepared utilizing City standards and the 2018 APWA standard specifications ("Green Book") for onsite construction. Specifications will be submitted at 90% and Final submittals. It is assumed that the City will provide the volume one specifications.

Task 2.3.2 Opinion of Probable Construction Costs
Kimley-Horn will prepare the Engineer's Opinion of Probable Construction Cost (OPCC), based on the latest design quantity takeoffs and current unit prices. The OPCC will provide a bid item description, bid unit, bid quantity, unit price, and total price for each bid item. The item description will correspond with the Bid Schedule item description to be used when advertising the project for construction bids.

Task 2.3.3 Drainage Technical Memorandum
The Kimley-Horn team will prepare a drainage technical memorandum for the final park design. The drainage memorandum will be done using AES HydroWin (Riverside County Module) for the 1 hour, 3 hour, 6 hour, and 24 hour durations.

The increase in peak flow as a result of development is assumed to be nominal and acceptable to the approving agency (City of Moreno Valley). Based on the surrounding developments, it is assumed that there is no storm drain infrastructure in the adjacent roadway and the goal of the site will be to utilize the existing condition sheet flow for runoff to Business Center Drive. No detention basin design or other mitigation features are assumed warranted, and therefore not included. Offset hydrology and/or offsite hydraulic analysis is considered unwarranted and not included. No floodplain mapping or similar analysis is included or considered warranted. A preliminary drainage technical memorandum will be included with the 60% design submittal for review and comment by the City. A final drainage technical memorandum will be submitted addressing one round of consolidated City review comments with the final submittal.

Task 2.3.4 Water Quality Management Plan (WQMP)
The Kimley-Horn team will prepare a WQMP using the City's standard template. The Team will work with City Staff during the conceptual site plan phase to understand how the site configuration impacts locations for stormwater treatment (project will not be a PDP). The amount of impervious area proposed on site will dictate the type of stormwater treatment required for the project. The Kimley-Horn team assumes that the project will be kept below the 10,000 sq-ft threshold for new development projects, which would eliminate the need for post-construction structural BMPs. Reducing the impervious area proposed on site will be a goal throughout the design process as it is linked to project cost and long-term maintenance parameters.

Task 2.3.5 Geotechnical Investigation
The Kimley-Horn team will provide geotechnical investigation services that will consist of a subsurface field investigation and recommendations for retaining wall and shade structure footings, flatwork and roadway pavement sections, and infiltration testing and results. Additionally, background information including readily available geotechnical reports, geologic maps, groundwater data, and aerial photographs will be researched. The Kimley-Horn team will develop a geotechnical evaluation report by compiling the analysis of the data obtained and discussing the findings, conclusions, and recommendations. As part of this task it is assumed that one (1) shallow exploratory boring will be completed as well as one (1) infiltration test will be conducted. Web Soil Survey suggests hydrologic soil type C which typically does provide high infiltration opportunities for storm water.

Task 3: Construction Phase Services
The Kimley-Horn team will prepare final bid document plans, specifications, bid form, and OPCC for use by the City in project bidding. Kimley-Horn will incorporate consolidated comments from final submittal into the package before submitting to the City. Bid documents will be prepared from the final signed plans, specifications, bid form, OPCC, and other technical documents reviewed and approved. The Kimley-Horn Team assumes a construction period of no more than six (6) months.

Task 3.1 Bid Phase Services
Kimley-Horn will provide bid phase support services as requested by the City of Moreno Valley project manager. Bid phase service may include: pre-bid meeting attendance, answering RFIs, preparing addenda, and preparing conform documents. A total of twenty-four (24) hours is assumed for this task. Any additional effort will be considered additional services.

Task 3.2 Construction Phase Services
Kimley-Horn will provide Construction Phase Services as requested by the City's project manager. Up to eighty (80) hours are assumed for the following:

a. Preparing supplementary sketches required to resolve design-related items within the above outlined Scope of Services due to field conditions.
b. Attendance at up to four (4) construction meeting at the site within this Scope of Services.
c. Review of design-related submittal packages within the above outlined Scope of Services.
d. Attendance at one (1) preliminary punch walk list meeting.
e. Attendance at one (1) final punch walk list meeting.

Additional site visits not outlined in the scope of services and directed by the City or Contractor will be considered an additional service.

Task 3.3 Record Documents
Kimley-Horn will revise the approved final design plans for the project based upon field changes and revisions as provided in the plan redlines/markups by the contractor's field superintendent and approved by the City. These plans will be provided to the City's project manager in Adobe PDF format.

Task 4: Optional Tasks and Services

Optional Task 4.1: 3D Character Sketches for Grant Proposal - The Kimley-Horn team shall prepare two (2) three-dimensional digital character sketches (still/ static images) based on the Final Conceptual Plan (Task 1.7) which will realistically convey what the proposed dog park will look like when constructed. The images will be intended to further convey the design elements proposed and complement the Concept Plan included in the Grant Proposal. The design team assumes one (1) round of revisions to character sketches based on consolidated comments from the City and project stakeholders.

Optional Task 4.2: Additional Construction Phase Services – In addition to Task 3 above, Kimley-Horn will assist the City of Moreno Valley's Resident Engineer with logging and coordinating submittals/ RFI's, reviewing invoices, reviewing change orders, and construction oversight. Prepare for, attend, and summarize issues and decisions for the following meetings: a pre-construction meeting, up to 16 virtual weekly construction meetings, and up to 4 site meetings (as needed). The Kimley-Horn Team assumes a construction period of no more than six (6) months.

Kimley»Horn

ASSUMPTIONS/EXCLUSIONS

Any services not specifically provided for in our scope of services as well as any changes in scope made at the City's request, will be considered additional services and will be performed at our then current hourly rates. This will require approval in writing before any work will continue. Additional services Kimley-Horn can provide include, but are not limited to, the following:

1. Hours noted for tasks are estimates only. If more time is required for the scope of work, additional budget will be requested
2. This proposal assumes that the standards and practices in effect at the City of Moreno Valley, at the time of this proposal, will remain in effect throughout the course of development.
3. Meetings beyond those identified in this Scope and Fee Proposal
4. Meetings are assumed to be virtual, unless specifically noted above
5. Water Pressure readings and/or pump station design
6. GIS Services
7. Value Engineering or Phased Construction Plans
8. Submittals at 60%,90%,100% and Final shall include 6 bond copies of the plan documents and 2 bond copies of the specifications. All other submittals and deliverables, unless noted above, are assumed to be digital and in Adobe PDF format only.
9. Submittal and/or Permitting Fees
10. Grant Writing, Review and/or Carbon Sequestration Calculations
11. Environmental Services
12. Adjacent Property Owner Coordination
13. City to Provide Drainage Reports for Adjacent Properties/ Developments
14. Construction Staking
15. Inspections and Materials Testing
16. As-built Survey
17. Construction Noise and Vibration, Operational Vibration and Traffic Noise Generation studies
18. Erosion Control Plans and Details
19. Traffic Control Plans and Details
20. Existing Plant Inventory or Landscape Preservation Plans
21. Water Features and/or Fountains
22. Structural Review, Calculations and/or Certification
23. Storm Water Pollution Prevention Plan (SWPPP) and SWPPP inspections
24. Notice of Intent (NOI) and Notice of Termination (NOT) to the Regional Water Board
25. Warranty and/or Maintenance Administration
26. A soils consultant and soil analysis will be coordinated/ prepared by the contractor upon the completion of mass grading. The existing soil nutrient information will be compared against the proposed plant palette to determine the appropriate amendment recommendations
27. Any continuous simulation modeling and/or the design of structural BMPs, if needed, would be considered additional services

FEE

TASK	DESCRIPTION	TOTAL
1.0	**Conceptual Master Plan Development**	**$26,320**
1.1	Project Kick-off Meeting/ Site Visit	$2,060
1.2	Data Collection	$1,460
1.3	Topographical Survey	$10,140
1.4	Community Based Planning Sessions Data Review	$560
1.5	Prelim Master Plan Bubble Diagrams	$1,800
1.6	Draft Conceptual Master Plan	$3,820
1.7	Conceptual Design Comment Resolution Meeting and Final Conceptual Plan	$2,790
1.8	Preliminary Opinion of Probable Construction Costs (OPCC)	$1,120
1.9	City Council Presentation	$780
1.10	Project Management, Schedule and Quality Assurances and Control	$1,290
	Task 1.0: Expenses	*$500*
2.0	**Construction Documents and Reports**	**$79,650**
2.1	Construction Documents	
	60%	*$20,250*
	90%	*$16,820*
	100% / Final	*$10,820*
2.2	Project Management, Schedule and Quality Assurances/Control	$2,580
2.3	Specifications, Reports and Estimates	
2.3.1	*Special Provisions*	$5,900
2.3.2	*Opinion of Probable Costs*	$3,730
2.3.3	*Drainage Technical Memorandum*	$6,750
2.3.4	*Stormwater Memorandum*	$5,940
2.3.5	*Geotechnical Investigation*	$6,860
3.0	**Construction Phase Services**	**$22,070**
3.1	Bid Phase Services	$4,070
3.2	Construction Phase Services	$13,820
3.3	Record Documents	$4,180
	Task 2.0-3.0: Expenses	*$9,500*
	TOTAL	**$137,540**

4.0	**Additional Tasks and Services**	
4.1	3D Character Sketches for Grant Proposal	$6,600
4.2	Additional Construction Phase Services	$27,420

PROJECT SPECIFIC AGREEMENT FOR ON-CALL PROFESSIONAL CONSULTANT SERVICES FOR MORENO VALLEY BARK PARK PROJECT NO. 807 0054

This Agreement is made and entered into as of the date signed by the City of Moreno Valley, by and between the City of Moreno Valley, California, a municipal corporation, hereinafter described as "City," and Kimley-Horn and Associates, Inc., a California corporation, hereinafter described as "Consultant."

RECITALS

WHEREAS, the City has pre-qualified Consultant for On-call Consultant work in an Agreement ("On-Call Agreement") executed on March 25, 2020 for Landscape and Irrigation Design Services hereinafter described as "Project;" and

WHEREAS, the City wishes to engage the services of Consultant for the Project set forth in Exhibit "A".

THEREFORE, the City and the Consultant, for the consideration hereinafter described, mutually agree as follows:

1. The previously executed On-Call Agreement and subsequent Amendments between City and Consultant are incorporated herein by reference and made a part of this Agreement as if set forth in full and available for review in the City Engineer's office. Notwithstanding any expiration or termination of the On-Call Agreement or Amendment, all terms and provisions of the aforementioned On-Call Agreement and Amendments incorporated herein shall survive the expiration or termination of such Agreement or Amendment for the duration of this Project Specific Agreement. In the event of a conflict between this Agreement and the On-Call Agreement, the most current amendment shall prevail.

2. The City's Request for Proposal is for Landscape Architecture Design Services and is described in detail in Exhibit "A" attached hereto and incorporated herein by this reference.

3. The Consultant's scope of service is described in detail in Exhibit "B" attached hereto and incorporated herein by this reference.

4. The City agrees to pay the Consultant and the Consultant agrees to receive a "Not-to-Exceed" fee of **$171,560.00** in accordance with the payment terms provided in Exhibit "C", attached hereto and incorporated herein by this reference.

5. The Consultant shall commence services upon receipt of written direction to proceed from the City.

6. This agreement will terminate on **June 30, 2025** unless the termination date is extended by an amendment to the agreement.

7. Consultant shall provide updated insurance documentation, certificates or endorsements unless specifically waived by the City Attorney.

SIGNATURE PAGE FOLLOWS

IN WITNESS HEREOF, the parties have each caused their authorized representative to execute this Agreement.

City of Moreno Valley

BY: _____
Mike Lee, City Manager

_____
Date

Kimley-Horn and Associates, Inc.

BY: _____
Dennis Landaal, PE

TITLE: Sr. Vice President
(President or Vice President)

1/21/2021
Date

BY: _____

TITLE: Associate, Secretary
(Corporate Secretary)

1/21/2021
Date

INTERNAL USE ONLY

APPROVED AS TO LEGAL FORM:

_____
City Attorney

_____
Date

RECOMMENDED FOR APPROVAL:

_____
Parks & Community Services Director

_____
Date

Enclosures: Exhibit "A" – City Scope of Services
Exhibit "B" – Consultant Proposal
Exhibit "C" – Terms of Payment

EXHIBIT “A”

REQUEST FOR PROPOSAL
FOR LANDSCAPE ARCHITECTURE DESIGN SERVICES
FOR MORENO VALLEY BARK PARK PROJECT
FOR THE CITY OF MORENO VALLEY
PARKS AND COMMUNITY SERVICES DEPARTMENT

I. INVITATION

You are hereby invited to submit a Proposal for Landscape Architecture Design Services for Moreno Valley Bark Park Project, to be located at the open lot immediately west of the Moreno Valley Animal Shelter, located at 14041 Elsworth Street.

The work will be in accordance with the On-Call Agreement for Professional Consultant Services including subsequent Amendments to the Agreement.

This Request for Proposals (RFP) is limited to the City's On-Call consultants in the Landscape Architecture Design Services category, and proposals will only be accepted from those invited to propose. Interested consultants may download copies of the RFP by visiting the City's web site, www.moval.org, selecting "City Bids and RFP's" under the "City Hall" Resources link at the home page and selecting the "Online Bidding System" link. **To download proposal packages and submit proposals, vendors will be required to pay an online usage download fee of $10.00.** All documents associated with this RFP will be downloadable after the fee has been paid. Once the prospective Offeror downloads any documents relative to a solicitation, that Offeror's name will appear on the Prospective Bidders List.

Online Q&A will be accepted until 2:00pm on Thursday, October 22, 2020.

Proposals will be accepted until 4:00pm on Wednesday, 28, 2020.

Proposals shall be submitted electronically (in PDF format via the City's vendor portal website, located at http://www.planetbids.com/portal/portal.cfm?CompanyID=24660.

Proposals shall include, but not be limited to, the following items:

1. Proposer should describe in detail their approach and understanding of all necessary tasks and steps involved in the project;
2. Related experience including relevant experience date, name of agency, and Reference name/contact information;
3. Cost proposal; and
4. Completed forms as required.

The proposer is solely responsible for "on time" submission of their electronic proposals. The City will only consider proposals that have been transmitted successfully and have been issued an ebid confirmation number with a time stamp from the Bid Management System indicating that bid was submitted successfully. Transmission of proposals by any other means will not be accepted. Proposer shall be solely responsible for informing itself with respect to the proper utilization of the proposal management system, for ensuring the capability of their computer system to upload the required documents, and for the stability of their internet service. Proposers are advised to allow sufficient time to submit electronically. Failure of the proposer to successfully submit an electronic proposal shall be at the proposer's sole risk and no relief will be given for late and/or improperly submitted proposals. Proposers experiencing any technical difficulties with the proposal submission process may contact PlanetBids at (818) 992-1771. Questions of an operational nature may be directed to the City's Parks and Community Services Department at (951) 413-

3163. Neither the City, nor PlanetBids, makes any guarantee as to the timely availability of assistance, or assurance that any given problem will be resolved by the proposal submission deadline.

All questions regarding this RFP must be submitted through the vendor portal noted above and must be submitted no later than the date and time listed above.

II. PROJECT DESCRIPTION

The project includes but is not limited to the preparation of color renderings and conceptual drawings, plans, specifications and estimates, utility research, and all necessary permitting and coordination with City as required for preparation of public bidding documents to construct a bark park on the open lot west of the Moreno Valley Animal Shelter located at 14041 Elsworth Street.

The bark park project will be submitted to the California Department of Parks and Recreation for consideration in Round Four of the Statewide Park Development and Community Revitalization Program grant funds. Project application deadline is December 14, 2020.

All work shall be in accordance with the requirements of the City of Moreno Valley standards, California Building Code, Standard Specifications for Public Works Construction (Greenbook), Americans with Disabilities Act (ADA) standards, the California Manual on Uniform Traffic Control Devices (latest version), and the Riverside County Flood Control and Water Conservation District (RCFC & WCD) (latest version), as applicable.

III. PROJECT BUDGET AND SCHEDULE

The City of Moreno Valley will fund the design with local funding only. The construction phase is contingent upon award of grant funding, and may include State and Federal funding sources. Total project costs, including architectural design services, are estimated at $1 million.

The California State Department of Parks and Recreation anticipates grant award announcements in summer of 2021. If funded, the City anticipates construction in fall/winter of 2021 with completion in spring of 2022.

IV. GENERAL TASKS

Typical Landscape Architecture Design Services shall include, but not be limited to:

1. Complete and thorough Bark Park design, including all necessary disciplines, and including revisions resulting from plan review and plan check processes, until approved plans are achieved.
2. Attend and present the project to City Council as required.
3. Prepare construction documents and related project specifications and bidding documents.
4. Assist with bidding process including attend pre-bid meeting, answer RFIs, prepare addenda, review bid results.
5. Oversee and ensure that all measures of the specific project's scope of services are completed in a timely and professional manner with an emphasis on providing the City with a high quality project, including submittal review, shop drawing review, and construction observations.
6. In order to receive maximum points in the project application selection process, the design

must provide efficient use of water and other natural resources as described in the Round Four Final Application Guide (Selection Criterion #7 – Environmental Design, pages 27-29).

7. The design shall incorporate input from residents on amenities, location of amenities within the park, and ideas for safe public use and beautification (Selection Criterion #4 – Community Based Planning). Community-based planning sessions are tentatively scheduled for 5:30 pm on October 27, 9:00 am on October 31, 5:30 pm on November 5, and 9:00 am on November 7. A virtual meeting is tentatively scheduled for noon on November 10.

8. Prepare a conceptual drawing for submittal with the project application by December 14, 2020.

9. Assist with preparing design-related project application responses as needed.

10. Assist with development of final project budget for grant application submittals.

VIII. CONSULTANT'S PROPOSAL AND COMPENSATION

At a minimum, the Proposal shall include the following sections:

A. Project Understanding: This section should clearly convey clear understanding of the nature of the work, identification of major project issues, and proposed solutions thereof, from both the Consultant and sub-consultants.

B. Qualifications and Experience: Provide qualifications and experience of the team for this project. Emphasize the specific qualifications and experience from projects similar to this project for the key team members including references. Identify and provide in-depth information for the proposed project manager's qualifications, track record and relevant experience.

C. Additional Relevant Information: Provide additional relevant information that may be helpful in the selection process (not to exceed two pages).

The Consultant's Proposal shall include the following statements:

a. A statement that this Request for Proposal (RFP) shall be incorporated in its entirety as a part of the Consultant's Proposal.

b. A statement that this RFP and the Consultant's Proposal will jointly become part of the Agreement for Professional Consultant Services for this project when said Agreement is fully executed by the Consultant and the Mayor or City Manager of Moreno Valley.

c. A statement that the Consultant's Services to be provided, and fees therefore, will be in accordance with the City's RFP except as otherwise specified in the Consultant's Proposal under the heading "ADDITIONS OR EXCEPTIONS TO THE CITY'S REQUEST FOR PROPOSAL."

d. A single and separate section with the heading "ADDITIONS OR EXCEPTIONS TO THE CITY'S REQUEST FOR PROPOSAL" containing a complete and detailed description of all of the exceptions to the provisions and conditions of this Request for Proposal upon which the Consultant's Proposal is contingent and which shall take precedent over this

RFP for Professional Consultant Services. **EXCEPTIONS TO THE INDEMNIFICATION/ LIABILITIES/ TERMINATION FOR CONVENIENCE OF THE CITY CLAUSES OF "THE CITY'S STANDARD CONTRACT AGREEMENT" SHALL NOT BE ACCEPTABLE. AN EXCEPTION TO THIS CLAUSE SHALL DISQUALIFY THE CONSULTANT PROPOSAL FROM FURTHER CONSIDERATION.**
A Sample Agreement is attached for your reference. Exceptions/ Changes to the Agreement are not acceptable.

e. A statement of qualifications applicable to this project including the names, qualifications and proposed duties of the Consultant's Staff to be assigned to this project; a listing of recent similar projects completed including the names, titles, addresses and telephone numbers of the appropriate persons whom the City could contact. If one or more of the Consultant's staff should become unavailable, the Consultant may substitute other staff of at least equal competence only after prior written approval by the City.

f. A detailed Cost Proposal, including a statement that all charges for Consultant services is a "Not-to-Exceed Fee" which must include conservatively estimated reimbursable expenses, as submitted with and made a part of said Consultant's Proposal.

g. A statement that the Consultant will document and provide the results of the work to the satisfaction of the City. This may include preparation of final reports, or similar evidence of attainment of the Agreement objectives.

h. A statement that the Consultant will immediately document and notify the City of any defects or hazardous conditions observed in the vicinity of the project site prior, during, or after the construction work.

i. All extra work will require prior approval from the City.

j. A statement that the Consultant will not discriminate against any employee or applicant for employment because of race, color, religion, sex, or national origin.

k. A statement that all federal laws and regulations shall be adhered to notwithstanding any state or local laws and regulations. In a case of conflict between federal, state or local laws or regulations the strictest shall be adhered to.

l. A statement that the Consultant shall allow all authorized federal, state, county, and City officials access to place of work, books, documents, papers, fiscal, payroll, materials, and other relevant contract records pertinent to this special project. All relevant records shall be retained for at least three years.

m. A statement that the Consultant shall comply with the Davis-Bacon Fair Labor Standards Act (40 USC 276-a through a-7), and the implementation regulations issued pursuant thereto (29 CFR Section 1, 5), any amendments thereof and the California Labor Code. Pursuant to the said regulations, entitled "Federal Labor Standards Provisions," Federal Prevailing Wage Decision" and State of California prevailing wage rates, respectively.

n. A statement that the Consultant shall comply with the Copeland Anti-Kickback Act (18 USC 874) and the Implementation Regulation (29 CFR 3) issued pursuant thereto, and any amendments thereof.

o. A statement that the Consultant offers and agrees to assign to the City all rights, title, and interest in and to all causes of action it may have under Section 4 of the Clayton Act (15 USC Sec. 15) or under the Cartwright Act (Chapter 2 [commencing with Section 16700] of Part 2 of Division 7 of the Business and Professions Code), arising from purchases of goods, services, or materials pursuant to the public works or the subcontract. This assignment shall be made and become effective at the time the City tenders final payment to the Consultant, without further acknowledgment by the parties.

IX. GENERAL COMPLIANCE WITH LAWS AND WAGE RATES

a. The Consultant shall be required to comply with all federal, state, and local laws and ordinances applicable to the work. This includes compliance with prevailing wage rates and their payment in accordance with California Labor Code, Section 1775.

X. FEDERAL EMPLOYEE BENEFIT

No member of, or delegate to, the Congress of the United States, and no Resident Commissioner shall be admitted to any share or part of the Agreement to the said project or to any benefit to arise from the same.

XI. PAYMENT TO CONSULTANT

a. This work is to be performed for a "Not-to-Exceed Fee."

b. The Consultant shall provide a Cost Proposal indicating the fee for individual tasks with a "Not-to-Exceed Fee" which shall be the sum of all tasks by part, phase, and milestone.

c. Tasks shall include, but not be limited to, all Professional Consultant Services necessary to complete the work covered by this Proposal.

d. Reimbursement costs such as mileage, printing, telephone, photographs, postage and delivery, are to be included in the "Not-to-Exceed Fee."

e. All tasks including labor and reimbursable costs such as printing, postage, and delivery shall have supporting documentation presented at the time payment is requested.

f. The City will pay the Consultant for all acceptable services rendered in accordance with the "Agreement for Professional Consultant Services."

g. When the Consultant is performing, or is requested to perform, work beyond the scope of service in the "Agreement for Professional Consultant Services," an "Amendment to the Agreement" will be executed between the City and Consultant.

h. The Consultant shall receive no compensation for any re-work necessary as result of the Consultant's errors or oversight.

XII. INSURANCE

a. The Contractor will comply with the following insurance requirements at its sole expense. Insurance companies shall be rated (A Minus: VII—Admitted) or better in Best's Insurance Rating Guide and shall be legally licensed and qualified to conduct business in the State of California:

The Contractor shall procure and maintain, at its sole expense, Workers' Compensation Insurance in such amounts as will fully comply with the laws of the State

of California and which shall indemnify, insure and provide legal defense for the Contractor and the City, the Housing Authority and CSD against any loss, claim, or damage arising from any injuries or occupational diseases happening to any worker employed by the Contractor in the course of carrying out the Agreement. This coverage may be waived if the Contractor is determined to be functioning as a sole proprietor and the city provided form "Exception to Worker's Compensation Coverage" is signed, notarized and attached to this Agreement

☑ General Liability Insurance—to protect against loss from liability imposed by law for damages on account of bodily injury, including death, and/or property damage suffered or alleged to be suffered by any person or persons whomever, resulting directly or indirectly from any act or activities of the Contractor, sub-Contractor, or any person acting for the Contractor or under its control or direction. Such insurance shall be maintained in full force and effect throughout the terms of the Agreement and any extension thereof in the minimum amounts provided below:

Bodily Injury	$1,000,000 per occurrence/ $2,000,000 aggregate
Property Damage	$500,000 per occurrence/ $500,000 aggregate

☑ Professional Errors and Omission Insurance—such coverage shall not be less than $1,000,000 per claim and aggregate.

☑ Liability and Property Damage Insurance coverage for owned and non-owned automotive equipment operated on City/CSD/Housing Authority premises. Such coverage limits shall not be less than $1,000,000 combined single limit.

☐ A Certificate of Insurance and appropriate additional insured endorsement evidencing the above applicable insurance coverage shall be submitted to the City prior to the execution of this Agreement. The Certificate of Insurance or an appropriate binder shall bear an endorsement containing the following provisions:

Solely as respect to services done by or on behalf of the named insured for the City of Moreno Valley, it is agreed that the City of Moreno Valley, the Moreno Valley Housing Authority, and the Moreno Valley Community Services District, their officers, employees and agents are included as additional insured under this policy and the coverage(s) provided shall be primary insurance and not contributing with any other insurance available to the City of Moreno Valley, the Moreno Valley Housing Authority, and the Moreno Valley Community Services District, its officers, employees and agents, under any third party liability policy

The terms of the insurance policy or policies issued to provide the above coverage shall neither be amended to reduce the required insurance limits and coverages nor shall such policies be canceled by the carrier without thirty (30) days prior written notice by certified or registered mail of amendment or cancellation to the City, except that cancellation for non-payment of premium shall require ten (10) days prior written notice by certified or registered mail. In the event the insurance is canceled, the Contractor shall, prior to the cancellation date, submit new evidence of insurance in the amounts established.

b. It is the consultant's responsibility to ensure that all subconsultants comply with the following: Each subconsultant that encroaches within the City's right-of-way **and** affects (i.e., damages or impacts) City infrastructure must comply with the liability insurance requirements of the Parks and Community Services Department. Examples of such

subconsultant work include soil sample borings, utility potholing, etc.

The "Application for Encroachment Permit" form (five pages) and the "Application for Encroachment Permit Liability Insurance Requirements," is available from the City's Project Manager and must be completed and submitted in full to the City Project Manager. It is the Consultant's responsibility to ensure that all subconsultants submit the appropriate encroachment permit and insurance documentation at the same time that the Consultant's insurance documentation is submitted.

XIII. INDEMNIFICATION – shall be in accordance with the Agreement.

XIV. TERMINATION FOR CONVENIENCE OF THE CITY

The City reserves the right to terminate the "Agreement for Professional Consultant Services" for the "convenience of the City" at any time by giving ten (10) days written notice to the Consultant of such termination and specifying the effective date thereof. All finished or unfinished drawings, maps, documents, field notes and other materials produced and procured by the Consultant under the said aforementioned Agreement is, at the option of the City, City property and shall be delivered to the City by the Consultant within ten (10) working days from the date of such termination. The City will reimburse the Consultant for all acceptable work performed as set forth in the executed Agreement.

XV. INDEPENDENT CONTRACTOR

The Consultant's relationship to the City in the performance of the Consultant's services for this project is that of an independent Contractor. The personnel performing said Surveying Services shall at all times be under the Consultant's exclusive direction and control and shall be employees of the Consultant and not employees of the City. The Consultant shall pay all wages, salaries and other amounts due his employees in connection with the performance of said work shall be responsible for all employee reports and obligations, including but not necessarily restricted to, social security, income tax withholding, unemployment compensation, and Workers' Compensation.

XVI. CONTRACT

The Contract includes the Agreement for Professional Consultant Services, City's Request for Proposal, Consultant's Proposal, and Exhibits.

The Political Reform Act and the City's Conflict of Interest Code require that consultants be considered as potential filers of Statements of Economic Interest. Consultants, as defined by Section 18701, may be required to file an Economic Interest Statement (Form 700) within 30 days of signing a Consultant Agreement with the City, on an annual basis thereafter if the contract is still in place, and within 30 days of completion of the contract.

XVII. GENERAL CONDITIONS

a. Pre-contractual expenses are defined as expenses incurred by the Consultant in: (1) preparing the Proposal; (2) submitting the Proposal to the City; (3) presentation during selection interview; (4) negotiating with the City any matter related to this Proposal; (5) any other expenses incurred by the Consultant prior to an executed Agreement.

The City shall not, in any event, be liable for any pre-contractual expenses incurred by the Consultant.

b. The Contractor is responsible for notifying Underground Service Alert and providing proper

traffic control, at no additional expense to the City.

c. The City reserves the right to withdraw this RFP at any time without prior notice. Further, the City makes no representations that any Agreement will be awarded to any Consultant responding to this RFP. The City expressly reserves the right to postpone reviewing the Proposal for its own convenience and to reject any and all Proposals responding to this RFP without indicating any reasons for such rejection(s).

d. The City reserves the right to reject any or all Proposals submitted. Any Contract awarded for these Consultant engagements will be made to the Consultant who, in the opinion of the City, is best qualified.

EXHIBIT “B”

Kimley»Horn

PROJECT UNDERSTANDING

The City is seeking a design team to complete an overall conceptual plan, design, and construction phase services for an approximately 1.50-acre dog park in the southwest portion of Moreno Valley, directly adjacent to the Moreno Valley Animal Shelter.

The City of Moreno Valley Parks and Community Services Department plans to pursue Statewide Park Development and Community Revitalization Program grant funds to develop this new dog park. The location and popularity of the existing Hound Town Dog Park on the City's north side has driven the need for another dog park on the opposite side of Moreno Valley. The City plans for this dog park to alleviate overuse and augment the amenities offered at Hound Town, and also has the opportunity to become a special oasis that will capture and celebrate the unique bond between dogs and humans, serving multiple community needs.

We understand that the City of Moreno Valley will fund the design with local funding and that the construction phase is contingent upon award of grant funding. The total project costs, including design services, are estimated at $1 million. The City anticipates grant submittal on March 16, 2021 and award announcements this summer.

All design work on the project from concept to construction drawings will be in accordance with the requirements and latest versions of the City of Moreno Valley standards, California Building Code, Standard Specifications for Public Works Construction (Greenbook), Americans with Disabilities Act (ADA) standards, the California Manual on Uniform Traffic Control Devices, and the Riverside County Flood Control and Water Conservation District (RCFC & WCD), as applicable.

Due to the everchanging circumstances surrounding the COVID-19 Virus, situations may arise during the performance of this Agreement that affect availability of resources and staff of Kimley-Horn, the client, other consultants, and public agencies. There could be changes in anticipated delivery times, jurisdictional approvals, and project costs. Kimley-Horn will exercise reasonable efforts to overcome the challenges presented by current circumstances, but Kimley-Horn will not be liable to Client for any delays, expenses, losses, or damages of any kind arising out of the impact of the COVID-19 Virus.

SCOPE OF SERVICES

Kimley-Horn will provide the following services for each independent task:

Task 1: Conceptual Master Plan Development

Task 1.1 Project Kick-off Meeting/Site Visit:
The Kimley-Horn team will attend a project kick-off meeting at the City of Moreno Valley offices with City staff and stakeholders to discuss the project schedule and submittals; establish the team organization and communication procedures; discuss the design intent and project goals; and discuss budget control procedures. The City shall provide direction on key design intent, site constraints, and issues prior to starting the schematic design process. At the end of the kick-off meeting, the Kimley-Horn team and City Staff will walk the park site with all relevant background data to confirm the site conditions and key issues to be addressed during the design process.

Task 1.2 Data Collection:
The Kimley-Horn team will develop an understanding of the physical conditions within the project limits through data collection efforts. The Kimley-Horn team will review the available as-built records for existing sewer, water, and storm drain provided by the City. The detailed background information gathered for the project will be confirmed through the site visit performed by the Kimley-Horn team. Results of the investigations will be integrated into an existing utility CAD base map that will be used by the project team to develop the final design plans.

Task 1.3 Topographical Survey
The Kimley-Horn team will conduct a topographical survey including locating property lines, right-of-way, and above ground utility appurtenances that will be utilized for project base mapping. The Kimley-Horn team will field collect existing survey monuments, curb & gutter, sidewalk, fences, grade breaks and visible utility appurtenances within the limits of work to verify existing utility facilities within the project area. Project topographic base mapping will be produced in AutoCAD format.

Task 1.4 Community Based Planning Session Data Review:
The Kimley-Horn team will review the results of the Community Based Planning Sessions provided by City staff, summarize the results and formulate a one-page written design program which will be the basis of the conceptual master plan.

Task 1.5 Preliminary Master Plan Concept Bubble/ Relationship Diagrams:
The Kimley-Horn team will develop, up to three (3), preliminary master plan concept bubble diagrams which illustrate the horizontal relationships of the programming elements proposed. Comments received and selection of the preferred concept will be consolidated and used to develop the Draft Conceptual Master Plan (Task 1.6).

Task 1.6 Draft Conceptual Master Plan:
The Kimley-Horn team will develop a conceptual design plan based on input from the community-based planning sessions which incorporates the specific program elements identified and requested by staff. The concept plan will illustrate the location of proposed improvements within the park (i.e., amenities, lighting, parking improvements, paths, and shade structures), existing conditions, existing and proposed utilities, stormwater quality options as well as character imagery of the proposed project.

Task 1.7 Conceptual Design Comment Resolution Meeting and Final Conceptual Plan:
The Kimley-Horn team will utilize the consolidated comments received from City Staff on the draft master plan to schedule a meeting in which final comment resolution will be decided. It is assumed that this meeting will coincide with one of the scheduled monthly virtual progress meetings (task 1.9). The design team will respond to one (1) round of consolidated comments from the City and project stakeholders on the conceptual design plan and will prepare revisions accordingly and submit as the Final Conceptual Master Plan (pdf).

Task 1.8 Preliminary Opinion of Probable Construction Costs (OPCC):
The Kimley-Horn team will prepare a preliminary OPCC (pdf) based on the Final Conceptual Master Plan, that will identify the proposed improvements, unit prices, contingencies, and an overall cost for each proposed element in the project.

Task 1.9 City Council Presentation:
The Kimley-Horn team project manager will present the final conceptual master plan to City Council. A PowerPoint presentation will be prepared which outlines the conceptual design process. This task assumes up to one (1) in person, presentation. The design team will make up to one (1) round of additional revisions to the final conceptual design plans based on feedback from the City Council presentation.

Task 1.10 Project Management, Schedule and Quality Assurances and Control:
The Kimley-Horn team project manager will provide coordination between the design team and the City and monitor project progress and the project schedule on a regular basis. The project manager will virtually attend up to three (3) progress meetings with the City and project stakeholders. The project manager will coordinate all monthly project invoicing. The Kimley-Horn team will provide an in-house quality control review.

Task 2: Construction Documents and Reports
Kimley-Horn assumes that the conceptual master plan will provide sufficient information to proceed directly to 60% level construction plans. We will prepare 60%, 90%, and Final (100%) construction documents and reports for City review and comment. All design work will be in accordance with the requirements and latest versions of the City of Moreno Valley standards, California Building Code, Standard Specifications for Public Works Construction (Greenbook), Americans with Disabilities Act (ADA) standards, the California Manual on Uniform Traffic Control Devices, and the Riverside County Flood Control and Water Conservation District (RCFC & WCD), as applicable. It is assumed that the City will provide one set of consolidated client comments and that these comments will not require major design changes. After each submittal, a two-hour virtual review meeting will be held between the City, the project's construction manager, and up to two (2) Kimley-Horn staff to review the consolidated comments and determine final comment resolution. It is assumed that this meeting will coincide with one of the scheduled progress meetings (Task 2.2). All comments and revisions will be addressed as part of the 90% and Final submittal, respectively. The plans will be prepared for a single phase of construction in a format and scale deemed appropriate by Kimley-Horn. If the City desires to phase the project, Kimley-Horn can provide a detailed phasing plan and separate design packages for an additional service fee.

Task 2.1 Construction Documents:
The construction documents will consist of the following discipline sheets:

Cover Sheet (1 Sheet) – Kimley-Horn will prepare a cover sheet that includes: vicinity map, location map, City general notes, project description, legend, abbreviations, and limits of work that summarizes the overall project plan set.

General Notes (2 Sheets) – Kimley-Horn will prepare sheets that include general notes, abbreviations, and site-specific notes as needed.

Existing Conditions/Demolition Plans (1 Sheet) - Kimley-Horn will prepare plan view sheets showing existing facilities to be removed, relocated, and protected in place. The plan view sheets shall reflect existing topography, existing right-of-way, and existing utilities.

Site Plan (1 Sheet) – Kimley-Horn will prepare plan view sheets showing horizontal control and proposed improvements. The plan view sheets will reflect existing topography, existing right-of-way, and existing utilities.

Utility Plans (1 Sheet) – Kimley-Horn will prepare plan view sheets with existing and proposed utility locations illustrating: water, sewer, storm drain, and dry utilities. Existing as-built information is assumed to be provided by the City for the site and adjacent roadway and will be reviewed and coordinated with City staff. Three utility connections are assumed for this project, two for water and one for electrical/lighting. Two water points of connection are assumed: one for irrigation water and one for domestic water. No sewer connections are proposed for this project. If potholing (by others/City) is required, the Kimley-Horn team will provide a pothole exhibit and work with the City on including the results of the potholing effort into the plans and design. The storm drain layout will illustrate storm drain sizing and treatment requirements for this project. The 60% submittal will show findings of existing locations, and proposed utilities will be included during 90% and Final submittal. A bioswale is anticipated for stormwater quality onsite to convey runoff to the existing condition outlet in the southwest corner of the site. We assume there is no offsite stormwater run-on to the project site and any traffic control required for offsite utility connections in the public right-of-way will be provided by the Contractor.

Improvement Plan and Details (2 Sheets) – Kimley-Horn will prepare plan view sheets showing proposed improvements on site including curb, curb and gutter, walkways (DG and PCC), pavement structural section, parking layout, decorative flatwork and ADA enlargement details. We assume the site will utilize the existing driveway and a new driveway will not be required.

Horizontal and Vertical Control Plans (1 Sheet) – Kimley-Horn will prepare plan view sheets illustrating the proposed grading condition with data tables and elevations to control all hardscape features such as curb, walkways, and parking. The 60% plans will illustrate contours and spot elevation information only; the 90% plans will include data tables and additional enlargements, as required, to control ADA facilities on-site.

Site Furnishings Plans and Details (4 Sheets) – Kimley-Horn will prepare site furnishings plans and details based on the input provided by the City and amenities identified on conceptual design plans. The plans and details will provide various colors, finishes, locations and limits for different types of amenities proposed throughout the site such as shade structures, benches, trash receptacles, fences and signage. The details will provide the design intent for color, size and general fabrication parameters. For any signage or site wayfinding elements, it is assumed that the City will provide all images and logos (300 dpi or greater) and all final approved copy (text, quotes, names, etc.) for each proposed sign in digital format.

Landscape Plans and Details (3 Sheets) – Kimley-Horn will prepare landscape plans, work with the City to develop the initial plant palette and comply with California's Water Use Classification of Landscape Species (WUCOLS) information

Irrigation Plans and Details (3 Sheets) – Kimley-Horn will prepare landscape irrigation plans which comply with California's Water Efficient Ordinance and indicate the anticipated point of connection, controller locations, and proposed irrigation mainline routing with anticipated pipe sizing.

Lighting and Electrical Plans and Details (3 Sheets) – Kimley-Horn will prepare electrical and lighting engineering design plans including all equipment and lighting locations, conduit routing locations, lighting and equipment installation details, and calculations.

Task 2.2 Project Management, Schedule and Quality Assurances and Control:
The Kimley-Horn team project manager will provide coordination between the design team and the City and monitor project progress and the project schedule on a regular basis. The project manager will virtually attend up to six (6) progress meetings with the City and project stakeholders. The project manager will coordinate all monthly project invoicing. The Kimley-Horn team will provide an in-house quality control review.

Task 2.3 Specifications, Reports and Estimates

Task 2.3.1 Special Provisions
Kimley-Horn will prepare technical specifications to accompany the construction plans. The technical specifications will be prepared utilizing City standards and the 2018 APWA standard specifications ("Green Book") for onsite construction. Specifications will be submitted at 90% and Final submittals. It is assumed that the City will provide the volume one specifications.

Task 2.3.2 Opinion of Probable Construction Costs
Kimley-Horn will prepare the Engineer's Opinion of Probable Construction Cost (OPCC), based on the latest design quantity takeoffs and current unit prices. The OPCC will provide a bid item description, bid unit, bid quantity, unit price, and total price for each bid item. The item description will correspond with the Bid Schedule item description to be used when advertising the project for construction bids.

Task 2.3.3 Drainage Technical Memorandum
The Kimley-Horn team will prepare a drainage technical memorandum for the final park design. The drainage memorandum will be done using AES HydroWin (Riverside County Module) for the 1 hour, 3 hour, 6 hour, and 24 hour durations.

The increase in peak flow as a result of development is assumed to be nominal and acceptable to the approving agency (City of Moreno Valley). Based on the surrounding developments, it is assumed that there is no storm drain infrastructure in the adjacent roadway and the goal of the site will be to utilize the existing condition sheet flow for runoff to Business Center Drive. No detention basin design or other mitigation features are assumed warranted, and therefore not included. Offset hydrology and/or offsite hydraulic analysis is considered unwarranted and not included. No floodplain mapping or similar analysis is included or considered warranted. A preliminary drainage technical memorandum will be included with the 60% design submittal for review and comment by the City. A final drainage technical memorandum will be submitted addressing one round of consolidated City review comments with the final submittal.

Task 2.3.4 Water Quality Management Plan (WQMP)
The Kimley-Horn team will prepare a WQMP using the City's standard template. The Team will work with City Staff during the conceptual site plan phase to understand how the site configuration impacts locations for stormwater treatment (project will not be a PDP). The amount of impervious area proposed on site will dictate the type of stormwater treatment required for the project. The Kimley-Horn team assumes that the project will be kept below the 10,000 sq-ft threshold for new development projects, which would eliminate the need for post-construction structural BMPs. Reducing the impervious area proposed on site will be a goal throughout the design process as it is linked to project cost and long-term maintenance parameters.

Task 2.3.5 Geotechnical Investigation
The Kimley-Horn team will provide geotechnical investigation services that will consist of a subsurface field investigation and recommendations for retaining wall and shade structure footings, flatwork and roadway pavement sections, and infiltration testing and results. Additionally, background information including readily available geotechnical reports, geologic maps, groundwater data, and aerial photographs will be researched. The Kimley-Horn team will develop a geotechnical evaluation report by compiling the analysis of the data obtained and discussing the findings, conclusions, and recommendations. As part of this task it is assumed that one (1) shallow exploratory boring will be completed as well as one (1) infiltration test will be conducted. Web Soil Survey suggests hydrologic soil type C which typically does provide high infiltration opportunities for storm water.

Task 3: Construction Phase Services
The Kimley-Horn team will prepare final bid document plans, specifications, bid form, and OPCC for use by the City in project bidding. Kimley-Horn will incorporate consolidated comments from final submittal into the package before submitting to the City. Bid documents will be prepared from the final signed plans, specifications, bid form, OPCC, and other technical documents reviewed and approved. The Kimley-Horn Team assumes a construction period of no more than six (6) months.

Task 3.1 Bid Phase Services
Kimley-Horn will provide bid phase support services as requested by the City of Moreno Valley project manager. Bid phase service may include: pre-bid meeting attendance, answering RFIs, preparing addenda, and preparing conform documents. A total of twenty-four (24) hours is assumed for this task. Any additional effort will be considered additional services.

Task 3.2 Construction Phase Services
Kimley-Horn will provide Construction Phase Services as requested by the City's project manager. Up to eighty (80) hours are assumed for the following:

a. Preparing supplementary sketches required to resolve design-related items within the above outlined Scope of Services due to field conditions.
b. Attendance at up to four (4) construction meeting at the site within this Scope of Services.
c. Review of design-related submittal packages within the above outlined Scope of Services.
d. Attendance at one (1) preliminary punch walk list meeting.
e. Attendance at one (1) final punch walk list meeting.

Additional site visits not outlined in the scope of services and directed by the City or Contractor will be considered an additional service.

Task 3.3 Record Documents
Kimley-Horn will revise the approved final design plans for the project based upon field changes and revisions as provided in the plan redlines/markups by the contractor's field superintendent and approved by the City. These plans will be provided to the City's project manager in Adobe PDF format.

Task 4: Optional Tasks and Services

Optional Task 4.1: 3D Character Sketches for Grant Proposal - The Kimley-Horn team shall prepare two (2) three-dimensional digital character sketches (still/ static images) based on the Final Conceptual Plan (Task 1.7) which will realistically convey what the proposed dog park will look like when constructed. The images will be intended to further convey the design elements proposed and complement the Concept Plan included in the Grant Proposal. The design team assumes one (1) round of revisions to character sketches based on consolidated comments from the City and project stakeholders.

Optional Task 4.2: Additional Construction Phase Services – In addition to Task 3 above, Kimley-Horn will assist the City of Moreno Valley's Resident Engineer with logging and coordinating submittals/ RFI's, reviewing invoices, reviewing change orders, and construction oversight. Prepare for, attend, and summarize issues and decisions for the following meetings: a pre-construction meeting, up to 16 virtual weekly construction meetings, and up to 4 site meetings (as needed). The Kimley-Horn Team assumes a construction period of no more than six (6) months.

ASSUMPTIONS/EXCLUSIONS

Any services not specifically provided for in our scope of services as well as any changes in scope made at the City's request, will be considered additional services and will be performed at our then current hourly rates. This will require approval in writing before any work will continue. Additional services Kimley-Horn can provide include, but are not limited to, the following:

1. Hours noted for tasks are estimates only. If more time is required for the scope of work, additional budget will be requested
2. This proposal assumes that the standards and practices in effect at the City of Moreno Valley, at the time of this proposal, will remain in effect throughout the course of development.
3. Meetings beyond those identified in this Scope and Fee Proposal
4. Meetings are assumed to be virtual, unless specifically noted above
5. Water Pressure readings and/or pump station design
6. GIS Services
7. Value Engineering or Phased Construction Plans
8. Submittals at 60%,90%,100% and Final shall include 6 bond copies of the plan documents and 2 bond copies of the specifications. All other submittals and deliverables, unless noted above, are assumed to be digital and in Adobe PDF format only.
9. Submittal and/or Permitting Fees
10. Grant Writing, Review and/or Carbon Sequestration Calculations
11. Environmental Services
12. Adjacent Property Owner Coordination
13. City to Provide Drainage Reports for Adjacent Properties/ Developments
14. Construction Staking
15. Inspections and Materials Testing
16. As-built Survey
17. Construction Noise and Vibration, Operational Vibration and Traffic Noise Generation studies
18. Erosion Control Plans and Details
19. Traffic Control Plans and Details
20. Existing Plant Inventory or Landscape Preservation Plans
21. Water Features and/or Fountains
22. Structural Review, Calculations and/or Certification
23. Storm Water Pollution Prevention Plan (SWPPP) and SWPPP inspections
24. Notice of Intent (NOI) and Notice of Termination (NOT) to the Regional Water Board
25. Warranty and/or Maintenance Administration
26. A soils consultant and soil analysis will be coordinated/ prepared by the contractor upon the completion of mass grading. The existing soil nutrient information will be compared against the proposed plant palette to determine the appropriate amendment recommendations
27. Any continuous simulation modeling and/or the design of structural BMPs, if needed, would be considered additional services

FEE

TASK	DESCRIPTION	TOTAL
1.0	**Conceptual Master Plan Development**	**$26,320**
1.1	Project Kick-off Meeting/ Site Visit	$2,060
1.2	Data Collection	$1,460
1.3	Topographical Survey	$10,140
1.4	Community Based Planning Sessions Data Review	$560
1.5	Prelim Master Plan Bubble Diagrams	$1,800
1.6	Draft Conceptual Master Plan	$3,820
1.7	Conceptual Design Comment Resolution Meeting and Final Conceptual Plan	$2,790
1.8	Preliminary Opinion of Probable Construction Costs (OPCC)	$1,120
1.9	City Council Presentation	$780
1.10	Project Management, Schedule and Quality Assurances and Control	$1,290
	Task 1.0: Expenses	*$500*
2.0	**Construction Documents and Reports**	**$79,650**
2.1	Construction Documents	
	60%	*$20,250*
	90%	*$16,820*
	100% / Final	*$10,820*
2.2	Project Management, Schedule and Quality Assurances/Control	$2,580
2.3	Specifications, Reports and Estimates	
2.3.1	*Special Provisions*	$5,900
2.3.2	*Opinion of Probable Costs*	$3,730
2.3.3	*Drainage Technical Memorandum*	$6,750
2.3.4	*Stormwater Memorandum*	$5,940
2.3.5	*Geotechnical Investigation*	$6,860
3.0	**Construction Phase Services**	**$22,070**
3.1	Bid Phase Services	$4,070
3.2	Construction Phase Services	$13,820
3.3	Record Documents	$4,180
	Task 2.0-3.0: Expenses	*$9,500*
	TOTAL	**$137,540**

4.0	**Additional Tasks and Services**	
4.1	3D Character Sketches for Grant Proposal	$6,600
4.2	Additional Construction Phase Services	$27,420

EXHIBIT "C"

TERMS OF PAYMENT

1. The Contractor's compensation shall not exceed $171,560.00. Construction support services will be provided contingent upon award of grant funding.

2. The Contractor will obtain, and keep current during the term of this Agreement, the required City of Moreno Valley business license. Proof of a current City of Moreno Valley business license will be required prior to any payments by the City. Any invoice not paid because the proof of a current City of Moreno Valley business license has not been provided will not incur any fees, late charges, or other penalties. Complete instructions for obtaining a City of Moreno Valley business license are located at: http://www.moval.org/do_biz/biz-license.shtml

3. The Contractor will electronically submit an invoice to the City on a monthly basis for progress payments along with documentation evidencing services completed to date. The progress payment is based on actual time and materials expended in furnishing authorized professional services since the last invoice. At no time will the City pay for more services than have been satisfactorily completed and the City's determination of the amount due for any progress payment shall be final. The Contractor will submit all original invoices to Accounts Payable staff at AccountsPayable@moval.org

   Accounts Payable questions can be directed to (951) 413-3073.

   Copies of invoices may be submitted to the Parks & Community Services Department at

   leew@moval.org or calls directed to (951) 413-3726.

3. The Contractor agrees that City payments will be received via Automated Clearing House (ACH) Direct Deposit and that the required ACH Authorization form will be completed prior to any payments by the City. Any invoice not paid because the completed ACH Authorization Form has not been provided will not incur any fees, late charges, or other penalties. The ACH Authorization Form is located at: http://www.moval.org/city_hall/forms.shtml#bf

4. The minimum information required on all invoices is:

   A. Vendor Name, Mailing Address, and Phone Number
   B. Invoice Date
   C. Vendor Invoice Number
   D. City-provided Reference Number (e.g. Project, Activity)
   E. Detailed work hours by class title (e.g. Manager, Technician, or Specialist), services performed and rates, explicit portion of a contract amount, or detailed billing information that is sufficient to justify the invoice amount; single, lump amounts without detail are not acceptable.

6. The City shall pay the Contractor for all invoiced, authorized professional services within thirty (30) days of receipt of the invoice for same.

7. Reimbursement for Expenses. Contractor shall not be reimbursed for any expenses unless authorized in writing by City.

8. Maintenance and Inspection. Contractor shall maintain complete and accurate records with respect to all costs and expenses incurred under this Agreement. All such records shall be clearly identifiable. Contractor shall allow a representative of City during normal business hours to examine, audit, and make transcripts or copies of such records and any other documents created pursuant to this Agreement. Contractor shall allow inspection of all work, data, documents, proceedings, and activities related to the Agreement for a period of three (3) years from the date of final payment under this Agreement.

Report to City Council

TO:	Mayor and City Council
FROM:	Marshall Eyerman, Assistant City Manager
AGENDA DATE:	February 2, 2021
TITLE:	PUBLIC HEARING FOR FOUR NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM MAIL BALLOT PROCEEDINGS

RECOMMENDED ACTION

Recommendations: That the City Council:

1. Conduct the Public Hearing and accept public testimony for the mail ballot proceedings for the National Pollutant Discharge Elimination System (NPDES) Residential Regulatory Rate or Common Interest, Commercial, Industrial, and Quasi-Public Use Regulatory Rate to be applied to the property tax bill of the parcels identified herein for PEDROHYPJVC, LLC, located on the north side of Kalmia Ave., west of Lasselle St., Robles Bros Inv, located at 28200 War Admiral St., ROC III CA Belago, located on the south side of John F. Kennedy Dr., east of Moreno Beach Dr., and Ulman Harry & Gisela Living Trust Dated 11/22/82, located on the northeast corner of Resource Way and Corporate Way;

2. Direct the City Clerk to open and count the returned NPDES ballots;

3. Verify and accept the results of the mail ballot proceedings as maintained by the City Clerk on the Official Tally Sheet and if approved, set the rate and impose the NPDES Common Interest, Commercial, Industrial, and Quasi-Public Use Regulatory Rate or the Residential Regulatory Rate, as applicable, on the Assessor's Parcel Numbers as mentioned;

4. Receive and file the Official Tally Sheet with the City Clerk's office.

SUMMARY

The action before the City Council is to conduct a Public Hearing for four NPDES mail ballot proceedings. The process to accept seven parcels into the City's NPDES funding program impacts only the property owners identified below, not the general citizens or taxpayers of the City.

The City requires property owners of development projects to mitigate the cost of certain impacts created by the proposed development (e.g., the increase in costs of complying with state and federal NPDES requirements). The City offers the NPDES funding program to assist property owners in satisfying the requirement. After a property owner approves the City's NPDES rate through a mail ballot proceeding, the City can levy the rate on the annual property tax bill of the authorized parcel(s).

As a condition of approval for development of their projects, the Property Owners, as identified below, are required to provide a funding source for the NPDES program and have requested the City conduct a mail ballot proceeding to satisfy the condition of approval. If each property owner approves the mail ballot and the City Council accepts the results, the condition of approval will be satisfied for their respective projects. Tonight's Public Hearing is a required part of the process.

DISCUSSION

The Clean Water Act of 1987 established requirements for the discharge of Urban Runoff from Municipal Separate Storm Sewer Systems under the NPDES program. The Santa Ana Regional Water Quality Control Board administers the NPDES program through the issuance of a Permit. The NPDES program requires public agencies to obtain coverage under the Permit to discharge urban stormwater runoff from municipally owned drainage facilities, including streets, highways, storm drains, and flood control channels. The City's current NPDES Permit requires all new development projects to comply with stormwater management requirements.

The City Council originally adopted the NPDES Residential Regulatory Rate on June 10, 2003 and the NPDES Common Interest, Commercial, Industrial, and Quasi-Public Use Regulatory Rate ("Commercial/Industrial Rate") on January 10, 2006. Each fiscal year, the City Council reviews and sets the rates for the following fiscal year.

The Planning Commission approves projects on the condition the developer provides a funding source, consistent with the rates established by the City Council, to support activities for the NPDES program requirements. Revenue received from the rate supports the increased compliance activities related to the development. It also reduces the financial impact to the General Fund to maintain compliance with the unfunded requirements of the Permit.

As a condition of approval for the projects identified below, the Property Owners are required to provide a funding source to mitigate the increase in costs to the NPDES program, which will be created by their development project. The table below provides information for the parcels under development.

Property Owner/ Project	Assessor's Parcel Number	Location	FY 2020/21 Maximum Rate[1]
PEDROHYPJVC, LLC 83 single-family residential development PEN19-0217/SBP20-0019	474-110-004 & 474-110-014	North side of Kalmia Ave., west of Lasselle St.	$346.38/parcel Residential Rate
Robles Bros Inv Custom Home PEN18-0222/SBP20-0018	478-272-003	28200 War Admiral St.	$346.38/parcel Residential Rate
ROC III CA Belago 417-unit multi-family housing PEN16-0130/SBP20-0023	304-100-007	South side of John F. Kennedy Dr., east of Moreno Beach Dr.	$260.84/parcel Commercial/Industrial Rate
Ulman Harry & Gisela Living Trust Dated 11/22/82 47,400 sq. ft. industrial building PEN19-0201/SBP20-0024	297-220-006, 297-220-007, & 297-220-008	Northeast corner of Resource Way and Corporate Way	$260.84/parcel Commercial/Industrial Rate

[1] The parcel's development status will be evaluated, and the applied rate calculated in accordance with the rate schedule, prior to levying the NPDES rate on the property tax roll each year. The applied rate is the amount applied to the property tax bill. It cannot exceed the maximum rate.

A property owner has two options to satisfy the condition of approval:

1. Approve the NPDES rate and authorize the City to collect the rate on the annual Riverside County property tax bill through participation in a successful mail ballot proceeding; or

2. Fund an endowment.

The Property Owners elected to have the NPDES rate applied to the annual property tax bill of the property under development. Proposition 218 outlines the process to approve new charges, or an increase to existing charges, on property tax bills, which includes conducting a mail ballot proceeding, noticing requirements, timing of noticing, and providing an opportunity for the property owner to address the City Council (i.e., public comment portion of the Public Hearing). A notice describing the purpose and amount of the charge, including the potential annual inflationary adjustment, and a ballot for the property was mailed to each Property Owner at least 45-days in advance of tonight's meeting (see Attachments 1-4). The ballot is due to the City Clerk prior to the close of the Public Hearing. The ballot can be opened and counted, and results announced, at the close of the Public Hearing.

The condition of approval to provide a funding source for the NPDES program will be satisfied with a property owner's approval of the NPDES mail ballot (i.e., marked yes and signed) and City Council acceptance of the results. In the event the ballot is not returned, is not approved, or is invalid (e.g., unmarked or unsigned), this condition of approval will remain unsatisfied and may delay development of the project. In the event more than one mail ballot proceeding is being conducted tonight, each ballot will be counted separately to determine if a property owner approved inclusion of their respective property in the NPDES funding program.

This action meets the Strategic Plan Priorities to manage and maximize Moreno Valley's public infrastructure to ensure an excellent quality of life, develop and implement innovative, cost effective infrastructure maintenance programs, public facilities management strategies, and capital improvement programming and project delivery.

ALTERNATIVES

1. Conduct the Public Hearing and upon its close, open, count, and verify the returned ballots and accept the results. *Staff recommends this alternative as it will satisfy each project's condition of approval provided the property owner approves the ballot.*

2. Open the Public Hearing and continue it to a future regularly scheduled City Council meeting. *Staff does not recommend this alternative as it will delay announcement of the ballot results and may delay project development*.

3. Do not conduct the Public Hearing. *Staff does not recommend this alternative as it will delay the condition of approval from being satisfied and may delay project development. The City will incur additional costs to restart the 45-day noticing period.*

4. Do not conduct the Public Hearing at this time but reschedule it to a date specific regularly scheduled City Council meeting. *Staff does not recommend this alternative as it may delay project development and will cause the City to incur additional costs to restart the 45-day noticing period.*

FISCAL IMPACT

Revenue received from the NPDES rate is restricted and can only be used within the stormwater management program. The revenue provides funding to maintain compliance with the unfunded requirements of the Permit. It also offsets stormwater management program expenses, which reduces the financial impact to the General Fund. The NPDES rate is only applied to the property tax bills of parcels where approval of the rate has been authorized through a successful mail ballot proceeding.

The FY 2020/21 maximum Residential Rate is $346.38 per parcel, and any division thereof. The FY 2020/21 maximum Commercial/Industrial Rate is $260.84 per parcel, and any division thereof. The maximum NPDES rates are subject to an annual inflationary adjustment. However, the annual adjustment cannot be applied unless the City Council annually authorizes such adjustment. The increase to the maximum rate cannot exceed the annual inflationary adjustment without approval of the property owners subject to the charge. The NPDES rate applied to the property tax bill will be based on the development status of the property at the time the applied rates are calculated for the upcoming fiscal year.

NOTIFICATION

The ballot documents were mailed to each Property Owner at least 45-days in advance of the Public Hearing. The documents included a notice, NPDES ballot, NPDES Commercial/Industrial or Residential Rate schedule, map of the project area, instructions for marking and returning the ballot, and a postage-paid return envelope addressed to the City Clerk.

The Press-Enterprise published the legal notice for tonight's Public Hearing on January 14 and January 21, 2021.

PREPARATION OF STAFF REPORT

Prepared By:
Isa Rojas
Management Analyst

Department Head Approval:
Marshall Eyerman
Assistant City Manager

Concurred By:
Candace E. Cassel
Special Districts Division Manager

Concurred By:
Michael Lloyd, P.E.
Engineering Division Manager/Assistant City Engineer

CITY COUNCIL GOALS

Advocacy. Develop cooperative intergovernmental relationships and be a forceful advocate of City policies, objectives, and goals to appropriate external governments, agencies and corporations.

Revenue Diversification and Preservation. Develop a variety of City revenue sources and policies to create a stable revenue base and fiscal policies to support essential City services, regardless of economic climate.

CITY COUNCIL STRATEGIC PRIORITIES

1. **Economic Development**
2. **Public Safety**
3. **Library**
4. **Infrastructure**
5. **Beautification, Community Engagement, and Quality of Life**
6. **Youth Programs**

Objective 5.2: Promote the installation and maintenance of cost effective, low maintenance landscape, hardscape and other improvements which create a clean, inviting community.

ATTACHMENTS

1. PEDROHYPJVC, LLC Ballot Documents
2. Robles Bros Inv Ballot Documents
3. ROC III CA Belago Ballot Documents
4. Ulman Harry & Gisela Living Trust Dated 11/22/82 Ballot Documents

APPROVALS

Budget Officer Approval	✓ Approved	1/21/21 5:38 PM
City Attorney Approval	✓ Approved	
City Manager Approval	✓ Approved	1/22/21 11:28 AM

Tel: 951.413.3480
Fax: 951.413.3170
www.moval.org

MORENO VALLEY
WHERE DREAMS SOAR

14177 FREDERICK STREET
P.O. BOX 88005
MORENO VALLEY, CA 92552-0805

December 17, 2020

PEDROHYPJVC, LLC
70 Desert Pine
Irvine, CA 92620
ATTN: David Slawson

NOTICE TO PROPERTY OWNER - MAIL BALLOT PROCEEDING FOR THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) MAXIMUM RESIDENTIAL REGULATORY RATE FOR APN(s) 474-110-004 and 474-110-014

******* OFFICIAL BALLOT ENCLOSED *******

Introduction

In November of 1996, California voters passed Proposition 218 ("The Right to Vote on Taxes Act"). As a result, any new or proposed increase in a property-related charge requires approval by the property owner of record. In compliance with Proposition 218 legislation, the City of Moreno Valley Special Districts Division is conducting a mail ballot proceeding to provide the owner of the APN(s) listed above the opportunity to express support for or opposition to the approval of the NPDES Maximum Residential Regulatory Rate and services. Approval of the NPDES Maximum Residential Regulatory Rate through a mail ballot proceeding fulfills the Land Development Division's Condition of Approval to provide a funding source for the NPDES financial program.

Background

The Clean Water Act of 1987 established requirements for the discharge of Urban Runoff from Municipal Separate Storm Sewer Systems under the NPDES Program. The NPDES Program is administered by the Santa Ana Regional Water Quality Control Board through the issuance of a Permit. The City's current NPDES Permit mandates all new development projects comply with storm water management activities. The NPDES Program requires public agencies to obtain coverage under the Permit to discharge urban storm water runoff from municipally owned drainage facilities, including streets, highways, storm drains, and flood control channels.

Services Provided

In compliance with the Federal Clean Water Act, the City of Moreno Valley shall provide the necessary services for the continuous operation, enhancement, and maintenance of the storm water discharge system, and perform inspections of the affected areas to ensure compliance with federally mandated NPDES Permit requirements.

How is the Amount of the Charge Determined?

Each fiscal year (FY), the City of Moreno Valley determines the type of services necessary to comply with NPDES Permit requirements and levies the rate applicable for that service, not to exceed the rate previously approved by the property owner.

Notice of Mail Ballot Proceeding for PEDROHYPJVC, LLC
December 17, 2020

Proposed Charge

For FY 2020/21, the NPDES Maximum Residential Regulatory Rate is $346.38 per parcel. The total amount of the NPDES rates levied for FY 2020/21 was $572,616.88 for the program as a whole.

Annual Adjustment

Beginning in FY 2021/22, the NPDES Maximum Residential Regulatory Rate will be subject to an annual adjustment based on the percentage change calculated for the previous year in the Los Angeles-Long Beach-Anaheim Consumer Price Index for All Urban Consumers, as published by the Department of Labor's Bureau of Labor Statistics.

Duration of the Charge

Upon approval of the NPDES Maximum select rate Regulatory Rate, the annual levy amount will be assessed to the APN(s) listed above (and any division thereof) and shall be placed on the Riverside County property tax bill or included as a monthly charge on a utility bill. The NPDES Maximum Residential Regulatory Rate will be levied each following year at the proposed rate, which includes an annual inflation adjustment.

Public Hearing

To provide information concerning this mail ballot proceeding, the City has scheduled a Public Hearing, which will be held at the **Moreno Valley City Hall Council Chamber located at 14177 Frederick Street, Moreno Valley.**

Public Hearing
Tuesday, February 2, 2021
6:00 p.m.
(Or As Soon Thereafter As The Matter May Be Called)

Tabulation of the returned ballot will commence after the close of the public testimony portion of the Public Hearing. Any ballot received shall be tabulated under the direction of the City Clerk in compliance with the City's Policy for Conducting Mail Ballot Proceedings Policy #1.12.

Effect if the Charge is Approved

Approval of the NPDES Maximum Residential Regulatory Rate will be confirmed if the ballot is marked in favor (marked Yes) of the NPDES rate. Approving the NPDES Maximum Residential Regulatory Rate through a mail ballot proceeding will fulfill the Land Development Division's Condition of Approval to provide an ongoing funding source for the NPDES financial program.

Effect if the Charge is Not Approved

Not approving the NPDES Maximum Residential Regulatory Rate to meet state and federally mandated NPDES Permit requirements **will not** satisfy the Land Development Division's Condition of Approval to provide a funding source for the NPDES financial program. If the returned ballot is marked "No", the NPDES rate will not be levied on the property tax bill.

Effect if the Ballot is Deemed Invalid or Incomplete

Not marking the corresponding box on the ballot in support of or opposition to the proposed program and annual rate and/or not signing the ballot will result in an invalid ballot. In order to satisfy the Land Development Division's Condition of Approval by placement of the NPDES rate on the annual property tax bill, the mail ballot proceeding and 45-day noticing period will need to start over. Reinitiating the process will require payment of the mail ballot proceeding fee.

For More Information

If you have any questions about the mail ballot proceeding process, please contact Isa Rojas, Management Analyst, with the City's Special Districts Division at 951.413.3470 or via email at IsaRo@moval.org or SDAdmin@moval.org during the City's business hours.

Questions regarding the NPDES financial program, the annual rate, or the Land Development Division's Conditions of Approval should be directed to the Land Development Division at 951.413.3120 or via email at landdevelopment@moval.org during the City's business hours.

The City's business hours are Monday through Thursday from 7:30 a.m. to 5:30 p.m. and Friday from 7:30 a.m. to 4:30 p.m.

Completing Your Ballot

Please follow the instructions below to complete and return your ballot. Procedures for the completion, return, and tabulation of the ballot are also on file in the City Clerk's office.

1. Mark the enclosed ballot in support of or opposition to the proposed program and annual rate **by placing a mark in the corresponding box.** Ballots received without a designated vote will be considered invalid.
2. Sign your name on the ballot. Ballots received without signature(s) will be considered invalid *and will not be counted.*
3. Mail or personally deliver your completed ballot in a sealed envelope to the City Clerk's office, 14177 Frederick Street, Moreno Valley, California, 92553. For your convenience, a postage-paid envelope has been included for return of the ballot.
4. Ballot(s) must be **received** by the City Clerk prior to the close of the public testimony portion of the Public Hearing scheduled for **February 2, 2021,** at the Moreno Valley City Hall Council Chamber. The Public Hearing will be held at 6:00 p.m. or as soon thereafter as the matter may be called. Ballots received after the close of the Public Hearing cannot be legally counted.

Ballot Marks

Appropriate ballot markings include any one of the following for either the YES/Approved or NO/Not Approved blank box:


A check mark substantially inside a box;


An X mark substantially inside a box;


A dot or oval mark substantially inside a box;

A completely shaded or filled mark substantially inside a box;

A line, single or dashed, or combination of lines, through the box area. Lines may be any one of the following marks: horizontal, vertical, or diagonal. The mark may either run from side to side or corner to corner. All valid lines must be substantially within the box area and not marking any part of another blank box on the ballot;

A circle around the box and/or associated clause; or

A square or rectangle around the box and/or associated clause.

Balloting marks shall not extend past one box area into any portion of another nor surround the perimeter or any portion of more than one box area. Markings that extend past one box area into any portion of another or surround the perimeter or any portion of more than one box area shall be considered invalid and not counted.

Ballot Mark Revisions (Changes): An error or desire to revise (change) a selection made on the ballot may be completed and returned any time **prior** to the conclusion of public testimony at the Public Hearing. **The revision must be initialed by the record owner(s) of property. Initials must be clearly printed and placed at the right top corner of the revised selection.**

OFFICIAL MAIL BALLOT
for Assessor's Parcel Number (APN)474-110-004 and 474-110-014
National Pollutant Discharge Elimination System (NPDES)
Residential Regulatory Rate

YES* — as property owner of the APN(s) listed above, **I approve** the NPDES Maximum Residential Regulatory Rate and services. For fiscal year (FY) 2020/21, the NPDES Maximum Residential Regulatory Rate is $346.38 per parcel, a combined total of $692.76 for the APNs. This calculation is based on the current parcel configuration; the actual annual amount annual levied will be determined at the time the levy is calculated. Upon approval of the maximum regulatory rate, the annual levy amount shall be placed on the annual Riverside County property tax bill or included as a monthly charge on a utility bill. Beginning FY 2021/22, the maximum regulatory rate will be subject to an annual adjustment based on the percentage change calculated for the previous year in the Los Angeles-Long Beach-Anaheim Consumer Price Index for All Urban Consumers, as published by the Department of Labor's Bureau of Labor Statistics. The City shall provide the necessary services for the continuous operation, enhancement, and maintenance of the storm water discharge system, and perform inspections of the affected areas to ensure compliance with federally mandated NPDES Permit requirements.

NO** — as property owner of the APNs listed above, **I do not approve** the NPDES Maximum Residential Regulatory Rate and services. I understand that not approving the NPDES Maximum Residential Regulatory Rate to fund state and federally mandated NPDES Permit requirements will not satisfy the project's Conditions of Approval. The NPDES Maximum Residential Regulatory Rate will not be levied on the annual Riverside County property tax bill.

YES*	NO**	Weighted Ballot Count*	Fiscal Year 2020/21 NPDES Maximum Residential Regulatory Rate per Parcel
☐	☐	2	$346.38
Each Assessor's Parcel Number equals 1 Weighted Ballot.			

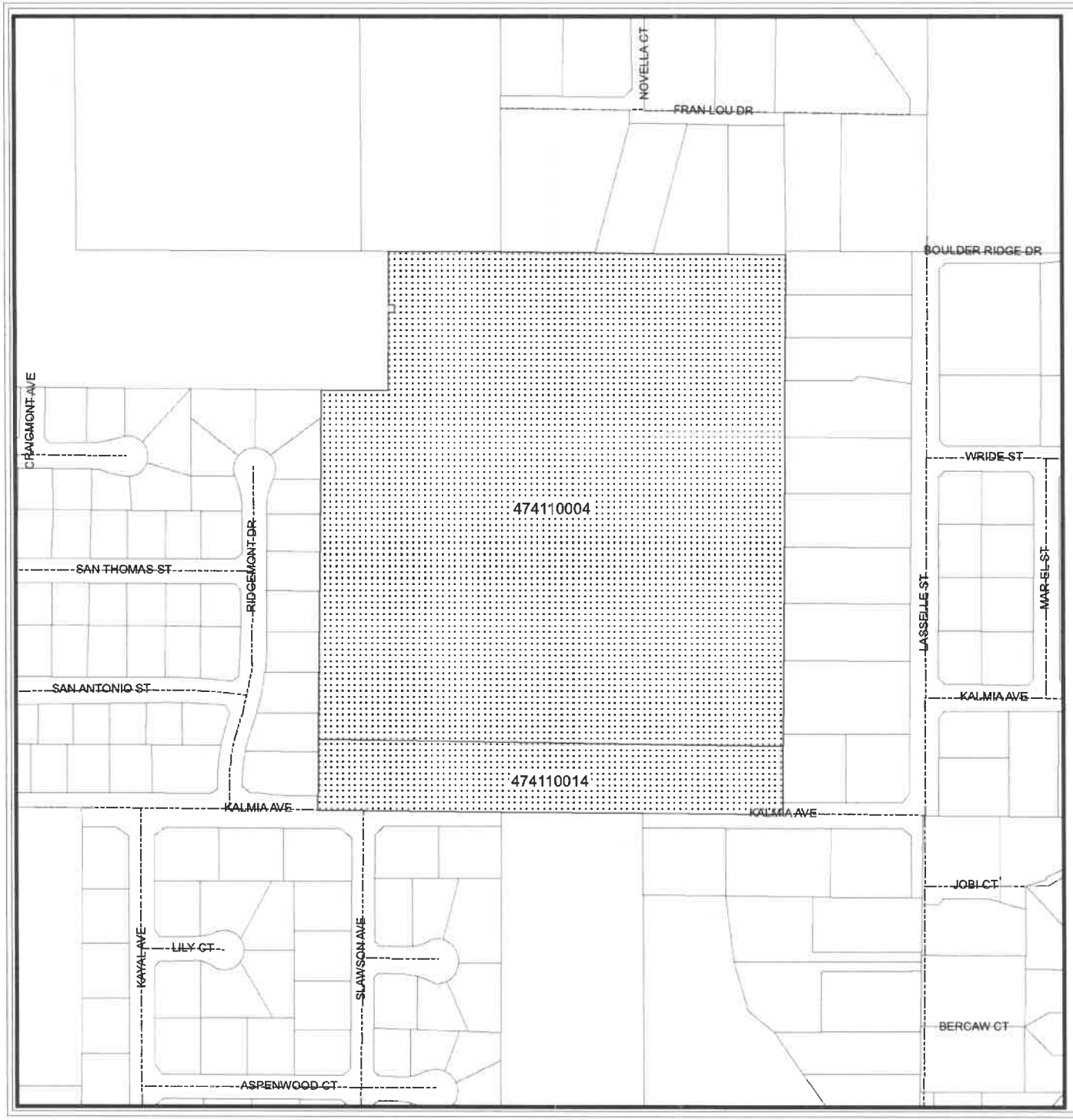
I HEREBY DECLARE UNDER PENALTY OF PERJURY THAT I AM THE RECORD OWNER OF THE PARCEL(S) IDENTIFIED ON THIS BALLOT OR AM AUTHORIZED TO SUBMIT A BALLOT ON BEHALF OF THE RECORD OWNER.

_____
SIGNATURE OF PROPERTY OWNER

_____
PRINTED NAME DATE

Please remember to mark the appropriate box, sign and date the ballot, and return to the City Clerk's office in the enclosed envelope. This ballot must be received by the City Clerk of the City of Moreno Valley prior to the close of the public testimony portion of the Public Hearing. The Public Hearing will be held at 6:00 p.m., or as soon thereafter as the matter may be called, on February 2, 2021, at the Moreno Valley City Hall Council Chamber, 14177 Frederick Street, Moreno Valley, California.

Ballot(s) deemed invalid or incomplete will be discarded and a new process must be initiated in order to place the charge on the annual Riverside County property tax bill, which includes payment of the mail ballot fee. For administrative convenience, all parcels for your project have been combined on one ballot. If you prefer to have a separate ballot for each APN please call 951.413.3470 to request separate ballots.



PEDROHYPJVC, LLC
TTM 31517
PEN19-0217

APN

- 474110004
- 474110014
- Parcels
- City Boundary
- Roads

Map reflects all changes indicated on Riverside County Assessor Maps as of December 10, 2020.

N

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The information shown on this map was compiled from the Riverside County GIS and the City of Moreno Valley GIS. The land base and facility information on this map is for display purposes only and should not be relied upon without independent verification as to its accuracy. Data and information on this map is subject to update and modification. Riverside County and City of Moreno Valley will not be held responsible for any claims, losses or damages resulting from the use of this map. This map is not to be recopied or resold.

MORENO VALLEY
WHERE DREAMS SOAR

FY 2020/21
NPDES RATE SCHEDULE
RESIDENTIAL

LEVEL 1		LEVEL II		Level II-A		LEVEL III		LEVEL IV	
NPDES Administration (Not covered by CSA 152)		**Water Quality Pond/Basin Maintenance**		**Sand Filter Maintenance**		**Water Quality Pond/Basin Remediation/Reconstruction**		**Water Quality System Retrofit**	
Costs associated with personnel, administration and management of the storm water management program. Administrative tasks include development and filing of various storm water reports and data collection and management. Level I is levied on all parcels conditioned for the NPDES Rate Schedule.		Costs associated with the maintenance and monitoring of the water quality pond/basin. This includes, but is not limited to maintenance on a quarterly basis of vegetative material, civil work and utility and personnel costs. Level II, in addition to Level I is levied on all properties within tracts that have a water quality pond/basin or on properties that benefit from a neighboring water quality pond/basin.		Costs associated with the maintenance and monitoring of the sand filter within a water quality pond/basin. This includes, but is not limited to maintenance of a sand bed, bleeder lines and costs for personnel. Level II-A, in addition to Level II and Level I is levied on all properties within residential developments that have a water quality pond/basin with a sand filter or on properties that benefit from a neighboring water quality pond/basin with a sand filter.		Costs associated with the remediation and reconstruction of water quality pond/basin. Remediation and reconstruction may include the following: replacement of soil, plants, irrigation, removal and hauling of wastes and possible civil work.		Costs associated with the retrofitting, replacement, monitoring and maintenance of the water quality pond/basin systems and appurtenances. This may include retrofitting of catch basin insert filters, vortex devices, installation of in-line filter systems, and nutrient baskets, etc.	
FY 2020/21	**Annual Rate**	**FY 2020/21**	**Annual Rate**	**FY 2020/21**	**Annual Rate**	**FY 2020/21**	**Annual Rate**	**FY 2020/21**	**Annual Rate**
Parcel Rate	**$45.44**	**Parcel Rate**	**$86.34**	**Parcel Rate**	**$39.36**	**Parcel Rate**	**$77.02**	**Parcel Rate**	**$175.24**

*Service Levels will be imposed on an as-needed basis and cumulative (if required)

Levels I, II, III, and IV - Adopted by the City Council on June 10, 2003
Level II-A - Adopted by the City Council on June 10, 2008
Fiscal Year (FY) 2003/2004 - Base Year Calculation, subject to inflation factor based on the Los Angeles-Riverside-Orange County Regional Consumer Price Index

Inflation Factor Adjustments:

2004/2005 - 1.8% = ($31.00, 58.00, 52.00 & 118.00)
2005/2006 - 4.4% = ($32.00, 61.00, 54.00 & 123.00)
2006/2007 - 4.5% = ($33.00, 64.00, 56.00, & 128.00)
2007/2008 - 3.1% = ($34.00, 66.00, 58.00, & 132.00)
2008/2009 - 4.2% = ($35.00, $69.00, $31.00, $60.00, $138.00)
2009/2010 - no change = ($35.00, $69.00, $31.00, $60.00, $138.00)
2010/2011 - no change = ($35.00, $69.00, $31.00, $60.00, $138.00)
2011/2012 - 3.8% = ($36.00, $72.00, $32.00, $62.00, $143.00)
2012/2013 - 2.7% = ($37.00, $74.00, $33.00, $64.00, $147.00)
2013/2014 - 2.0% = ($38.00, $75.00, $34.00, $65.00, $150.00) rounded to the nearest whole dollar
2014/2015 - 1.14% = ($39.38, $74.82, $34.10, $66.73, $151.84) (approved 6/10/14)
2015/2016 - 0.73% = ($39.66, $75.36, $34.35, $67.22, $152.95)
2016/2017 - 2.03% = ($40.47, $76.89, $35.05, $68.58, $156.05)
2017/2018 - 1.97% = ($41.27, $78.40, $35.74, $69.93, $159.12)
2018/2019 - 3.61% = {$42.74, $81.22, $37.02, $72.44, $164.86}(approved 6/19/18)
2019/2020- 3.24% = {$44.14, $83.86, $38.22, $74.80, $170.20} (approved 5/21/19)
2020/2021 - 2.96% = ($45.44, $86.34, $39.36, $77.02, $175.24) (approved 5/19/20)

Tel: 951.413.3480
Fax: 951.413.3170
www.moval.org

MORENO VALLEY
WHERE DREAMS SOAR

14177 FREDERICK STREET
P.O. BOX 88005
MORENO VALLEY, CA 92552-0805

December 17, 2020

Robles Bros Inv
1480 Monroe St.
Riverside, CA 92504
ATTN: Jose Robles

NOTICE TO PROPERTY OWNER - MAIL BALLOT PROCEEDING FOR THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) MAXIMUM RESIDENTIAL REGULATORY RATE FOR APN(s) 478-272-003

******* OFFICIAL BALLOT ENCLOSED *******

Introduction

In November of 1996, California voters passed Proposition 218 ("The Right to Vote on Taxes Act"). As a result, any new or proposed increase in a property-related charge requires approval by the property owner of record. In compliance with Proposition 218 legislation, the City of Moreno Valley Special Districts Division is conducting a mail ballot proceeding to provide the owner of the APN(s) listed above the opportunity to express support for or opposition to the approval of the NPDES Maximum Residential Regulatory Rate and services. Approval of the NPDES Maximum Residential Regulatory Rate through a mail ballot proceeding fulfills the Land Development Division's Condition of Approval to provide a funding source for the NPDES financial program.

Background

The Clean Water Act of 1987 established requirements for the discharge of Urban Runoff from Municipal Separate Storm Sewer Systems under the NPDES Program. The NPDES Program is administered by the Santa Ana Regional Water Quality Control Board through the issuance of a Permit. The City's current NPDES Permit mandates all new development projects comply with storm water management activities. The NPDES Program requires public agencies to obtain coverage under the Permit to discharge urban storm water runoff from municipally owned drainage facilities, including streets, highways, storm drains, and flood control channels.

Services Provided

In compliance with the Federal Clean Water Act, the City of Moreno Valley shall provide the necessary services for the continuous operation, enhancement, and maintenance of the storm water discharge system, and perform inspections of the affected areas to ensure compliance with federally mandated NPDES Permit requirements.

How is the Amount of the Charge Determined?

Each fiscal year (FY), the City of Moreno Valley determines the type of services necessary to comply with NPDES Permit requirements and levies the rate applicable for that service, not to exceed the rate previously approved by the property owner.

Proposed Charge

For FY 2020/21, the NPDES Maximum Residential Regulatory Rate is $346.38 per parcel. The total amount of the NPDES rates levied for FY 2020/21 was $572,616.88 for the program as a whole.

Annual Adjustment

Beginning in FY 2021/22, the NPDES Maximum Residential Regulatory Rate will be subject to an annual adjustment based on the percentage change calculated for the previous year in the Los Angeles-Long Beach-Anaheim Consumer Price Index for All Urban Consumers, as published by the Department of Labor's Bureau of Labor Statistics.

Duration of the Charge

Upon approval of the NPDES Maximum select rate Regulatory Rate, the annual levy amount will be assessed to the APN(s) listed above (and any division thereof) and shall be placed on the Riverside County property tax bill or included as a monthly charge on a utility bill. The NPDES Maximum Residential Regulatory Rate will be levied each following year at the proposed rate, which includes an annual inflation adjustment.

Public Hearing

To provide information concerning this mail ballot proceeding, the City has scheduled a Public Hearing, which will be held at the **Moreno Valley City Hall Council Chamber located at 14177 Frederick Street, Moreno Valley.**

Public Hearing
Tuesday, February 2, 2021
6:00 p.m.
(Or As Soon Thereafter As The Matter May Be Called)

Tabulation of the returned ballot will commence after the close of the public testimony portion of the Public Hearing. Any ballot received shall be tabulated under the direction of the City Clerk in compliance with the City's Policy for Conducting Mail Ballot Proceedings Policy #1.12.

Effect if the Charge is Approved

Approval of the NPDES Maximum Residential Regulatory Rate will be confirmed if the ballot is marked in favor (marked Yes) of the NPDES rate. Approving the NPDES Maximum Residential Regulatory Rate through a mail ballot proceeding will fulfill the Land Development Division's Condition of Approval to provide an ongoing funding source for the NPDES financial program.

Effect if the Charge is Not Approved

Not approving the NPDES Maximum Residential Regulatory Rate to meet state and federally mandated NPDES Permit requirements **will not** satisfy the Land Development Division's Condition of Approval to provide a funding source for the NPDES financial program. If the returned ballot is marked "No", the NPDES rate will not be levied on the property tax bill.

Effect if the Ballot is Deemed Invalid or Incomplete

Not marking the corresponding box on the ballot in support of or opposition to the proposed program and annual rate and/or not signing the ballot will result in an invalid ballot. In order to satisfy the Land Development Division's Condition of Approval by placement of the NPDES rate on the annual property tax bill, the mail ballot proceeding and 45-day noticing period will need to start over. Reinitiating the process will require payment of the mail ballot proceeding fee.

For More Information

If you have any questions about the mail ballot proceeding process, please contact Isa Rojas, Management Analyst, with the City's Special Districts Division at 951.413.3470 or via email at IsaRo@moval.org or SDAdmin@moval.org during the City's business hours.

Questions regarding the NPDES financial program, the annual rate, or the Land Development Division's Conditions of Approval should be directed to the Land Development Division at 951.413.3120 or via email at landdevelopment@moval.org during the City's business hours.

The City's business hours are Monday through Thursday from 7:30 a.m. to 5:30 p.m. and Friday from 7:30 a.m. to 4:30 p.m.

Completing Your Ballot

Please follow the instructions below to complete and return your ballot. Procedures for the completion, return, and tabulation of the ballot are also on file in the City Clerk's office.

1. Mark the enclosed ballot in support of or opposition to the proposed program and annual rate **by placing a mark in the corresponding box.** Ballots received without a designated vote will be considered invalid.
2. Sign your name on the ballot. Ballots received without signature(s) will be considered invalid *and will not be counted.*
3. Mail or personally deliver your completed ballot in a sealed envelope to the City Clerk's office, 14177 Frederick Street, Moreno Valley, California, 92553. For your convenience, a postage-paid envelope has been included for return of the ballot.
4. Ballot(s) must be **received** by the City Clerk prior to the close of the public testimony portion of the Public Hearing scheduled for **February 2, 2021,** at the Moreno Valley City Hall Council Chamber. The Public Hearing will be held at 6:00 p.m. or as soon thereafter as the matter may be called. Ballots received after the close of the Public Hearing cannot be legally counted.

Ballot Marks

Appropriate ballot markings include any one of the following for either the YES/Approved or NO/Not Approved blank box:


A check mark substantially inside a box;


An X mark substantially inside a box;


A dot or oval mark substantially inside a box;

A completely shaded or filled mark substantially inside a box;

A line, single or dashed, or combination of lines, through the box area. Lines may be any one of the following marks: horizontal, vertical, or diagonal. The mark may either run from side to side or corner to corner. All valid lines must be substantially within the box area and not marking any part of another blank box on the ballot;

A circle around the box and/or associated clause; or

A square or rectangle around the box and/or associated clause.

Balloting marks shall not extend past one box area into any portion of another nor surround the perimeter or any portion of more than one box area. Markings that extend past one box area into any portion of another or surround the perimeter or any portion of more than one box area shall be considered invalid and not counted.

Ballot Mark Revisions (Changes): An error or desire to revise (change) a selection made on the ballot may be completed and returned any time **prior** to the conclusion of public testimony at the Public Hearing. **The revision must be initialed by the record owner(s) of property. Initials must be clearly printed and placed at the right top corner of the revised selection.**

OFFICIAL MAIL BALLOT
for Assessor's Parcel Number (APN)
478-272-003
National Pollutant Discharge Elimination System (NPDES)
Residential Regulatory Rate

YES* — as property owner of the APN(s) listed above, **I approve** the NPDES Maximum Residential Regulatory Rate and services. For fiscal year (FY) 2020/21, the NPDES Maximum Residential Regulatory Rate is $346.38 per parcel. Upon approval of the maximum regulatory rate, the annual levy amount shall be placed on the annual Riverside County property tax bill or included as a monthly charge on a utility bill. Beginning FY 2021/22, the maximum regulatory rate will be subject to an annual adjustment based on the percentage change calculated for the previous year in the Los Angeles-Long Beach-Anaheim Consumer Price Index for All Urban Consumers, as published by the Department of Labor's Bureau of Labor Statistics. The City shall provide the necessary services for the continuous operation, enhancement, and maintenance of the storm water discharge system, and perform inspections of the affected areas to ensure compliance with federally mandated NPDES Permit requirements.

NO** — as property owner of the APNs listed above, **I do not approve** the NPDES Maximum Residential Regulatory Rate and services. I understand that not approving the NPDES Maximum Residential Regulatory Rate to fund state and federally mandated NPDES Permit requirements will not satisfy the project's Conditions of Approval. The NPDES Maximum Residential Regulatory Rate will not be levied on the annual Riverside County property tax bill.

YES*	NO**	Weighted Ballot Count*	Fiscal Year 2020/21 NPDES Maximum Residential Regulatory Rate per Parcel
☐	☐	1	$346.38
Each Assessor's Parcel Number equals 1 Weighted Ballot.			

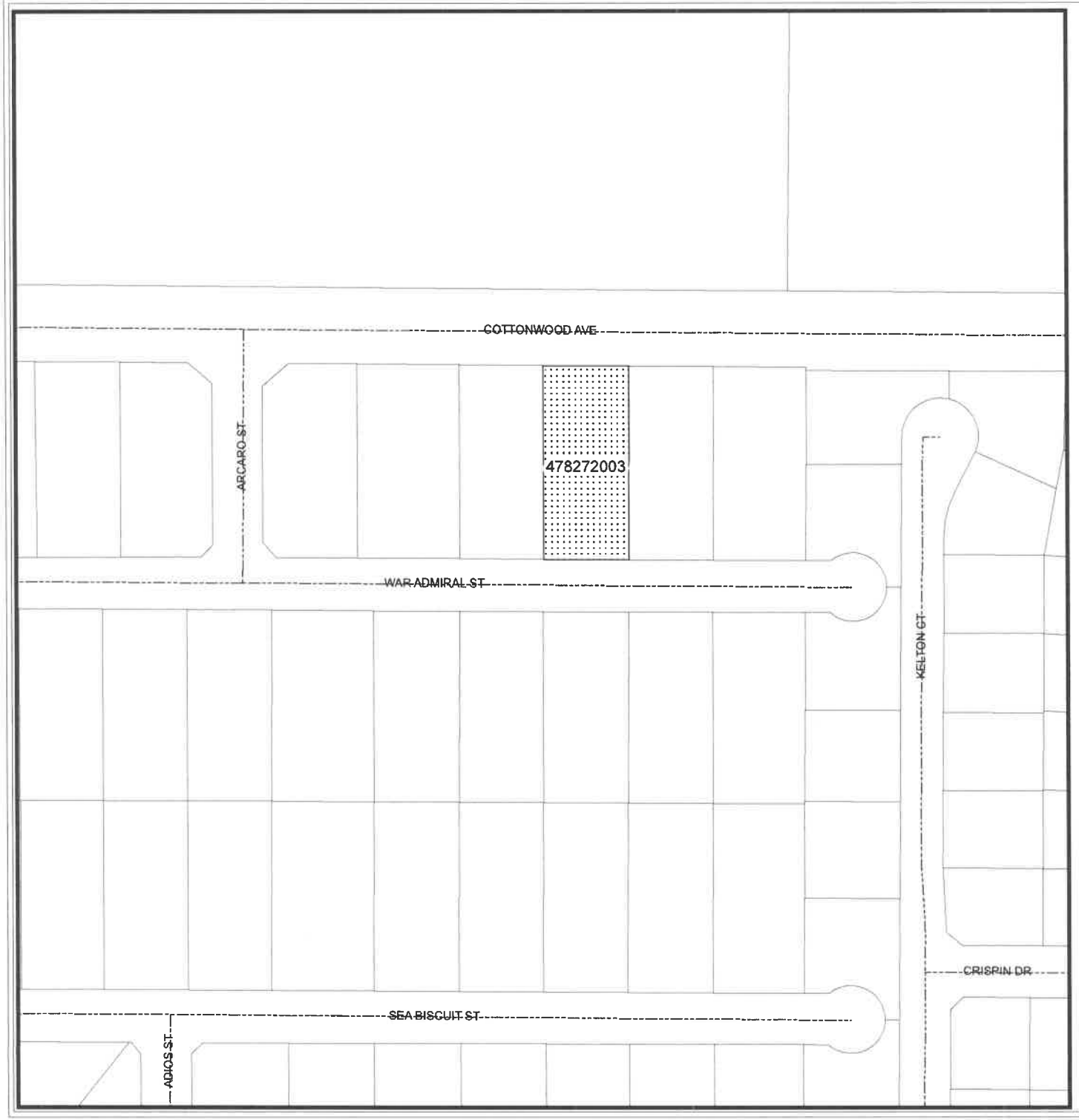
I HEREBY DECLARE UNDER PENALTY OF PERJURY THAT I AM THE RECORD OWNER OF THE PARCEL(S) IDENTIFIED ON THIS BALLOT OR AM AUTHORIZED TO SUBMIT A BALLOT ON BEHALF OF THE RECORD OWNER.

_____
SIGNATURE OF PROPERTY OWNER

_____
PRINTED NAME DATE

Please remember to mark the appropriate box, sign and date the ballot, and return to the City Clerk's office in the enclosed envelope. This ballot must be received by the City Clerk of the City of Moreno Valley prior to the close of the public testimony portion of the Public Hearing. The Public Hearing will be held at 6:00 p.m., or as soon thereafter as the matter may be called, on February 2, 2021, at the Moreno Valley City Hall Council Chamber, 14177 Frederick Street, Moreno Valley, California.

Ballot(s) deemed invalid or incomplete will be discarded and a new process must be initiated in order to place the charge on the annual Riverside County property tax bill, which includes payment of the mail ballot fee.



Robles Bros Inv Custom Home, 28200 War Admiral PEN18-0222

APN

- 478272003
- Parcels
- City Boundary
- Roads

Map reflects all changes indicated on Riverside County Assessor Maps as of December 6, 2020.

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The information shown on this map was compiled from the Riverside County GIS and the City of Moreno Valley GIS. The land base and facility information on this map is for display purposes only and should not be relied upon without independent verification as to its accuracy. Data and information on this map is subject to update and modification. Riverside County and City of Moreno Valley will not be held responsible for any claims, losses or damages resulting from the use of this map. This map is not to be recopied or resold.

MORENO VALLEY
WHERE DREAMS SOAR

FY 2020/21
NPDES RATE SCHEDULE
RESIDENTIAL

LEVEL 1		LEVEL II		Level II-A		LEVEL III		LEVEL IV	
NPDES Administration (Not covered by CSA 152)		**Water Quality Pond/Basin Maintenance**		**Sand Filter Maintenance**		**Water Quality Pond/Basin Remediation/Reconstruction**		**Water Quality System Retrofit**	
Costs associated with personnel, administration and management of the storm water management program. Administrative tasks include development and filing of various storm water reports and data collection and management. Level I is levied on all parcels conditioned for the NPDES Rate Schedule.		Costs associated with the maintenance and monitoring of the water quality pond/basin. This includes, but is not limited to maintenance on a quarterly basis of vegetative material, civil work and utility and personnel costs. Level II, in addition to Level I is levied on all properties within tracts that have a water quality pond/basin or on properties that benefit from a neighboring water quality pond/basin.		Costs associated with the maintenance and monitoring of the sand filter within a water quality pond/basin. This includes, but is not limited to maintenance of a sand bed, bleeder lines and costs for personnel. Level II-A, in addition to Level II and Level I is levied on all properties within residential developments that have a water quality pond/basin with a sand filter or on properties that benefit from a neighboring water quality pond/basin with a sand filter.		Costs associated with the remediation and reconstruction of water quality pond/basin. Remediation and reconstruction may include the following: replacement of soil, plants, irrigation, removal and hauling of wastes and possible civil work.		Costs associated with the retrofitting, replacement, monitoring and maintenance of the water quality pond/basin systems and appurtenances. This may include retrofitting of catch basin insert filters, vortex devices, installation of in-line filter systems, and nutrient baskets, etc.	
FY 2020/21	**Annual Rate**	**FY 2020/21**	**Annual Rate**	**FY 2020/21**	**Annual Rate**	**FY 2020/21**	**Annual Rate**	**FY 2020/21**	**Annual Rat**
Parcel Rate	**$45.44**	**Parcel Rate**	**$86.34**	**Parcel Rate**	**$39.36**	**Parcel Rate**	**$77.02**	**Parcel Rate**	**$175.24**

*Service Levels will be imposed on an as-needed basis and cumulative (if required)

Levels I, II, III, and IV - Adopted by the City Council on June 10, 2003
Level II-A - Adopted by the City Council on June 10, 2008
Fiscal Year (FY) 2003/2004 - Base Year Calculation, subject to inflation factor based on the Los Angeles-Riverside-Orange County Regional Consumer Price Index

Inflation Factor Adjustments:

2004/2005 - 1.8% = ($31.00, 58.00, 52.00 & 118.00)
2005/2006 - 4.4% = ($32.00, 61.00, 54.00 & 123.00)
2006/2007 - 4.5% = ($33.00, 64.00, 56.00, & 128.00)
2007/2008 - 3.1% = ($34.00, 66.00, 58.00, & 132.00)
2008/2009 - 4.2% = ($35.00, $69.00, $31.00, $60.00, $138.00)
2009/2010 - no change = ($35.00, $69.00, $31.00, $60.00, $138.00)
2010/2011 - no change = ($35.00, $69.00, $31.00, $60.00, $138.00)
2011/2012 - 3.8% = ($36.00, $72.00, $32.00, $62.00, $143.00)
2012/2013 - 2.7% = ($37.00, $74.00, $33.00, $64.00, $147.00)
2013/2014 - 2.0% = ($38.00, $75.00, $34.00, $65.00, $150.00) rounded to the nearest whole dollar
2014/2015 - 1.14% = ($39.38, $74.82, $34.10, $66.73, $151.84) (approved 6/10/14)
2015/2016 - 0.73% = ($39.66, $75.36, $34.35, $67.22, $152.95)
2016/2017 - 2.03% = ($40.47, $76.89, $35.05, $68.58, $156.05)
2017/2018 - 1.97% = ($41.27, $78.40, $35.74, $69.93, $159.12)
2018/2019 - 3.61% = {$42.74, $81.22, $37.02, $72.44, $164.86}(approved 6/19/18)
2019/2020- 3.24% = {$44.14, $83.86, $38.22, $74.80, $170.20} (approved 5/21/19)
2020/2021 - 2.96% = ($45.44, $86.34, $39.36, $77.02, $175.24) (approved 5/19/20)

Tel: 951.413.3480
Fax: 951.413.3170
www.moval.org

MORENO VALLEY
WHERE DREAMS SOAR

14177 FREDERICK STREET
P.O. BOX 88005
MORENO VALLEY, CA 92552-0805

December 17, 2020

ROC III CA Belago
111 East Sego Lily Dr. Suite 400
Salt Lake City, UT 84070
ATTN: David Arteaga

NOTICE TO PROPERTY OWNER - MAIL BALLOT PROCEEDING FOR THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) MAXIMUM COMMON INTEREST, COMMERCIAL, INDUSTRIAL, AND QUASI-PUBLIC USE REGULATORY RATE FOR APN(s) 304-100-007

******* OFFICIAL BALLOT ENCLOSED *******

Introduction

In November of 1996, California voters passed Proposition 218 ("The Right to Vote on Taxes Act"). As a result, any new or proposed increase in a property-related charge requires approval by the property owner of record. In compliance with Proposition 218 legislation, the City of Moreno Valley Special Districts Division is conducting a mail ballot proceeding to provide the owner of the APN(s) listed above the opportunity to express support for or opposition to the approval of the NPDES Maximum Common Interest, Commercial, Industrial, and Quasi-Public Use Regulatory Rate and services. Approval of the NPDES Maximum Common Interest, Commercial, Industrial, and Quasi-Public Use Regulatory Rate through a mail ballot proceeding fulfills the Land Development Division's Condition of Approval to provide a funding source for the NPDES financial program.

Background

The Clean Water Act of 1987 established requirements for the discharge of Urban Runoff from Municipal Separate Storm Sewer Systems under the NPDES Program. The NPDES Program is administered by the Santa Ana Regional Water Quality Control Board through the issuance of a Permit. The City's current NPDES Permit mandates all new development projects comply with storm water management activities. The NPDES Program requires public agencies to obtain coverage under the Permit to discharge urban storm water runoff from municipally owned drainage facilities, including streets, highways, storm drains, and flood control channels.

Services Provided

In compliance with the Federal Clean Water Act, the City of Moreno Valley shall provide annual and periodic facility inspections for site design, NPDES permit compliance, and Best Management Practices implementation and maintenance for specified facilities.

How is the Amount of the Charge Determined?

Each fiscal year (FY), the City of Moreno Valley determines the type of services necessary to comply with NPDES Permit requirements and levies the rate applicable for that service, not to

exceed the rate previously approved by the property owner.

Proposed Charge

For FY 2020/21, the NPDES Maximum Common Interest, Commercial, Industrial, and Quasi-Public Use Regulatory Rate is $260.84 per parcel. The total amount of the NPDES rates levied for FY 2020/21 was $572,616.88 for the program as a whole.

Annual Adjustment

Beginning in FY 2021/22, the NPDES Maximum Common Interest, Commercial, Industrial, and Quasi-Public Use Regulatory Rate will be subject to an annual adjustment based on the percentage change calculated for the previous year in the Los Angeles-Long Beach-Anaheim Consumer Price Index for All Urban Consumers, as published by the Department of Labor's Bureau of Labor Statistics.

Duration of the Charge

Upon approval of the NPDES Maximum select rate Regulatory Rate, the annual levy amount will be assessed to the APN(s) listed above (and any division thereof) and shall be placed on the Riverside County property tax bill or included as a monthly charge on a utility bill. The NPDES Maximum Common Interest, Commercial, Industrial, and Quasi-Public Use Regulatory Rate will be levied each following year at the proposed rate, which includes an annual inflation adjustment.

Public Hearing

To provide information concerning this mail ballot proceeding, the City has scheduled a Public Hearing, which will be held at the **Moreno Valley City Hall Council Chamber located at 14177 Frederick Street, Moreno Valley.**

Public Hearing
Tuesday, February 2, 2021
6:00 p.m.
(Or As Soon Thereafter As The Matter May Be Called)

Tabulation of the returned ballot will commence after the close of the public testimony portion of the Public Hearing. Any ballot received shall be tabulated under the direction of the City Clerk in compliance with the City's Policy for Conducting Mail Ballot Proceedings Policy #1.12.

Effect if the Charge is Approved

Approval of the NPDES Maximum Common Interest, Commercial, Industrial, and Quasi-Public Use Regulatory Rate will be confirmed if the ballot is marked in favor (marked Yes) of the NPDES rate. Approving the NPDES Maximum Common Interest, Commercial, Industrial, and Quasi-Public Use Regulatory Rate through a mail ballot proceeding will fulfill the Land Development Division's Condition of Approval to provide an ongoing funding source for the NPDES financial program.

Effect if the Charge is Not Approved

Not approving the NPDES Maximum Common Interest, Commercial, Industrial, and Quasi-Public Use Regulatory Rate to meet state and federally mandated NPDES Permit requirements **will not**

satisfy the Land Development Division's Condition of Approval to provide a funding source for the NPDES financial program. If the returned ballot is marked "No", the NPDES rate will not be levied on the property tax bill.

Effect if the Ballot is Deemed Invalid or Incomplete

Not marking the corresponding box on the ballot in support of or opposition to the proposed program and annual rate and/or not signing the ballot will result in an invalid ballot. In order to satisfy the Land Development Division's Condition of Approval by placement of the NPDES rate on the annual property tax bill, the mail ballot proceeding and 45-day noticing period will need to start over. Reinitiating the process will require payment of the mail ballot proceeding fee.

For More Information

If you have any questions about the mail ballot proceeding process, please contact Isa Rojas, Management Analyst, with the City's Special Districts Division at 951.413.3470 or via email at IsaRo@moval.org or SDAdmin@moval.org during the City's business hours.

Questions regarding the NPDES financial program, the annual rate, or the Land Development Division's Conditions of Approval should be directed to the Land Development Division at 951.413.3120 or via email at landdevelopment@moval.org during the City's business hours.

The City's business hours are Monday through Thursday from 7:30 a.m. to 5:30 p.m. and Friday from 7:30 a.m. to 4:30 p.m.

Completing Your Ballot

Please follow the instructions below to complete and return your ballot. Procedures for the completion, return, and tabulation of the ballot are also on file in the City Clerk's office.

1. Mark the enclosed ballot in support of or opposition to the proposed program and annual rate **by placing a mark in the corresponding box.** Ballots received without a designated vote will be considered invalid.
2. Sign your name on the ballot. Ballots received without signature(s) will be considered invalid *and will not be counted.*
3. Mail or personally deliver your completed ballot in a sealed envelope to the City Clerk's office, 14177 Frederick Street, Moreno Valley, California, 92553. For your convenience, a postage-paid envelope has been included for return of the ballot.
4. Ballot(s) must be **received** by the City Clerk prior to the close of the public testimony portion of the Public Hearing scheduled for **February 2, 2021,** at the Moreno Valley City Hall Council Chamber. The Public Hearing will be held at 6:00 p.m. or as soon thereafter as the matter may be called. Ballots received after the close of the Public Hearing cannot be legally counted.

Ballot Marks

Appropriate ballot markings include any one of the following for either the YES/Approved or NO/Not Approved blank box:

A check mark substantially inside a box;


An X mark substantially inside a box;


A dot or oval mark substantially inside a box;


A completely shaded or filled mark substantially inside a box;


A line, single or dashed, or combination of lines, through the box area. Lines may be any one of the following marks: horizontal, vertical, or diagonal. The mark may either run from side to side or corner to corner. All valid lines must be substantially within the box area and not marking any part of another blank box on the ballot;


A circle around the box and/or associated clause; or


A square or rectangle around the box and/or associated clause.

Balloting marks shall not extend past one box area into any portion of another nor surround the perimeter or any portion of more than one box area. Markings that extend past one box area into any portion of another or surround the perimeter or any portion of more than one box area shall be considered invalid and not counted.

Ballot Mark Revisions (Changes): An error or desire to revise (change) a selection made on the ballot may be completed and returned any time **prior** to the conclusion of public testimony at the Public Hearing. **The revision must be initialed by the record owner(s) of property. Initials must be clearly printed and placed at the right top corner of the revised selection.**

OFFICIAL MAIL BALLOT
for Assessor's Parcel Number (APN)
304-100-007
National Pollutant Discharge Elimination System (NPDES)
Common Interest, Commercial, Industrial, and Quasi-Public Use Regulatory Rate

YES* — as property owner of the APN(s) listed above, **I approve** the NPDES Maximum Common Interest, Commercial, Industrial, and Quasi-Public Use Regulatory Rate and services. For fiscal year (FY) 2020/21, the NPDES Maximum Common Interest, Commercial, Industrial, and Quasi-Public Use Regulatory Rate is $260.84 per parcel. Upon approval of the maximum regulatory rate, the annual levy amount shall be placed on the annual Riverside County property tax bill or included as a monthly charge on a utility bill. Beginning FY 2021/22, the maximum regulatory rate will be subject to an annual adjustment based on the percentage change calculated for the previous year in the Los Angeles-Long Beach-Anaheim Consumer Price Index for All Urban Consumers, as published by the Department of Labor's Bureau of Labor Statistics. The City shall provide annual and periodic facility inspections for site design, NPDES permit compliance, and Best Management Practices implementation and maintenance for specified facilities.

NO** — as property owner of the APNs listed above, **I do not approve** the NPDES Maximum Common Interest, Commercial, Industrial, and Quasi-Public Use Regulatory Rate and services. I understand that not approving the NPDES Maximum Common Interest, Commercial, Industrial, and Quasi-Public Use Regulatory Rate to fund state and federally mandated NPDES Permit requirements will not satisfy the project's Conditions of Approval. The NPDES Maximum Common Interest, Commercial, Industrial, and Quasi-Public Use Regulatory Rate will not be levied on the annual Riverside County property tax bill.

YES*	NO**	Weighted Ballot Count*	Fiscal Year 2020/21 NPDES Maximum Common Interest, Commercial, Industrial, and Quasi-Public Use Regulatory Rate per Parcel
☐	☐	1	$260.84
Each Assessor's Parcel Number equals 1 Weighted Ballot.			

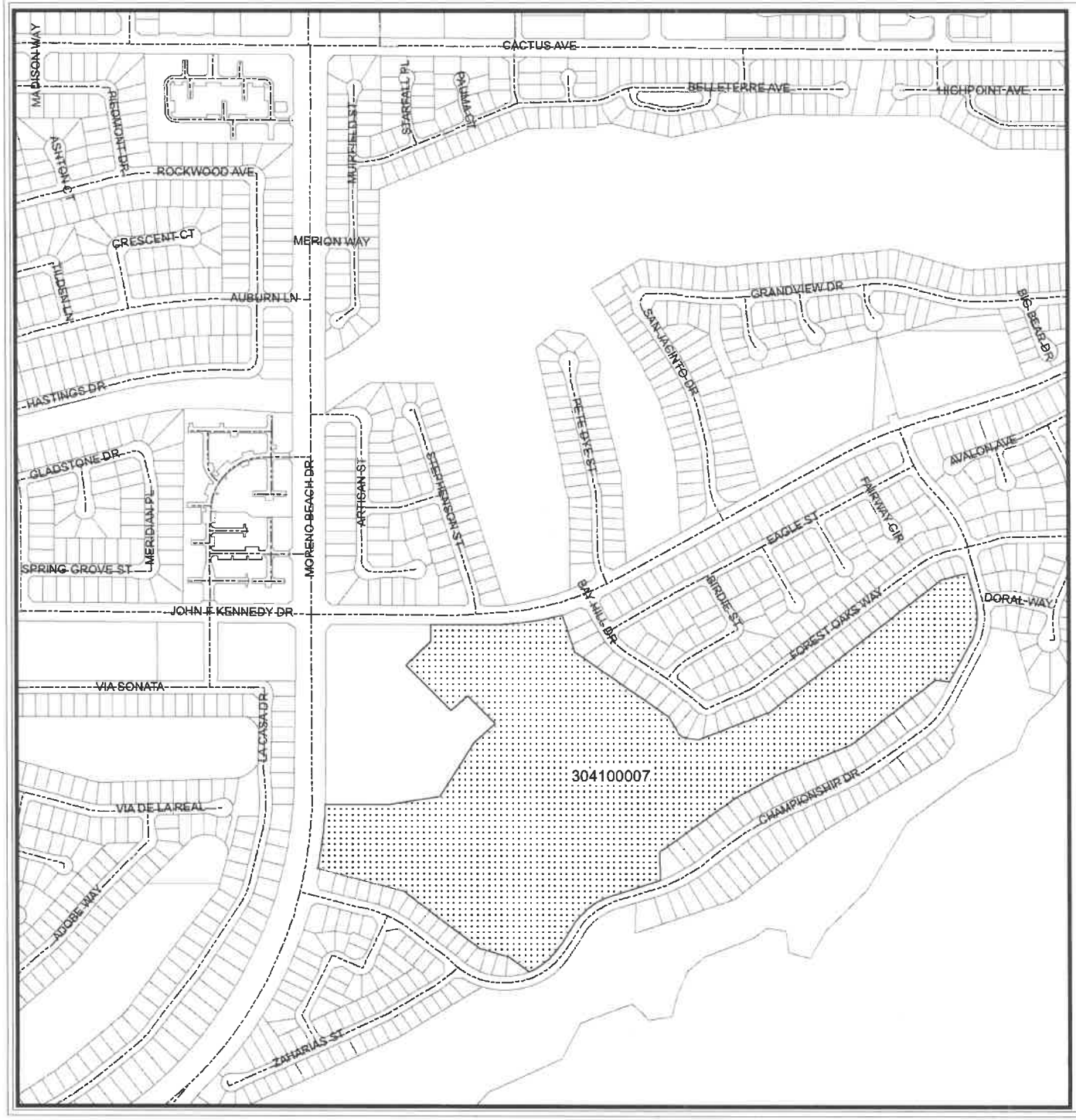
I HEREBY DECLARE UNDER PENALTY OF PERJURY THAT I AM THE RECORD OWNER OF THE PARCEL(S) IDENTIFIED ON THIS BALLOT OR AM AUTHORIZED TO SUBMIT A BALLOT ON BEHALF OF THE RECORD OWNER.

_____
SIGNATURE OF PROPERTY OWNER

_____
PRINTED NAME DATE

Please remember to mark the appropriate box, sign and date the ballot, and return to the City Clerk's office in the enclosed envelope. This ballot must be received by the City Clerk of the City of Moreno Valley prior to the close of the public testimony portion of the Public Hearing. The Public Hearing will be held at 6:00 p.m., or as soon thereafter as the matter may be called, on February 2, 2021, at the Moreno Valley City Hall Council Chamber, 14177 Frederick Street, Moreno Valley, California.

Ballot(s) deemed invalid or incomplete will be discarded and a new process must be initiated in order to place the charge on the annual Riverside County property tax bill, which includes payment of the mail ballot fee.



ROC III CA Belago Golf Course Apts., 417 Units PEN16-0130

APN

- 304100007
- Parcels
- City Boundary
- Roads

Map reflects all changes indicated on Riverside County Assessor Maps as of December 13, 2020.

N

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The information shown on this map was compiled from the Riverside County GIS and the City of Moreno Valley GIS. The land base and facility information on this map is for display purposes only and should not be relied upon without independent verification as to its accuracy. Data and information on this map is subject to update and modification. Riverside County and City of Moreno Valley will not be held responsible for any claims, losses or damages resulting from the use of this map. This map is not to be recopied or resold.

MORENO VALLEY
WHERE DREAMS SOAR

FY 2020/21
NPDES RATE SCHEDULE
COMMON INTEREST, COMMERCIAL, INDUSTRIAL AND QUASI-PUBLIC USE

LEVEL 1		LEVEL II	
NPDES Administration (Not covered by CSA 152)		**Site Design, Source Control and Treatment Control BMPs Monitoring and Maintenance**	
Costs associated with personnel, administration and management of the storm water management program. Administrative tasks include development and filing of various stormwater reports and data collection and management. Level I is levied on all parcels conditioned for the NPDES Rate Schedule.		Costs associated with stormwater and non-stormwater runoff monitoring, inspection of the project's site design, source control and treatment control BMPs; evaluation of site stormwater compliance activities, review of site-specific technical reports and treatment control BMP maintenance records.	
FY 2020/21	**Annual Rate**	**FY 2020/21**	**Annual Rate**
Parcel Rate	**$45.60**	**Parcel Rate**	**$215.24**

*Service Levels will be imposed on an as-needed basis and cumulative (if required)

Adopted by the City Council on January 10, 2006
Fiscal Year (FY) 2005/2006 - Base Year Calculation, subject to an annual inflation factor based on the Los Angeles-Riverside-Orange County Regional Consumer Price Index for All Urban Consumers, as published by the Department of Labor's Bureau of Labor Statistics

Inflation Factor Adjustments

FY 2006/07 - 4.5% = ($33.00 & $158.00)
FY 2007/08 - 3.1% = ($34.00 & $163.00)
FY 2008/09 - 4.2% = ($35.00 & $170.00)
FY 2009/10 - no change = ($35.00 & $170.00)
FY 2010/11 - no change = ($35.00 & $170.00)
FY 2011/12 - 3.8% = ($36.00 & $176.00)
FY 2012/13 - 2.7% = ($37.00 & $181.00)
FY 2013/14 - 2.0% = ($38.00 & $185.00) rounded to the nearest dollar
FY 2014/15 - 1.14% = ($39.52 & $186.49)(approved 6/10/14)
FY 2015/16 - 0.73% = ($39.81 & $187.85)
FY 2016/17 - 2.03% = ($40.62 & $191.66)
FY 2017/18 - 1.97% = ($41.42 & $195.44)
FY 2018/19 - 3.61% = ($42.90 & $202.48)(approved 6/19/18)
FY 2019/20 - 3.24% = ($44.30 & $209.04)(approved 5/21/19)
FY 2020/21 - 2.97% = ($45.60 & $215.24)(approved 5/19/20)

Tel: 951.413.3480
Fax: 951.413.3170
www.moval.org

MORENO VALLEY
WHERE DREAMS SOAR

14177 FREDERICK STREET
P.O. BOX 88005
MORENO VALLEY, CA 92552-0805

December 17, 2020

Ulman Harry & Gisela Living Trust Dated 11/22/82
302 W. Fifth St., Ste. 103
San Pedro, CA 90731
ATTN: Dale Ulman

NOTICE TO PROPERTY OWNER - MAIL BALLOT PROCEEDING FOR THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) MAXIMUM COMMON INTEREST, COMMERCIAL, INDUSTRIAL, AND QUASI-PUBLIC USE REGULATORY RATE FOR APN(s) 297-220-006, 297-220-007 and 297-220-008

******* OFFICIAL BALLOT ENCLOSED *******

Introduction

In November of 1996, California voters passed Proposition 218 ("The Right to Vote on Taxes Act"). As a result, any new or proposed increase in a property-related charge requires approval by the property owner of record. In compliance with Proposition 218 legislation, the City of Moreno Valley Special Districts Division is conducting a mail ballot proceeding to provide the owner of the APN(s) listed above the opportunity to express support for or opposition to the approval of the NPDES Maximum Common Interest, Commercial, Industrial, and Quasi-Public Use Regulatory Rate and services. Approval of the NPDES Maximum Common Interest, Commercial, Industrial, and Quasi-Public Use Regulatory Rate through a mail ballot proceeding fulfills the Land Development Division's Condition of Approval to provide a funding source for the NPDES financial program.

Background

The Clean Water Act of 1987 established requirements for the discharge of Urban Runoff from Municipal Separate Storm Sewer Systems under the NPDES Program. The NPDES Program is administered by the Santa Ana Regional Water Quality Control Board through the issuance of a Permit. The City's current NPDES Permit mandates all new development projects comply with storm water management activities. The NPDES Program requires public agencies to obtain coverage under the Permit to discharge urban storm water runoff from municipally owned drainage facilities, including streets, highways, storm drains, and flood control channels.

Services Provided

In compliance with the Federal Clean Water Act, the City of Moreno Valley shall provide annual and periodic facility inspections for site design, NPDES permit compliance, and Best Management Practices implementation and maintenance for specified facilities.

How is the Amount of the Charge Determined?

Each fiscal year (FY), the City of Moreno Valley determines the type of services necessary to comply with NPDES Permit requirements and levies the rate applicable for that service, not to

exceed the rate previously approved by the property owner.

Proposed Charge

For FY 2020/21, the NPDES Maximum Common Interest, Commercial, Industrial, and Quasi-Public Use Regulatory Rate is $260.84 per parcel. The total amount of the NPDES rates levied for FY 2020/21 was $572,616.88 for the program as a whole.

Annual Adjustment

Beginning in FY 2021/22, the NPDES Maximum Common Interest, Commercial, Industrial, and Quasi-Public Use Regulatory Rate will be subject to an annual adjustment based on the percentage change calculated for the previous year in the Los Angeles-Long Beach-Anaheim Consumer Price Index for All Urban Consumers, as published by the Department of Labor's Bureau of Labor Statistics.

Duration of the Charge

Upon approval of the NPDES Maximum select rate Regulatory Rate, the annual levy amount will be assessed to the APN(s) listed above (and any division thereof) and shall be placed on the Riverside County property tax bill or included as a monthly charge on a utility bill. The NPDES Maximum Common Interest, Commercial, Industrial, and Quasi-Public Use Regulatory Rate will be levied each following year at the proposed rate, which includes an annual inflation adjustment.

Public Hearing

To provide information concerning this mail ballot proceeding, the City has scheduled a Public Hearing, which will be held at the **Moreno Valley City Hall Council Chamber located at 14177 Frederick Street, Moreno Valley.**

Public Hearing
Tuesday, February 2, 2021
6:00 p.m.
(Or As Soon Thereafter As The Matter May Be Called)

Tabulation of the returned ballot will commence after the close of the public testimony portion of the Public Hearing. Any ballot received shall be tabulated under the direction of the City Clerk in compliance with the City's Policy for Conducting Mail Ballot Proceedings Policy #1.12.

Effect if the Charge is Approved

Approval of the NPDES Maximum Common Interest, Commercial, Industrial, and Quasi-Public Use Regulatory Rate will be confirmed if the ballot is marked in favor (marked Yes) of the NPDES rate. Approving the NPDES Maximum Common Interest, Commercial, Industrial, and Quasi-Public Use Regulatory Rate through a mail ballot proceeding will fulfill the Land Development Division's Condition of Approval to provide an ongoing funding source for the NPDES financial program.

Effect if the Charge is Not Approved

Not approving the NPDES Maximum Common Interest, Commercial, Industrial, and Quasi-Public Use Regulatory Rate to meet state and federally mandated NPDES Permit requirements **will not**

satisfy the Land Development Division's Condition of Approval to provide a funding source for the NPDES financial program. If the returned ballot is marked "No", the NPDES rate will not be levied on the property tax bill.

Effect if the Ballot is Deemed Invalid or Incomplete

Not marking the corresponding box on the ballot in support of or opposition to the proposed program and annual rate and/or not signing the ballot will result in an invalid ballot. In order to satisfy the Land Development Division's Condition of Approval by placement of the NPDES rate on the annual property tax bill, the mail ballot proceeding and 45-day noticing period will need to start over. Reinitiating the process will require payment of the mail ballot proceeding fee.

For More Information

If you have any questions about the mail ballot proceeding process, please contact Isa Rojas, Management Analyst, with the City's Special Districts Division at 951.413.3470 or via email at IsaRo@moval.org or SDAdmin@moval.org during the City's business hours.

Questions regarding the NPDES financial program, the annual rate, or the Land Development Division's Conditions of Approval should be directed to the Land Development Division at 951.413.3120 or via email at landdevelopment@moval.org during the City's business hours.

The City's business hours are Monday through Thursday from 7:30 a.m. to 5:30 p.m. and Friday from 7:30 a.m. to 4:30 p.m.

Completing Your Ballot

Please follow the instructions below to complete and return your ballot. Procedures for the completion, return, and tabulation of the ballot are also on file in the City Clerk's office.

1. Mark the enclosed ballot in support of or opposition to the proposed program and annual rate **by placing a mark in the corresponding box.** Ballots received without a designated vote will be considered invalid.
2. Sign your name on the ballot. Ballots received without signature(s) will be considered invalid *and will not be counted.*
3. Mail or personally deliver your completed ballot in a sealed envelope to the City Clerk's office, 14177 Frederick Street, Moreno Valley, California, 92553. For your convenience, a postage-paid envelope has been included for return of the ballot.
4. Ballot(s) must be **received** by the City Clerk prior to the close of the public testimony portion of the Public Hearing scheduled for **February 2, 2021,** at the Moreno Valley City Hall Council Chamber. The Public Hearing will be held at 6:00 p.m. or as soon thereafter as the matter may be called. Ballots received after the close of the Public Hearing cannot be legally counted.

Ballot Marks

Appropriate ballot markings include any one of the following for either the YES/Approved or NO/Not Approved blank box:

✔	A check mark substantially inside a box;


An X mark substantially inside a box;


A dot or oval mark substantially inside a box;


A completely shaded or filled mark substantially inside a box;


A line, single or dashed, or combination of lines, through the box area. Lines may be any one of the following marks: horizontal, vertical, or diagonal. The mark may either run from side to side or corner to corner. All valid lines must be substantially within the box area and not marking any part of another blank box on the ballot;


A circle around the box and/or associated clause; or


A square or rectangle around the box and/or associated clause.

Balloting marks shall not extend past one box area into any portion of another nor surround the perimeter or any portion of more than one box area. Markings that extend past one box area into any portion of another or surround the perimeter or any portion of more than one box area shall be considered invalid and not counted.

Ballot Mark Revisions (Changes): An error or desire to revise (change) a selection made on the ballot may be completed and returned any time **prior** to the conclusion of public testimony at the Public Hearing. **The revision must be initialed by the record owner(s) of property. Initials must be clearly printed and placed at the right top corner of the revised selection.**

OFFICIAL MAIL BALLOT
for Assessor's Parcel Number (APN) 297-220-006, 297-220-007 and 297-220-008
National Pollutant Discharge Elimination System (NPDES)
Common Interest, Commercial, Industrial, and Quasi-Public Use Regulatory Rate

YES* — as property owner of the APN(s) listed above, **I approve** the NPDES Maximum Common Interest, Commercial, Industrial, and Quasi-Public Use Regulatory Rate and services. For fiscal year (FY) 2020/21, the NPDES Maximum Common Interest, Commercial, Industrial, and Quasi-Public Use Regulatory Rate is $260.84 per parcel, a combined total of $782.52 for the APNs. This calculation is based on the current parcel configuration; the actual annual amount levied will be determined at the time the levy is calculated. Upon approval of the maximum regulatory rate, the annual levy amount shall be placed on the annual Riverside County property tax bill or included as a monthly charge on a utility bill. Beginning FY 2021/22, the maximum regulatory rate will be subject to an annual adjustment based on the percentage change calculated for the previous year in the Los Angeles-Long Beach-Anaheim Consumer Price Index for All Urban Consumers, as published by the Department of Labor's Bureau of Labor Statistics. The City shall provide annual and periodic facility inspections for site design, NPDES permit compliance, and Best Management Practices implementation and maintenance for specified facilities.

NO** — as property owner of the APNs listed above, **I do not approve** the NPDES Maximum Common Interest, Commercial, Industrial, and Quasi-Public Use Regulatory Rate and services. I understand that not approving the NPDES Maximum Common Interest, Commercial, Industrial, and Quasi-Public Use Regulatory Rate to fund state and federally mandated NPDES Permit requirements will not satisfy the project's Conditions of Approval. The NPDES Maximum Common Interest, Commercial, Industrial, and Quasi-Public Use Regulatory Rate will not be levied on the annual Riverside County property tax bill.

YES*	NO**	Weighted Ballot Count*	Fiscal Year 2020/21 NPDES Maximum Common Interest, Commercial, Industrial, and Quasi-Public Use Regulatory Rate per Parcel
☐	☐	3	$260.84
Each Assessor's Parcel Number equals 1 Weighted Ballot.			

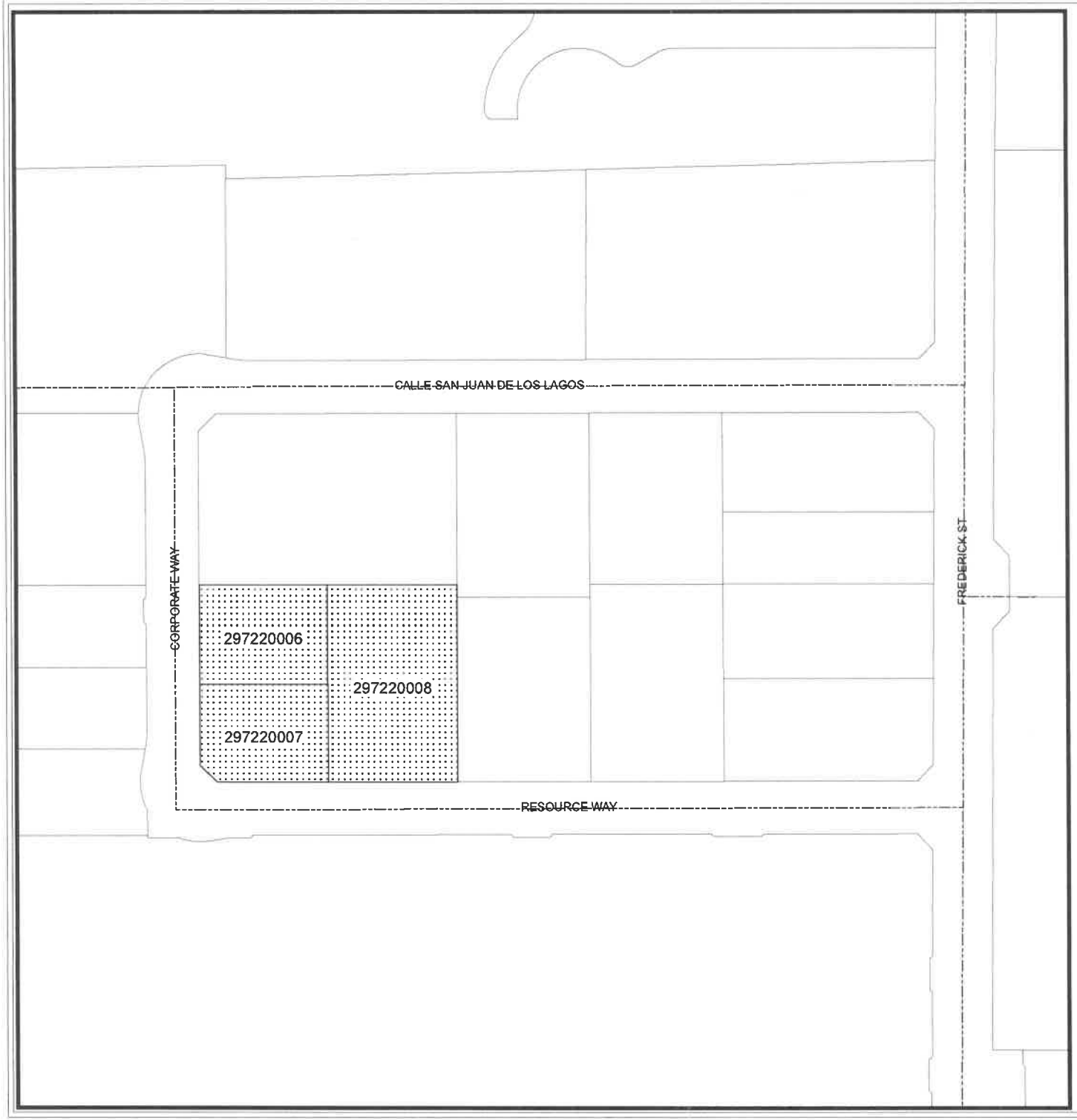
I HEREBY DECLARE UNDER PENALTY OF PERJURY THAT I AM THE RECORD OWNER OF THE PARCEL(S) IDENTIFIED ON THIS BALLOT OR AM AUTHORIZED TO SUBMIT A BALLOT ON BEHALF OF THE RECORD OWNER.

_____
SIGNATURE OF PROPERTY OWNER

_____
PRINTED NAME DATE

Please remember to mark the appropriate box, sign and date the ballot, and return to the City Clerk's office in the enclosed envelope. This ballot must be received by the City Clerk of the City of Moreno Valley prior to the close of the public testimony portion of the Public Hearing. The Public Hearing will be held at 6:00 p.m., or as soon thereafter as the matter may be called, on February 2, 2021, at the Moreno Valley City Hall Council Chamber, 14177 Frederick Street, Moreno Valley, California.

Ballot(s) deemed invalid or incomplete will be discarded and a new process must be initiated in order to place the charge on the annual Riverside County property tax bill, which includes payment of the mail ballot fee. For administrative convenience, all parcels for your project have been combined on one ballot. If you prefer to have a separate ballot for each APN please call 951.413.3470 to request separate ballots.



Ulman Harry & Gisela Living Trust Dated 11/22/8; Resource Corporate Cente PEN19-0201

APN

297220006

297220007

297220008

Parcels

City Boundary

Roads

Map reflects all changes indicated on Riverside County Assessor Maps as of December 6, 2020.

N

0 100 200 Feet

G:\Divisions\SpecialDist\2018\MXD\PEN19-0201.m

The information shown on this map was compiled from the Riverside County GIS and the City of Moreno Valley GIS. The land base and facility information on this map is for display purposes only and should not be relied upon without independent verification as to its accuracy. Data and information on this map is subject to update and modification. Riverside County and City of Moreno Valley will not be held responsible for any claims, losses or damages resulting from the use of this map. This map is not to be recopied or resold

MORENO VALLEY
WHERE DREAMS SOAR

FY 2020/21
NPDES RATE SCHEDULE
COMMON INTEREST, COMMERCIAL, INDUSTRIAL AND QUASI-PUBLIC USE

LEVEL 1		LEVEL II	
NPDES Administration (Not covered by CSA 152)		**Site Design, Source Control and Treatment Control BMPs Monitoring and Maintenance**	
Costs associated with personnel, administration and management of the storm water management program. Administrative tasks include development and filing of various stormwater reports and data collection and management. Level I is levied on all parcels conditioned for the NPDES Rate Schedule.		Costs associated with stormwater and non-stormwater runoff monitoring, inspection of the project's site design, source control and treatment control BMPs; evaluation of site stormwater compliance activities, review of site-specific technical reports and treatment control BMP maintenance records.	
FY 2020/21	**Annual Rate**	**FY 2020/21**	**Annual Rate**
Parcel Rate	**$45.60**	**Parcel Rate**	**$215.24**
*Service Levels will be imposed on an as-needed basis and cumulative (if required)			

Adopted by the City Council on January 10, 2006
Fiscal Year (FY) 2005/2006 - Base Year Calculation, subject to an annual inflation factor based on the Los Angeles-Riverside-Orange County Regional Consumer Price Index for All Urban Consumers, as published by the Department of Labor's Bureau of Labor Statistics

Inflation Factor Adjustments

FY 2006/07 - 4.5% = ($33.00 & $158.00)
FY 2007/08 - 3.1% = ($34.00 & $163.00)
FY 2008/09 - 4.2% = ($35.00 & $170.00)
FY 2009/10 - no change = ($35.00 & $170.00)
FY 2010/11 - no change = ($35.00 & $170.00)
FY 2011/12 - 3.8% = ($36.00 & $176.00)
FY 2012/13 - 2.7% = ($37.00 & $181.00)
FY 2013/14 - 2.0% = ($38.00 & $185.00) rounded to the nearest dollar
FY 2014/15 - 1.14% = ($39.52 & $186.49)(approved 6/10/14)
FY 2015/16 - 0.73% = ($39.81 & $187.85)
FY 2016/17 - 2.03% = ($40.62 & $191.66)
FY 2017/18 - 1.97% = ($41.42 & $195.44)
FY 2018/19 - 3.61% = ($42.90 & $202.48)(approved 6/19/18)
FY 2019/20 - 3.24% = ($44.30 & $209.04)(approved 5/21/19)
FY 2020/21 - 2.97% = ($45.60 & $215.24)(approved 5/19/20)

Report to City Council

TO: Mayor and City Council

FROM: Manuel A. Mancha, Community Development Director

AGENDA DATE: February 2, 2021

TITLE: PROPOSED GENERAL PLAN AMENDMENT, CHANGE OF ZONE, TENTATIVE TRACT MAP 37909, AND CONDITIONAL USE PERMIT FOR A 81-UNIT SINGLE FAMILY RESIDENTIAL PROJECT, IRIS PARK LOCATED ON IRIS AVENUE EAST OF PERRIS BOULEVARD (PROJECT 1) AND GENERAL PLAN AMENDMENT, SPECIFIC PLAN 205 AMENDMENT, AND PLOT PLAN FOR A 220,390 SQUARE FOOT LIGHT INDUSTRIAL BUILDING, THE DISTRICT LOCATED ON THE SOUTHEAST CORNER OF HEACOCK STREET AND IRONWOOD AVENUE (PROJECT 2).

RECOMMENDED ACTION

Recommendations:

1. **ADOPT** Resolution 2021-XX: A Resolution of the City Council of the City of Moreno Valley **CERTIFYING** that the Initial Study/Mitigated Negative Declaration prepared for General Plan Amendment PEN20-0066, Change of Zone PEN20-0067, Tentative Tract Map 37909 PEN20-0063 and Conditional Use Permit PEN20-0065 on file with the Community Development Department, incorporated herein by this reference, was completed in compliance with the California Environmental Quality Act Guidelines, and that the City Council reviewed and considered the information contained in the Initial Study/ Mitigated Negative Declaration and that the document reflects the City's independent judgment and analysis, and **ADOPTING** the Mitigation Monitoring and Reporting Program prepared for the above-referenced Mitigated Negative Declaration (Project #1, Iris Park); and

2. **ADOPT** Resolution 2021-XX: A Resolution of the City Council of the City of Moreno Valley **CERTIFYING** that the Initial Study/Mitigated Negative Declaration, prepared for General Plan Amendment PEN20-0139, Specific Plan 205

Amendment PEN20-0138, and Plot Plan PEN20-0137, on file with the Community Development Department, incorporated herein by this reference, was completed in compliance with the California Environmental Quality Act Guidelines, and that the City Council reviewed and considered the information contained in the Initial Study/ Mitigated Negative Declaration, and that the document reflects the City's independent judgment and analysis, and **ADOPTING** the Mitigation Monitoring and Reporting Program prepared for the above-referenced Mitigated Negative Declaration (Project #2, The District); and

3. **ADOPT** Resolution 2021-XX: A Resolution of the City Council of the City of Moreno Valley approving a General Plan Amendment based on the Recitals, Evidence contained in the Administrative Record and Findings as set for the in Resolution No. 2021-XX to amend the General Plan Land Use map as described in the Resolution, based on the findings contained in the Resolution, and the revised Land Use Maps for PEN20-0066 (Project #1, Iris Park) and PEN20-0139 (Project #2, The District); and

Project #1, Iris Park

4. **INTRODUCE** and conduct the first reading by title only of Ordinance No. XXX, approving a Change of Zone PEN20-0067 to amend the City Zoning Atlas based on the Recitals, Evidence contained in the Administrative Records and Findings as set forth in Resolution No. 2021-XX; and

5. **ADOPT** Resolution No. 2021-XX, A Resolution of the City Council of the City of Moreno Valley approving Tentative Tract Map 37909, PEN20-0063 based on the findings contained in this resolution, and subject to the conditions of approval included as Exhibit A; and

6. **ADOPT** Resolution No. 2021-XX, A Resolution of the City Council of the City of Moreno Valley approving Conditional Use Permit PEN20-0065 based on the findings contained in this resolution, and subject to the conditions of approval included as Exhibit A; and

Project #2, The District

7. **INTRODUCE** and conduct the first reading by title only of Ordinance No. XXX, approving a Specific Plan 205 Amendment PEN20-0138 to amend the Specific Plan 205 based on the Recitals, Evidence contained in the Administrative Records and Findings as set forth in Resolution No. 2021-XX; and

8. **ADOPT** Resolution No. 2021-XX, A Resolution of the City Council of the City of Moreno Valley approving Plot Plan PEN20-0137 based on the findings contained in this resolution, and subject to the conditions of approval included as Exhibit A; and

9. **SCHEDULE** the second reading and adoption of Ordinance Nos. XXX and XXX for the next regular City Council meeting.

SUMMARY

This report recommends approval of development applications for two projects: Project 1, Iris Park, an 81-unit single family development project located on Iris Avenue east of Perris Boulevard, and Project 2, The District Moreno Valley, a 220,390 square foot light industrial building development project located on the southeast corner of Heacock Street and Ironwood Avenue.

The recommended actions for Project 1 include approval of a General Plan Amendment, Change of Zone, Tentative Tract Map 37909, and Conditional Use Permit for a residential Planned Unit Development; Project 2 include approval of a General Plan Amendment, Specific Plan 205 Amendment, and Plot Plan for industrial development.

As provided for in the State Government Code, a mandatory element of the General Plan may be amended no more than four times during one calendar year. However, each amendment may include more than one change to a General Plan element. The recommended action is for the City Council to approve one General Plan Amendment to the Land Use Element covering the land use designation changes for Project 1 and 2. This unified change will be the first amendment to the Land Use Element of the General Plan for the 2021 calendar year.

DISCUSSION

PROJECT 1, IRIS PARK, PEN20-0063 -PEN20-0066

Advisory Board/Commission Recommendation

At its December meeting, the Planning Commission held a public hearing and voted to recommend that the City Council certify the Mitigated Negative Declaration, adopt a Mitigation Monitoring Reporting Program, and approve the General Plan Amendment, Change of Zone, Tentative Tract Map 37909, and Conditional Use Permit for a Planned Unit Development.

Project

The Applicant, Passco Pacifica LLC, is requesting approval of the following: a General Plan Amendment (PEN20-0066), to change the General Plan land use designation of the Project site from Residential 5 (R5) to Residential 10 (R10), 2) a Change of Zone (PEN20-0067) to change the City Zoning Atlas pertaining to the Iris Park Community from Residential 5 (R5) District to Residential Single-Family 10 (RS10) District, 3) a Tentative Tract Map (TTM 37909) to subdivide the 10.82-acre Project site into eighty-one (81) single family lots, and 4) a Conditional Use Permit for a Planned Unit Development with associated amenities and public improvements.

General Plan Amendment

The City of Moreno Valley General Plan land use designates the Project site as Residential 5 (R5) and the proposal would change this to Residential 10 (R10).

The primary purpose of Residential 10 (R10) is to provide for a variety of residential products and to encourage innovation in housing types with enhanced amenities such as common open space and recreation areas. Within the General Plan designation these areas are intended for attached residential dwelling units with a maximum density of ten (10) dwelling units per acre.

Change of Zone

The Project site is currently zoned Residential 5 (R5) District. The primary purpose of the Residential 5 (R5) District is to provide residential development on suburban lots with an allowable density of five units per acres.

The applicant is proposing a Change of Zone to Residential Single-Family 10 (RS10) District. The primary purpose of the Residential Single-Family 10 (RS10) District is to provide for residential development on small single-family lots with amenities not generally found in suburban subdivisions. The district is intended for subdivisions.

Conditional Use Permit

The Project includes a Conditional Use Permit for a Planned Unit Development (PUD). The purpose of the PUD is to provide specific development guidelines for the Project. A PUD provides for greater innovation in housing development such as a variation in lot sizes and amenities not found in standard housing tracts.

The proposed PUD provides guidelines for multiple architectural styles of housing that meet or exceed City-wide standards in the Municipal Code. All development within the tract is required to meet the standards as stated in the PUD including plotting, setbacks, open space areas and architecture. The PUD includes a Community Park with a pavilion gathering area, picnic tables and barbeques for the residents. A smaller park offers benches and exercise equipment.

With the approval of the General Plan Amendment, the Change of Zone and the Tentative Tract Map, the Project would meet the objectives of the Conditional Use Permit for a Planned Unit Development.

Site Surrounding

The approximately 10.82 acre site is located on the south side of Iris Avenue east of Perris Boulevard. The parcel is triangular in shape with the larger portion fronting Iris Avenue and narrowing to the south. All properties to the north and east are zoned Residential 5 (R5) District with existing single family residential units. Directly south is an existing elementary school with small lot subdivisions further south.

The westerly portion of the site on the diagonal is the 100-foot State of California Aqueduct easement which is the future location of the City's Juan Bautista de Anza Aqueduct Bike Trail. The easement is included in the tract map and no development

can occur within this area. In partnering with the City, the developer will provide landscaping for the trail site and the City will construct the proposed meandering trail along the mid to westerly portion of the easement. The Project will provide access to the open trail for residents. The trail will be open to the public and in the future connect to the trail existing south of the Project.

Access/Parking

The Project will be accessed by a main driveway along Iris Avenue at the easterly portion of the Project frontage. This driveway has been designed to accommodate gated access with a call box and adequate turnaround if unable to access the site, and decorative paving. A second westerly driveway provides for exit only and provide fire access when needed.

All units include a two-car garage with no on-street parking allowed. The Project includes guest parking with 55 spaces which is 14 spaces more than required.

Design/Landscaping

Consistent with the PUD guidelines three building footprints are proposed with four different building styles, which include Spanish, Farmhouse, and French. Each of the four different building styles will have three color combinations to provide interest among the housing types. Each lot will have a front facing garage with a minimum back yard setback of twelve feet from back of house to the property line. The minimum separation between structures is six feet, with a minimum of three feet to any property line.

All front yards will be landscaped per the City's Landscape Requirements and the Planned Unit Development Guidelines. All community landscaping will be designed per the PUD and maintained by the required Homeowners Association (HOA).

Environmental

An Initial Study was prepared by EPD Solutions, Inc. in compliance with the California Environmental Quality Act (CEQA) and the CEQA Guidelines. The Initial Study/Mitigated Negative Declaration (IS/MND) provides information in support of the finding that a Mitigated Negative Declaration serves as the appropriate CEQA documentation for the proposed Project, in that the proposed Project, with the implementation of the proposed mitigation measures, will not have a significant effect on the environment. Technical studies prepared in support of the IS/MND include the following: Air Quality – GHG, Cultural Resources Assessment, Hydrology Report, Noise Analysis, Paleontological Resources, Phase I Environmental Assessment and a Traffic Generation Analysis. Copies of all of the appendices to the IS/MND are attached to this staff report.

PROJECT 2, THE DISTRICT MORENO VALLEY PEN20-0137 – PEN20-0139

DISCUSSION

Advisory Board/Commission Recommendation

At its January meeting, the Planning Commission held a public hearing and voted to recommend that the City Council certify the Mitigated Negative Declaration, adopt a Mitigation Monitoring Reporting Program, and approve the General Plan Amendment, Specific Plan Amendment, and a Plot Plan for an approximately 220,239 square foot light industrial building.

Project

The applicant, LCG 10MV, LLC, is requesting approval of the following: a General Plan Amendment (PEN20-0139) to amend the General Plan land use designation from Commercial (C) to Business Park (BP); a Specific Plan Amendment (PEN20-0138) to amend the Specific Plan 205 land use designation from Retail Commercial (R/C) to Mixed Uses (MU); and a Plot Plan for an approximately 220,390 light industrial building, for property located at the southeast corner of Ironwood Avenue and Heacock Street.

General Plan Amendment

The City of Moreno Valley General Plan land use map designates the Project site as Commercial (C) and the proposal would change this to a Business Park (BP) land use designation.

The primary purpose of areas designated Commercial (C) is to provide property for business purposes, including, but not limited to, retail stores, restaurants, banks, hotels, professional offices, personal services and repair services. The Primary purpose of the Business Park (BP) is to provide for manufacturing, research and development, warehousing and distribution, as well as office and support commercial activities.

The proposed General Plan Amendment would be consistent with the adjacent parcels to the south and east, and would result in a total increase of approximately 9.96-acres of Business Park (BP) designated land and a corresponding reduction of approximately 9.96-acres of Commercial (C) designated land.

Specific Plan Amendment

The project site is located within Specific Plan 205 and currently has a land use designation of Commercial/Retail (C/R). The applicant is proposing a Specific Plan Amendment to change the Specific Plan land use designation of the project site to Mixed Uses (MU) consistent with the adjacent parcels to the south and east. The Mixed-Uses (MU) designation allow for a wider range of uses than the Commercial Retail (C/R) designation and would include a variety of business park, office, retail and other commercial uses as well as light industrial uses.

Zoning Atlas Amendment

Both the General Plan Amendment and Specific Plan Amendment will require the necessary and corresponding amendment to the City's Zoning Atlas to reflect the

proposed changes in the zoning classification and/or redistricting associated with each Amendment.

Plot Plan

The Applicant is proposing the construction of a light industrial building of approximately 220,390 square feet in size with associated parking and landscape improvements.

Site Surrounding

The approximately 9.96-acre site is located on the southeast corner of Heacock Street and Ironwood Avenue.

The surrounding area includes existing single family homes and an electrical substation to the north across Ironwood Avenue on property zoned Residential 5 (R5) District; light industrial buildings currently under construction on properties located within Specific Plan 205 to the south and east; and a mix of existing single family homes, offices, and commercial businesses to the west within the Neighborhood Commercial (NC) District and the Office Commercial (OC) District.

Access/Parking

Access to the Project site will be from two driveways on Heacock Street, one for trucks and one for automobiles, with an additional access driveway on Ironwood Avenue for both automobiles and trucks.

Parking for both automobiles and trucks meet the Municipal Code requirements. Ninety-eight (98) automobile stalls are provided that include the required ADA, E.V., and vehicle charging stations. Thirty-six (36) truck parking stalls are provided in the truck court.

Design/Landscaping

The proposed project light industrial type building has been designed to incorporate a contemporary architectural design that includes a combination of materials including concrete, metal, and glass. The building will be painted white with grey and blue accents.

The building has been designed to incorporate an architectural focal point near the intersection of Heacock Street and Ironwood Avenue through the use of vision and spandrel glass, metal canopies, and enhanced landscaping. These materials are further utilized along both street frontages to enhance the project aesthetics and to upgrade the use of tilt-up concrete panels traditionally associated with light industrial buildings.

The layout of the building on the site places the loading docks and truck parking to the southeast corner of the site adjacent to the other light industrial buildings that are currently under construction within the Specific Plan.

The Project has been designed to meet and exceed the required design and landscape standards and objectives set forth in the Municipal Code. The landscape elements of the Project include the landscape setback areas along Heacock Street and Ironwood Avenue with enhanced landscaping along the frontage of both streets and adjacent to the building that will include street trees, on-site trees and plants.

Environmental

An Initial Study was prepared by Blodgett Baylosis Environmental Planning in compliance with the California Environmental Quality Act (CEQA) Guidelines. The Initial Study examined the potential of the proposed Project impacts on the environment. The Initial Study/Mitigation Negative Declaration (IS/MND) provides information in support of the finding that a Mitigated Negative Declaration serves as the appropriate CEQA documentation for the proposed Project in that the proposed Project, with the implementation of the proposed mitigation measures, will not have a significant effect on the environment. Technical studies prepared in support of the IS/MND include the following: Air Quality Worksheets, Utility Worksheets, Biological Assessment, Basin Constraints Analysis, Jurisdictional Wetlands and Waters Assessment, and Traffic Impact Analysis. The electronic files for the IS/MND with appendices are attached to this staff report.

ALTERNATIVES

1. Conduct a public hearing on Project 1 and Project 2, and take actions to certify the Initial Study/Mitigated Negative Declarations and Mitigation Monitoring and Reporting Program for Projects 1 and 2, and approve the General Plan Amendment, Change of Zone, Tentative Tract Map 37909, and Conditional Use Permit for Project 1 and the General Plan Amendment, Specific Plan Amendment, and Plot Plan for Project 2 applications, consistent with the Staff recommendations to the Planning Commission. Staff recommends this alternative.

2. Conduct a public hearing on Project 1 and Project 2, and approve all Project 1 applications including the General Plan Amendment for Project 1 only but do not approve the applications for Project 2. This would result in the approval of the Iris Park Project only. Staff does not recommend this alternative.

3. Conduct a public hearing on Project 1 and Project 2, approve all Project 2 applications including the General Plan Amendment for Project 2 only but do not approve the applications for Project 1. This would result in the approval of The District Moreno Valley project only. Staff does not recommend this alternative.

4. Conduct public hearings on Project 1 and Project 2, and do not approve the applications for Project 1 or Project 2. Staff does not recommend this alternative.

FISCAL IMPACT

Not Applicable

NOTIFICATION

The public hearing notices for Project 1 and Project 2 were published in the local newspaper on January 22, 2021. Public notices were sent to all property owners of record within 600 feet of the project sites on January 21, 2021. The public hearing notice for the projects were posted on the respective project sites on January 22, 2021. As of the preparation of this report, staff has received no public inquiries in response to the noticing efforts. Should comments regarding this noticing be received prior to the City Council hearing, they will be provided at the Public Hearing.

PREPARATION OF STAFF REPORT

Prepared By:
Name: Julia Descoteaux
Title: Associate Planner

Department Head Approval:
Name: Manuel A. Mancha
Title: Community Development Director

Concurred By:
Name: Patty Nevins
Title: Planning Official

CITY COUNCIL GOALS

Positive Environment. Create a positive environment for the development of Moreno Valley's future.

Community Image, Neighborhood Pride and Cleanliness. Promote a sense of community pride and foster an excellent image about our City by developing and executing programs which will result in quality development, enhanced neighborhood preservation efforts, including home rehabilitation and neighborhood restoration.

CITY COUNCIL STRATEGIC PRIORITIES

1. **Economic Development**
2. **Public Safety**
3. **Library**
4. **Infrastructure**
5. **Beautification, Community Engagement, and Quality of Life**
6. **Youth Programs**

Objective 1.1: Proactively attract high-quality businesses.

Objective 1.3: Promote local hiring through the expansion of local, quality, high paying jobs, and workforce development efforts.

Objective 1.5: Showcase Moreno Valley’s unique assets.

Objective 2.5: Develop partnerships with local businesses and warehouse operators to reduce traffic related issues.

ATTACHMENTS

1. General Plan Amendment Resolution No. 2021-XX Project 1 and 2
2. Project 1_Resolution No. 2021-XX_Inital Study MND Iris Park
3. Project 1_Exhibit A to Resolution No. 2021-XX Initial Study MND Iris Park
4. Project 1_Exhibit B to Resolution No. 2021-XX Initial Study Notice Iris Park
5. Project 1_Exhibit C to Resolution No. 2021-XX Initial Study MMRP Iris Park
6. Project 1_Appendicies A through E to Initial Study Iris Park
7. Project 1_Appendix F to Initial Study Phase I Environmental Site Assessment Iris Park
8. Project 1_Appendicies G through H to Initial Study Iris Park
9. Project 1_Ordinance 2021-XX Change of Zone Iris Park
10. Project 1_Resolution No. 2021-XX Conditional Use Permit Iris Park
11. Project 1_Exhibit A to Resolution No. 2021-XX CUP Conditions of Approval Iris Park
12. Project 1_Resolution No. 2021-XX Tentative Tract Map 37909 Iris Park
13. Project 1_Exhibit A to Resolution No. 2021-XX Tentative Tract Map 37909 Iris Park
14. Project 1_Exhibit B to Resolution No. 2021-XX Tentative Tract Map 37909 Iris Park
15. Project 1_Project Plans Iris Park
16. Project 1_Tentative Tract Map 37909 Iris Park
17. Project 1_Aerial Map Iris Park
18. Project 1_600 foot Radius Map Iris Park
19. Project 2_Resolution No. 2021-XX_ Initial Study MND The District
20. Project 2_Exhibit A to Resolution No. 2021-XX Initial Study MND The District
21. Project 2_Appendicies A through E to Initial Study Resolution No. 2021-XX The District
22. Project 2_Appendix F Traffic Impact Analysis to Initial Study Resolution No. 2021-XX The District
23. Project 2_Exhibit B to Resolution No. 2021-XX Initial Study MND The District
24. Project 2_Exhibit C to Resolution No. 2021-XX Initial Study MND-MMRP The District
25. Project 2_Ordinance No 2021-XX The District
26. Project 2_Resolution No. 2021-XX Plot Plan The District
27. Project 2_Exhibit A to Resolution No. 2021-XX Conditions of Approval The District
28. Project 2_Project Plans The District
29. Project 2_Aerial Map The District
30. Project 2_Comments Received The District
31. Project 2_600 Foot Radius Map The District

APPROVALS

Budget Officer Approval	✓ Approved	1/27/21 7:43 AM
City Attorney Approval	✓ Approved	
City Manager Approval	✓ Approved	1/28/21 2:52 PM

RESOLUTION NUMBER 2021-XX

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF MORENO VALLEY, CALIFORNIA, APPROVING GENERAL PLAN AMENDMENT PEN20-0066 TO AMEND THE GENERAL PLAN LAND USE MAP, CHANGING THE LAND USE DESIGNATION FROM RESIDENTIAL 5 (R5) TO RESIDENTIAL 10 (R10) FOR THE PROPERTY LOCATED ON THE SOUTH SIDE OF IRIS AVENUE EAST OF PERRIS BOULEVARD (APN 312-020-025) AND GENERAL PLAN AMENDMENT PEN20-0139 TO AMEND THE GENERAL PLAN LAND USE MAP, CHANGING THE LAND USE DESIGNATION FROM COMMERCIAL TO BUSINESS PARK FOR THE PROPERTY LOCATED ON THE SOUTHEAST CORNER OF HEACOCK STREET AND IRONWOOD AVENUE (481-020-013, 029, 030, 034, 035, & 038) AND THE NECESSARY AND CORRESPONDING AMENDMENTS TO THE SPECIFIC PLAN 205 AND THE CITY'S ZONING ATLAS

WHEREAS, the City of Moreno Valley ("City") is a general law city and a municipal corporation of the State of California; and

WHEREAS, Passco Pacifica LLC., ("Developer") has filed an application for the approval of General Plan Amendment PEN20-0066 ("Application") to amend the Moreno Valley General Plan from Residential 5 (R5) to Residential 10 (R10) for the property located on the south side of Iris Avenue east of Perris Boulevard (APN 312-020-025) ("Site"); and

WHEREAS, LCG 10MV LLC., ("Developer") has filed an application for the approval of General Plan Amendment PEN20-0139 ("Application") to amend the Moreno Valley General Plan from Commercial to Business Park for the property located on the southeast corner of Heacock Street and Ironwood Avenue (APN 481-020-013, 029, 030, 034, 035, & 038) ("Site"), which shall also require any necessary and corresponding amendment to the City's Zoning Atlas to reflect the proposed changes in the zoning classification and/or redistricting associated with the General Plan Amendment; and

WHEREAS, pursuant to the provisions of Section 9.02.200 (Public Hearing and Notification Procedures) of the Moreno Valley Municipal Code and Government Code section 65905, a public hearing was scheduled for February 2, 2021, and notice thereof was duly published and posted, and mailed to all property owners of record within 600 feet of the Sites; and

WHEREAS, on December 10, 2020 a hearing was conducted by the Planning Commission to consider General Plan Amendment PEN20-0066, whereby the Planning Commission approved Planning Commission Resolution 2020-50, a recommendation that the City Council approve the General Plan Amendment; and

WHEREAS, on December 10, 2020, in accordance with the provisions of the California Environmental Quality Act (CEQA[1]) and CEQA Guidelines,[2] the Planning Commission considered and approved Planning Commission Resolution 2020-49 recommending that the City Council adopt a Mitigated Negative Declaration and Mitigation Monitoring Plan for the Iris Park Project; and

WHEREAS, on January 14, 2021, a hearing was conducted by the Planning Commission to consider General Plan Amendment PEN20-0139 whereby the Planning Commission approved Planning Commission Resolution 2021-02, a recommendation that the City Council approve the General Plan Amendment; and

WHEREAS, on January 14, 2021, in accordance with the provisions of the California Environmental Quality Act (CEQA[3]) and CEQA Guidelines,[4] the Planning Commission considered and approved Planning Commission Resolution 2021-01 recommending that the City Council adopt a Mitigated Negative Declaration and Mitigation Monitoring Plan for The District Moreno Valley project.

NOW, THEREFORE, THE CITY COUNCIL OF THE CITY OF MORENO VALLEY, CALIFORNIA, DOES HEREBY RESOLVE AS FOLLOWS:

Section 1. Recitals and Exhibits

That the foregoing Recitals and attached exhibits are true and correct and are hereby incorporated by this reference.

Section 2. Notice

That pursuant to Government Code section 66020(d)(1), notice is hereby given that the proposed Project is subject to certain fees, dedications, reservations and other exactions as provided herein.

Section 3. Evidence

That the City Council has considered all of the evidence submitted into the administrative record for the General Plan Amendment, including, but not limited to, the following:

(a) Moreno Valley General Plan and all relevant provisions contained therein;
(b) Title 9 (Planning and Zoning) of the Moreno Valley Municipal Code and all relevant provisions referenced therein;
(c) The Moreno Valley General Plan amendment changing the land use designations:

Project 1 - Residential 5(R5) to Residential 10(R10)

[1] Public Resources Code §§ 21000-21177
[2] 14 California Code of Regulations §§15000-15387
[3] Public Resources Code §§ 21000-21177
[4] 14 California Code of Regulations §§15000-15387

Project 2 - Commercial to Business Park and all relevant provisions contained therein as shown on Exhibit A and Exhibit B respectively;

(d) Application for the approval of a General Plan Amendment PEN20-0066 and PEN20-0139 and all documents, records and references contained therein;

(e) Staff Report prepared for the City Council's consideration and all documents, records and references related thereto, and Staff's presentation at the public hearing;

(f) Testimony and/or comments from Applicant and its representatives during the public hearing; and

(g) Testimony, comments and correspondence from all persons that were provided in written format or correspondence, at, or prior to, the public hearing.

Section 4. **Findings**

That based on the foregoing Recitals and the Evidence contained in the Administrative Record as set forth above, the City Council makes the following findings:

(a) The proposed General Plan amendments are consistent with the existing goals, objectives, policies and programs of the General Plan; and

(b) The proposed General Plan amendments will not adversely affect the public health, safety or general welfare.

Section 5. **Approval**

That based on the foregoing Recitals, Evidence contained in the Administrative Record and Findings, as set forth herein, the City Council hereby approves General Plan Amendment PEN20-0066 and PEN20-0139 as depicted in the exhibits attached hereto as Exhibit A and Exhibit B, and any necessary and corresponding amendment to the Specific Plan 205 and the City's Zoning Atlas to reflect the proposed changes in the zoning classification and/or redistricting associated with the General Plan Amendment.

Section 6. **Repeal of Conflicting Provisions**

That all the provisions as heretofore adopted by the City Council that are in conflict with the provisions of this Resolution are hereby repealed.

Section 7. **Severability**

That the City Council declares that, should any provision, section, paragraph, sentence or word of this Resolution be rendered or declared invalid by any final court action in a court of competent jurisdiction or by reason of any preemptive legislation, the remaining provisions, sections, paragraphs, sentences or words of this Resolution as hereby adopted shall remain in full force and effect.

Section 8. **Effective Date**

That this Resolution shall take effect immediately upon the date of adoption.

Section 9. **Certification**

That the City Clerk for the City Council shall certify to the passage of this Resolution.

PASSED AND ADOPTED THIS _____ day of _____, 2021.

CITY OF MORENO VALLEY
CITY COUNCIL

_____
Dr. Yxstian A. Gutierrez
Mayor of the City of Moreno Valley

ATTEST:

_____
Pat Jacquez-Nares, City Clerk

APPROVED AS TO FORM:

_____
Steven B. Quintanilla, Interim City Attorney

Exhibits:
Exhibit A PEN20-0066 General Plan Land Use Designation
Exhibit B PEN20-0139 General Plan Land Use Designation

Exhibit A

General Plan Amendment Land Use Designation Map

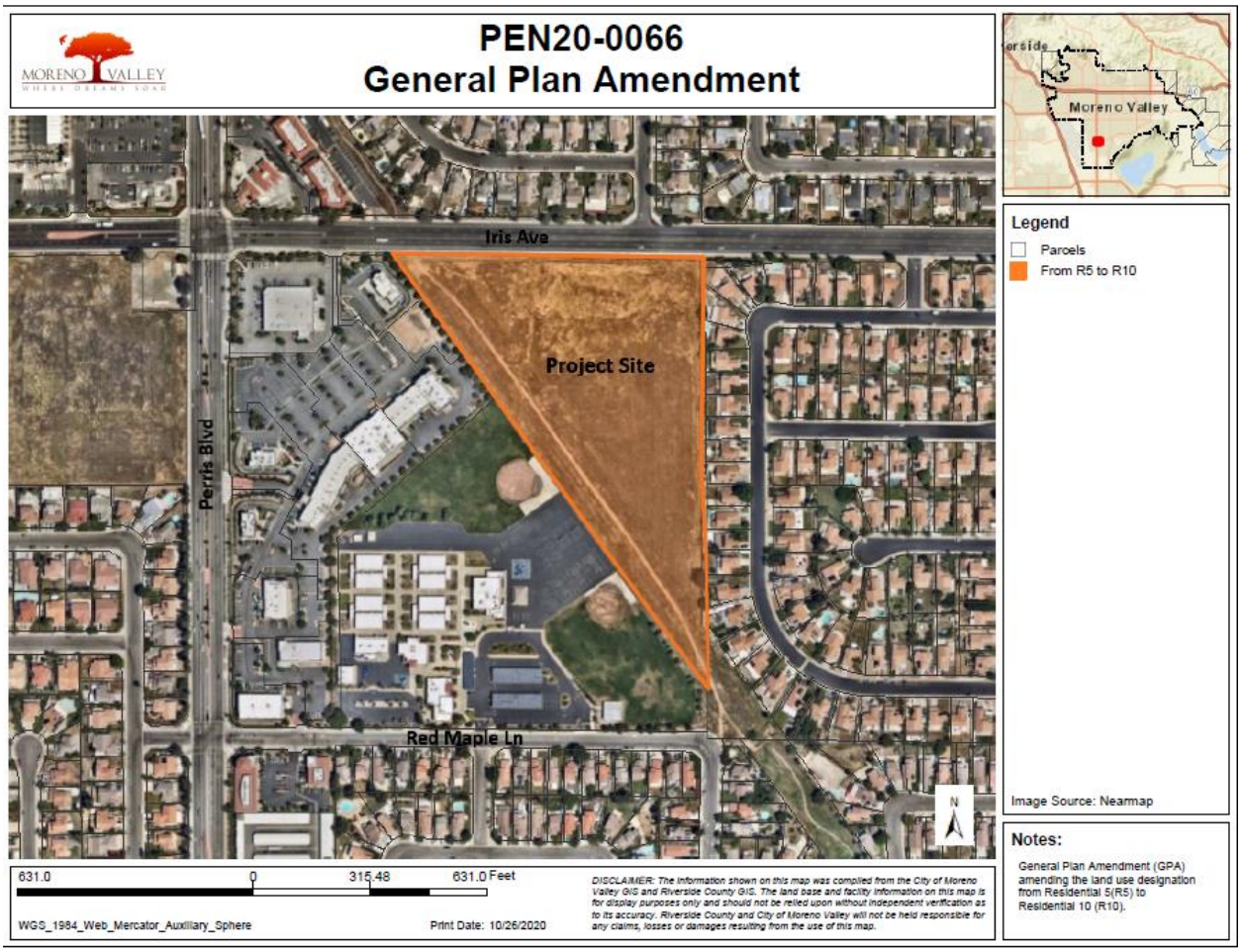
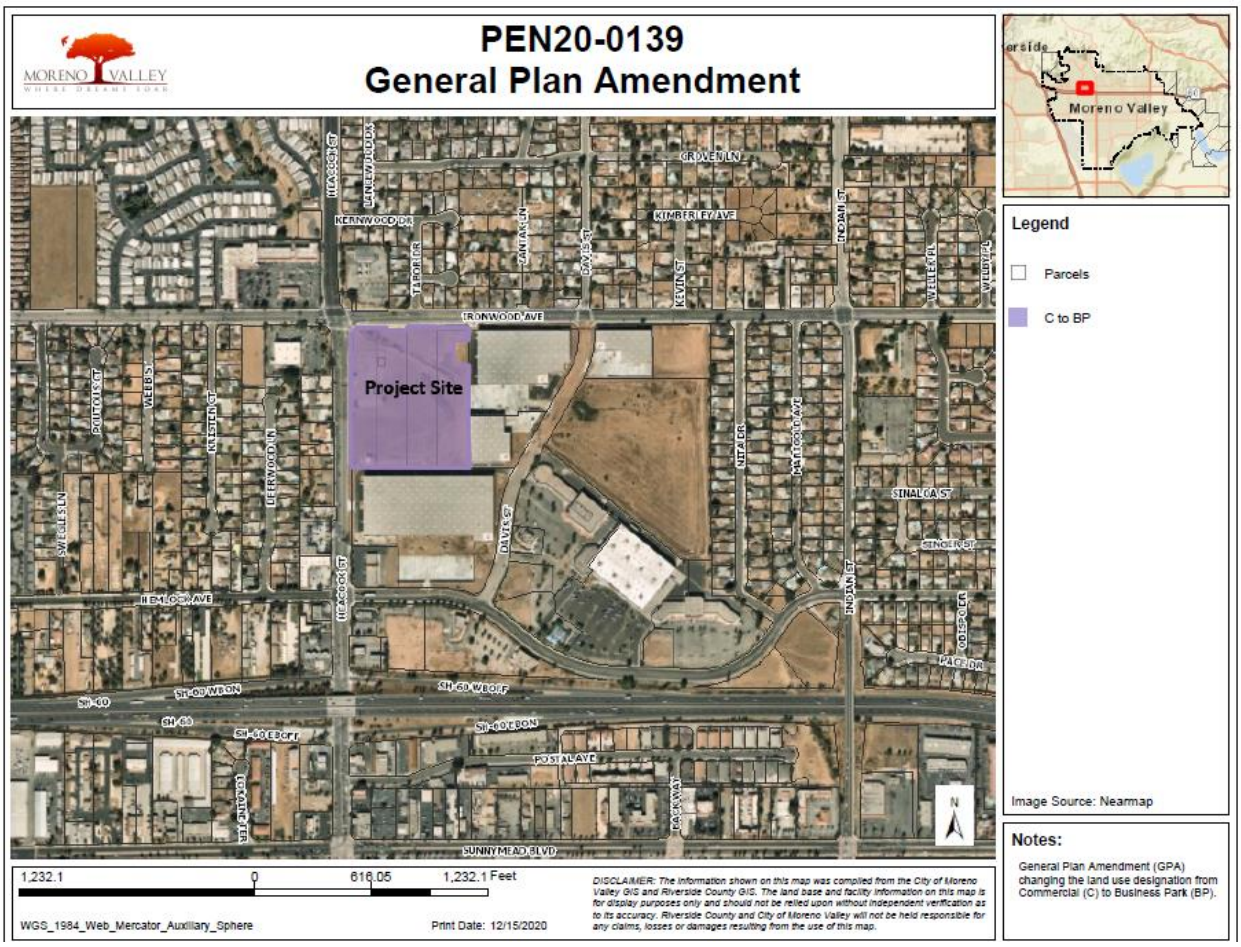


Exhibit B

General Plan Amendment Land Use Designation Map



RESOLUTION NUMBER 2021-XX

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF MORENO VALLEY, CALIFORNIA, ADOPTING A MITIGATED NEGATIVE DECLARATION AND MITIGATION MONITORING PLAN FOR THE IRIS PARK COMMUNITY PROJECT LOCATED ON THE SOUTH SIDE OF IRIS AVENUE EAST OF PERRIS BOULEVARD (APN 312-020-025)

WHEREAS, the City of Moreno Valley ("City") is a general law city and a municipal corporation of the State of California, and the lead agency for the preparation and consideration of environmental documents for local projects that are subject to requirements of the California Environmental Quality Act (CEQA[1]) and CEQA Guidelines[2]; and

WHEREAS, Passco Pacifica LLC., ("Developer") is seeking approval for the development of the Iris Park Community, an eighty-one- (81) lot, single-family residential development on a 10.82-acre site that includes: 1) a General Plan Amendment (PEN20-0066) (GPA) amending Figure 2-2 "Land Use Map" of the Moreno Valley General Plan to change the land use designation of the Project site from Residential 5 (R5) to Residential 10 (R10); 2) a Change of Zone (PEN20-0067) amending the City of Moreno Valley Zoning Atlas to rezone the project site from Residential 5 (R5) District to Residential Single-Family 10 (RS10) District; 3) a Tentative Tract Map (TTM 37909) (PEN20-0063) to subdivide the subject property into eighty-one (81) single family lots; and 4) a Conditional Use Permit (PEN20-0065) for a Planned Unit Development with associated amenities and public improvements ("Project") located on the south side of Iris Avenue east of Perris Boulevard (APN 312-020-025) ("Site"); and

WHEREAS, Planning Division Staff completed an environmental assessment for the proposed Project, and, based on the assessment, decided to prepare an Initial Study ("IS") and a Mitigated Negative Declaration ("MND") in accordance with Section 6 (ND Procedures) of the City's Rules and Procedures for the Implementation of the California Environmental Quality Act and the requirements of the CEQA Guidelines Sections 15070 – 15075; and

WHEREAS, a Notice of Intent to Adopt a Mitigated Negative Declaration was duly noticed and circulated for public review for a period of 20 days commencing on October 23, 2020, through November 12, 2020; and

WHEREAS, in conformance with CEQA and the CEQA Guidelines, a Mitigation Monitoring Plan ("MMP") that includes a program for reporting on and monitoring Project mitigation measures was prepared for the proposed Project and circulated with the Mitigated Negative Declaration; and

[1] Public Resources Code §§ 21000-21177
[2] 14 California Code of Regulations §§15000-15387

WHEREAS, on November 12, 2020 a duly noticed public hearing was conducted by the Planning Commission where the item was continued to the December 10, 2020 Planning Commission meeting; and

WHEREAS, on December 10, 2020 a hearing was conducted by the Planning Commission to consider a recommendation that the City Council approve the Mitigated Negative Declaration and the Mitigation Monitoring Plan and approve the proposed Project; and

WHEREAS, on December 10, 2020 a hearing was conducted by the Planning Commission whereby the Planning Commission approved Planning Commission Resolution 2020-49, a recommendation that the City Council approve the Mitigated Negative Declaration and the Mitigation Monitoring Plan and approve the proposed Project; and

WHEREAS, on February 2, 2021 a hearing was conducted by the City Council whereby the City Council approved the Mitigated Negative Declaration and the Mitigation Monitoring Plan and approve the proposed Project; and

WHEREAS, at the conclusion of the public hearing, in the exercise of its own independent judgment, the City Council determined that the Mitigated Negative Declaration and the Mitigation Monitoring Plan would reduce the environmental impacts of the Project to levels of less than significant and that there is no substantial evidence supporting a fair argument that the Project will have a significant effect on the environment.

NOW, THEREFORE, THE CITY COUNCIL OF THE CITY OF MORENO VALLEY, CALIFORNIA, DOES HEREBY RESOLVE AS FOLLOWS:

Section 1. **Recitals and Exhibits**

That the foregoing Recitals and attached exhibits are true and correct and are hereby incorporated by this reference.

Section 2. **Evidence**

That the City Council has considered all of the evidence submitted into the Administrative Record for the Mitigated Negative Declaration and Mitigation Monitoring Plan, including, but not limited to, the following:

(a) Initial Study and Mitigated Negative Declaration prepared for the proposed Project, attached hereto as Exhibit A;
(b) Notice of Intent to Adopt a Mitigated Negative Declaration/Newspaper Notice, attached hereto as Exhibit B;
(c) Mitigation Monitoring Plan, attached hereto as Exhibit C;

(d) Staff Report prepared for the City Council consideration and all documents, records and references related thereto, and Staff's presentation at the public hearing; and
(e) Testimony, comments and correspondence from all persons that were provided at, or prior to, the public hearing.

Section 3. **Findings**

That based on the content of the foregoing Recitals and the Evidence contained in the Administrative Record as set forth above, the City Council makes the following findings:

(a) That the City has independently reviewed, analyzed, and considered the Mitigated Negative Declaration and Mitigation Monitoring Plan, and the whole record before it, including, the Initial Study and comments received;
(b) That the proposed mitigation measures will reduce all environmental impacts of the proposed Project to levels of insignificance and there is no substantial evidence supporting a fair argument that the Project will have a significant effect on the environment;
(c) That the Mitigated Negative Declaration and Mitigation Monitoring Plan have been completed in compliance with CEQA and the CEQA Guidelines consistent the City's Rules and Procedures for the Implementation of the California Environmental Quality Act.
(d) That the Mitigated Negative Declaration and Mitigation Monitoring Plan reflect the independent judgment and analysis of the City as lead agency for the proposed Project; and
(e) That the Mitigated Negative Declaration and Mitigation Monitoring Plan are adequate to serve as the required CEQA environmental documentation for the proposed Project.

Section 4. **Adoption**

That based on the foregoing Recitals, Evidence contained in the Administrative Record and Findings, as set forth herein, the City Council hereby adopts the Mitigated Negative Declaration/Initial Study attached hereto as Exhibit A and the Mitigation Monitoring Plan attached hereto as Exhibit C.

Section 5. **Repeal of Conflicting Provisions**

That all the provisions as heretofore adopted by the City Council that are in conflict with the provisions of this Resolution are hereby repealed.

Section 6. **Severability**

That the City Council declares that, should any provision, section, paragraph, sentence or word of this Resolution be rendered or declared invalid by any final court

action in a court of competent jurisdiction or by reason of any preemptive legislation, the remaining provisions, sections, paragraphs, sentences or words of this Resolution as hereby adopted shall remain in full force and effect.

Section 7. **Effective Date**

That this Resolution shall take effect immediately upon the date of adoption.

Section 8. **Certification**

That the City Clerk for the City Council shall certify to the passage of this Resolution.

PASSED AND ADOPTED THIS _____ day of _____, 2021.

CITY OF MORENO VALLEY
CITY COUNCIL

_____
Dr. Yxstian A. Gutierrez
Mayor of the City of Moreno Valley

ATTEST:

_____
Pat Jacquez-Nares, City Clerk

APPROVED AS TO FORM:

_____
Steven B. Quintanilla, Interim City Attorney

Exhibits:
Exhibit A: Initial Study / Mitigated Negative Declaration
Exhibit B: Notice of Intent to Adopt a Mitigated Negative Declaration
Exhibit C: Monitoring Mitigation Plan

Exhibit A

INITIAL STUDY

Exhibit B

NOTICE OF INTENT TO ADOPT A MITIGATED NEGATIVE DECLARATION/NEWSPAPER NOTICE

Exhibit C

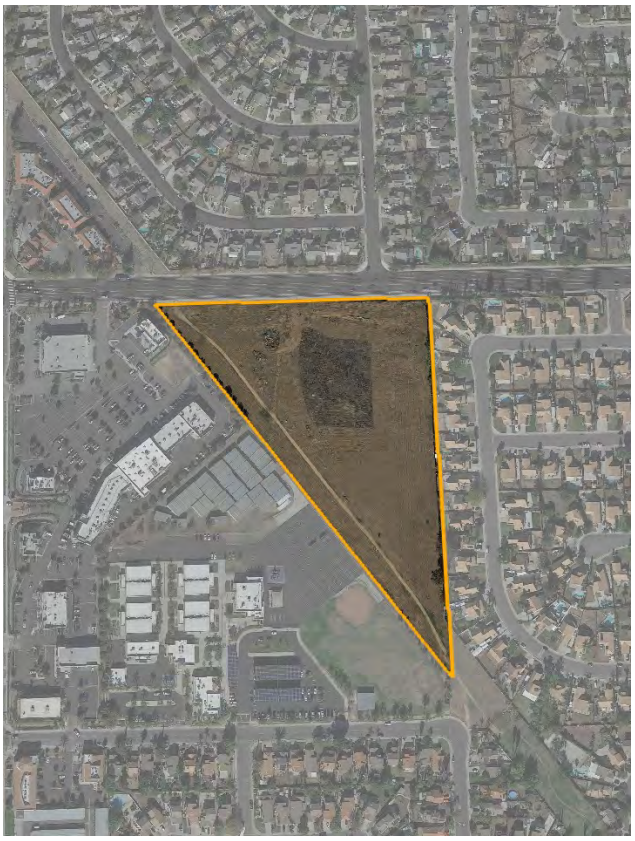
MITIGATED NEGATIVE DECLARATION

Exhibit D

MITIGATION MONITORING PLAN

CITY OF MORENO VALLEY

INITIAL STUDY/MITIGATED NEGATIVE DECLARATION FOR IRIS PARK PROJECT



Iris Park Project - Case Numbers PEN20-0063, PEN20-0065, PEN20-0066, PEN20-0067, PEN20-0068

October 20, 2020

Lead Agency
CITY OF MORENO VALLEY
14177 Frederick Street
Moreno Valley, CA 92552

Prepared By
EPD Solutions, Inc.
2 Park Plaza, Suite 1120
Irvine, CA 92614 (949)794-1180

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MITIGATION MONITORING AND REPORTING PROGRAM (Separate Document)

APPENDICES (Separate Documents)

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B	Habitat Assessment
C	Phase I Cultural Resources Assessment
D	Phase I Paleontological Resources Assessment
E	Preliminary Geotechnical and Infiltration Feasibility Investigation
F	Phase I Environmental Site Assessment
G	Preliminary Hydrology Report
H	Preliminary Project Specific Water Quality Management Plan
I	Noise Impact Analysis
J	Trip Generation Analysis
K	VMT Memo

INITIAL STUDY/MITIGATED NEGATIVE DECLARATION (IS/MND) FOR IRIS PARK

MITIGATED NEGATIVE DECLARATION

Project Name: Iris Park

Findings: It is hereby determined that, based on the information contained in the attached Initial Study, the project would not have a significant adverse effect on the environment.

Mitigation measures necessary to avoid the potentially significant effects on the environment are included in the attached Initial Study, which is hereby incorporated and fully made part of this Mitigated Negative Declaration. The City of Moreno Valley has hereby agreed to implement each of the identified mitigation measures, which would be adopted as part of the attached Mitigation Monitoring and Reporting Program.

BACKGROUND INFORMATION AND PROJECT DESCRIPTION:

1. **Project Case Number(s):** PEN20-0063, PEN20-0065, PEN20-0066, PEN20-0067, PEN20-0068

2. **Project Title:** Iris Park

3. **Public Comment Period:** October 23, 2020 through November 11, 2020

4. **Lead Agency:** City of Moreno Valley
   Julia Descoteaux, Planning Department
   14177 Frederick Street
   Moreno Valley, California 92552
   (951) 413-3209
   juilad@moval.org

5. **Documents Posted At:** A copy is available at City Hall

6. **Prepared By:** Konnie Dobreva, JD, Director of Environmental Planning
   Meghan Macias, T.E., Director of Transportation Planning
   Rafik Albert, Director of Planning
   Meaghan Truman, Project Planner
   EPD Solutions, Inc.
   2 Park Plaza, Suite 1120, Irvine, California 92614
   (949) 794-1180
   rafik@epdsolutions.com

7. **Project Sponsor:**

Applicant/Developer	**Property Owner**
Pacifica Investments	Maple Lane Group, LLC
333 City Boulevard West	2005 Winston Court
Suite 1700	Upland, California 91784
Orange, California 92868	

8. **Project Location:** The project site is located southeast of the intersection of Iris Avenue and Perris Boulevard and directly south of the intersection of Iris Avenue and Wedow Drive in the city of Moreno Valley at Assessor's Parcel Number 312-020-025, and southeast of the southeasterly corner of Iris Avenue and Perris Boulevard. Moreno Valley is located in Riverside County and encompasses approximately 52 square miles of land. It is bounded by the city of Riverside to the east; the city of Perris to the south; the San Jacinto mountains to the east; and the cities of Redlands and San Bernardino to the north.

   As shown on Figure 1, Regional Location, regional access to the project site is provided by Interstate 215 (I-215). Iris Avenue provides local access to the project site. The project site is located in Section 29, Township 3 South, Range 3 West, San Bernardino Baseline and Meridian, and is mapped on the U.S. Geological Survey (USGS) Sunnymead 7.5' topographic quadrangle.

9. **General Plan Designation:** Residential (5 du/ac) and Commercial

Residential 5: The primary purpose of areas designated Residential 5 is to provide for single-family detached housing on standard sized suburban lots.

Commercial: The primary purpose of areas designated Commercial is to provide commercial properties and distribute commercial areas citywide to encourage walking and bicycling.

10. **Specific Plan Name and Designation:** N/A

11. **Existing Zoning:** Residential 5 District (R5) and Community Commercial (CC)

Residential 5 District: The primary purpose of the R5 district is to provide for residential development on common sized suburban lots. This district is intended as an area for development of single-family residential and mobile home subdivisions at a maximum allowable density of 5 du/ac, as indicated in Section 9.03.020 of the Municipal Code.

Community Commercial: The primary purpose of the community commercial (CC) district is to provide for the general shopping needs of area residents and workers with a variety of business, retail, personal and related or similar services.

To implement the proposed development, the project includes a General Plan Amendment to change the Land Use designation of the site from Residential: Max. 5 du/ac (R5) and Commercial (C) to Residential: Max. 10 du/ac (R10) and a Change of Zone to reclassify the site from Residential 5 (R5) District and Community Commercial (CC) District to Residential Single-Family 10 (RS10) District.

12. **Surrounding Land Uses and Setting:**

	Land Use	General Plan	Zoning
Project Site	**Vacant**	**Residential: 5 max du/ac (R5) Commercial (C)**	**Residential 5 (R5) District Community Commercial (CC) District**
North	Single-Family Residential	Residential: Max. 5 du/ac (R5)	Residential 5 (R5) District
South	Single-Family Residential	Residential: Max. 5 du/ac (R5) Residential: Max. 10 du/ac (R10)	Residential 5 (R5) District Residential 10 (R10) District
East	Single-Family Residential	Residential: Max. 5 du/ac (R5)	Residential 5 (R5) District
West	Commercial Shopping Center, Val Verde Academy	Commercial (C) Residential: Max. 5 du/ac (R5)	Community Commercial (CC) District Residential 5 (R5) District

13. **Description of the Site and Project:**

Environmental Setting

The approximately 10.82-acre project site consists of one parcel (Assessor's Parcel Number 312-020-025) and is a vacant lot. A 100-foot-wide easement in favor of the State of California for the California Aqueduct is located along the western edge of the site, covering 3.02 acres. Vehicular access to the site is provided by Iris Avenue. The perimeter

of the site is partially secured by wall sand fencing on adjacent properties along the eastern, western, and southern portions of the site.

Vegetation on the site consists of a light moderate to growth of weeds. The topography of the site is relatively flat, with a very gentle fall towards the southeast. The project site is located within a relatively flat valley, with elevations averaging approximately 1496 feet above mean sea level. Figure 1, *Aerial View*, provides an aerial of the existing project site.

Project Description

Project Characteristics

The Iris Park project ("project" or "proposed project") would construct 81 new single-family residences, as well as onsite roadways, sidewalks, a detention basin, common open space, and private open space areas on the project site. Figure 6, Conceptual Site Plan, illustrates the proposed site configuration following project implementation.

The proposed project site totals approximately 10.82 acres in size, which includes the 100-foot-wide California Aqueduct easement on the western portion of the site. In conjunction with the project, the City intends to construct a public park along this easement. The proposed public park would include landscaping and an extension of the existing trail located along segments of the California Aqueduct easement in the city.

To implement the proposed development, the project includes a General Plan Amendment to change the Land Use designation of the site from Residential: Max. 5 du/ac (R5), which currently composes approximately 9.87 acres on the site, and Commercial (C), which currently composes approximately 0.95 acres on the site, to Residential: Max. 10 du/ac (R10); a Change of Zone to reclassify the site from Residential 5 (R5) and Community Commercial (CC) to Residential Single-Family 10 (RS10); a Tentative Tract Map (TTM 37909) to subdivide the project site into 81 lots; and a Conditional Use Permit for a Planned Unit Development.

Project Features

The proposed residential development would include 81 single-family residences on the 10.82-acre project site, yielding a density of 7.48 du/acre. Residential lots would range from 2,197 SF to 4,741 SF. The single-family residences would range in size from 1,848 square feet (SF) to 2,201 SF, with 3-bedroom to 5-bedroom floor plans, private yards, and two-car garages. Overall, the project proposes a total residential building footprint of 164,549 SF. The minimum residential lot area would be 2,250 SF, with a range from 2,250 SF to 4,293 SF. Table 1 below provides a breakdown of the proposed development features on the project site.

Table 1. Proposed Development

Floor Plan Type	Percent of the project site	No. of Plans`	Total Livable Area (SF)
3 bedroom/2.5 bath	30%	26	48,048
4 bedroom/2.5 bath	30%	23	46,069
4 bedroom/3 bath	40%	32	70,432
Totals:	**100%**	**81**	**164,549**

The project also proposes to construct common open space areas, private open space areas, and a detention basin, as detailed in Table 2 below. A 17,996 square-foot common open space area is proposed within the northeastern portion of the residential development and would include landscaping, walkways, and seating areas. Smaller open space areas, including a 4,619 square-foot fitness park, would be located along the western edge of the site, adjacent to the California Aqueduct easement. The easement itself would provide a trail and landscaped areas. New walkways are also proposed throughout the residential development. The project would provide private yards within the single-family residential lots.

Table 2. Proposed Open Space

Description	Area (SF)
Common Open Space	29,185
Private Open Space	51,572
Total	**80,757**

New 6-foot high walls would be constructed along the northern boundary of the site adjacent to Iris Avenue, in addition to new 4-foot high tubular steel fencing along the western boundary of the site adjacent to the California Aqueduct easement. The existing fence along the eastern boundary of the site would remain. The proposed residential project will have a gated entry along Iris Avenue, with a gate set back sixty feet from the street.

Architectural Design

The proposed two-story single-family residences would include three different architectural styles to provide aesthetic variation throughout the community. The single-family residences would be designed with various architectural elements, multi-level rooflines, and an earth tone color scheme. In addition, the residences would incorporate stucco finishes, detailed roof elements, awnings, metal railings, and decorative windows and doors in the exterior design. Enhanced elevations would be incorporated where building sides or rears are visible from streets. The tallest roofline of the two-story residences would be less than 30 feet in height.

Access and Circulation

Vehicular access to the project site would be provided via two gated driveways on Iris Avenue, which would provide access to the community's internal roadways. The proposed residential project will have a gated main entrance along Iris Avenue, with a gate set back sixty feet from the street and a secondary gated access point off of Iris Avenue. The main entrance area will have a turnaround area before the gate and will feature a storage lane for visitors to use a call box for permission to enter the community. The single-family residences would be accessed by private driveways along the internal roadways, as shown on Figure 6, *Conceptual Site Plan*. The project also includes pedestrian paths to provide for non-vehicular on-site circulation and for connection to existing sidewalks and bike lanes adjacent to the proposed project.

Parking

The proposed project would provide garage, driveway, and on-street parking. Each residence would have a two-car garage. The project would also provide 49 on-street parking spaces. Table 3 shows the parking to be provided by the project.

Table 3. Proposed Parking

Type of Parking	Required	Provided
Enclosed Parking Spaces	162	162
Guest Parking	41	49
Total Parking Spaces Provided	203	211
Parking to Unit Ratio		2.6/dwelling unit

Recreation and Open Space

The project includes the development of 29,185 SF of common open space. As part of the common open space, a 17,996 SF community park is proposed within the northeastern portion of the project site, and a 4,619 SF fitness park is proposed within the western portion of the project site. The community park would provide amenities for future residents, such as walking paths, seating areas, picnic tables, and a group shade structure with picnic tables and communal barbeques. The fitness park would provide four community fitness stations, picnic benches, and walking paths The project includes connections to a future public linear park, to be developed by the City, along the California Aqueduct easement. The future linear park would provide walking trails and landscaped areas. Figure 7, *Conceptual Landscape Plan,* illustrates the proposed recreational and open space areas within the project.

Landscaping

Landscaping proposed as part of the project would consist of drought-tolerant ornamental trees, shrubbery, and groundcover. Turf would be provided in active use areas in common open spaces. In total, the project would include 67,646 SF of total landscaping on the project site. The landscape plan would be consistent with the City's landscape and irrigation design standards, as provided in Section 9.17.030 of the City's Municipal Code.

Landscaping improvements would also be provided along Iris Avenue to City standards, which would include a 10-foot landscape setback between then existing sidewalk on Iris Avenue and the proposed community wall along the northern portion of the site. The street trees within the setback would consist of 36-inch and 24-inch ornamental box trees to enhance the frontage on Iris Avenue and allow for additional privacy within the proposed community. In addition, the roadway entrances into the proposed residential community would include decorative pavement, as well as decorative signage and matching height palm trees to aesthetically enhance the entrance to the residential community.

Overall, landscaping throughout the complex would be consistent and provide a cohesive design. Landscaping improvements at the perimeter of the complex are intended to integrate the proposed project with the surrounding neighborhood context and streetscape character. Figure 7, *Conceptual Landscape Plan*, illustrates the proposed landscape areas and landscape pallet.

Lighting

Outdoor lighting included as part of future development on the project site would be typical of single-family residential uses and would consist of wall-mounted lighting as well as pole-mounted lights along the proposed internal roadways. Nighttime lighting would be used as accent/security lighting in the park area. All of the project's outdoor lighting would

be directed downward and shielded to minimize off-site spill. The location of all exterior lighting would comply with lighting standards established in the City's Municipal Code.

Infrastructure Improvements

Water and Sewer

The proposed project would install new sewer lines within the project's proposed onsite streets that would connect to the existing sewer manholes and 18-inch sewer line in the 100-foot wide easement to the west. The project would also install new water lines within the project's proposed onsite streets that would connect to the existing 12-inch water line in Iris Avenue.

Drainage

In the existing condition, the topography of the project site is planar, with a small elevation change towards the southeast. Thus, the project site's current surface runoff flows generally as sheet flow to the south-southeast. In the developed condition, the project site would consist of several drainage sub-areas where storm flows would flow towards the proposed internal roadways and would ultimately be conveyed to the proposed infiltration basin system within the southeast corner of the property. The infiltration basin would be installed within the proposed landscape area onsite adjacent to the easement areas along the westerly portion of the property and would discharge to the existing point of discharge within the existing easements.

SUBDIVISION

As part of the project, TTM 37858 would be required to subdivide the existing parcel (APN 312- 020-025) to create 81 residential lots, as shown on Figure 8, *Tentative Tract Map*. The project site would consist of the residential development and associated infrastructure. Existing parcels in the project vicinity would not be impacted by the proposed parcel reconfiguration.

GENERAL PLAN AND ZONING

The project site currently has existing General Plan land use designations of Residential: Max. 5 du/ac (R5) and Commercial (C). As part of the project, a General Plan Amendment is proposed to change the designation of the site to Residential: Max. 10 du/ac (R10), which would allow the proposed single-family residences at a density of approximately 7.58 du/acre. In addition, the project site currently has zoning designations of Residential 5 (R5) District and Community Commercial (CC) District. As such, the project includes a zone change to Residential Single-Family 10 (RS10) to implement the proposed single-family residential uses. Section 9.03.020 of the City's Municipal Code states that the Residential Single-Family 10 District (RS10) zoning district is to provide for residential development on small single-family lots with amenities not generally found in suburban subdivisions. The district is intended for subdivisions at a maximum allowable density of 10 dwelling units per net acre.

Following approval of the General Plan Amendment and zone change, the land use designation and zoning classification associated with the project site would be consistent with the proposed use. As a result of project implementation, all other land use designations and zoning classifications in the project vicinity would remain the same as under existing conditions. Any General Plan Amendment or zone change proposed as

part of a future project (that is subject to discretionary approval) would be subject to separate environmental review on a project-specific basis, in accordance with the provisions of CEQA and the State CEQA Guidelines.

Table 4. Current General Plan Designation and Zoning Designation

Current General Plan Designation	Current Zoning Designation	Acreage
Residential: Max 5 du/ac (R5)	Residential 5 (R5) District	9.87
Commercial (C)	Community Commercial (CC) District	0.95

CONSTRUCTION DURATION AND ZONING

Construction activities include demolition of the existing structures, pavement, and the existing utility infrastructure; grubbing, grading, excavation and re-compaction of soils; utility and infrastructure installation; building construction; roadway pavement; and architectural coatings. Approximately 6,042 cy of soil is proposed to be exported during grading activities.

Construction activities for the project would occur over 26 months and would begin in 2021 with the opening for project occupancy in 2023. Construction activities would occur in the following stages: site preparation, grading, building construction, architectural coating, and paving. Pursuant to the Chapter 11.80.030 of the Moreno Valley Municipal Code, construction activities would be limited to between the hours of 7:00 a.m. to 8:00 p.m. Monday through Friday, excluding holidays unless written approval is obtained from the City Building Official or City Engineer.

DISCRETIONARY APPROVALS

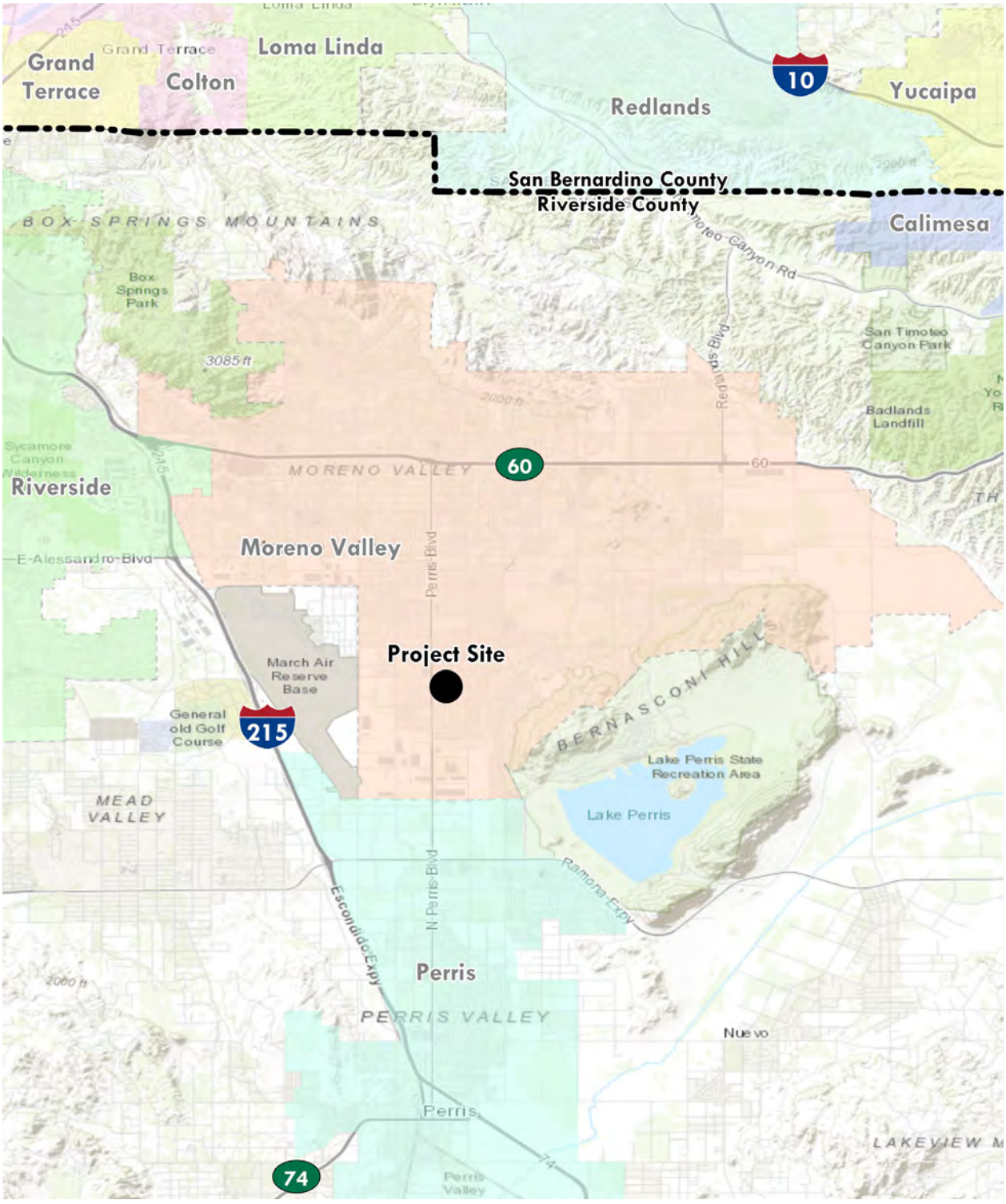
In accordance with Sections 15050 and 15367 of the State CEQA Guidelines, the City is the designated Lead Agency for the proposed project and has principal authority and jurisdiction for CEQA actions and project approval. Responsible Agencies are those agencies that have jurisdiction or authority over one or more aspects associated with the development of a proposed project and/or mitigation. Trustee Agencies are State agencies that have jurisdiction by law over natural resources affected by a proposed project.

The following discretionary approvals by the City of Moreno Valley, as Lead Agency, are anticipated to be necessary for implementation of the proposed project:

City of Moreno Valley

- General Plan Amendment to change the site's land use designation from Residential: Max. 5 du/ac (R5) and Commercial (C) to Residential: Max. 10 du/ac (R10)
- Zone change from Residential 5 District (R5) and Community Commercial (CC) to Residential Single Family 10 District (RS10)
- Approval of Tentative Tract Map (TTM 37909)
- Approval of a Conditional Use Permit (CUP) for a Planned Unit Development (PUD)

Regional Location



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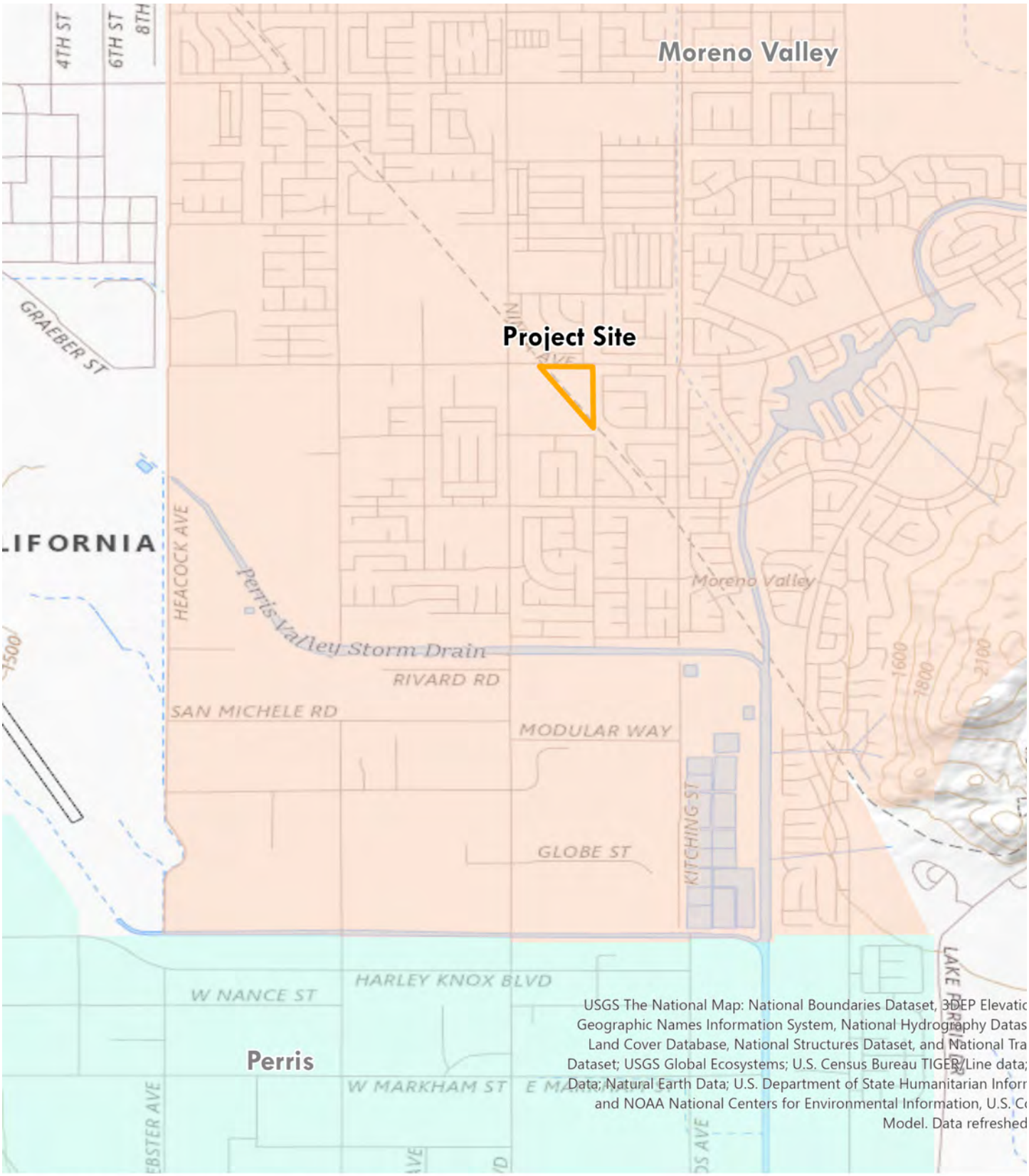
USGS Map with Project Location



Iris Park IS/MND

Figure 2

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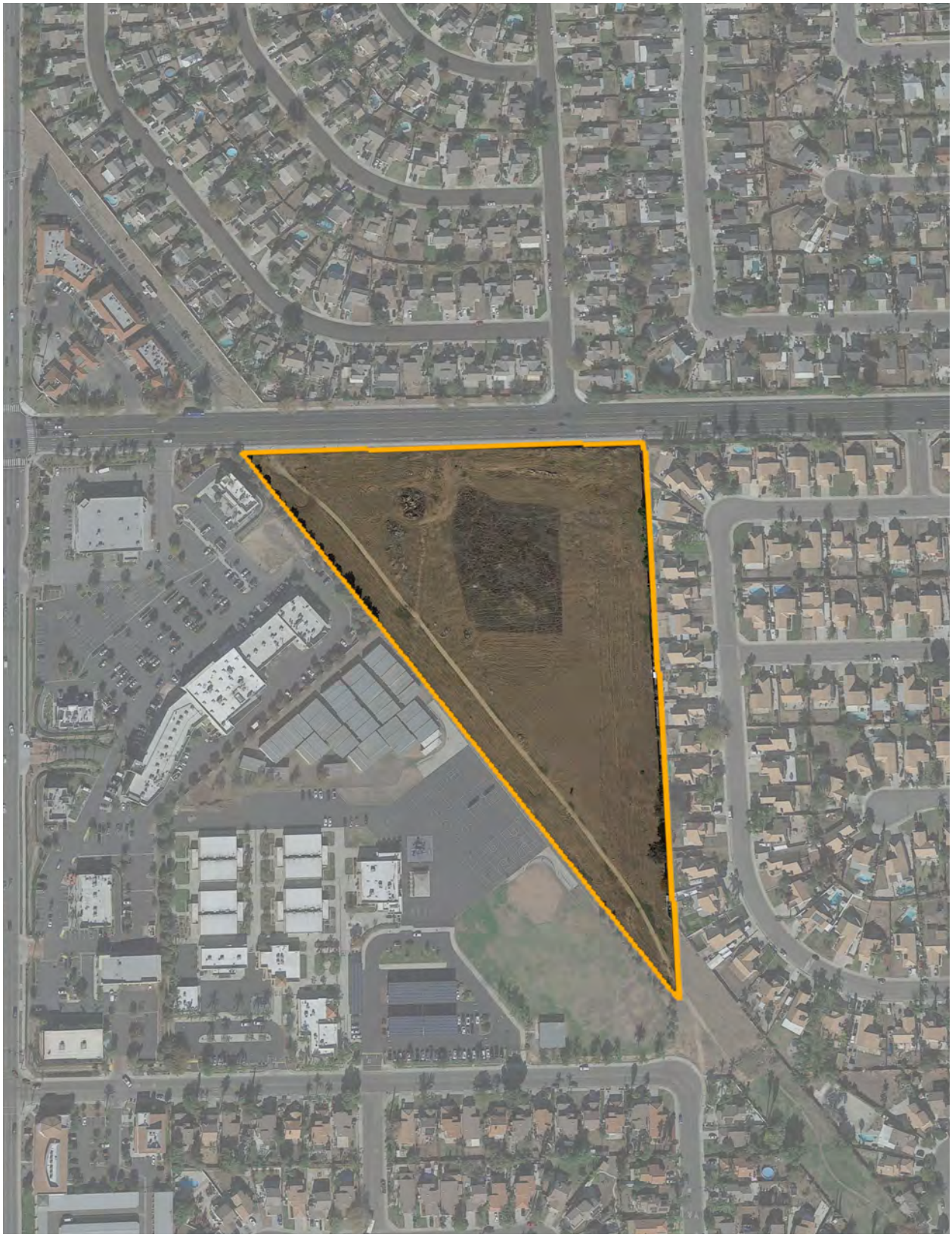
Aerial View



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Surrounding Land Uses

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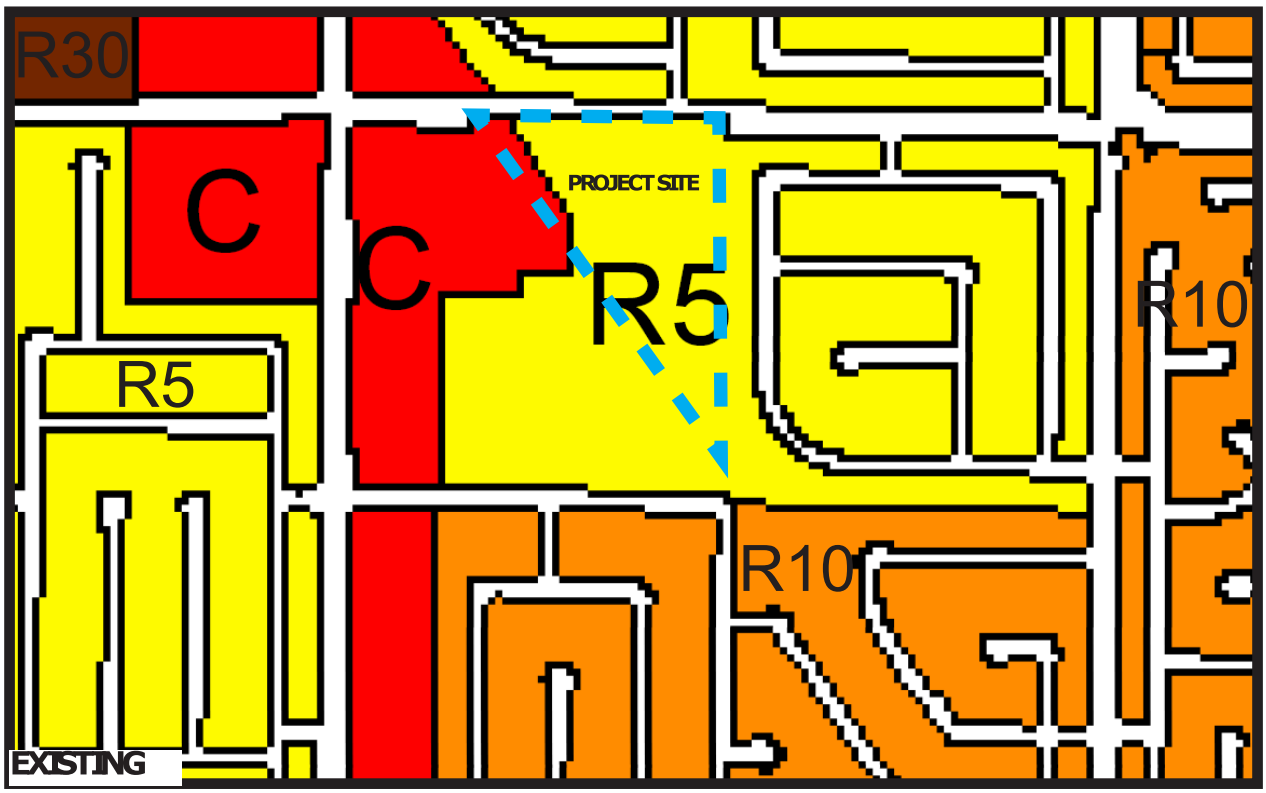
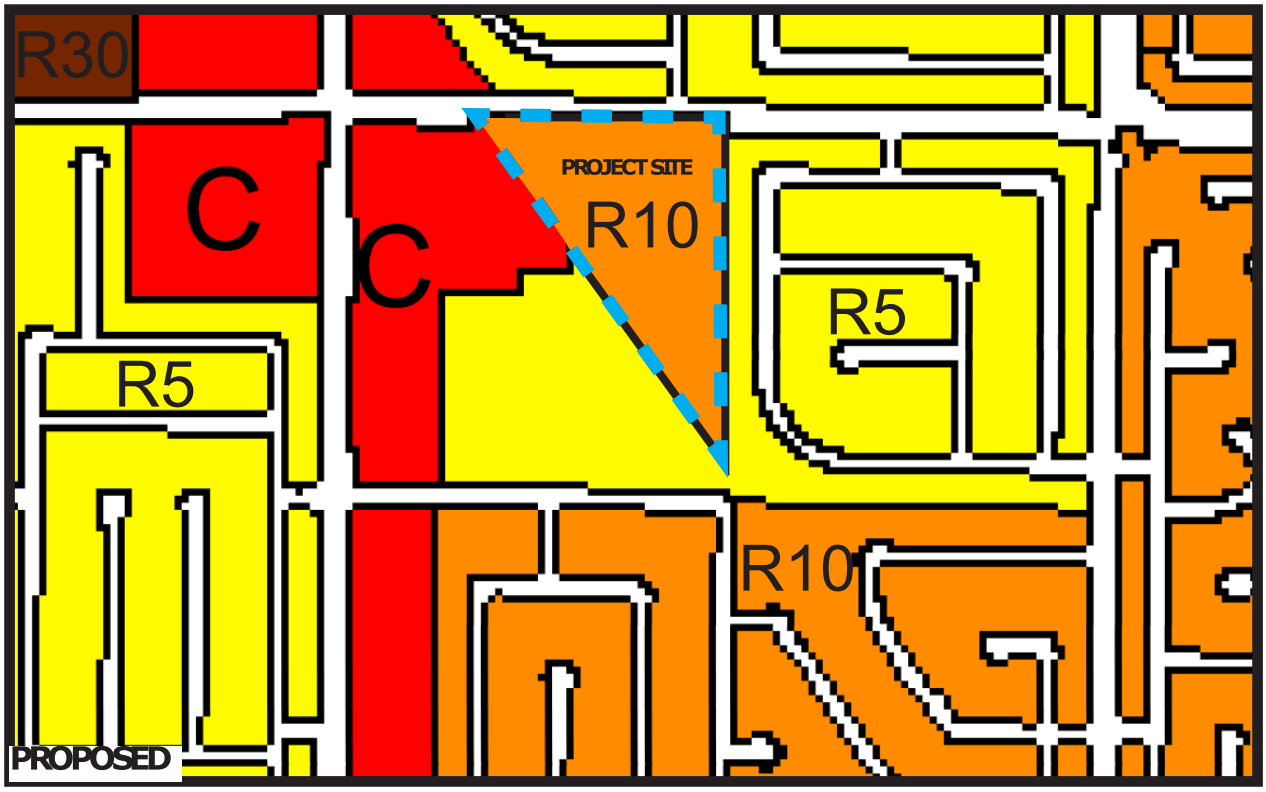
Existing and Proposed General Plan Land Uses





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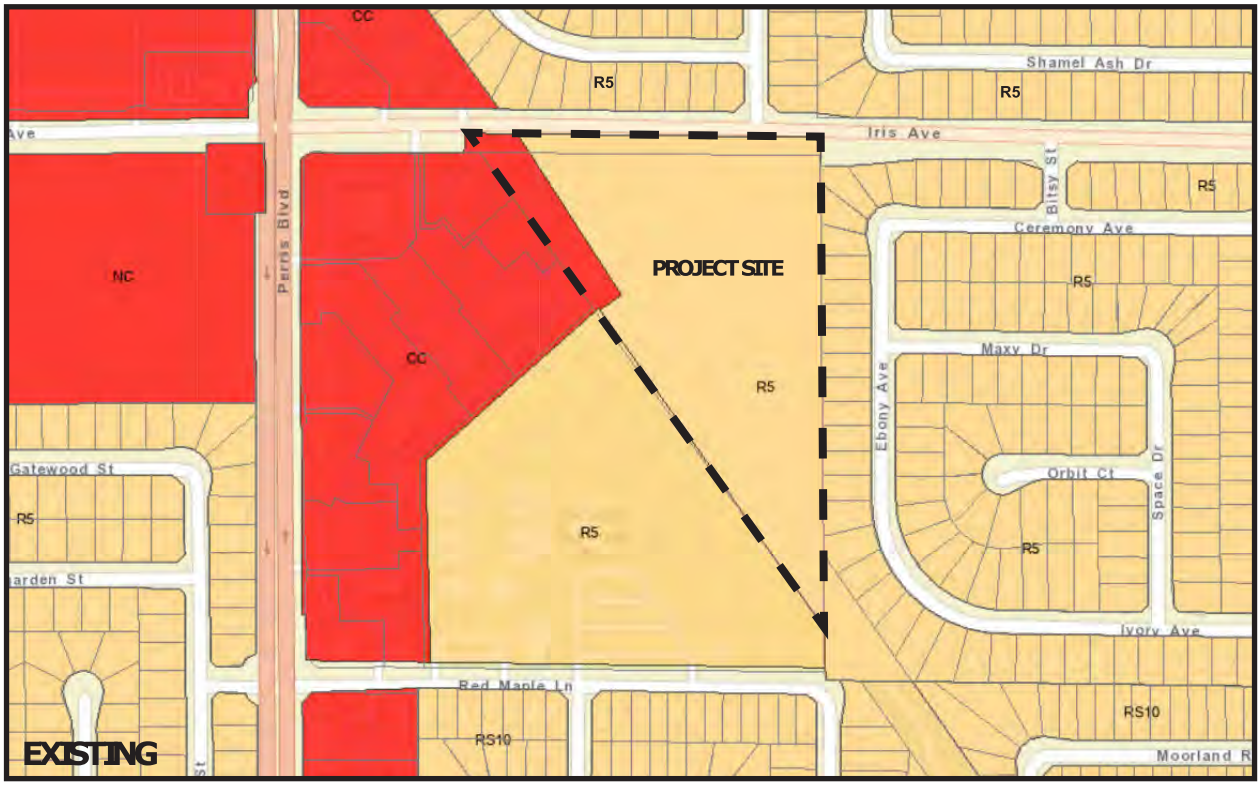
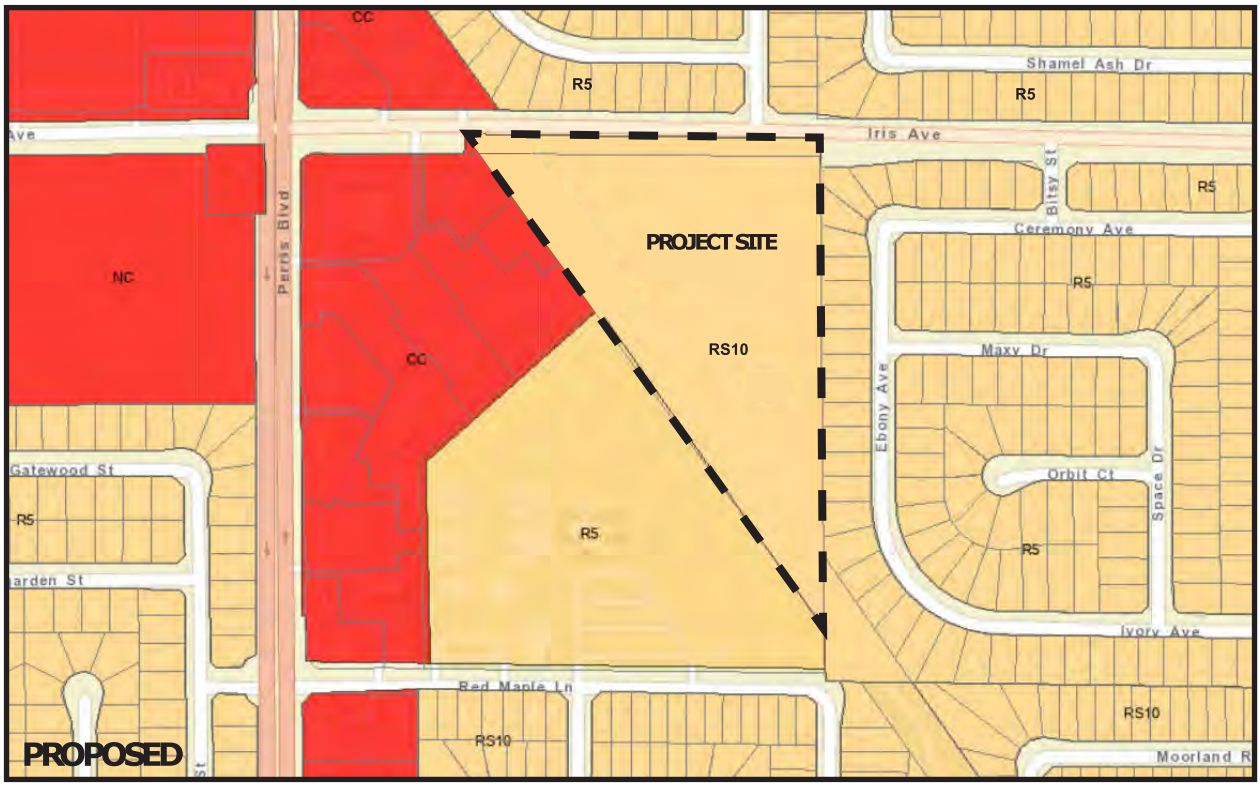
Existing and Proposed Zoning





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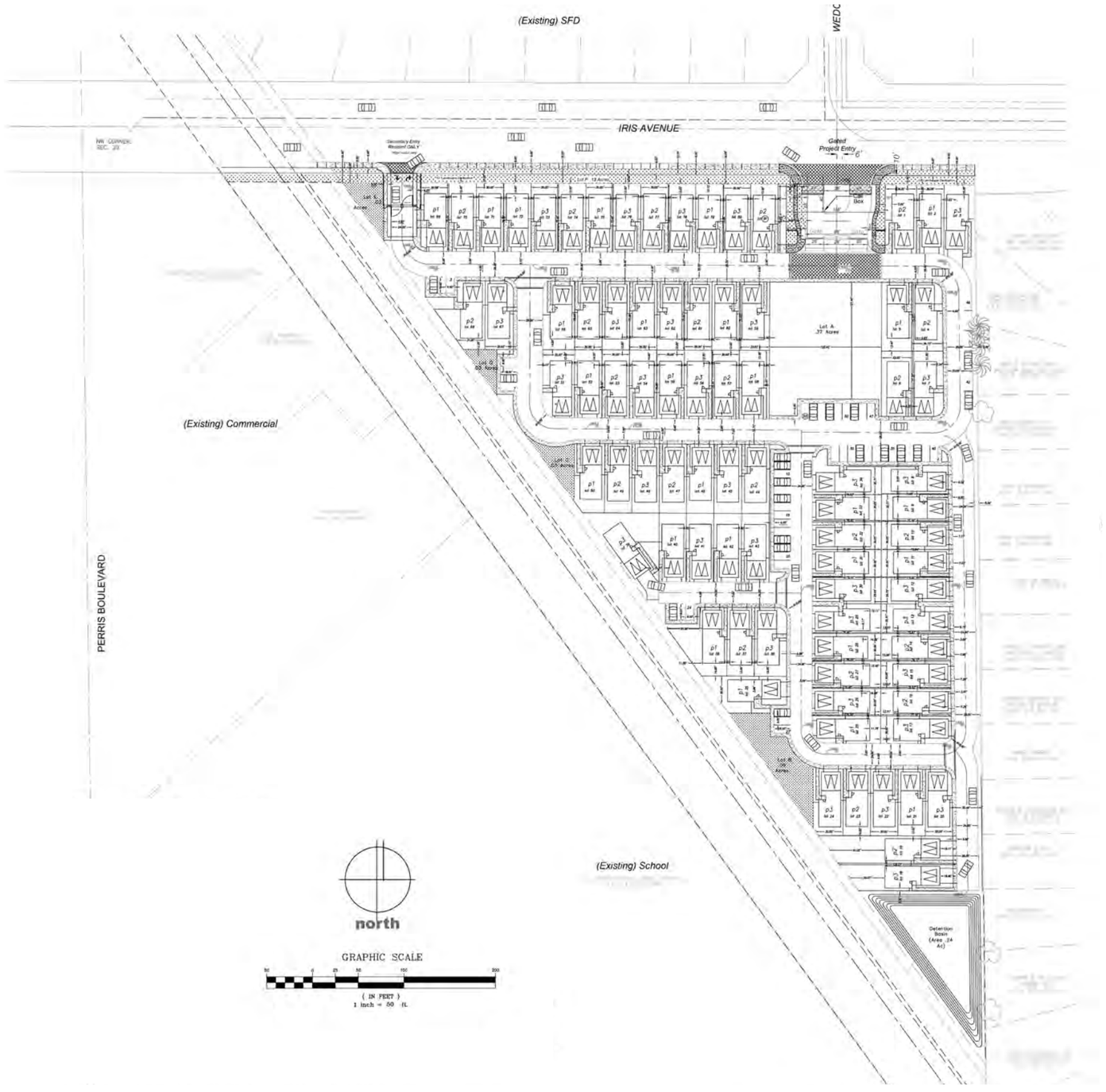
Conceptual Site Plan



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Landscape Plan

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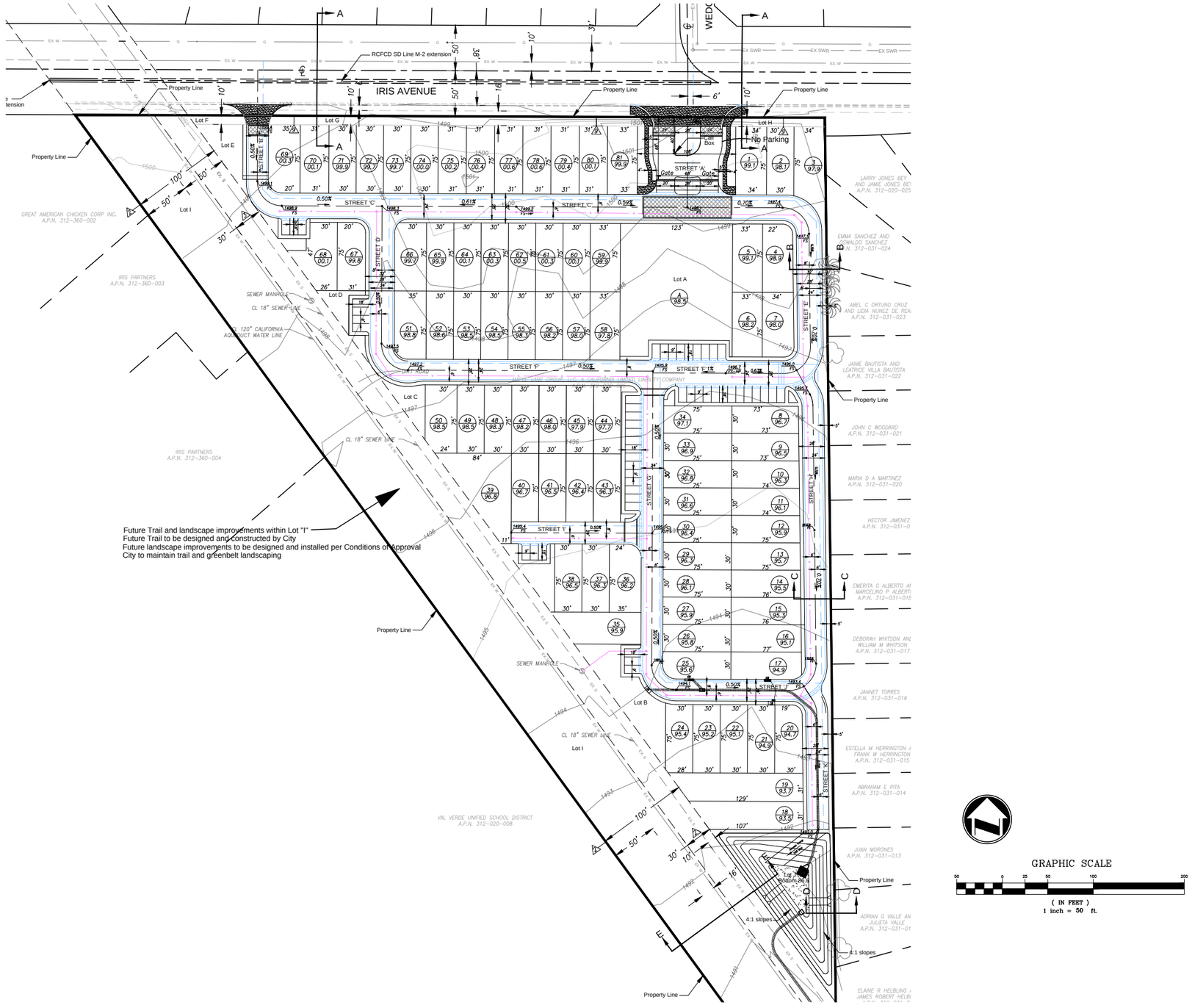
Tentative Tract Map No. 37909



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14. **Have California Native American tribes traditionally and culturally affiliated with the project area requested consultation pursuant to Public Resources Code section 21080.3.1? If so, is there a plan for consultation that includes, for example, the determination of significance of impacts to tribal cultural resources, procedures regarding confidentiality, etc.?**

Note: Conducting consultation early in the CEQA process allows tribal governments, lead agencies, and project proponents to discuss the level of environmental review, identify and address potential adverse impacts to tribal cultural resources, and reduce the potential for delay and conflict in the environmental review process. (See Public Resources Code section 21080.3.2.) Information may also be available from the California Native American Heritage Commission's Sacred Lands File per Public Resources Code section 5097.96 and the California Historical Resources Information System administered by the California Office of Historic Preservation. Please also note that Public Resources Code section 21082.3(c) contains provisions specific to confidentiality.

The City sent notices regarding the project to the following Native American tribes that may have knowledge regarding tribal cultural resources in the project vicinity:

- Agua Caliente Band of Cahuilla Indians
- Cahuilla Band of Indians
- Desert Cahuilla Indians
- Los Coyotes Band of Cahuilla Mission Indians
- Morongo Band of Mission Indians
- Pechanga Band of Luiseño Indians
- Rincon Band of Luiseño Indians
- San Manuel Band of Mission Indians
- Santa Rosa Band of Mission Indians
- Serrano Nation of Mission Indians
- Soboba Band of Luiseño Indians

The Agua Caliente Band of Cahuilla Indians, Pechanga Band of Luiseño Indians, Rincon Band of Luiseño Indians, and Soboba Band of Luiseño Indians requested consultation regarding the proposed Project. The consulting tribes consider the area sensitive for cultural resources as several sites are located nearby. Although no information for site specific tribal cultural resources was provided (and there are no known tribal cultural resources on or adjacent to the project site), the consulting tribes requested inclusion of mitigation due to the potential of the Project to unearth previously undocumented tribal cultural resources during construction. These mitigation measures are incorporated in this Initial Study.

15. **Other public agencies whose approval is required (e.g., permits, financing approval, or participation agreement):**

N/A

16. **Other Technical Studies Referenced in this Initial Study (Provided as Appendices):**

Appendix A	CalEEMod Emissions Summary
Appendix B	Habitat Assessment
Appendix C	Phase I Cultural Resources Assessment
Appendix D	Phase I Paleontological Resources Assessment
Appendix E	Preliminary Geotechnical and Infiltration Feasibility Investigation
Appendix F	Phase I Environmental Site Assessment
Appendix G	Preliminary Hydrology Report
Appendix H	Preliminary Project Specific Water Quality Management Plan
Appendix I	Noise Impact Analysis

Appendix J Trip Generation Analysis
Appendix K VMT Memo

17. **Acronyms:**

ADA -	American with Disabilities Act
ALUC -	Airport Land Use Commission
ALUCP -	Airport Land Use Compatibility Plan
AQMP -	Air Quality Management Plan
CEQA -	California Environmental Quality Act
CIWMD -	California Integrated Waste Management District
CMP -	Congestion Management Plan
DTSC -	Department of Toxic Substance Control
DWR -	Department of Water Resources
EIR -	Environmental Impact Report
EMWD -	Eastern Municipal Water District
EOP -	Emergency Operations Plan
FEMA -	Federal Emergency Management Agency
FMMP -	Farmland Mapping and Monitoring Program
GIS -	Geographic Information System
GHG -	Greenhouse Gas
GP -	General Plan
HCM	Highway Capacity Manual
HOA -	Homeowners Association
IS -	Initial Study
LHMP -	Local Hazard Mitigation Plan
LOS -	Level of Service
LST -	Localized Significance Threshold
MARB -	March Air Reserve Base
MARB/IPA-	March Air Reserve Base/Inland Port Airport
MSHCP -	Multiple Species Habitat Conservation Plan
MVFP -	Moreno Valley Fire Department
MVPD -	Moreno Valley Police Department
MVUSD -	Moreno Valley Unified School District
MWD -	Metropolitan Water District
NCCP -	Natural Communities Conservation Plan
NPDES -	National Pollutant Discharge Elimination System
OEM -	Office of Emergency Services
OPR -	Office of Planning & Research, State
PEIR -	Program Environmental Impact Report
PW -	Public Works
RCEH -	Riverside County Environmental Health
RCFCWCD -	Riverside County Flood Control & Water Conservation District
RCP -	Regional Comprehensive Plan
RCTC -	Riverside County Transportation Commission
RCWMD -	Riverside County Waste Management District
RTA -	Riverside Transit Agency
RTIP -	Regional Transportation Improvement Plan
RTP -	Regional Transportation Plan
SAWPA -	Santa Ana Watershed Project Authority
SCAG -	Southern California Association of Governments

SCAQMD -	South Coast Air Quality Management District
SCE -	Southern California Edison
SCH -	State Clearinghouse
SKRHCP -	Stephens' Kangaroo Rat Habitat Conservation Plan
SWPPP -	Stormwater Pollution Prevention Plan
SWRCB -	State Water Resources Control Board
USFWS -	United States Fish and Wildlife
USGS -	United States Geologic Survey
VMT -	Vehicle Miles Traveled
VVUSD -	Valley Verde Unified School District
WQMP -	Water Quality Management Plan
WRCOG -	Western Riverside Council of Government

ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED:

The environmental factors checked below would be potentially affected by this project, involving at least one impact that is a "Potentially Significant Impact" as indicated by the checklist on the following pages.

☐	Aesthetics	☐	Agriculture & Forestry Resources	☐	Air Quality
☐	Biological Resources	☐	Cultural Resources	☐	Energy
☐	Geology & Soils	☐	Greenhouse Gas Emissions	☐	Hazards & Hazardous Materials
☐	Hydrology & Water Quality	☐	Land Use & Planning	☐	Mineral Resources
☐	Noise	☐	Population & Housing	☐	Public Services
☐	Recreation	☐	Transportation	☐	Tribal Cultural Resources
☐	Utilities & Service Systems	☐	Wildfire	☐	Mandatory Findings of Significance

DETERMINATION (To be completed by the Lead Agency):

On the basis of this initial evaluation:

☐ I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.

☒ I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.

☐ I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.

☐ I find that the proposed project MAY have a "potentially significant" or "potentially significant unless mitigated" impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.

☐ I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

Signature

Julia Descosteaux

Printed Name

10/20/2020

Date

City of Moreno Valley

For

EVALUATION OF ENVIRONMENTAL IMPACTS:

1) A brief explanation is required for all answers except "No Impact" answers that are adequately supported by the information sources a Lead Agency cites in the parentheses following each question. A "No Impact" answer is adequately supported if the referenced information sources show that the impact simply does not apply to projects like the one involved (e.g. the project falls outside a fault rupture zone). A "No Impact" answer should be explained where it is based on project-specific factors as well as general standards (e.g. the project will not expose sensitive receptors to pollutants, based on a project-specific screening analysis).

2) All answers must take account of the whole action involved, including off-site as well as on-site, cumulative as well as project-level, indirect as well as direct, and construction as well as operational impacts.

3) Once the Lead Agency has determined that a particular physical impact may occur, then the checklist answers must indicate whether the impact is potentially significant, less than significant with mitigation, or less than significant. "Potentially Significant Impact" is appropriate if there is substantial evidence that an effect is significant. If there are one or more "Potentially Significant Impact" entries when the determination is made, an EIR is required.

4) Less Than Significant with Mitigation Incorporated" applies where the incorporation of mitigation measures has reduced an effect from "Potentially Significant Impact" to a "Less than Significant Impact." The Lead Agency must describe the mitigation measures, and briefly explain how they reduce the effect to a less than significant level (mitigation measures from Section XVII, "Earlier Analyses," may be cross-referenced).

5) Earlier analyses may be used where, pursuant to the tiering, program EIR, or another CEQA process, an effect has been adequately analyzed in an earlier EIR or negative declaration. Section 15063(c)(3)(D). In this case, a brief discussion should identify the following:

   a) Earlier Analyses Used. Identify and state where they are available for review.

   b) Impacts Adequately Addressed. Identify which effects from the above checklist were within the scope of and adequately analyzed in an earlier document pursuant to applicable legal standards, and state whether such effects were addressed by mitigation measures based on the earlier analysis.

   c) Mitigation Measures. For effects that are "Less than Significant with Mitigation Measures Incorporated," describe the mitigation measures which were incorporated or refined from the earlier document and the extent to which they address site-specific conditions for the project.

6) Lead agencies are encouraged to incorporate into the checklist references to information sources for potential impacts (e.g. general plans, zoning ordinances). Reference to a previously prepared or outside document should, where appropriate, include a reference to the page or pages where the statement is substantiated.

7) Supporting Information Sources. A source list should be attached, and other sources used, or individuals contacted should be cited in the discussion.

8) This is only a suggested form, and lead agencies are free to use different formats; however, lead agencies should normally address the questions from this checklist that are relevant to a project's environmental effects in whatever format is selected.

9) The explanation of each issue should identify:

   a) the significance criteria or threshold, if any, used to evaluate each question; and

   b) the mitigation measure identified, if any, to reduce the impact to less than significance.

ISSUES & SUPPORTING INFORMATION SOURCES:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
I. AESTHETICS – Except as provided in Public Resources Code §21099 – Modernization of Transportation Analysis for Transit-Oriented Infill Projects – **Would the project:**				
a) Have a substantial adverse effect on a scenic vista?	☐	☐	☐	☒

Response:
No Impact. Scenic vistas consist of expansive, panoramic views of important, unique, or highly valued visual features that are seen from public viewing areas. This definition combines visual quality with information about view exposure to describe the level of interest or concern that viewers may have for the quality of a particular view or visual setting. A scenic vista can be impacted in two ways: a development project can have visual impacts by either directly diminishing the scenic quality of the vista or by blocking the view corridors or "vista" of the scenic resource. Important factors in determining whether the proposed project would block scenic vistas include the project's proposed height, mass, and location relative to surrounding land uses and travel corridors.

The project site is located within a developed area of the city of Moreno Valley and is not within or adjacent to a scenic vista. The site is adjacent to roadways and existing residential, commercial, and educational land uses. The Moreno Valley General Plan Figure 6-2, Major Scenic Resources identifies the scenic resources within the City that include: Box Springs Mountains, Moreno Peak, Russell Mountains, Reche Mountains, and the Badlands.

The site is located approximately 1.5 miles west of the Russell Mountains. However, only partial views of the Russell Mountains are present on the project site between the existing single-family residences to the east. The proposed single-family residences would be a maximum of approximately 30 feet in height and would be the same height as existing single-family residences to the north and south.

In addition, Figure 6-2, *Major Scenic Resources* of the General Plan designates various view corridors throughout the city. The proposed project is not within or adjacent to a designated view corridor. Thus, development of the project site with single-family residences would not obstruct, interrupt, or diminish a scenic vista; and impacts would not occur.

b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	☐	☐	☐	☒

Response:
No Impact. There are no designated state scenic highways in Moreno Valley. The closest eligible state scenic highway is State Route (SR) 74, which travels east/west and is approximately 9 miles to the south of the project site. The closest officially designated state scenic highway is SR-243, 24 miles from the project site, which runs from Interstate 10 (I-10) south of the city of Banning limits and through Idyllwild to Mountain Center (Caltrans 2018). Neither of the scenic highways discussed above are visible from the project site, therefore, no impacts to state scenic highways would occur from implementation of the proposed project.

c) In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?	☐	☐	☒	☐

Response:
Less Than Significant Impact. As described previously, the project site is located in a developing portion of Moreno Valley and is adjacent to roadways to the north, single-family residences to the east, commercial and educational uses to the west, and single-family residences to the south. Nearby parcels are developed with single-family residential, commercial, and educational uses. The project site is vacant. The existing character of the site and surrounding area is neither unique nor of special aesthetic value or quality.

ISSUES & SUPPORTING INFORMATION SOURCES:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact

The project would develop the project site to contain 81 new single-family residences, which would be similar to the single-family residential uses that are adjacent to the east of the site, to the south of the site beyond the Val Verde Academy, and to the north of the site beyond Iris Avenue.

Zoning. The project site is currently zoned as Residential 5 District (R5) and Community Commercial District (CC). The project includes a zone change to Residential Single-Family 10 District (RS10) to implement the proposed single-family residential uses. Section 9.03.020 of the City's Municipal Code states that the Residential Single-Family 10 District (RS10) zoning district is to provide for residential development on small single-family lots with amenities not generally found in suburban subdivisions. The district is intended for subdivisions at a maximum allowable density of 10 du/ac.

The proposed development would also require approval of a Conditional Use Permit (CUP) for a Planned Unit Development (PUD), which allows for a development to establish unique criteria for such things as setbacks, lot width and depth, building separation, and lot size. This is allowed in exchange for a higher level of detail and amenities within the project than typically required for standard residential development. The project would include a higher level of detail and amenities than standard residential development, including recreational amenities. Therefore, the project would be consistent with the standards for approval of a PUD listed in Section 9.03.060 of the City's Municipal Code.

In addition, as required within the RS10 district, the project shall provide small lot single-family subdivisions on less than 15 gross acres with landscaping and decorative walls along the street side of corner lots and at least two of the following amenities throughout the project; front porches; automatic garage door openers; and/or electronic security systems. The proposed project would install landscaping and decorative walls throughout the project site, as seen in Figure 7, *Landscape Plan*. The project would also provide front porches and automatic garage door openers for compliance with Section 9.03.040 of the Municipal Code.

As detailed in Table AES-1, with approval of a PUD, the proposed project would be consistent with the development standards for the RS10 zoning district listed in Municipal Code Section 9.03.040. Thus, the proposed project would not conflict with applicable zoning regulations governing scenic quality.

Table AES-1: Project Consistency with Residential 10 District (RS10) Development Standards

Standard	Municipal Code	Proposed
Minimum lot size	4,500 SF	2,250 SF*
Lot width	45 ft.	30 ft.*
Lot depth	85 ft.	75 ft.*
Maximum density	10 du/acre	7.58 du/acre
Height limit	35 feet/2 stories	30 feet/2 stories
*consistent with approval of a PUD		

General Plan. The project site currently has a General Plan land use designation of Residential: Max. 5 du/ac (R5) and Commercial (C). The proposed project includes a General Plan Amendment to change the designation of the site to Residential: Max. 10 du/ac (R10). According to the General Plan Land Use Element, the Residential: Max. 10 du/ac (R10) General Plan land use designation allows for development of residential uses to a maximum density of 10 dwelling units per acre. According to the General Plan Land Use Element, the Commercial General Plan land use designation allows for development of commercial uses.

The project's proposed density of approximately 7.48 du/ac would be consistent with the maximum allowable density of 10 du/ac with approval of a PUD. In addition, the project would be consistent with the General Plan Land Use Element goals and policies related to scenic quality, as shown in Table AES-2.

ISSUES & SUPPORTING INFORMATION SOURCES:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact

Table AES-2: Consistency with Land Use Element Goals and Policies Related to Scenic Quality

Goal or Policy	Project Consistency
Goal 2.1: A pattern of land uses, which organizes future growth, minimizes conflicts between land uses, and which promotes the rational utilization of presently underdeveloped and undeveloped parcels.	**Consistent.** The proposed project is a residential community on an infill parcel that creates a transition between the lower-density residential development to the east and the commercial and institutional uses to the west. This infill project would support the goal of minimizing conflict between land uses as it would contribute to the overall cohesiveness of the city by developing an underutilized plot of land. Therefore, the project would be consistent with Goal 2.1.
Goal 2.4: A supply of housing in sufficient numbers suitable to meet the diverse needs of future residents and to support healthy economic development without creating an oversupply of any particular type of housing.	**Consistent.** The proposed project would develop the vacant site with 81 new single-family residences, which would assist in meeting the diverse needs of future residents. In addition, the project would provide varying plans and architectural styles for the single-family residences, which would support healthy economic development ensuring an oversupply of a particular type of housing would not occur. Therefore, the project would be consistent with Goal 2.4.
Policy 2.2.8: The primary purpose of areas designated Residential 10 is to provide for a variety of residential products and to encourage innovation in housing types. Developments within Residential 10 areas are typically expected to provide amenities not generally found in suburban subdivisions, such as common open space and recreational areas. The maximum allowable density shall be 10.0 dwelling units per acre.	**Consistent.** This project involves a General Plan Amendment from R5 and C to R10 and a proposed Zone Change from R5 and CC to RS10. These land use changes allow for an increase in residential density from maximum 5 du/ac to 10 du/ac. The project implements an innovative housing type, detached single-family homes with attached garages on compact lots, and includes common open space areas and recreational features. Therefore, the project would be consistent with Policy 2.2.8.
Policy 2.2.12: Planned Unit Developments (PUD) shall be encouraged for residential construction in order to provide housing that is varied by type, design, form of ownership, and size. PUD's shall also provide opportunities to cluster units to protect significant environmental features and/or provide unique recreational facilities.	**Consistent.** As described in the Project Description, the proposed project would provide various plans and architectural styles for the single-family residences to provide housing that is varied by type, design, and size. In addition, the project would provide sidewalks and landscaping along the streets and within common areas provide unique recreational

ISSUES & SUPPORTING INFORMATION SOURCES:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
	facilities. Therefore, the project would be consistent with Policy 2.2.12.			
Policy 2.2.13: Discourage costly "leap-frog" development patterns by encouraging in-fill development wherever feasible, thereby reducing overall housing costs. Development within an area designated as SP 212-1 (Moreno Highlands) is not considered to be leapfrog development.	**Consistent.** The project is proposing to develop 81 single-family detached residences on an infill parcel. The project having a density of 10 du/ ac and developing an infill parcel is consistent with this local policy and is also supportive of State guidance to increase housing availability and affordability. Therefore, the project would be consistent with Policy 2.2.13.			
Policy 2.2.14: Encourage a diversity of housing types, including conventional, factory built, mobile home, and multiple family dwelling units.	**Consistent.** As described in the previous response, the proposed project would provide varying plans and architectural styles for the single-family residences to provide a diversity of housing types. Therefore, the project would be consistent with Policy 2.2.14.			
Policy 2.3.1: Within individual residential projects, a variety of floor plans and elevations should be offered.	**Consistent.** As described in the previous response, the proposed project would provide varying plans and architectural styles for the single-family residences. Therefore, the project would be consistent with Policy 2.3.1.			
Policy 2.3.2: Encourage building placement variations, roofline variations, architectural projections, and other embellishments to enhance the visual interest along residential streets.	**Consistent.** The proposed residential development would be designed with contemporary architectural elements, multi-level rooflines, and a complementary color scheme. Architectural elements in the exterior design would include stucco finish, stone veneer accents, metal awnings and deck railings, and vinyl window and door trim. The project would be designed with varying architectural design influences. When complete, the development would be representative of a modern residential community. In addition, landscaping improvements associated with the proposed project are anticipated to improve the existing visual character of the project site and would serve to provide increased visual interest along residential streets. Therefore, the project would be consistent with Policy 2.3.2.			

ISSUES & SUPPORTING INFORMATION SOURCES:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact

Policy 2.3.3: Discourage the development of single-family residences with a bulk (building mass) that is out of scale with the size of the parcels on which they are located.	**Consistent.** The proposed project would construct the proposed single-family residences with 3 different plans designed to conform to the size of the parcel on which they are located. Therefore, the project would be consistent with Policy 2.3.3.
Policy 2.3.4: Design large-scale small lot single family and multiple family residential projects to group dwellings around individual open space and/or recreational features.	**Consistent.** The proposed project would construct the proposed single-family residences with approximately 40,200 SF of private open space, as well as approximately 26,136 SF of common open space within the designated community park and fitness park proposed for the project site. Therefore, the project would be consistent with Policy 2.3.4.
Policy 2.10.1: Encourage a design theme for each new development that is compatible with surrounding existing and planned developments.	**Consistent.** The proposed project includes architectural styles, colors, and materials that are consistent with surrounding development, while providing enhancements that are consistent with contemporary architectural trends, allowing the community to be both compatible and distinctive. The overall theme encourages a seamless transition between the adjacent developments. Therefore, the project would be consistent with Policy 2.10.1.

Overall, the proposed project would be consistent with development standards required by the Residential Single-Family 10 Zoning District (RS10) with the approval of a CUP for a PUD, the Residential: Max. 10 du/ac (R10) General Plan land use designation, as well as the Land Use Element goals and policies related to scenic quality. Thus, the project would not conflict with applicable zoning and other regulations governing scenic quality. Furthermore, the project would increase the visual cohesion between the project site and the surrounding single-family residential area. Hence, the proposed project would not degrade the visual character of the project site and surrounding area; and impacts would be less than significant.

d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	☐	☐	☒	☐

Response:

Less Than Significant Impact. The project site is undeveloped and has no existing source of nighttime lighting. However, the project site is surrounded by sources of nighttime lighting including streetlights along Iris Avenue, illumination from vehicle headlights, offsite exterior residential related lighting, offsite exterior commercial lighting, offsite exterior institutional lighting, and interior illumination passing through windows. Sensitive receptors relative to lighting and glare include residents, motorists, and pedestrians.

The proposed project would include the provision of street lighting and nighttime lighting for security purposes around all of the residences. Implementation of the proposed project would contribute additional sources to the overall ambient

ISSUES & SUPPORTING INFORMATION SOURCES:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact

nighttime lighting conditions. However, all outdoor lighting would be hooded, appropriately angled away from adjacent land uses, and would comply with the Moreno Valley Municipal Code, Section 9.16.280 that will highlight building features and add emphasis to important spaces and entryways, while limiting glare and light trespass onto adjacent properties. Because the project site is within an urban area with various sources of existing nighttime lighting, and the project would be required to comply with the City's lighting regulations that would be verified by the City's Building and Safety Division during the permitting process, the lighting increase in light that would be generated by the project would not adversely affect day or nighttime views in the area. Overall, lighting impacts would be less than significant.

Reflective light (glare) can be caused by sunlight or artificial light reflecting from finished surfaces such as window glass or other reflective materials. Generally, darker or mirrored glass would have a higher visible light reflectance than clear glass. Buildings constructed of highly reflective materials from which the sun reflects at a low angle can cause adverse glare. The proposed project would not use highly reflective surfaces, or glass sided buildings. Although the residences would contain windows, the windows would be separated by stucco and architectural elements, which would limit the potential of glare. In addition, as described previously, onsite lighting would be angled down and shielded, which would avoid the potential on onsite lighting to generate glare. Therefore, the project would not generate substantial sources of glare, and impacts would be less than significant.

Existing Plans, Programs, or Policies

None.

Mitigation Measures

None.

Sources:

1. Moreno Valley General Plan, adopted July 11, 2006
   - Chapter 2 – Community Development Element – Section 2.3 – Community Design
   - Chapter 7 – Conservation Element – Section 7.8 – Scenic Resources
     - Figure 6-2 – Major Scenic Resources
2. Final Environmental Impact Report City of Moreno Valley General Plan, certified July 11, 2006
   - Section 5.11 – Aesthetics
     - Figure 4.11-1 – Major Scenic Resources
3. Title 9 – Planning and Zoning of the Moreno Valley Municipal Code
   - Section 9.10.110 – Light and Glare of the Moreno Valley Municipal Code.
   - Chapter 9.16 – Design Guidelines
   - Section 9.17.030 G – Heritage Trees

4. California Department of Transportation, California Scenic Highway Mapping System. 2020. Accessed: at http://www.dot.ca.gov/hq/LandArch/16_livability/scenic_highways/ (Accessed April 22, 2020).

II. AGRICULTURE AND FOREST RESOURCES – In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment project; and forest carbon measurement methodology provided in Forest protocols adopted by the California Air Resources Board.

Would the project:

a)	Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	☐	☒

ISSUES & SUPPORTING INFORMATION SOURCES:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Response: **No Impact.** The project site is identified by the California Department of Conservation (CDC) Important Farmland Finder as "Urban and Built-Up Land" (CDC 2020). "Urban and Build-Up Land" is occupied by structures with a building density of at least 1 unit to 1.5 acres, or approximately 6 structures to a 10-acre parcel. The project site is not designated as Prime, Unique, or Farmland of Statewide Importance. Thus, the proposed project would not result in impacts related to conversion of Prime Farmland, Unique Farmland, or Farmland of Statewide Importance to non-agricultural use.				
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☐	☒
Response: **No Impact.** The project site has an existing zoning designation of Residential 5 (R5) District and Community Commercial (CC) District. The project site is not zoned for agricultural use and is not subject to a Williamson Act contract. Thus, the proposed project would not result in impacts related to conflict with an existing agricultural zoning or Williamson Act contract, and impacts would not occur.				
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?	☐	☐	☐	☒
Response: **No Impact.** No forest land exists on or adjacent to the project site. The project is not zoned for forest land or timberland uses. Thus, the proposed project would not result in impacts related to conflict with an existing forest land or timberland zoning, and impacts would not occur.				
d) Result in the loss of forest land or conversion of forest land to non-forest use?	☐	☐	☐	☒
Response: **No Impact.** No forest land exists on the project site. Thus, the proposed project would not result in the loss of forest land or conversion of forest land to non-forest use, and impacts would not occur.				
e) Involve other changes in the existing environment which, due to their location or nature, could result in the conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?	☐	☐	☐	☒
Response: **No Impact.** As described in the responses above, the project area does not include farmland or forest land; thus, implementation of the proposed project would not involve other changes in the existing environment which, due to their location or nature, could result in conversion of farmland, to non-agricultural use or conversion of forest land to non-forest use. Impacts would not occur.				
Existing Plans, Programs, or Policies None.				
Mitigation Measure None.				
Sources: 1. Moreno Valley General Plan, adopted July 11, 2006 • Chapter 7 – Conservation Element – Section 7.7 – Agricultural Resources 2. Final Environmental Impact Report City of Moreno Valley General Plan, certified July 11, 2006 • Section 5.8 – Agricultural Resources - Figure 4.8-1 – Important Farmlands 3. Title 9 – Planning and Zoning of the Moreno Valley Municipal Code				

ISSUES & SUPPORTING INFORMATION SOURCES:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
4. California Department of Conservation, Important Farmland Finder. 2016. Available: https://maps.conservation.ca.gov/dlrp/ciff/ (Accessed April 22, 2020).				
III. AIR QUALITY – Where available, the significance criteria established by the applicable air quality management district or air pollution control district may be relied upon to make the following determinations. **Would the project:**				
a) Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☒	☐

Response: Less Than Significant Impact. The project site is located in the South Coast Air Basin (SCAB), which is under the jurisdictional boundaries of the South Coast Air Quality Management District (SCAQMD). The SCAQMD and Southern California Association of Governments (SCAG) are responsible for preparing the Air Quality Management Plan (AQMP), which addresses federal and state Clean Air Act (CAA) requirements. The AQMP details goals, policies, and programs for improving air quality in the Basin. In preparation of the AQMP, SCAQMD and SCAG uses regional growth projections to forecast, inventory, and allocate regional emissions from land use and development-related sources.

As described in Chapter 12, Section 12.2 and Section 12.3 of the SCAQMD's CEQA Air Quality Handbook (1993), for purposes of analyzing consistency with the AQMP, if a proposed project would result in growth that is substantially greater than what was anticipated, then the proposed project would conflict with the AQMP. On the other hand, if a project's density is within the anticipated growth of a jurisdiction, its emissions would be consistent with the assumptions in the AQMP, and the project would not conflict with SCAQMD's attainment plans. In addition, the SCAQMD considers projects consistent with the AQMP if the project would not result in an increase in the frequency or severity of existing air quality violations or cause a new violation.

The proposed project is a residential development project on currently vacant site. The site is located within a residential area of Moreno Valley. As further described in Section 14, *Population and Housing*, the 81 new residences would result in the addition of 321 new residents, which would represent a population increase of approximately 0.15 percent and a 0.14 percent increase in residential units within the city. This limited level of growth would not exceed growth projections and would be consistent with the assumptions in the AQMP.

In addition, emissions generated by construction and operation of the proposed project would not exceed thresholds. As described in the analysis below, the project would not result in an increase in the frequency or severity of existing air quality violations or cause a new violation. Therefore, impacts related to conflict with the AQMP from the proposed project would be less than significant.

b) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?	☐	☐	☒	☐

Response:

Less Than Significant Impact. The SCAB is in a non-attainment status for federal ozone standards, federal carbon monoxide standards, and state and federal particulate matter standards. Any development in the SCAB, including the proposed project, could cumulatively contribute to these pollutant violations. The methodologies from the SCAQMD CEQA Air Quality Handbook are used in evaluating project impacts. SCAQMD has established daily mass thresholds for regional pollutant emissions, which are shown in Table AQ-1. Should construction or operation of the proposed project exceed these thresholds a significant impact could occur; however, if estimated emissions are less than the thresholds, impacts would be considered less than significant.

ISSUES & SUPPORTING INFORMATION SOURCES:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact

Table AQ-1: SCAQMD Regional Daily Emissions Thresholds

Pollutant	Construction (lbs/day)	Operations (lbs/day)
NOx	100	55
VOC	75	55
PM-10	150	150
PM-2.5	55	55
SOx	150	150
CO	550	550

Source: CalEEMod Emission Summary (Appendix A)

Construction

Construction activities associated with the proposed project would generate pollutant emissions from the following: (1) demolition and removal of the existing onsite improvements and recycling debris; (2) grading and excavation; (3) construction workers traveling to and from project site; (4) delivery and hauling of construction supplies to, and debris from, the project site; (5) fuel combustion by onsite construction equipment; (6) building construction; application of architectural coatings; and paving. The amount of emissions generated on a daily basis would vary, depending on the intensity and types of construction activities occurring.

It is mandatory for all construction projects to comply with several SCAQMD Rules, including Rule 823 for controlling fugitive dust, PM-10, and PM-2.5 emissions from construction activities. Rule 823 requirements include, but are not limited to: applying water in sufficient quantities to prevent the generation of visible dust plumes, applying soil binders to uncovered areas, reestablishing ground cover as quickly as possible, utilizing a wheel washing system to remove bulk material from tires and vehicle undercarriages before vehicles exit the site, covering all trucks hauling soil with a fabric cover and maintaining a freeboard height of 12 inches, and maintaining effective cover over exposed areas. Compliance with Rule 823 was accounted for in the construction emissions modeling for the project. In addition, implementation of SCAQMD Rule 1113 that governs the VOC content in architectural coating, paint, thinners, and solvents, was accounted for in the construction emissions modeling for the project. As shown in Table AQ-2, CalEEMod results indicate that construction emissions generated by the proposed project would not exceed SCAQMD regional thresholds. Therefore, emissions from construction activities would be less than significant.

ISSUES & SUPPORTING INFORMATION SOURCES:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact

Table AQ-2: Construction Emissions Summary

Construction Activity	Maximum Daily Emissions (pounds/day)					
	ROG	NOx	CO	SOx	PM-10	PM-2.5
2021						
Site Preparation	5.4	60.8	22.6	0.1	9.8	6.4
Grading	5.1	62.0	32.7	0.1	6.4	3.7
Building Construction	2.7	22.4	22.4	0.0	2.8	1.4
Paving 1	2.1	12.9	15.3	0.0	0.9	0.6
Maximum Daily Emission	5.4	62.0	37.7	0.1	9.8	6.4
2022						
Building Construction	2.4	20.3	21.8	0.0	2.6	1.3
Architectural Coating 1	60.5	1.5	2.7	0.0	0.4	0.2
Architectural Coating 2	60.5	1.5	2.7	0.0	0.4	0.2
Architectural Coating 3	60.5	1.5	2.7	0.0	0.4	0.2
Maximum Daily Emission	62.9	21.8	24.5	0.0	3.0	1.5
2023						
Building Construction	2.2	18.0	21.1	0.0	3.2	1.0
Paving 2	1.9	10.2	15.1	0.0	0.7	0.5
Architectural Coating 4	60.5	1.5	2.7	0.0	0.4	0.2
Maximum Daily Emissions	60.5	18.0	21.1	0.0	3.2	1.0
2021 to 2023 Maximum Daily Emissions	**62.9**	**62.0**	**37.7**	**0.1**	**9.8**	**6.4**
SCAQMD Significance Thresholds	**75**	**100**	**550**	**150**	**150**	**55**
Emissions Exceed Thresholds?	**No**	**No**	**No**	**No**	**No**	**No**

Notes:
ROG=reactive organic gases NOx=oxides of nitrogen PM-10= particulate matter 10 microns or less in diameter
PM-2.5=particulate matter 2.5 microns or less in diameter CO=carbon monoxide SOx= sulfure oxides
PM emissions reflect SCAQMD Rule 823 reductions
Source: see CalEEMod model output

Source: CalEEMod Emission Summary (Appendix A)

Operation

Operation of the 81 single-family residences would result in long-term regional emissions of criteria air pollutants and ozone precursors associated with area sources, such as natural gas consumption, landscaping, applications of architectural coatings, and consumer products. However, vehicular emissions would generate a majority of the operational emissions from the project.

Operational emissions associated with the proposed project were modeled using CalEEMod and are presented in Table AQ-3. As shown, the proposed project would result in long-term regional emissions of the criteria pollutants that would be below the SCAQMD's applicable thresholds. Therefore, operation of the project would not result in a cumulatively considerable net increase of any criteria pollutant impacts, and operational impacts would be less than significant.

ISSUES & SUPPORTING INFORMATION SOURCES:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact

Table AQ-3: Summary of Peak Operational Emissions

Operational Activity	Maximum Daily Regional Emissions (pounds/day)				
	ROG	NOx	CO	PM-10	PM-2.5
Area	4.3	0.1	6.7	0.0	0.0
Energy	0.1	0.6	0.3	0.1	0.1
Mobile	1.1	8.1	14.3	5.9	1.6
Total Project Operational Emissions	**5.5**	**8.8**	**24.3**	**6.0**	**1.7**
SCAQMD Significance Threshold	**55**	**55**	**550**	**150**	**55**
Exceed Threshold?	**No**	**No**	**No**	**No**	**No**

Notes:
NOx = oxides of nitrogen PM10 = particulate matter 10 microns or less in diameter ROG = reactive organic gases
PM2.5 = particulate matter 2.5 microns or less in diameter CO = carbon monoxide
Source: see CalEEMod model output

Source: CalEEMod Emission Summary (Appendix A)

c) Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	☒	☐

Response:

Less Than Significant Impact. The SCAQMD's *Final Localized Significance Threshold Methodology* (SCAQMD 2008) recommends the evaluation of localized NO2, CO, PM-10, and PM-2.5 construction-related impacts to sensitive receptors in the immediate vicinity of the project site. Such an evaluation is referred to as a localized significance threshold (LST) analysis. According to the SCAQMD's *Final Localized Significance Threshold Methodology*, "off-site mobile emissions from the project should not be included in the emissions compared to the LSTs" (SCAQMD 2008). SCAQMD has developed LSTs that represent the maximum emissions from a project that are not expected to cause or contribute to an exceedance of the most stringent applicable federal or state ambient air quality standards, and thus would not cause or contribute to localized air quality impacts. LSTs are developed based on the ambient concentrations of NOx, CO, PM-10, and PM-2.5 pollutants for each of the 38 source receptor areas (SRAs) in the SCAB. The project site is located within SRA 24, Perris Valley. The LSTs for this SRA were applied to the project.

Sensitive receptors can include residences, schools, playgrounds, childcare centers, athletic facilities. The project location is surrounded by several residential areas to the north and east with a shopping center and Val Verde Academy to the west of the project. The closest sensitive receptors where such a receptor could reside for 24 hours or longer are located at existing residences along the project's eastern property line. Therefore, the distance for sensitive receptors in the LST assessment was set at 25 meters, the shortest distance contained in the SCAQMD LST emission look-up tables (AQ 2020).

Construction

The localized thresholds from the mass rate look-up tables in SCAQMD's Final Localized Significance Threshold Methodology document, were developed for use on projects that are less than or equal to 5-acres in size or have a disturbance of less than or equal to 5 acres daily. The maximum daily area disturbed during construction is 4.0 acres, which occurs during grading activities. Therefore, the maximum daily disturbed area during construction was set as 4.0 acres for the localized assessment of construction impacts (AQ 2020).

Table AQ-4 identifies the localized impacts at the nearest receptor location in the vicinity of the project. As shown, project construction-source emissions would not exceed the applicable SCAQMD LSTs for emissions of any criteria pollutant. Thus, implementation of the project would not result in a localized air quality impact.

ISSUES & SUPPORTING INFORMATION SOURCES:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact

Table AQ-4: Localized Significance Summary of Construction

Construction Activity	Maximum Daily Emissions (pounds/day)			
	NOx	CO	PM-10	PM-2.5
2021				
Site Preparation	60.8	21.9	9.6	5.3
Grading	56.5	31.2	5.7	3.5
Building Construction	17.4	16.6	1.0	0.9
Paving 1	12.9	14.7	0.7	0.6
Maximum Daily Emission	60.8	31.3	9.6	0.9
2022				
Building Construction	15.6	16.4	0.8	0.8
Architectural Coating 1	1.4	1.8	0.1	0.1
Architectural Coating 2	1.4	1.8	0.1	0.1
Architectural Coating 3	1.4	1.8	0.1	0.1
Maximum Daily Emission	17.0	18.2	0.9	0.9
2023				
Building Construction	14.4	16.2	1.4	0.5
Paving 2	10.2	14.6	0.5	0.5
Architectural Coating 4	1.4	1.8	0.1	0.1
Maximum Daily Emissions	14.4	16.2	1.4	0.5
2021 to 2023 Maximum Daily Emissions	**60.8**	**31.3**	**9.8**	**6.4**
SCAQMD Significance Thresholds	**239**	**1,346**	**11**	**7**
Emissions Exceed Thresholds?	**No**	**No**	**No**	**No**

Notes:
ROG=reactive organic gases NOx=oxides of nitrogen PM-10= particulate matter 10 microns or less in diameter
PM-2.5=particulate matter 2.5 microns or less in diameter CO=carbon monoxide SOx= sulfure oxides
PM emissions reflect SCAQMD Rule 823 reductions
Source: see CalEEMod model output

As described in Response 4.3(a), the proposed project would not significantly increase long-term emissions within the project area. Construction of the proposed project may expose nearby residential sensitive receptors to airborne particulates as well as a small quantity of construction equipment pollutants (i.e., usually diesel-fueled vehicles and equipment). However, construction contractors would be required to implement measures to reduce or eliminate emissions by following SCAQMD's standard construction practices (Rules 822 and 823, as included as PPP AQ-1 and PPP AQ-2). Rule 822 requires implementation of dust suppression techniques to prevent fugitive dust from creating a nuisance off site. Rule 823 requires that fugitive dust be controlled with best available control measures so that the presence of such dust does not remain visible in the atmosphere beyond the property line of the emission source. Therefore, sensitive receptors would not be exposed to substantial pollutant concentrations during construction, and impacts would be less than significant.

Operation

For operational LSTs, onsite passenger car and truck travel emissions were modeled. The SCAQMD has established that impacts to air quality are significant if there is a potential to contribute or cause localized exceedances of the federal and/or state Ambient Air Quality Standards. As shown on Table AQ-5, operational emissions would not exceed the SCAQMD's localized significance thresholds for any criteria pollutant at the nearest sensitive receptor. Therefore, localized air quality impacts from operational activities would be less than significant.

ISSUES & SUPPORTING INFORMATION SOURCES:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact

Table AQ-5: Localized Significance Summary of Operations

Operational Activity	Maximum Daily Localized Emissions (pounds/day)			
	NOx	CO	PM-10	PM-2.5
Area	0.1	6.8	0.0	0.0
Energy	0.6	0.3	0.1	0.1
Mobile	6.4	3.2	0.1	0.0
Total Project Operational Emissions	7.1	10.3	0.2	0.1
SCAQMD Significance Threshold	270	1,577	4	2
Exceed Threshold?	**No**	**No**	**No**	**No**

Notes:
NOx = oxides of nitrogen PM-10 = particulate matter 10 microns or less in diameter
PM-2.5 = particulate matter 2.5 microns or less in diameter CO = carbon monoxide
Source: see CalEEMod model output

Source: CalEEMod Emission Summary (Appendix A)

d) Result in other emissions (such as those leading to odors adversely affecting a substantial number of people?	☐	☐	☒	☐

Response:

No Impact. The proposed project would not emit other emissions, such as those generating objectionable odors, that would affect a substantial number of people. The threshold for odor is identified by SCAQMD Rule 822, Nuisance, which states:

> *A person shall not discharge from any source whatsoever such quantities of air contaminants or other material which cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public, or which endanger the comfort, repose, health or safety of any such persons or the public, or which cause, or have a natural tendency to cause, injury or damage to business or property. The provisions of this rule shall not apply to odors emanating from agricultural operations necessary for the growing of crops or the raising of fowl or animals*.

The type of facilities that are considered to result in other emissions, such as objectionable odors, include wastewater treatments plants, compost facilities, landfills, solid waste transfer stations, fiberglass manufacturing facilities, paint/coating operations (e.g., auto body shops), dairy farms, petroleum refineries, asphalt batch plants, chemical manufacturing, and food manufacturing facilities.

The proposed project would implement residential development within the project area that does not involve the types of uses that would emit objectionable odors affecting a substantial number of people. In addition, odors generated by non-residential land uses are required to be in compliance with SCAQMD Rule 822, which would prevent nuisance odors.

During construction, emissions from construction equipment, architectural coatings, and paving activities may generate odors. However, these odors would be temporary, intermittent in nature, and would not affect a substantial number of people. The noxious odors would be confined to the immediate vicinity of the construction equipment. Also, the short-term construction-related odors would cease upon the drying or hardening of the odor-producing materials. Therefore, impacts associated with other emissions, such as odors, would not adversely affect a substantial number of people.

Existing Plans, Programs, or Policies

PPP AQ-1: Rule 822. The project is required to comply with the provisions of South Coast Air Quality Management District (SCAQMD) Rule 822. The project shall not discharge from any source whatsoever such quantities of air contaminants or other material which cause injury, detriment, nuisance, or annoyance to any considerable number of

ISSUES & SUPPORTING INFORMATION SOURCES:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact

persons or to the public, or which endanger the comfort, repose, health or safety of any such persons or the public, or which cause, or have a natural tendency to cause, injury or damage to business or property.

PPP AQ-2: Rule 823. The project is required to comply with the provisions of South Coast Air Quality Management District (SCAQMD) Rule 823, which includes the following:

- All clearing, grading, earth-moving, or excavation activities shall cease when winds exceed 25 mph per SCAQMD guidelines in order to limit fugitive dust emissions.
- The contractor shall ensure that all disturbed unpaved roads and disturbed areas within the project are watered, with complete coverage of disturbed areas, at least 3 times daily during dry weather; preferably in the mid-morning, afternoon, and after work is done for the day.
- The contractor shall ensure that traffic speeds on unpaved roads and project site areas are reduced to 15 miles per hour or less.

PPP AQ-3: Rule 1113. The project is required to comply with the provisions of South Coast Air Quality Management District Rule (SCAQMD) Rule 1113. Only "Low-Volatile Organic Compounds" paints (no more than 50 gram/liter of VOC) and/or High Pressure Low Volume (HPLV) applications shall be used**.**

Mitigation Measure
None.

Sources:

1. Moreno Valley General Plan, adopted July 11, 2006
   - Chapter 5 – Circulation Element
   - Chapter 6 – Safety Element – Section 6.6 – Air Quality
2. Final Environmental Impact Report City of Moreno Valley General Plan, certified July 11, 2006
   - Section 5.3 – Air Quality
     - Figure 4.3-1 – South Coast Air Basin
   - Appendix C – Air Quality Analysis, P&D Consultants, July 2003
3. Title 9 – Planning and Zoning of the Moreno Valley Municipal Code
   - Section 9.10.050 – Air Quality of the Moreno Valley Municipal Code
   - Section 9.10.150 – Odors of the Moreno Valley Municipal Code
   - Section 9.10.170 – Vibration of the Moreno Valley Municipal Code
4. Moreno Valley Municipal Code Section 12.50.040 – Limitations on Engine Idling
5. Summary of CalEEMod Model Runs and Output for the Iris Park Residential Project. April 8, 2020. Prepared by Vince Mirabella (Appendix A).
6. South Coast Air Quality Management District Final Localized Significance Threshold Methodology (SCAQMD 2008). Accessed: http://www.aqmd.gov/docs/default-source/ceqa/handbook/localized-significance-thresholds/final-lst-methodology-document.pdf (Accessed May 5, 2020).

IV. BIOLOGICAL RESOURCES – Would the project:				
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☐	☒	☐	☐

Response:
Less Than Significant Impact with Mitigation Incorporated. The project site is vacant and undeveloped and has been disturbed. A Biological Habitat Assessment was prepared for the proposed project, which included a literature search to identify special status plants, wildlife, and habitats known to occur in the vicinity of the project site. General plant and wildlife surveys were also conducted to identify any biological resources on or adjacent to the project site. The project site is within the Western Riverside County MSHCP Reche Canyon/Badlands Area Plan.

ISSUES & SUPPORTING INFORMATION SOURCES:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact

The Habitat Assessment identified 18 special-status wildlife species and one special-status plant species. Special-status wildlife species identified in the literature review that were determined to have a potential for occurrence (PFO) within the survey area include California horned lark (*Eremophila alpestris actia*), California glossy snake (*Arizona elegans occidentalis*) and Western yellow bat (*Lasiurus xanthinus*). Species PFO was determined based on proximity of historical records and quality of habitat on site. Of the 18 target wildlife species documented to occur within the project vicinity, one (California horned lark) was determined to have a moderate potential for occurrence, and two (glossy snake and western yellow bat) had a low potential for occurrence based on proximity of historical records and quality of habitat on site.

California horned lark is a covered species under the MSHCP. This species may be subject to both temporary and permanent, direct, and indirect impacts, as a result of the proposed project (Blackhawk 2020). Thus, Mitigation Measure BIO-1 has been included to ensure compliance with the MSHCP through the payment of MSCHP mitigation fees. With implementation of Mitigation Measures BIO-1, impacts related to MSCHP covered special-status species would be less than significant.

Western yellow bat was determined to have a low potential for roosting within the survey area based on the presence of Mexican fan palms (*Washingtonia robusta*) present on lands immediately adjacent to the project site. However, suitable roosting sites for this species do not occur directly within the project and this species is presumed absent from the project site (Blackhawk 2020).

Based on California Natural Diversity Database, U.S. Fish and Wildlife Service, and Calfiornia Native Plant Society-documented occurrences within five miles of the project site, the literature review identified one special-status plant species requiring evaluation for its potential to occur on the project site (smooth tarplant; *Centromadia pungens ssp. laevis*). Smooth tarplant was determined to be absent from the project site and survey area, based on lack of individuals observed on site, proximity of historic records, and quality of habitat on site.

In addition, a Habitat Assessment for burrowing owl was performed throughout the survey area, as the entirety of the project falls within areas designated as MSHCP survey areas for the species. Blackhawk performed a habitat assessment for burrowing owl concurrently with the habitat assessment on February 24, 2020. The assessment was performed per the Burrowing Owl Survey Instructions for the Western Riverside Multiple Species Habitat Conservation Plan Area – Step 1 Habitat Assessment (2005, by walking meandering transects through the entire survey area (excluding urban development). At the time of the assessment, the project site did not support suitable habitat for burrowing owl; however, two rubble piles containing shallow cavities were identified on the site and were occupied by desert cottontail and a domestic cat during the 2020 breeding season, precluding occupation by burrowing owl. The habitat assessment determined that the survey area does not support suitable habitat for burrowing owl. Though, occupied by other species at the time of the assessment, these rubble piles have a low potential to support migrating burrowing owls as temporary roost sites, if they become vacant (prior to construction. Following the MSHCP recommendation of a preconstruction burrowing owl survey within 30 days prior to construction, no negative impacts to burrowing owl are anticipated. If burrowing owls are present during the nonbreeding season (September 1 through February 28), burrowing owl exclusion measures may be implemented in accordance with the Plan.

The Habitat Assessment performed by Blackhawk Environmental identified suitable habitat and substrate for migratory birds that are protected under the Migratory Bird Treaty Act and California Department of Fish and Wildlife (CDFW) Codes 3503 and 3503.5 (Blackhawk 2020). Therefore, Mitigation Measure BIO-2 has been included to require pre-construction nesting bird surveys, as well as recommendations for vegetation removal outside of the nesting bird season. With implementation of Mitigation Measure BIO-2, impacts related to protected bird species would also be reduced to a less than significant level.

Thus, through adherence to the recommendations provided in the Habitat Assessment, payment of the MSHCP mitigation fees, and implementation of pre-construction nesting bird surveys, the project would be fully consistent with the MSCHP, CDFW, and USFWS, and impacts would be less than significant with implementation of MM BIO-1 and MM BIO-2.

ISSUES & SUPPORTING INFORMATION SOURCES:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☐	☐	☐	☒

Response:
No Impact. The project site consists of vacant land that has been heavily disturbed by grading. The Habitat Assessment performed by Blackhawk Environmental identified that the presence of any potentially jurisdictional features, including associated vegetation/communities, presence of ordinary high watermarks (OHWMs) or streambeds, substrates, hydrological indicators and potential connectivity was not observed during the Habitat Assessment.
In addition, riparian/riverine habitats were not identified within the project site. Due to the lack of habitat which supports riparian species, riparian/riverine-associated species listed in section 6.1.2 of the Plan are not expected to occur. No MSHCP-covered or riparian-associated species were directly observed during the February 24, 2020 field survey (Blackhawk 2020). Thus, impacts to riparian habitat or other sensitive natural community would not occur from implementation of the proposed project.

c) Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	☐	☐	☒

Response:
No Impact. As described in the response above, the project site does not contain any drainages, creeks, rivers, or other wetland areas, or any potentially jurisdictional water bodies that may be subject to USACE, RWQCB, and/or CDFW jurisdictions. In addition, no vernal pools or habitat that could potentially support fairy shrimp species were observed on the project site. Thus, impacts to state or federally protected wetlands would not occur from implementation of the proposed project.

d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with an established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	☐	☐	☒	☐

Response:
Less Than Significant Impact with Mitigation Incorporated. The project site is vacant and undeveloped but is adjacent to roadways, disturbed, and developed land uses. Due to the existing conditions of the project site and the surrounding land uses, the project would not interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors. There are no native wildlife nursery sites. However, as described previously, the site includes areas that are suitable for nesting birds that are protected under the Migratory Bird Treaty Act and California Department of Fish and Wildlife (CDFW) Codes 3503 and 3503.5 (Blackhawk 2020). Therefore, Mitigation Measure BIO-2 has been included to require pre-construction nesting bird surveys.

e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	☐	☒

Response:
No Impact. There are no local biological related policies or ordinances, such as a tree preservation policy or ordinance that is applicable to the proposed project. The project site is adjacent existing non-native ornamental trees that are on the right-of-way on Iris Avenue and adjacent to the single-family residential areas to the east and are not subject to any ordinances. The project site contains non-protected native shrubs and herbs as well as non-native grasses and shrubs, but there are no trees on the project site. Therefore, implementation of the proposed project would not conflict with local polices or ordinances protecting trees and no impact would occur.

ISSUES & SUPPORTING INFORMATION SOURCES:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or another approved local, regional, or state habitat conservation plan?	☐	☐	☐	☒

Response:

No Impact. See Response 4(a) above. The project site occurs within the Western Riverside County MSHCP. As required by the MSHCP, a Habitat Assessment for burrowing owl was performed throughout the survey area, as the entirety of the project falls within areas designated as MSHCP survey areas for the species. Furthermore, MM BIO-1 includes payment of MSHCP mitigation fees. With performance of the Habitat Assessment for burrowing owl and payment of MSHCP mitigation fees, the project is consistent with the provisions of the MSHCP. Development of the project site would not conflict with local, regional, or state resource preservation and/or conservation policies. Therefore, no significant impacts would occur as a result of project implementation.

Existing Plans, Programs, or Policies

None.

Mitigation Measures

MM-BIO 1: Payment of MSHCP Mitigation Fees. Prior to issuance of a grading or building permit, the applicant will be required to pay relevant MSHCP mitigation fees per the Final Mitigation Fee Nexus Report. These fees will be determined in consultation with the Riverside Conservation Authority based on final project classification and impacts. Payment of all mitigation fees will be required as part of the project approval process.

MM-BIO 2: Preconstruction Nesting Bird Surveys. To the extent feasible, conduct vegetation removal outside of the nesting bird season (generally between March 1 and August 31). If vegetation removal is required during the nesting bird season, conduct take avoidance surveys for nesting birds within 100-feet of areas proposed for vegetation removal. Surveys should be conducted by a qualified biologist(s) within 14 days of vegetation removal. If active nests are observed, a qualified biologist will determine appropriate minimum disturbance buffers or other adaptive mitigation techniques (e.g., biological monitoring of active nests during construction-related activities, staggered schedules, etc.) to ensure that impacts to nesting birds are avoided until the nest is no longer active.

Sources:

1. Moreno Valley General Plan, adopted July 11, 2006
   - Chapter 7 – Conservation Element – Section 7.1 – Biological Resources
2. Final Environmental Impact Report City of Moreno Valley General Plan, certified July 11, 2006
   - Section 5.9 – Biological Resources
     - Figure 4.9-1 – Planning Area Biological Geographic Sections
     - Figure 4.9-2 – Planning Area Vegetation Community
     - Figure 4.9-3 – Project Site Location within the MSHCP Area
     - Figure 4.9-4 – Reche Canyon/Badlands Area Plan
   - Appendix E – Biological Resources Study, Appendix E
3. Title 9 – Planning and Zoning of the Moreno Valley Municipal Code
   - Section 9.17.030 G – Heritage Trees
4. Moreno Valley Municipal Code Chapter 8.60 – Threatened and Endangered Species
5. Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP), http://www.wrc-rca.org/about-rca/multiple-species-habitat-conservation-plan/
6. Stephens' Kangaroo Rat Habitat Conservation Plan (SKRHCP), Governing Documents | RCHCA, CA
7. Iris Park Project, Western Riverside MSHCP Habitat Assessment and Consistency Analysis. March 31, 2020. Prepared by Blackhawk Environmental, Inc. (Appendix B).

ISSUES & SUPPORTING INFORMATION SOURCES:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
V. CULTURAL RESOURCES – Would the project:				
a) Cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5?	☐	☐	☐	☒

Response:

Less than Significant. According to the *State CEQA Guidelines*, a historical resource is defined as something that meets one or more of the following criteria:

1) Listed in, or determined eligible for listing in, the California Register of Historical Resources;
2) Listed in a local register of historical resources as defined in Public Resources Code (PRC) Section 5020.1(k);
3) Identified as significant in a historical resources survey meeting the requirements of PRC Section 5024.1(g); or
4) Determined to be a historical resource by the project's Lead Agency.

As described previously, the project site is currently vacant. A review of historical aerial photographs and topographic maps indicate that prior to 1990s, the project area was agricultural. By the late 1990s, the surrounding area saw increased commercial and residential development that has continued up to the present day. Based on the results of the cultural resources search and survey, the proposed project area is considered to have a low sensitivity for presence of significant prehistoric or historical archaeological deposits or features (CUL 2020). Therefore, the project would not cause a substantial adverse change in the significance of a historical resource, and no impact would occur.

b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	☐	☒	☐	☐

Response:

Less than Significant Impact with Mitigation Incorporated. The Phase 1 Cultural Resources Assessment prepared for the project site included an archaeological records check that was completed at the University of California, Riverside, Eastern Information Center (UCR-EIC). The UCR-EIC is the countywide clearing house/repository for all archaeological and cultural studies completed within the Riverside County. All pertinent data was researched, including previous studies for a one-mile radius surrounding the project area and the identification of recorded resources within one mile. In addition, the research included review of the current listings (federal, state, and local) for evaluated resources and reviewed historic maps. The record search indicated five previously recorded resources located within a one-mile radius of the area, with no resources located directly within the project area (CUL 2020). However, because previous resources have been identified within a one-mile radius of the project area, MM CUL-1 has been included to require contractors to halt work within 50 feet of any inadvertent finds of potential archaeological resource and to have the find evaluated by a qualified archaeologist.

Furthermore, as required for compliance with CEQA guidelines and the data requirements of the Office of Historic Preservation (OHP), an intensive field survey was conducted to adequately identify, describe, report , and, if possible, evaluate any cultural resources identified within the project area boundaries. This intensive field survey was conducted on March 6, 2020 by MCC Archaeologist Zachary White. During the course of fieldwork, survey conditions were fair and ground visibility was poor to good (10-80%) throughout the 10.8-acre project area, due to prior ground disturbance and vegetation coverage. The field survey determined that the property has been disturbed due to vehicular activity and modern dumping activity. No cultural resources were identified during the investigation (CUL 2020).

Based on the negative findings presented above, there are no cultural resources, significant or not, within or adjacent to the project area. In addition, as discussed previously, based on the results of the cultural resources search and survey, the proposed project area is considered to have a low sensitivity for presence of significant prehistoric or historical archaeological deposits or features Further, implementation of MM CUL-1 would ensure the proper treatment of any unknown resources that might be identified during construction activities. Thus, potential impacts related to archaeological resources would be less than significant.

ISSUES & SUPPORTING INFORMATION SOURCES:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
c) Disturb any human remains, including those interred outside of formally dedicated cemeteries?	☐	☐	☐	☒

Response:

No Impact. The project site has not been previously used as a cemetery. Thus, human remains are not anticipated to be uncovered during project construction. In addition, procedures of conduct following the discovery of human remains on non-federal lands have been mandated by California Health and Safety Code §7050.5, PRC §5097.98 and the California Code of Regulations (CCR) §15064.5(e), which have been included as PPP CUL-1. According to the provisions in CEQA, should human remains be encountered, all work in the immediate vicinity of the burial must cease and any necessary steps to ensure the integrity of the immediate area must be taken. The Riverside County Coroner shall be immediately notified and must then determine whether the remains are Native American. If the Coroner determines the remains are Native American, the Coroner has 24 hours to notify the NAHC, who will in turn, notify the person they identify as the Most-Likely-Descendent (MLD) of any human remains. Further actions will be determined, in part, by the desires of the MLD. The MLD has 48 hours to make recommendations regarding the disposition of the remains following notification from the NAHC of the discovery. If the MLD does not make recommendations within 48 hours, the owner shall, with appropriate dignity, reinter the remains in an area of the property secure from further disturbance. Alternatively, if the owner does not accept the MLD's recommendations, the owner or the descendent may request mediation by the NAHC (CUL 2020). Thus, with compliance with PPP CUL-1, no impacts would occur.

Existing Plans, Programs, or Policies

PPP CUL-1: Human Remains. Should human remains be encountered, all work in the immediate vicinity of the burial must cease and any necessary steps to ensure the integrity of the immediate area must be taken. The Riverside County Coroner shall be immediately notified and must then determine whether the remains are Native American. If the Coroner determines the remains are Native American, the Coroner has 24 hours to notify the NAHC, who will in turn, notify the person they identify as the Most-Likely-Descendent (MLD) of any human remains. Further actions will be determined, in part, by the desires of the MLD. The MLD has 48 hours to make recommendations regarding the disposition of the remains following notification from the NAHC of the discovery. If the MLD does not make recommendations within 48 hours, the owner shall, with appropriate dignity, reinter the remains in an area of the property secure from further disturbance. Alternatively, if the owner does not accept the MLD's recommendations, the owner or the descendent may request mediation by the NAHC.

Mitigation Measures

MM CUL-1: Inadvertent Discoveries. In the event that buried archaeological resources are inadvertently discovered during ground-disturbing activities, work must be halted within 50 feet of the find until it can be evaluated by a qualified archaeologist. Construction activities could continue in other areas. If the discovery proves to be significant, additional work, such as data recovery excavation or fossil recovery, may be warranted and would be discussed in consultation with the appropriate regulatory agency(ies).

Sources:

1. Moreno Valley General Plan, adopted July 11, 2006
   - Chapter 7 – Conservation Element – Section 7.2 – Cultural and Historical Resources
2. Final Environmental Impact Report City of Moreno Valley General Plan, certified July 11, 2006
   - Section 5.10 – Cultural Resources
     - Figure 4.10-1 – Locations of Listed Historic Resource Inventory Structures
     - Figure 4.10-2 – Location of Prehistoric Sites
     - Figure 4.10-3 – Paleontological Resource Sensitive Areas
   - Appendix F – Cultural Resources Analysis, Study of Historical and Archaeological Resources for the Revised General Plan, City of Moreno Valley, Archaeological Associates, August 2003.
3. Title 9 – Planning and Zoning of the Moreno Valley Municipal Code
4. Moreno Valley Municipal Code Title 7 – Cultural Preservation
5. Cultural Resources Inventory for the City of Moreno Valley, Riverside County, California, prepared by Daniel F. McCarthy, Archaeological Research Unit, University of California, Riverside, October 1987 (*This document*

ISSUES & SUPPORTING INFORMATION SOURCES:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact

cannot be provided to the public due to the inclusion of confidential information pursuant to Government Code Section 6254.10.)

6. Phase I Cultural Resources Assessment: Iris Park Project, City of Moreno Valley, Riverside County, California. March 2020. Prepared by Material Culture Consulting, Inc. (Appendix C).

VI. ENERGY – Would the project:				
a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?	☐	☐	☒	☐

Response:

Less Than Significant Impact. The project site is currently vacant. The Southern California Gas Company provides natural gas to the surrounding area. Additionally, Southern California Edison and Moreno Valley Utility currently provides electricity services to the surrounding area. The proposed project would install onsite electrical and natural gas infrastructure that would connect to the existing offsite lines.

Construction

During construction of the proposed project, energy would be consumed in three general forms:

1. Petroleum-based fuels used to power off-road construction vehicles and equipment on the project sites, construction worker travel to and from the project sites, as well as delivery truck trips;
2. Electricity associated with providing temporary power for lighting and electric equipment; and
3. Energy used in the production of construction materials, such as asphalt, steel, concrete, pipes, and manufactured or processed materials such as lumber and glass.

Construction activities related to the proposed building and the associated infrastructure would not be expected to result in demand for fuel greater on a per-unit-of-development basis than other development projects in southern California. In addition, the extent of construction activities that would occur is limited to an 18-month period, and the demand for construction-related electricity and fuels would be limited to that time frame.

Construction contractors are required to demonstrate compliance with applicable California Air Resources Board (CARB) regulations governing the accelerated retrofitting, repowering, or replacement of heavy-duty diesel on- and off-road equipment as part of the City's construction permitting process. In addition, compliance with existing CARB idling restrictions would reduce fuel combustion and energy consumption. The energy modeling shows that project construction electricity usage over the 26-month construction period is estimated to use 31,154 gallons of diesel fuel, as shown in Table E-1.

ISSUES & SUPPORTING INFORMATION SOURCES:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact

Table E-1: Estimated Construction Equipment Diesel Fuel Consumption

Activity	Equipment	Project Number	Project Hours per day	Default Horse-power	Default Load Factor	Days of Construction	Total Horsepower-hours	Fuel Rate (gal/hp-hr)	Fuel Use (gallons)
Site Preparation	Rubber Tired Dozer	3	8	247	0.40	10	23,712	0.02046	485
	Crawler Tractor	4	8	212	0.43	10	29,171	0.02217	647
Grading	Excavators	2	8	158	0.38	30	28,819	0.01976	570
	Graders	2	8	187	0.41	30	36,802	0.02114	778
	Rubber Tired Dozers	1	8	247	0.40	30	23,712	0.02046	485
	Crawler Tractor	2	8	212	0.43	30	43,757	0.02217	970
	Scrapers	2	8	367	0.48	30	84,557	0.02498	2,112
Building Construction	Crane	1	7	231	0.29	520	243,844	0.01489	3,631
	Forklifts	3	8	89	0.20	520	222,144	0.02396	5,324
	Tractors/Loaders/Backhoes	3	7	97	0.37	520	391,919	0.01911	7,491
	Welders	1	8	46	0.46	520	88,026	0.02147	1,890
	Generator Set	1	8	84	0.74	520	258,586	0.02147	5,552
Paving 1	Pavers	2	8	130	0.42	10	8,736	0.02151	188
	Paving Equipment	2	8	132	0.36	10	7,603	0.01833	139
	Rollers	2	8	80	0.36	10	4,608	0.01942	89
Architectural Coating 1	Air Compressor	1	6	78	0.48	20	4,493	0.02147	96
Architectural Coating 2	Air Compressor	1	6	78	0.48	20	4,493	0.02147	96
Architectural Coating 3	Air Compressor	1	6	78	0.48	20	4,493	0.02147	96
Architectural Coating 4	Air Compressor	1	6	78	0.48	20	4,493	0.02147	96
Paving 2	Pavers	2	8	130	0.42	10	8,736	0.02151	188
	Paving Equipment	2	8	132	0.36	10	7,603	0.01833	139
	Rollers	2	8	80	0.36	10	4,608	0.01942	89
								TOTAL	**31,154**

Source: CalEEMod Emission Summary (Appendix A)

Table E-2 shows that construction workers would use approximately 38,210gallons of fuel to travel to and from the project site, and haul trucks and vendor trucks would use approximately 19,888 gallons of diesel fuel.

ISSUES & SUPPORTING INFORMATION SOURCES:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact

Table E-2: Estimated Construction Vehicle Trip Related Fuel Consumption

Construction Source	Gallons of Diesel Fuel	Gallons of Gasoline Fuel
Haul Trucks	2,165	0
Vendor Trucks	17,723	0
Worker Vehicles	0	38,210
Construction Vehicles Total	19,888	38,210

Source: CalEEMod Emission Summary (Appendix A)

Overall, construction activities would comply with all existing regulations, and would therefore not be expected to use fuel in a wasteful, inefficient, and unnecessary manner. Thus, no impacts related to construction energy usage would occur.

Operation

Once operational, the project would generate demand for electricity, natural gas, as well as gasoline for motor vehicle trips. Operational use of energy includes the heating, cooling, and lighting of the residences, water heating, operation of electrical systems and plug-in appliances, and outdoor lighting, and the transport of electricity, natural gas, and water to the residences where they would be consumed. This use of energy is typical for urban development, no additional energy infrastructure would be required to be built to operate the project, and no operational activities would occur that would result in extraordinary energy consumption.

The proposed project would be required to meet the current Title 24 energy efficiency standards. The City's administration of the Title 24 requirements includes review of design components and energy conservation measures that occurs during the permitting process, which ensures that all requirements are met. Typical Title 24 measures include insulation; use of energy-efficient heating, ventilation and air conditioning equipment (HVAC); solar-reflective roofing materials; energy-efficient indoor and outdoor lighting systems; reclamation of heat rejection from refrigeration equipment to generate hot water; and incorporation of skylights, etc. In complying with the Title 24 standards, impacts to peak energy usage periods would be minimized, and impacts on statewide and regional energy needs would be reduced. Thus, operation of the project would not use large amounts of energy or fuel in a wasteful manner, and no operational energy impacts would occur. As detailed in Table E-3, operation of the proposed project is estimated to result in the annual use of approximately 32,304 gallons of diesel fuel, 87,330 gallons of gas, approximately 706,035 kilowatt-hour (kWh) of electricity, and approximately 2,478,290 thousand British thermal units (kBTU) of natural gas.

ISSUES & SUPPORTING INFORMATION SOURCES:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact

Table E-3: Estimated Annual Operational Energy Consumption

Operational Source		
Energy Source	**Annual VMT**	**Gallons of Gasoline Fuel**
Transportation – Project	278,145 (Diesel)	32,304 (Diesel)
	2,314,975 (Gas)	87,330 (Gas)
	2,593,120(Total)	
	Thousands Kilowatt-Hours	
Electricity – Project	706,035	
	Thousands British Thermal Units	
Natural Gas – Project	2,478,290	
Source: see Fuel Usage Spreadsheet and CalEEMod output		

Source: CalEEMod Emission Summary (Appendix A)

b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	☐	☐	☐	☒

Response:

No Impact. The proposed project would be required to meet the CalGreen energy efficiency standards in effect during permitting of the project. The City's administration of the requirements includes review of design components and energy conservation measures during the permitting process, which ensures that all requirements are met. In addition, the project would not conflict with or obstruct opportunities to use renewable energy, such as solar energy. As discussed, the project proposes to use photovoltaic (PV) solar panels on each of the residences to offset their energy demand in accordance with Title 24. As such, the project would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency, and impacts would not occur.

Existing Plans, Programs, or Policies

PPP GHG-1: CalGreen Compliance, provided in Section 8, *Greenhouse Gas Emissions.*

Mitigation Measures

None.

Sources:

1. Moreno Valley General Plan, adopted July 11, 2006
   - Chapter 7 – Conservation Element – Section 7.6 – Energy Resources
2. Final Environmental Impact Report City of Moreno Valley General Plan, certified July 11, 2006
3. Title 9 – Planning and Zoning of the Moreno Valley Municipal Code
4. Summary of CalEEMod Model Runs and Output for the Iris Park Residential Project. April 8, 2020. Prepared by Vince Mirabella (Appendix A).
5. City of Moreno Valley Energy Efficiency and Climate Action Strategy. Accessed at: http://www.moval.org/pdf/efficiency-climate112012nr.pdf (Accessed April 28, 2020).

ISSUES & SUPPORTING INFORMATION SOURCES:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
VII. GEOLOGY AND SOILS – Would the project:				
a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury or death involving:				
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to https://www.conservation.ca.gov/cgs/Documents/SP_042.pdf	☐	☐	☐	☒

Response:
No Impact. The project site is not located within a designated Alquist-Priolo Earthquake Fault Zone or County of Riverside Fault zone. As described by the Preliminary Geotechnical and Infiltration Feasibility Investigation prepared for the proposed project, the nearest known active fault zone is the San Jacinto fault zone located approximately 6.1 miles northeast of the project site. Other major faults within the region include the Elsinore fault zone located approximately 16.2 miles to the southwest, and the San Andreas fault zone located approximately 17 miles to the northeast of the project site (GEO 2020). Thus, the proposed project would not expose people or structures to potential substantial adverse effects from rupture of a known earthquake fault that is delineated on an Alquist-Priolo Earthquake Fault Zoning Map, and impacts would not occur.

ii) Strong seismic ground shaking?	☐	☐	☒	☐

Response:
Less Than Significant Impact. The project site is located within a seismically active region of Southern California. As mentioned previously, San Jacinto Fault is located approximately 6.1 miles northeast of the project site (GEO 2020). Thus, moderate to strong ground shaking can be expected at the site. The amount of motion can vary depending upon the distance to the fault, the magnitude of the earthquake, and the local geology. Greater movement can be expected at sites located closer to an earthquake epicenter, that consists of poorly consolidated material such as alluvium, and in response to an earthquake of great magnitude.

Structures built in the City are required to be built in compliance with the California Building Code (CBC [California Code of Regulations, Title 24, Part 2]), included in the Municipal Code as Chapter 8.20. In addition, PPP GEO-1 has been included to provide provisions for earthquake safety based on factors including occupancy type, the types of soils onsite, and the probable strength of the ground motion. Compliance with the CBC would include the incorporation of: 1) seismic safety features to minimize the potential for significant effects as a result of earthquakes; 2) proper building footings and foundations; and 3) construction of the building structures so that it would withstand the effects of strong ground shaking. Because the proposed project would be constructed in compliance with the CBC, the proposed project would result in a less than significant impact related to strong seismic ground shaking.

iii) Seismic-related ground failure, including liquefaction?	☐	☐	☒	☐

Response:
Less Than Significant Impact. Soil liquefaction is a phenomenon in which saturated, cohesionless soils layers, located within approximately 50 feet of the ground surface, lose strength due to cyclic pore water pressure generation from seismic shaking or other large cyclic loading. During the loss of stress, the soil acquires “mobility” sufficient to permit both horizontal and vertical movements. Soil properties and soil conditions such as type, age, texture, color, and consistency, along with historical depths to ground water are used to identify, characterize, and correlate liquefaction susceptible soils.

According to the Preliminary Geotechnical and Infiltration Feasibility Investigation for the proposed project, the County of Riverside has mapped the overall site area as having low liquefaction potential. Liquefaction is a process in which strong ground shaking causes saturated soils to lose their strength and behave as a fluid. Ground failure associated with liquefaction can result in severe damage to structures. Soil types susceptible to liquefaction include sand, silty sand, sandy silt, and silt, as well as soils having a plasticity and a moisture content greater than 85 percent of the liquid limit.

ISSUES & SUPPORTING INFORMATION SOURCES:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact

The geologic conditions for increased susceptibility to liquefaction are: 1) shallow groundwater (generally less than 50 feet in depth); 2) the presence of unconsolidated sandy alluvium, typically Holocene in age; and 3) strong ground shaking. All three of these conditions must be present for liquefaction to occur.

Both the liquefaction potential index (LPI) and the liquefaction severity number (LSN) indices were calculated for the soil profiles of exploratory borings taken on the project site. The results indicate that the liquefaction risk of the site is "very low" to "low" per the LPI index of 0. In addition, the site exhibits "little to no expression of liquefaction, minor effects" per the LSN index of 0 (GEO 2020).

Furthermore, as described previously, structures built in the City are required to be built in compliance with the CBC, as included in the City's Municipal Code as Chapter 8.20 (and herein as PPP GEO-1), which implements specific requirements for seismic safety, excavation, foundations, retaining walls and site demolition. Compliance with the CBC, as included as PPP GEO-1, would require specific engineering design recommendations be incorporated into grading plans and building specifications as a condition of construction permit approval to ensure that project structures would withstand the effects of seismic ground movement, including liquefaction and settlement. Compliance with the requirements of the CBC and City's municipal code for structural safety (included as PPP GEO-1) would reduce hazards from seismic-related ground failure, including liquefaction and settlement to a less than significant level.

iv) Landslides?	☐	☐	☐	☒

Response:
No Impact. Landslides and other slope failures are secondary seismic effects that are common during or soon after earthquakes. Areas that are most susceptible to earthquake-induced landslides are steep slopes underlain by loose, weak soils, and areas on or adjacent to existing landslide deposits.

As described above, the project site is located in a seismically active region subject to strong ground shaking. However, the project site is flat and does not contain any steep slopes or any other areas that could be subject to landslides. In addition, the site is located in a flat and developed area. Therefore, the project would not cause potential substantial adverse effects related to slope instability or seismically induced landslides.

b) Result in substantial soil erosion or the loss of topsoil?	☐	☐	☒	☐

Response:
Less Than Significant Impact. Construction of the project has the potential to contribute to soil erosion and the loss of topsoil. Grading and excavation activities that would be required for the proposed project would expose and loosen topsoil, which could be eroded by wind or water.

The City's Municipal Code Section 8.21.170 implements the requirements of the all applicable requirements of the State Water Resources Control Board (SWRCB) and the Santa Ana Regional Water Quality Control Board (SARWQCB), and all projects in the City are required to conform to the permit requirements. This includes installation of Best Management Practices (BMPs) in compliance with the NPDES permit, which establishes minimum stormwater management requirements and controls that are required to be implemented for the proposed project. To reduce the potential for soil erosion and the loss of topsoil, a Stormwater Pollution Prevention Plan (SWPPP) is required by the Regional Water Quality Control Board (RWQCB) regulations to be developed by a QSD (Qualified SWPPP Developer). The SWPPP is required to address site-specific conditions related to specific grading and construction activities. The SWPPP is required to identify potential sources of erosion and sedimentation loss of topsoil during construction, identify erosion control BMPs to reduce or eliminate the erosion and loss of topsoil, such as use of silt fencing, fiber rolls, or gravel bags, stabilized construction entrance/exit, hydroseeding. With compliance with the City's Municipal Code, RWQCB requirements, and the BMPs in the SWPPP that is required to be prepared to implement the project included as PPP WQ-1, construction impacts related to erosion and loss of topsoil would be less than significant.

In addition, the proposed project includes installation of landscaping, such that during operation of the project substantial areas of loose topsoil that could erode would not exist. In addition, as described in Section 10, *Hydrology and Water*

ISSUES & SUPPORTING INFORMATION SOURCES:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Quality, the onsite drainage features that would be installed by the project have been designed to slow, filter, and slowly discharge stormwater into the offsite drainage system, which would also reduce the potential for stormwater to erode topsoil during project operations. Furthermore, implementation of the project requires City approval of a site specific Water Quality Management Plan (WQMP), which would ensure that the City's Municipal Code, RWQCB requirements, and appropriate operational BMPs would be implemented to minimize or eliminate the potential for soil erosion or loss of topsoil to occur. As a result, potential impacts related to substantial soil erosion or loss of topsoil would be less than significant.				
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	☐	☐	☒	☐

Response:

Less Than Significant Impact. As described above, the project site is flat, and does not contain nor is adjacent to any slope or hillside area. The project would not create slopes. Thus, on or off-site landslides would not occur from implementation of the project.

Differential settlement or subsidence could occur if buildings or other improvements are built on low-strength foundation materials (including imported fill) or if improvements straddle the boundary between different types of subsurface materials (e.g., a boundary between native material and fill). Although differential settlement generally occurs slowly enough that its effects are not dangerous to inhabitants, it can cause building damage over time. Seismic settlement in dry soils generally occurs in loose sands and silty sands, with cohesive soils being less prone to significant settlement. The Idriss and Boulanger (2008) and Pradel (1998) methods were used to evaluate liquefaction-induced settlement and dry sand settlement. The results indicate that a maximum seismic settlement of less than one-half inch can be anticipated. Based on the relative uniformity of soil materials encountered, differential seismic settlement is anticipated to be approximately one-half of the total seismic settlement. Overall, since the site is underlain by dense/stiff to dense/hard older alluvial materials, the potential for settlement is considered low. In addition, the earthwork operations recommended to be conducted during the development of the site will mitigate any near surface loose soil conditions. Thus, impacts would be less than significant (GEO 2020).

Liquefaction also involves lateral or horizontal displacement (lateral spreading) of essentially intact blocks of surficial soils on slopes or toward a free-face slope such as river or canal bank. The potential for and magnitude of lateral spreading is dependent upon many conditions, including the presence of a relatively thick, continuous, potentially liquefiable sand layer and high slopes. As discussed previously, Both the liquefaction potential index (LPI) and the liquefaction severity number (LSN) indices were calculated for the soil profiles of exploratory borings taken on the project site. The results indicate that the liquefaction risk of the site is "very low" to "low" per the LPI index of 0. In addition, the site exhibits "little to no expression of liquefaction, minor effects" per the LSN index of 0. In addition, site reconnaissance and review of aerial imagery of the site and vicinity indicates that there are no known or suspected landslides at the site or in close proximity to the site and, therefore, the potential for seismically induced landslides occurring at the site is considered very low (GEO 2020).

Also, as described previously, compliance with the CBC, as included as PPP GEO-1, would require specific engineering design recommendations be incorporated into grading plans and building specifications as a condition of construction permit approval to ensure that project structures would withstand the effects of related to ground movement, including lateral spreading. Thus, with compliance with the CBC, as included as PPP GEO-1, would reduce potential impacts to a less than significant level.

d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?	☐	☐	☒	☐

Response:

Less Than Significant Impact. Expansive soils contain certain types of clay minerals that shrink or well as the moisture content changes; the shrinking or swelling can shift, crack, or break structures built on such soils. Arid or semiarid areas

ISSUES & SUPPORTING INFORMATION SOURCES:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact

with seasonal changes of soil moisture experiences, such as southern California, have a higher potential of expansive soils than areas with higher rainfall and more constant soil moisture.

The Preliminary Geotechnical and Infiltration Feasibility Investigation performed an evaluation of the potential for expansive soils at the site. The laboratory testing performed found the soils tested to have a very low expansion potential. For very low expansive soils, no specialized construction procedures to resist expansive soil activity are necessary. However, careful evaluation of on-site soils and any import fill for their expansion potential should be conducted during the grading operation (GEO 2020). As described previously, compliance with the CBC, as included as PPP GEO-1, would require specific engineering design recommendations be incorporated into grading plans and building specifications as a condition of construction permit approval to ensure that project structures would withstand the effects of related to ground movement, including expansive soils. Thus, impacts would be less than significant.

e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?	☐	☐	☐	☒

Response:
No Impact. The project would not use septic tanks or alternative methods for disposal of wastewater into subsurface soils. Furthermore, the proposed project would connect to existing public wastewater infrastructure. Therefore, the project would not result in any impacts related to septic tanks or alternative wastewater disposal methods.

f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☐	☒	☐

Response:
Less than Significant Impact with Mitigation Incorporated. The Phase 1 Paleontological Resources Assessment prepared for the project included a locality search conducted through the Natural History Museum of Los Angeles County (LACM) to identify any previously identified paleontological resources near the project site.

The Phase 1 Paleontological Resources Assessment found that no significant paleontological resources were identified within the project area during the locality search or field survey. The uppermost layers of soil within the project area are of recently disturbed Quaternary alluvium that is unlikely to contain significant fossil vertebrates. However, LACM notes that significant fossils have been found within similar alluvial mapped units, and that any excavations that extend deeper and into older and finer-grained Quaternary deposits may encounter significant fossil vertebrate remains. In addition, the project area is mapped in RCLIS as High B is based on geologic formations or mapped rock units that are known to contain (or have the correct age and depositional conditions to contain) significant paleontological resources at a depth below 5 feet (PALEO 2020).

Therefore, based on the results of the Phase I Paleontological Resources Assessment, the project area is considered to have high sensitivity for the potential to impact paleontological resources during construction activities at or below 5 feet in undisturbed sedimentary deposits. MCC recommends preparation of a Paleontological Resource Management Plan (PRMP) prior to construction excavation. Thus, Mitigation Measure PAL-1 has been included to require preparation of a PRMP and that a professional paleontologist be hired to oversee monitoring. With implementation of Mitigation Measure PAL-1, impacts to paleontological resources would be less than significant.

Existing Plans, Programs, or Policies
PPP GEO-1: California Building Code. The project is required to comply with the California Building Code as included in the City's Municipal Code Chapter 8.20 to preclude significant adverse effects associated with seismic hazards. California Building Code related and geologist and/or civil engineer specifications for the project are required to be incorporated into grading plans and specifications as a condition of project approval.
PPP WQ-1: Stormwater Pollution Prevention Plan, provided in Section 10, *Hydrology and Water Quality*.
PPP WQ-2: Water Quality Management Plan, provided in Section 10, *Hydrology and Water Quality*.

Mitigation Measures

ISSUES & SUPPORTING INFORMATION SOURCES:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact

MM PAL-1: Paleontological Resources. Prior to issuance of grading permits, the developer will retain a qualified paleontologist to provide the following monitoring and reporting services during construction:

- A trained and qualified paleontological monitor will perform full-time monitoring of any excavations on the project that have the potential to impact paleontological resources in undisturbed native sediments below 5 feet in depth. The monitor will have the ability to redirect construction activities to ensure avoidance of adverse impacts to paleontological resources.
- The project paleontologist may re-evaluate the necessity for paleontological monitoring after examination of the affected sediments during excavation.
- Any potentially significant fossils observed shall be collected and recorded in conjunction with best management practices and SVP professional standards.
- Any fossils recovered during mitigation should be deposited in an accredited and permanent scientific institution for the benefit of current and future generations.
- A report documenting the results of the monitoring, including any salvage activities and the significance of any fossils, will be prepared and submitted to the appropriate City personnel.

Sources:

1. Moreno Valley General Plan, adopted July 11, 2006
   - Chapter 6 – Safety Element – Section 6.5 – Geologic Hazards
     - Figure 5-3 – Geologic Faults & Liquefaction
   - Chapter 7 – Conservation Element – Section 7.4 -- Soils
2. Final Environmental Impact Report City of Moreno Valley General Plan, certified July 11, 2006
   - Section 5.6 – Geology and Soils
     - Figure 4.6-1 – Geology
     - Figure 4.6-2 – Seismic Hazards
3. Title 9 – Planning and Zoning of the Moreno Valley Municipal Code
4. Moreno Valley Municipal Code Chapter 8.21 – Grading Regulations
5. Local Hazard Mitigation Plan, City of Moreno Valley Fire Department, adopted October 4, 2011, amended 2017, http://www.moval.org/city_hall/departments/fire/pdfs/haz-mit-plan.pdf
   - Chapter 4 – Earthquake
     - Figure 3-1 – Right-Lateral Strike -Slip Fault
     - Figure 3-1.1 – Moreno Valley Geologic Faults and Liquefaction 2016
     - Figure 3-1.2 – Moreno Valley Area Ground Shaking Map
   - Chapter 8 – Landslide
     - Figure 7-1 – Moreno Valley Slope Analysis 2016
6. Emergency Operations Plan, City of Moreno Valley, March 2009, http://www.moval.org/city_hall/departments/fire/pdfs/mv-eop-0309.pdf
   - Threat Assessment 1 – Major Earthquakes
     - Figure 8 – Types of Faults
     - Figure 9 – Earthquake Faults
     - Figure 11 – Comparison of Richter Magnitude and Modified Mercalli Intensity
     - Figure 12 – Magnitude 4.5 or Greater Earthquake Map
     - Figure 13 – Geologic Faults and Liquefaction
7. Phase I Paleontological Resources Assessment, Iris Park Project, City of Moreno Valley, Riverside County, California. March 2020. Prepared by Material Culture Consulting, Inc. (Appendix D).
8. Preliminary Geotechnical and Infiltration Feasibility Investigation, Proposed Iris Park Residential Development, Moreno Valley, California. November 25, 2019. Prepared by LOR Geotechnical Group, Inc. (Appendix E).

ISSUES & SUPPORTING INFORMATION SOURCES:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact

VIII. GREENHOUSE GAS EMISSIONS – Would the project:

GHG Thresholds

The City of Moreno Valley has not adopted a numerical significance threshold to evaluate greenhouse gas (GHG) impacts. SCAQMD does not have approved thresholds; however, it does have draft thresholds that provides a tiered approach to evaluate GHG impacts, which includes the following:

- Tier 1 consists of evaluating whether or not the project qualifies for any applicable exemption under CEQA.
- Tier 2 consists of determining whether the project is consistent with a GHG reduction plan. If a project is consistent with a qualifying local GHG reduction plan, it does not have significant GHG emissions.
- Tier 3 consists of screening values, which the lead agency can choose, but must be consistent with all projects within its jurisdiction. A project's construction emissions are averaged over 30 years and are added to the project's operational emissions. If a project's emissions are below one of the following screening thresholds, then the project is less than significant:
    - Residential and Commercial land use: 3,000 MTCO2e per year
    - Industrial land use: 10,000 MTCO2e per year
    - Based on land use type: residential: 3,500 MTCO2e per year; commercial: 1,820 MTCO2e per year; or mixed use: 3,000 MTCO2e per year

The SCAQMD's draft threshold uses the Executive Order S-3-05 year 2050 goal as the basis for the Tier 3 screening level. Achieving the Executive Order's objective would contribute to worldwide efforts to cap CO2 concentrations at 450 ppm, thus stabilizing global climate. Therefore, for purposes of examining potential GHG impacts from implementation of the proposed project, and to provide a conservative analysis of potential impacts, the Tier 3 screening level for all land use projects of 3,000 MTCO2e was selected as the significance threshold (AQ 2020).

In addition, SCAQMD methodology for project's construction are to average them over 30-years and then add them to the project's operational emissions to determine if the project would exceed the screening values listed above (AQ 2020).

Climate Action Plan

The City of Moreno Valley adopted an Energy Efficiency and Climate Action Strategy document in 2012. The Energy Efficiency and Climate Action Strategy is a policy document which identifies ways that the City can reduce energy and water consumption and GHG emissions as an organization (its employees and the operation of its facilities) and outlines the actions that the City can encourage and community members can employ to reduce their own energy and water consumption and GHG emissions. The project involves the construction and operation of an automobile dealership that would fall under the scope of these policies.

a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	☐	☐	☒	☐

Response:

Less Than Significant Impact. Construction activities produce GHG emissions from various sources, such as site excavation, grading, utility engines, heavy-duty construction vehicles onsite, equipment hauling materials to and from the site, asphalt paving, and motor vehicles transporting the construction crew.

In addition, operation of the proposed residences would result in area and indirect sources of operational GHG emissions that would primarily result from vehicle trips, electricity and natural gas consumption, water transport (the energy used to pump water), and solid waste generation. GHG emissions from electricity consumed by the residences would be generated off-site by fuel combustion at the electricity provider. GHG emissions from water transport are also indirect emissions resulting from the energy required to transport water from its source.

The estimated operational GHG emissions that would be generated from implementation of the proposed project are shown in Table GHG-1. Additionally, in accordance with SCAQMD recommendation, the project's amortized construction

ISSUES & SUPPORTING INFORMATION SOURCES:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact

related GHG emissions are added to the operational emissions estimate in order to determine the project's total annual GHG emissions.

Table GHG-1: Greenhouse Gas Emissions

Activity	Annual GHG Emissions ($MTCO_2e$)
Project Operational Emissions	
Area	1
Energy	305
Mobile	1,142
Waste	48
Water	43
Total	1,538
Project Construction Emissions	47
Project Construction and Operation	1,585
Significance Threshold	**3,000**
Project Exceeds Threshold?	**No**

Source: CalEEMod Emission Summary (Appendix A)

As shown on Table GHG-1, the project would result in approximately 1,585 MTCO2e per year, below the screening threshold of 3,000 MTCO2e per year. Therefore, impacts related to greenhouse gas emissions would be less than significant.

b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emission of greenhouse gases?	☐	☐	☐	☒

Response:

No Impact. The proposed project would develop the site with single-family residences that would comply with state programs that are designed to be energy efficient. The proposed project would comply with all mandatory measures under the California Title 24, California Energy Code, and the CalGreen Code, which would provide efficient energy and water consumption. The City's administration of the requirements includes review of the energy conservation measures during the permitting process, which ensures that all requirements are met. In addition, the project includes photovoltaic (PV) solar panels to offset the energy demand. Therefore, the proposed project would not conflict with existing plans, policies, and regulations adopted for the purpose of reducing the emissions of greenhouse gas.

Existing Plans, Programs, or Policies

PPP GHG-1: CalGreen Compliance. The project is required to comply with the CalGreen Building Code as included in the City's Municipal Code to ensure efficient use of energy. CalGreen specifications are required to be incorporated into building plans as a condition of building permit approval.

Mitigation Measures

None.

ISSUES & SUPPORTING INFORMATION SOURCES:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact

Sources:

1. Moreno Valley General Plan, adopted July 11, 2006
2. Final Environmental Impact Report City of Moreno Valley General Plan, certified July 11, 2006
3. Title 9 – Planning and Zoning of the Moreno Valley Municipal Code
4. California's 2017 Climate Change Scoping Plan, prepared by the California Air Resources Board, November 2017, https://www.arb.ca.gov/cc/scopingplan/scoping_plan_2017.pdf, accessed April 24, 2019
5. Summary of CalEEMod Model Runs and Output for the Iris Park Residential Project. April 8, 2020. Prepared by Vince Mirabella (Appendix A).
6. City of Moreno Valley Energy Efficiency and Climate Action Strategy. Accessed at: http://www.moval.org/pdf/efficiency-climate112012nr.pdf (Accessed April 28, 2020)

IX. HAZARDS AND HAZARDOUS MATERIALS – Would the project:

a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☐	☒	☐

Response:

Less Than Significant Impact. A hazardous material is defined as any material that, due to its quantity, concentration, or physical or chemical characteristics, poses a significant present or potential hazard to human health and safety or to the environment if released into the environment. Hazardous materials include, but are not limited to, hazardous substances, hazardous wastes, and any material that regulatory agencies have a reasonable basis for believing would be injurious to the health and safety of persons or harmful to the environment if released into the home, workplace, or environment. Hazardous wastes require special handling and disposal because of their potential to damage public health and the environment.

Construction

The proposed construction activities would involve the routine transport, use, and disposal of hazardous materials such as paints, solvents, oils, grease, and caulking during construction activities. In addition, hazardous materials would routinely be needed for fueling and servicing construction equipment on the site. These types of materials are not acutely hazardous, and all storage, handling, use, and disposal of these materials are regulated by federal and state regulations that are implemented by the City during building permitting for construction activities. Construction would also include temporary dewatering during excavation for utility installations if the excavation is deep enough to encounter groundwater. If such excavations are in the vicinity of the impacted groundwater in the northeast portion of the site, the water would either be contained and transported to a licensed off-site treatment facility or treated on site before discharge under a county permit to the sanitary sewer. As a result, construction of the project would not create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials, and impacts would be less than significant.

Operation

The project involves operation of 81 new single-family residences, which involve routinely using hazardous materials including solvents, cleaning agents, paints, pesticides, batteries, fertilizers, and aerosol cans. These types of materials are not acutely hazardous and would only be used and stored in limited quantities. The normal routine use of these hazardous materials products pursuant to existing regulations would not result in a significant hazard to people or the environment in the vicinity of the project. Therefore, operation of the project would not result in a significant hazard to the public or to the environment through the routine transport, use, or disposal of hazardous waste, and impacts would be less than significant.

b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☐	☐	☒	☐

ISSUES & SUPPORTING INFORMATION SOURCES:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact

Response:

Less Than Significant Impact. A Phase I ESA was prepared by AES Due Diligence, Inc. (AES) for the project site. The purpose of the Phase I analysis was to evaluate the project site for potential Recognized Environmental Concerns (RECs) that may be present, off-site conditions that may impact the subject property, and/or conditions indicative of releases or threatened releases of hazardous substances on, at, in, or to the project site.

ASTM defines a Recognized Environmental Condition (REC) as ”the presence or likely presence of an hazardous substance or petroleum products in, on, or at a property: 1) due to release to the environment; 2) under conditions indicative of a release to the environment; or 3) under conditions that pose a material threat of a future release to the environment.”

The project site was evaluated for the presence of Recognized Environmental Condition’s (REC), including Controlled Recognized Environmental Conditions (CREC) and Historic Recognized Environmental Conditions (HREC). The project site was also evaluated for Business Environmental Risks (BER) and *de minimis* conditions.

A Controlled Recognized Environmental Condition (CREC) is defined as “a recognized environmental condition resulting from a past release of hazardous substances or petroleum products that has been addressed to the satisfaction of the applicable regulatory authority (for example, as evidenced by the issuance of a no further action letter or equivalent, of meeting risk-based criteria established by regulatory authority), with hazardous substances or petroleum products allowed to remain in place subject to the implementation of required controls (for example, property use restrictions, activity and use limitations, institutional controls, or engineering controls).”

A Historic Recognized Environmental Condition (HREC) is defined as “a past release of any hazardous substances or petroleum products that has occurred in connection with the property and has been addressed to the satisfaction of the applicable regulatory authority or meeting unrestricted use criteria established by a regulatory authority, without subjecting the property to any required controls (for example, property use restrictions, activity and use limitations, institutional controls, or engineering controls).”

A de minimis environmental condition “generally does not present a threat to human health or the environment and that generally would not be the subject of an enforcement action if brought to the attention of appropriate government agencies.” However, conditions determined to be de minimis are not a REC.

Business Environmental Risk (BER) is a risk, which can have a material environmental or environmentally-driven impact on the business associated with the current or planned use of the parcel of commercial real estate, not necessarily limited to those environmental issues investigated in this Phase I ESA. Business environmental risk issues may involve addressing one or more non-scope considerations.

The Phase I ESA was performed in general accordance with ASTM Designation E 1527-13, Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process and following the Scope of Work outlined in AES Due Diligence, Inc.’s proposal. AES Due Diligence, Inc. (AES) conducted on-site observations on October 31, 2019, interviewed site operations personnel and observed adjacent properties. Environmental Data Resources, Inc. (EDR) conducted database searches following ASTM guidelines. Such searches are generally limited to a radius of one mile from the subject site. Additionally, ASTM non-scope items are addressed in this Assessment, including Asbestos, Lead-Based Paint, Radon Gas, Mold, Wetlands and Lead in Drinking Water. No testing was conducted for ASTM Non-Scope items.

Based on site observations, interviews and review of available documents and the database records search, AES concludes that no HRECs, RECs, BERs, CRECs, or de minimis conditions were identified at the subject site. AES recommends no additional investigation at this time (Phase I 2020). Thus, the proposed project would not create a significant hazard to the public or the environment through reasonable foreseeable upset and accident conditions involving the release of hazardous materials into the environment and impacts would be less than significant.

ISSUES & SUPPORTING INFORMATION SOURCES:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☒	☐

Response:
Less Than Significant Impact. The project site is adjacent to Val Verde Academy, which is located adjacent to the project site to the south. However, as discussed previously, construction and operation of the project would involve the use, storage and disposal of small amounts of hazardous materials on the project site. These hazardous materials would be limited and used and disposed of in compliance with federal, state, and local regulations, which would reduce the potential for accidental release into the environment near the school. The emissions that would be generated from construction and operation of the project were evaluated in the air quality analysis discussed above, and the emissions generated from the project would not cause or contribute to an exceedance of the federal or state air quality standards. Thus, the project would not emit hazardous or handle acutely hazardous materials, substances, or waste near the school, and impacts would be less than significant.

d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	☐	☐	☐	☒

Response:
No Impact. The Phase I Environmental Site Assessment (Phase I 2019) prepared for the project conducted a database search to determine if the project site or any nearby properties are identified as having hazardous materials. The Phase I record search determined that the project site is not located on or near by a site which is included on a list of hazardous materials sites. As a result, impacts related to hazards from being located on or adjacent to a hazardous materials site would not occur from implementation of the proposed project.

e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?	☐	☐	☒	☐

Response:
Less than Significant Impact. The project site is located approximately 1.2 miles to the east of the March Air Reserve Base (MARB). The project is within the MARB/Inland Port Airport Land Use Compatibility Plan (RCALUC 2014); however, the project is in Zone E, which is beyond the 55-CNEL contour. Therefore, there would be a low noise impact with occasional overflights intrusive to some outdoor activities. In addition, the risk level is low in relation to safety and airspace protection factors, as determined in the MARB/Inland Port Airport Land Use Compatibility Plan (RCALUC 2014). Therefore, the project would not result in a safety hazard for people residing or working in the project area, and impacts would be less than significant.

f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☒	☐

Response:
Less Than Significant Impact. The proposed project would not physically interfere with an adopted emergency response plan or emergency evacuation plan.
Construction
Short-term construction activities would occur within the project site and would not restrict access of emergency vehicles to the project site or adjacent areas. In addition, travel along surrounding roadways would remain open and would not interfere with emergency access in the site vicinity. Any temporary lane closures needed for utility connections to Iris

ISSUES & SUPPORTING INFORMATION SOURCES:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact

Avenue or driveway access construction would be implemented consistent with the recommendations of the California Joint Utility Traffic Control Manual (Caltrans 2014), as incorporated into the construction permits. In addition, no other roadways outside of the project site would be impacted. Thus, impacts related to an emergency response or evacuation plan during construction would be less than significant.

Operation

Direct access to the project site is would be provided from Iris Avenue by two driveways. The project is required to provide internal streets and fire suppression facilities (e.g., hydrants and sprinklers) that conform to the California Fire Code requirements, included as Municipal Code Chapter 8.36, as verified through the City's permitting process. As such, the project would not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan, and impacts would be less than significant.

g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?	☐	☐	☐	☒

Response:

No Impact. As described previously, the project site is vacant and within a developed and urban area that is not within a wildfire hazard zone. In addition, the project site is flat and surrounded by flat areas. There are no slope or hillsides that would become unstable. In addition, the project would install onsite drainage that would be conveyed to the existing flood control channel, which is consistent with the existing condition. Therefore, impacts related to flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes would not occur from the proposed project.

Existing Plans, Programs, or Policies

None.

Mitigation Measures

None.

Sources:

1. Moreno Valley General Plan, adopted July 11, 2006
   - Chapter 6 – Safety Element – Section 6.2.8 – Wildland Urban Interface
   - Chapter 6 – Safety Element – Section 6.9 – Hazardous Materials
   - Chapter 6 – Safety Element – Section 6.10 – Air Crash Hazards
     - Figure 5-5 – Air Crash Hazards
2. Final Environmental Impact Report City of Moreno Valley General Plan, certified July 11, 2006
   - Section 5.5 – Hazards and Hazardous Materials
     - Figure 4.5-1 – Hazardous Materials Sites
     - Figure 4.5-2 – Floodplains and High Fire Hazard Areas
     - Figure 4.5-3 – City Areas Affected by Aircraft Hazard Zones
3. Title 9 – Planning and Zoning of the Moreno Valley Municipal Code
4. March Air Reserve Base (MARB)/March Inland Port (MIP) Airport Land Use Compatibility Plan (ALUCP) on November 13, 2014, (http://www.rcaluc.org/Portals/13/17%20-%20Vol.%201%20March%20Air%20Reserve%20Base%20Final.pdf?ver=2016-08-15-145812-700)
5. Local Hazard Mitigation Plan, City of Moreno Valley Fire Department, adopted October 4, 2011, amended 2017, http://www.moval.org/city_hall/departments/fire/pdfs/haz-mit-plan.pdf
   - Chapter 5 – Wildland and Urban Fires
     - Figure 4-2 – Moreno Valley High Fire Area Map 2016
   - Chapter 12 – Dam Failure/Inundation
     - Figure 12-2 Moreno Valley Evacuation Routes Map 2015
   - Chapter 13 – Pipeline
     - Figure 13-1 – Moreno Valley Pipeline Map 2016
   - Chapter 14 – Transportation
     - Figure 14-1.1 – Moreno Valley Air Crash Hazard Area Map 2016
   - Chapter 16 – Hazardous Materials Accident

ISSUES & SUPPORTING INFORMATION SOURCES:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact

- Moreno Valley Hazardous Materials Site Locations Map 2016

6. Emergency Operations Plan, City of Moreno Valley, March 2009, http://www.moval.org/city_hall/departments/fire/pdfs/mv-eop-0309.pdf
   - Hazard Mitigation and Hazard Analysis
   - Threat Assessment 2 – Hazardous Materials
   - Threat Assessment 3 – Wildfire
   - Threat Assessment 6 – Transportation Emergencies
     - Figure 17 – Air Crash Hazards
7. California Department of Forestry and Fire Protection (CAL FIRE). 2020. Fire Hazard Severity Zone Map. Accessed: https://forestwatch.maps.arcgis.com/apps/Styler/index.html?appid=5e96315793d445419b6c96f89ce5d153 (Accessed May 5, 2020).
8. Phase I Environmental Site Assessment, Iris Park, Iris Avenue, east of Perris Blvd, Moreno Valley, CA 9255, Project No. 19004122. November 1, 2019. Prepared by AES Due Diligence, Inc. (Appendix F).
9. March Air Reserve Base/Inland Port Airport Land Use Compatibility Plan. November 13, 2014. Adopted by the Riverside County Airport Land Use Commission (RCALUC). Accessed: http://www.rcaluc.org/Portals/13/17%20-%20Vol.%201%20March%20Air%20Reserve%20Base%20Final.pdf?ver=2016-08-15-145812-700 (Accessed May 5, 2020).

X. HYDROLOGY AND WATER QUALITY – Would the project:				
a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?	☐	☐	☒	☐

Response:

Less Than Significant Impact.

Construction

Implementation of the proposed project includes site preparation, construction of new buildings, and infrastructure improvements. Grading, stockpiling of materials, excavation, construction of new structures, and landscaping activities would expose and loosen sediment and building materials, which would have the potential to mix with stormwater and urban runoff and degrade surface and receiving water quality.

Additionally, construction generally requires the use of heavy equipment and construction-related materials and chemicals, such as concrete, cement, asphalt, fuels, oils, antifreeze, transmission fluid, grease, solvents, and paints. In the absence of proper controls, these potentially harmful materials could be accidentally spilled or improperly disposed of during construction activities and could wash into and pollute surface waters or groundwater, resulting in a significant impact to water quality.

Pollutants of concern during construction activities generally include sediments, trash, petroleum products, concrete waste (dry and wet), sanitary waste, and chemicals. Each of these pollutants on its own or in combination with other pollutants can have a detrimental effect on water quality. In addition, chemicals, liquid products, petroleum products (such as paints, solvents, and fuels), and concrete-related waste may be spilled or leaked during construction, which would have the potential to be transported via storm runoff into nearby receiving waters and eventually may affect surface or groundwater quality. During construction activities, excavated soil would be exposed, thereby increasing the potential for soil erosion and sedimentation to occur compared to existing conditions. In addition, during construction, vehicles and equipment are prone to tracking soil and/or spoil from work areas to paved roadways, which is another form of erosion that could affect water quality.

However, the use of BMPs during construction implemented as part of a SWPPP as required by the NPDES General Construction Permit and included as PPP WQ-1 would serve to ensure that project impacts related to construction activities resulting in a degradation of water quality would be less than significant. Furthermore, an Erosion and Sediment Transport Control Plan prepared by a qualified SWPPP developer (QSD) is required to be included in the SWPPP for the

ISSUES & SUPPORTING INFORMATION SOURCES:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact

project, and typically includes the following types of erosion control methods that are designed to minimize potential pollutants entering stormwater during construction:

- Prompt revegetation of proposed landscaped areas;
- Perimeter gravel bags or silt fences to prevent off-site transport of sediment;
- Storm drain inlet protection (filter fabric gravel bags and straw wattles), with gravel bag check dams within paved roadways;
- Regular sprinkling of exposed soils to control dust during construction and soil binders for forecasted wind storms;
- Specifications for construction waste handling and disposal;
- Contained equipment wash-out and vehicle maintenance areas;
- Erosion control measures including soil binders, hydro mulch, geotextiles, and hydro seeding of disturbed areas ahead of forecasted storms;
- Construction of stabilized construction entry/exits to prevent trucks from tracking sediment on City roadways;
- Construction timing to minimize soil exposure to storm events; and
- Training of subcontractors on general site housekeeping.

Therefore, compliance with the Statewide General Construction Activity Stormwater Permit requirements, included as PPP WQ-1, which would be verified during the City's construction permitting process, would ensure that project impacts related to construction activities resulting in a degradation of water quality would be less than significant.

Operation

The proposed project includes operation of single-family residential uses. Potential pollutants associated with the proposed uses include various chemicals from cleaners, pathogens from pet wastes, nutrients from fertilizer, pesticides and sediment from landscaping, trash and debris, and oil and grease from vehicles. If these pollutants discharge into surface waters, it could result in degradation of water quality.

Rational method hydrology calculations have been prepared for 2, 10 & 100-year existing and proposed condition for the project site. In the existing condition, site drainage sheet flows across the property to southeast towards where it flows offsite across the existing MWD and EMWD easements (Hydrology 2020).

In the proposed condition, the site will be a several sub-areas where storm flows will flow to the internal street section and be conveyed to the southeast corner of the property where they will be directed into an infiltration basin system. The infiltration basin will be located in the proposed landscape area onsite adjacent to the easement areas along the westerly portion of the property and will discharge to the existing point of discharge. Based on the calculations and proposed improvements, onsite flows can be conveyed to suitable points of disposal, and the proposed site development will not impact offsite properties (Hydrology 2020).

As described previously, the WQMP is required to be approved prior to the issuance of a building or grading permit. The project's WQMP would be reviewed and approved by the City to ensure it complies with the Santa Ana RWQCB MS4 Permit regulations. In addition, the City's permitting process would ensure that all BMPs in the WQMP would be implemented with the project. Overall, implementation of the WQMP pursuant to the existing regulations (included as PPP WQ-2), would ensure that operation of the proposed project would not violate any water quality standards, waste discharge requirements, or otherwise degrade water quality; and impacts would be less than significant.

b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	☐	☐	☒	☐

Response:

Less Than Significant Impact. EMWD's 2015 Urban Water Management Plan (UWMP) describes that EMWD's local supplies include groundwater, desalinated groundwater, and recycled water. Groundwater is pumped from the Hemet/San Jacinto and West San Jacinto areas of the San Jacinto Groundwater Basin. Groundwater in portions of the West San Jacinto Basin is high in salinity and requires desalination for potable use. EMWD owns and operates two

ISSUES & SUPPORTING INFORMATION SOURCES:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact

desalination plants that convert brackish groundwater from the West San Jacinto Basin into potable water. EMWD also owns, operates, and maintains its own recycled water system that consists of four Regional Water Reclamation Facilities and several storage ponds spread throughout EMWD's service area that are all connected through the recycled water system.

As detailed on Table WQ-1, the EMWD's 2015 Urban Water Management Plan (UWMP) shows that the anticipated production of groundwater would remain the same between 2020 and 2082, however, the anticipated production of desalinated groundwater would increase by 3,100 acre-feet per year (AFY) between 2020 and 2082. In 2082, groundwater and desalinated groundwater would provide 11.4 percent of the District's water supply.

Table WQ-1: Total Retail Water Supply (AFY)

Source	2015	2020	2025	2030	2035	2082	2082 Percentage
Imported Water	56,397	81,197	89,097	100,497	111,597	122,097	61.7%
Groundwater	15,252	12,303	12,303	12,303	12,303	12,303	6.3%
Desalinated Groundwater	7,288	7,000	10,100	10,100	10,100	10,100	5.1%
Recycled Water	44,150	45,245	48,334	50,017	51,800	53,300	26.9%
Total Retail Supply	**123,087**	**145,745**	**159,834**	**172,917**	**185,800**	**197,800**	**100%**

Source: 2015 UWMP

As detailed in Section 19, *Utilities and Service Systems*, the supply of water listed in Table WQ-1 would be sufficient during both normal years and multiple dry year conditions between 2020 and 2082 to meet all of the City's estimated needs, including the proposed project. Therefore, the project would not result in changes to the projected groundwater pumping that would decrease groundwater supplies. Thus, impacts related to groundwater supplies would be less than significant.

In addition, after completion of project construction, the site would be covered by 70 percent impervious surface area and the project would convey stormwater drainage into landscaped areas and the proposed infiltration basin, which would infiltrate into soils and groundwater that occurs onsite. Therefore, impacts related to interference with groundwater recharge would be less than significant.

c)	Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:				
i)	Result in substantial erosion or siltation on- or off-site?	☐	☐	☒	☐

Response:
Less than Significant Impact.

Construction
Construction of the project would require grading and excavation of soils, which would loosen sediment and could result in erosion or siltation. However, the project site does not include any slopes, which reduces the erosion potential and the large majority of soil disturbance would be related to excavation and backfill for installation of building foundations and underground utilities.

The NPDES Construction General Permit requires preparation and implementation of a SWPPP by a Qualified SWPPP Developer for the proposed construction activities (included as PPP WQ-1). The SWPPP is required to address site-specific conditions related to potential sources of sedimentation and erosion and would list the required BMPs that are necessary to reduce or eliminate the potential of erosion or alteration of a drainage pattern during construction activities.

In addition, a Qualified SWPPP Practitioner (QSP) is required to ensure compliance with the SWPPP through regular monitoring and visual inspections during construction activities. The SWPPP would be amended and BMPs revised, as determined necessary through field inspections, in order to protect against substantial soil erosion, the loss of topsoil, or alteration of the drainage pattern. Compliance with the Construction General Permit and a SWPPP prepared by a QSD

ISSUES & SUPPORTING INFORMATION SOURCES:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact

and implemented by a QSP (per PPP WQ-1) would prevent construction-related impacts related to potential alteration of a drainage pattern or erosion from development activities. With implementation of the existing construction regulations that would be verified by the City during the permitting approval process, impacts related to alteration of an existing drainage pattern during construction that could result in substantial erosion, siltation, and increases in stormwater runoff would be less than significant.

Operation.

After completion of project construction, the site would be 70 percent impervious. The impervious areas would not be subject to erosion and the pervious areas would be landscaped with groundcovers that would inhibit erosion.

As discussed previously, in the existing condition, site drainage sheet flows across the generally as sheet flow to the south-southeast. In the developed condition, the project site would consist of several drainage sub-areas where storm flows would flow towards the proposed internal roadways and would ultimately be conveyed to the proposed infiltration basin system within the southeast corner of the property. The infiltration basin would be installed within the proposed landscape area onsite adjacent to the WMD and EMWD easement areas along the westerly portion of the property and would discharge to the existing point of discharge within the existing easements (Hydrology 2020).

Additionally, the MS4 permit requires new development projects to prepare a WQMP (included as PPP WQ-2) that is required to include BMPs to reduce the potential of erosion and/or sedimentation through site design and structural treatment control BMPs. The Preliminary WQMP has been completed and is included as Appendix H. As part of the permitting approval process, the proposed drainage and water quality design and engineering plans would be reviewed by the City's Engineering Division to ensure that the site-specific design limits the potential for erosion and siltation. Overall, the proposed drainage system and adherence to the existing regulations would ensure that project impacts related to alteration of a drainage pattern and erosion/siltation from operational activities would be less than significant.

ii) Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite?	☐	☐	☒	☐

Response:

Less Than Significant Impact.

The project site does not include, and is not adjacent to, a stream or river. Implementation of the project would not alter the course of a stream or river.

Construction

Construction of the project would require grading and excavation of soils. These activities could temporarily alter the existing drainage pattern of the site and change runoff flow rates. However, as described previously, implementation of the project requires a SWPPP (included as PPP WQ-1) that would address site specific drainage issues related to construction of the project and include BMPs to eliminate the potential of flooding or alteration of a drainage pattern during construction activities. This includes regular monitoring and visual inspections during construction activities. Compliance with the Construction General Permit and a SWPPP prepared by a QSD and implemented by a QSP (per PPP WQ-1) as verified by the City through the construction permitting process would prevent construction-related impacts related to potential alteration of a drainage pattern or flooding on or off-site from development activities. Therefore, construction impacts would be less than significant.

Operation

As described previously, the proposed project would result in an increase of impervious surfaces that would result in an increase of stormflows. However, the project would maintain the existing drainage pattern and convey runoff to infiltration basins and landscaped areas for treatment and retention that have been designed to accommodate the increased volume pursuant to the MS4 permit requirements. As part of the permitting approval process, the proposed drainage design and engineering plans would be reviewed by the City's Engineering Division to ensure that the proposed drainage would accommodate the appropriate design flows. Overall, the proposed drainage system and adherence to the existing MS4 permit regulations would ensure that project impacts related to alteration of a drainage pattern or flooding from operational activities would be less than significant.

ISSUES & SUPPORTING INFORMATION SOURCES:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
iii) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	☐	☐	☒	☐

Response:
Less Than Significant Impact.
As described previously, the project site does not include, and is not adjacent to, a stream or river. Implementation of the project would not alter the course of a stream or river.

Construction
As described in the previous response, construction of the proposed project would require grading and excavation activities that could temporarily alter the existing drainage pattern of the site and could result in increased runoff and polluted runoff if drainage is not properly controlled. However, implementation of the project requires a SWPPP (included as PPP WQ-1) that would address site specific pollutant and drainage issues related to construction of the project and include BMPs to eliminate the potential of polluted runoff and increased runoff during construction activities. This includes regular monitoring and visual inspections during construction activities. Compliance with the Construction General Permit and a SWPPP prepared by a QSD and implemented by a QSP (per PPP WQ-1) as verified by the City through the construction permitting process would prevent construction-related impacts related to increases in run-off and pollution from development activities. Therefore, impacts would be less than significant.

Operation
As described previously, the proposed project would result in an increase of impervious surfaces that would generate increased runoff. However, the project would manage the increased flow with infiltration basins and landscaping that has been designed to accommodate the increased volume pursuant to the MS4 permit requirements. The units would retain, filter, treat, and slowly discharge runoff into existing off-site drainage basins adjacent to the WMD and EMWD easement areas along the westerly portion of the property and will discharge to the existing point of discharge.

As part of the permitting approval process, the proposed drainage design and engineering plans would be reviewed by the City's Engineering Division to ensure that the proposed drainage would accommodate the appropriate design flows. Additionally, the City permitting process would ensure that the drainage system specifications adhere to the existing MS4 permit regulations, which would ensure that pollutants are removed prior to discharge. Overall, with compliance to the existing regulations as verified by the City's permitting process, project impacts related to the capacity of the drainage system and polluted runoff would be less than significant.

iv) Impede or redirect flood flows?	☐	☐	☒	☐

Response:
Less Than Significant Impact. According to the Federal Emergency Management Agency (FEMA) Map 06065C0765G, the project site is designated as zone X, meaning it is in an area of minimal flood hazard (FEMA 2020). As detailed in the previous responses, implementation of the project would result in a 70 percent increase of impermeable surfaces on the site. However, the project would maintain the existing drainage pattern; and drainage would be accommodated by onsite by landscaping and infiltration basins that have been sized to accommodate MS4 requirements. Therefore, the project would not result in impeding or redirecting flood flows by the addition of the impervious surfaces. As detailed previously, the City's permitting process would ensure that the drainage system specifications adhere to the existing MS4 permit regulations, and compliance with existing regulations would ensure that impacts would be less than significant.

d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	☐	☐	☐	☒

Response:
No Impact. According to the Federal Emergency Management Agency (FEMA) Map 06065C0765G, the project site is designated as zone X, meaning it is in an area of minimal flood hazard (FEMA 2020). Thus, the project site is not located

ISSUES & SUPPORTING INFORMATION SOURCES:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact

within a flood hazard area that could be inundated with flood flows and result in release of pollutants. Impacts related to flood hazards and pollutants would not occur from the project.

Tsunamis are generated ocean wave trains generally caused by tectonic displacement of the sea floor associated with shallow earthquakes, sea floor landslides, rock falls, and exploding volcanic
islands. The proposed project is approximately 41 miles from the ocean shoreline. Based on the distance of the project site to the Pacific Ocean, the project site is not at risk of inundation from tsunami. Therefore, the proposed project would not risk release of pollutants from inundation from a tsunami. No impact would occur.

Seiching is a phenomenon that occurs when seismic ground shaking induces standing waves (seiches) inside water retention facilities (e.g., reservoirs and lakes). Such waves can cause retention structures to fail and flood downstream properties. The project site is not located adjacent to any water retention facilities. For this reason, the project site is not at risk of inundation from seiche waves. Therefore, the proposed project would not risk release of pollutants from inundation from seiche. No impact would occur.

e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	☐	☐	☒	☐

Response:

Less Than Significant Impact. As described previously, use of BMPs during construction implemented as part of a SWPPP as required by the NPDES Construction General Permit and PPP WQ-1 would serve to ensure that project impacts related to construction activities resulting in a degradation of water quality would be less than significant. Thus, construction of the project would not conflict or obstruct implementation of a water quality control plan.

Also, as described previously, new development projects are required to implement a WQMP (per PPP WQ-2) that would comply with the Santa Ana RWQCB MS4 Permit regulations. The WQMP and applicable BMPs are verified as part of the City's permitting approval process, and construction plans would be required to demonstrate compliance with these regulations. Therefore, operation of the proposed project would not conflict of obstruct with a water quality control plan.

In addition, as detailed previously, the EMWD manages basin water supply and the anticipated production of groundwater would remain steady from 2025 through 2082 (as shown in Table WQ-1). As described previously and further detailed in Section 19, *Utilities and Service Systems*, the City's supply of water listed in Table WQ-1 would be sufficient during both normal years and multiple dry year conditions between 2020 and 2082 to meet all of the City's estimated needs, including the proposed project. Therefore, the project would be consistent with the groundwater management plan and would not conflict with or obstruct its implementation. Thus, impacts related to water quality control plan or sustainable groundwater management plan would be less than significant.

Existing Plans, Programs, or Policies

PPP WQ-1: Stormwater Pollution Prevention Plan. Prior to grading permit issuance, the project developer shall have a Stormwater Pollution Prevention Plan (SWPPP) prepared by a Qualified SWPPP Developer (QSD) in accordance with the City's Municipal Code Chapter 8.10 and the Santa Ana Regional Water Quality Control Board National Pollution Discharge Elimination System (NPDES) Storm Water Permit Order No. R4-2012-0175 (MS4 Permit). The SWPPP shall incorporate all necessary Best Management Practices (BMPs) and other NPDES regulations to limit the potential of erosion and polluted runoff during construction activities. Project contractors shall be required to ensure compliance with the SWPPP and permit periodic inspection of the construction site by the City of Moreno Valley staff or its designee to confirm compliance.

PPP WQ-2: Water Quality Management Plan, Prior to grading permit issuance, the project applicant shall have a Water Quality Management Plan (WQMP) approved by the City for implementation. The project shall comply with the City's Municipal Chapter 8.10 and the Municipal Separate Storm Sewer System (MS4) permit requirements in effect for the Regional Water Quality Control Board (RWQCB) at the time of grading permit to control discharges of sediments and other pollutants during operations of the project.

ISSUES & SUPPORTING INFORMATION SOURCES:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact

Mitigation Measures
None.

Sources:

1. Moreno Valley General Plan, adopted July 11, 2006
   - Chapter 6 – Safety Element – Section 6.7 – Water Quality
     - Figure 5-4 – Flood Hazards
   - Chapter 7 – Conservation Element – Section 7.5 – Water Resources
     - Figure 6-1 Water Purveyor Service Area Map
2. Final Environmental Impact Report City of Moreno Valley General Plan, certified July 11, 2006
   - Section 5.5 – Hazards and Hazardous Materials
     - Figure 4.5-2 – Floodplains and High Fire Hazard Areas
   - Section 5.7 – Hydrology and Water Quality
     - Figure 4.7-1 – Storm Water Flows and Major Drainage Facilities
     - Figure 4.7-2 – Groundwater Basins
3. Title 9 – Planning and Zoning of the Moreno Valley Municipal Code
   - Section 9.10.080 – Liquid and Solid Waste
4. Moreno Valley Municipal Code Chapter 8.12 – Flood Damage Prevention
5. Moreno Valley Municipal Code Chapter 8.21 – Grading Regulations
6. Eastern Municipal Water District (EMWD) Groundwater Reliability Plus, http://gwrplus.org/
7. Eastern Municipal Water District (EMWD) 2015 Urban Water Management Plan
8. Preliminary Hydrology Report for TTM 37909, Moreno Valley, CA. April 4, 2020. Prepared by Robert M. Beers (Appendix G).
9. Project Specific Water Quality Management Plan, Iris Park, TTM 37909. April 2020. Prepared by Adkan Engineers (Appendix H).
10. FEMA Flood Map Service Center. 2020. Available at: https://msc.fema.gov/portal/search?AddressQuery=47108%20&%2047%20N%20CHERRY%20ST%20Hammond,%20LA#searchresultsanchor (Accessed May 5, 2020).

XI. LAND USE AND PLANNING – Would the project:

a) Physically divide an established community?	☐	☐	☐	☒

Response:
No Impact. The project site is currently vacant and is surrounded by a roadway to the north followed by single-family residences; single-family residences to the east; commercial uses to the west; and single-family residences and educational uses to the south. The proposed project would develop the site to provide 81 single-family residential units, which are consistent with the existing single-family residences to the north, east, and south of the site at a higher allowable density of RS10. Therefore, the change of the project site from a vacant site to single-family residential would not physically divide an established community. In addition, the project would not change roadways or install any infrastructure that would result in a physical division. Thus, the proposed project would not result in impacts related to physical division of an established community.

b) Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☒	☐

Response:
Less Than Significant Impact. As described previously, the project site is currently vacant. The project would develop the project site to provide 81 new single-family residences, which would be similar to the single-family residential uses that are located adjacent to the east of the site, to the north of the site beyond Iris Avenue, and to the south of the site.

ISSUES & SUPPORTING INFORMATION SOURCES:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact

General Plan
The project site currently has a General Plan land use designation of has a land use designation of Residential: Max. 5 du/ac (R5) and Commercial (C), which does not have the purpose of avoiding or mitigating an environmental effect. The proposed project includes a General Plan Amendment to change the land use designation of the site to Residential: Max. 10 du/ac (R10), which would allow the proposed single-family residences at a density of 7.58 du/acre. The General Plan Land Use Element states that the Residential: Max. 10 du/ac (R10) designation allows for allows for development of residential uses to a maximum density of 10 dwelling units per acre. As the project would develop residences at a density of 7.58 dwelling units per net acre, it would be consistent with the proposed land use designation, and the proposed change in land use would be less than significant.

Zoning
The project site is currently zoned the project site currently has a zoning designation of Residential 5 (R5) District and Community Commercial (CC) District. As such, the project includes a zone change to Residential Single-Family 10 District (RS10) to implement the proposed single-family residential uses. Section 9.03.020 of the City's Municipal Code states that the Residential Single-Family 10 District (RS10) zoning district is to provide for residential development on small single-family lots with amenities not generally found in suburban subdivisions. The district is intended for subdivisions at a maximum allowable density of ten (10) dwelling units per net acre. As described previously, the project would develop single-family residences at a density of 7.48 dwelling units per net acre. In addition, the project is requesting approval of a Conditional Use Permit (CUP) for a Planned Unit Development (PUD), which allows for a development to establish unique criteria for such things as setbacks, lot width and depth, building separation, lot size, etc. This is allowed in exchange for a higher level of detail and amenities within the project than typically required for standard residential development. Thus, the proposed project would not conflict with any applicable zoning regulations adopted for the purpose of avoiding or mitigating an environmental effect.

Existing Plans, Programs, or Policies
None.

Mitigation Measures
None.

Sources:

1. Moreno Valley General Plan, adopted July 11, 2006
   - Chapter 2 – Community Development Element – Section 2.1 – Land Use
     - Figure 1-1 – Neighboring Lands Uses
     - Figure 1-2 – Land Use Map
   - Chapter 8 – 2014 – 2021 Housing Element
2. Final Environmental Impact Report City of Moreno Valley General Plan, certified July 11, 2006
   - Section 5.12 – Population and Housing
     - Attachments #1 - #10 – Housing Sites Inventory
     - Exhibits A1 – A11, C, D, and E – Maps of Housing Sites
3. Title 9 – Planning and Zoning of the Moreno Valley Municipal Code

XII. MINERAL RESOURCES – Would the project:

a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	☐	☐	☐	☒

Response:
No Impact. The project site is located in Mineral Resource Zone 3 (MRZ-3), according to the Mineral Land Classification Map provided by the California Department of Conservation (CDC 2020). The MRZ-3 zone within the Significant Mineral Aggregate Resource Area (SMARA) Study Area is defined as areas containing mineral deposits which the significance cannot be evaluated from available data.

ISSUES & SUPPORTING INFORMATION SOURCES:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact

The City's General Plan EIR states that no locally, regionally, or statewide significant mineral resources are located within the City. Therefore, development of the site would not result in the loss of availability of a known mineral resource that would be of value to the region, and impacts would not occur.

b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?	☐	☐	☐	☒

Response:
No Impact. As described in the previous response, the City's General Plan EIR states that no locally, regionally, or statewide significant mineral resources are located within the City. Therefore, implementation of the project would not result in the loss of locally important mineral resources, and impacts would not occur.

Existing Plans, Programs, or Policies
None.

Mitigation Measures
None.

Sources:

1. Moreno Valley General Plan, adopted July 11, 2006
   - Chapter 7 – Conservation Element – Section 7.9 – Mineral Resources
2. Final Environmental Impact Report City of Moreno Valley General Plan, certified July 11, 2006
   - Section 5.14 – Mineral Resources
3. Title 9 – Planning and Zoning of the Moreno Valley Municipal Code
   - Section 9.02.120 – Surface Mining Permits
4. Moreno Valley Municipal Code Section 8.21.020 A 7 – Permits Required
5. The Surface Mining and Reclamation Act of 1975 (SMARA, Public Resources Code, Sections 2710-2796), https://www.conservation.ca.gov/dmr/lawsandregulations
6. California Department of Conservation. 2020. Mineral Land Classification. Accessed: https://maps.conservation.ca.gov/cgs/informationwarehouse/index.html?map=mlc (Accessed May 5, 2020).

XIII. NOISE – Would the project result in:

City of Moreno Valley Municipal Code

Sound level limits: Chapter 11.80.03 of the City's Municipal Code establishes maximum noise levels permitted within the city, which are listed in Table N-1:

Table N-1: City of Moreno Valley Maximum Continuous Sound Levels

Duration per Day (Continuous Hours)	Sound Level [dBA]
8	90
6	92
4	95
3	97
2	100
1.5	102
1	105
.5	110
.25	115

ISSUES & SUPPORTING INFORMATION SOURCES:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact

Source: City of Moreno Valley Municipal Code

Sensitive Receptor Noise Levels: Chapter 11.80.30 of the City's Municipal Code establishes the permissible noise level that may be received at nearby sensitive uses (e.g., residential). For noise-sensitive residential properties 200 feet from the source, the exterior noise level shall not exceed 60 dBA during daytime hours (8:00 a.m. to 10:00 p.m.) and shall not exceed 55 dBA during the nighttime hours (10:01 p.m. to 7:59 a.m.) (Municipal Code, Chapter 11.80).

Construction Noise: Section 8.14.082.E of the City's Municipal Code also provides construction noise standards, which state that Any construction within the city shall only be completed between the hour of seven a.m. to eight p.m. Monday through Friday, excluding holidays, unless written approval is obtained from the city building official or city engineer.

Sensitive Receptors

The nearest sensitive receptors to the project site are the single-family homes located adjacent to the east side of the project site, where the nearest residential structure is as near as 25 feet east of the project site. In addition, Val Verde Academy is located adjacent to the southwest side of the project site, where the nearest school structure is as near as 180 feet southwest of the project site.

Existing Ambient Noise Levels

To identify the existing ambient noise levels in the project area, noise level measurements were taken on and adjacent to the project site on May 9, 2020 and May 10, 2020. As shown on Table N-2, the average noise levels in the project area range from 52.1 dBA to 63.3 dBA. Table N-2 also shows that the both the daytime and nighttime noise levels at the nearby sensitive receptors currently exceeds the City's residential noise standards of 60 dBA Leq during the daytime.

Table N-2: Existing Ambient Noise Level Measurements

Site No.	Site Description	Average (dBA Leq)		1-hr Average (dBA Leq/Time)		Weighted-Average (dBA CNEL)
		Daytime	Nighttime	Minimum	Maximum	
1	Located on the southwest property line fence, approximately 8 feet south of the shopping center and adjacent to the northern portion of Val Verde Academy.	50.0	45.4	37.3 2:52 a.m.	56.2 8:10 p.m.	54.4
2	Located on the east property line fence, approximately 100 feet south of the centerline for Iris Avenue.	61.1	53.5	47.3 3:06 a.m.	63.9 5:00 p.m.	63.3
3	Located at the south corner of the project site on the fence for Val Verde Academy.	51.4	41.5	35.1 3:46 a.m.	54.8 4:18 p.m.	52.1

Source: NOI 2020

ISSUES & SUPPORTING INFORMATION SOURCES:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☐	☐	☒	☐

Response:
Less Than Significant Impact.
Construction
The construction activities for the proposed project are anticipated to include site preparation and grading of project site, construction of the 81 single-family residences, paving of the onsite driveways and parking areas, and application of architectural coatings. Noise impacts from construction activities associated with the proposed project would be a function of the noise generated by construction equipment, equipment location, sensitivity of nearby land uses, and the timing and duration of the construction activities. The nearest sensitive receptors to the project site are the single-family residences located approximately 25 feet east of the project site.

Table N-3 shows that the highest noise from construction would occur during the site preparation and grading phases when noise levels are anticipated to reach 59 dBA Leq at the nearest sensitive receptors (residences), which is below the City's noise threshold of 60 dBA (Municipal Code Chapter 11.80.30). In addition, the project would comply with the allowable construction times pursuant to the City's Municipal Code, the construction-related noise levels would not exceed any standards. Therefore, construction noise impacts would be less than significant.

Table N-3: Construction Noise Levels at the Nearest Sensitive Receptor

Construction Phase	Construction Noise Level (dBA Leq) at: Nearest Homes to the East[1]	Nearest School to Southwest[2]
Site Preparation	59	64
Grading	59	64
Building Construction	58	61
Paving	55	59
Painting	50	52
City's Noise Threshold[3]	**60**	**65**
Exceed Thresholds?	No	No

Notes:
[1] The construction noise levels were calculated at 200 feet from the project's property line pursuant to Section 11.80.030(C) of the Municipal Code.
[2] In order to account for the existing 6-foot high wall on the east property line and the first row of homes that are located within 200 feet of the property line 10 dB of shielding was added to the RCNM Model.
[3] In order to account for the commercial and school structures that are located within 200 feet of the property line, 5 dB of shielding was added to the RCNM Model..
[4] City Noise Thresholds obtained from Section 11.80.030(C) of the Municipal Code.
Source: RCNM, Federal Highway Administration, 2006

Source: NOI 2020

Operation
Development of the proposed project would result in 81 single-family residences, which would generate approximately 61 trips during the a.m. peak hour, 81 trips during the p.m. peak hour, for a total of 774 daily trips. The noise generated from these vehicular trips has been identified through a comparison of noise generated by traffic volumes with and without the project, provided in Table N-4.

ISSUES & SUPPORTING INFORMATION SOURCES:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact

Table N-4: Project Traffic Noise Contributions

		dBA CNEL at Nearest Receptor			
Roadway	Segment	Existing	Existing Plus Project	Project Contribution	Increase Threshold
Iris Avenue	East of Perris Blvd	68.8	69.0	0.2	+0.1 dBA

Source: FHWA Traffic Noise Prediction Model FHWA-RD-77-108.

Source: NOI 2020

Objective 6.5 of the City's General Plan Noise Element requires the City to minimize noise impacts from significant noise generators including roadway noise impacts. However, neither the General Plan nor the CEQA Guidelines define what constitutes a "substantial permanent increase to ambient noise levels." Therefore, thresholds from the FTA *Transit Noise and Vibration Impact Assessment* (2018) have been utilized, which identifies noise impacts by comparing the existing noise levels and the future noise levels with the proposed project. Based on the FTA guidance, a substantial increase in ambient noise from vehicular traffic could occur when the noise levels at noise-sensitive land uses (e.g. residential, etc.) are less than 60 dBA CNEL and the project creates an increase of 3 dBA CNEL or greater noise level increase; or when noise levels range from 60 to 65 dBA CNEL and the project creates 2 dBA CNEL or greater noise level increase.

As shown in Table N-4 above, the project traffic would result in a increase of 0.2 dBA, which is below the noise increase thresholds of 1 dBA. Therefore, impacts related to operational noise would be less than significant.

b) Generation of excessive groundborne vibration or groundborne noise levels?	☐	☐	☒	☐

Response:
Less Than Significant Impact.
Construction
Construction activities associated with the proposed project would require the operation of off-road equipment and trucks that are known sources of vibration. Construction activity can result in varying degrees of ground vibration, depending on the equipment used on the site. Operation of construction equipment causes ground vibrations that spread through the ground and diminish in strength with distance. Vibrations at buildings could produce results that range from no perceptible effects at the low levels to damage at the highest levels. It should be noted that vibration is much more discernible in a siting or laying down position, which typically only occur inside a home. As such, this analysis is based on the vibration levels at the nearest homes, instead of the nearest residential property lines.

Section 16.30.130(K) of the City's Municipal Code restricts the operation of any device that creates a vibration which is above the vibration perception threshold of an individual at or beyond the property boundary of the source. The perception threshold is defined as a motion velocity of 0.01 inch per second over the range of 1 to 100 Hertz or a root mean square (rms) velocity of 0.01 inch per second (PPV). Table N-5 shows the typical PPV and average vibration levels shown in vibration velocity in decibels (VdB) that are produced from some common construction equipment that would likely be utilized during construction of the proposed project (NOI 2020).

Table N-5: Typical Vibration Source Levels for Construction Equipment

Equipment	Peak Particle Velocity (inches/second)	Approximate Vibration Level (L_v) at 25 feet
Pile driver (impact)	1.518 (upper range) 0.644 (typical)	112 104
Pile driver (sonic)	0.734 (upper range) 0.170 (typical)	105 93

ISSUES & SUPPORTING INFORMATION SOURCES:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact

Clam shovel drop (slurry wall)	0.202	94
Vibratory Roller	0.210	94
Hoe Ram	0.089	87
Large bulldozer	0.089	87
Caisson drill	0.089	87
Loaded trucks	0.076	86
Jackhammer	0.035	79
Small bulldozer	0.003	58

Source: NOI 2020

Chapter 9.10 of the Municipal Code includes performance standards for proposed development projects that may impact the surrounding neighborhood and Section 9.10.030(B), which is part of this Chapter, exempts temporary construction activities from Section 9.10.170 that restricts the creation of vibration that can be felt at the property line, provided that construction activities occur between the hours of 7 a.m. and 7 p.m. Since the City's Municipal does not provide a quantifiable vibration level for construction activities, Caltrans guidance has been utilized, which defines the threshold of perception from transient sources at 0.25 inch per second peak particle velocity (PPV).

The primary source of vibration during construction would be from the operation of a bulldozer. As demonstrated above in Table N-5, a large bulldozer would create a vibration level of 0.089 inch-per-second PPV at 25 feet, which is the approximate distance to the nearest residence. The vibration level at the nearest residence from the project site is within the 0.25 inch per second PPV threshold detailed above. Therefore, construction-related vibration impacts would be less than significant.

Operation

Operation of the proposed single-family uses would include heavy trucks for residents moving in and out of the residences, large deliveries, and garbage trucks for solid waste disposal. Truck vibration levels are dependent on vehicle characteristics, load, speed, and pavement conditions. However, typical vibration levels for the heavy truck activity at normal traffic speeds would be approximately 0.006 in/sec PPV, based on the FTA Transit Noise Impact and Vibration Assessment. Truck movements on site would be travelling at very low speed, so it is expected that truck vibration at nearby sensitive receivers would be less than the vibration threshold of 0.08 in/sec PPV for fragile historic buildings and 0.04 in/sec PPV for human annoyance, and therefore, would be less than significant.

c) For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☒	☐

Response:

Less Than Significant Impact. The project site is located approximately 1.2 miles to the east of the March Air Reserve Base (MARB). The project is within the MARB/Inland Port Airport Land Use Compatibility Plan (RCALUC 2014); however, the project is in Zone E, which is beyond the 55-CNEL contour. Therefore, there would be a low noise impact with occasional overflights intrusive to some outdoor activities (RCALUC 2014). Thus, aircraft noise impacts would be less than significant.

Existing Plans, Programs, or Policies

None.

Mitigation Measures

None.

Sources:

ISSUES & SUPPORTING INFORMATION SOURCES:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact

1. Moreno Valley General Plan, adopted July 11, 2006
   - Chapter 6 – Safety Element – Section 6.4 – Noise
     - Figure 5-2 – Buildout Noise Contours
2. Final Environmental Impact Report City of Moreno Valley General Plan, certified July 11, 2006
   - Section 5.4 – Noise
     - Figure 4.4-1 – March Air Reserve Base Noise Impact Area
     - Figure 4.4-2 – Buildout Noise Contours – Alternative 1
     - Figure 4.4-3 -- Buildout Noise Contours – Alternative 2
     - Figure 4.4-4 -- Buildout Noise Contours – Alternative 3
   - Appendix D – Noise Analysis, Wieland Associates, Inc., June 2003.
3. Title 9 – Planning and Zoning of the Moreno Valley Municipal Code
   - Section 9.10.140 Noise and Sound
4. Moreno Valley Municipal Code Chapter 11.80 Noise Regulations
5. March Air Reserve Base (MARB)/March Inland Port (MIP) Airport Land Use Compatibility Plan (ALUCP) on November 13, 2014, (http://www.rcaluc.org/Portals/13/17%20-%20Vol.%201%20March%20Air%20Reserve%20Base%20Final.pdf?ver=2016-08-15-145812-700)
6. Noise Impact Analysis, Iris Park Single-Family Residential Project, City of Moreno Valley. May 19, 2020. Prepared by Vista Environmental (Appendix I).

XIV. POPULATION AND HOUSING – Would the project:

a) Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of road or other infrastructure)?	☐	☐	☒	☐

Response:
Less Than Significant Impact. The project would construct 81 single-family residences on the project site. The California Department of Finance (CDF) data details that the City of Moreno Valley had a residential population of 207,743 and 57,005 residential units in 2019. Of these, 46,098 (approximately 80 percent) are single-family detached units. In addition, it is estimated that the City has an average of 3.96 persons per household.

Based on this information, the proposed project would result in a net increase of approximately 321 new residents. The addition of 321 new residents would represent a population increase of approximately 0.15 percent and the new housing units would result in a 0.14 percent increase in residential units within the City. This limited level of growth on a site that has been previously developed would not constitute substantial growth.

The proposed project is located in an urbanized residential area of the City and is surrounded by residential and commercial uses and is already served by the existing roadways and infrastructure systems. No infrastructure would be extended or constructed to serve areas beyond the project site, and indirect impacts related to growth would not occur from implementation of the proposed project. Therefore, potential impacts related to inducement of unplanned population growth, either directly or indirectly, would be less than significant.

b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒

Response:
No Impact. As described above, the project site is vacant and undeveloped land and does not contain any housing or people on the project site. The proposed project would construct 81 new single-family residences and would not displace any existing housing or people and would not necessitate the construction of housing elsewhere. Thus, impacts would not occur.

Existing Plans, Programs, or Policies
None.

ISSUES & SUPPORTING INFORMATION SOURCES:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact

Mitigation Measures
None.

Sources:

1. Moreno Valley General Plan, adopted July 11, 2006
   - Chapter 2 – Community Development Element – Section 2.1 – Land Use
     - Figure 1-1 – Neighboring Lands Uses
     - Figure 1-2 – Land Use Map
   - Chapter 8 – 2014 – 2021 Housing Element
2. Final Environmental Impact Report City of Moreno Valley General Plan, certified July 11, 2006
   - Section 5.12 – Population and Housing
     - Attachments #1 - #10 – Housing Sites Inventory
     - Exhibits A1 – A11, C, D, and E – Maps of Housing Sites
3. Title 9 – Planning and Zoning of the Moreno Valley Municipal Code
4. California Department of Finance. May 2019. E-5 Population and Housing Estimates for Cities, Counties, and the State, 2011-2019 with 2010 Census Benchmark. Accessed: http://www.dof.ca.gov/Forecasting/Demographics/Estimates/E-5/ (Accessed May 11, 2020).

XV. PUBLIC SERVICES – Would the project:

a) Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:

i) Fire protection?	☐	☐	☒	☐

Response:
Less Than Significant Impact. The City of Moreno Valley Fire Department provides fire protection to the project area. The City's Fire Department is the primary response agency to fires, emergency medical service, hazardous materials incidents, traffic accidents, terrorist acts, catastrophic weather events, and technical rescues. Additionally, the City's Office of Emergency Management is located within the Fire Department allowing for a well-coordinated response to both natural and man-made disasters. The Moreno Valley Fire Department is part of the CALFIRE/Riverside County Fire Department's regional, integrated, cooperative fire protection organization, which provides access to other regional fire and emergency equipment and/or services, as needed.

There are two fire stations within two miles of the project site. Fire Station 65 is located 1.6 miles from the project site at 15111 Indian Street. This fire station houses one paramedic engine company and a reserve fire engine. Fire Station 91 is located 2.0 miles from the project site at 16110 Lasselle Street. This fire station is two bay fire station that houses one paramedic engine company and is home to the City's two Battalion Chiefs (Fire 2020).
The project would develop 81 single-family residences in an area already served by the City's Fire Department and within close proximity to two existing fire stations. Due to the small increase in employees and customers that would occur from implementation of the project a limited incremental increase in demand for fire protection and emergency medical services would occur. However, the project would be required to adhere to the California Fire Code (included in the City's Municipal Code Chapters 8.36) and would be reviewed by the Fire Department during the project permitting process to ensure that the project plans meet the fire protection requirements.

The project would be adequately served by the two fire stations that currently serve the project area. Due to the limited increase in employees and customers, and the close location of the existing fire stations, the proposed project would not result in the need for, new or physically altered fire department facilities that are not currently planned. Therefore, impacts related to fire protection services would be less than significant.

ISSUES & SUPPORTING INFORMATION SOURCES:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
ii) Police protection?	☐	☐	☒	☐

Response:
Less Than Significant Impact. The City of Moreno Valley receives policing services through a contract for services with the Riverside County Sheriff's Office. The City's police station is located at 22850 Calle San Juan De Los Lagos, which is approximately 4.1 miles from the project site. Because the project site is currently vacant and undeveloped, implementation of the project would result in an onsite population that would create the need for police services. Calls for police service during project construction may include: theft of building materials and construction equipment, malicious mischief, graffiti, and vandalism. Operation of the project could generate a typical range of police service calls, such as burglaries, thefts, and disturbances. To reduce the potential for these types of crimes, security concerns are addressed in the project design by providing low-intensity security lighting for the purposes of wayfinding, safety, and building structure security.

Although an incremental increase could result from implementation of the project, the need for law enforcement services from the proposed project would be limited and within the area that is currently served. Thus, the need for policing services generated by the project would not require the construction or expansion of police department facilities. Therefore, impacts related to police protection would be less than significant.

iii) Schools?	☐	☐	☒	☐

Response:
Less Than Significant Impact. The project site is located within the Moreno Valley Unified School District, which operates and maintains 43 schools, including 23 elementary schools (K-5), 6 middle schools (7-8), 5 high schools (9-12), and 9 specialized schools. The site is currently located within the attendance area boundaries of Ridgecrest Elementary School, Mountain View Middle School, and Valley View High School.

The project would develop 81 single-family residences. The District's April 2020 Developer Fee Justification Report indicates that there are over 53,581 residential dwelling units existing within the District. It is anticipated that a total of 13,156 additional units will be constructed by 2040. Based on the District's Student Generation Rate of 0.6041, this will generate over 7,947 additional K-12 students during that period (MV 2020). With the Student Generation Rate of 0.6041, the project will generate approximately 49 additional K-12 students upon implementation.

Pursuant to Government Code Section 65995 et seq., the need for additional school facilities is addressed through compliance with school impact fee assessment. SB 50 (Chapter 827 of Statutes of 1998) sets forth a state school facilities construction program that includes restrictions on a local jurisdiction's ability to condition a project on mitigation of a project's impacts on school facilities in excess of fees set forth in the Government Code. These fees are collected by school districts at the time of issuance of building permits for development projects. Pursuant to Government Code Section 65995 applicants shall pay developer fees to the appropriate school districts at the time building permits are issued; and payment of the adopted fees provides full and complete mitigation of school impacts. As a result, impacts related to school facilities would be less than significant with the Government Code required fee payments.

iv) Parks?	☐	☐	☒	☐

Response:
Less Than Significant Impact. Utilizing Map 3.1, Existing Parks and Community Facilities, in the City of Moreno Valley Parks, Recreation and Open Space Comprehensive Plan, the City operates and maintains six parks within the project's vicinity: Rock Ridge Park, approximately 4.7 miles to the northwest; Morrison Park, approximately 4.4 miles to the northwest; Ridgecrest Park, approximately 4.1 miles to the southeast; Weston Park, approximately 3.8 miles to the northwest; the Moreno Valley Community Park, approximately 4.8 miles to the west; and Celebration Park, approximately 3.3 miles to the southwest.

The project includes several onsite recreational areas, the largest being a park of almost 0.43 acre. These facilities will satisfy a substantial portion of the parks demands from the new residents. Further, the City's Municipal Code (Section

ISSUES & SUPPORTING INFORMATION SOURCES:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact

3.38.080 and Chapter 3.40) includes requirements for mitigation fees in favor of park improvements and/or parkland dedication; where applicable, these fees would be included as a condition of the approval of the residential development (included as PPP PS-2). These fees would be used in the City of the purpose of acquiring, designing, constructing, improving, providing and maintaining, to the extent permitted by law, park improvements provided for in the City's general plan and its adopted capital improvement program or an adopted master plan of parks and recreation facilities, as amended from time to time. Therefore, impacts related to the need to provide new or altered park and recreation facilities in order to maintain acceptable service ratios would be less than significant.

v) Other public facilities?	☐	☐	☒	☐

Response:

Less Than Significant Impact. The proposed project would develop 81 single-family residential units within an area that already contains single-family residential. The additional residences would result in a limited incremental increase in the need for additional services, such as public libraries and post offices, etc. Because the project area is already served by other services and the project would result in a limited increase in residences, the project would not result in the need for new or physically altered facilities to provide other services, the construction of which could cause significant environmental impacts. Therefore, impacts would be less than significant.

Existing Plans, Programs, or Policies

PPP PS-1: The project will be required to pay applicable development fees levied by the Moreno Valley Unified School District pursuant to the School Facilities Act (Senate Bill [SB] 50, Stats. 1998, c.827) to offset any effects on school facilities resulting from new development.

PPP PS-2: Park Fees. As a condition of the approval of a residential development, the project shall pay applicable park related fees and/or dedicate parkland pursuant to Municipal Code Section 3.38.080 and Chapter 3.40.

Mitigation Measures

None.

Sources:

1. Moreno Valley General Plan, adopted July 11, 2006
   - Chapter 2 – Community Development Element – Section 2.5 – Schools
     - Figure 1-3 – School District Boundaries
   - Chapter 2 – Community Development Element – Section 2.6 – Library Services
   - Chapter 2 – Community Development Element – Section 2.7 – Special Districts
   - Chapter 2 – Community Development Element – Section 2.5 – Other City Facilities
   - Chapter 4 – Parks, Recreation and Open Space Element – Section 4.3 – Parks and Recreation
     - Figure 3-2 – Future Parklands Acquisition Areas
     - Figure 3-3 – Master Plan of Trails
   - Chapter 6 – Safety Element – Section 6.1 – Police Protection and Crime Preventions
   - Chapter 6 – Safety Element – Section 6.2 – Fire and Emergency Services
     - Figure 5-1 – Fire Stations
2. Final Environmental Impact Report City of Moreno Valley General Plan, certified July 11, 2006
   - Section 5.13 – Public Services
     - Figure 4.13-1 – Location of Public Facilities
3. Title 9 – Planning and Zoning of the Moreno Valley Municipal Code
4. City of Moreno Valley Fire Department Website. Accessed: http://www.moreno-valley.ca.us/city_hall/departments/fire/index-fire.shtml (Accessed May 11, 2020).
5. City of Moreno Valley Police Department Website. Accessed: http://www.moreno-valley.ca.us/city_hall/departments/police/index-police.shtml (Accessed May 11, 2020).
6. City of Moreno Valley Parks, Recreational, and Open Spaces Comprehensive Master Plan. Accessed:
7. http://www.ci.moreno-valley.ca.us/resident_services/park_rec/pdfs/park-mp0910.pdf (Accessed May 11, 2020).

ISSUES & SUPPORTING INFORMATION SOURCES:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
8. Moreno Valley Unified School District Fee Justification Report for New Residential and Commercial/Industrial Development. 2020.				
XVI. RECREATION – Would the project:				
a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☐	☒	☐

Response:
Less Than Significant Impact. As described previously project would develop 81 single-family residences. Residential developments are subject to Municipal Code Section 3.38.080 and Chapter 3.40, requiring park improvements residential development impact fees and/or parkland dedication or in-lieu fees for residential development as a condition of project approval (included as PPP PS-2). These fees would be used in the City of the purpose of acquiring, designing, constructing, improving, providing and maintaining, to the extent permitted by law, park improvements provided for in the City's general plan and its adopted capital improvement program or an adopted master plan of parks and recreation facilities, as amended from time to time. Furthermore, the project would develop recreational areas within the new residential development, including a community park, fitness stations, and connections to a future public linear park along the California Aqueduct easement. Therefore, impacts related to the increase the use of existing parks and recreational facilities, such that physical deterioration of the facility would be accelerated would be less than significant.

b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which have an adverse physical effect on the environment?	☐	☐	☒	☐

Response:
Less Than Significant Impact. As described above, while the project would contribute park development fees pursuant to Municipal Code 3.38.080 (included as PPP PS-2) to be used towards the future expansion or maintenance parks and recreational facilities, these fees are standard with every residential development. The project would also construct recreational facilities within the residential development area, including a community park, fitness stations, and connections to a future public linear park. The development of these recreational facilities are analyzed throughout this study as part of the proposed project and would not result in a significant adverse physical effect on the environment. As a result, impacts would be less than significant.

Existing Plans, Programs, or Policies
PPP PS-2: Park Fees, provided in Section 15, *Public Services*.

Mitigation Measures
None.

Sources:

1. Moreno Valley General Plan, adopted July 11, 2006
   - Chapter 4 – Parks, Recreation and Open Space Element – Section 4.3 – Parks and Recreation
     - Figure 3-1 Open Space
     - Figure 3-2 – Future Parklands Acquisition Areas
     - Figure 3-3 – Master Plan of Trails
2. Final Environmental Impact Report City of Moreno Valley General Plan, certified July 11, 2006
   - Section 5.13 – Public Services
     - Figure 4.13-1 – Location of Public Facilities
3. Title 9 – Planning and Zoning of the Moreno Valley Municipal Code

ISSUES & SUPPORTING INFORMATION SOURCES:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XVII. TRANSPORTATION – Would the project:				
a) Conflict with program plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?	☐	☐	☒	☐

Response:
Less Than Significant Impact.
Construction
Construction activities associated with the project would generate vehicular trips from construction workers traveling to and from project site, delivery of construction supplies and import materials to, and export of debris from, the project site. However, these activities would only occur for a period of 12 months. The increase of trips during construction activities would be limited and are not anticipated to exceed the number of operational trips described below. The short-term vehicle trips from construction of the project would generate less than significant traffic related impacts.
Operation
As shown in Table T-1 below, the proposed project would generate approximately 61 trips during the AM peak hour, 81 trips during the PM peak hour, and a total of 774 daily trips.

Table T-1: Project Trip Generation

Land Use	Units	Daily	AM Peak Hour			PM Peak Hour		
			In	Out	Total	In	Out	Total
Trip Rates								
Single-Family Detached Housing[1]	DU	9.440	0.185	0.555	0.740	0.624	0.366	0.990
Project Trip Generation								
Detached Single Family	81 DU	774	15	46	61	51	30	81

Notes:
DU = Dwelling Units
1 Trip rates from the Institute of Transportation Engineers, Trip Generation, 10th Edition, 2017. Land Use Code 210 - Single-Family Detached Housing.

Source: EPD 2020 (Appendix J)

According to Exhibit A of the City of Moreno Valley Traffic Impact Analysis Preparation Guide, projects that generate fewer than 100 vehicle trips during the peak hours are generally exempt from the requirement to prepare a traffic impact analysis. The worst-case peak hour trip generation of the project is 81 PM peak hour trips, fewer than 100 peak hour trips. Therefore, the project would not result in a conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, and impacts would be less than significant.

The project area is currently served by the Riverside Transit Authority (RTA). The RTA provides both local and regional services throughout the region with 38 fixed routes, 9 commuter link routes, and Dial-A-Ride services. The existing RTA bus stop for Route 19, located adjacent to the project site on Iris Avenue, is the closest existing route to the project. Operation of the project would not affect the operation of the bus route. Thus, no impacts would occur. In addition, both sidewalks and bicycle lanes are located adjacent to the project site on Iris Avenue. The proposed project would not alter any of the existing bicycle or sidewalk facilities. Thus, impacts related to bicycle or pedestrian circulation would not occur from implementation of the project.

b) Conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?	☐	☐	☐	☐

Response:
Less than Significant Impact. The City of Moreno Valley has prepared updated *Traffic Impact Analysis Guidelines* (Guidelines) for Land Use Projects in June 2020 to address changes to CEQA pursuant to SB-743 to include VMT analysis methodology and thresholds. The City recommends using VMT per capita for home-based trips for residential

ISSUES & SUPPORTING INFORMATION SOURCES:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact

projects. Based on the Guidelines, a project would result in a significant project generated VMT impact under either of the following conditions:

1. A project would have a significant VMT impact if, in the Existing Plus Project scenario, its net VMT per capita (for residential projects) or per employee (for office and industrial projects) exceeds the average VMT for Moreno Valley. For all other uses, a net increase in VMT would be considered a significant impact.
2. If a project is consistent with the regional RTP/SCS, then the cumulative impacts shall be considered less than significant subject to consideration of other substantial evidence. If it is not consistent with the RTP/SCS, then it would have a significant VMT impact if:
    a. For residential projects its net VMT per capita exceeds the average VMT per capita for Moreno Valley in the RTP/SCS horizon-year.
    b. For office and industrial projects its net VMT per employee exceeds the average VMT per employee for Moreno Valley in the RTP/SCS horizon-year
    c. For all other land development project types, a net increase in VMT in the RTP/SCS horizon-year would be considered a significant impact.

The VMT analysis was conducted using two steps. First, the per capita VMT was calculated from the Riverside Transportation Analysis Model (RivTAM). Second, since the project includes project characteristics which reduce VMT but cannot be evaluated using the RivTAM, those calculations were conducted off-model. The RivTAM uses a base year of 2012 and a future year of 2040, and both models were run for the without and with project scenarios. VMT outputs are included in Attachment A to the VMT Memorandum (Appendix K to this document). Consistent to the Guidelines, the baseline (2020) conditions VMT was calculated by interpolating the Base Year and Future Year RivTAM runs. The methodology for the VMT analysis is further discussed in Appendix K to this document.

The first part of the VMT analysis was conducted using the RivTAM. Table T-2 summarizes the findings of the Base Year (2012) model run and Table T-3 summarizes the findings of the Future Year (2040) model run respectively. As seen on Table T-3, the Future Year (2040) project VMT per capita is 11.8 miles, which is less than the City's home-based VMT per capita of 13.7 miles, showing a less than significant impact under cumulative conditions.

Table T-2: Base Year (2012) Model VMT Summary

	Homebased VMT	Total Households	Total Population	VMT/Capita
Project	4,937	81	343	14.4
Moreno Valley				12.8
Source: VMT Memorandum (Appendix K).				

Table T-3: Future Year (2040) Model VMT Summary

	Homebased VMT	Total Households	Total Population	VMT/Capita
Project	4,039	81	343	11.8
Moreno Valley				13.7
Source: VMT Memorandum (Appendix K).				

Based on the City's Guidelines, Baseline VMT was calculated by interpolating between the model base and future years. Table T-4 shows the resulting VMT for the City and the Project. As seen on Table T-4, the project VMT per Capita is 13.6 miles, which is 4.58% greater than the City of Moreno Valley VMT/Capita of 13.0 miles.

ISSUES & SUPPORTING INFORMATION SOURCES:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact

Table T-4: Future Year (2040) Model VMT Summary

	Homebased VMT	Total Households	Total Population	VMT/Capita
Project	4,681	81	343	13.6
Moreno Valley				13.0
Project VMT as a Percentage of City				**104.58%**

Source: VMT Memorandum (Appendix K).

The City also requires analysis of project effect on VMT within the City's roadways for disclosure although no thresholds are specified. This analysis was based on the RivTAM. Tables T-5, T-6, and T-7 show the results of the analysis for the Base Year (2012), Future Year (2040), and Baseline Year (2020) conditions. As seen from the tables, the project reduces per capita VMT within the City limits under all scenarios.

Table T-5: City of Moreno Valley - Project Effect on VMT (Base Year 2012)

	Without Project	With Project
Roadway VMT	1,717,720	1,716,263
Service Population	225,662	226,005
VMT/Service Population	**7.61**	**7.59**

Source: VMT Memorandum (Appendix K).

Table T-6: City of Moreno Valley - Project Effect on VMT (Future Year 2040)

	Without Project	With Project
Roadway VMT	2,783,726	2,759,709
Service Population	307,007	307,350
VMT/Service Population	**9.07**	**8.98**

Source: VMT Memorandum (Appendix K).

Table T-7: City of Moreno Valley - Project Effect on VMT (Baseline Year 2020)

	Without Project	With Project
Roadway VMT	2,022,293	2,014,391
Service Population	248,903	249,246
VMT/Service Population	**8.12**	**8.08**

Source: VMT Memorandum (Appendix K).

The second part of the VMT analysis includes the off-model calculations. The project includes several site-specific conditions that cannot be analyzed using the RivTAM, including a nearby pedestrian trail, a bus stop on a high-frequency transit route, and a higher residential density than assumed in the General Plan. These conditions these were calculated separately using CalEEMod and CAPCOA guidelines. These conditions reduce the VMT impacts of any development on the project site, as calculated in Table T-8.

ISSUES & SUPPORTING INFORMATION SOURCES:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact

Table T-8: VMT Reductions due to Site-Specific Conditions

	Annual VMT	Percent Reduction	Source
BAU VMT	2,669,967		CalEEMod
Pedestrian Connections Off Site	2,616,568	2.00%	CalEEMod
Proximity to Transit	2,536,469	5.00%	CalEEMod
Increased Density (Compared to GP)		3.60%	LUT 1 (CAPCOA)
Mitigated VMT	2,387,004		
Reductions due to PDFs	**89.40%**	**10.60%**	
Source: VMT Memorandum (Appendix K).			

Table T-9, below, shows the project generated VMT after accounting for site-specific conditions. As shown on Table T-9, these conditions result in project VMT being lower than the City VMT for both the baseline and cumulative conditions.

Table T-9: Project VMT Including Site-Specific Conditions

	Project VMT/Capita	Percent of City VMT
Baseline (2020) Project VMT/Capita (from RivTAM)	13.6	104.58%
Baseline (2020) Project VMT/Capita After PDF	**12.2**	**93.50%**
Cumulative (2040) Project VMT/Capita (from RivTAM)	11.8	86.15%
Cumulative (2040) Project VMT/Capita (after PDFs)	**10.5**	**80.67%**
Source: VMT Memorandum (Appendix K).		

Overall, the project generated VMT is under baseline conditions is 12.2 miles which is less than the City average of 13.0 miles. The project generated VMT under cumulative conditions is 10.5 miles, which is less than the City average of 13.7 miles. The “with project” VMT per service population on City roadways under the baseline and cumulative conditions are less than those under “without project” conditions. Therefore, the project would be consistent with CEQA Guidelines section 15064 and impacts would be less than significant.

c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☐	☐	☒	☐

Response:

Less Than Significant Impact. The project includes development of single-family residences. The project includes community type uses and does not include any incompatible uses, such as farm equipment. The proposed project area would be accessed from Iris Avenue, as well as through the onsite streets to each residence.

The project would also not increase any hazards related to a design feature. All of the onsite streets would be developed in conformance with City design standards. The City’s construction permitting process includes review of project plans to ensure that no potentially hazardous transportation design features would be introduced by the project. For example, the design of the project streets would be reviewed to ensure fire engine accessibility and turn around area is provided to the fire code standards. As a result, impacts related to vehicular circulation design features would be less than significant.

ISSUES & SUPPORTING INFORMATION SOURCES:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
d) Result in inadequate emergency access?	☐	☐	☒	☐

Response:
Less than Significant Impact.
Construction
The proposed construction activities, including equipment and supply staging and storage, would occur within and adjacent to the project area on Iris Avenue, and would not restrict access of emergency vehicles to the project site or adjacent areas. The installation of driveways and connections to existing infrastructure systems that would be implemented during construction of the proposed project could require the temporary closure of Iris Avenue. Traffic detours are not expected to be necessary. In addition, the construction activities would be required to ensure emergency access in accordance with Section 503 of the California Fire Code (Title 24, California Code of Regulations, Part 9), which would be ensured through the City's permitting process. Thus, implementation of the project through the City's permitting process would ensure existing regulations are adhered to and would reduce potential construction related emergency access impacts to a less than significant level.

Operation
As described previously, the proposed project area would be accessed from Iris Avenue, as well as through the onsite streets to each residence. Permitting of these roadways would provide adequate and safe circulation to, from, and through the project are and would provide two routes for emergency responders to access different portions of the project area. Because the project is required to comply with all applicable City codes, as verified by the City, potential impacts related to inadequate emergency access would be less than significant.

Existing Plans, Programs or Policies
None.

Mitigation Measures
None.

Sources:

1. Moreno Valley General Plan, adopted July 11, 2006
   - Chapter 5 Circulation Element
     - Figure 8-1 – Circulation Plan
     - Figure 8-2 – LOS Standards
     - Figure 8-3 – Roadway Cross-Sections
     - Figure 8-4 – Bikeway Plan
2. Final Environmental Impact Report City of Moreno Valley General Plan, certified July 11, 2006
   - Section 5.2 – Traffic/Circulation
     - Figure 4.2-1 – Circulation Plan
     - Figure 4.2-2 – General Plan Roadway Cross-Sections
     - Figure 4.2-3 – Year 2000 Number of Through Lanes
     - Figure 4.2-4 – Year 2000 Daily Volume/Capacity (V/C) Ratios
     - Figure 4.2-5 – Year 2000 Average Daily Traffic Volumes
     - Figure 4.2-6 – Proposed Circulation Plan
     - Figure 4.2-7 – LOS Standards
   - Appendix B – Traffic Analysis, City of Moreno Valley General Plan Traffic Study, Urban Crossroads, June 2004.
3. Title 9 – Planning and Zoning of the Moreno Valley Municipal Code
4. Moreno Valley Municipal Code Chapter 3.18 Special Gas Tax Street Improvement Fund
5. Moreno Valley Master Bike Plan, adopted January 2015
6. Riverside County Transportation Commission, Congestion Management Program, December 14, 2011
7. City of Moreno Valley Transportation Engineering Division, Traffic Impact Analysis Preparation Guide. 2007.

ISSUES & SUPPORTING INFORMATION SOURCES:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact

8. Trip Generation Analysis for Proposed Iris Park Residential Project. May 12, 2020. Prepared by EPD Solutions, Inc. (Appendix J).
9. VMT Memorandum. October 7, 2020. Prepared by Translutions. (Appendix K).

XVIII. TRIBAL CULTURAL RESOURCES – Would the project:

AB 52 and SB 18 Requirements

The project would be required to comply with AB 52 and SB 18 regarding tribal consultation. Chapter 532, Statutes of 2014 (i.e., AB 52), requires that Lead Agencies evaluate a project's potential to impact "tribal cultural resources." Such resources include sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe that are eligible for inclusion in the California Register or included in a local register of historical resources (PRC Section 21074). AB 52 also gives Lead Agencies the discretion to determine, supported by substantial evidence, whether a resource falling outside the definition stated above nonetheless qualifies as a "tribal cultural resource."

SB 18 requires cities and counties acting as Lead Agency to contact and consult with California Native American tribes before adopting or amending a General Plan. The intent of SB 18 is to establish meaningful consultation between tribal governments and local governments at the earliest possible point in the planning process and to enable tribes to manage "cultural places." Cultural places are defined as a Native American sanctified cemetery, place of worship, religious or ceremonial site, or sacred shrine (PRC Section 5097.9), or a Native American historic, cultural, or sacred site, that is listed or may be eligible for listing in the California Register, including any historic or prehistoric ruins, any burial ground, or any archaeological or historic site (PRC Section 5097.993).

In compliance with these requirements, the City sent out to the following Native American tribes that may have knowledge regarding tribal cultural resources in the project vicinity.

- Agua Caliente Band of Cahuilla Indians
- Cahuilla Band of Indians
- Desert Cahuilla Indians
- Los Coyotes Band of Cahuilla Mission Indians
- Morongo Band of Mission Indians
- Pechanga Band of Luiseño Indians
- Rincon Band of Luiseño Indians
- San Manuel Band of Mission Indians
- Santa Rosa Band of Mission Indians
- Serrano Nation of Mission Indians
- Soboba Band of Luiseño Indians

Native American consultation was conducted as part of the Phase I Cultural Resources Assessment (CUL 2020), which included initial contact with the Native American Heritage Commission and follow-up letters to local Native American representatives. The NAHC provided Material Culture Consulting, Inc. (MCC) with contact information for 21 tribes/individuals to reach out to for additional information on February 18, 2020. MCC sent letters on February 18, 2020 to all 21 Native American contacts, requesting any information related to cultural resources or heritage sites within or adjacent to the project area. Additional attempts at contact by letter, email, or phone call were made on March 4, 2020 and March 18, 2020. As a result of this outreach effort, MCC received seven responses from Native American Tribes or individuals. Several tribes responded with concerns about presence of nearby resources and presented requests for formal consultation with the Lead Agency. MCC did not conduct formal consultation with any of the Native American representatives and recommends that appropriate consultation take place as soon as possible between Riverside County, as lead agency, and all interested parties (CUL 2020).

The Agua Caliente Band of Cahuilla Indians, Pechanga Band of Luiseño Indians, Rincon Band of Luiseño Indians, and Soboba Band of Luiseño Indians requested consultation regarding the proposed Project. The consulting tribes consider

ISSUES & SUPPORTING INFORMATION SOURCES:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
the area sensitive for cultural resources as several sites are located nearby. Although no information for site specific tribal cultural resources was provided (and there are no known tribal cultural resources on or adjacent to the project site), the consulting tribes requested inclusion of mitigation due to the potential of the Project to unearth previously undocumented tribal cultural resources during construction.				
a) Cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code Section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:				
i) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code Section 5020.1(k), or	☐	☐	☐	☒

Response:
No Impact. As detailed previously in Section 5, *Cultural Resources*, the project site is currently vacant. A review of historical aerial photographs and topographic maps indicate that prior to 1990s, the project area was agricultural. By the late 1990s, the surrounding area saw increased commercial and residential development that has continued up to the present day.

The Phase I Cultural Resources Assessment prepared for the project included a search of the California Historical Resource Information System (CHRIS) at the Eastern Information Center (EIC), located at the University of California, Riverside, Riverside County. The record search indicated five previously recorded resources located within a 1-mile radius of the area, with no resources located directly within the project area. Furthermore, the Sacred Lands File search completed by the NAHC did not identify any previously known tribal cultural resources or sacred lands within the vicinity of the project area (CUL 2020). Therefore, no substantial evidence exists that tribal cultural resources are present in the project site, and potential impacts would be less than significant.

ii) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.	☐	☐	☒	☐

Response:
Less Than Significant Impact. The project site is vacant, and as discussed in Impact TCR-1 above, no substantial evidence exists that tribal cultural resources are present in the project site. Based on the results of the cultural resources search and survey, the proposed project area is considered to have a low sensitivity for presence of significant prehistoric or historical archaeological deposits or features (CUL 2020).

In addition, as described previously, PPP CUL-1 requires a qualified professional archeologist to be present at the pre-grade meeting to detail an inadvertent discovery plan and for contractors to halt work within 50 feet in the event of uncovering a potential archaeological resource and to have the find evaluated by a qualified archaeologist. Furthermore, implementation of PPP CUL-2, California Health and Safety Code, Section 7050.5 requires that if human remains are discovered in the project site, disturbance of the site shall halt and remain halted until the coroner has conducted an investigation. If the coroner determines that the remains are those of a Native American, he or she shall contact, by telephone within 24 hours, the Native American Heritage Commission. Therefore, with implementation of PPP CUL -1 and PPP CUL-2, impacts to tribal cultural resources would be less than significant.

Existing Plans, Programs, or Policies
PPP CUL-1: Inadvertent Discoveries. Listed previously in Section 5, Cultural Resources.
PPP CUL-2: Human Remains. Listed previously in Section 5, Cultural Resources.

ISSUES & SUPPORTING INFORMATION SOURCES:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact

Mitigation Measures

MM TCR-1: Prior to the issuance of a grading permit, the Developer shall retain a professional archaeologist to conduct monitoring of all mass grading and trenching activities. The Project Archaeologist shall have the authority to temporarily redirect earthmoving activities in the event that suspected archaeological resources are unearthed during Project construction. The Project Archaeologist, in consultation with the Consulting Tribe(s), the contractor, and the City, shall develop a Cultural Resources Management Plan (CRMP) in consultation pursuant to the definition in AB52 to address the details, timing and responsibility of all archaeological and cultural activities that will occur on the project site. A consulting tribe is defined as a tribe that initiated the AB 52 tribal consultation process for the Project, has not opted out of the AB52 consultation process, and has completed AB 52 consultation with the City as provided for in Cal Pub Res Code Section 21080.3.2(b)(1) of AB52. Details in the Plan shall include:

a. Project grading and development scheduling;

b. The Project archeologist and the Consulting Tribes(s) as defined in CR-1 shall attend the pre-grading meeting with the City, the construction manager and any contractors and will conduct a mandatory Cultural Resources Worker Sensitivity Training to those in attendance. The Training will include a brief review of the cultural sensitivity of the Project and the surrounding area; what resources could potentially be identified during earthmoving activities; the requirements of the monitoring program; the protocols that apply in the event inadvertent discoveries of cultural resources are identified, including who to contact and appropriate avoidance measures until the find(s) can be properly evaluated; and any other appropriate protocols. All new construction personnel that will conduct earthwork or grading activities that begin work on the Project following the initial Training must take the Cultural Sensitivity Training prior to beginning work and the Project archaeologist and Consulting Tribe(s) shall make themselves available to provide the training on an as-needed basis;

c. The protocols and stipulations that the contractor, City, Consulting Tribe(s) and Project archaeologist will follow in the event of inadvertent cultural resources discoveries, including any newly discovered cultural resource deposits that shall be subject to a cultural resources evaluation.

MM TCR-2: Prior to the issuance of a grading permit, the Developer shall secure agreements with the Pechanga Band of Luiseño Indians and the Soboba Band of Luiseño Indians for tribal monitoring. The Developer is also required to provide a minimum of 30 days advance notice to the tribes of all mass grading and trenching activities. The Native American Tribal Representatives shall have the authority to temporarily halt and redirect earth moving activities in the affected area in the event that suspected archaeological resources are unearthed. If the Native American Tribal Representatives suspect that an archaeological resource may have been unearthed, the Project Archaeologist or the Tribal Representatives shall immediately redirect grading operations in a 100-foot radius around the find to allow identification and evaluation of the suspected resource. In consultation with the Native American Tribal Representatives, the Project Archaeologist shall evaluate the suspected resource and make a determination of significance pursuant to California Public Resources Code Section 21083.2.

MM TCR-3: In the event that Native American cultural resources are discovered during the course of grading (inadvertent discoveries), the following procedures shall be carried out for final disposition of the discoveries:

a) One or more of the following treatments, in order of preference, shall be employed with the tribes. Evidence of such shall be provided to the City of Moreno Valley Planning Department:

i. Preservation-In-Place of the cultural resources, if feasible. Preservation in place means avoiding the resources, leaving them in the place they were found with no development affecting the integrity of the resources.

ii. Onsite reburial of the discovered items as detailed in the treatment plan required pursuant to Mitigation Measure CR-1. This shall include measures and provisions to protect the future reburial area from any

ISSUES & SUPPORTING INFORMATION SOURCES:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact

future impacts in perpetuity. Reburial shall not occur until all legally required cataloging and basic recordation have been completed. No recordation of sacred items is permitted without the written consent of all Consulting Native American Tribal Governments as defined in CR-1.

MM TCR-4: The City shall verify that the following note is included on the Grading Plan:

"If any suspected archaeological resources are discovered during ground-disturbing activities and the Project Archaeologist or Native American Tribal Representatives are not present, the construction supervisor is obligated to halt work in a 100-foot radius around the find and call the Project Archaeologist and the Tribal Representatives to the site to assess the significance of the find."

MM TCR-5: If potential historic or cultural resources are uncovered during excavation or construction activities at the project site, work in the affected area must cease immediately and a qualified person meeting the Secretary of the Interior's standards (36 CFR 61), Tribal Representatives, and all site monitors per the Mitigation Measures, shall be consulted by the City to evaluate the find, and as appropriate recommend alternative measures to avoid, minimize or mitigate negative effects on the historic, or prehistoric resource. Determinations and recommendations by the consultant shall be immediately submitted to the Planning Division for consideration, and implemented as deemed appropriate by the Community Development Director, in consultation with the State Historic Preservation Officer (SHPO) and any and all Consulting Native American Tribes as defined in CR-1 before any further work commences in the affected area.

MM TCR-6: If human remains are discovered, no further disturbance shall occur in the affected area until the County Coroner has made necessary findings as to origin. If the County Coroner determines that the remains are potentially Native American, the California Native American Heritage Commission shall be notified within 24 hours of the published finding to be given a reasonable opportunity to identify the "most likely descendant". The "most likely descendant" shall then make recommendations, and engage in consultations concerning the treatment of the remains (California Public Resources Code 5097.98). (GP Objective 23.3, CEQA).

Sources:

1. Moreno Valley General Plan, adopted July 11, 2006
   - Chapter 7 – Conservation Element – Section 7.2 – Cultural and Historical Resources
2. Final Environmental Impact Report City of Moreno Valley General Plan, certified July 11, 2006
   - Section 5.10 – Cultural Resources
     - Figure 4.10-1 – Locations of Listed Historic Resource Inventory Structures
     - Figure 4.10-2 – Location of Prehistoric Sites
     - Figure 4.10-3 – Paleontological Resource Sensitive Areas
   - Appendix F – Cultural Resources Analysis, Study of Historical and Archaeological Resources for the Revised General Plan, City of Moreno Valley, Archaeological Associates, August 2003.
3. Title 9 – Planning and Zoning of the Moreno Valley Municipal Code
4. Moreno Valley Municipal Code Title 7 – Cultural Preservation
5. Cultural Resources Inventory for the City of Moreno Valley, Riverside County, California, prepared by Daniel F. McCarthy, Archaeological Research Unit, University of California, Riverside, October 1987 (*This document cannot be provided to the public due to the inclusion of confidential information pursuant to Government Code Section 6254.10.*)
6. Phase I Cultural Resources Assessment: Iris Park Project, City of Moreno Valley, Riverside County, California. March 2020. Prepared by Material Culture Consulting, Inc. (Appendix C).

XIX. UTILITIES AND SERVICE SYSTEMS – Would the project:				
a) Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or	☐	☐	☒	☐

ISSUES & SUPPORTING INFORMATION SOURCES:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
relocation of which could cause significant environmental effects?				

Response:

Water Infrastructure

The proposed project would install a new water pipeline within the project site that would connect to the existing 18-inch EMWD water pipeline in the adjacent Metropolitan Water District (MWD) easement. The new onsite water system would convey water supplies to the proposed residences and landscaping through plumbing/landscaping fixtures that are compliant with the CalGreen Plumbing Code for efficient use of water.

The proposed project would continue to receive water supplies through the existing water line located within the Iris Avenue rights-of-way that has the capacity to provide the increased water supplies needed to serve the proposed project, and no extensions or expansions to the water pipelines that convey water to the project site would be required. The installation of onsite water distribution lines would only serve the proposed project and would not provide water to any off-site areas.

The construction activities related to the onsite water infrastructure that would be needed to serve the proposed single-family residences is included as part of the proposed project and would not result in any physical environmental effects beyond those identified throughout this MND. For example, construction emissions for excavation and installation of the water infrastructure is included in Sections 3, *Air Quality* and 8, *Greenhouse Gas Emissions*. Therefore, the proposed project would not result in the construction of new water facilities or expansion of existing facilities, the construction of which could cause significant environmental effects, and impacts would be less than significant.

Wastewater Infrastructure

The project includes installation of onsite sewer lines within the proposed onsite streets that would connect to the existing 18-inch sewer line in the adjacent California Aqueduct easement. These wastewater flows will be further transported to the Moreno Valley Regional Water Reclamation Facility.

The construction activities related to installation of the onsite sewer infrastructure that would serve the proposed project is included as part of the proposed project and would not result in any physical environmental effects beyond those identified throughout this MND. For example, construction emissions for excavation and installation of the sewer infrastructure is included in Section 3, *Air Quality* and 8, *Greenhouse Gas Emissions*, and noise volumes from these activities are evaluated in Section 13, *Noise*. As the proposed project includes facilities to serve the proposed development, it would not result in the need for construction of other new wastewater facilities or expansions, the construction of which could cause significant environmental effects. Therefore, impacts would be less than significant.

b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?	☐	☐	☒	☐

Response:

Less Than Significant Impact. The proposed project would result in an increased demand for water supplies from the 81 single-family residential units and from associated project recreational areas. Water supplies to the project area are provided by EMWD, which serves 555 square miles of western Riverside County and includes the project area (UWMP 2015). In 2015, EMWD had a water demand of 146,090 AF, and based on land use and growth projections it anticipates a demand of 197,901 AF in 2020, which is a 35 percent increase over 2015 demands (an increase of 51,811 AF) (UWMP 2015). The UWMP details that the District has water supply to meet the projected demands over the next 25 years and beyond (UWMP 2015). The UWMP describes that the District has a projected supply of 197,901 AFY in 2020, and a predicted supply of 268,200 AFY in 2082.

To provide a conservative estimate of project water use, a generation rate of 176 gallons per capita per day was used to estimate water demand from the proposed project (UWMP 2015). As described in Section 14, *Population and Housing*, the proposed project would result in 325 additional residents at full occupancy. Based on the District's 2020 water use target of 176 gallons per capita per day, the 325 additional residents would generate a water demand of 57,200 gallons

ISSUES & SUPPORTING INFORMATION SOURCES:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
per day. The project would limit water demand by inclusion of low-flow plumbing and irrigation fixtures, pursuant to the California Title 24 requirements. As detailed previously, the District has water supply to meet the projected demands over the next 25 years and beyond. In addition, the 2015 UWMP details the available supply, including groundwater, imported water, and recycled water would meet the projected demand during normal, single dry and multiple dry years (UWMP 2015). Therefore, impacts related to water supplies from the proposed project would be less than significant.				
c) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	☐	☐	☐	☒
Response: **No Impact.** As described above, wastewater flows would be conveyed to the Moreno Valley Regional Water Reclamation Facility. The treatment facility typically processes 10.6 million gallons per day (MGD) but has a current capacity for 16 MGD and an ultimate capacity of 41 MGD (UWMP 2015). Through the City's plan check process, the City's Engineering Department would confirm that the wastewater generated from the Project would be accommodated within this capacity. Thus, the wastewater treatment plant has adequate capacity to serve the Project's projected demand in addition to the provider's existing commitments, and impacts would not occur.				
d) Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?	☐	☐	☒	☐
Response: **Less Than Significant Impact.** The closest landfill to the vacant project site is the Badlands Sanitary Landfill, which is located approximately 7.9 miles northeast from the project site at 31125 Ironwood Avenue in Moreno Valley. The landfill is permitted to accept 4,800 tons per day of solid waste and is permitted to operate through 2022 (CalRecycle 2020). As of March 2020, the landfill has a remaining capacity of 15,748,799 cubic yards (CalRecycle 2020). The CalEEMod solid waste generation rate for single-family residential land use is 0.41 tons per resident per year. As described previously, full occupancy of the proposed project would generate approximately 325 new residents. Thus, operation of the project would generate approximately 133.25 tons per solid waste per year; or 2.56 tons per week. However, at least 75 percent of the solid waste is required by AB 341 to be recycled, which would reduce the volume of landfilled solid waste to approximately 0.64 tons per week or .09 tons per day, which is within the Badlands Sanitary Landfill's existing permitted capacity of 4,800 tons per day. Thus, the proposed project would be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs and the project would not impair the attainment of solid waste reduction goals. Impacts related to landfill capacity would be less than significant.				
e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?	☐	☐	☐	☒
Response: **No Impact**. The proposed project would result in new development that would generate an increased amount of solid waste. All solid waste-generating activities within the City are subject to the requirements set forth in Section 5.828.1 of the 2016 California Green Building Standards Code that requires demolition and construction activities to recycle or reuse a minimum of 65 percent of the nonhazardous construction and demolition waste, and AB 341 that requires diversion of a minimum of 75 percent of operational solid waste. Implementation of the proposed project would be consistent with all state regulations, as ensured through the City's development project permitting process. Therefore, the proposed project would comply with all solid waste statute and regulations; and impacts would not occur.				

ISSUES & SUPPORTING INFORMATION SOURCES:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact

Existing Plans, Programs, or Policies
None.

Mitigation Measures
None.

Sources:

1. Moreno Valley General Plan, adopted July 11, 2006
   - Chapter 2 – Conservation Element – Section 2.4 – Utilities
   - Chapter 6 – Safety Element – Section 6.7 – Water Quality
   - Chapter 7 – Conservation Element – Section 7.3 – Solid Waste
   - Chapter 7 -- Conservation Element – Section 7.5—Water Resources
     - Figure 6-1 – Water Purveyor Service Area Map
2. Final Environmental Impact Report City of Moreno Valley General Plan, certified July 11, 2006
   - Section 5.7 – Hydrology and Water Quality
     - Figure 4.7-1 – Strom Water Flows and Major Drainage Facilities
     - Figure 4.7-2 – Groundwater Basins
   - Section 5.13 – Public Services
     - Figure 4.13-1 – Locations of Public Facilities
3. Title 9 – Planning and Zoning of the Moreno Valley Municipal Code
4. Moreno Valley Municipal Code Chapter 8.10 Stormwater/Urban Runoff Management and Discharge Controls
5. Moreno Valley Municipal Code Section 8.21.170 National Pollutant Discharge Elimination System (*NPDES*).
6. Moreno Valley Municipal Code Chapter 8.80 – Recycling and Diversion of Construction and Demolition Waste
7. California Emissions Estimator Model Appendix D Default Data Tables. Table 10.1 Solid Waste Disposal Rates. Accessed: http://www.aqmd.gov/docs/default-source/caleemod/upgrades/2016.3/05_appendix-d2016-3-1.pdf?sfvrsn=2
8. CalReycyle Solid Waste Information System. Accessed at: https://www2.calrecycle.ca.gov/SWFacilities/Directory (Accessed May 12, 2020).
9. CalReycyle Disposal Reporting System: Jurisdiction Tons by Facility. Accessed at: https://www2.calrecycle.ca.gov/LGCentral/DisposalReporting/Destination/DisposalByFacility (Accessed May 12, 2020).
10. Eastern Municipal Water District 2015 Urban Water Management Plan. June 2016. Prepared by RMC. Available: https://www.emwd.org/post/urban-water-management-plan (Accessed May 12, 2020).
11. Eastern Municipal Water District Moreno Valley Regional Water Reclamation Facility Fact Sheet. Accessed: https://www.emwd.org/sites/main/files/file-attachments/mvrwrffactsheet.pdf (Accessed May 12, 2020).

XX. WILDFIRE – If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, **would the project:**				
a) Substantially impair an adopted emergency response plan or emergency evacuation plan?	☐	☐	☐	☒

Response:
No Impact. The project site is developed and within an urbanized residential area of Moreno Valley. The project site is surrounded by developed and urban areas. The project site is not adjacent to any wildland areas. According to the CAL FIRE Hazard Severity Zone map, the project site is not within a fire hazard zone. The project area would be accessed from two driveways on Iris Avenue. Permitting of these roadways would provide adequate and safe circulation to, from, and through the project area and would provide two routes for emergency responders to access different portions of the project area. Because the project is required to comply with all applicable City codes, as verified by the City potential impacts related to an emergency response or evacuation would be less than significant.

b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?	☐	☐	☐	☒

ISSUES & SUPPORTING INFORMATION SOURCES:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Response: **No Impact.** As discussed previously, the project site is developed and within an urbanized residential area of Moreno Valley. The project site is surrounded by developed and urban areas. The project site is not adjacent to any wildland areas, and as determined by the CAL FIRE Hazard Severity Zone map, the project site is not within a fire hazard zone. In addition, the project site is flat and within a flat area. The site is adjacent to roadways and commercial and residential developments. There are no factors on or adjacent to the project site that would exacerbate wildfire risks. Thus, no impact related to other factors that would expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire would occur from the project.				
c) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?	☐	☐	☐	☒
Response: **No Impact.** As described previously, the project site is developed and within a developed and urban area that is not within a wildfire hazard zone. The project does not include any infrastructure that would exacerbate fire risks. In addition, the project would provide internal streets and fire suppression facilities (e.g., hydrants and sprinklers) that conform to the California Fire Code requirements, included as Municipal Code Chapter 8.36, as verified through the City's permitting process. Therefore, impacts related to infrastructure that could exacerbate fire risks would not occur with the proposed project.				
d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?	☐	☐	☐	☒
Response: **No Impact.** As described previously, the project site is developed and within a developed and urban area that is not within a wildfire hazard zone. In addition, the project site is flat and surrounded by flat areas. There are no slope or hillsides that would become unstable. In addition, the project would install onsite drainage that would be conveyed to the existing flood control channel, which is consistent with the existing condition. Therefore, impacts related to flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes would not occur from the proposed project.				

Sources:

1. Moreno Valley General Plan, adopted July 11, 2006
   - Chapter 6 – Safety Element – Section 6.2- Fire and Emergency Services – 6.2.8—Wildland Urban Interface
2. Final Environmental Impact Report City of Moreno Valley General Plan, certified July 11, 2006
   - Section 5.5 – Hazards and Hazardous Materials
     - Figure 4.5-2 – Floodplains and High Fire Hazard Areas
3. Title 9 – Planning and Zoning of the Moreno Valley Municipal Code
4. Local Hazard Mitigation Plan, City of Moreno Valley Fire Department, adopted October 4, 2011, amended 2017, http://www.moval.org/city_hall/departments/fire/pdfs/haz-mit-plan.pdf
   - Chapter 5 – Wildland and Urban Fires
     - Figure 4-2 – Moreno Valley High Fire Area Map 2016
   - Chapter 8 – Landslide
     - Figure 7-1 – Moreno Valley Slope Analysis 2016
5. Emergency Operations Plan, City of Moreno Valley, March 2009, http://www.moval.org/city_hall/departments/fire/pdfs/mv-eop-0309.pdf
   - Threat Assessment 3 – Wildfire
6. California Department of Forestry and Fire Protection (CAL FIRE). 2020. Fire Hazard Severity Zone Map. Accessed:

ISSUES & SUPPORTING INFORMATION SOURCES:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
https://forestwatch.maps.arcgis.com/apps/Styler/index.html?appid=5e96315793d445419b6c96f89ce5d153 (Accessed May 12, 2020).				
XXI. MANDATORY FINDINGS OF SIGNIFICANCE				
a) Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	☐	☒	☐	☐

Response:

Less Than Significant with Mitigation Incorporated. The Habitat Assessment (Blackhawk 2020) describes that the special-status wildlife and plant species with the potential to occur on the project site are covered by compliance with the MSHCP, which requires payment of fees, included as PPP BIO-1. In addition, because the site supports suitable habitat for burrowing owl the MSHCP requires focused surveys pursuant to the Western Riverside County Regional Conservation Authority (RCA) Burrowing Owl Survey Instructions for the MSHCP area. Hence, Mitigation Measure BIO-1 requires a preconstruction burrowing owl survey to be conducted pursuant to the RCA Survey Instructions prior to start of ground disturbance activities. With implementation of Mitigation Measures BIO-1, impacts related to burrowing owl would be less than significant.

In addition, the Habitat Assessment identified suitable habitat and substrate for raptors and migratory birds that are protected under the Migratory Bird Treaty Act and Section 3503.5 of the California Department of Fish and Wildlife (CDFW) code. Therefore, Mitigation Measure BIO-2 is included to require nesting bird surveys if construction activities begin during the nesting season. With implementation of Mitigation Measure BIO-2, impacts related to protected bird species would also be reduced to a less than significant level.

As described in Section 5, *Cultural Resources*, the project site does not contain any buildings or structures that meet any of the California Register of Historical Resources (California Register) criteria or qualify as "historical resources" as defined by CEQA. Therefore, the proposed project would not cause a substantial adverse change in the significance of a historical resource. In addition, the Phase I Cultural Resources Assessment determined that based on the results of the cultural resources search and survey, the proposed project area is considered to have a low sensitivity for presence of significant prehistoric or historical archaeological deposits or features. However, because previous resources have been identified within a one-mile radius of the project area, MM CUL-1 has been included to require contractors to halt work within 50 feet of any inadvertent finds of potential archaeological resource and to have the find evaluated by a qualified archaeologist.

The project area is considered moderately sensitive for paleontological resources. Thus, MM PAL-1 has been included to require paleontological monitoring during all future excavations that would exceed a relative depth of five feet below the present surface. Thus, implementation of MM PAL-1 would reduce potential impacts to important examples of California prehistory to a less than significant level.

b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current project, and the effects of probable future projects.)?	☐	☐	☒	☐

Response:

Less than Significant with Mitigation Incorporated. The project would develop the project site for single-family residences within a developed area. The project would provide land uses that are consistent with the adjacent single-

ISSUES & SUPPORTING INFORMATION SOURCES:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact

family residential and retail commercial uses. As described above, all of the potential impacts related to implementation of the project would be less than significant or reduced to a less than significant level with implementation of mitigation measures that are imposed by the City that effectively reduce environmental impacts.

The other cumulative effects of the proposed project taken into consideration with these other projects would be limited, because the project site has already been developed and disturbed and the new uses onsite would not result in substantial change in the urban use of the area. As discussed in Section 19, *Utilities and Service Systems*, public services and utility infrastructure are in place to serve the project and would not result in cumulatively considerable increases in service and utility needs to serve the project. In addition, the project would not result in substantial effects to any environmental resource topic, as described though out this document.

Overall, the proposed project would develop an area that has been subject to previous urban uses, is disturbed, and is surrounded by consistent development and roadways. Impacts to environmental resources or issue areas would not be cumulatively considerable; and cumulative impacts would be less than significant with implementation of the previously identified mitigation measures related to cultural resources, paleontological resources, hazardous materials, and tribal cultural resources.

c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☒	☐	☐

Response:

Less than Significant with Mitigation Incorporated. The project proposes development of the project site for single-family residential uses. As described previously, the project site is within an urban area and surrounded by consistent land uses. The project would not consist of any use or any activities that would result in a substantial negative affect on persons in the vicinity. All resource topics associated with the proposed project have been analyzed in accordance with CEQA and the State CEQA Guidelines and were found to pose no impacts or less-than-significant impacts with implementation of mitigation measures related to cultural resources, paleontological resources, hazardous materials, and tribal cultural resources; and existing plans, programs, or policies that are required by the City. Consequently, the proposed project would in environmental effects that would cause substantial adverse effects on human beings directly or indirectly, and impacts would be less than significant with mitigation.

DOCUMENT PREPARERS AND CONTRIBUTORS

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CITY OF MORENO VALLEY
PLANNING COMMISSION

VIA TELECONFERENCE ONLY
PURSUANT TO COVID-19
GOVERNOR EXECUTIVE ORDER N-29-20

NOTICE OF PUBLIC HEARING AND ENVIRONMENTAL DETERMINATION

NOTICE IS HEREBY GIVEN that a teleconferenced Public Hearing will be held by the Planning Commission of the City of Moreno Valley on the date and time set forth below:

Date and Time:	November 12, 2020 at 7:00 p.m.
Location:	**VIA TELECONFERENCE ONLY** **Go to http://morenovalleyca.iqm2.com/Citizens/default.aspx for instructions.**
Item:	PEN20-0063 Tentative Tract 37909 PEN20-0065 Conditional Use Permit for a Planned Unit Development PEN20-0066 General Plan Amendment PEN20-0067 Change of Zone
Applicant:	Passco Pacifica LLC
Property Owner:	Maple Lane Group LLC
APN:	312-020-025
Location:	South side of Iris Avenue east of Perris Boulevard
Proposal:	The applicant is requesting approval of the following entitlements for an 10.82-acre site: 1) a General Plan Amendment (GPA) amending Figure 2-2 "Land Use Map" of the Moreno Valley General Plan to change the land use designation of the project site from Residential 5 (R5) to Residential 10 (R10); 2) a Change of Zone amending the City of Moreno Valley Zoning Atlas to rezone the project site from Residential 5 (R5) District to Residential Single-Family 10 (RS10) District; 3) a Tentative Tract Map 37909 to subdivide into eighty-two (82) single family lots; and 4) a Conditional Use Permit for a Planned Unit Development with associated amenities and public improvements.
Council District:	4

Environmental Determination: The project has been evaluated against criteria set forth in the California Environmental Quality Act (CEQA) Guidelines Section 15070 and has determined that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because mitigation measures have been required of the project that will reduce potential impacts to a less than significant level. Therefore, a Mitigated Negative Declaration is recommended for the project.

PUBLIC TESTIMONY: All interested parties will be provided an opportunity to submit oral testimony during the teleconferenced Public Hearing and/or provide written testimony during or prior to the teleconferenced Public Hearing. The application file and related environmental documents may be inspected by appointment at the Community Development Department at 14177 Frederick Street, Moreno Valley, California by calling (951) 413-3206 during normal business hours (7:30 a.m. to 5:30 p.m., Monday through Thursday).

COVID-19 – IMPORTANT NOTICES: Please note that due to the COVID-19 pandemic situation, staff will attempt to make reasonable arrangements to ensure accessibility to inspect the aforementioned records. **In addition, special instructions on how to effectively participate in the teleconferenced Public Hearing, as approved by Governor Executive Order No. N-25-20, will be posted at http://morenovalleyca.iqm2.com/Citizens/default.aspx and will be described in the Planning Commission agenda.**

PLEASE NOTE: The Planning Commission may consider and approve changes to the proposed items under consideration during the teleconferenced Public Hearing.

GOVERNMENT CODE § 65009 NOTICE: If you challenge any of the proposed actions taken by the Planning Commission in court, you may be limited to raising only those issues you or someone else raised during the teleconferenced Public Hearing described in this notice, or in written correspondence deliv[illegible] the Planning Division of the City of Moreno Valley during or prior to, the teleconferenced Public Hea[illegible]

ACCESSIBILITY: Upon request and in compliance with the Americans with Disabilities Act of 1990, any person with a disability who requires a modification or accommodation in order to participate in a meeting should direct such request to Guy Pegan, ADA Coordinator, at (951) 413-3120 at least 48 hours before the meeting. The 48-hour notification will enable the City to make reasonable arrangements to ensure accessibility to this meeting.

STAFF CONTACT: Due to the COVID-19 pandemic situation, if you have questions regarding this Public Hearing, please contact Julia Descoteaux, Associate Planner, by telephone at (951) 413-3209 or via email at juliad@moval.org.

/s/Patty Nevins	Press-Enterprise	October 23, 2020
Patty Nevins Planning Official Community Development Department	Newspaper	Date of Publication

Mitigation Monitoring and Reporting Program

Introduction

The California Environmental Quality Act (CEQA) requires a lead or public agency that approves or carries out a project for which an Mitigated Negative Declaration has been certified which identifies one or more significant adverse environmental effects and where findings with respect to changes or alterations in the project have been made, to adopt a "…reporting or monitoring program for the changes to the project which it has adopted or made a condition of project approval in order to mitigate or avoid significant effects on the environment" (CEQA, Public Resources Code Sections 21081, 21081.6).

A Mitigation Monitoring and Reporting Program (MMRP) is required to ensure that adopted mitigation measures are successfully implemented for the Iris Park project (project). The City of Moreno Valley is the Lead Agency for the project and is responsible for implementation of the MMRP. This report describes the MMRP for the project and identifies the parties that will be responsible for monitoring implementation of the individual mitigation measures in the MMRP.

Mitigation Monitoring and Reporting Program

The MMRP for the project will be active through all phases of the project, including design, construction, and operation. The attached table identifies the mitigation program required to be implemented by the City for the Iris Park project. The table identifies the Standard Conditions; Plan, Program, Policies (PPPs); and mitigation measures required by the City to mitigate or avoid significant adverse impacts associated with the implementation of the project, the timing of implementation, and the responsible party or parties for monitoring compliance.

The MMRP also includes a column that will be used by the compliance monitor (individual responsible for monitoring compliance) to document when implementation of the measure is completed. As individual Plan, Program, Policies; and mitigation measures are completed, the compliance monitor will sign and date the MMRP, indicating that the required actions have been completed.

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TABLE 1: MITIGATION MONITORING AND REPORTING PROGRAM
IRIS PARK PROJECT MND

Standard Condition/ Plan, Program, Policy / Mitigation Measure	Timing	Responsible for Ensuring Compliance / Verification	Date Completed and Initials
AIR QUALITY			
Plan, Program, or Policy PPP AQ-1: Rule 822. The project is required to comply with the provisions of South Coast Air Quality Management District (SCAQMD) Rule 822. The project shall not discharge from any source whatsoever such quantities of air contaminants or other material which cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public, or which endanger the comfort, repose, health or safety of any such persons or the public, or which cause, or have a natural tendency to cause, injury or damage to business or property.	In Construction Plans and Specifications. Prior to Demolition, Grading and Building Permits	City of Moreno Valley Building and Safety Division	
Plan, Program, or Policy PPP AQ-2: Rule 823. The project is required to comply with the provisions of South Coast Air Quality Management District (SCAQMD) Rule 823, which includes the following: • All clearing, grading, earth-moving, or excavation activities shall cease when winds exceed 25 mph per SCAQMD guidelines in order to limit fugitive dust emissions. • The contractor shall ensure that all disturbed unpaved roads and disturbed areas within the project are watered, with complete coverage of disturbed areas, at least 3 times daily during dry weather; preferably in the mid-morning, afternoon, and after work is done for the day.	In Construction Plans and Specifications. Prior to Grading and Building Permits	City of Moreno Valley Building and Safety Division	

Standard Condition/ Plan, Program, Policy / Mitigation Measure	Timing	Responsible for Ensuring Compliance / Verification	Date Completed and Initials
• The contractor shall ensure that traffic speeds on unpaved roads and project site areas are reduced to 15 miles per hour or less.			
Plan, Program, or Policy PPP Rule 1113. The project is required to comply with the provisions of South Coast Air Quality Management District Rule (SCAQMD) Rule 1113. Only "Low-Volatile Organic Compounds" paints (no more than 50 gram/liter of VOC) and/or High Pressure Low Volume (HPLV) applications shall be used.	In Construction Plans and Specifications. Prior to Grading and Building Permits	City of Moreno Valley Building and Safety Division	
BIOLOGICAL RESOURCES			
Mitigation Measure MM-BIO 1: Payment of MSHCP Mitigation Fees. Prior to issuance of a grading or building permit, the applicant will be required to pay relevant MSHCP mitigation fees per the Final Mitigation Fee Nexus Report. These fees will be determined in consultation with the Riverside Conservation Authority based on final project classification and impacts. Payment of all mitigation fees will be required as part of the project approval process.	In Construction Plans and Specifications. Prior to Demolition and Building Permits	City of Moreno Valley Planning Division	
Mitigation Measure MM-BIO 2: Preconstruction Nesting Bird Surveys. To the extent feasible, conduct vegetation removal outside of the nesting bird season (generally between March 1 and August 31). If vegetation removal is required during the nesting bird season, conduct take avoidance surveys for nesting birds within 100-feet of areas proposed for vegetation removal. Surveys should be conducted by a qualified biologist(s) within 14 days of vegetation removal. If active nests are observed, a qualified biologist will determine appropriate minimum disturbance buffers or other adaptive mitigation techniques (e.g., biological monitoring of active nests during construction-related activities, staggered schedules, etc.) to ensure that impacts to nesting birds are avoided until the nest is no longer active.	In Construction Plans and Specifications. Prior to Grading Permits	City of Moreno Valley Planning Division	

Standard Condition/ Plan, Program, Policy / Mitigation Measure	Timing	Responsible for Ensuring Compliance / Verification	Date Completed and Initials
CULTURAL RESOURCES			
Plan, Program, or Policy PPP CUL-1: Human Remains. Should human remains be encountered, all work in the immediate vicinity of the burial must cease and any necessary steps to ensure the integrity of the immediate area must be taken. The Riverside County Coroner shall be immediately notified and must then determine whether the remains are Native American. If the Coroner determines the remains are Native American, the Coroner has 24 hours to notify the NAHC, who will in turn, notify the person they identify as the Most-Likely-Descendent (MLD) of any human remains. Further actions will be determined, in part, by the desires of the MLD. The MLD has 48 hours to make recommendations regarding the disposition of the remains following notification from the NAHC of the discovery. If the MLD does not make recommendations within 48 hours, the owner shall, with appropriate dignity, reinter the remains in an area of the property secure from further disturbance. Alternatively, if the owner does not accept the MLD's recommendations, the owner or the descendent may request mediation by the NAHC.	In Construction Plans and Specifications. Prior to Grading Permits	City of Moreno Valley Planning Division	
Mitigation Measure MM CUL-1: Inadvertent Discoveries. In the event that buried archaeological resources are inadvertently discovered during ground-disturbing activities, work must be halted within 50 feet of the find until it can be evaluated by a qualified archaeologist. Construction activities could continue in other areas. If the discovery proves to be significant, additional work, such as data recovery excavation or fossil recovery, may be warranted and would be discussed in consultation with the appropriate regulatory agency(ies).	In Construction Plans and Specifications. Prior to Grading Permits.	City of Moreno Valley Planning Division	
GEOLOGY AND SOILS			

Standard Condition/ Plan, Program, Policy / Mitigation Measure	Timing	Responsible for Ensuring Compliance / Verification	Date Completed and Initials
Plan, Program, or Policy PPP GEO-1: California Building Code. The project is required to comply with the California Building Code as included in the City's Municipal Code Chapter 8.20 to preclude significant adverse effects associated with seismic hazards. California Building Code related and geologist and/or civil engineer specifications for the project are required to be incorporated into grading plans and specifications as a condition of project approval.	In Construction Plans and Specifications. Prior to Building Permits	City of Moreno Valley Building and Safety Division	
Mitigation Measure MM PAL-1: Paleontological Resources. Prior to issuance of grading permits, the developer will retain a qualified paleontologist to provide the following monitoring and reporting services during construction: • A trained and qualified paleontological monitor will perform full-time monitoring of any excavations on the project that have the potential to impact paleontological resources in undisturbed native sediments below 5 feet in depth. The monitor will have the ability to redirect construction activities to ensure avoidance of adverse impacts to paleontological resources. • The project paleontologist may re-evaluate the necessity for paleontological monitoring after examination of the affected sediments during excavation. • Any potentially significant fossils observed shall be collected and recorded in conjunction with best management practices and SVP professional standards. • Any fossils recovered during mitigation should be deposited in an accredited and permanent scientific institution for the benefit of current and future generations.	In Construction Plans and Specifications. Prior to Grading Permits	City of Moreno Valley Planning Division	

Standard Condition/ Plan, Program, Policy / Mitigation Measure	Timing	Responsible for Ensuring Compliance / Verification	Date Completed and Initials
• A report documenting the results of the monitoring, including any salvage activities and the significance of any fossils, will be prepared and submitted to the appropriate City personnel.			
GREENHOUSE GAS EMISSIONS			
Plan, Program, or Policy PPP GHG-1: CalGreen Compliance. The project is required to comply with the CalGreen Building Code as included in the City's Municipal Code to ensure efficient use of energy. CalGreen specifications are required to be incorporated into building plans as a condition of building permit approval.	In Construction Plans and Specifications. Prior to Building Permits	City of Moreno Valley Building and Safety Division	
HYDROLOGY AND WATER QUALITY			
Plan, Program, or Policy PPP WQ-1: Stormwater Pollution Prevention Plan. Prior to grading permit issuance, the project developer shall have a Stormwater Pollution Prevention Plan (SWPPP) prepared by a Qualified SWPPP Developer (QSD) in accordance with the City's Municipal Code Chapter 8.10 and the Santa Ana Regional Water Quality Control Board National Pollution Discharge Elimination System (NPDES) Storm Water Permit Order No. R4-2012-0175 (MS4 Permit). The SWPPP shall incorporate all necessary Best Management Practices (BMPs) and other NPDES regulations to limit the potential of erosion and polluted runoff during construction activities. Project contractors shall be required to ensure compliance with the SWPPP and permit periodic inspection of the construction site by the City of Moreno Valley staff or its designee to confirm compliance.	In Construction Plans and Specifications. Prior to Demolition, Grading, and Building Permits	City of Moreno Valley Building and Safety Division	

Standard Condition/ Plan, Program, Policy / Mitigation Measure	Timing	Responsible for Ensuring Compliance / Verification	Date Completed and Initials
Plan, Program, or Policy PPP WQ-2: Water Quality Management Plan, Prior to grading permit issuance, the project applicant shall have a Water Quality Management Plan (WQMP) approved by the City for implementation. The project shall comply with the City's Municipal Chapter 8.10 and the Municipal Separate Storm Sewer System (MS4) permit requirements in effect for the Regional Water Quality Control Board (RWQCB) at the time of grading permit to control discharges of sediments and other pollutants during operations of the project.	In Construction Plans and Specifications. Prior to Grading and Building Permits	City of Moreno Valley Building and Safety Division	
PUBLIC SERVICES			
Plan, Program, or Policy PPP PS-1: The project will be required to pay applicable development fees levied by the Moreno Valley Unified School District pursuant to the School Facilities Act (Senate Bill [SB] 50, Stats. 1998, c.827) to offset any effects on school facilities resulting from new development.	Prior to Building Permits.	City of Moreno Valley Planning Division	
Plan, Program, or Policy PPP PS-2: Park Fees. As a condition of the approval of a residential development, the project shall pay applicable park related fees and/or dedicate parkland pursuant to Municipal Code Section 3.38.080 and Chapter 3.40.	Prior to Building Permits.	City of Moreno Valley Planning Division	
TRIBAL CULTURAL RESOURCES			
Mitigation Measure MM TCR-1: Prior to the issuance of a grading permit, the Developer shall retain a professional archaeologist to conduct monitoring of all mass grading and trenching activities. The Project Archaeologist shall have the authority to temporarily redirect earthmoving activities in the event that suspected archaeological resources are unearthed during Project construction. The Project Archaeologist, in consultation with the Consulting Tribe(s), the contractor, and the City, shall develop a Cultural	Prior to Grading Permits.	City of Moreno Valley Planning Division	

Standard Condition/ Plan, Program, Policy / Mitigation Measure	Timing	Responsible for Ensuring Compliance / Verification	Date Completed and Initials
Resources Management Plan (CRMP) in consultation pursuant to the definition in AB52 to address the details, timing and responsibility of all archaeological and cultural activities that will occur on the project site. A consulting tribe is defined as a tribe that initiated the AB 52 tribal consultation process for the Project, has not opted out of the AB52 consultation process, and has completed AB 52 consultation with the City as provided for in Cal Pub Res Code Section 21080.3.2(b)(1) of AB52. Details in the Plan shall include: a. Project grading and development scheduling; b. The Project archeologist and the Consulting Tribes(s) as defined in CR-1 shall attend the pre-grading meeting with the City, the construction manager and any contractors and will conduct a mandatory Cultural Resources Worker Sensitivity Training to those in attendance. The Training will include a brief review of the cultural sensitivity of the Project and the surrounding area; what resources could potentially be identified during earthmoving activities; the requirements of the monitoring program; the protocols that apply in the event inadvertent discoveries of cultural resources are identified, including who to contact and appropriate avoidance measures until the find(s) can be properly evaluated; and any other appropriate protocols. All new construction personnel that will conduct earthwork or grading activities that begin work on the Project following the initial Training must take the Cultural Sensitivity Training prior to beginning work and the Project archaeologist and Consulting Tribe(s) shall make themselves available to provide the training on an as-needed basis; c. The protocols and stipulations that the contractor, City, Consulting Tribe(s) and Project archaeologist will follow in the event of			

Standard Condition/ Plan, Program, Policy / Mitigation Measure	Timing	Responsible for Ensuring Compliance / Verification	Date Completed and Initials
inadvertent cultural resources discoveries, including any newly discovered cultural resource deposits that shall be subject to a cultural resources evaluation.			
Mitigation Measure MM TCR-2: Prior to the issuance of a grading permit, the Developer shall secure agreements with the Pechanga Band of Luiseño Indians and the Soboba Band of Luiseño Indians for tribal monitoring. The Developer is also required to provide a minimum of 30 days advance notice to the tribes of all mass grading and trenching activities. The Native American Tribal Representatives shall have the authority to temporarily halt and redirect earth moving activities in the affected area in the event that suspected archaeological resources are unearthed. If the Native American Tribal Representatives suspect that an archaeological resource may have been unearthed, the Project Archaeologist or the Tribal Representatives shall immediately redirect grading operations in a 100-foot radius around the find to allow identification and evaluation of the suspected resource. In consultation with the Native American Tribal Representatives, the Project Archaeologist shall evaluate the suspected resource and make a determination of significance pursuant to California Public Resources Code Section 21083.2.	Prior to Grading Permits.	City of Moreno Valley Planning Division	
Mitigation Measure MM TCR-3: In the event that Native American cultural resources are discovered during the course of grading (inadvertent discoveries), the following procedures shall be carried out for final disposition of the discoveries: a) One or more of the following treatments, in order of preference, shall be employed with the tribes. Evidence of such shall be provided to the City of Moreno Valley Planning Department:	During Project Grading and Construction.	City of Moreno Valley Planning Division	

Standard Condition/ Plan, Program, Policy / Mitigation Measure	Timing	Responsible for Ensuring Compliance / Verification	Date Completed and Initials
i. Preservation-In-Place of the cultural resources, if feasible. Preservation in place means avoiding the resources, leaving them in the place they were found with no development affecting the integrity of the resources. ii. Onsite reburial of the discovered items as detailed in the treatment plan required pursuant to Mitigation Measure CR-1. This shall include measures and provisions to protect the future reburial area from any future impacts in perpetuity. Reburial shall not occur until all legally required cataloging and basic recordation have been completed. No recordation of sacred items is permitted without the written consent of all Consulting Native American Tribal Governments as defined in CR-1.			
Mitigation Measure MM TCR-4: The City shall verify that the following note is included on the Grading Plan: "If any suspected archaeological resources are discovered during ground-disturbing activities and the Project Archaeologist or Native American Tribal Representatives are not present, the construction supervisor is obligated to halt work in a 100-foot radius around the find and call the Project Archaeologist and the Tribal Representatives to the site to assess the significance of the find."	Prior to Grading Permit.	City of Moreno Valley Planning Division	

Standard Condition/ Plan, Program, Policy / Mitigation Measure	Timing	Responsible for Ensuring Compliance / Verification	Date Completed and Initials
Mitigation Measure MM TCR-5: If potential historic or cultural resources are uncovered during excavation or construction activities at the project site, work in the affected area must cease immediately and a qualified person meeting the Secretary of the Interior's standards (36 CFR 61), Tribal Representatives, and all site monitors per the Mitigation Measures, shall be consulted by the City to evaluate the find, and as appropriate recommend alternative measures to avoid, minimize or mitigate negative effects on the historic, or prehistoric resource. Determinations and recommendations by the consultant shall be immediately submitted to the Planning Division for consideration, and implemented as deemed appropriate by the Community Development Director, in consultation with the State Historic Preservation Officer (SHPO) and any and all Consulting Native American Tribes as defined in CR-1 before any further work commences in the affected area.	During Project Excavation, Grading, and Construction.	City of Moreno Valley Planning Division	
Mitigation Measure MM TCR-6: If human remains are discovered, no further disturbance shall occur in the affected area until the County Coroner has made necessary findings as to origin. If the County Coroner determines that the remains are potentially Native American, the California Native American Heritage Commission shall be notified within 24 hours of the published finding to be given a reasonable opportunity to identify the "most likely descendant". The "most likely descendant" shall then make recommendations, and engage in consultations concerning the treatment of the remains (California Public Resources Code 5097.98). (GP Objective 23.3, CEQA).	During Project Excavation, Grading, and Construction.	City of Moreno Valley Planning Divison	

Appendix A to Initial Study
CalEEMod Emission Summary

CalEEMod Emission Summary

TO: Rafik Albert, EPDS
FROM: Vince Mirabella
DATE: September 21, 2020

SUBJECT: Summary of CalEEMod Model Runs and Output for the Iris Park Residential Project, Moreno Valley, California

SECTION 1: PROJECT INFORMATION

1.1 - Project Name

Iris Park Residential Project, Moreno Valley, CA

1.2 - Project Location

The project site is located on the south side of Iris Avenue, about 500 feet east of Perris Boulevard, on APN 312-020-025. The project site is triangular in shape and has a gross acreage of approximately 10.82 acres, including 3.02 acres that is planned for development by the City of Moreno Valley as a public park and trail over the California Aqueduct.

1.3 - Project Description

Iris Park is a proposed 81-lot single-family detached subdivision. The community will have two gated access points off Iris Avenue. Three small park areas are spread out on the site. Residential lots would range from 2,197 sq. ft. to 4,741 sq. ft. Homes would range from 1,848 sq. ft. to 2,201 sq. ft., with 3 to 5 bedrooms and 2.5 to 3 baths. Homes would be two stories, include a back yard approximately 12 to 14 feet deep, and have an attached two-car garage. Three architectural styles are proposed: Spanish, French, and Farmhouse. The project overall would provide 217 parking spaces, including 162 garage spaces and 49 spaces on private streets

1.4 - Purpose of the Report

This report summarizes the results of the project construction and operational criteria pollutant and greenhouse gas (GHG) emissions and energy usage estimates using the California Emissions Estimator Model (CalEEMod Version 2016.3.2) land use emission model for use in preparing CEQA regulatory documentation. The estimated project emissions were compared to the recommended air quality and GHG significance thresholds recommended by the South Coast Air Quality Management District (SCAQMD).

1.5 - Conclusions

- The construction and operation of the project would not exceed any project-level criteria pollutant regional or localized emission significance threshold adopted by the SCAQMD. Therefore, the project would result in a less than significant impact and no mitigation is required.

- The construction and operation of the project would not result in a cumulatively significant impact on the region's air quality. Therefore, the project would result in a less than significant impact and no mitigation is required.

- The construction and operation of the project would not exceed the greenhouse gas significance threshold adopted for this project. Therefore, the project would result in a less than significant impact and no mitigation is required.

- The construction and operation of the project would not result in the wasteful, inefficient, and unnecessary consumption of energy, especially fossil fuels such as coal, natural gas, and petroleum, associated with project design, project location, the use of electricity and natural gas, and the use of fuel by vehicles anticipated to travel to and from the project. Therefore, the project would result in a less than significant impact and no mitigation is required.

SECTION 2: CALEEMOD EMISSION ESTIMATES – CRITERIA POLLUTANTS

This section quantifies the project construction and operational criteria pollutant emissions[1] for the project design and compares the emissions to the regional and local emission significance thresholds adopted by the SCAQMD.

2.1 - Significance Thresholds-Criteria Pollutants

The City has not adopted its own set of criteria pollutant significance thresholds. Therefore, the respective significance thresholds adopted by the SCAQMD were applied to the project in assessing the significance of the project's emissions.

2.1.1 Regional Emission Significance Thresholds

The incremental regional air quality impacts of an individual project are generally very small and difficult to measure. However, the SCAQMD's regional significance thresholds define levels of maximum daily emissions whose exceedance by a project's construction or operation may add to the overall emission burden within the SCAQMD and impact the attainment and maintenance of ambient air quality standards.

The regional thresholds apply to criteria pollutant emissions of carbon monoxide (CO), oxides of nitrogen (NO_x), oxides of sulfur (SO_x), particulate matter (PM_{10} and $PM_{2.5}$), and reactive organic gases (ROG). The quantification of regional emissions includes those project emissions generated from both onsite emission sources (i.e., offroad construction equipment, fugitive dust, area sources) and offsite emission sources (vehicle travel to and away from the project). Table 1 shows the SCAQMD's regional significance thresholds.

Table 1: SCAQMD Regional Emission Significance Thresholds

Air Pollutant	Maximum Daily Emissions (pounds/day)	
	Construction	Operation
Carbon Monoxide	550	550
Oxides of Nitrogen	100	55
Sulfur Oxides	150	150
PM_{10}	150	150
$PM_{2.5}$	55	55
Reactive Organic Gases	75	55
Source: SCAQMD[2]		

[1]Criteria pollutants are the only air pollutants with national air quality standards that define allowable concentrations of these substances in the ambient air. Criteria pollutants include carbon monoxide (CO), oxides of nitrogen (NO_x), sulfur dioxide (SO_x), and particulate matter (PM_{10} and $PM_{2.5}$). Note that ozone is another criteria pollutant; however, in terms of defining significance thresholds, ozone is represented by its precursor components, oxides of nitrogen (NO_x) and reactive organic gases.

[2] SCAQMD April 2019. Website: http://www.aqmd.gov/docs/default-source/ceqa/handbook/scaqmd-air-quality-significance-thresholds.pdf

2.1.2 Localized Significance Thresholds

Project-related construction or operational air emissions may have the potential to exceed the State and national air quality standards in the project vicinity, even though these pollutant emissions may not be significant enough to create a regional impact on the SCAQMD. As a result, the SCAQMD has also adopted localized significance thresholds (LSTs) that represent the maximum rates of daily construction or operational emissions from a project site that would not result in air pollutant levels that would exceed a national or State ambient air quality standards (SCAQMD 2003[3],2008[4]). There are three principal differences between the regional thresholds and the LSTs. First, the regional thresholds include all sources of project construction and operational emissions generated from both onsite and offsite emission sources, whereas the LSTs only consider the emissions generated from onsite emission sources. Second, the LSTs only apply to CO, NO_X, and particulate matter (PM_{10} and $PM_{2.5}$), while the regional thresholds include both ROG and SO_x. Third, the regional thresholds apply to emission sources regardless of where the source is located within the SCAQMD. In contrast, the LSTs are location-dependent and also depend on the size of the project, and emission location relative to the nearest sensitive receptor[5].

For purposes of this localized assessment, the SCAQMD provides screening emission look-up tables for projects that disturb a maximum of 5 acres in size in a day. The look-up tables were developed by the SCAQMD to readily determine if the daily emissions of CO, NO_x, PM_{10}, and $PM_{2.5}$ from a project could result in a significant impact on the local air quality. The appropriate LSTs can be determined based on the project's source receptor area (SRA)[6], size, and distance to nearest sensitive receptor. The SCAQMD has divided the SCAQMD into 37 SRAs, each with a set of LSTs that depend on the air pollutant, project size, and distance to the nearest sensitive receptor. The project site is located within SRA 24, Perris Valley. The LSTs for this SRA were applied to the project.

LSTs for Construction

The SCAQMD has published a "Fact Sheet for Applying CalEEMod to Localized Significance Thresholds" (SCAQMD 2011)[7]. The CalEEMod model calculates construction emissions based on the number and types of construction equipment, equipment hours, rates of emission, the maximum daily disturbance activity possible for each piece of equipment, and the developmental intensity. The daily maximum disturbed area during construction serves as the factor in determining the project size value of the LSTs for construction. Table 2 shows the maximum daily disturbed acreage during site preparation, and grading based on the types and numbers of construction equipment used for each construction activity, as identified by the CalEEMod model. As shown in Table 2, the maximum daily area disturbed during construction is 4.0 acres that occurs during the grading activity. Therefore, the maximum daily disturbed area during construction was set as 4.0 acres for the localized assessment of construction impacts.

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[3] SCAQMD 2003. Final Localized Significance Threshold Methodology. Website: http://www.aqmd.gov/docs/default-source/ceqa/handbook/localized-significance-thresholds/final-lst-methodology-document.pdf?sfvrsn=2

[4] SCAQMD 2008: Final Localized Significance Threshold Methodology. Website: http://www.aqmd.gov/docs/default-source/ceqa/handbook/localized-significance-thresholds/final-lst-methodology-document.pdf

[5] The SCAQMD defines a sensitive receptor as an individual who is most health-wise susceptible to exposures to air pollutants including children the elderly, and adults with chronic health issues. Such receptors include residences, schools, elderly care centers, and hospitals where such receptors could be exposed to air pollutants for at least 24 hours.

[6] A source-receptor area (SRA) is a geographic area within the SCAQMD that can act as both a source of emissions and a receptor of emission impacts.

[7] SCAQMD 2011: Fact Sheet for Applying CalEEMod to Localized Significance Thresholds. Website: http://www.aqmd.gov/docs/default-source/ceqa/handbook/localized-significance-thresholds/caleemod-guidance.pdf

Table 2: Equipment Specific Site Preparation and Grading Disturbed Area Rates

Activity	Equipment Type	Equipment Quantity	Acres Graded per 8-hour Day	Operating Hours per Day	Acres Graded per Day
Site Preparation	Rubber Tired Dozer	3	0.5	8	1.5
	Crawler Tractor	4	0.5	8	2.0
					Total 3.5 acres
Grading	Excavators	2	0.0	8	0.0
	Graders	1	0.5	8	0.5
	Rubber Tired Dozers	1	0.5	8	0.5
	Crawler Tractor	2	0.5	8	1.0
	Scrapers	2	1	8	2.0
					Total 4.0 acres

Source: Table 5 shows the construction inventory developed for the Site Preparation and Grading activities as derived from the CalEEMod model.

The specification of LSTs is also dependent on the distance to the nearest sensitive receptor. The location of the nearest sensitive receptor depends not only on the distance from the project but also on the duration for which a receptor may be exposed to air pollution. The SCAQMD considers a sensitive receptor to be a location such as a residence, hospital, convalescent facility where it is possible than an individual could remain for 24 hours or longer. Commercial and industrial facilities are not included in the definition of a sensitive receptor because employees do not typically remain onsite for a full 24 hours, but are present for shorter periods, such as eight hours[8].

The project location is surrounded by several residential areas to the north and east with a shopping center and Val Verde Academy to the west of the project. The closest sensitive receptors where such a receptor could reside for 24 hours or longer are located at existing residences along the project's eastern property line. Therefore, the distance for sensitive receptors in the LST assessment was set at 25 meters, the shortest distance contained in the SCAQMD LST emission look-up tables. Table 3 provides the applicable construction LSTs for this project.

Table 3: Construction Localized Significance Thresholds

NOx (lbs/day)	CO (lbs/day)	PM10 (lbs/day)	PM2.5 (lbs/day)
239	1,346	11	7

LSTs for SRA 24, project area of 4.0 acres and a receptor distance of 25 meters. The LSTs were interpolated from the 2 and 5 acre LSTs provided in the SCAQMD LST look-up tables.

[8] SCAQMD 2003. Final Localized Significance Threshold Methodology. Website: http://www.aqmd.gov/docs/default-source/ceqa/handbook/localized-significance-thresholds/final-lst-methodology-document.pdf?sfvrsn=2

LST for Operation

Because the LST methodology is applicable to projects where emission sources occupy a fixed location, LST methodology would typically not apply to the operational phase of a residential project because emissions for these projects are primarily generated by mobile sources traveling on local roadways over generally large distances or areas and not from emission sources located on the project site. LSTs would apply to the operational phase of a project if the project includes stationary sources or attracts mobile sources that may spend long periods queuing and idling at the site. For example, the LST methodology applies to operational projects such as warehouse/transfer facilities or large stationary sources such as a refinery, chemical factory, or railyard. As the project would include residential uses, an operational analysis applying the LST methodology is not appropriate and the localized operational impacts would be considered less than significant.

2.1.3 Cumulative Significance Thresholds

The SCAQMD has published the following report on how to address cumulative impacts from air pollution: White Paper on Potential Control Strategies to Address Cumulative Impacts from Air Pollution (SCAQMD 2003)[9]. Projects that exceed the project-specific significance thresholds are considered by the SCAQMD to be cumulatively considerable. Therefore, the project-specific and cumulative significance thresholds are the same. As a result, projects that do not exceed the project-specific thresholds are generally not considered to be cumulatively significant.

The US Environmental Protection Agency currently designates the South Coast Air Basin where the project is located as nonattainment for ozone, PM_{10}, and $PM_{2.5}$. By its nature, air pollution is largely a cumulative impact resulting from emissions generated over a large geographic region. The nonattainment status of regional pollutants is a result of past and present development within the air basin, and this regional impact is a cumulative impact. In other words, new development projects (such as the proposed project) within the air basin would contribute to this impact only on a cumulative basis. No single project would be sufficient in size, by itself, to result in nonattainment of regional air quality standards. Instead, a project's emissions may be individually limited, but cumulatively considerable when taken in combination with past, present, and future development projects.

The determination of cumulative air quality impacts for construction and operational emissions was, therefore, based on whether the project would result in regional emissions that exceed SCAQMD regional thresholds of significance for construction and operations on a project level. Projects that generate emissions below the SCAQMD regional significance thresholds would be considered consistent with regional air quality planning efforts and would not generate cumulatively considerable emissions.

[9] SCAQMD 2003. White Paper on Potential Control Strategies to Address Cumulative Impacts from Air Pollution

2.2 - Criteria Pollutant Emission and Impact Estimates

2.2.1 Project Emissions

Construction

Assumption***s***

- Construction Schedule: Construction is anticipated to commence in January 2021 and last for approximately 2 years. The project occupancy is expected in 2023
- The project site is currently vacant.
- 6,042 cubic yards of soil to be exported during grading
- Fugitive dust mitigation applied as per SCAQMD Rule 403 – Fugitive Dust (3x daily watering, vehicle speeds < 15 mph on unpaved roads, soil moisture content =12% on unpaved roads)
- Construction equipment inventory derived from the CalEEMod model equipment specifications

Construction Emissions

The project's conceptual construction schedule and equipment inventory are provided in Table 4 and Table 5, respectively, based on the schedule provided by the applicant and equipment provided in the CalEEMod model for the project size and land uses. Table 6 presents the project's construction vehicle trips.

Table 4: Construction Schedule

Activity	Start Date	End Date	Total Days
Site Preparation	01/04/2021	01/15/2021	10
Grading	01/16/2021	02/26/2021	30
Building Construction	02/27/2021	02/24/2023	520
Paving 1	02/27/2021	03/12/2021	10
Architectural Coating 1	02/01/2022	02/28/2022	20
Architectural Coating 2	07/17/2022	08/12/2022	20
Architectural Coating 3	10/01/2022	10/28/2022	20
Paving 2	02/25/2023	03/10/2023	10
Architectural Coating 4	03/11/2023	04/07/2023	20
Source: see CalEEMod output			

Table 5: Construction Equipment Inventory

Activity	Equipment	Project Number	Project Hours per day	Default Horse-power	Default Load Factor
Site Preparation	Rubber Tired Dozer	3	8	247	0.40
	Crawler Tractor	4	8	212	0.43
Grading	Excavators	2	8	158	0.38
	Graders	1	8	187	0.41
	Rubber Tired Dozers	1	8	247	0.40
	Crawler Tractor	2	8	212	0.43
	Scrapers	2	8	367	0.48
Building Construction	Crane	1	7	231	0.29
	Forklifts	3	8	89	0.20
	Tractors/Loaders/Backhoes	3	7	97	0.37
	Welders	1	8	46	0.45
	Generator Set	1	8	84	0.74
Paving 1,2	Pavers	2	8	130	0.42
	Paving Equipment	2	8	132	0.36
	Rollers	2	7	80	0.38
Architectural Coating 1,2,3,4	Air Compressor	1	6	78	0.48
Source: see CalEEMod output					

Table 6: Construction Vehicle Trips

Activity	Construction Trips per Day		Total Trips
	Worker	Vendor	Haul
Site Preparation	18	0	0
Grading	20	0	755
Building Construction	135	50	0
Paving 1, 2	15	0	0
Architectural Coating 1,2,3,4	27	0	0
Source: see CalEEMod output			

Table 7 presents the project's estimated maximum daily regional construction emissions. As noted in Table 7, the construction of the project would exceed not the SCAQMD's regional emission significance thresholds.

Table 8 presents the results of the project's localized construction impact assessment. From Table 8, the construction of the project would not exceed the SCAQMD's construction localized emission significance thresholds.

Table 7: Estimated Maximum Daily Regional Construction Emissions

Construction Activity	Maximum Daily Regional Emissions[1] (pounds/day)					
	ROG	NO_X	C0	SO_x	PM_{10}	$PM_{2.5}$
2021						
Site Preparation	5.4	60.8	22.6	0.1	9.8	6.4
Grading	5.1	62.0	32.7	0.1	6.4	3.7
Building Construction	2.7	22.4	22.4	0.0	2.8	1.4
Paving 1	2.1	12.9	15.3	0.0	0.9	0.6
Maximum Daily Emission (Overlapping Emissions)	5.4	62.0	37.7	0.1	9.8	6.4
2022						
Building Construction	2.4	20.3	21.8	0.0	2.6	1.3
Architectural Coating 1	60.5	1.5	2.7	0.0	0.4	0.2
Architectural Coating 2	60.5	1.5	2.7	0.0	0.4	0.2
Architectural Coating 3	60.5	1.5	2.7	0.0	0.4	0.2
Maximum Daily Emission (Overlapping Emissions')	62.9	21.8	24.5	0.0	3.0	1.5
2023						
Building Construction	2.2	18.0	21.1	0.0	3.2	1.0
Paving 2	1.9	10.2	15.1	0.0	0.7	0.5
Architectural Coating 4	60.5	1.5	2.7	0.0	0.4	0.2
Maximum Daily Emission (Overlapping Emissions')	60.5	18.0	21.1	0.0	3.2	1.0
2021 to 2023 Maximum Daily Emissions	**62.9**	**62.0**	**37.7**	**0.1**	**9.8**	**6.4**
SCAQMD Significance Thresholds	**75**	**100**	**550**	**150**	**150**	**55**
Emissions Exceed Thresholds?	**No**	**No**	**No**	**No**	**No**	**No**

Notes:
ROG = reactive organic gases NOx = oxides of nitrogen PM_{10} = particulate matter 10 microns or less in diameter
$PM_{2.5}$ = particulate matter 2.5 microns or less in diameter CO = carbon monoxide SO_x = sulfur oxides
PM emissions reflect SCAQMD Rule 403 reductions
An emission of 0.0 implies an emission of <0.1 pounds/day
Source: see CalEEMod model output

Table 8: Estimated Maximum Daily Localized Construction Emissions

Construction Activity	Maximum Daily Localized Emissions (pounds/day)			
	NO_x	CO	PM_{10}	$PM_{2.5}$
2021				
Site Preparation	60.8	21.9	9.6	5.3
Grading	56.5	31.2	5.7	3.5
Building Construction	17.4	16.6	1.0	0.9
Paving 1	12.9	14.7	0.7	0.6
Maximum Daily Emission (Overlapping Emissions)	60.8	31.3	9.6	0.9
2022				
Building Construction	15.6	16.4	0.8	0.8
Architectural Coating 1	1.4	1.8	0.1	0.1
Architectural Coating 2	1.4	1.8	0.1	0.1
Architectural Coating 3	1.4	1.8	0.1	0.1
Maximum Daily Emission (Overlapping Emissions')	17.0	18.2	0.9	0.9
2023				
Building Construction	14.4	16.2	1.4	0.5
Paving 2	10.2	14.6	0.5	0.5
Architectural Coating 4	1.4	1.8	0.1	0.1
Maximum Daily Emission (Overlapping Emissions')	14.4	16.2	1.4	0.5
2021 to 2023 Maximum Daily Emissions	**60.8**	**31.3**	**9.8**	**6.4**
SCAQMD Significance Thresholds	**239**	**1,346**	**11**	**7**
Emissions Exceed Thresholds?	**No**	**No**	**No**	**No**

Notes:
NOx = oxides of nitrogen PM_{10} = particulate matter 10 microns or less in diameter
$PM_{2.5}$ = particulate matter 2.5 microns or less in diameter CO = carbon monoxide
PM emissions reflect SCAQMD Rule 403 emission reductions
An emission of 0.0 implies an emission of <0.1 pounds/day
Source: see CalEEMod model output

Project Operational Emissions

The project's day-to-day operations would generate the project's long-term emissions. Operational emissions for land use development projects are typically distinguished as mobile, area, and energy-source emissions. Mobile-source emissions are associated with project-related automobiles and other motor vehicles that would travel to and from the project site. In accordance with the project's traffic impact memorandum[10], the project is expected to generate 762 daily weekday trips. The CalEEMod default vehicle

[10] EPD Solutions 2020. Project Traffic Trip Generation Memorandum

fleet mix, trip purpose, and trip lengths were assumed in estimating the project's mobile source emissions. Area-source emissions result from landscape maintenance activities and periodic architectural coatings. while energy-source emissions result primarily from natural gas consumption. Table 9 summarizes the project's regional operational emissions along with a comparison to the SCAQMD's regional significance thresholds. As noted in Table 9, the project's regional operational emissions are less than the regional significance thresholds.

Table 9: Estimated Maximum Daily Regional Operational Emissions

Operational Activity	Maximum Daily Regional Emissions (pounds/day)				
	ROG	NO_x	CO	PM_{10}	$PM_{2.5}$
Area	4.3	0.1	6.7	0.0	0.0
Energy	0.1	0.6	0.3	0.1	0.1
Mobile –	1.1	8.1	14.3	5.9	1.6
Total Operational Emissions	**5.5**	**8.8**	**24.3**	**6.0**	**1.7**
SCAQMD Significance Threshold	**55**	**55**	**550**	**150**	**55**
Exceed Threshold?	**No**	**No**	**No**	**No**	**No**

Notes:
NOx = oxides of nitrogen PM_{10} = particulate matter 10 microns or less in diameter ROG = reactive organic gases
$PM_{2.5}$ = particulate matter 2.5 microns or less in diameter CO = carbon monoxide
An emission of 0.0 implies an emission of <0.1 pounds/day

Source: see CalEEMod model output

2.2.2 Cumulative Impacts

Construction

As shown above in Table 7, the project's maximum daily regional construction emissions would not exceed SCAQMD's regional thresholds of significance. Therefore, the project's construction emissions would not result in a cumulatively considerable incremental contribution to the existing air quality. Furthermore, all construction activities would comply with applicable SCAQMD rules and regulations, including Rule 403 to minimize fugitive PM dust emissions. Therefore, the cumulative impact of the construction of the project would be less than significant.

Operations

As shown in Table 9 above, the project's maximum daily operational emissions would not exceed SCAQMD's regional thresholds of significance. Therefore, the project's operational emissions would not result in a cumulatively considerable incremental contribution to the existing air quality. The cumulative impact from the long-term operation of the project would be less than significant.

2.3 - Conclusion

The project's construction and operational emissions would not exceed the SCAQMD's established project level or cumulative regional or localized pollutant significant thresholds during either construction or operation. Therefore, the project's impacts are less than significant and no mitigation is required.

SECTION 3: CALEEMOD EMISSION ESTIMATES - GREENHOUSE GAS EMISSIONS

This section analyzes the potential impacts on climate change from the project's emissions of various greenhouses (GHG).

3.1 - Significance Threshold

The City of Moreno Valley has not adopted its own numeric threshold of significance for determining impacts with respect to greenhouse gas (GHG) emissions. SCAQMD has adopted a significance threshold of 10,000 $MTCO_2e$ per year for permitted (stationary) sources of GHG emissions for which SCAQMD is the designated lead agency. To provide guidance to local lead agencies on determining significance for GHG emissions in their CEQA documents, SCAQMD convened a GHG CEQA Significance Threshold Working Group (Working Group). Based on the last Working Group meeting (Meeting No. 15) in September 2010, SCAQMD identified a tiered approach for evaluating GHG emissions for development projects where SCAQMD is not the lead agency (SCAQMD 2010).

- Tier 1. If a project is exempt from CEQA, project-level and cumulative GHG emissions are less than significant.
- Tier 2. If the project complies with a GHG emissions reduction plan or mitigation program that avoids or substantially reduces GHG emissions in the project's geographic area (e.g., city or county), project-level and cumulative GHG emissions are less than significant.
- Tier 3. If GHG emissions are less than the screening-level threshold, project-level and cumulative GHG emissions are less than significant.

For projects that are not exempt or where no qualifying GHG reduction plans are directly applicable, SCAQMD requires an assessment of GHG emissions. Project-related GHG emissions include on-road transportation, energy use, water use, wastewater generation, solid waste disposal, area sources, off-road emissions, and construction activities. The SCAQMD Working Group concluded that because construction activities would result in a "one-time" net increase in GHG emissions, construction activities should be amortized into the operational phase GHG emissions inventory based on the service life of a building. For buildings an amortization time of 30-years was recommended by the SCAQMD. With regards to quantitative significance thresholds, the SCAQMD identified a screening-level threshold of 3,000 $MTCO_2e$ annually for all land use types or the following land-use specific thresholds: 1,400 $MTCO_2e$ for commercial projects, 3,500 $MTCO_2e$ for residential projects, and 3,000 $MTCO_2e$ for mixed-use projects. These bright-line thresholds are based on a review of the Governor's Office of Planning and Research database of CEQA projects. Based on their review of 711 CEQA projects, 90 percent of CEQA projects would exceed the bright-line thresholds. For purposes of this assessment, a significance threshold of 3,000 $MTCO_2e$ was used as the threshold for this assessment. Thus, based on guidance from the SCAQMD, if a non-industrial project would emit GHGs less than 3,000 $MTCO_2e$ per year, the project is not considered a substantial GHG emitter and the GHG impact is less than significant, requiring no additional analysis and no mitigation

3.2.1 Construction

Table 10 summarizes the project's construction GHG emissions. As per SCAQMD guidance, the project's construction emissions are amortized over a 30-year time period and added to the operational emissions to quantify the project's total GHG emissions.

Table 10: Project Construction GHG Emissions

Activity	Annual GHG Emissions ($MTCO_2e$)
2021	684
2022	626
2023	108
Total Emissions	1,418
Total Emissions Amortized Over 30 years	47
Source: see CalEEMod output	

3.2.2 Operations

Table 11 summarizes the project's operational GHG emissions, along with the construction GHG emissions and the total project GHG emissions. The project would result in GHG emissions of 1,585 $MTCO_2e$ per year. This level of emissions does not exceed the 3,000 $MTCO_2e$ per year significance threshold adopted for this project. Therefore, the project would have a less than significant individual and cumulative impact for GHG emissions.

Table 11: Project Operational GHG Emissions

Activity	Annual GHG Emissions ($MTCO_2e$)
Project Operational Emissions Area Energy Mobile Waste Water Total	 1 305 1,142 48 43 1,538
Project Construction Emissions	47
Project Construction and Operation	1,585
Significance Threshold	**3,000**
Project Exceeds Threshold?	**NO**
Source: see CalEEMod output	

3.2 - Conclusion

The project's construction and operational GHG emissions would have a less than significant individual and cumulative impact for GHG emissions. Therefore, the project would result in a less than significant impact and no mitigation is required.

SECTION 4: PROJECT FUEL AND ENERGY CONSUMPTION

4.1 - Assumptions

- Construction equipment fuel consumption derived from ARB Offroad2017 emission model and the CalEEMod construction equipment
- Fuel Consumption from vehicle travel derived from ARB EMFAC2017 emission model
- Electrical and natural gas usage derived from the CalEEMod model

4.2 - Significance Thresholds

Neither Appendix F of the State CEQA Guidelines nor PRC Section 21100(b)(3)) provide a numerical threshold of significance that might be used to evaluate the potential significance of energy consumption of a proposed project. Instead, the emphasis is on reducing "the wasteful, inefficient, and unnecessary consumption of energy." Based on this focus of the guidelines, for purposes of this report, the proposed project would have a significant impact related to energy consumption if it would:

- Involve the wasteful, inefficient, and unnecessary consumption of energy, especially fossil fuels such as coal, natural gas, and petroleum, associated with project design, project location, the use of electricity and natural gas, and the use of fuel by vehicles anticipated to travel to and from the project.

4.3 - Construction

4.3.1 Electricity and Natural Gas Usage

Southern California Edison Company would provide temporary electric power for necessary lighting and electronic equipment such as computers inside temporary construction trailers and construction tools. The electricity used for such activities would be temporary and would be substantially less than that required for project operation and would have a negligible contribution to the project's overall energy consumption.

Natural gas is not anticipated to be required during the construction of the proposed project. Fuels used during the construction would primarily consist of diesel and gasoline, which are discussed below under the "petroleum" subsection. Any minor amounts of natural gas that may be consumed as a result of project construction would be substantially less than that required for project operation and would have a negligible contribution to the project's overall energy consumption.

4.3.2 Petroleum Fuel Usage

Off-road heavy-duty construction equipment associated with construction activities would rely on diesel fuel as would vendor and haul trucks involved in delivering building materials and removing soil during grading from the project site. Construction workers would travel to and from the project site throughout the duration of construction. It is assumed in this analysis that construction workers would travel to and from the site in gasoline-powered passenger vehicles. Table 12 presents the fuel usage for the off-road construction equipment. These estimates are based on the total fuel consumption and horsepower-hour

data contained within the ARB OFFROAD2017 emission model for specific types of diesel construction equipment to be employed in the project construction. Note that the total fuel consumption during construction computed below likely substantially overstates the amount of fuel usage. Although construction equipment and their duration are listed under a particular construction activity, there is a likelihood that all of the inventoried equipment would not operate over the entire duration of the construction activity. For example, during building construction, a crane is listed as one of the operational pieces of equipment. However, it is highly unlikely that the crane would operate over the entire duration of 300 days assumed during the building construction activity.

Table 13 summarizes the project's construction vehicle fuel usage. The fuel usage is based on the vehicle type (worker vehicle, vendor vehicle, and haul truck), vehicle miles traveled, and fuel usage factors contained in the ARB EMFAC2017 mobile source emission model and in the CalEEMod model. Table 14 summarizes the total fuel construction during construction.

4.4 - Operational Energy Requirements

Table 15 summarizes the project's operational energy requirements.

4.5 - Conclusion

Construction of the project would result in fuel consumption from the use of construction tools and equipment, vendor and haul truck trips, and vehicle trips generated from construction workers traveling to and from the site. Construction activities and corresponding fuel energy consumption would be temporary and localized, as the use of diesel fuel and heavy-duty equipment would not be a typical operational condition of the project. The operational aspects of the project would involve energy use in the form of natural gas and electricity consumption for residential uses and fuel consumption from residential vehicle travel. Also, there are no unusual project characteristics that would cause the use of construction equipment that would be less energy efficient compared with other similar construction sites in other parts of the State. The rational goal of any construction job, whether it is for a household task or construction project such as the proposed project, is to minimize construction costs while meeting all legal requirements for doing so. Therefore, construction-related fuel consumption by the project would not result in inefficient, wasteful, or unnecessary energy use compared with other construction sites in the region.

The operation of the project would involve the development of 81 single family housing units. According to CEQA Guidelines Appendix F, the goal of conserving energy implies the wise and efficient use of energy, including decreasing overall per capita energy consumption, reducing reliance on natural gas and oil, and increasing reliance on renewable energy sources. The project would comply with all of the energy efficiency requirements under all applicable State, county, and local business and energy code ordinances. As a result, the operation of the project would not result in inefficient, wasteful, or unnecessary energy use compared with other similar residential projects in the region. Therefore, the project would result in a less than significant impact and no mitigation is required.

Table 12: Construction Equipment Fuel Usage

Construction Equipment	Equipment	Equipment Number	Equipment Hours per day	Default Horse-power	Default Load Factor	Days of Construction	Total Horsepower-hours	Fuel Rate (gal/hp-hr)	Fuel Use (gallons)
Site Preparation	Rubber Tired Dozer	3	8	247	0.40	10	23,712	0.02046	485
	Crawler Tractor	4	8	212	0.43	10	29,171	0.02217	647
	Excavators	2	8	158	0.38	30	28,819	0.01976	570
	Graders	2	8	187	0.41	30	36,802	0.02114	778
Grading	Rubber Tired Dozers	1	8	247	0.40	30	23,712	0.02046	485
	Crawler Tractor	2	8	212	0.43	30	43,757	0.02217	970
	Scrapers	2	8	367	0.48	30	84,557	0.02498	2,112
	Crane	1	7	231	0.29	520	243,844	0.01489	3,631
	Forklifts	3	8	89	0.20	520	222,144	0.02396	5,324
Building Construction	Tractors/Loaders/Backhoes	3	7	97	0.37	520	391,919	0.01911	7,491
	Welders	1	8	46	0.46	520	88,026	0.02147	1,890
	Generator Set	1	8	84	0.74	520	258,586	0.02147	5,552
	Pavers	2	8	130	0.42	10	8,736	0.02151	188
Paving 1	Paving Equipment	2	8	132	0.36	10	7,603	0.01833	139
	Rollers	2	8	80	0.36	10	4,608	0.01942	89
Architectural Coating 1	Air Compressor	1	6	78	0.48	20	4,493	0.02147	96
Architectural Coating 2	Air Compressor	1	6	78	0.48	20	4,493	0.02147	96
Architectural Coating 3	Air Compressor	1	6	78	0.48	20	4,493	0.02147	96
Architectural Coating 4	Air Compressor	1	6	78	0.48	20	4,493	0.02147	96
	Pavers	2	8	130	0.42	10	8,736	0.02151	188
Paving 2	Paving Equipment	2	8	132	0.36	10	7,603	0.01833	139
	Rollers	2	8	80	0.36	10	4,608	0.01942	89
								Total	**31,154**

Table 13: Estimated Project Construction Vehicle Fuel Usage

Construction Source	Gallons of Diesel Fuel	Gallons of Gasoline Fuel
Haul Trucks	2,165	0
Vendor Trucks	17,723	0
Worker Vehicles	0	38,210
Construction Vehicles Total	19,888	38,210
Source: see Construction Fuel Usage Spreadsheet		

Table 14: Total Construction Fuel Usage

Construction Source	Gallons of Diesel Fuel	Gallons of Gasoline Fuel
Construction Vehicles	19,888	38,210
Off-road Construction Equipment	31,154	0
Construction Total	51,042	38,210
Source: see Construction Fuel Usage Spreadsheet		

Table 15: Project Annual Operational Energy Requirements

Operational Source (value per year)		
Energy Source	**Annual VMT**	**Gallons of Gasoline Fuel**
Transportation – Project	278,145 (Diesel) 2,314,975 (Gas) 2,593,120(Total)	32,304 (Diesel) 87,330 (Gas)
	Thousands Kilowatt-Hours	
Electricity – Project	706,035	
	Thousands British Thermal Units	
Natural Gas – Project	2,478,290	
Note: Source: see Fuel Usage Spreadsheet and CalEEMod output		

CalEEMod Model Spreadsheet Output

Iris Park Residential Project, Moreno Valley, CA

CalEEMod Construction Emission Summary

	Maximum Daily Emissions (pounds/day)									
2021	**ROG**	**NOx**	**CO**	**SOx**	**PM10F**	**PM10Exh**	**PM10Total**	**PM2.5Fug**	**PM2.5 Exh**	**PM2.5Total**
Site Prep (SP)										
Onsite	5.3	60.8	21.9	0.1	7.0	2.6	9.6	3.9	2.4	6.3
Offsite	0.1	0.0	0.7	0.0	0.2	0.0	0.2	0.1	0.0	0.1
Total	5.4	60.8	22.6	0.1	7.2	2.6	9.8	4.0	2.4	6.4
Grading (GR)										
Onsite	4.9	56.5	31.2	0.1	3.4	2.3	5.7	1.4	2.1	3.5
Offsite	0.2	5.5	1.5	0.0	0.7	0.0	0.7	0.2	0.0	0.2
Total	5.1	62.0	32.7	0.1	4.1	2.3	6.4	1.6	2.1	3.7
Building Construction (BC)										
Onsite	1.9	17.4	16.6	0.0	0.0	1.0	1.0	0.0	0.9	0.9
Offsite	0.8	5.0	5.8	0.0	1.8	0.0	1.8	0.5	0.0	0.5
Total	2.7	22.4	22.4	0.0	1.8	1.0	2.8	0.5	0.9	1.4
Paving 1										
Onsite	2.0	12.9	14.7	0.0	0.0	0.7	0.7	0.0	0.6	0.6
Offsite	0.1	0.0	0.6	0.0	0.2	0.0	0.2	0.0	0.0	0.0
Total	2.1	12.9	15.3	0.0	0.2	0.7	0.9	0.0	0.6	0.6
2021 Max Onsite	**5.3**	**60.8**	**31.3**	**0.1**	**7.0**	**2.6**	**9.6**	**3.9**	**2.4**	**6.3**
(Construction Activity)	(SP)	(SP)	(GR)	(GR)	(SP)	(SP)	(SP)	(SP)	(SP)	(SP)
2021 Max Total	**5.4**	**62.0**	**37.7**	**0.1**	**7.2**	**2.6**	**9.8**	**4.0**	**2.4**	**6.4**
(Construction Activity)	(SP)	(GR)	(GR)	(GR)	(SP)	(SP)	(SP)	(SP)	(SP)	(SP)

2022	**ROG**	**NOx**	**CO**	**SOx**	**PM10F**	**PM10Exh**	**PM10Total**	**PM2.5Fug**	**PM2.5 Exh**	**PM2.5Total**
Building Construction (BC)										
Onsite	1.7	15.6	16.4	0.0	0.0	0.8	0.8	0.0	0.8	0.8
Offsite	0.7	4.7	5.4	0.0	1.8	0.0	1.8	0.5	0.0	0.5
Total	2.4	20.3	21.8	0.0	1.8	0.8	2.6	0.5	0.8	1.3
Architectural Coating 1 (AC1)										
Onsite	60.4	1.4	1.8	0.0	0.0	0.1	0.1	0.0	0.1	0.1
Offsite	0.1	0.1	0.9	0.0	0.3	0.0	0.3	0.1	0.0	0.1
Total	60.5	1.5	2.7	0.0	0.3	0.1	0.4	0.1	0.1	0.2
Architectural Coating 2 (AC2)										
Onsite	60.4	1.4	1.8	0.0	0.0	0.1	0.1	0.0	0.1	0.1
Offsite	0.1	0.1	0.9	0.0	0.3	0.0	0.3	0.1	0.0	0.1
Total	60.5	1.5	2.7	0.0	0.3	0.1	0.4	0.1	0.1	0.2
Architectural Coating 3 (AC3)										
Onsite	60.4	1.4	1.8	0.0	0.0	0.1	0.1	0.0	0.1	0.1
Offsite	0.1	0.1	0.9	0.0	0.3	0.0	0.3	0.1	0.0	0.1
Total	60.5	1.5	2.7	0.0	0.3	0.1	0.4	0.1	0.1	0.2
2022 Max Onsite	**62.1**	**17.0**	**18.2**	**0.0**	**0.0**	**0.9**	**0.9**	**0.0**	**0.9**	**0.9**
ConstructionActivity	**(BC+AC)**	**(BC+AC)**	**(BC+AC)**	**(BC+AC)**	**(BC+AC)**	**(BC+AC)**	**(BC+AC)**	**(BC+AC)**	**(BC+AC)**	**(BC+AC)**
2022 Max Total	**62.9**	**21.8**	**24.5**	**0.0**	**2.1**	**0.9**	**3.0**	**0.6**	**0.9**	**1.5**
(Construction ACtivity)	**(BC+AC)**	**(BC+AC)**	**(BC+AC)**	**(BC+AC)**	**(BC+AC)**	**(BC+AC)**	**(BC+AC)**	**(BC+AC)**	**(BC+AC)**	**(BC+AC)**

2023	**ROG**	**NOx**	**CO**	**SOx**	**PM10F**	**PM10Exh**	**PM10Total**	**PM2.5Fug**	**PM2.5 Exh**	**PM2.5Total**
Building Construction (BC)										
Onsite	1.6	14.4	16.2	0.0	0.7	0.7	1.4	0.0	0.5	0.5
Offsite	0.6	3.6	4.9	0.0	1.8	0.0	1.8	0.5	0.0	0.5
Total	2.2	18.0	21.1	0.0	2.5	0.7	3.2	0.5	0.5	1.0
Paving 2 (PV2)										
Onsite	1.8	10.2	14.6	0.0	0.0	0.5	0.5	0.0	0.5	0.5
Offsite	0.1	0.0	0.5	0.0	0.2	0.0	0.2	0.0	0.0	0.0
Total	1.9	10.2	15.1	0.0	0.2	0.5	0.7	0.0	0.5	0.5
Architectural Coating 4 (AC4)										
Onsite	60.4	1.4	1.8	0.0	0.0	0.1	0.1	0.0	0.1	0.1
Offsite	0.1	0.1	0.9	0.0	0.3	0.0	0.3	0.1	0.0	0.1
Total	60.5	1.5	2.7	0.0	0.3	0.1	0.4	0.1	0.1	0.2
2023 Max Onsite	**60.4**	**14.4**	**16.2**	**0.0**	**0.7**	**0.7**	**1.4**	**0.0**	**0.5**	**0.5**
Construction Activity	**(AC4)**	**(BC)**	**(BC)**	**(BC)**	**(BC)**	**(BC)**	**(BC)**	**(BC)**	**(BC)**	**(BC)**
2023 Max Total	**60.5**	**18.0**	**21.1**	**0.0**	**2.5**	**0.7**	**3.2**	**0.5**	**0.5**	**1.0**
2021-2023 Max Onsite	**62.1**	**60.8**	**31.3**	**0.1**	**7.0**	**2.6**	**9.6**	**3.9**	**2.4**	**6.3**
2021-2023 Total	**62.9**	**62.0**	**37.7**	**0.1**	**7.2**	**2.6**	**9.8**	**4.0**	**2.4**	**6.4**
Regional Emission Significance Threshold (pounds/day)										
	75.0	**100.0**	**550.0**	**150.0**			**150.0**			**55.0**
Maximum Total Project Emissions Exceed Regional Thresholds	**NO**	**NO**	**NO**	**NO**			**NO**			**NO**
LST Threshold (pounds/day)		**239**	**1346**				**11**			**7**
Exceed LSTs		**NO**	**NO**				**NO**			**NO**

Iris Park Residential Project, Moreno Valley, CA

Construction Equipment Fuel Usage

Construction Equipment	Equipment	Equipment Number	Equipment Hours per day	Default Horse-power	Default Load Factor	Days of Construction	Total Horsepower-hours	Fuel Rate (gal/hp-hr)	Fuel Use (gallons)
Site Preparation	Rubber Tired Dozer	3	8	247	0.40	10	23,712	0.02046	485
	Crawler Tractor	4	8	212	0.43	10	29,171	0.02217	647
Grading	Excavators	2	8	158	0.38	30	28,819	0.01976	570
	Graders	2	8	187	0.41	30	36,802	0.02114	778
	Rubber Tired Dozers	1	8	247	0.40	30	23,712	0.02046	485
	Crawler Tractor	2	8	212	0.43	30	43,757	0.02217	970
	Scrapers	2	8	367	0.48	30	84,557	0.02498	2,112
Building Construction	Crane	1	7	231	0.29	520	243,844	0.01489	3,631
	Forklifts	3	8	89	0.20	520	222,144	0.02396	5,324
	Tractors/Loaders/Backhoes	3	7	97	0.37	520	391,919	0.01911	7,491
	Welders	1	8	46	0.46	520	88,026	0.02147	1,890
	Generator Set	1	8	84	0.74	520	258,586	0.02147	5,552
Paving 1	Pavers	2	8	130	0.42	10	8,736	0.02151	188
	Paving Equipment	2	8	132	0.36	10	7,603	0.01833	139
	Rollers	2	8	80	0.36	10	4,608	0.01942	89
Architectural Coating 1	Air Compressor	1	6	78	0.48	20	4,493	0.02147	96
Architectural Coating 2	Air Compressor	1	6	78	0.48	20	4,493	0.02147	96
Architectural Coating 3	Air Compressor	1	6	78	0.48	20	4,493	0.02147	96
Architectural Coating 4	Air Compressor	1	6	78	0.48	20	4,493	0.02147	96
Paving 2	Pavers	2	8	130	0.42	10	8,736	0.02151	188
	Paving Equipment	2	8	132	0.36	10	7,603	0.01833	139
	Rollers	2	8	80	0.36	10	4,608	0.01942	89
								Total	**31,154**

Iris Park Residential Project, Moreno Valley, CA

Fuel Consumption from Construction Vehicles (Derived from the ARB EMFAC2017 Mobile Source Emission Model)

Emission Factors

Region (County)	Calendar Year	Vehicle Category	Model Year	Speed	Fuel	VMT (miles/day)	Fuel Consumption (1000 gallons/day)	Fuel Rate (miles/gallon)
RIVERSIDE	2021	MHDT-T6	Aggregated	Aggregated	DSL	1186652	89.4	13.3
RIVERSIDE	2021	HHDT-T7	Aggregated	Aggregated	DSL	3825933	548.6	7.0
							Average (50%/50%)	**10.1**
RIVERSIDE	2021	LDA	Aggregated	Aggregated	GAS	29816029	960	31.1
RIVERSIDE	2021	LDT1	Aggregated	Aggregated	GAS	3017206	115	26.3
RIVERSIDE	2021	LDT2	Aggregated	Aggregated	GAS	9631964	392	24.6
						Average	**(50%/25%/25%)**	**28**

Vehicle Assumptions (CalEEMod)
Haul trucks represented by HHDT-T7 (heavy -heavy duty haul truck)
MHDT-T6 (medium heavy duty haul truck)
Vendor trucks assu ed to be 50% HHDT-T7 and MHDT-T6)
LDA (light duty automobile for worker vehicles)
LDT1 (light duty truck 1 for wortker vehicles)
LDT2 (light duty truck 2 for worker vehicles)
Worker vehicles represented as 50% LDT, 25% LHT1, and 25% LDT2

Construction Vehicle Use **(Derived from the CalEEMod model output)**

Fuel Consumption for Haul Trucks

Construction Activity	No Haul Truck Trips	Trip Length	VMT (miles)	DSL Fuel (gallons)
Site Preparation	0	20	0	0
Grading	755	20	15100	2165
Building Construction	0	20	0	0
Paving 1 -	0	20	0	0
Architectural Coating 1	0	20	0	0
Architectural Coating 2	0	20	0	0
Architectural Coating 3	0	20	0	0
Architectural Coating 4	0	20	0	0
Paving 2	0	20	0	0
Total	**755**		**15100**	**2165**

Construction Activity	No Vendor Truck Trips/day	Duration (days)	Trip Length (miles)	VMT (miles)	Fuel	Fuel Rate (miles/gallon)	DSL Fuel (gallons)
Site Preparation	0	10	6.9	0	DSL	10.1	0
Grading	0	30	6.9	0	DSL	10.1	0
Building Construction	50	520	6.9	179400	DSL	10.1	17723
Paving 1 -	0	10	6.9	0	DSL	10.1	0
Architectural Coating 1	0	20	6.9	0	DSL	10.1	0
Architectural Coating 2	0	20	6.9	0	DSL	10.1	0
Architectural Coating 3	0	20	6.9	0	DSL	10.1	0
Architectural Coating 4	0	10	6.9	0	DSL	10.1	0
Paving 2	0	20	6.9	0	DSL	10.1	0
Total				**179400**			**17723**

Activity	No Worker Vehicles Trips/day	Duration (days)	Trip Length (miles)	VMT (miles)	Fuel	Fuel Rate (miles/gallon)	Gas Fuel (gallons)
Site Preparation	18	10	14.7	2646	GAS	28	94
Grading	20	30	14.7	8820	GAS	28	312
Building Construction	135	520	14.7	1031940	GAS	28	36524
Paving 1 -	15	10	14.7	2205	GAS	28	78
Architectural Coating 1	27	20	14.7	7938	GAS	28	281
Architectural Coating 2	27	20	14.7	7938	GAS	28	281
Architectural Coating 3	27	20	14.7	7938	GAS	28	281
Architectural Coating 4	27	20	14.7	7938	GAS	28	281
Paving 2	15	10	14.7	2205	GAS	28	78
Total				1079568			38210

Summary	Gallons
Total -DSL	19888
Total - GAS	38210
	58098

Iris Park Residential Project, Moreno Valley, CA

Estimation of Operational Vehicle Fuel Use 2023

Total Annual VMT **2,593,120**

Vehicle Class	CalEEmod Fleet Mix	Annual VMT	EMFAC2017 % DSL	Annual DSL VMT	EMFAC2017 %GAS	Annual GAS VMT	EMFAC2017 Fuel Rate -DSL (mi/gallons)	Fuel Rate-GAS (mi/gal)	Fuel Consumption DSL-(gal/year)	GAS-(gal/year)
LDA	54.600%	1,415,844	0.9%	13361	99.1%	1402482	50.9	31.1	263	45,155
LDT1	3.700%	95,945	0.0%	30	100.0%	95916	25.6	26.3	1	3,643
LDT2	18.600%	482,320	0.6%	2908	99.4%	479412	37.9	24.6	77	19,513
LHDT1	1.500%	38,897	50.1%	19492	49.9%	19405	20.8	10.7	939	1,821
LHDT2	0.500%	12,966	71.1%	9221	28.9%	3745	19.0	9.3	485	403
Motor Cycle	0.500%	12,966	0.0%	0	100.0%	12966	0	38.3	-	339
MDT	11.500%	298,209	2.2%	6510	97.8%	291699	28.0	19.7	233	14,782
Motor Home	0.010%	259	29.7%	77	70.3%	182	10.8	5.1	7	36
Other Bus	0.100%	2,593	47.7%	1237	52.3%	1356	8.8	5.1	140	267
School Bus	0.100%	2,593	65.1%	1688	34.9%	905	7.5	8.9	224	101
MHDT	1.800%	46,676	90.3%	42128	9.7%	4548	10.8	5.1	3,911	885
HHDT	7.000%	181,518	100.0%	181488	0.0%	31	7.0	4.2	26,024	7
Urban Bus	0.090%	2,334	0.3%	6	99.7%	2328	8.9	6.2	1	378
	100.000%	2,593,120								
									32,304	87,330

Total VMT-DSL	278,145	VMT
Total VMT-Gas	2,314,975	VMT
	2,593,120	VMT

Total Fuel - DSL	32,304	gallons/year
Total Fuel - GAS	87,330	gallons/year

Iris Residential Project - Moreno Valley, CA

Riverside-South Coast County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Asphalt Surfaces	2.79	Acre	2.79	121,532.40	0
City Park	3.02	Acre	3.02	131,551.20	0
Single Family Housing	81.00	Dwelling Unit	5.02	187,000.00	232

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.4	**Precipitation Freq (Days)**	28
Climate Zone	10			**Operational Year**	2023
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	534	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - SCE CO2 Intensity Factor 2020 to 2029

Land Use - Residential = 81 SFU
Internal Roadways = 2.79 acres
Park area = 3.02 acres

Construction Phase - Construction schedult provided by client

Off-road Equipment -

Off-road Equipment -

Off-road Equipment -

Off-road Equipment -

Off-road Equipment - .....

Off-road Equipment - Use of larger equipment

Off-road Equipment - ..

Off-road Equipment - ..

Off-road Equipment - Use of Larger equipment

Grading - Soil export of 6,042 cy

Architectural Coating -

Vehicle Trips - Weekday trip generation from the project trip memorandum - EPDS
Weekend trip rates from CalEEMod default values

Woodstoves - Assumes no fireplaces in residential units

Construction Off-road Equipment Mitigation - Applied ffffigitive dust reductions as required under SCAQMD Rule 493

Fleet Mix - SFU fleet mix is the default CalEEMod fleet mix for Riversode County in 2023

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadMoistureContent	0	12
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	NumDays	300.00	520.00
tblConstructionPhase	NumDays	20.00	10.00
tblConstructionPhase	NumDays	20.00	10.00
tblFireplaces	FireplaceDayYear	25.00	0.00

tblFireplaces	FireplaceHourDay	3.00	0.00
tblFireplaces	FireplaceWoodMass	1,019.20	0.00
tblFireplaces	NumberGas	68.85	0.00
tblFireplaces	NumberNoFireplace	8.10	0.00
tblFireplaces	NumberWood	4.05	0.00
tblGrading	AcresOfGrading	105.00	75.00
tblGrading	AcresOfGrading	20.00	0.00
tblGrading	MaterialExported	0.00	6,042.00
tblLandUse	LandUseSquareFeet	145,800.00	187,000.00
tblLandUse	LotAcreage	26.30	5.02
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	0.00
tblProjectCharacteristics	CO2IntensityFactor	702.44	534
tblVehicleTrips	ST_TR	22.75	0.00
tblVehicleTrips	SU_TR	16.74	0.00
tblVehicleTrips	WD_TR	1.89	0.00
tblVehicleTrips	WD_TR	9.52	9.41
tblWoodstoves	NumberCatalytic	4.05	0.00
tblWoodstoves	NumberNoncatalytic	4.05	0.00
tblWoodstoves	WoodstoveDayYear	25.00	0.00
tblWoodstoves	WoodstoveWoodMass	999.60	0.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2021	5.4281	62.0685	37.5996	0.0926	18.2675	2.6472	20.9146	9.9840	2.4354	12.4195	0.0000	9,150.5774	9,150.5774	2.3619	0.0000	9,209.6254
2022	62.9332	21.7833	24.4692	0.0594	2.1309	0.9085	3.0395	0.5724	0.8595	1.4319	0.0000	5,852.2781	5,852.2781	0.7598	0.0000	5,871.2726
2023	60.4991	17.9634	21.1694	0.0528	1.8291	0.7115	2.5406	0.4924	0.6694	1.1617	0.0000	5,206.0703	5,206.0703	0.7171	0.0000	5,223.7331
Maximum	**62.9332**	**62.0685**	**37.5996**	**0.0926**	**18.2675**	**2.6472**	**20.9146**	**9.9840**	**2.4354**	**12.4195**	**0.0000**	**9,150.5774**	**9,150.5774**	**2.3619**	**0.0000**	**9,209.6254**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2021	5.4281	62.0685	37.5996	0.0926	7.2470	2.6472	9.8942	3.9263	2.4354	6.3617	0.0000	9,150.5774	9,150.5774	2.3619	0.0000	9,209.6254
2022	62.9332	21.7833	24.4692	0.0594	2.1309	0.9085	3.0395	0.5724	0.8595	1.4319	0.0000	5,852.2781	5,852.2781	0.7598	0.0000	5,871.2726
2023	60.4991	17.9634	21.1694	0.0528	1.8291	0.7115	2.5406	0.4924	0.6694	1.1617	0.0000	5,206.0703	5,206.0703	0.7171	0.0000	5,223.7330
Maximum	**62.9332**	**62.0685**	**37.5996**	**0.0926**	**7.2470**	**2.6472**	**9.8942**	**3.9263**	**2.4354**	**6.3617**	**0.0000**	**9,150.5774**	**9,150.5774**	**2.3619**	**0.0000**	**9,209.6254**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	49.58	0.00	41.59	54.83	0.00	40.35	0.00	0.00	0.00	0.00	0.00	0.00

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	4.2837	0.0771	6.6847	3.5000e-004		0.0370	0.0370		0.0370	0.0370	0.0000	12.0340	12.0340	0.0116	0.0000	12.3234
Energy	0.0732	0.6257	0.2663	3.9900e-003		0.0506	0.0506		0.0506	0.0506		798.8036	798.8036	0.0153	0.0146	803.5505
Mobile	1.3646	8.1381	16.6881	0.0757	5.8491	0.0406	5.8897	1.5648	0.0379	1.6026		7,730.9814	7,730.9814	0.3132		7,738.8121
Total	**5.7215**	**8.8408**	**23.6390**	**0.0800**	**5.8491**	**0.1282**	**5.9773**	**1.5648**	**0.1255**	**1.6902**	**0.0000**	**8,541.8190**	**8,541.8190**	**0.3401**	**0.0146**	**8,554.6860**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	4.2837	0.0771	6.6847	3.5000e-004		0.0370	0.0370		0.0370	0.0370	0.0000	12.0340	12.0340	0.0116	0.0000	12.3234
Energy	0.0732	0.6257	0.2663	3.9900e-003		0.0506	0.0506		0.0506	0.0506		798.8036	798.8036	0.0153	0.0146	803.5505
Mobile	1.3646	8.1381	16.6881	0.0757	5.8491	0.0406	5.8897	1.5648	0.0379	1.6026		7,730.9814	7,730.9814	0.3132		7,738.8121
Total	**5.7215**	**8.8408**	**23.6390**	**0.0800**	**5.8491**	**0.1282**	**5.9773**	**1.5648**	**0.1255**	**1.6902**	**0.0000**	**8,541.8190**	**8,541.8190**	**0.3401**	**0.0146**	**8,554.6860**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	1/4/2021	1/15/2021	5	10	
2	Grading	Grading	1/16/2021	2/26/2021	5	30	
3	Building Construction	Building Construction	2/27/2021	2/24/2023	5	520	
4	Paving 1	Paving	2/27/2021	3/12/2021	5	10	
5	Architectural Coating 1	Architectural Coating	2/1/2022	2/28/2022	5	20	
6	Archtectural Coating 2	Architectural Coating	7/17/2022	8/12/2022	5	20	
7	Archtectural Coating 3	Architectural Coating	10/1/2022	10/28/2022	5	20	
8	Paving 2	Paving	2/25/2023	3/10/2023	5	10	
9	Archtectural Coating 4	Architectural Coating	3/11/2023	4/7/2023	5	20	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 75

Acres of Paving: 2.79

Residential Indoor: 378,675; Residential Outdoor: 126,225; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 7,292 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Crawler Tractors	4	8.00	212	0.43
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Grading	Crawler Tractors	2	8.00	212	0.43
Grading	Excavators	2	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving 1	Pavers	2	8.00	130	0.42
Paving 1	Paving Equipment	2	8.00	132	0.36
Paving 1	Rollers	2	8.00	80	0.38
Architectural Coating 1	Air Compressors	1	6.00	78	0.48
Archtectural Coating 2	Air Compressors	1	6.00	78	0.48
Archtectural Coating 3	Air Compressors	1	6.00	78	0.48
Paving 2	Pavers	2	8.00	130	0.42
Paving 2	Paving Equipment	2	8.00	132	0.36
Paving 2	Rollers	2	8.00	80	0.38
Archtectural Coating 4	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	7	18.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	755.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	135.00	50.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving 1	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating 1	1	27.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Archtectural Coating 2	1	27.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Archtectural Coating 3	1	27.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving 2	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Archtectural Coating 4	1	27.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Water Unpaved Roads

Reduce Vehicle Speed on Unpaved Roads

3.2 Site Preparation - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	5.3428	60.7861	21.8537	0.0570		2.6460	2.6460		2.4343	2.4343		5,523.5047	5,523.5047	1.7864		5,568.1651
Total	**5.3428**	**60.7861**	**21.8537**	**0.0570**	**18.0663**	**2.6460**	**20.7123**	**9.9307**	**2.4343**	**12.3650**		**5,523.5047**	**5,523.5047**	**1.7864**		**5,568.1651**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0853	0.0486	0.6655	1.9200e-003	0.2012	1.1900e-003	0.2024	0.0534	1.0900e-003	0.0545		191.6552	191.6552	4.5700e-003		191.7694
Total	**0.0853**	**0.0486**	**0.6655**	**1.9200e-003**	**0.2012**	**1.1900e-003**	**0.2024**	**0.0534**	**1.0900e-003**	**0.0545**		**191.6552**	**191.6552**	**4.5700e-003**		**191.7694**

3.2 Site Preparation - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					7.0458	0.0000	7.0458	3.8730	0.0000	3.8730			0.0000			0.0000
Off-Road	5.3428	60.7861	21.8537	0.0570		2.6460	2.6460		2.4343	2.4343	0.0000	5,523.5047	5,523.5047	1.7864		5,568.1651
Total	**5.3428**	**60.7861**	**21.8537**	**0.0570**	**7.0458**	**2.6460**	**9.6918**	**3.8730**	**2.4343**	**6.3073**	**0.0000**	**5,523.5047**	**5,523.5047**	**1.7864**		**5,568.1651**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0853	0.0486	0.6655	1.9200e-003	0.2012	1.1900e-003	0.2024	0.0534	1.0900e-003	0.0545		191.6552	191.6552	4.5700e-003		191.7694
Total	**0.0853**	**0.0486**	**0.6655**	**1.9200e-003**	**0.2012**	**1.1900e-003**	**0.2024**	**0.0534**	**1.0900e-003**	**0.0545**		**191.6552**	**191.6552**	**4.5700e-003**		**191.7694**

3.3 Grading - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.6988	0.0000	8.6988	3.6004	0.0000	3.6004			0.0000			0.0000
Off-Road	4.9185	56.5443	31.2281	0.0715		2.2861	2.2861		2.1032	2.1032		6,925.9674	6,925.9674	2.2400		6,981.9673
Total	**4.9185**	**56.5443**	**31.2281**	**0.0715**	**8.6988**	**2.2861**	**10.9849**	**3.6004**	**2.1032**	**5.7036**		**6,925.9674**	**6,925.9674**	**2.2400**		**6,981.9673**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.1225	5.4701	0.7193	0.0190	0.4402	0.0167	0.4569	0.1207	0.0159	0.1366		2,011.6599	2,011.6599	0.1168		2,014.5810
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0948	0.0540	0.7394	2.1400e-003	0.2236	1.3200e-003	0.2249	0.0593	1.2100e-003	0.0605		212.9502	212.9502	5.0800e-003		213.0771
Total	**0.2173**	**5.5242**	**1.4587**	**0.0211**	**0.6638**	**0.0180**	**0.6818**	**0.1800**	**0.0171**	**0.1971**		**2,224.6100**	**2,224.6100**	**0.1219**		**2,227.6581**

3.3 Grading - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					3.3926	0.0000	3.3926	1.4041	0.0000	1.4041			0.0000			0.0000
Off-Road	4.9185	56.5443	31.2281	0.0715		2.2861	2.2861		2.1032	2.1032	0.0000	6,925.9674	6,925.9674	2.2400		6,981.9673
Total	**4.9185**	**56.5443**	**31.2281**	**0.0715**	**3.3926**	**2.2861**	**5.6787**	**1.4041**	**2.1032**	**3.5074**	**0.0000**	**6,925.9674**	**6,925.9674**	**2.2400**		**6,981.9673**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.1225	5.4701	0.7193	0.0190	0.4402	0.0167	0.4569	0.1207	0.0159	0.1366		2,011.6599	2,011.6599	0.1168		2,014.5810
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0948	0.0540	0.7394	2.1400e-003	0.2236	1.3200e-003	0.2249	0.0593	1.2100e-003	0.0605		212.9502	212.9502	5.0800e-003		213.0771
Total	**0.2173**	**5.5242**	**1.4587**	**0.0211**	**0.6638**	**0.0180**	**0.6818**	**0.1800**	**0.0171**	**0.1971**		**2,224.6100**	**2,224.6100**	**0.1219**		**2,227.6581**

3.4 Building Construction - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.9009	17.4321	16.5752	0.0269		0.9586	0.9586		0.9013	0.9013		2,553.3639	2,553.3639	0.6160		2,568.7643
Total	**1.9009**	**17.4321**	**16.5752**	**0.0269**		**0.9586**	**0.9586**		**0.9013**	**0.9013**		**2,553.3639**	**2,553.3639**	**0.6160**		**2,568.7643**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.1167	4.6270	0.8255	0.0130	0.3202	8.8000e-003	0.3290	0.0922	8.4200e-003	0.1006		1,366.2551	1,366.2551	0.0977		1,368.6987
Worker	0.6400	0.3646	4.9911	0.0144	1.5090	8.8900e-003	1.5179	0.4002	8.1900e-003	0.4084		1,437.4137	1,437.4137	0.0343		1,438.2706
Total	**0.7568**	**4.9916**	**5.8166**	**0.0274**	**1.8292**	**0.0177**	**1.8468**	**0.4924**	**0.0166**	**0.5090**		**2,803.6688**	**2,803.6688**	**0.1320**		**2,806.9693**

3.4 Building Construction - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.9009	17.4321	16.5752	0.0269		0.9586	0.9586		0.9013	0.9013	0.0000	2,553.3639	2,553.3639	0.6160		2,568.7643
Total	**1.9009**	**17.4321**	**16.5752**	**0.0269**		**0.9586**	**0.9586**		**0.9013**	**0.9013**	**0.0000**	**2,553.3639**	**2,553.3639**	**0.6160**		**2,568.7643**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.1167	4.6270	0.8255	0.0130	0.3202	8.8000e-003	0.3290	0.0922	8.4200e-003	0.1006		1,366.2551	1,366.2551	0.0977		1,368.6987
Worker	0.6400	0.3646	4.9911	0.0144	1.5090	8.8900e-003	1.5179	0.4002	8.1900e-003	0.4084		1,437.4137	1,437.4137	0.0343		1,438.2706
Total	**0.7568**	**4.9916**	**5.8166**	**0.0274**	**1.8292**	**0.0177**	**1.8468**	**0.4924**	**0.0166**	**0.5090**		**2,803.6688**	**2,803.6688**	**0.1320**		**2,806.9693**

3.4 Building Construction - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.7062	15.6156	16.3634	0.0269		0.8090	0.8090		0.7612	0.7612		2,554.3336	2,554.3336	0.6120		2,569.6322
Total	**1.7062**	**15.6156**	**16.3634**	**0.0269**		**0.8090**	**0.8090**		**0.7612**	**0.7612**		**2,554.3336**	**2,554.3336**	**0.6120**		**2,569.6322**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.1088	4.3654	0.7678	0.0128	0.3202	7.4000e-003	0.3276	0.0922	7.0800e-003	0.0993		1,354.6259	1,354.6259	0.0926		1,356.9401
Worker	0.5987	0.3281	4.6036	0.0139	1.5090	8.6600e-003	1.5176	0.4002	7.9700e-003	0.4082		1,384.8922	1,384.8922	0.0308		1,385.6618
Total	**0.7075**	**4.6935**	**5.3715**	**0.0267**	**1.8291**	**0.0161**	**1.8452**	**0.4924**	**0.0151**	**0.5074**		**2,739.5180**	**2,739.5180**	**0.1234**		**2,742.6019**

3.4 Building Construction - 2022

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.7062	15.6156	16.3634	0.0269		0.8090	0.8090		0.7612	0.7612	0.0000	2,554.3336	2,554.3336	0.6120		2,569.6322
Total	**1.7062**	**15.6156**	**16.3634**	**0.0269**		**0.8090**	**0.8090**		**0.7612**	**0.7612**	**0.0000**	**2,554.3336**	**2,554.3336**	**0.6120**		**2,569.6322**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.1088	4.3654	0.7678	0.0128	0.3202	7.4000e-003	0.3276	0.0922	7.0800e-003	0.0993		1,354.6259	1,354.6259	0.0926		1,356.9401
Worker	0.5987	0.3281	4.6036	0.0139	1.5090	8.6600e-003	1.5176	0.4002	7.9700e-003	0.4082		1,384.8922	1,384.8922	0.0308		1,385.6618
Total	**0.7075**	**4.6935**	**5.3715**	**0.0267**	**1.8291**	**0.0161**	**1.8452**	**0.4924**	**0.0151**	**0.5074**		**2,739.5180**	**2,739.5180**	**0.1234**		**2,742.6019**

3.4 Building Construction - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.5728	14.3849	16.2440	0.0269		0.6997	0.6997		0.6584	0.6584		2,555.2099	2,555.2099	0.6079		2,570.4061
Total	**1.5728**	**14.3849**	**16.2440**	**0.0269**		**0.6997**	**0.6997**		**0.6584**	**0.6584**		**2,555.2099**	**2,555.2099**	**0.6079**		**2,570.4061**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0835	3.2826	0.6768	0.0125	0.3201	3.3000e-003	0.3234	0.0922	3.1600e-003	0.0953		1,318.5977	1,318.5977	0.0710		1,320.3735
Worker	0.5613	0.2959	4.2486	0.0134	1.5090	8.4500e-003	1.5174	0.4002	7.7800e-003	0.4080		1,332.2626	1,332.2626	0.0276		1,332.9535
Total	**0.6448**	**3.5785**	**4.9254**	**0.0259**	**1.8291**	**0.0118**	**1.8409**	**0.4924**	**0.0109**	**0.5033**		**2,650.8604**	**2,650.8604**	**0.0987**		**2,653.3270**

3.4 Building Construction - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.5728	14.3849	16.2440	0.0269		0.6997	0.6997		0.6584	0.6584	0.0000	2,555.2099	2,555.2099	0.6079		2,570.4061
Total	**1.5728**	**14.3849**	**16.2440**	**0.0269**		**0.6997**	**0.6997**		**0.6584**	**0.6584**	**0.0000**	**2,555.2099**	**2,555.2099**	**0.6079**		**2,570.4061**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0835	3.2826	0.6768	0.0125	0.3201	3.3000e-003	0.3234	0.0922	3.1600e-003	0.0953		1,318.5977	1,318.5977	0.0710		1,320.3735
Worker	0.5613	0.2959	4.2486	0.0134	1.5090	8.4500e-003	1.5174	0.4002	7.7800e-003	0.4080		1,332.2626	1,332.2626	0.0276		1,332.9535
Total	**0.6448**	**3.5785**	**4.9254**	**0.0259**	**1.8291**	**0.0118**	**1.8409**	**0.4924**	**0.0109**	**0.5033**		**2,650.8604**	**2,650.8604**	**0.0987**		**2,653.3270**

3.5 Paving 1 - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.2556	12.9191	14.6532	0.0228		0.6777	0.6777		0.6235	0.6235		2,207.2109	2,207.2109	0.7139		2,225.0573
Paving	0.7310					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.9865**	**12.9191**	**14.6532**	**0.0228**		**0.6777**	**0.6777**		**0.6235**	**0.6235**		**2,207.2109**	**2,207.2109**	**0.7139**		**2,225.0573**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0711	0.0405	0.5546	1.6000e-003	0.1677	9.9000e-004	0.1687	0.0445	9.1000e-004	0.0454		159.7126	159.7126	3.8100e-003		159.8078
Total	**0.0711**	**0.0405**	**0.5546**	**1.6000e-003**	**0.1677**	**9.9000e-004**	**0.1687**	**0.0445**	**9.1000e-004**	**0.0454**		**159.7126**	**159.7126**	**3.8100e-003**		**159.8078**

3.5 Paving 1 - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.2556	12.9191	14.6532	0.0228		0.6777	0.6777		0.6235	0.6235	0.0000	2,207.2109	2,207.2109	0.7139		2,225.0573
Paving	0.7310					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.9865**	**12.9191**	**14.6532**	**0.0228**		**0.6777**	**0.6777**		**0.6235**	**0.6235**	**0.0000**	**2,207.2109**	**2,207.2109**	**0.7139**		**2,225.0573**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0711	0.0405	0.5546	1.6000e-003	0.1677	9.9000e-004	0.1687	0.0445	9.1000e-004	0.0454		159.7126	159.7126	3.8100e-003		159.8078
Total	**0.0711**	**0.0405**	**0.5546**	**1.6000e-003**	**0.1677**	**9.9000e-004**	**0.1687**	**0.0445**	**9.1000e-004**	**0.0454**		**159.7126**	**159.7126**	**3.8100e-003**		**159.8078**

3.6 Architectural Coating 1 - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	60.1952					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2045	1.4085	1.8136	2.9700e-003		0.0817	0.0817		0.0817	0.0817		281.4481	281.4481	0.0183		281.9062
Total	**60.3998**	**1.4085**	**1.8136**	**2.9700e-003**		**0.0817**	**0.0817**		**0.0817**	**0.0817**		**281.4481**	**281.4481**	**0.0183**		**281.9062**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1197	0.0656	0.9207	2.7800e-003	0.3018	1.7300e-003	0.3035	0.0800	1.5900e-003	0.0816		276.9784	276.9784	6.1600e-003		277.1324
Total	**0.1197**	**0.0656**	**0.9207**	**2.7800e-003**	**0.3018**	**1.7300e-003**	**0.3035**	**0.0800**	**1.5900e-003**	**0.0816**		**276.9784**	**276.9784**	**6.1600e-003**		**277.1324**

3.6 Architectural Coating 1 - 2022

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	60.1952					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2045	1.4085	1.8136	2.9700e-003		0.0817	0.0817		0.0817	0.0817	0.0000	281.4481	281.4481	0.0183		281.9062
Total	**60.3998**	**1.4085**	**1.8136**	**2.9700e-003**		**0.0817**	**0.0817**		**0.0817**	**0.0817**	**0.0000**	**281.4481**	**281.4481**	**0.0183**		**281.9062**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1197	0.0656	0.9207	2.7800e-003	0.3018	1.7300e-003	0.3035	0.0800	1.5900e-003	0.0816		276.9784	276.9784	6.1600e-003		277.1324
Total	**0.1197**	**0.0656**	**0.9207**	**2.7800e-003**	**0.3018**	**1.7300e-003**	**0.3035**	**0.0800**	**1.5900e-003**	**0.0816**		**276.9784**	**276.9784**	**6.1600e-003**		**277.1324**

3.7 Archtectural Coating 2 - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	60.1952					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2045	1.4085	1.8136	2.9700e-003		0.0817	0.0817		0.0817	0.0817		281.4481	281.4481	0.0183		281.9062
Total	**60.3998**	**1.4085**	**1.8136**	**2.9700e-003**		**0.0817**	**0.0817**		**0.0817**	**0.0817**		**281.4481**	**281.4481**	**0.0183**		**281.9062**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1197	0.0656	0.9207	2.7800e-003	0.3018	1.7300e-003	0.3035	0.0800	1.5900e-003	0.0816		276.9784	276.9784	6.1600e-003		277.1324
Total	**0.1197**	**0.0656**	**0.9207**	**2.7800e-003**	**0.3018**	**1.7300e-003**	**0.3035**	**0.0800**	**1.5900e-003**	**0.0816**		**276.9784**	**276.9784**	**6.1600e-003**		**277.1324**

3.7 Archtectural Coating 2 - 2022

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	60.1952					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2045	1.4085	1.8136	2.9700e-003		0.0817	0.0817		0.0817	0.0817	0.0000	281.4481	281.4481	0.0183		281.9062
Total	**60.3998**	**1.4085**	**1.8136**	**2.9700e-003**		**0.0817**	**0.0817**		**0.0817**	**0.0817**	**0.0000**	**281.4481**	**281.4481**	**0.0183**		**281.9062**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1197	0.0656	0.9207	2.7800e-003	0.3018	1.7300e-003	0.3035	0.0800	1.5900e-003	0.0816		276.9784	276.9784	6.1600e-003		277.1324
Total	**0.1197**	**0.0656**	**0.9207**	**2.7800e-003**	**0.3018**	**1.7300e-003**	**0.3035**	**0.0800**	**1.5900e-003**	**0.0816**		**276.9784**	**276.9784**	**6.1600e-003**		**277.1324**

3.8 Archtectural Coating 3 - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	60.1952					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2045	1.4085	1.8136	2.9700e-003		0.0817	0.0817		0.0817	0.0817		281.4481	281.4481	0.0183		281.9062
Total	**60.3998**	**1.4085**	**1.8136**	**2.9700e-003**		**0.0817**	**0.0817**		**0.0817**	**0.0817**		**281.4481**	**281.4481**	**0.0183**		**281.9062**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1197	0.0656	0.9207	2.7800e-003	0.3018	1.7300e-003	0.3035	0.0800	1.5900e-003	0.0816		276.9784	276.9784	6.1600e-003		277.1324
Total	**0.1197**	**0.0656**	**0.9207**	**2.7800e-003**	**0.3018**	**1.7300e-003**	**0.3035**	**0.0800**	**1.5900e-003**	**0.0816**		**276.9784**	**276.9784**	**6.1600e-003**		**277.1324**

3.8 Archtectural Coating 3 - 2022

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	60.1952					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2045	1.4085	1.8136	2.9700e-003		0.0817	0.0817		0.0817	0.0817	0.0000	281.4481	281.4481	0.0183		281.9062
Total	**60.3998**	**1.4085**	**1.8136**	**2.9700e-003**		**0.0817**	**0.0817**		**0.0817**	**0.0817**	**0.0000**	**281.4481**	**281.4481**	**0.0183**		**281.9062**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1197	0.0656	0.9207	2.7800e-003	0.3018	1.7300e-003	0.3035	0.0800	1.5900e-003	0.0816		276.9784	276.9784	6.1600e-003		277.1324
Total	**0.1197**	**0.0656**	**0.9207**	**2.7800e-003**	**0.3018**	**1.7300e-003**	**0.3035**	**0.0800**	**1.5900e-003**	**0.0816**		**276.9784**	**276.9784**	**6.1600e-003**		**277.1324**

3.9 Paving 2 - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.0327	10.1917	14.5842	0.0228		0.5102	0.5102		0.4694	0.4694		2,207.5841	2,207.5841	0.7140		2,225.4336
Paving	0.7310					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.7637**	**10.1917**	**14.5842**	**0.0228**		**0.5102**	**0.5102**		**0.4694**	**0.4694**		**2,207.5841**	**2,207.5841**	**0.7140**		**2,225.4336**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0624	0.0329	0.4721	1.4900e-003	0.1677	9.4000e-004	0.1686	0.0445	8.6000e-004	0.0453		148.0292	148.0292	3.0700e-003		148.1059
Total	**0.0624**	**0.0329**	**0.4721**	**1.4900e-003**	**0.1677**	**9.4000e-004**	**0.1686**	**0.0445**	**8.6000e-004**	**0.0453**		**148.0292**	**148.0292**	**3.0700e-003**		**148.1059**

3.9 Paving 2 - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.0327	10.1917	14.5842	0.0228		0.5102	0.5102		0.4694	0.4694	0.0000	2,207.5841	2,207.5841	0.7140		2,225.4336
Paving	0.7310					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.7637**	**10.1917**	**14.5842**	**0.0228**		**0.5102**	**0.5102**		**0.4694**	**0.4694**	**0.0000**	**2,207.5841**	**2,207.5841**	**0.7140**		**2,225.4336**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0624	0.0329	0.4721	1.4900e-003	0.1677	9.4000e-004	0.1686	0.0445	8.6000e-004	0.0453		148.0292	148.0292	3.0700e-003		148.1059
Total	**0.0624**	**0.0329**	**0.4721**	**1.4900e-003**	**0.1677**	**9.4000e-004**	**0.1686**	**0.0445**	**8.6000e-004**	**0.0453**		**148.0292**	**148.0292**	**3.0700e-003**		**148.1059**

3.10 Archtectural Coating 4 - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	60.1952					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1917	1.3030	1.8111	2.9700e-003		0.0708	0.0708		0.0708	0.0708		281.4481	281.4481	0.0168		281.8690
Total	**60.3869**	**1.3030**	**1.8111**	**2.9700e-003**		**0.0708**	**0.0708**		**0.0708**	**0.0708**		**281.4481**	**281.4481**	**0.0168**		**281.8690**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1123	0.0592	0.8497	2.6700e-003	0.3018	1.6900e-003	0.3035	0.0800	1.5600e-003	0.0816		266.4525	266.4525	5.5300e-003		266.5907
Total	**0.1123**	**0.0592**	**0.8497**	**2.6700e-003**	**0.3018**	**1.6900e-003**	**0.3035**	**0.0800**	**1.5600e-003**	**0.0816**		**266.4525**	**266.4525**	**5.5300e-003**		**266.5907**

3.10 Archtectural Coating 4 - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	60.1952					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1917	1.3030	1.8111	2.9700e-003		0.0708	0.0708		0.0708	0.0708	0.0000	281.4481	281.4481	0.0168		281.8690
Total	**60.3869**	**1.3030**	**1.8111**	**2.9700e-003**		**0.0708**	**0.0708**		**0.0708**	**0.0708**	**0.0000**	**281.4481**	**281.4481**	**0.0168**		**281.8690**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1123	0.0592	0.8497	2.6700e-003	0.3018	1.6900e-003	0.3035	0.0800	1.5600e-003	0.0816		266.4525	266.4525	5.5300e-003		266.5907
Total	**0.1123**	**0.0592**	**0.8497**	**2.6700e-003**	**0.3018**	**1.6900e-003**	**0.3035**	**0.0800**	**1.5600e-003**	**0.0816**		**266.4525**	**266.4525**	**5.5300e-003**		**266.5907**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	1.3646	8.1381	16.6881	0.0757	5.8491	0.0406	5.8897	1.5648	0.0379	1.6026		7,730.9814	7,730.9814	0.3132		7,738.8121
Unmitigated	1.3646	8.1381	16.6881	0.0757	5.8491	0.0406	5.8897	1.5648	0.0379	1.6026		7,730.9814	7,730.9814	0.3132		7,738.8121

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
City Park	0.00	0.00	0.00		
Other Asphalt Surfaces	0.00	0.00	0.00		
Single Family Housing	762.21	802.71	698.22	2,593,120	2,593,120
Total	762.21	802.71	698.22	2,593,120	2,593,120

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
City Park	16.60	8.40	6.90	33.00	48.00	19.00	66	28	6
Other Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Single Family Housing	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
City Park	0.548600	0.036250	0.186898	0.112544	0.014284	0.004806	0.017604	0.070134	0.001409	0.001147	0.004508	0.000918	0.000898
Other Asphalt Surfaces	0.548600	0.036250	0.186898	0.112544	0.014284	0.004806	0.017604	0.070134	0.001409	0.001147	0.004508	0.000918	0.000898
Single Family Housing	0.548600	0.036250	0.186898	0.112544	0.014284	0.004806	0.017604	0.070134	0.001409	0.001147	0.004508	0.000918	0.000898

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0732	0.6257	0.2663	3.9900e-003		0.0506	0.0506		0.0506	0.0506		798.8036	798.8036	0.0153	0.0146	803.5505
NaturalGas Unmitigated	0.0732	0.6257	0.2663	3.9900e-003		0.0506	0.0506		0.0506	0.0506		798.8036	798.8036	0.0153	0.0146	803.5505

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Single Family Housing	6789.83	0.0732	0.6257	0.2663	3.9900e-003		0.0506	0.0506		0.0506	0.0506		798.8036	798.8036	0.0153	0.0146	803.5505
Total		**0.0732**	**0.6257**	**0.2663**	**3.9900e-003**		**0.0506**	**0.0506**		**0.0506**	**0.0506**		**798.8036**	**798.8036**	**0.0153**	**0.0146**	**803.5505**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Single Family Housing	6.78983	0.0732	0.6257	0.2663	3.9900e-003		0.0506	0.0506		0.0506	0.0506		798.8036	798.8036	0.0153	0.0146	803.5505
Total		**0.0732**	**0.6257**	**0.2663**	**3.9900e-003**		**0.0506**	**0.0506**		**0.0506**	**0.0506**		**798.8036**	**798.8036**	**0.0153**	**0.0146**	**803.5505**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	4.2837	0.0771	6.6847	3.5000e-004		0.0370	0.0370		0.0370	0.0370	0.0000	12.0340	12.0340	0.0116	0.0000	12.3234
Unmitigated	4.2837	0.0771	6.6847	3.5000e-004		0.0370	0.0370		0.0370	0.0370	0.0000	12.0340	12.0340	0.0116	0.0000	12.3234

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.3298					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	3.7524					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.2014	0.0771	6.6847	3.5000e-004		0.0370	0.0370		0.0370	0.0370		12.0340	12.0340	0.0116		12.3234
Total	**4.2837**	**0.0771**	**6.6847**	**3.5000e-004**		**0.0370**	**0.0370**		**0.0370**	**0.0370**	**0.0000**	**12.0340**	**12.0340**	**0.0116**	**0.0000**	**12.3234**

6.2 Area by SubCategory

Mitigated

SubCategory	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	lb/day										lb/day					
Architectural Coating	0.3298					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	3.7524					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.2014	0.0771	6.6847	3.5000e-004		0.0370	0.0370		0.0370	0.0370		12.0340	12.0340	0.0116		12.3234
Total	**4.2837**	**0.0771**	**6.6847**	**3.5000e-004**		**0.0370**	**0.0370**		**0.0370**	**0.0370**	**0.0000**	**12.0340**	**12.0340**	**0.0116**	**0.0000**	**12.3234**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Iris Residential Project - Moreno Valley, CA

Riverside-South Coast County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Asphalt Surfaces	2.79	Acre	2.79	121,532.40	0
City Park	3.02	Acre	3.02	131,551.20	0
Single Family Housing	81.00	Dwelling Unit	5.02	187,000.00	232

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.4	**Precipitation Freq (Days)**	28
Climate Zone	10			**Operational Year**	2023
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	534	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - SCE CO2 Intensity Factor 2020 to 2029

Land Use - Residential = 81 SFU
Internal Roadways = 2.79 acres
Park area = 3.02 acres

Construction Phase - Construction schedult provided by client

Off-road Equipment -

Off-road Equipment -

Off-road Equipment -

Off-road Equipment -

Off-road Equipment - .....

Off-road Equipment - Use of larger equipment

Off-road Equipment - ..

Off-road Equipment - ..

Off-road Equipment - Use of Larger equipment

Grading - Soil export of 6,042 cy

Architectural Coating -

Vehicle Trips - Weekday trip generation from the project trip memorandum - EPDS
Weekend trip rates from CalEEMod default values

Woodstoves - Assumes no fireplaces in residential units

Construction Off-road Equipment Mitigation - Applied ffffigitive dust reductions as required under SCAQMD Rule 493

Fleet Mix - SFU fleet mix is the default CalEEMod fleet mix for Riversode County in 2023

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadMoistureContent	0	12
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	NumDays	300.00	520.00
tblConstructionPhase	NumDays	20.00	10.00
tblConstructionPhase	NumDays	20.00	10.00
tblFireplaces	FireplaceDayYear	25.00	0.00

tblFireplaces	FireplaceHourDay	3.00	0.00
tblFireplaces	FireplaceWoodMass	1,019.20	0.00
tblFireplaces	NumberGas	68.85	0.00
tblFireplaces	NumberNoFireplace	8.10	0.00
tblFireplaces	NumberWood	4.05	0.00
tblGrading	AcresOfGrading	105.00	75.00
tblGrading	AcresOfGrading	20.00	0.00
tblGrading	MaterialExported	0.00	6,042.00
tblLandUse	LandUseSquareFeet	145,800.00	187,000.00
tblLandUse	LotAcreage	26.30	5.02
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	0.00
tblProjectCharacteristics	CO2IntensityFactor	702.44	534
tblVehicleTrips	ST_TR	22.75	0.00
tblVehicleTrips	SU_TR	16.74	0.00
tblVehicleTrips	WD_TR	1.89	0.00
tblVehicleTrips	WD_TR	9.52	9.41
tblWoodstoves	NumberCatalytic	4.05	0.00
tblWoodstoves	NumberNoncatalytic	4.05	0.00
tblWoodstoves	WoodstoveDayYear	25.00	0.00
tblWoodstoves	WoodstoveWoodMass	999.60	0.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2021	5.4265	62.1074	36.6814	0.0919	18.2675	2.6472	20.9146	9.9840	2.4354	12.4195	0.0000	9,078.1237	9,078.1237	2.3722	0.0000	9,137.4297
2022	62.9288	21.7529	23.5411	0.0572	2.1309	0.9088	3.0397	0.5724	0.8597	1.4322	0.0000	5,630.1163	5,630.1163	0.7657	0.0000	5,649.2582
2023	60.4977	17.9286	20.4449	0.0510	1.8291	0.7116	2.5407	0.4924	0.6695	1.1618	0.0000	5,020.0294	5,020.0294	0.7167	0.0000	5,037.7961
Maximum	**62.9288**	**62.1074**	**36.6814**	**0.0919**	**18.2675**	**2.6472**	**20.9146**	**9.9840**	**2.4354**	**12.4195**	**0.0000**	**9,078.1237**	**9,078.1237**	**2.3722**	**0.0000**	**9,137.4297**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2021	5.4265	62.1074	36.6814	0.0919	7.2470	2.6472	9.8942	3.9263	2.4354	6.3617	0.0000	9,078.1236	9,078.1236	2.3722	0.0000	9,137.4297
2022	62.9288	21.7529	23.5411	0.0572	2.1309	0.9088	3.0397	0.5724	0.8597	1.4322	0.0000	5,630.1163	5,630.1163	0.7657	0.0000	5,649.2582
2023	60.4977	17.9286	20.4449	0.0510	1.8291	0.7116	2.5407	0.4924	0.6695	1.1618	0.0000	5,020.0294	5,020.0294	0.7167	0.0000	5,037.7960
Maximum	**62.9288**	**62.1074**	**36.6814**	**0.0919**	**7.2470**	**2.6472**	**9.8942**	**3.9263**	**2.4354**	**6.3617**	**0.0000**	**9,078.1236**	**9,078.1236**	**2.3722**	**0.0000**	**9,137.4297**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	49.58	0.00	41.59	54.83	0.00	40.35	0.00	0.00	0.00	0.00	0.00	0.00

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	4.2837	0.0771	6.6847	3.5000e-004		0.0370	0.0370		0.0370	0.0370	0.0000	12.0340	12.0340	0.0116	0.0000	12.3234
Energy	0.0732	0.6257	0.2663	3.9900e-003		0.0506	0.0506		0.0506	0.0506		798.8036	798.8036	0.0153	0.0146	803.5505
Mobile	1.1471	8.1137	14.3367	0.0699	5.8491	0.0409	5.8900	1.5648	0.0381	1.6029		7,146.1542	7,146.1542	0.3201		7,154.1569
Total	**5.5040**	**8.8165**	**21.2877**	**0.0742**	**5.8491**	**0.1285**	**5.9775**	**1.5648**	**0.1257**	**1.6905**	**0.0000**	**7,956.9918**	**7,956.9918**	**0.3470**	**0.0146**	**7,970.0307**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	4.2837	0.0771	6.6847	3.5000e-004		0.0370	0.0370		0.0370	0.0370	0.0000	12.0340	12.0340	0.0116	0.0000	12.3234
Energy	0.0732	0.6257	0.2663	3.9900e-003		0.0506	0.0506		0.0506	0.0506		798.8036	798.8036	0.0153	0.0146	803.5505
Mobile	1.1471	8.1137	14.3367	0.0699	5.8491	0.0409	5.8900	1.5648	0.0381	1.6029		7,146.1542	7,146.1542	0.3201		7,154.1569
Total	**5.5040**	**8.8165**	**21.2877**	**0.0742**	**5.8491**	**0.1285**	**5.9775**	**1.5648**	**0.1257**	**1.6905**	**0.0000**	**7,956.9918**	**7,956.9918**	**0.3470**	**0.0146**	**7,970.0307**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	1/4/2021	1/15/2021	5	10	
2	Grading	Grading	1/16/2021	2/26/2021	5	30	
3	Building Construction	Building Construction	2/27/2021	2/24/2023	5	520	
4	Paving 1	Paving	2/27/2021	3/12/2021	5	10	
5	Architectural Coating 1	Architectural Coating	2/1/2022	2/28/2022	5	20	
6	Archtectural Coating 2	Architectural Coating	7/17/2022	8/12/2022	5	20	
7	Archtectural Coating 3	Architectural Coating	10/1/2022	10/28/2022	5	20	
8	Paving 2	Paving	2/25/2023	3/10/2023	5	10	
9	Archtectural Coating 4	Architectural Coating	3/11/2023	4/7/2023	5	20	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 75

Acres of Paving: 2.79

Residential Indoor: 378,675; Residential Outdoor: 126,225; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 7,292 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Crawler Tractors	4	8.00	212	0.43
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Grading	Crawler Tractors	2	8.00	212	0.43
Grading	Excavators	2	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving 1	Pavers	2	8.00	130	0.42
Paving 1	Paving Equipment	2	8.00	132	0.36
Paving 1	Rollers	2	8.00	80	0.38
Architectural Coating 1	Air Compressors	1	6.00	78	0.48
Archtectural Coating 2	Air Compressors	1	6.00	78	0.48
Archtectural Coating 3	Air Compressors	1	6.00	78	0.48
Paving 2	Pavers	2	8.00	130	0.42
Paving 2	Paving Equipment	2	8.00	132	0.36
Paving 2	Rollers	2	8.00	80	0.38
Archtectural Coating 4	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	7	18.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	755.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	135.00	50.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving 1	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating 1	1	27.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Archtectural Coating 2	1	27.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Archtectural Coating 3	1	27.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving 2	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Archtectural Coating 4	1	27.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Water Unpaved Roads

Reduce Vehicle Speed on Unpaved Roads

3.2 Site Preparation - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	5.3428	60.7861	21.8537	0.0570		2.6460	2.6460		2.4343	2.4343		5,523.5047	5,523.5047	1.7864		5,568.1651
Total	**5.3428**	**60.7861**	**21.8537**	**0.0570**	**18.0663**	**2.6460**	**20.7123**	**9.9307**	**2.4343**	**12.3650**		**5,523.5047**	**5,523.5047**	**1.7864**		**5,568.1651**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0838	0.0503	0.5372	1.7200e-003	0.2012	1.1900e-003	0.2024	0.0534	1.0900e-003	0.0545		171.9348	171.9348	3.9700e-003		172.0342
Total	**0.0838**	**0.0503**	**0.5372**	**1.7200e-003**	**0.2012**	**1.1900e-003**	**0.2024**	**0.0534**	**1.0900e-003**	**0.0545**		**171.9348**	**171.9348**	**3.9700e-003**		**172.0342**

3.2 Site Preparation - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					7.0458	0.0000	7.0458	3.8730	0.0000	3.8730			0.0000			0.0000
Off-Road	5.3428	60.7861	21.8537	0.0570		2.6460	2.6460		2.4343	2.4343	0.0000	5,523.5047	5,523.5047	1.7864		5,568.1651
Total	**5.3428**	**60.7861**	**21.8537**	**0.0570**	**7.0458**	**2.6460**	**9.6918**	**3.8730**	**2.4343**	**6.3073**	**0.0000**	**5,523.5047**	**5,523.5047**	**1.7864**		**5,568.1651**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0838	0.0503	0.5372	1.7200e-003	0.2012	1.1900e-003	0.2024	0.0534	1.0900e-003	0.0545		171.9348	171.9348	3.9700e-003		172.0342
Total	**0.0838**	**0.0503**	**0.5372**	**1.7200e-003**	**0.2012**	**1.1900e-003**	**0.2024**	**0.0534**	**1.0900e-003**	**0.0545**		**171.9348**	**171.9348**	**3.9700e-003**		**172.0342**

3.3 Grading - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.6988	0.0000	8.6988	3.6004	0.0000	3.6004			0.0000			0.0000
Off-Road	4.9185	56.5443	31.2281	0.0715		2.2861	2.2861		2.1032	2.1032		6,925.9674	6,925.9674	2.2400		6,981.9673
Total	**4.9185**	**56.5443**	**31.2281**	**0.0715**	**8.6988**	**2.2861**	**10.9849**	**3.6004**	**2.1032**	**5.7036**		**6,925.9674**	**6,925.9674**	**2.2400**		**6,981.9673**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.1289	5.5072	0.8391	0.0185	0.4402	0.0169	0.4571	0.1207	0.0162	0.1368		1,961.1176	1,961.1176	0.1278		1,964.3133
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0931	0.0559	0.5969	1.9200e-003	0.2236	1.3200e-003	0.2249	0.0593	1.2100e-003	0.0605		191.0387	191.0387	4.4100e-003		191.1491
Total	**0.2220**	**5.5631**	**1.4360**	**0.0204**	**0.6638**	**0.0182**	**0.6820**	**0.1800**	**0.0174**	**0.1973**		**2,152.1563**	**2,152.1563**	**0.1322**		**2,155.4624**

3.3 Grading - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					3.3926	0.0000	3.3926	1.4041	0.0000	1.4041			0.0000			0.0000
Off-Road	4.9185	56.5443	31.2281	0.0715		2.2861	2.2861		2.1032	2.1032	0.0000	6,925.9674	6,925.9674	2.2400		6,981.9673
Total	**4.9185**	**56.5443**	**31.2281**	**0.0715**	**3.3926**	**2.2861**	**5.6787**	**1.4041**	**2.1032**	**3.5074**	**0.0000**	**6,925.9674**	**6,925.9674**	**2.2400**		**6,981.9673**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.1289	5.5072	0.8391	0.0185	0.4402	0.0169	0.4571	0.1207	0.0162	0.1368		1,961.1176	1,961.1176	0.1278		1,964.3133
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0931	0.0559	0.5969	1.9200e-003	0.2236	1.3200e-003	0.2249	0.0593	1.2100e-003	0.0605		191.0387	191.0387	4.4100e-003		191.1491
Total	**0.2220**	**5.5631**	**1.4360**	**0.0204**	**0.6638**	**0.0182**	**0.6820**	**0.1800**	**0.0174**	**0.1973**		**2,152.1563**	**2,152.1563**	**0.1322**		**2,155.4624**

3.4 Building Construction - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.9009	17.4321	16.5752	0.0269		0.9586	0.9586		0.9013	0.9013		2,553.3639	2,553.3639	0.6160		2,568.7643
Total	**1.9009**	**17.4321**	**16.5752**	**0.0269**		**0.9586**	**0.9586**		**0.9013**	**0.9013**		**2,553.3639**	**2,553.3639**	**0.6160**		**2,568.7643**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.1240	4.5871	0.9766	0.0125	0.3202	9.0700e-003	0.3292	0.0922	8.6700e-003	0.1009		1,314.8661	1,314.8661	0.1089		1,317.5888
Worker	0.6281	0.3771	4.0288	0.0129	1.5090	8.8900e-003	1.5179	0.4002	8.1900e-003	0.4084		1,289.5113	1,289.5113	0.0298		1,290.2562
Total	**0.7521**	**4.9642**	**5.0054**	**0.0254**	**1.8292**	**0.0180**	**1.8471**	**0.4924**	**0.0169**	**0.5092**		**2,604.3774**	**2,604.3774**	**0.1387**		**2,607.8451**

3.4 Building Construction - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.9009	17.4321	16.5752	0.0269		0.9586	0.9586		0.9013	0.9013	0.0000	2,553.3639	2,553.3639	0.6160		2,568.7643
Total	**1.9009**	**17.4321**	**16.5752**	**0.0269**		**0.9586**	**0.9586**		**0.9013**	**0.9013**	**0.0000**	**2,553.3639**	**2,553.3639**	**0.6160**		**2,568.7643**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.1240	4.5871	0.9766	0.0125	0.3202	9.0700e-003	0.3292	0.0922	8.6700e-003	0.1009		1,314.8661	1,314.8661	0.1089		1,317.5888
Worker	0.6281	0.3771	4.0288	0.0129	1.5090	8.8900e-003	1.5179	0.4002	8.1900e-003	0.4084		1,289.5113	1,289.5113	0.0298		1,290.2562
Total	**0.7521**	**4.9642**	**5.0054**	**0.0254**	**1.8292**	**0.0180**	**1.8471**	**0.4924**	**0.0169**	**0.5092**		**2,604.3774**	**2,604.3774**	**0.1387**		**2,607.8451**

3.4 Building Construction - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.7062	15.6156	16.3634	0.0269		0.8090	0.8090		0.7612	0.7612		2,554.3336	2,554.3336	0.6120		2,569.6322
Total	**1.7062**	**15.6156**	**16.3634**	**0.0269**		**0.8090**	**0.8090**		**0.7612**	**0.7612**		**2,554.3336**	**2,554.3336**	**0.6120**		**2,569.6322**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.1158	4.3217	0.9116	0.0124	0.3202	7.6400e-003	0.3278	0.0922	7.3000e-003	0.0995		1,303.3857	1,303.3857	0.1033		1,305.9669
Worker	0.5892	0.3392	3.7104	0.0125	1.5090	8.6600e-003	1.5176	0.4002	7.9700e-003	0.4082		1,242.4575	1,242.4575	0.0268		1,243.1274
Total	**0.7050**	**4.6609**	**4.6220**	**0.0248**	**1.8291**	**0.0163**	**1.8454**	**0.4924**	**0.0153**	**0.5076**		**2,545.8432**	**2,545.8432**	**0.1301**		**2,549.0943**

3.4 Building Construction - 2022

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.7062	15.6156	16.3634	0.0269		0.8090	0.8090		0.7612	0.7612	0.0000	2,554.3336	2,554.3336	0.6120		2,569.6322
Total	**1.7062**	**15.6156**	**16.3634**	**0.0269**		**0.8090**	**0.8090**		**0.7612**	**0.7612**	**0.0000**	**2,554.3336**	**2,554.3336**	**0.6120**		**2,569.6322**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.1158	4.3217	0.9116	0.0124	0.3202	7.6400e-003	0.3278	0.0922	7.3000e-003	0.0995		1,303.3857	1,303.3857	0.1033		1,305.9669
Worker	0.5892	0.3392	3.7104	0.0125	1.5090	8.6600e-003	1.5176	0.4002	7.9700e-003	0.4082		1,242.4575	1,242.4575	0.0268		1,243.1274
Total	**0.7050**	**4.6609**	**4.6220**	**0.0248**	**1.8291**	**0.0163**	**1.8454**	**0.4924**	**0.0153**	**0.5076**		**2,545.8432**	**2,545.8432**	**0.1301**		**2,549.0943**

3.4 Building Construction - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.5728	14.3849	16.2440	0.0269		0.6997	0.6997		0.6584	0.6584		2,555.2099	2,555.2099	0.6079		2,570.4061
Total	**1.5728**	**14.3849**	**16.2440**	**0.0269**		**0.6997**	**0.6997**		**0.6584**	**0.6584**		**2,555.2099**	**2,555.2099**	**0.6079**		**2,570.4061**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0884	3.2380	0.7816	0.0120	0.3201	3.4100e-003	0.3236	0.0922	3.2600e-003	0.0954		1,269.5132	1,269.5132	0.0787		1,271.4816
Worker	0.5542	0.3058	3.4193	0.0120	1.5090	8.4500e-003	1.5174	0.4002	7.7800e-003	0.4080		1,195.3063	1,195.3063	0.0241		1,195.9084
Total	**0.6427**	**3.5438**	**4.2009**	**0.0240**	**1.8291**	**0.0119**	**1.8410**	**0.4924**	**0.0110**	**0.5034**		**2,464.8195**	**2,464.8195**	**0.1028**		**2,467.3900**

3.4 Building Construction - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.5728	14.3849	16.2440	0.0269		0.6997	0.6997		0.6584	0.6584	0.0000	2,555.2099	2,555.2099	0.6079		2,570.4061
Total	**1.5728**	**14.3849**	**16.2440**	**0.0269**		**0.6997**	**0.6997**		**0.6584**	**0.6584**	**0.0000**	**2,555.2099**	**2,555.2099**	**0.6079**		**2,570.4061**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0884	3.2380	0.7816	0.0120	0.3201	3.4100e-003	0.3236	0.0922	3.2600e-003	0.0954		1,269.5132	1,269.5132	0.0787		1,271.4816
Worker	0.5542	0.3058	3.4193	0.0120	1.5090	8.4500e-003	1.5174	0.4002	7.7800e-003	0.4080		1,195.3063	1,195.3063	0.0241		1,195.9084
Total	**0.6427**	**3.5438**	**4.2009**	**0.0240**	**1.8291**	**0.0119**	**1.8410**	**0.4924**	**0.0110**	**0.5034**		**2,464.8195**	**2,464.8195**	**0.1028**		**2,467.3900**

3.5 Paving 1 - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.2556	12.9191	14.6532	0.0228		0.6777	0.6777		0.6235	0.6235		2,207.2109	2,207.2109	0.7139		2,225.0573
Paving	0.7310					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.9865**	**12.9191**	**14.6532**	**0.0228**		**0.6777**	**0.6777**		**0.6235**	**0.6235**		**2,207.2109**	**2,207.2109**	**0.7139**		**2,225.0573**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0698	0.0419	0.4476	1.4400e-003	0.1677	9.9000e-004	0.1687	0.0445	9.1000e-004	0.0454		143.2790	143.2790	3.3100e-003		143.3618
Total	**0.0698**	**0.0419**	**0.4476**	**1.4400e-003**	**0.1677**	**9.9000e-004**	**0.1687**	**0.0445**	**9.1000e-004**	**0.0454**		**143.2790**	**143.2790**	**3.3100e-003**		**143.3618**

3.5 Paving 1 - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.2556	12.9191	14.6532	0.0228		0.6777	0.6777		0.6235	0.6235	0.0000	2,207.2109	2,207.2109	0.7139		2,225.0573
Paving	0.7310					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.9865**	**12.9191**	**14.6532**	**0.0228**		**0.6777**	**0.6777**		**0.6235**	**0.6235**	**0.0000**	**2,207.2109**	**2,207.2109**	**0.7139**		**2,225.0573**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0698	0.0419	0.4476	1.4400e-003	0.1677	9.9000e-004	0.1687	0.0445	9.1000e-004	0.0454		143.2790	143.2790	3.3100e-003		143.3618
Total	**0.0698**	**0.0419**	**0.4476**	**1.4400e-003**	**0.1677**	**9.9000e-004**	**0.1687**	**0.0445**	**9.1000e-004**	**0.0454**		**143.2790**	**143.2790**	**3.3100e-003**		**143.3618**

3.6 Architectural Coating 1 - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	60.1952					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2045	1.4085	1.8136	2.9700e-003		0.0817	0.0817		0.0817	0.0817		281.4481	281.4481	0.0183		281.9062
Total	**60.3998**	**1.4085**	**1.8136**	**2.9700e-003**		**0.0817**	**0.0817**		**0.0817**	**0.0817**		**281.4481**	**281.4481**	**0.0183**		**281.9062**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1179	0.0678	0.7421	2.4900e-003	0.3018	1.7300e-003	0.3035	0.0800	1.5900e-003	0.0816		248.4915	248.4915	5.3600e-003		248.6255
Total	**0.1179**	**0.0678**	**0.7421**	**2.4900e-003**	**0.3018**	**1.7300e-003**	**0.3035**	**0.0800**	**1.5900e-003**	**0.0816**		**248.4915**	**248.4915**	**5.3600e-003**		**248.6255**

3.6 Architectural Coating 1 - 2022

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	60.1952					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2045	1.4085	1.8136	2.9700e-003		0.0817	0.0817		0.0817	0.0817	0.0000	281.4481	281.4481	0.0183		281.9062
Total	**60.3998**	**1.4085**	**1.8136**	**2.9700e-003**		**0.0817**	**0.0817**		**0.0817**	**0.0817**	**0.0000**	**281.4481**	**281.4481**	**0.0183**		**281.9062**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1179	0.0678	0.7421	2.4900e-003	0.3018	1.7300e-003	0.3035	0.0800	1.5900e-003	0.0816		248.4915	248.4915	5.3600e-003		248.6255
Total	**0.1179**	**0.0678**	**0.7421**	**2.4900e-003**	**0.3018**	**1.7300e-003**	**0.3035**	**0.0800**	**1.5900e-003**	**0.0816**		**248.4915**	**248.4915**	**5.3600e-003**		**248.6255**

3.7 Archtectural Coating 2 - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	60.1952					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2045	1.4085	1.8136	2.9700e-003		0.0817	0.0817		0.0817	0.0817		281.4481	281.4481	0.0183		281.9062
Total	**60.3998**	**1.4085**	**1.8136**	**2.9700e-003**		**0.0817**	**0.0817**		**0.0817**	**0.0817**		**281.4481**	**281.4481**	**0.0183**		**281.9062**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1179	0.0678	0.7421	2.4900e-003	0.3018	1.7300e-003	0.3035	0.0800	1.5900e-003	0.0816		248.4915	248.4915	5.3600e-003		248.6255
Total	**0.1179**	**0.0678**	**0.7421**	**2.4900e-003**	**0.3018**	**1.7300e-003**	**0.3035**	**0.0800**	**1.5900e-003**	**0.0816**		**248.4915**	**248.4915**	**5.3600e-003**		**248.6255**

3.7 Archtectural Coating 2 - 2022

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	60.1952					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2045	1.4085	1.8136	2.9700e-003		0.0817	0.0817		0.0817	0.0817	0.0000	281.4481	281.4481	0.0183		281.9062
Total	**60.3998**	**1.4085**	**1.8136**	**2.9700e-003**		**0.0817**	**0.0817**		**0.0817**	**0.0817**	**0.0000**	**281.4481**	**281.4481**	**0.0183**		**281.9062**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1179	0.0678	0.7421	2.4900e-003	0.3018	1.7300e-003	0.3035	0.0800	1.5900e-003	0.0816		248.4915	248.4915	5.3600e-003		248.6255
Total	**0.1179**	**0.0678**	**0.7421**	**2.4900e-003**	**0.3018**	**1.7300e-003**	**0.3035**	**0.0800**	**1.5900e-003**	**0.0816**		**248.4915**	**248.4915**	**5.3600e-003**		**248.6255**

3.8 Archtectural Coating 3 - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	60.1952					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2045	1.4085	1.8136	2.9700e-003		0.0817	0.0817		0.0817	0.0817		281.4481	281.4481	0.0183		281.9062
Total	**60.3998**	**1.4085**	**1.8136**	**2.9700e-003**		**0.0817**	**0.0817**		**0.0817**	**0.0817**		**281.4481**	**281.4481**	**0.0183**		**281.9062**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1179	0.0678	0.7421	2.4900e-003	0.3018	1.7300e-003	0.3035	0.0800	1.5900e-003	0.0816		248.4915	248.4915	5.3600e-003		248.6255
Total	**0.1179**	**0.0678**	**0.7421**	**2.4900e-003**	**0.3018**	**1.7300e-003**	**0.3035**	**0.0800**	**1.5900e-003**	**0.0816**		**248.4915**	**248.4915**	**5.3600e-003**		**248.6255**

3.8 Archtectural Coating 3 - 2022

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	60.1952					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2045	1.4085	1.8136	2.9700e-003		0.0817	0.0817		0.0817	0.0817	0.0000	281.4481	281.4481	0.0183		281.9062
Total	**60.3998**	**1.4085**	**1.8136**	**2.9700e-003**		**0.0817**	**0.0817**		**0.0817**	**0.0817**	**0.0000**	**281.4481**	**281.4481**	**0.0183**		**281.9062**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1179	0.0678	0.7421	2.4900e-003	0.3018	1.7300e-003	0.3035	0.0800	1.5900e-003	0.0816		248.4915	248.4915	5.3600e-003		248.6255
Total	**0.1179**	**0.0678**	**0.7421**	**2.4900e-003**	**0.3018**	**1.7300e-003**	**0.3035**	**0.0800**	**1.5900e-003**	**0.0816**		**248.4915**	**248.4915**	**5.3600e-003**		**248.6255**

3.9 Paving 2 - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.0327	10.1917	14.5842	0.0228		0.5102	0.5102		0.4694	0.4694		2,207.5841	2,207.5841	0.7140		2,225.4336
Paving	0.7310					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.7637**	**10.1917**	**14.5842**	**0.0228**		**0.5102**	**0.5102**		**0.4694**	**0.4694**		**2,207.5841**	**2,207.5841**	**0.7140**		**2,225.4336**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0616	0.0340	0.3799	1.3300e-003	0.1677	9.4000e-004	0.1686	0.0445	8.6000e-004	0.0453		132.8118	132.8118	2.6800e-003		132.8787
Total	**0.0616**	**0.0340**	**0.3799**	**1.3300e-003**	**0.1677**	**9.4000e-004**	**0.1686**	**0.0445**	**8.6000e-004**	**0.0453**		**132.8118**	**132.8118**	**2.6800e-003**		**132.8787**

3.9 Paving 2 - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.0327	10.1917	14.5842	0.0228		0.5102	0.5102		0.4694	0.4694	0.0000	2,207.5841	2,207.5841	0.7140		2,225.4336
Paving	0.7310					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.7637**	**10.1917**	**14.5842**	**0.0228**		**0.5102**	**0.5102**		**0.4694**	**0.4694**	**0.0000**	**2,207.5841**	**2,207.5841**	**0.7140**		**2,225.4336**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0616	0.0340	0.3799	1.3300e-003	0.1677	9.4000e-004	0.1686	0.0445	8.6000e-004	0.0453		132.8118	132.8118	2.6800e-003		132.8787
Total	**0.0616**	**0.0340**	**0.3799**	**1.3300e-003**	**0.1677**	**9.4000e-004**	**0.1686**	**0.0445**	**8.6000e-004**	**0.0453**		**132.8118**	**132.8118**	**2.6800e-003**		**132.8787**

3.10 Archtectural Coating 4 - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	60.1952					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1917	1.3030	1.8111	2.9700e-003		0.0708	0.0708		0.0708	0.0708		281.4481	281.4481	0.0168		281.8690
Total	**60.3869**	**1.3030**	**1.8111**	**2.9700e-003**		**0.0708**	**0.0708**		**0.0708**	**0.0708**		**281.4481**	**281.4481**	**0.0168**		**281.8690**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1108	0.0612	0.6839	2.4000e-003	0.3018	1.6900e-003	0.3035	0.0800	1.5600e-003	0.0816		239.0613	239.0613	4.8200e-003		239.1817
Total	**0.1108**	**0.0612**	**0.6839**	**2.4000e-003**	**0.3018**	**1.6900e-003**	**0.3035**	**0.0800**	**1.5600e-003**	**0.0816**		**239.0613**	**239.0613**	**4.8200e-003**		**239.1817**

3.10 Archtectural Coating 4 - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	60.1952					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1917	1.3030	1.8111	2.9700e-003		0.0708	0.0708		0.0708	0.0708	0.0000	281.4481	281.4481	0.0168		281.8690
Total	**60.3869**	**1.3030**	**1.8111**	**2.9700e-003**		**0.0708**	**0.0708**		**0.0708**	**0.0708**	**0.0000**	**281.4481**	**281.4481**	**0.0168**		**281.8690**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1108	0.0612	0.6839	2.4000e-003	0.3018	1.6900e-003	0.3035	0.0800	1.5600e-003	0.0816		239.0613	239.0613	4.8200e-003		239.1817
Total	**0.1108**	**0.0612**	**0.6839**	**2.4000e-003**	**0.3018**	**1.6900e-003**	**0.3035**	**0.0800**	**1.5600e-003**	**0.0816**		**239.0613**	**239.0613**	**4.8200e-003**		**239.1817**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	1.1471	8.1137	14.3367	0.0699	5.8491	0.0409	5.8900	1.5648	0.0381	1.6029		7,146.1542	7,146.1542	0.3201		7,154.1569
Unmitigated	1.1471	8.1137	14.3367	0.0699	5.8491	0.0409	5.8900	1.5648	0.0381	1.6029		7,146.1542	7,146.1542	0.3201		7,154.1569

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
City Park	0.00	0.00	0.00		
Other Asphalt Surfaces	0.00	0.00	0.00		
Single Family Housing	762.21	802.71	698.22	2,593,120	2,593,120
Total	762.21	802.71	698.22	2,593,120	2,593,120

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
City Park	16.60	8.40	6.90	33.00	48.00	19.00	66	28	6
Other Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Single Family Housing	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
City Park	0.548600	0.036250	0.186898	0.112544	0.014284	0.004806	0.017604	0.070134	0.001409	0.001147	0.004508	0.000918	0.000898
Other Asphalt Surfaces	0.548600	0.036250	0.186898	0.112544	0.014284	0.004806	0.017604	0.070134	0.001409	0.001147	0.004508	0.000918	0.000898
Single Family Housing	0.548600	0.036250	0.186898	0.112544	0.014284	0.004806	0.017604	0.070134	0.001409	0.001147	0.004508	0.000918	0.000898

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0732	0.6257	0.2663	3.9900e-003		0.0506	0.0506		0.0506	0.0506		798.8036	798.8036	0.0153	0.0146	803.5505
NaturalGas Unmitigated	0.0732	0.6257	0.2663	3.9900e-003		0.0506	0.0506		0.0506	0.0506		798.8036	798.8036	0.0153	0.0146	803.5505

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Single Family Housing	6789.83	0.0732	0.6257	0.2663	3.9900e-003		0.0506	0.0506		0.0506	0.0506		798.8036	798.8036	0.0153	0.0146	803.5505
Total		**0.0732**	**0.6257**	**0.2663**	**3.9900e-003**		**0.0506**	**0.0506**		**0.0506**	**0.0506**		**798.8036**	**798.8036**	**0.0153**	**0.0146**	**803.5505**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Single Family Housing	6.78983	0.0732	0.6257	0.2663	3.9900e-003		0.0506	0.0506		0.0506	0.0506		798.8036	798.8036	0.0153	0.0146	803.5505
Total		**0.0732**	**0.6257**	**0.2663**	**3.9900e-003**		**0.0506**	**0.0506**		**0.0506**	**0.0506**		**798.8036**	**798.8036**	**0.0153**	**0.0146**	**803.5505**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	4.2837	0.0771	6.6847	3.5000e-004		0.0370	0.0370		0.0370	0.0370	0.0000	12.0340	12.0340	0.0116	0.0000	12.3234
Unmitigated	4.2837	0.0771	6.6847	3.5000e-004		0.0370	0.0370		0.0370	0.0370	0.0000	12.0340	12.0340	0.0116	0.0000	12.3234

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.3298					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	3.7524					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.2014	0.0771	6.6847	3.5000e-004		0.0370	0.0370		0.0370	0.0370		12.0340	12.0340	0.0116		12.3234
Total	**4.2837**	**0.0771**	**6.6847**	**3.5000e-004**		**0.0370**	**0.0370**		**0.0370**	**0.0370**	**0.0000**	**12.0340**	**12.0340**	**0.0116**	**0.0000**	**12.3234**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.3298					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	3.7524					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.2014	0.0771	6.6847	3.5000e-004		0.0370	0.0370		0.0370	0.0370		12.0340	12.0340	0.0116		12.3234
Total	**4.2837**	**0.0771**	**6.6847**	**3.5000e-004**		**0.0370**	**0.0370**		**0.0370**	**0.0370**	**0.0000**	**12.0340**	**12.0340**	**0.0116**	**0.0000**	**12.3234**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Iris Residential Project - Moreno Valley, CA

Riverside-South Coast County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Asphalt Surfaces	2.79	Acre	2.79	121,532.40	0
City Park	3.02	Acre	3.02	131,551.20	0
Single Family Housing	81.00	Dwelling Unit	5.02	187,000.00	232

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.4	**Precipitation Freq (Days)**	28
Climate Zone	10			**Operational Year**	2023
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	534	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - SCE CO2 Intensity Factor 2020 to 2029

Land Use - Residential = 81 SFU
Internal Roadways = 2.79 acres
Park area = 3.02 acres

Construction Phase - Construction schedult provided by client

Off-road Equipment -

Off-road Equipment -

Off-road Equipment -

Off-road Equipment -

Off-road Equipment - .....

Off-road Equipment - Use of larger equipment

Off-road Equipment - ..

Off-road Equipment - ..

Off-road Equipment - Use of Larger equipment

Grading - Soil export of 6,042 cy

Architectural Coating -

Vehicle Trips - Weekday trip generation from the project trip memorandum - EPDS
Weekend trip rates from CalEEMod default values

Woodstoves - Assumes no fireplaces in residential units

Construction Off-road Equipment Mitigation - Applied ffffigitive dust reductions as required under SCAQMD Rule 493

Fleet Mix - SFU fleet mix is the default CalEEMod fleet mix for Riversode County in 2023

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadMoistureContent	0	12
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	NumDays	300.00	520.00
tblConstructionPhase	NumDays	20.00	10.00
tblConstructionPhase	NumDays	20.00	10.00
tblFireplaces	FireplaceDayYear	25.00	0.00

tblFireplaces	FireplaceHourDay	3.00	0.00
tblFireplaces	FireplaceWoodMass	1,019.20	0.00
tblFireplaces	NumberGas	68.85	0.00
tblFireplaces	NumberNoFireplace	8.10	0.00
tblFireplaces	NumberWood	4.05	0.00
tblGrading	AcresOfGrading	105.00	75.00
tblGrading	AcresOfGrading	20.00	0.00
tblGrading	MaterialExported	0.00	6,042.00
tblLandUse	LandUseSquareFeet	145,800.00	187,000.00
tblLandUse	LotAcreage	26.30	5.02
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	0.00
tblProjectCharacteristics	CO2IntensityFactor	702.44	534
tblVehicleTrips	ST_TR	22.75	0.00
tblVehicleTrips	SU_TR	16.74	0.00
tblVehicleTrips	WD_TR	1.89	0.00
tblVehicleTrips	WD_TR	9.52	9.41
tblWoodstoves	NumberCatalytic	4.05	0.00
tblWoodstoves	NumberNoncatalytic	4.05	0.00
tblWoodstoves	WoodstoveDayYear	25.00	0.00
tblWoodstoves	WoodstoveWoodMass	999.60	0.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2021	0.4002	3.7752	3.0666	7.6200e-003	0.4304	0.1586	0.5890	0.1602	0.1481	0.3083	0.0000	681.5113	681.5113	0.1184	0.0000	684.4702
2022	2.1220	2.6910	2.8227	6.9700e-003	0.2429	0.1098	0.3526	0.0654	0.1034	0.1689	0.0000	623.3581	623.3581	0.0876	0.0000	625.5468
2023	0.6573	0.4245	0.5119	1.2100e-003	0.0398	0.0175	0.0573	0.0107	0.0165	0.0272	0.0000	107.5658	107.5658	0.0163	0.0000	107.9728
Maximum	**2.1220**	**3.7752**	**3.0666**	**7.6200e-003**	**0.4304**	**0.1586**	**0.5890**	**0.1602**	**0.1481**	**0.3083**	**0.0000**	**681.5113**	**681.5113**	**0.1184**	**0.0000**	**684.4702**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2021	0.4002	3.7752	3.0666	7.6200e-003	0.2957	0.1586	0.4543	0.0969	0.1481	0.2450	0.0000	681.5109	681.5109	0.1184	0.0000	684.4698
2022	2.1220	2.6910	2.8227	6.9700e-003	0.2429	0.1098	0.3526	0.0654	0.1034	0.1689	0.0000	623.3578	623.3578	0.0876	0.0000	625.5464
2023	0.6573	0.4245	0.5119	1.2100e-003	0.0398	0.0175	0.0573	0.0107	0.0165	0.0272	0.0000	107.5658	107.5658	0.0163	0.0000	107.9727
Maximum	**2.1220**	**3.7752**	**3.0666**	**7.6200e-003**	**0.2957**	**0.1586**	**0.4543**	**0.0969**	**0.1481**	**0.2450**	**0.0000**	**681.5109**	**681.5109**	**0.1184**	**0.0000**	**684.4698**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	18.89	0.00	13.48	26.76	0.00	12.54	0.00	0.00	0.00	0.00	0.00	0.00

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	1-4-2021	4-3-2021	1.6899	1.6899
2	4-4-2021	7-3-2021	0.8151	0.8151
3	7-4-2021	10-3-2021	0.8241	0.8241
4	10-4-2021	1-3-2022	0.8205	0.8205
5	1-4-2022	4-3-2022	1.3492	1.3492
6	4-4-2022	7-3-2022	0.7385	0.7385
7	7-4-2022	10-3-2022	1.4108	1.4108
8	10-4-2022	1-3-2023	1.2962	1.2962
9	1-4-2023	4-3-2023	0.9646	0.9646
10	4-4-2023	7-3-2023	0.0884	0.0884
		Highest	1.6899	1.6899

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.7702	9.6300e-003	0.8356	4.0000e-005		4.6200e-003	4.6200e-003		4.6200e-003	4.6200e-003	0.0000	1.3646	1.3646	1.3100e-003	0.0000	1.3975
Energy	0.0134	0.1142	0.0486	7.3000e-004		9.2300e-003	9.2300e-003		9.2300e-003	9.2300e-003	0.0000	303.2655	303.2655	0.0118	4.3500e-003	304.8562
Mobile	0.1981	1.4196	2.5488	0.0123	0.9899	7.0000e-003	0.9969	0.2652	6.5300e-003	0.2717	0.0000	1,140.5308	1,140.5308	0.0488	0.0000	1,141.7501
Waste						0.0000	0.0000		0.0000	0.0000	19.3613	0.0000	19.3613	1.1442	0.0000	47.9668
Water						0.0000	0.0000		0.0000	0.0000	1.6743	35.2813	36.9556	0.1739	4.4600e-003	42.6308
Total	**0.9817**	**1.5434**	**3.4330**	**0.0131**	**0.9899**	**0.0209**	**1.0108**	**0.2652**	**0.0204**	**0.2856**	**21.0356**	**1,480.4422**	**1,501.4778**	**1.3800**	**8.8100e-003**	**1,538.6012**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.7702	9.6300e-003	0.8356	4.0000e-005		4.6200e-003	4.6200e-003		4.6200e-003	4.6200e-003	0.0000	1.3646	1.3646	1.3100e-003	0.0000	1.3975
Energy	0.0134	0.1142	0.0486	7.3000e-004		9.2300e-003	9.2300e-003		9.2300e-003	9.2300e-003	0.0000	303.2655	303.2655	0.0118	4.3500e-003	304.8562
Mobile	0.1981	1.4196	2.5488	0.0123	0.9899	7.0000e-003	0.9969	0.2652	6.5300e-003	0.2717	0.0000	1,140.5308	1,140.5308	0.0488	0.0000	1,141.7501
Waste						0.0000	0.0000		0.0000	0.0000	19.3613	0.0000	19.3613	1.1442	0.0000	47.9668
Water						0.0000	0.0000		0.0000	0.0000	1.6743	35.2813	36.9556	0.1739	4.4600e-003	42.6308
Total	**0.9817**	**1.5434**	**3.4330**	**0.0131**	**0.9899**	**0.0209**	**1.0108**	**0.2652**	**0.0204**	**0.2856**	**21.0356**	**1,480.4422**	**1,501.4778**	**1.3800**	**8.8100e-003**	**1,538.6012**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	1/4/2021	1/15/2021	5	10	
2	Grading	Grading	1/16/2021	2/26/2021	5	30	
3	Building Construction	Building Construction	2/27/2021	2/24/2023	5	520	
4	Paving 1	Paving	2/27/2021	3/12/2021	5	10	
5	Architectural Coating 1	Architectural Coating	2/1/2022	2/28/2022	5	20	
6	Archtectural Coating 2	Architectural Coating	7/17/2022	8/12/2022	5	20	
7	Archtectural Coating 3	Architectural Coating	10/1/2022	10/28/2022	5	20	
8	Paving 2	Paving	2/25/2023	3/10/2023	5	10	
9	Archtectural Coating 4	Architectural Coating	3/11/2023	4/7/2023	5	20	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 75

Acres of Paving: 2.79

Residential Indoor: 378,675; Residential Outdoor: 126,225; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 7,292 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Crawler Tractors	4	8.00	212	0.43
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Grading	Crawler Tractors	2	8.00	212	0.43
Grading	Excavators	2	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving 1	Pavers	2	8.00	130	0.42
Paving 1	Paving Equipment	2	8.00	132	0.36
Paving 1	Rollers	2	8.00	80	0.38
Architectural Coating 1	Air Compressors	1	6.00	78	0.48
Archtectural Coating 2	Air Compressors	1	6.00	78	0.48
Archtectural Coating 3	Air Compressors	1	6.00	78	0.48
Paving 2	Pavers	2	8.00	130	0.42
Paving 2	Paving Equipment	2	8.00	132	0.36
Paving 2	Rollers	2	8.00	80	0.38
Archtectural Coating 4	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	7	18.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	755.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	135.00	50.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving 1	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating 1	1	27.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Archtectural Coating 2	1	27.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Archtectural Coating 3	1	27.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving 2	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Archtectural Coating 4	1	27.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Water Unpaved Roads

Reduce Vehicle Speed on Unpaved Roads

3.2 Site Preparation - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0903	0.0000	0.0903	0.0497	0.0000	0.0497	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0267	0.3039	0.1093	2.8000e-004		0.0132	0.0132		0.0122	0.0122	0.0000	25.0542	25.0542	8.1000e-003	0.0000	25.2568
Total	**0.0267**	**0.3039**	**0.1093**	**2.8000e-004**	**0.0903**	**0.0132**	**0.1036**	**0.0497**	**0.0122**	**0.0618**	**0.0000**	**25.0542**	**25.0542**	**8.1000e-003**	**0.0000**	**25.2568**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.9000e-004	2.6000e-004	2.8300e-003	1.0000e-005	9.9000e-004	1.0000e-005	1.0000e-003	2.6000e-004	1.0000e-005	2.7000e-004	0.0000	0.8000	0.8000	2.0000e-005	0.0000	0.8004
Total	**3.9000e-004**	**2.6000e-004**	**2.8300e-003**	**1.0000e-005**	**9.9000e-004**	**1.0000e-005**	**1.0000e-003**	**2.6000e-004**	**1.0000e-005**	**2.7000e-004**	**0.0000**	**0.8000**	**0.8000**	**2.0000e-005**	**0.0000**	**0.8004**

3.2 Site Preparation - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0352	0.0000	0.0352	0.0194	0.0000	0.0194	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0267	0.3039	0.1093	2.8000e-004		0.0132	0.0132		0.0122	0.0122	0.0000	25.0542	25.0542	8.1000e-003	0.0000	25.2567
Total	**0.0267**	**0.3039**	**0.1093**	**2.8000e-004**	**0.0352**	**0.0132**	**0.0485**	**0.0194**	**0.0122**	**0.0315**	**0.0000**	**25.0542**	**25.0542**	**8.1000e-003**	**0.0000**	**25.2567**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.9000e-004	2.6000e-004	2.8300e-003	1.0000e-005	9.9000e-004	1.0000e-005	1.0000e-003	2.6000e-004	1.0000e-005	2.7000e-004	0.0000	0.8000	0.8000	2.0000e-005	0.0000	0.8004
Total	**3.9000e-004**	**2.6000e-004**	**2.8300e-003**	**1.0000e-005**	**9.9000e-004**	**1.0000e-005**	**1.0000e-003**	**2.6000e-004**	**1.0000e-005**	**2.7000e-004**	**0.0000**	**0.8000**	**0.8000**	**2.0000e-005**	**0.0000**	**0.8004**

3.3 Grading - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1305	0.0000	0.1305	0.0540	0.0000	0.0540	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0738	0.8482	0.4684	1.0700e-003		0.0343	0.0343		0.0316	0.0316	0.0000	94.2470	94.2470	0.0305	0.0000	95.0090
Total	**0.0738**	**0.8482**	**0.4684**	**1.0700e-003**	**0.1305**	**0.0343**	**0.1648**	**0.0540**	**0.0316**	**0.0856**	**0.0000**	**94.2470**	**94.2470**	**0.0305**	**0.0000**	**95.0090**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.8800e-003	0.0839	0.0116	2.8000e-004	6.5100e-003	2.5000e-004	6.7600e-003	1.7900e-003	2.4000e-004	2.0300e-003	0.0000	27.0853	27.0853	1.6500e-003	0.0000	27.1267
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.2900e-003	8.7000e-004	9.4400e-003	3.0000e-005	3.3000e-003	2.0000e-005	3.3200e-003	8.8000e-004	2.0000e-005	8.9000e-004	0.0000	2.6665	2.6665	6.0000e-005	0.0000	2.6681
Total	**3.1700e-003**	**0.0848**	**0.0210**	**3.1000e-004**	**9.8100e-003**	**2.7000e-004**	**0.0101**	**2.6700e-003**	**2.6000e-004**	**2.9200e-003**	**0.0000**	**29.7519**	**29.7519**	**1.7100e-003**	**0.0000**	**29.7948**

3.3 Grading - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0509	0.0000	0.0509	0.0211	0.0000	0.0211	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0738	0.8482	0.4684	1.0700e-003		0.0343	0.0343		0.0316	0.0316	0.0000	94.2469	94.2469	0.0305	0.0000	95.0089
Total	**0.0738**	**0.8482**	**0.4684**	**1.0700e-003**	**0.0509**	**0.0343**	**0.0852**	**0.0211**	**0.0316**	**0.0526**	**0.0000**	**94.2469**	**94.2469**	**0.0305**	**0.0000**	**95.0089**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.8800e-003	0.0839	0.0116	2.8000e-004	6.5100e-003	2.5000e-004	6.7600e-003	1.7900e-003	2.4000e-004	2.0300e-003	0.0000	27.0853	27.0853	1.6500e-003	0.0000	27.1267
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.2900e-003	8.7000e-004	9.4400e-003	3.0000e-005	3.3000e-003	2.0000e-005	3.3200e-003	8.8000e-004	2.0000e-005	8.9000e-004	0.0000	2.6665	2.6665	6.0000e-005	0.0000	2.6681
Total	**3.1700e-003**	**0.0848**	**0.0210**	**3.1000e-004**	**9.8100e-003**	**2.7000e-004**	**0.0101**	**2.6700e-003**	**2.6000e-004**	**2.9200e-003**	**0.0000**	**29.7519**	**29.7519**	**1.7100e-003**	**0.0000**	**29.7948**

3.4 Building Construction - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.2091	1.9175	1.8233	2.9600e-003		0.1055	0.1055		0.0991	0.0991	0.0000	254.8010	254.8010	0.0615	0.0000	256.3378
Total	**0.2091**	**1.9175**	**1.8233**	**2.9600e-003**		**0.1055**	**0.1055**		**0.0991**	**0.0991**	**0.0000**	**254.8010**	**254.8010**	**0.0615**	**0.0000**	**256.3378**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0131	0.5128	0.0987	1.4000e-003	0.0347	9.8000e-004	0.0357	0.0100	9.4000e-004	0.0110	0.0000	134.1853	134.1853	0.0102	0.0000	134.4412
Worker	0.0637	0.0429	0.4675	1.4600e-003	0.1632	9.8000e-004	0.1642	0.0433	9.0000e-004	0.0442	0.0000	131.9937	131.9937	3.0700e-003	0.0000	132.0706
Total	**0.0768**	**0.5557**	**0.5662**	**2.8600e-003**	**0.1980**	**1.9600e-003**	**0.1999**	**0.0534**	**1.8400e-003**	**0.0552**	**0.0000**	**266.1790**	**266.1790**	**0.0133**	**0.0000**	**266.5117**

3.4 Building Construction - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.2091	1.9175	1.8233	2.9600e-003		0.1055	0.1055		0.0991	0.0991	0.0000	254.8007	254.8007	0.0615	0.0000	256.3375
Total	**0.2091**	**1.9175**	**1.8233**	**2.9600e-003**		**0.1055**	**0.1055**		**0.0991**	**0.0991**	**0.0000**	**254.8007**	**254.8007**	**0.0615**	**0.0000**	**256.3375**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0131	0.5128	0.0987	1.4000e-003	0.0347	9.8000e-004	0.0357	0.0100	9.4000e-004	0.0110	0.0000	134.1853	134.1853	0.0102	0.0000	134.4412
Worker	0.0637	0.0429	0.4675	1.4600e-003	0.1632	9.8000e-004	0.1642	0.0433	9.0000e-004	0.0442	0.0000	131.9937	131.9937	3.0700e-003	0.0000	132.0706
Total	**0.0768**	**0.5557**	**0.5662**	**2.8600e-003**	**0.1980**	**1.9600e-003**	**0.1999**	**0.0534**	**1.8400e-003**	**0.0552**	**0.0000**	**266.1790**	**266.1790**	**0.0133**	**0.0000**	**266.5117**

3.4 Building Construction - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.2218	2.0300	2.1272	3.5000e-003		0.1052	0.1052		0.0990	0.0990	0.0000	301.2428	301.2428	0.0722	0.0000	303.0471
Total	**0.2218**	**2.0300**	**2.1272**	**3.5000e-003**		**0.1052**	**0.1052**		**0.0990**	**0.0990**	**0.0000**	**301.2428**	**301.2428**	**0.0722**	**0.0000**	**303.0471**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0145	0.5710	0.1086	1.6400e-003	0.0411	9.7000e-004	0.0420	0.0118	9.3000e-004	0.0128	0.0000	157.2185	157.2185	0.0115	0.0000	157.5050
Worker	0.0705	0.0456	0.5090	1.6600e-003	0.1929	1.1300e-003	0.1940	0.0512	1.0400e-003	0.0523	0.0000	150.3002	150.3002	3.2700e-003	0.0000	150.3818
Total	**0.0850**	**0.6166**	**0.6176**	**3.3000e-003**	**0.2340**	**2.1000e-003**	**0.2361**	**0.0631**	**1.9700e-003**	**0.0650**	**0.0000**	**307.5186**	**307.5186**	**0.0147**	**0.0000**	**307.8868**

3.4 Building Construction - 2022

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.2218	2.0300	2.1272	3.5000e-003		0.1052	0.1052		0.0990	0.0990	0.0000	301.2425	301.2425	0.0722	0.0000	303.0467
Total	**0.2218**	**2.0300**	**2.1272**	**3.5000e-003**		**0.1052**	**0.1052**		**0.0990**	**0.0990**	**0.0000**	**301.2425**	**301.2425**	**0.0722**	**0.0000**	**303.0467**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0145	0.5710	0.1086	1.6400e-003	0.0411	9.7000e-004	0.0420	0.0118	9.3000e-004	0.0128	0.0000	157.2185	157.2185	0.0115	0.0000	157.5050
Worker	0.0705	0.0456	0.5090	1.6600e-003	0.1929	1.1300e-003	0.1940	0.0512	1.0400e-003	0.0523	0.0000	150.3002	150.3002	3.2700e-003	0.0000	150.3818
Total	**0.0850**	**0.6166**	**0.6176**	**3.3000e-003**	**0.2340**	**2.1000e-003**	**0.2361**	**0.0631**	**1.9700e-003**	**0.0650**	**0.0000**	**307.5186**	**307.5186**	**0.0147**	**0.0000**	**307.8868**

3.4 Building Construction - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0315	0.2877	0.3249	5.4000e-004		0.0140	0.0140		0.0132	0.0132	0.0000	46.3610	46.3610	0.0110	0.0000	46.6367
Total	**0.0315**	**0.2877**	**0.3249**	**5.4000e-004**		**0.0140**	**0.0140**		**0.0132**	**0.0132**	**0.0000**	**46.3610**	**46.3610**	**0.0110**	**0.0000**	**46.6367**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.7000e-003	0.0657	0.0146	2.5000e-004	6.3200e-003	7.0000e-005	6.3800e-003	1.8200e-003	6.0000e-005	1.8900e-003	0.0000	23.5502	23.5502	1.3500e-003	0.0000	23.5839
Worker	0.0102	6.3300e-003	0.0722	2.5000e-004	0.0297	1.7000e-004	0.0299	7.8800e-003	1.6000e-004	8.0400e-003	0.0000	22.2455	22.2455	4.5000e-004	0.0000	22.2568
Total	**0.0119**	**0.0720**	**0.0867**	**5.0000e-004**	**0.0360**	**2.4000e-004**	**0.0362**	**9.7000e-003**	**2.2000e-004**	**9.9300e-003**	**0.0000**	**45.7957**	**45.7957**	**1.8000e-003**	**0.0000**	**45.8407**

3.4 Building Construction - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0315	0.2877	0.3249	5.4000e-004		0.0140	0.0140		0.0132	0.0132	0.0000	46.3609	46.3609	0.0110	0.0000	46.6366
Total	**0.0315**	**0.2877**	**0.3249**	**5.4000e-004**		**0.0140**	**0.0140**		**0.0132**	**0.0132**	**0.0000**	**46.3609**	**46.3609**	**0.0110**	**0.0000**	**46.6366**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.7000e-003	0.0657	0.0146	2.5000e-004	6.3200e-003	7.0000e-005	6.3800e-003	1.8200e-003	6.0000e-005	1.8900e-003	0.0000	23.5502	23.5502	1.3500e-003	0.0000	23.5839
Worker	0.0102	6.3300e-003	0.0722	2.5000e-004	0.0297	1.7000e-004	0.0299	7.8800e-003	1.6000e-004	8.0400e-003	0.0000	22.2455	22.2455	4.5000e-004	0.0000	22.2568
Total	**0.0119**	**0.0720**	**0.0867**	**5.0000e-004**	**0.0360**	**2.4000e-004**	**0.0362**	**9.7000e-003**	**2.2000e-004**	**9.9300e-003**	**0.0000**	**45.7957**	**45.7957**	**1.8000e-003**	**0.0000**	**45.8407**

3.5 Paving 1 - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	6.2800e-003	0.0646	0.0733	1.1000e-004		3.3900e-003	3.3900e-003		3.1200e-003	3.1200e-003	0.0000	10.0117	10.0117	3.2400e-003	0.0000	10.0927
Paving	3.6500e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**9.9300e-003**	**0.0646**	**0.0733**	**1.1000e-004**		**3.3900e-003**	**3.3900e-003**		**3.1200e-003**	**3.1200e-003**	**0.0000**	**10.0117**	**10.0117**	**3.2400e-003**	**0.0000**	**10.0927**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.2000e-004	2.2000e-004	2.3600e-003	1.0000e-005	8.2000e-004	0.0000	8.3000e-004	2.2000e-004	0.0000	2.2000e-004	0.0000	0.6666	0.6666	2.0000e-005	0.0000	0.6670
Total	**3.2000e-004**	**2.2000e-004**	**2.3600e-003**	**1.0000e-005**	**8.2000e-004**	**0.0000**	**8.3000e-004**	**2.2000e-004**	**0.0000**	**2.2000e-004**	**0.0000**	**0.6666**	**0.6666**	**2.0000e-005**	**0.0000**	**0.6670**

3.5 Paving 1 - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	6.2800e-003	0.0646	0.0733	1.1000e-004		3.3900e-003	3.3900e-003		3.1200e-003	3.1200e-003	0.0000	10.0117	10.0117	3.2400e-003	0.0000	10.0927
Paving	3.6500e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**9.9300e-003**	**0.0646**	**0.0733**	**1.1000e-004**		**3.3900e-003**	**3.3900e-003**		**3.1200e-003**	**3.1200e-003**	**0.0000**	**10.0117**	**10.0117**	**3.2400e-003**	**0.0000**	**10.0927**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.2000e-004	2.2000e-004	2.3600e-003	1.0000e-005	8.2000e-004	0.0000	8.3000e-004	2.2000e-004	0.0000	2.2000e-004	0.0000	0.6666	0.6666	2.0000e-005	0.0000	0.6670
Total	**3.2000e-004**	**2.2000e-004**	**2.3600e-003**	**1.0000e-005**	**8.2000e-004**	**0.0000**	**8.3000e-004**	**2.2000e-004**	**0.0000**	**2.2000e-004**	**0.0000**	**0.6666**	**0.6666**	**2.0000e-005**	**0.0000**	**0.6670**

3.6 Architectural Coating 1 - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.6020					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.0500e-003	0.0141	0.0181	3.0000e-005		8.2000e-004	8.2000e-004		8.2000e-004	8.2000e-004	0.0000	2.5533	2.5533	1.7000e-004	0.0000	2.5574
Total	**0.6040**	**0.0141**	**0.0181**	**3.0000e-005**		**8.2000e-004**	**8.2000e-004**		**8.2000e-004**	**8.2000e-004**	**0.0000**	**2.5533**	**2.5533**	**1.7000e-004**	**0.0000**	**2.5574**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0800e-003	7.0000e-004	7.8300e-003	3.0000e-005	2.9700e-003	2.0000e-005	2.9800e-003	7.9000e-004	2.0000e-005	8.0000e-004	0.0000	2.3123	2.3123	5.0000e-005	0.0000	2.3136
Total	**1.0800e-003**	**7.0000e-004**	**7.8300e-003**	**3.0000e-005**	**2.9700e-003**	**2.0000e-005**	**2.9800e-003**	**7.9000e-004**	**2.0000e-005**	**8.0000e-004**	**0.0000**	**2.3123**	**2.3123**	**5.0000e-005**	**0.0000**	**2.3136**

3.6 Architectural Coating 1 - 2022

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.6020					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.0500e-003	0.0141	0.0181	3.0000e-005		8.2000e-004	8.2000e-004		8.2000e-004	8.2000e-004	0.0000	2.5533	2.5533	1.7000e-004	0.0000	2.5574
Total	**0.6040**	**0.0141**	**0.0181**	**3.0000e-005**		**8.2000e-004**	**8.2000e-004**		**8.2000e-004**	**8.2000e-004**	**0.0000**	**2.5533**	**2.5533**	**1.7000e-004**	**0.0000**	**2.5574**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0800e-003	7.0000e-004	7.8300e-003	3.0000e-005	2.9700e-003	2.0000e-005	2.9800e-003	7.9000e-004	2.0000e-005	8.0000e-004	0.0000	2.3123	2.3123	5.0000e-005	0.0000	2.3136
Total	**1.0800e-003**	**7.0000e-004**	**7.8300e-003**	**3.0000e-005**	**2.9700e-003**	**2.0000e-005**	**2.9800e-003**	**7.9000e-004**	**2.0000e-005**	**8.0000e-004**	**0.0000**	**2.3123**	**2.3123**	**5.0000e-005**	**0.0000**	**2.3136**

3.7 Archtectural Coating 2 - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.6020					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.0500e-003	0.0141	0.0181	3.0000e-005		8.2000e-004	8.2000e-004		8.2000e-004	8.2000e-004	0.0000	2.5533	2.5533	1.7000e-004	0.0000	2.5574
Total	**0.6040**	**0.0141**	**0.0181**	**3.0000e-005**		**8.2000e-004**	**8.2000e-004**		**8.2000e-004**	**8.2000e-004**	**0.0000**	**2.5533**	**2.5533**	**1.7000e-004**	**0.0000**	**2.5574**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0800e-003	7.0000e-004	7.8300e-003	3.0000e-005	2.9700e-003	2.0000e-005	2.9800e-003	7.9000e-004	2.0000e-005	8.0000e-004	0.0000	2.3123	2.3123	5.0000e-005	0.0000	2.3136
Total	**1.0800e-003**	**7.0000e-004**	**7.8300e-003**	**3.0000e-005**	**2.9700e-003**	**2.0000e-005**	**2.9800e-003**	**7.9000e-004**	**2.0000e-005**	**8.0000e-004**	**0.0000**	**2.3123**	**2.3123**	**5.0000e-005**	**0.0000**	**2.3136**

3.7 Archtectural Coating 2 - 2022

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.6020					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.0500e-003	0.0141	0.0181	3.0000e-005		8.2000e-004	8.2000e-004		8.2000e-004	8.2000e-004	0.0000	2.5533	2.5533	1.7000e-004	0.0000	2.5574
Total	**0.6040**	**0.0141**	**0.0181**	**3.0000e-005**		**8.2000e-004**	**8.2000e-004**		**8.2000e-004**	**8.2000e-004**	**0.0000**	**2.5533**	**2.5533**	**1.7000e-004**	**0.0000**	**2.5574**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0800e-003	7.0000e-004	7.8300e-003	3.0000e-005	2.9700e-003	2.0000e-005	2.9800e-003	7.9000e-004	2.0000e-005	8.0000e-004	0.0000	2.3123	2.3123	5.0000e-005	0.0000	2.3136
Total	**1.0800e-003**	**7.0000e-004**	**7.8300e-003**	**3.0000e-005**	**2.9700e-003**	**2.0000e-005**	**2.9800e-003**	**7.9000e-004**	**2.0000e-005**	**8.0000e-004**	**0.0000**	**2.3123**	**2.3123**	**5.0000e-005**	**0.0000**	**2.3136**

3.8 Archtectural Coating 3 - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.6020					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.0500e-003	0.0141	0.0181	3.0000e-005		8.2000e-004	8.2000e-004		8.2000e-004	8.2000e-004	0.0000	2.5533	2.5533	1.7000e-004	0.0000	2.5574
Total	**0.6040**	**0.0141**	**0.0181**	**3.0000e-005**		**8.2000e-004**	**8.2000e-004**		**8.2000e-004**	**8.2000e-004**	**0.0000**	**2.5533**	**2.5533**	**1.7000e-004**	**0.0000**	**2.5574**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0800e-003	7.0000e-004	7.8300e-003	3.0000e-005	2.9700e-003	2.0000e-005	2.9800e-003	7.9000e-004	2.0000e-005	8.0000e-004	0.0000	2.3123	2.3123	5.0000e-005	0.0000	2.3136
Total	**1.0800e-003**	**7.0000e-004**	**7.8300e-003**	**3.0000e-005**	**2.9700e-003**	**2.0000e-005**	**2.9800e-003**	**7.9000e-004**	**2.0000e-005**	**8.0000e-004**	**0.0000**	**2.3123**	**2.3123**	**5.0000e-005**	**0.0000**	**2.3136**

3.8 Archtectural Coating 3 - 2022

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.6020					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.0500e-003	0.0141	0.0181	3.0000e-005		8.2000e-004	8.2000e-004		8.2000e-004	8.2000e-004	0.0000	2.5533	2.5533	1.7000e-004	0.0000	2.5574
Total	**0.6040**	**0.0141**	**0.0181**	**3.0000e-005**		**8.2000e-004**	**8.2000e-004**		**8.2000e-004**	**8.2000e-004**	**0.0000**	**2.5533**	**2.5533**	**1.7000e-004**	**0.0000**	**2.5574**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0800e-003	7.0000e-004	7.8300e-003	3.0000e-005	2.9700e-003	2.0000e-005	2.9800e-003	7.9000e-004	2.0000e-005	8.0000e-004	0.0000	2.3123	2.3123	5.0000e-005	0.0000	2.3136
Total	**1.0800e-003**	**7.0000e-004**	**7.8300e-003**	**3.0000e-005**	**2.9700e-003**	**2.0000e-005**	**2.9800e-003**	**7.9000e-004**	**2.0000e-005**	**8.0000e-004**	**0.0000**	**2.3123**	**2.3123**	**5.0000e-005**	**0.0000**	**2.3136**

3.9 Paving 2 - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	5.1600e-003	0.0510	0.0729	1.1000e-004		2.5500e-003	2.5500e-003		2.3500e-003	2.3500e-003	0.0000	10.0134	10.0134	3.2400e-003	0.0000	10.0944
Paving	3.6500e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**8.8100e-003**	**0.0510**	**0.0729**	**1.1000e-004**		**2.5500e-003**	**2.5500e-003**		**2.3500e-003**	**2.3500e-003**	**0.0000**	**10.0134**	**10.0134**	**3.2400e-003**	**0.0000**	**10.0944**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.8000e-004	1.8000e-004	2.0000e-003	1.0000e-005	8.2000e-004	0.0000	8.3000e-004	2.2000e-004	0.0000	2.2000e-004	0.0000	0.6179	0.6179	1.0000e-005	0.0000	0.6182
Total	**2.8000e-004**	**1.8000e-004**	**2.0000e-003**	**1.0000e-005**	**8.2000e-004**	**0.0000**	**8.3000e-004**	**2.2000e-004**	**0.0000**	**2.2000e-004**	**0.0000**	**0.6179**	**0.6179**	**1.0000e-005**	**0.0000**	**0.6182**

3.9 Paving 2 - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	5.1600e-003	0.0510	0.0729	1.1000e-004		2.5500e-003	2.5500e-003		2.3500e-003	2.3500e-003	0.0000	10.0134	10.0134	3.2400e-003	0.0000	10.0944
Paving	3.6500e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**8.8100e-003**	**0.0510**	**0.0729**	**1.1000e-004**		**2.5500e-003**	**2.5500e-003**		**2.3500e-003**	**2.3500e-003**	**0.0000**	**10.0134**	**10.0134**	**3.2400e-003**	**0.0000**	**10.0944**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.8000e-004	1.8000e-004	2.0000e-003	1.0000e-005	8.2000e-004	0.0000	8.3000e-004	2.2000e-004	0.0000	2.2000e-004	0.0000	0.6179	0.6179	1.0000e-005	0.0000	0.6182
Total	**2.8000e-004**	**1.8000e-004**	**2.0000e-003**	**1.0000e-005**	**8.2000e-004**	**0.0000**	**8.3000e-004**	**2.2000e-004**	**0.0000**	**2.2000e-004**	**0.0000**	**0.6179**	**0.6179**	**1.0000e-005**	**0.0000**	**0.6182**

3.10 Archtectural Coating 4 - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.6020					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.9200e-003	0.0130	0.0181	3.0000e-005		7.1000e-004	7.1000e-004		7.1000e-004	7.1000e-004	0.0000	2.5533	2.5533	1.5000e-004	0.0000	2.5571
Total	**0.6039**	**0.0130**	**0.0181**	**3.0000e-005**		**7.1000e-004**	**7.1000e-004**		**7.1000e-004**	**7.1000e-004**	**0.0000**	**2.5533**	**2.5533**	**1.5000e-004**	**0.0000**	**2.5571**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0200e-003	6.3000e-004	7.2200e-003	2.0000e-005	2.9700e-003	2.0000e-005	2.9800e-003	7.9000e-004	2.0000e-005	8.0000e-004	0.0000	2.2246	2.2246	5.0000e-005	0.0000	2.2257
Total	**1.0200e-003**	**6.3000e-004**	**7.2200e-003**	**2.0000e-005**	**2.9700e-003**	**2.0000e-005**	**2.9800e-003**	**7.9000e-004**	**2.0000e-005**	**8.0000e-004**	**0.0000**	**2.2246**	**2.2246**	**5.0000e-005**	**0.0000**	**2.2257**

3.10 Archtectural Coating 4 - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.6020					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.9200e-003	0.0130	0.0181	3.0000e-005		7.1000e-004	7.1000e-004		7.1000e-004	7.1000e-004	0.0000	2.5533	2.5533	1.5000e-004	0.0000	2.5571
Total	**0.6039**	**0.0130**	**0.0181**	**3.0000e-005**		**7.1000e-004**	**7.1000e-004**		**7.1000e-004**	**7.1000e-004**	**0.0000**	**2.5533**	**2.5533**	**1.5000e-004**	**0.0000**	**2.5571**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0200e-003	6.3000e-004	7.2200e-003	2.0000e-005	2.9700e-003	2.0000e-005	2.9800e-003	7.9000e-004	2.0000e-005	8.0000e-004	0.0000	2.2246	2.2246	5.0000e-005	0.0000	2.2257
Total	**1.0200e-003**	**6.3000e-004**	**7.2200e-003**	**2.0000e-005**	**2.9700e-003**	**2.0000e-005**	**2.9800e-003**	**7.9000e-004**	**2.0000e-005**	**8.0000e-004**	**0.0000**	**2.2246**	**2.2246**	**5.0000e-005**	**0.0000**	**2.2257**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.1981	1.4196	2.5488	0.0123	0.9899	7.0000e-003	0.9969	0.2652	6.5300e-003	0.2717	0.0000	1,140.5308	1,140.5308	0.0488	0.0000	1,141.7501
Unmitigated	0.1981	1.4196	2.5488	0.0123	0.9899	7.0000e-003	0.9969	0.2652	6.5300e-003	0.2717	0.0000	1,140.5308	1,140.5308	0.0488	0.0000	1,141.7501

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
City Park	0.00	0.00	0.00		
Other Asphalt Surfaces	0.00	0.00	0.00		
Single Family Housing	762.21	802.71	698.22	2,593,120	2,593,120
Total	762.21	802.71	698.22	2,593,120	2,593,120

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
City Park	16.60	8.40	6.90	33.00	48.00	19.00	66	28	6
Other Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Single Family Housing	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
City Park	0.548600	0.036250	0.186898	0.112544	0.014284	0.004806	0.017604	0.070134	0.001409	0.001147	0.004508	0.000918	0.000898
Other Asphalt Surfaces	0.548600	0.036250	0.186898	0.112544	0.014284	0.004806	0.017604	0.070134	0.001409	0.001147	0.004508	0.000918	0.000898
Single Family Housing	0.548600	0.036250	0.186898	0.112544	0.014284	0.004806	0.017604	0.070134	0.001409	0.001147	0.004508	0.000918	0.000898

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	171.0146	171.0146	9.2900e-003	1.9200e-003	171.8194
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	171.0146	171.0146	9.2900e-003	1.9200e-003	171.8194
NaturalGas Mitigated	0.0134	0.1142	0.0486	7.3000e-004		9.2300e-003	9.2300e-003		9.2300e-003	9.2300e-003	0.0000	132.2509	132.2509	2.5300e-003	2.4200e-003	133.0368
NaturalGas Unmitigated	0.0134	0.1142	0.0486	7.3000e-004		9.2300e-003	9.2300e-003		9.2300e-003	9.2300e-003	0.0000	132.2509	132.2509	2.5300e-003	2.4200e-003	133.0368

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Single Family Housing	2.47829e+006	0.0134	0.1142	0.0486	7.3000e-004		9.2300e-003	9.2300e-003		9.2300e-003	9.2300e-003	0.0000	132.2509	132.2509	2.5300e-003	2.4200e-003	133.0368
Total		**0.0134**	**0.1142**	**0.0486**	**7.3000e-004**		**9.2300e-003**	**9.2300e-003**		**9.2300e-003**	**9.2300e-003**	**0.0000**	**132.2509**	**132.2509**	**2.5300e-003**	**2.4200e-003**	**133.0368**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Single Family Housing	2.47829e+006	0.0134	0.1142	0.0486	7.3000e-004		9.2300e-003	9.2300e-003		9.2300e-003	9.2300e-003	0.0000	132.2509	132.2509	2.5300e-003	2.4200e-003	133.0368
Total		**0.0134**	**0.1142**	**0.0486**	**7.3000e-004**		**9.2300e-003**	**9.2300e-003**		**9.2300e-003**	**9.2300e-003**	**0.0000**	**132.2509**	**132.2509**	**2.5300e-003**	**2.4200e-003**	**133.0368**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
City Park	0	0.0000	0.0000	0.0000	0.0000
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Single Family Housing	706035	171.0146	9.2900e-003	1.9200e-003	171.8194
Total		**171.0146**	**9.2900e-003**	**1.9200e-003**	**171.8194**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
City Park	0	0.0000	0.0000	0.0000	0.0000
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Single Family Housing	706035	171.0146	9.2900e-003	1.9200e-003	171.8194
Total		**171.0146**	**9.2900e-003**	**1.9200e-003**	**171.8194**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.7702	9.6300e-003	0.8356	4.0000e-005		4.6200e-003	4.6200e-003		4.6200e-003	4.6200e-003	0.0000	1.3646	1.3646	1.3100e-003	0.0000	1.3975
Unmitigated	0.7702	9.6300e-003	0.8356	4.0000e-005		4.6200e-003	4.6200e-003		4.6200e-003	4.6200e-003	0.0000	1.3646	1.3646	1.3100e-003	0.0000	1.3975

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0602					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.6848					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0252	9.6300e-003	0.8356	4.0000e-005		4.6200e-003	4.6200e-003		4.6200e-003	4.6200e-003	0.0000	1.3646	1.3646	1.3100e-003	0.0000	1.3975
Total	**0.7702**	**9.6300e-003**	**0.8356**	**4.0000e-005**		**4.6200e-003**	**4.6200e-003**		**4.6200e-003**	**4.6200e-003**	**0.0000**	**1.3646**	**1.3646**	**1.3100e-003**	**0.0000**	**1.3975**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0602					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.6848					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0252	9.6300e-003	0.8356	4.0000e-005		4.6200e-003	4.6200e-003		4.6200e-003	4.6200e-003	0.0000	1.3646	1.3646	1.3100e-003	0.0000	1.3975
Total	**0.7702**	**9.6300e-003**	**0.8356**	**4.0000e-005**		**4.6200e-003**	**4.6200e-003**		**4.6200e-003**	**4.6200e-003**	**0.0000**	**1.3646**	**1.3646**	**1.3100e-003**	**0.0000**	**1.3975**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	36.9556	0.1739	4.4600e-003	42.6308
Unmitigated	36.9556	0.1739	4.4600e-003	42.6308

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
City Park	0 / 3.59827	9.6831	5.3000e-004	1.1000e-004	9.7287
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Single Family Housing	5.27748 / 3.3271	27.2725	0.1734	4.3500e-003	32.9021
Total		**36.9556**	**0.1739**	**4.4600e-003**	**42.6308**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
City Park	0 / 3.59827	9.6831	5.3000e-004	1.1000e-004	9.7287
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Single Family Housing	5.27748 / 3.3271	27.2725	0.1734	4.3500e-003	32.9021
Total		**36.9556**	**0.1739**	**4.4600e-003**	**42.6308**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	19.3613	1.1442	0.0000	47.9668
Unmitigated	19.3613	1.1442	0.0000	47.9668

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
City Park	0.26	0.0528	3.1200e-003	0.0000	0.1308
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Single Family Housing	95.12	19.3085	1.1411	0.0000	47.8360
Total		**19.3613**	**1.1442**	**0.0000**	**47.9667**

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
City Park	0.26	0.0528	3.1200e-003	0.0000	0.1308
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Single Family Housing	95.12	19.3085	1.1411	0.0000	47.8360
Total		**19.3613**	**1.1442**	**0.0000**	**47.9667**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Appendix B to Initial Study
Habitat Assessment

IRIS PARK PROJECT
WESTERN RIVERSIDE MSHCP HABITAT ASSESSMENT AND CONSISTENCY ANALYSIS
CITY OF MORENO VALLEY, RIVERSIDE COUNTY, CALIFORNIA

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March 31, 2020

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LIST OF ATTACHMENTS

ABBREVIATIONS

AMSL	Above Mean Sea Level
APN	Assessor's Parcel Number
BCC	Birds of Conservation Concern
CDFW	California Department of Fish & Wildlife
CESA	California Endangered Species Act
CEQA	California Environmental Quality Act
CNDDB	California Natural Diversity Database
CNPS	California Native Plant Society
CRPR	California Rare Plant Rank
FC	Federal Candidate Species
FE	Federally Endangered Species
FT	Federally Threatened Species
FESA	Federal Endangered Species Act
FP	CDFW Fully Protected Species
GPS	Global Positioning System
HCP	Habitat Conservation Plan
MBTA	Migratory Bird Treaty Act
MSHCP	Multiple Species Habitat Conservation Plan
NEPA	National Environmental Protection Act
NWI	National Wetland Inventory
Plan	Western Riverside Multiple Species Habitat Conservation Plan
PFO	Potential for Occurrence
RCA	Regional Conservation Authority
RCIP	Riverside County Integrated Project
RWQCB	Regional Water Quality Control Board
SC	State Candidate Species
SE	State Endangered Species
ST	State Threatened Species
SSC	CDFW Species of Special Concern
TLMA	Transportation and Land Management
USACE	United States Army Corp of Engineers
USDA	United State Department of Agriculture
USGS	United States Geological Survey
USFWS	United States Fish & Wildlife Service

EXECUTIVE SUMMARY

Blackhawk Environmental (Blackhawk) conducted a literature review, field reconnaissance survey, and biological assessment of the proposed Iris Park Project (Project; APN 312-020-025) to assess existing site conditions, as well as assess the potential for sensitive species or habitats to occur within the Project site and surrounding area. This report is intended to fulfill requirements for determining Project consistency with the Western Riverside Multiple Species Habitat Conservation Plan (MSHCP; Plan).

Iris Park (Project) includes 10.82 acres of undeveloped lands in the incorporated City of Moreno Valley, Riverside County, California. The Project is located generally east of March Air Reserve Base and Interstate 215 and south of State Route (SR) 60 (Attachment A, Figure 1). The Project site is bordered by the Val Verde Academy to the west, Iris Avenue to the north, California Aqueduct Linear Park Site to the south and the residential community associated with Ebony Avenue to the east.

The Project is a is a proposed 81-lot single-family detached subdivision located on the south side of Iris Avenue, about 500 feet east of Perris Boulevard, on APN 312-020-025. The project site is triangular in shape and has a gross acreage of approximately 10.82 acres, including 3.02 acres that is planned for development by the City of Moreno Valley as a public park and trail over the California Aqueduct. The community will have two gated access points off Iris Avenue. Three small park areas are spread out on the site. Residential lots would range from 2,197 sq. ft. to 4,741 sq. ft. Homes would range from 1,848 sq. ft. to 2,201 sq. ft., with 3 to 5 bedrooms and 2.5 to 3 baths. Homes would be two stories, include a back yard approximately 12 to 14 feet deep, and have an attached two-car garage. Three architectural styles are proposed: Spanish, French, and Farmhouse. The project overall would provide 217 parking spaces, including 162 garage spaces and 49 spaces on private streets.

The Project site is located entirely within the Riverside County, California and will include 10.82 acres occurring on vacant land. Proposed Project impact areas are shown in Attachment A, Figure 3. The Project is located within the boundaries of the Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP; Plan) in the Reche Canyon/Badlands Area Plan. The Project site is not located within any Criteria Cell and is located outside of Plan Conservation Areas. The Project area is not located within areas requiring assessment for special status mammals, amphibians, narrow endemic plants, or other criteria area species. The Project area requires assessment and surveys for burrowing owl (*Athene cunicularia*), if suitable habitat is identified during a habitat assessment; suitable burrowing owl habitat was not present within the survey area.

The Project site contains a single vegetation community and/or land cover type (Residential/Urban/Exotic – Disturbed Areas) and predominately contains non-native grasses and non-native annual plant species commonly associated with anthropogenically-altered landscapes, while areas surrounding the Project site contain sparse ornamental shrubs and trees, amongst development.

A literature review conducted for the Project site identified documented occurrences from within five miles of the Project site for a total of 18 special-status wildlife species and one special-status plant species. A field reconnaissance survey and habitat assessment was conducted on February 24, 2020. During the survey, each of these "target species" species were evaluated for their potentials for occurrence (PFO) within and/or adjacent to the Project site. In order to evaluate habitat which may

be suitable for burrowing owl, and to evaluate the potential for indirect impacts, the assessment included all proposed Project features as well as an additional 150-meter (492 feet) survey buffer surrounding the proposed Parcel (Survey Area). During the assessment, no additional special-status wildlife species were observed within or adjacent to the Project site.

Special-status wildlife species identified in the literature review that were determined to have a potential for occurrence (PFO) within the Survey Area consisted of California horned lark (*Eremophila alpestris actia*; moderate PFO), California glossy snake (*Arizona elegans occidentalis*; low PFO) and Western yellow bat (*Lasiurus xanthinus;* low PFO [roosting]). Of the three species with the potential to occur, only the California horned lark is covered under the MSHCP. Species PFO was determined based on proximity of historic records and quality of habitat on site. At the time of the assessment, the Survey Area did not support suitable habitat for burrowing owl; however, two rubble piles containing shallow cavities were identified on the site and were occupied by desert cottontail and a domestic cat during the 2020 breeding season, precluding occupation by burrowing owl. Therefore, suitable habitat for burrowing owl was found absent from the Project site and focused burrowing owl surveys were not required pursuant to the Burrowing Owl Survey Instructions for the Western Riverside MSHCP. Though, occupied by other species at the time of the assessment, these rubble piles have a low potential to support migrating burrowing owls as temporary roost sites, if they become vacant (i.e. not occupied by desert cottontails or domestic cats) prior to construction. Following the MSHCP recommendation of a preconstruction burrowing owl survey within 30 days prior to construction, no negative impacts to burrowing owl are anticipated. If burrowing owls are present during the non-breeding season (September 1 through February 28), burrowing owl exclusion measures may be implemented in accordance with the Plan.

The remaining 15 target sensitive species were considered absent due to lack of suitable habitats on the Project site and Survey Area and no sensitive species were present at the time of the assessment.

Based on CNDDB, USFWS, and CNPSEI-documented occurrences within five miles of the Project site, the literature review resulted in a list of one special-status plant species evaluated for its' potential to occur on the Project site (smooth tarplant; *Centromadia pungens ssp. laevis*). Smooth tarplant was determined to be absent from the Project site and Survey Area, based on lack of individuals observed on site, proximity of historic records and quality of habitat on site. Smooth tarplant is covered under the MSHCP; however, is presumed absent.

The Project site and surrounding areas support suitable nesting substrates for various general migratory bird and raptor species common to the region. Take authorization for migratory bird and raptor species is not provided by the Plan. The Plan functionally covers the remaining special-status species identified with potentials to occur, as well as impacts to their habitats. No other special-status resources are present or are expected to occur. Mitigation for potential Project-related impacts to the species identified to occur or with the potentials to occur during the literature review and assessment can be achieved through payment of a mitigation fee to the appropriate MSHCP authority. No significant adverse impacts to special-status biological resources of the region are anticipated with implementation of Project mitigation contained herein.

Riparian/riverine habitats, as defined by the MSHCP, do not occur within the proposed Project area. The habitat assessment did not identify any drainages or waterways which may fall under the jurisdiction by the United States Army Corps of Engineers (USACE), Regional Water Quality Control Board (RWQCB), and California Department of Fish and Wildlife (CDFW). No vernal pools or habitat that could potentially support fairy shrimp species were observed on the Project site. No vernal pools

were observed, and they are not known to historically occur within the Project site or within 2 miles of the Survey Area. Additional permitting from these agencies should not be required for Project authorization.

1.0 INTRODUCTION

Blackhawk was contracted by Environmental Planning Development Solutions, Inc. (EPD) to conduct environmental surveys and provide a Habitat Assessment Report and MSHCP Consistency Analysis Report for proposed Iris Park Project (Project; APN 312-020-025), located within an approximately 10.82-acre private land parcel in Riverside County, California. Blackhawk conducted a literature review, field reconnaissance survey, and biological assessment of the proposed Project to assess existing site conditions, as well as assess the potential for sensitive species or habitats to occur within the Project site.

The purpose of this survey effort and consistency analysis is to identify and document sensitive biological resources potentially occurring within the Project site and surrounding areas. The Project is located within the boundaries of the Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP) in the Reche Canyon/Badlands Area Plan; however, the Project is not located within a MSHCP Cell Group or MSHCP Criteria Cell(s). The survey effort focused on documentation of existing site conditions, such as soils, topography, vegetation communities, riverine/riparian habitats, vernal pools and special status species as required for review under the MSHCP. Specifically, the assessment was conducted to determine if habitat was present for BUOW due to the Project location occurring within the MSHCP BUOW survey area, as well as all other sensitive species identified in the literature review as required by the Plan (Table 3 and 4). The assessment did not include a formal jurisdictional or wetland delineation or aquatic resources mapping effort.

1.1 Project Description

The Project is located within a 10.82-acre parcel (APN 312-020-025) in Riverside County, located generally east of March Air Reserve Base and Interstate 215 and south of State Route (SR) 60 in the incorporated City of Moreno Valley (Attachment A, Figure 1). The Project is a proposed 81-lot single-family detached subdivision located on the south side of Iris Avenue, about 500 feet east of Perris Boulevard, on APN 312-020-025. The project site is triangular in shape and has a gross acreage of approximately 10.82 acres, including 3.02 acres that is planned for development by the City of Moreno Valley as a public park and trail over the California Aqueduct. The community will have two gated access points off Iris Avenue. Three small park areas are spread out on the site. Residential lots would range from 2,197 sq. ft. to 4,741 sq. ft. Homes would range from 1,848 sq. ft. to 2,201 sq. ft., with 3 to 5 bedrooms and 2.5 to 3 baths. Homes would be two stories, include a back yard approximately 12 to 14 feet deep, and have an attached two-car garage. Three architectural styles are proposed: Spanish, French, and Farmhouse. The project overall would provide 217 parking spaces, including 162 garage spaces and 49 spaces on private streets. Proposed Project impact areas are shown on Attachment A, Figure 3.

2.0 REGULATORY SETTING

The proposed Project is subject to a host of state and federal regulations associated with a number of regulatory programs. These programs often overlap and were developed to protect natural resources, including: state- and federally listed plants and animals; aquatic resources including rivers and creeks, ephemeral streambeds, wetlands, and areas of riparian habitat; other special-status species that are not listed as threatened or endangered by the state or federal governments; and other special-status vegetation communities.

2.1 State and/or Federally Listed Plant and Wildlife Species

2.1.1 State of California Endangered Species Act

California's Endangered Species Act (CESA) defines an endangered species as "a native species or subspecies of a bird, mammal, fish, amphibian, reptile, or plant which is in serious danger of becoming extinct throughout all, or a significant portion, of its range due to one or more causes, including loss of habitat, change in habitat, overexploitation, predation, competition, or disease." The State defines a threatened species as "a native species or subspecies of a bird, mammal, fish, amphibian, reptile, or plant that, although not presently threatened with extinction, is likely to become an Endangered species in the foreseeable future in the absence of the special protection and management efforts required by this chapter. Any animal determined by the commission as rare on or before January 1, 1985 is a threatened species." Candidate species are defined as "a native species or subspecies of a bird, mammal, fish, amphibian, reptile, or plant that the commission has formally noticed as being under review by the department for addition to either the list of endangered species or the list of threatened species, or a species for which the commission has published a notice of proposed regulation to add the species to either list." Candidate species may be afforded temporary protection as though they were already listed as threatened or endangered at the discretion of the Fish and Game Commission. Unlike the Federal Endangered Species Act (FESA), CESA does not list invertebrate species.

Article 3, Sections 2080 through 2085, of the CESA addresses the taking of threatened, endangered, or candidate species by stating "No person shall import into this state, export out of this state, or take, possess, purchase, or sell within this state, any species, or any part or product thereof, that the commission determines to be an endangered species or a threatened species, or attempt any of those acts, except as otherwise provided." Under the CESA, "take" is defined as "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill." Exceptions authorized by the state to allow "take" require permits or memoranda of understanding and can be authorized for endangered species, threatened species, or candidate species for scientific, educational, or management purposes and for take incidental to otherwise lawful activities. Sections 1901 and 1913 of the California Fish and Game Code provide that notification is required prior to disturbance.

2.1.2 Federal Endangered Species Act

The FESA of 1973 defines an endangered species as "any species that is in danger of extinction throughout all or a significant portion of its range." A threatened species is defined as "any species that is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range." Under provisions of Section 9(a)(1)(B) of the FESA it is unlawful to

"take" any listed species. "Take" is defined in Section 3(18) of FESA: "...harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct." Further, the United States Fish and Wildlife Service (USFWS), through regulation, has interpreted the terms "harm" and "harass" to include certain types of habitat modification that result in injury to, or death of species as forms of "take." These interpretations, however, are generally considered and applied on a case-by-case basis and often vary from species to species. In a case where a property owner seeks permission from a Federal agency for an action that could affect a federally listed plant and animal species, the property owner and agency are required to consult with USFWS. Section 9(a)(2)(b) of the FESA addresses the protections afforded to listed plants.

2.1.3 State and Federal Take Authorizations for Listed Species

Federal or state authorizations of impacts to or incidental take of a listed species by a private individual or other private entity would be granted in one of the following ways:

- Section 7 of the FESA stipulates that any federal action that may affect a species listed as threatened or endangered requires a formal consultation with USFWS to ensure that the action is not likely to jeopardize the continued existence of the listed species or result in destruction or adverse modification of designated critical habitat. 16 U.S.C. 1536(a)(2).

- In 1982, the FESA was amended to give private landowners the ability to develop Habitat Conservation Plans (HCP) pursuant to Section 10(a) of the FESA. Upon development of an HCP, the USFWS can issue incidental take permits for listed species where the HCP specifies at minimum, the following: (1) the level of impact that will result from the taking, (2) steps that will minimize and mitigate the impacts, (3) funding necessary to implement the plan, (4) alternative actions to the taking considered by the applicant and the reasons why such alternatives were not chosen, and (5) such other measures that the Secretary of the Interior may require as being necessary or appropriate for the plan.

- Sections 2090-2097 of the California Endangered Species Act (CESA) require that the state lead agency consult with CDFW on projects with potential impacts on state-listed species. These provisions also require CDFW to coordinate consultations with USFWS for actions involving federally listed as well as state- listed species. In certain circumstances, Section 2080.1 of the California Fish and Game Code allows CDFW to adopt the federal incidental take statement or the 10(a) permit as its own based on its findings that the federal permit adequately protects the species under state law.

2.2 California Environmental Quality Act

Shortly after the United States federal government passed the National Environmental Policy Act (NEPA), the California Environmental Quality Act (CEQA) was passed in 1970 to institute a statewide policy of environmental protection. CEQA does not directly regulate land uses, but instead requires state and local agencies within California to follow a protocol of analysis and public disclosure of environmental impacts of proposed projects and adopt all feasible measures to mitigate those impacts. CEQA makes environmental protection a mandatory part of every California state and local agency's decision-making process.

2.2.1 CEQA Thresholds of Significance

Environmental impacts relative to biological resources are assessed using impact significance threshold criteria, which reflect the policy statement contained in CEQA, Section 21001(c) of the California Public Resources Code. Accordingly, the State Legislature has established it to be the policy of the State of California to:

> *"Prevent the elimination of fish or wildlife species due to man's activities, ensure that fish and wildlife populations do not drop below self- perpetuating levels, and preserve for future generations representations of all plant and animal communities..."*

Determining whether a project may have a significant effect, or impact, plays a critical role in the CEQA process. According to CEQA, Section 15064.7 (Thresholds of Significance), each public agency is encouraged to develop and adopt (by ordinance, resolution, rule, or regulation) thresholds of significance that the agency uses in the determination of the significance of environmental effects. A threshold of significance is an identifiable quantitative, qualitative or performance level of a particular environmental effect, non-compliance with which means the effect will normally be determined to be significant by the agency and compliance with which means the effect normally will be determined to be less than significant. In the development of thresholds of significance for impacts to biological resources CEQA provides guidance primarily in Section 15065, Mandatory Findings of Significance, and the CEQA Guidelines, Attachment G, Environmental Checklist Form. Section 15065(a) states that a project may have a significant effect where:

> *"The project has the potential to: substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or wildlife community, substantially reduce the number or restrict the range of an endangered, rare, or threatened species, ..."*

Therefore, for the purpose of this analysis, impacts to biological resources are considered potentially significant (before considering offsetting mitigation measures) if one or more of the following criteria discussed below would result from implementation of the proposed project.

2.2.2 Criteria for Determining Significance Pursuant to CEQA

Attachment G of the 1998 State CEQA guidelines indicate that a project may be deemed to have a significant effect on the environment if the project is likely to:

> *a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service.*
>
> *b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service.*

c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.

d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors or impede the use of native wildlife nursery sites.

e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.

f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

2.2.3 CEQA Guidelines Section 15380

The CEQA requires evaluation of a project's impacts on biological resources and provides guidelines and thresholds for use by lead agencies for evaluating the significance of proposed impacts. Sections 5.1.1 and 5.2.2 below set forth these thresholds and guidelines. Furthermore, pursuant to the CEQA Guidelines Section 15380, CEQA provides protection for non-listed species that could potentially meet the criteria for state listing. For plants, CDFW assigns California Rare Plant Ranks (CRPR) to species categorized as List 1A, 1B, or 2 of the California Native Plant Society (CNPS) *Inventory of Rare and Endangered Plants in California* may meet the criteria for listing and should be considered under CEQA. CDFW also recommends protection of plants, which are regionally important, such as locally rare species, disjunct populations of more common plants, or plants on the CNPS Lists 3 or 4.

2.3 Special Status Species Designations

2.3.1 Federally Designated Special-Status Species

Some years ago, the USFWS instituted changes in the listing status of candidate species. Former C1 (candidate) species are now referred to simply as candidate species and represent the only candidates for listing. All references to federally protected species in this report (whether listed, proposed for listing, or candidate) include the most current published status or candidate category to which each species has been assigned by USFWS. Additionally, the USFWS *Birds of Conservation Concern 2008* report was published to identify the migratory and non-migratory bird species (beyond those already federally listed) that represent the highest conservation priorities for USFWS.

For this report, the following acronyms are used for federal special-status species:

- FE: Federally listed as Endangered
- FT: Federally listed as Threatened
- FPE: Federally proposed for listing as Endangered
- FPT: Federally proposed for listing as Threatened
- FC: Federal Candidate species (Former Category 1 candidates)
- BCC: USFWS Birds of Conservation Concern

2.3.2 State-Designated Special-Status Species

Some mammals and birds are protected by the state as Fully Protected (FP) Mammals or Fully Protected Birds, as described in the California Fish and Game Code, Sections 4700 and 3511, respectively. California Species of Special Concern (SSC) are species designated as vulnerable to extinction due to declining population levels, limited ranges, and/or continuing threats. This list is primarily a working document for the CDFW's California Natural Diversity Database (CNDDB) project. Informally listed taxa are not protected but warrant consideration in the preparation of biotic assessments. For some species, the CNDDB is only concerned with specific portions of the life history, such as roosts, rookeries, or nest sites. For this report the following acronyms are used for State special-status species:

- SE: State-listed as Endangered
- ST: State-listed as Threatened
- SCE: State candidate for listing as Endangered
- SCT: State candidate for listing as Threatened
- FP: State Fully Protected
- SSC: Species of Special Concern

2.3.3 California Rare Plant Rank

The CNPS is a private plant conservation organization dedicated to the monitoring and protection of sensitive species in California. The California Native Plant Society's *California Native Plant Society's Inventory of Rare and Endangered Plants of California* separates plants of interest into five categories. CNPS has compiled an inventory comprised of the information focusing on geographic distribution and qualitative characterization of Rare, Threatened, or Endangered vascular plant species of California (Tibor 2001). The list serves as the candidate list for listing as threatened and endangered by CDFW.

- CRPR 1A: Plants presumed extirpated in California and either rare or extinct elsewhere
- CRPR 1B: Plants rare, threatened, or endangered in California and elsewhere
- CRPR 2A: Plants presumed extirpated in California but common elsewhere
- CRPR 2B: Plants rare, threatened, or endangered in California but more common elsewhere
- CRPS 3: Plants about which more information is needed
- CRPR 4: Plants of limited distribution

2.4 Additional Applicable State and Federal Regulations

Each of the following regulations bears some applicability toward assessing the natural resources of the Project Site and any effects that construction and long-term operations and maintenance activities may have upon such resources. These are included for informational and referential purposes only.

2.4.1 Bald and Golden Eagle Protection Act

The Bald and Golden Eagle Protection Act (PL 95-616; 16 USC §§ 668 et seq.) provides for protection of the bald and golden eagles by prohibiting taking, possession, and commerce in the birds.

2.4.2 Clean Water Act

The Clean Water Act (CWA) regulates the discharge of pollutants to waters of the United States in order to protect water quality and the beneficial uses of these waters. Through a permit application process, CWA Section 404 regulates dredge and fill discharges to waters of the United States.

2.4.3 Fish and Wildlife Conservation Act of 1980

The Fish and Wildlife Conservation Act of 1980 (PL 96-366; 16 USC §§2901 et seq.) provides for conservation, protection, restoration and propagation of certain species, including migratory birds threatened with extinction.

2.4.4 Migratory Bird Treaty Act

The Migratory Bird Treaty Act (PL 65-186, as amended; 16 USC §§ 703 et seq.) protects most birds, whether or not they migrate. Birds, their nests, eggs, parts, or products may not be killed or possessed. Game birds are listed and protected except where specific seasons, bag limits, and other features govern their hunting. Exceptions are made for some agricultural pests, which require a USFWS permit (yellow-headed, red-winged, bi-colored red-winged, tri-colored red-winged, Rusty and Brewer's blackbirds, cowbirds, all grackles, crows and magpies). Some other birds that injure crops in California may be taken under the authority of the County Agricultural Commissioner (meadowlarks, horned larks, golden-crowned sparrows, white- and other crowned sparrows, goldfinches, house finches, acorn woodpeckers, Lewis' woodpeckers and flickers). Permits may be granted for various non-commercial activities involving migratory birds and some commercial activities involving captive-bred migratory birds.

2.4.5 California Fish & Game Codes 3500 Series

California Fish & Game Codes 3500, 3503, 3503.5, 3505, 3511 and 3513 are State regulations that cover resident and non-resident game birds, protected bird nests, protected raptor nests, egrets, ospreys, Fully Protected bird species, and take considerations for Migratory Bird Treaty Act birds.

- Code 3500: "(a) Resident game birds are as follows:
  (1) Doves of the genus Streptopelia, including, but not limited to, spotted doves, ringed turtledoves, and Eurasian collared-doves.
  (2) California quail and varieties thereof.
  (3) Gambel's or desert quail.
  (4) Mountain quail and varieties thereof.
  (5) Sooty or blue grouse and varieties thereof.
  (6) Ruffed grouse.
  (7) Sage hens or sage grouse.
  (8) Hungarian partridges.
  (9) Red-legged partridges including the chukar and other varieties.
  (10) Ring-necked pheasants and varieties thereof.
  (11) Wild turkeys of the order Galliformes.

(b) Migratory game birds are as follows:
(1) Ducks and geese.
(2) Coots and gallinules.
(3) Jacksnipe.
(4) Western mourning doves.
(5) White-winged doves.
(6) Band-tailed pigeons.
(c) References in this code to "game birds" means both resident game birds and migratory game birds."

- Code 3503: "It is unlawful to take, possess, or needlessly destroy the nest or eggs of any bird, except as otherwise provided by this code or any regulation made pursuant thereto."

- Code 3503.5: "It is unlawful to take, possess, or destroy any birds in the orders Falconiformes or Strigiformes (birds-of-prey) or to take, possess, or destroy the nest or eggs of any such bird except as otherwise provided by this code or any regulation adopted pursuant thereto."

- Code 3505: "It is unlawful to take, sell, or purchase any aigrette or egret, osprey, bird of paradise, goura, numidi, or any part of such a bird."

- Code 3511: "(a) (1) Except as provided in Section 2081.7 or 2835, fully protected birds or parts thereof may not be taken or possessed at any time. No provision of this code or any other law shall be construed to authorize the issuance of permits or licenses to take any fully protected bird, and no permits or licenses heretofore issued shall have any force or effect for that purpose. However, the department may authorize the taking of those species for necessary scientific research, including efforts to recover fully protected, threatened, or endangered species, and may authorize the live capture and relocation of those species pursuant to a permit for the protection of livestock. Prior to authorizing the take of any of those species, the department shall make an effort to notify all affected and interested parties to solicit information and comments on the proposed authorization. The notification shall be published in the California Regulatory Notice Register and be made available to each person who has notified the department, in writing, of his or her interest in fully protected species and who has provided an e-mail address, if available, or postal address to the department. Affected and interested parties shall have 30 days after notification is published in the California Regulatory Notice Register to provide any relevant information and comments on the proposed authorization.
(2) As used in this subdivision, "scientific research" does not include any actions taken as part of specified mitigation for a project, as defined in Section 21065 of the Public Resources Code.
(3) Legally imported fully protected birds or parts thereof may be possessed under a permit issued by the department.
(b) The following are fully protected birds:
(1) American peregrine falcon (*Falco peregrinus anatum*).
(2) Brown pelican.
(3) California black rail (*Laterallus jamaicensis coturniculus*).
(4) California Ridgway's rail (*Rallus longirostris obsoletus*).
(5) California condor (*Gymnogyps californianus*).
(6) California least tern (*Sterna albifrons browni*).

(7) Golden eagle.
(8) Greater sandhill crane (*Grus canadensis tabida*).
(9) Light-footed Ridgway's rail (*Rallus longirostris levipes*).
(10) Southern bald eagle (*Haliaeetus leucocephalus leucocephalus*).
(11) Trumpeter swan (*Cygnus buccinator*).
(12) White-tailed kite (*Elanus leucurus*).
(13) Yuma Ridgway's rail (*Rallus longirostris yumanensis*)."

- Code 3513: "It is unlawful to take or possess any migratory nongame bird as designated in the Migratory Bird Treaty Act or any part of such migratory nongame bird except as provided by rules and regulations adopted by the Secretary of the Interior under provisions of the Migratory Treaty Act."

2.4.6 Native Plant Protection Act

The Native Plant Protection Act (NPPA) was enacted in 1977 and allows the California Fish and Game Commission to designate plants as rare or endangered. There are 64 species, subspecies, and varieties of plants that are protected as rare under the NPPA. The NPPA prohibits take of endangered or rare native plants, but includes some exceptions for agricultural and nursery operations, emergencies, and/or with proper notification to the CDFW for vegetation removal from canals, roads, and other sites, changes in land use, and in certain other situations.

2.4.7 Porter-Cologne Water Quality Control Act

The Porter-Cologne Water Quality Control Act (California Water Code §§13000 et seq.) is the State's primary water law. It gives the State Water Resources Control Board (SWRCB) and the nine regional water quality control boards substantial authority to regulate water use of surface and sub-surface waters.

2.5 Local Regulations

2.5.1 Western Riverside Multiple Species Habitat Conservation Plan

The Western Riverside County Multiple Species Habitat Conservation Plan is a comprehensive, multi-jurisdictional Habitat Conservation Plan (HCP) focusing on conservation of species and their associated habitats in Western Riverside County.

The MSHCP will serve as an HCP pursuant to Section 10(a)(1)(B) of the FESA, as well as a NCCP under the NCCP Act of 2001. The MSHCP will be used to allow the participating jurisdictions to authorize "take" of plant and wildlife species identified within the MSHCP area. USFWS and CDFW (Wildlife Agencies) have authority to regulate the take of threatened, endangered, and rare species. Under the MSHCP, the Wildlife Agencies will grant "take authorization" for otherwise lawful actions, such as public and private development that may incidentally take or harm individual species or their habitat outside of the MSHCP Conservation Area, in exchange for the assembly and management of a coordinated MSHCP Area. The MSHCP is designed to provide mitigation compliance under the FESA, CESA, CEQA, and National Environmental Protection Act (NEPA) with payment of a development mitigation fee to the appropriate local jurisdiction and completion of requisite habitat assessments/focused surveys for projects within those jurisdictions.

3.0 METHODS

Methods described below focused on determination of potential for occurrence of special-status plant and wildlife species. Specific consideration was given for species not covered or functionally covered under the Western Riverside MSHCP. Species are considered to be special-status, and are therefore subject to analysis in this section, if they meet one or more of the following criteria:

- Plant and animal species listed as endangered (FE), threatened (FT), or candidates (FPE or FPT) for listing under the Federal Endangered Species Act (FESA);
- Plant and animal species listed as endangered (SE), threatened (ST), or candidates (SPE or SPT) for listing under the California Endangered Species Act (CESA);
- Animals designated as Fully Protected Species (FP), as defined in California Fish and Game Code Sections 3511, 4700, 5050, and 5515;
- Animal species designated as Species of Special Concern (SSC) by the CDFW;
- Bat species designated as High Priority (H) by the Western Bat Working Group;
- Plants that are state listed as Rare[1]; or
- Plant species ranked by the California Native Plant Society (CNPS) as having a California Rare Plant Rank (CRPR) of 1 or 2.[2]

Sensitive natural communities are communities that have a limited distribution and are often vulnerable to the environmental effects of projects. These communities may or may not contain sensitive species or their habitats. For purposes of this assessment, sensitive natural communities are considered to be any of the following:

- Vegetation communities listed in the CNDDB;
- Communities listed in the Natural Communities List with a rarity rank of S1 (critically imperiled), S2 (imperiled), or S3 (vulnerable).

3.1 Literature Review

As a foundation for MSHCP requirements, the Riverside County Parcel Report was considered for information regarding sensitive habitat types and potential survey requirements applicable to portions of the Project occurring within private land. The RCA MSHCP Information map was further used to review Plan Survey areas and Criteria Species areas which may overlay portions of the Project occurring within County ROW. Additional sources of information included the National Wetlands Inventory database (NWI), the US Department of Agriculture (USDA) Web Soil Mapper, Calflora database, US Geological Service (USGS) topographic maps, and Google Earth aerial imagery.

Blackhawk Environmental conducted database records search (February 20, 2020) centered on the USGS 7.5-minute *Sunnymead* quadrangle and including up to a five-mile radius surrounding the Project. The database records search included the CDFW California Natural Diversity Database (CNDDB) (CDFW 2020), the US Fish & Wildlife Service (USFWS) Species Occurrence Database (USFWS 2020), and the California Native Plant Society's (CNPS) Electronic Inventory (EI) of Rare and

[1] Plants that were previously state listed as "Rare" have been re-designated as state threatened.

[2] Under the CEQA review process, only CRPR 1 and 2 species are considered, as these are the only CNPS species that meet CEQA's definition of "rare" or "endangered." Impacts to List 3 and 4 species do not meet CEQA's definition of "rare" or "endangered."

Endangered Vascular Plants of California (CNPS 2020). The CNDDB contains records of reported occurrences of federal- and state-listed species, proposed endangered or threatened species, Federal Birds of Conservation Concern (BCC), California Species of Special Concern (SSC) and otherwise sensitive species or communities that may occur within and/or in the vicinity of a Project (Figure 2). The USFWS Species Occurrence Database records federal-listed and candidate species. The CNPS Electronic inventory was filtered for CRPR 2.B and higher species. For the purposes of the habitat assessment, all historic records identified using the methods above, as well as MSHCP species with additional survey needs and procedures, were considered "target species."

The USDA Web Soil Survey was used to review soil types documented to occur within the Project site, as soil types often relate to the PFOs for a number of special-status species and habitat types. Also, a synoptic review was conducted of the NWI database, Google Earth imagery and USGS topographic maps for documented or potential water features on and adjacent to the Project site. These databases and literature reviews were used to provide details on special-status species that have potentials to occur within the proposed Project site and/or its surrounding area prior to conducting habitat assessment or focused survey efforts.

Utilizing the background data described above, Blackhawk biologist Ryan Quilley conducted a field survey of the Project site on February 24, 2020 to assess the Project site for existing conditions and the capacity to potentially harbor target species. Representative photos of the Project site, habitats, and existing site conditions are included in Attachment B.

Following the habitat assessment, potentials for sensitive species to occur were evaluated based on proximity, connectivity, recency and abundance of known occurrences, availability of suitable habitats, historic distributions of the species, and existing site conditions. Potentials for occurrence were generally evaluated based on the following criteria:

- Present – The species was observed within the Project area during the survey effort.
- High – Historic records indicate that the species has been known to occur within the vicinity of the Project (1 mile), and suitable habitat occurs onsite.
- Moderate – Historic records indicate that the species has been known to occur within the vicinity of the Project, but low-quality suitable habitat occurs onsite, or; no historic records occur within the Project, but the Project occurs within the historic range of the species, and moderate to high quality habitat occurs.
- Low – Historic records indicate that the species has not been known to occupy the immediate vicinity of the Project, and low-quality habitat for the species exists onsite.
- Assumed Absent – The species is restricted to habitats not occurring within the Project or is considered extirpated from the Project area.

3.2 Habitat Assessment

Blackhawk Environmental Biologist Ryan Quilley conducted the habitat assessment on February 24, 2020. In order to evaluate areas which may be appropriate for temporary Project use, and to evaluate the potential for indirect impacts, the assessment included all proposed Project features as well as an additional 150-meter (492 feet) survey buffer surrounding the proposed Parcel (Survey Area). Fully developed areas were excluded from the Survey Area due to lack of potential habitat for sensitive species. The survey was conducted between 07:20 A.M. and 08:55 A.M. Survey conditions

are included in Table 1 below.

Table 1. Habitat Assessment Conditions

Biologist(s)	Date	Time	Air Temperature (°F)	Wind Speed (mph)	Cloud Cover (%)	Precipitation
Ryan Quilley	2/24/2020	0720-0855	45-60	0-2	0	None

Methods used during the habitat assessment included slowly walking the entire Project site while documenting flora and fauna species and using Global Positioning System (GPS) technology to map dominant vegetation communities and potential hydrologic features. Where appropriate, the biologist paused at select vantage points to provide full visual coverage of the Project site and Survey Area. Pedestrian surveys of the Project Survey Area were performed throughout all areas of the Project and associated survey buffer, with the exception of fully developed lands; and are further discussed below. During the field survey, all plant and wildlife species observed or detected were recorded in field notebooks. Binoculars were used as needed to identify wildlife species. Plant species observed were identified to species or subspecies level when feasible according to the nomenclature in The Jepson Manual: Vascular Plants of California Edition 2 (2012). Vegetation communities were described according to dominant plant species and annotated on a high-resolution aerial photograph of the Project site. The habitat assessment did not include focused or protocol level surveys for any special-status plant or wildlife species; however, the habitat assessment included a burrowing owl habitat assessment, per Plan requirements.

3.3 Jurisdictional Water Bodies, Riverine/Riparian Habitats, Vernal Pools and Listed Fairy Shrimp Habitat

Aerial imagery, the NWI database, and USGS topographic maps of the Project site were reviewed to identify any known or potential drainage features, riparian/riverine habitat types, water bodies and/or other features that may fall under USACE, RWQCB, and/or CDFW jurisdictions and that may require investigation during the field survey. Per the MSHCP, riparian/riverine habitats are lands containing habitat dominated by trees, shrubs, persistent emergents, or emergent mosses and lichens which occur close to or which depend upon soil moisture from a nearby fresh water source or areas with freshwater flow during all or a portion of the year. The presence of any potentially jurisdictional features, including associated vegetation/communities, presence of ordinary high watermarks (OHWMs) or streambeds, substrates, hydrological indicators and potential connectivity, were documented during the field survey. Although the survey did not include a formal jurisdictional delineation, the survey included evaluation of potentially jurisdictional water bodies that may be subject to USACE, RWQCB, and/or CDFW jurisdictions within or adjacent to the Project as well as an assessment of riverine/riparian habitats as defined by the Plan, and none were observed to occur.

3.3.1 Vernal Pools and Listed Fairy Shrimp Habitat

The habitat assessment included a review of the proposed Project and Survey Area for stock ponds, ephemeral pools, road ruts, and other seasonally ponded areas which may support listed fairy shrimp species. The survey was performed during the 2020 wet season. The biologist noted any areas which may support standing water in excess of 2 centimeters. Where presence of standing water was not noted, the biologist recorded any indicators of non-riverine seasonally ponded areas such as water marks, soil cracks, algal mats, or other indicators which may indicate intermittent ponding. As part of the notation of floral species, the biologist recorded any observed vernal pool indicator species per USACE guidance (USACE 1997). Methods included the review of historic aerial imagery to determine

if inundation was readily visible on historic aerials.

3.4 MSHCP Additional Survey Needs and Procedures

The proposed Project falls within an MSHCP Survey Areas for burrowing owl (e.g. amphibian species, mammal species, narrow endemic plant species, and/or special linkage areas). Assessment of habitat suitability for burrowing owl was performed per accepted protocols. These methods are discussed below. The proposed Project does not occur within areas requiring additional assessment and surveys for mammals, amphibians, narrow endemic plants, or Criteria Areas.

3.4.1 Burrowing Owl

A habitat assessment for burrowing owl was performed throughout the Survey Area, as the entirety of the Project falls within areas designated as MSHCP survey areas for the species. Blackhawk performed a habitat assessment for burrowing owl concurrently with the habitat assessment on February 24, 2020. The assessment was performed per the *Burrowing Owl Survey Instructions for the Western Riverside Multiple Species Habitat Conservation Plan Area – Step 1 Habitat Assessment* (2005, by walking meandering transects through the entire Survey Area (excluding urban development). Pedestrian survey transects were spaced in a manner which allowed 100% visual coverage of the ground surface and transect centerlines were no more than 30 meters (approximately 100 ft.) apart. Transect spacing was adjusted as necessary to account for differences in terrain, vegetation density and ground surface visibility. The approximate spacing and directionality of transects is shown on Figure 3. Suitable habitat, as defined by the MSHCP, consists of a variety of natural and modified habitats for nesting and foraging that is typically characterized by low growing vegetation. Burrowing owl habitat includes, but is not limited to, native and non-native grassland, interstitial grassland within shrub lands, shrub lands with low density shrub cover, golf-courses, drainage ditches, earthen berms, unpaved airfields, pastureland, dairies, fallow fields, and agricultural use areas. Burrowing owls typically use burrows made by fossorial (adapted for burrowing or digging) mammals, such as ground squirrels (*Spermaphilus beecheyi*) or badgers (*Taxidea taxus*), they often utilize manmade structures, such as earthen berms; cement culverts; cement, asphalt, rock, or wood debris piles; or openings beneath cement or asphalt pavement. Burrowing owls are often found within, under, or in close proximity to man-made structures. In order to assess potential habitat, the biologist focused on the identification of suitable burrows within and adjacent to the site. Per the MSHCP, if burrowing owl habitat is not present on-site (i.e. if the site is completely covered by chaparral, cement or asphalt) Step II of the survey is not necessary and no pre-construction surveys are necessary.

4.0 ENVIRONMENTAL SETTNG AND RESULTS

4.1 Literature Review Results

The literature review resulted in a total of 18 special-status wildlife species and one special-status plant species known to occur within the Project vicinity. Three wildlife species are Federally Endangered, and one is State Threatened. No plant species are listed as Threatened or Endangered under the CESA or FESA. In addition to the above-mentioned FESA and CESA designations, the remaining 16 species had a CDFW listing status of at least Species of Special Concern (SSC) or CRPR ranking of 2 or higher. A CNDDB map of all sensitive wildlife and plant species known to occur within five miles of the Project site can be found in Attachment A, Figure 2. The resulting lists of species are included in Tables 3 and 4 and discussed in Section 4.2.4 and 4.2.5 below.

- Federally Endangered: three wildlife species; Riverside fairy shrimp, Stephen's kangaroo rat and San Bernardino kangaroo rat.

- State Threatened: one wildlife species; Stephen's kangaroo rat (*Dipodomys stephensi*)].

4.1.1 MSHCP Requirements (criteria cells, fee areas, narrow endemic plants, jurisdictional areas)

The Project site is located within Riverside County in the Reche Canyon/Badlands Area Plan. The RCIP report indicates the Project does not occur within a Plan Cell Group or Plan Criteria Cell; however, the Project is located within the Reche Canyon/Badlands Area Development Impact Fee (DIF) Area and is subject to payment of said fees as compliance. The MSHCP requires burrowing owl habitat assessments and surveys (if suitable habitat is present) are to be conducted on the Project site, but it does not require additional surveys for criteria areas species, amphibian species, mammal species, narrow endemic plant species, and/or special linkage areas.

4.2 Habitat Assessment Results

The proposed Project Includes 10.82 acres of undeveloped lands in the incorporated City of Moreno Valley, Riverside County, California. The Project is located generally east of March Air Reserve Base and Interstate 215 and south of State Route (SR) 60 (Attachment A, Figure 1). The Project site is bordered by the Val Verde Academy to the west, Iris Avenue to the north, California Aqueduct Linear Park Site to the south and the residential community associated with Ebony Avenue to the east. Regional access is provided by Iris Avenue to the north. Areas surrounding the Project site include residential and commercial developments, major and arterial roadways, parking areas, infrastructure, and landscaped areas, as well as undeveloped areas including the site itself and small undeveloped parcels to the west.

Elevations within the Project site range from 1,588 feet to 1,573 feet above mean sea level (AMSL) with little variation throughout the entire Project area.

4.2.1 Soils

Mapped soil units within the Project Survey Area include Exeter, Greenfield and Hanford sandy loams and loamy sands with slopes ranging between zero to two percent. Three distinct soil series are present within the Project area. These soil units are included in Table 2.

Table 2. Soils Occurring Within the Project Site

Map Unit Symbol	Map Unit Name	Acres in Survey Area	Percent of Survey Area
EnA	Exeter sandy loam, 0 to 2 percent slopes	2.11	19.5
GyA	Greenfield sandy loam, 0 to 2 percent slopes	7.00	64.7
HgA	Hanford fine sandy loam, 0 to 2 percent slopes	1.71	15.80
Total		10.82	100.00

4.2.2 Existing Land Use and Site Conditions

The Project site consists of a flat, vacant, triangular area characterized entirely by previously disturbed areas showing evidence of past historic mass grading of the site, imported soils (fill material containing sand and gravel), a single existing dirt access road, anthropogenic topographical disruptions from past land uses (tilling), and small debris piles. There was evidence onsite of recent (<1 year) disturbances, and the observed vegetation communities were highly disturbed. No native habitat was identified within the Project site, and nonnative annual species accounted for over ninety percent of the plant species percent cover on the vegetated areas.

Absolute vegetative cover averaged seventy percent and non-native plant species were dominant in all portions of the Project site. Shrubs were absent and annual, nonnative plant species accounted for an average vegetation height of one foot. The only observed trees within the Survey Area were located outside of the Project site and consisted of scattered ornamental species such as eucalyptus (*Eucalyptus ssp.*), golden wattle (*Acacia sp.*) and Mexican fan palm associated with residential development to the east and northwest of the parcel and the Val Verde Academy to the west of the parcel. The Project site provides marginally suitable habitat for common plant and wildlife species known to occur in the region and is restricted to species associated with disturbed areas.

Hydrology within the Project is characteristic of previously graded urban development areas with flat topography, isolated from surface run-off by municipal storm drain systems surrounding the site. The Project site has a slight grade and generally drains from north to south. Soils throughout the project are broadly described as “well drained,” comprised of sandy loams. Areas of natural hydrology were not observed within the Project, with the exception of small rills due to sheet flow.

4.2.3 Vegetation Communities and Land Use Types

According to the MSHCP Information Map, the Project is proposed to occur within developed/disturbed land. Field verification of the site identified two distinct MSHCP vegetation community and/or land use type within the Project site. Land use types are described according to *Volume II, Section C Habitat Accounts – Vegetation Associations of the Plan* and further refined into

subgroups according to *Preliminary Descriptions of the Terrestrial Natural Communities of California* (Holland 1986). Vegetation mapping showing the distribution of the two communities identified within the Project site and the Survey Area is shown in Figure 3 of Attachment A. The vegetation community/land cover uses present on the Project site and its' acreage include:

Project Site:

- 10.82 acres of Residential/Urban/Exotic – Disturbed Lands (Holland code 11300)

Survey Area (150 meter buffer):

- 12.23 acres of Residential/Urban/Exotic – Disturbed Lands (Holland code 11300)
- 54.39 acres of Residential/Urban/Exotic – Urban/Developed Areas (Holland code 11200)

Residential/Urban/Exotic – Distrubed Lands (Holland code 11300)

According to the Plan descriptions of Residential/Urban/Exotic areas, weed communities occur commonly in roadside areas and abandoned lots, such as the proposed Project lot. Within the Survey Area, these areas are further characterized according to Holland as "Disturbed Lands," which may result from anthropogenic or natural causes and can take on many forms in context of the surrounding vegetation communities, available seed banks, and disturbance factors. These areas can result from previous grading, vehicle traffic, or temporary land uses such as project staging. If disturbance variables are removed, and Disturbed Land is left to natural processes, these areas have the capacity to revegetate in the short term, but do not function as native vegetation communities. This contrasts with Urban/Developed Areas described herein, that do not have the capacity to revegetate in the short term or consist of maintained landscaping.

The entire parcel (10.82 acres) can be characterized by Residential/Urban/Exotic – Disturbed Lands in the form of non-native grasses and recently disturbed soils. Dominant and sub-dominant vegetation in this habitat include smooth barley (*Hordeum murinum*), cheeseweed (*Malva parviflora*), wild radish (*Raphanus sativus*), common fiddleneck (Amsinckia menziesii) and red brome (*Bromus madritensis*). Herbaceous ground cover in these areas was observed to provide groundcover in excess of eighty percent. Average height of vegetation was low, ranging from one half to three feet above ground. An additional 1.41 acres of similarly characterized habitat occurs within the surrounding Survey Area. Visible signs of recent mechanical raking (tilling) and consistent anthropogenic disturbance were observed within this habitat type, precluding the potential for most special-status species of plants and wildlife (Attachment B, Photograph 4). The regional value of disturbed Residential/Urban/Exotic – Weed Communities on site is low; having potential as foraging habitat for raptors, some passerine bird species and use by rodents capable of withstanding frequent anthropogenic disturbance

Residential/Urban/Exotic – Urban/Developed Areas (Holland code 11200)

The Plan characterizes developed areas and urban environments in a variety of ways, including tree groves, street strips, green belts, and shrub cover. Within the Survey Area this land use is further refined to include existing development according to Holland as "Urban/Developed Areas" which are nearly or entirely devoid of native vegetation and show significant evidence of intentional, human-caused conversion of previously existing natural habitats into development. Developed land is characterized by permanent or semi-permanent structures, pavement or hardscape, and landscaped areas that often require irrigation. This vegetation community typically includes unvegetated or landscaped areas with a variety of ornamental (usually non-native) plants (Oberbauer 2008). A total of 54.39

acres of Urban/Developed Areas were observed within the Survey Area.

4.2.3 Jurisdictional Waters and Riverine/Riparian Habitats

USACE, RWQCB and CDFW regulate discharge into and impacts to wetland and non-wetland water bodies meeting certain criteria. The MSHCP regulates impacts to riverine/riparian communities and vernal pools, as well as species associated with these habitat types, as outlined in section 6.1.2 of the MSHCP. The MSHCP specifically describes riverine/riparian habitats as "lands which contain habitat dominated by trees, shrubs, persistent emergents, or emergent mosses and lichens, which occur close to or which depend upon soil moisture from a nearby fresh water source; or areas with freshwater flow during all or a portion of the year."

The habitat assessment did not identify any drainage features which meet the MSHCP criteria for riverine or riparian habitat within the Project vicinity. Based on lack of riverine habitat a Jurisdictional Assessment and accompanying Jurisdictional Delineation Report is not required.

4.2.4 Sensitive and Observed Wildlife Species

The literature review resulted in a list of eighteen special-status target wildlife species with the potential to occur within the Project vicinity. These species and their potentials for occurrence are further described in Table 3. A complete list of wildlife species observed during the habitat assessment is included in Attachment C.

Table 3. Sensitive Wildlife Species Potentially Occurring Within the Survey Area

Species Name	Listing Status	Habitat Requirements	Potential for Occurrence
Birds			
Burrowing owl *Athene cunicularia*	Federal: BCC State: SSC MSHCP: Covered	Shortgrass prairies, grasslands, lowland scrub, agricultural lands (particularly rangelands), coastal dunes, desert floors, and some artificial, open areas as a year-long resident. Occupies abandoned ground squirrel burrows as well as artificial structures such as culverts and underpasses.	Presumed Absent. Six historical occurrences were recorded within five miles of the Project site; however, at the time of the survey, the site had no suitable burrows and lacks enough suitable habitat to support this species.
California horned lark *Eremophila alpestris actia*	Federal: None State: WL MSHCP: Covered	A common, widespread bird of the open country, the Horned Lark prefers short, sparsely vegetated prairies, deserts, and agricultural lands.	Moderate. Two historical occurrences were recorded within five miles of the Project site. Residential/Urban/Exotic – Weed Communities dominated by non-native grasses within the site provides suitable nesting and foraging habitat.
Loggerhead shrike *Lanius*	Federal: BCC State: SSC MSHCP:	Inhabits open country with short vegetation and well-spaced shrubs or low trees,	Presumed Absent (Nesting). One historical occurrence was recorded within five miles of

ludovicianus (nesting)	Covered	particularly those with spines or thorns. Frequents agricultural fields, pastures, old orchards, riparian areas, desert scrublands, savannas, prairies, golf courses and cemeteries.	the Project site; however, the site does not provide any suitable nesting substrate.
Reptiles and Amphibians			
California glossy snake *Arizona elegans occidentalis*	Federal: None State: SSC MSHCP: Not Covered	This nocturnal species inhabits a variety of grassland, sage scrub, dry wash and chaparral habitats from sea level to over 7,000 feet in elevation. Tends to prefer sandy, loose soils. It remains in its burrow by day.	Low. One historical occurrence was recorded within five miles of the Project site; however, the site is disturbed and unlikely to provide suitable habitat for this species. Additionally, the site is surrounded by development, further precluding occupation by this species.
San Diego horned lizard *Phrynosoma blainvillii* (formerly *Phrynosoma coronatum blainvillei*)	Federal: None State: SSC MSHCP: Covered	Occurs widely in sage scrub, woodlands, grasslands, and chaparral communities within microhabitats of loose granitic soils and open areas for sunning and foraging. This species is commonly associated with the presence of native harvester ants.	Presumed Absent. Multiple historical occurrences are recorded within five miles of the Project site; however, suitable habitat does not exist within the Project site. Additionally, the site is surrounded by development, further precluding occupation by this species.
Coastal whiptail *Aspidoscelis tigris stejnegeri* (formerly *Cnemidophorus tigris multiscutatus*)	Federal: None State: SSC MSHCP: Covered	Prefers open scrub, chaparral, and woodland habitats with open areas for basking and native ants as a prey base.	Presumed Absent. One historical occurrence was recorded within five miles of the Project site; however, the site is highly disturbed, lacks shrub cover, and is unlikely to provide suitable habitat for this species. Additionally, the site is surrounded by development, further precluding occupation by this species.
Northern red diamond rattlesnake *Crotalus ruber ruber*	Federal: None State: SSC MSHCP: Covered	Inhabits arid scrub, coastal chaparral, oak and pine woodlands, rocky grassland, cultivated areas. On the desert slopes of the mountains, it ranges into rocky desert flats.	Presumed Absent. Four historical occurrences are recorded within five miles of the Project site; however, suitable habitat does not exist within the Project site. Additionally, the site is surrounded by development, further precluding occupation by this species.
Belding's orange-	Federal: None	Occurs widely in sage scrub,	Presumed Absent. One

throated whiptail *Aspidoscelis hyperythra beldingi*	State: SSC MSHCP: Covered	woodlands, grasslands, and chaparral communities within microhabitats of loose granitic soils and open areas for sunning and foraging.	historical occurrence was recorded within five miles of the Project site; however, the site is disturbed, lacks shrub cover, and is unlikely to provide suitable habitat for this species. Additionally, the site is surrounded by development, further precluding occupation by this species.
Western spadefoot toad *Spea hammondii*	Federal: None State: SSC MSHCP: Covered	Prefers open areas with sandy or gravelly soils, in a variety of habitats including mixed woodlands, grasslands, coastal sage scrub, chaparral, sandy washes, lowlands, river floodplains, alluvial fans, playas, alkali flats, foothills, and mountains. Breeding sites include vernal pools and other temporary rain pools, cattle tanks, and occasionally in pools of intermittent streams. Typically, the pools are turbid with little or no cover.	Presumed Absent. Five historical occurrences are recorded within five miles of the Project site; however, suitable habitat does not exist within the Project site, and no seasonal water bodies were observed in the vicinity. Additionally, the site is surrounded by development, further precluding occupation by this species.
Mammals			
Los Angeles pocket mouse *Perognathus longimembris brevinasus*	Federal: None State: SSC MSHCP: Covered	This species is associated with sparsely vegetated lower elevation grasslands, alluvial sage scrub and coastal sage scrub, where it tends to occur in patches with fine sandy soils, such as dry washes and aeolian deposits.	Presumed Absent. Five historical occurrences are recorded within five miles of the Project site; however, the Project site is characterized by heavily disturbed soils, lacks sufficient grass or shrub cover, contains fill soil/gravel materials, and lacks connectivity to higher quality habitat. No pocket mouse burrows were observed. Suitable habitat for this species is absent from the site.
Northwestern San Diego pocket mouse *Chaetodipus fallax fallax*	Federal: None State: SSC MSHCP: Covered	Prefers loose, sandy, and gravelly soils, or mixed rocks, on moderate to steep rocky slopes with nearby shrubs. Habitats include coastal scrub, chamise-redshank chaparral, mixed chaparral,	Presumed Absent. Two historical occurrences are recorded within five miles of the Project site; the Project site is characterized by disturbed soils, lacks sufficient shrub cover, contains fill soil/gravel

		sagebrush, desert wash, desert scrub, desert succulent shrub, pinyon-juniper and annual grassland. Known range extends north to the San Bernardino and San Gabriel mountains, east to the San Jacinto Mountains, and south into Baja California.	materials, and lacks connectivity to higher quality habitat. No pocket mouse burrows were observed. Suitable habitat for this species is absent from the site.
Pocketed free-tailed bat *Nyctinomops femorosaccus*	Federal: None State: SSC MSHCP: Not Covered	Colonial species that roosts primarily in crevices in steep rugged cliffs, high rocky outcrops and slopes; it is readily found in abandoned quarries. May also roost in buildings, caves, and under roof tiles. It has been found in a wide variety of plant associations, including riparian, oak woodland, coniferous forest, open meadow and grassland, and coastal and desert scrublands, including over scrubby ridges, reservoirs, ponds, wetlands, and artificial lights.	Presumed Absent (Roosting/Foraging). One historical occurrence has been reported within five miles of the Project site. The Project site contains poor foraging habitat and roosting habitat/structure is not present on the Project site.
San Bernardino kangaroo rat *Dipodomys merriami parvus*	Federal: FE State: SSC MSHCP: Covered	This species occurs primarily in alluvial fan sage scrub (AFSS) which is a distinct habitat type of the coastal sage scrub (CSS) community. The AFSS habitats are confined to river and floodplains of southern San Bernardino County, the current distribution of the SBKR in San Bernardino County is San Ana Wash, Cajon and Lytle Creek, Plunge Creek, City Creeks, and area west of Rialto Drainage near the Jurupa Hills.	Presumed Absent. Three historical occurrences are recorded within five miles of the Project site; however, the Project site is characterized by disturbed soils and fill materials and lacks connectivity to higher quality habitat. Habitat for this species is sub-marginal at best, but with no kangaroo rat burrows observed, and a lack of reasonable connectivity to known populations, this species is assumed absent.
Southern grasshopper mouse	Federal: None State: SSC MSHCP: Not	Typically found in open habitats, including native perennial grasslands and	Presumed Absent. One historical occurrence has been recorded within five miles of

Onychomys torridus ramona	Covered	coastal sage scrub to the west of the mountain and alluvial fans and desert scrub to the east.	the Project site; however, the Project site is characterized by disturbed soils, a lack of shrub cover, imported fill materials, and lacks connectivity to higher quality habitat. Habitat for this species is assumed absent.
Stephen's kangaroo rat *Dipodomys stephensi*	Federal: FE State: ST MSHCP: Covered	Occurs primarily in low-growing annual and perennial grassland habitats but may occur in coastal scrub or sagebrush with sparse canopy cover and low herbaceous growth, or in disturbed areas. Preferred perennials are buckwheat and chamise; preferred annuals are brome grass and filarees.	Presumed Absent. Nine historical occurrences are recorded within five miles of the Project site; however, the Project site is characterized by disturbed soils and fill materials and lacks connectivity to higher quality habitat. Habitat for this species is sub-marginal at best, but with no kangaroo rat burrows observed, and a lack of reasonable connectivity to known populations, this species is assumed absent.
Western mastiff bat *Eumops perotis californicus*	Federal: None State: SSC MSHCP: Not Covered	Occurs in many open, semi-arid to arid habitats, including conifer and deciduous woodlands, coastal scrub, annual and perennial grasslands, palm oases, chaparral, desert scrub, and urban. Crevices in cliff faces, high buildings, trees, and tunnels are required for roosting. When roosting in rock crevices, it needs vertical faces to drop off to take flight. Reproduction: Nursery roosts described as tight rock crevices at least 35 inches deep and two inches wide, or crevices in buildings. Suitable habitat consists of extensive open areas with abundant roost locations provided by crevices in rock outcrops and buildings. Is known to forage over 25 miles away from its roost site (Zeiner et al 1988).	Presumed Absent (Roosting/Foraging). Two historical occurrences have been reported within five miles of the Project site. The Project site contains poor quality foraging habitat and no roosting habitat/structure. Additionally, the site is surrounded by development, further precluding occupation by this species.

Western yellow bat *Lasiurus xanthinus*	Federal: None State: SSC MSHCP: Not Covered	Roosts are commonly in palm trees, and occasionally in cottonwood trees or yuccas, often near surface water in open grassy areas or scrub habitat. Forages over water and among trees in coastal, foothill, and desert riparian areas, and in suburban neighborhoods.	Low (Roosting), Presumed Absent (Foraging). Two historical occurrences have been reported within five miles of the Project site. The Project site does not contain suitable foraging and roosting habitat/structure for this species. Potential roosting sites in Mexican fan palms are present in adjacent areas to the Project site within the Survey Area.
Crustaceans			
Riverside fairy shrimp *Streptocephalus wootoni*	Federal: FE State: None MSHCP: Covered	Restricted to deep seasonal vernal pools, vernal pool like ephemeral ponds, and stock ponds and other human modified depressions (TLMA 2004). Riverside fairy shrimp prefer warm-water pools that have low to moderate dissolved solids, are less predictable, and remained filled for extended periods of time (Eriksen and Belk 1999). In Riverside County, Riverside fairy shrimp have been found in pools formed over the following soils: Murrieta stony clay loams, Las Posas series, Wyman clay loam, and Willows soils (U.S. Fish and Wildlife Service 2001).	Presumed Absent. Two historical occurrences have been reported within five miles of the Project site; however, this species requires vernal pool habitats which are absent from the Project site.

Of the 18 target wildlife species documented to occur within the Project vicinity, one (California horned lark) was determined to have a moderate potential for occurrence, and two (glossy snake and western yellow bat) had a low potential for occurrence based on proximity of historic records and quality of habitat on site. Specifically, western yellow bat was determined to have a low potential for roosting within the Survey Area based on the presence of Mexican fan palms (*Washingtonia robusta*) present on lands immediately adjacent to the Project site. However, suitable roosting sites for this species do not occur directly within the Project and this species is presumed absent from the Project site. The remaining 15 target sensitive species were considered absent due to lack of suitable habitats on the Survey Area.

4.2.5 Special Status and Observed Plant Species

Based on CNDDB, USFWS, and CNPSEI-documented occurrences within five miles of the Project site,

the literature review resulted in a list of one special-status plant species evaluated for its' potential to occur on the Project site. This single species and potential for occurrence is further described in Table 4 below. A complete list of plant species observed during the field survey is included in Attachment D.

Table 4. Special-Status Plant Species Potentially Occurring Within the Project Site

Species Name	Listing Status	Habitat Requirements	Potential for Occurrence
Smooth tarplant *Centromadia pungens ssp. laevis*	Federal: None State: None CRPR: 1B.1 MSHCP: Not Covered	Annual herb that occurs in alkali soils within chenopod scrub, meadows and seeps, playas, riparian woodland, valley and foothill grassland. Blooms: Apr-Sep Elevation: 0-640 m	Presumed Absent. One historical occurrence has been recorded within five miles of the Project site; however, alkali soils in suitable habitat were not observed on the Project site. Additionally, no senesced individuals, seedlings or plants of any tarplant species were observed.

The single special-status plant species (smooth tarplant) documented to occur within the Project vicinity, is presumed absent within the Survey Area based on proximity of historic records and lack of suitable habitat on site.

4.2.6 Special Status and Observed Habitat Types

The literature review did not result in any special-status habitat types with potential to occur on the Project site.

4.3 Migratory Birds

The Project site predominately contains non-native grasses and non-native annual plant species commonly associated with anthropogenically-altered landscapes, while areas surrounding the Project site contain sparse ornamental shrubs and trees, amongst development. These habitat types provide suitable nesting habitat primarily for avian species commonly associated with developed and Residential/Urban/Exotic – Weed Communities dominated by non-native grasses. Nearly all native nesting birds are protected by the Migratory Bird Treaty Act (MBTA) and CDFW Codes 3500 through 3516.

Common bird species with the potential to nest within the Project site and adjacent habitats include American crow (*Corvus brachyrhynchos*), common raven (*Corvus corax*), house finch (*Haemorhous mexicanus*), house sparrow (*Passer domesticus;* not MBTA-covered), European starling (*Sturnus vulgaris;* not MBTA-covered), northern mockingbird (*Mimus polyglottos*), Anna's hummingbird (*Calypte anna*), black phoebe (*Sayornis nigricans*) and Say's phoebe (*Sayornis saya*) among others. Suitable nesting habitat for raptor species identified during the survey (i.e., American kestrel), consisted of potential cavities within ornamental palms and buildings that were adjacent to the Project site. The open nature of the Project site and Residential/Urban/Exotic – Weed Communities dominated by non-native grasses, also provides suitable habitat for ground nesting birds such as

horned lark, savannah sparrow (*Passerculus sandwichensis*), killdeer (*Charadrius vociferans*), among others.

4.4 Reserve Interface and Wildlife Movement Corridors

Tracks, sign, burrows and/or direct visual observation of small mammal species was limited and consisted of scarce Botta's pocket gopher (*Thomomys bottae*) burrows along the northern Project limit and direct observation of desert cottontail (*Sylvillagus audubonii*) within a single small rubble pile within the northwest portion of the Project site. Domestic dog tracks and a single domestic cat were observed within the Project site. The Project site does not contain large natural areas and habitat fragments, and is isolated by surrounding development, precluding wildlife corridors and connectivity to large conservation areas. The Project does not occur within Plan Conservation Areas or Public/Quasi Public Lands (PQP), and the nearest PQP area is three quarters of a mile south of the Project site and connectivity between open space Conservation Areas and the Project is absent as a result of heavy urban development in surrounding lands.

5.0 WESTERN RIVERSIDE MSHCP CONSISTENCY ANALYSIS

The Project is not located within a MSHCP Criteria Cell or Cell Group. The MSHCP establishes habitat assessments for certain plant and wildlife species. The Project is located within an area of the MSHCP requiring habitat assessments for burrowing owl and burrowing owl surveys, if suitable habitat is present; however, no suitable burrowing owl habitat was identified within the Project area or adjacent survey areas. The Project was not observed to support riparian/riverine habitats. The Project does not exist adjacent to Public/Quasi Public Lands. The Project is not located within an area requiring surveys for mammals, amphibians, narrow endemic plant species, or criteria area species.

5.1 Reserve Assembly Analysis

The proposed Project is not located within a Plan Criteria Cell or Cell Group, and therefore will not directly impact Conservation Areas or long-term reserve assembly. The proposed Project does not occur immediately adjacent to Plan Conservation Areas and therefore will avoid direct impacts to these areas. Potential indirect impacts associated with the proposed Project adjacent to these areas is discussed in Section 5.2 below.

5.2 Urban Wildlands Interface

According to the Plan, the Urban/Wildlands Interface Guidelines are intended to address indirect effects associated with locating development in proximity to Plan Conservation Areas. Plan Conservation Areas include Public/Quasi Public Lands (PQP), San Jacinto Wldlife Area Additional Acquisition, Preexisting Conservation Agreements and Rural Moutainous Designation in the MSHCP Plan Area. The Project Site does not occur within any of these Conservation Areas and urban development isolates the Survey Area from all Conservation Areas by more than three quarters of a mile. The Project Site does not occur within a Special Linkage Aree and connectivity to the site is absent as a result of heavy urban development in surrounding lands. The Project does not occur adjacent to Conservation Areas, therefore, development of this parcel is not likely to result in "edge effects" that will adversely affect biological resources within the MSHCP Public/Quasi Public Lands (TLMA, 2004). Analysis was conducted under section 6.1.4 of the MSHCP to determine potential impacts.

5.2.1 *Drainage and Storm Water Runoff*

Though the project is not within or immediately adjacent to PQP lands, Project indirect impacts could involve drainage and storm water runoff from the Project site to adjacent flow-ways (Iris Avenue and Red Maple Lane) and potentially into the municipal storm drain system. A possible temporary indirect impact during construction may include an increase of soil erosion above natural levels currently observed in these areas. Other potential effects may result from non-storm water discharges, excavation stockpile runoff, or other elements that might degrade or harm biological resources or ecosystem processes within distant MSHCP PQP Lands, if fed by the municipal storm drain system. Regardless of proximity to PQP Lands, Best Management Practices (BMPs) should be included to ensure that siltation and erosion are minimized during construction, and also incorporated into the final design of the Project in order to ensure that future water quality is not degraded. In particular, measures shall be put in place to avoid discharge of untreated surface runoff from developed and paved areas into existing natural drainage courses and/or MSHCP Public Quasi-Public Lands (TLMA, 2004).

5.2.2 *Toxics*

Due to the use of heavy machinery proposed in the development of the Project site, as well as standard development practices, a possible indirect impact to the distant MSHCP Public/Quasi Public Lands could involve toxic runoff from the Project site to City storm drains. Toxic runoff may originate from hydraulic fuel, automotive fluid leaks, oil, etc. Similar measures as those used to address drainage impacts will be implemented to prevent toxic impacts to the any MSHCP Public/Quasi Public Lands.

5.2.3 *Lighting*

No PQP lands exist adjacent to the Project and therefore there should be no associated impacts to adjacent habitats or MSHCP Public/Quasi Public Lands as a result of night lighting.

5.2.4 *Noise*

Project activities may result in an increase of noise levels in areas immediately surrounding the Project site; however, no adjacent habitats and MSHCP Public/Quasi Public Lands do not exist within the vicinity of the Project. Therefore, increased noise levels associated with Project implementation are not anticipated to effect wildlife associated with MSHCP Public/Quasi Public Lands.

5.1.5 *Invasives*

The Project is surrounded by urban development and is not adjacent to MSHCP Public/Quasi Public Lands, therefore transfer of invasive species to distant MSHCP Public/Quasi Public Lands is not anticipated. The site itself does not provide any native habitat and is dominated by non-native annual species.

5.1.6 *Grading/ Land Development*

All Project activities shall remain restricted to designated work areas proposed for disturbance as shown in Attachment A, Figure 3, “Project Boundary”. The Project work area occurs outside of all

MSHCP Conservation Areas, Riverine Habitat, and avoids habitat areas which may support species for which additional surveys would be required.

5.2 Additional Survey Needs and Procedures

Additional surveys are not anticipated in conjunction with Plan implementation in order to achieve coverage for species discussed in 6.3.2 of the Plan, since these species either were determined to be absent from the Project site, or potential impacts to species with a PFO will be limited to a level that is below levels considered significant under CEQA/NEPA guidelines and the MSHCP.

The Project falls within the MSHCP Survey Area for burrowing owl. The habitat assessment included consideration of this species, discussed below.

5.2.1 Burrowing Owl

The Project site is located within a MSHCP burrowing owl survey area, if suitable habitat is identified during the burrowing owl habitat assessment. A habitat assessment during a site visit conducted on February 24, 2020 identified Disturbed Areas which may be considered suitable for burrowing owl. Based on the potential for suitable habitat, a habitat assessment was performed as described in section 3.4.1 above. The results of the habitat assessment determined that suitable burrowing owl habitat does not exist within the Project site or Survey Area due to a lack of suitable burrow sites. Natural or manmade burrows were not observed, with the exception of two small concrete rubble piles, one of which was occupied by a feral cat and the other occupied by several desert cottontail rabbits, precluding owl occupation. No whitewash, pellets, feathers or other burrowing owl sign were observed during the survey. Additionally, crevices created by these concrete rubble piles were considered to be too shallow to support burrowing owl. Due to absence of suitable habitat for this species within the Survey Area, no additional surveys for this species are required.

5.3 Criteria Area Species and Narrow Endemic Plant Species

The Project site is not located within a Narrow Endemic Plants Survey Area under section 6.1.3 of the Plan. The Project site is not located within a Criteria Area Species Survey for special-status plant species under section 6.3.2 of the Plan. No additional non-covered special-status or narrow endemic plant species with the potential to occur on site were identified during the literature review and/or site assessment.

5.4 Jurisdictional Waters

The presence of any potentially jurisdictional features, including associated vegetation/communities, presence of ordinary high watermarks (OHWMs) or streambeds, substrates, hydrological indicators and potential connectivity was not observed during the habitat assessment. The habitat assessment did not include a formal jurisdictional delineation effort as potentially jurisdictional water bodies that may be subject to USACE, RWQCB, and/or CDFW jurisdictions were not documented to occur within or adjacent to the Project. Therefore, an additional assessment is not required to determine if specific areas of the Project site meet either 1) criteria to be considered a relatively permanent water or tributary of a TNW providing meeting significant nexus standards and fall under the jurisdiction of the USACE, RWQCB and/or CDFW as a non-wetland water and streambed, or 2) meet the three-parameter criteria of a wetland and fall under the jurisdiction of the USACE, RWQCB and/or CDFW as

wetland areas.

5.4.1 Riparian/Riverine Habitats

Per Section 6.1.2 of the MSHCP, riparian/riverine habitats are lands containing habitat dominated by trees, shrubs, persistent emergents, or emergent mosses and lichens which occur close to or which depend upon soil moisture from a nearby fresh water source or areas with freshwater flow during all or a portion of the year. The habitat assessment included a review of areas which may meet criteria as riparian/rivering habitats per the Plan. No riparian/riverine habitats were documented within the Project site or Survey Area.

5.4.2 Riparian/Riverine Species

Riparian/riverine habitats were not identified within the Project site. Due to the lack of habitat which supports riparian species, riparian/riverine-associated species listed in section 6.1.2 of the Plan are not expected to occur. No MSHCP-covered or riparian-associated species were directly observed during the February 24, 2020 field survey.

5.5 Vernal Pools and Fairy Shrimp

No vernal pools or habitat that could potentially support fairy shrimp species were observed on the Project site. No vernal pools were observed, and they are not known to historically occur within the Project site or within 2 miles of the Survey Area. The closest historical record of listed fairy shrimp to the Project Site occurs approximately 2.5 miles to the west. The Project is surrounded by urban development and lacks any connectivity to known populations of listed fairy shrimp, further precluding the potential for occurrence. In addition to the absence of historical records of occurrence, native soil types mapped for the Project include well drained sandy loams, not expected to support natural formation of vernal pools or fairy shrimp habitat. As a result, these areas are not expected to support vernal pool species.

6.0 IMPACTS AND MITIGATION

This section of the report includes a discussion of the potential direct, indirect, and cumulative impacts to onsite special-status biological resources that may result upon the construction and implementation of the Project. Direct impacts include those involving the loss, alteration, and/or disturbance of plant communities, and consequently, the flora and fauna of the affected area. Direct impacts also include the destruction of individual plants and/or wildlife. Direct impacts may adversely affect regional populations of certain species, or result in isolated populations, reducing genetic diversity and range-wide population stability; conversely, direct impacts may also have intended or unintended positive effects in some cases.

Indirect impacts include a variety of effects related to areas or habitats that are not directly removed by project development, such as loss of foraging habitat, increased ambient noise, artificial light, introduced predators (e.g., domestic cats, dogs and other non-native animals), competition with exotic plants and animals, increased human presence and associated disturbances (e.g., trash, green waste, physical intrusion). Indirect impacts may include long, and/or short-term daily activities associated with project build-out, such as increased traffic, permanent barriers or fences, buildings, exotic seed-bearing ornamental plantings, irrigated landscapes and human presence, among others. These types of impacts are known as edge effects and over time, may result in some encroachment on native plants by exotic plants, altered behavioral wildlife patterns, reduced wildlife diversity, and decreased wildlife abundance in habitats adjacent to a given project site. However, as is the case with direct impacts, indirect impacts may also have intended or unintended positive effects for certain species.

The potential for significant adverse effects, either directly or indirectly through habitat modification or conversion, on any special-status vegetation community, plant species or wildlife species, or that could occur as a result of the development of this Project is discussed within this section.

6.1 Project Impacts

This section provides definitions and discussion of the various Project-related impacts which are anticipated to occur.

6.1.1 Habitat Impacts

Construction of the proposed Project will result in permanent loss of 10.82 acres of Residential/Urban/Exotic – Disturbed Areas associated with the permanent footprint of the residential development, parks, roads, and a trail.. These include all areas proposed for ground disturbance, clearing, grading, equipment staging, materials laydown, storage and ultimate development of the parcel. This area is shown on Attachment A as “Project Boundary.”

The estimated acreages of proposed impacts resulting from implementation as described above are summarized in Table 6.

Table 6. Summary of Proposed Project Impacts to Vegetation Communities/Land Use Types

Vegetation Community/ Land Use Type	Acreage
Residential/Urban/Exotic – Weed Communities	10.82

6.1.2 Construction-Related Impacts

Short-term (Temporary) Construction-Related Direct Impacts

Potential direct impacts to special status biological resources, absent mitigation measures, which may occur as a result of construction of the proposed Project include wildlife entrapment, killed or injured wildlife, and unauthorized grading or vegetation removal. These activities have the potential to occur for any number of reasons, including lack or absence of project design staking, inadequate or unmaintained demarcation of proposed impacts areas, misinterpretation of Project designs, and human error in operating equipment. Dependent on construction methodology and sequencing, impacts resulting from wildlife entrapment may occur at any Project site where excavations remain open and un-sealed for extended periods.

Short-term (Temporary) Construction-Related Indirect Impacts

Potential temporary indirect impacts as a result of construction of the proposed Project include non-storm-water discharges resulting from spills or leaks and storm-water discharges from sediment laden runoff into adjacent municipal storm drain systems.

Potential temporary indirect impacts as a result of the Project may include fugitive dust, excess noise, and the attraction of predators to the Project site that could ultimately result in take of special-status species.

6.1.3 Operations and Maintenance-Related Impacts

The proposed Project would include the complete development of the proposed parcel. As the Project location is surrounded by previously developed lands, there are no anticipated operations and maintenance-related impacts from the Project, once development is complete.

Long-term (Permanent) Operations and Maintenance-Related Direct Impacts

Direct impacts associated with the completion of the Project would be restricted to the permanent loss of Residential/Urban/Exotic – Weed Communities. Additional impacts to special status biological resources are not anticipated to result from operations and maintenance activities.

Long-term (Permanent) Operations and Maintenance-Related Indirect Impacts

Indirect impacts associated with the long-term operation of the Project are not anticipated due to the Project location being surrounded by developed areas. Though, without implementation mitigation measure and not adjacent to PQP lands. Impacts as a result of Operations and Maintenance of the proposed Project could include non-storm-water discharges resulting from spills or leaks and storm-water discharges from sediment laden runoff into adjacent municipal storm drain systems. Without proper implementation of a SWPPP and stormwater management systems

incorporated in the construction design, consistent with state and local requirements, there is a potential for long term urban discharge.

6.2 Special-Status Species

6.2.1 MSHCP-Covered Special Status Species

Of the eighteen special-status target wildlife species evaluated, only three are expected to have the potential to occur. Of these three wildlife species, the California horned lark (moderate PFO; State WL) is the only species functionally covered under the Plan. This species may be subject to both temporary and permanent, direct and indirect impacts, as a result of the proposed Project. Absent mitigation, Project-related impacts to this species are potentially significant. The following MM is recommended to reduce potential impacts to below significant levels for Plan-covered special-status species:

- MM-BIO 1: Payment of MSHCP Mitigation Fees. Prior to issuance of a grading or building permit, the Project applicant will be required to pay relevant MSHCP mitigation fees per the Final Mitigation Fee Nexus Report. These fees will be determined in consultation with the Riverside Conservation Authority based on final Project classification and impacts. Payment of all mitigation fees will be required as part of the Project approval process.

The single special-status target plant species evaluated (smooth tarplant) does not have the potential to occur. Smooth tarplant (Assumed Absent PFO; SSC) is covered under the Plan.

6.2.2 Special-Status Species Not Functionally Covered Under the MSHCP

Of the special-status species expected to have the potential to occur, the following two species are not functionally covered under the Plan:

- California glossy snake (low PFO; SSC)
- Western yellow bat (low [roosting]; SSC)

Focused surveys for these special-status species were not performed and potential for impacts is presumed based on extent and availability of habitat. California glossy snake may be subject to permanent, direct impacts, as a result of the proposed Project; however, anticipated Project-related impacts to California glossy snake is less than significant due to the Project size, existing marginal habitat, previous disturbance and low probability that this species exists within the Project site.

Western yellow bat may be subject to temporary indirect impacts as a result of the proposed Project. The only potentially suitable roosting habitat for Western yellow bat exists in the form of scattered ornamental Mexican fan palms which only occur outside of the Project impact footprint. Indirect impacts to potential western yellow bat roost sites may include temporary increases in noise as a result of construction activity. However, these activities are expected to be short in duration and generally would not exceed existing ambient conditions adjacent to the site. Based on low potential for this species to occur in combination with the temporary nature of potential impacts, potential impacts to this species are likely considered less than significant.

Additionally, with the implementation of MM BIO-1 above, which will contribute to the ongoing reserve assembly of the region, impacts to either of the aforementioned species are likely to be less than significant.

6.3 Species Requiring Additional Surveys and/or Habitat Assessments

6.3.1 Burrowing Owl

At the time of the assessment, the Survey Area did not support suitable habitat for burrowing owl; however, two rubble piles containing shallow cavities were identified on the site and were occupied by desert cottontail and a domestic cat during the 2020 breeding season, precluding occupation by burrowing owl. Therefore, suitable habitat for burrowing owl was found absent from the Project site and focused burrowing owl surveys were not required pursuant to the Burrowing Owl Survey Instructions for the Western Riverside MSHCP. Though, occupied by other species at the time of the assessment, these rubble piles have a low potential to support migrating burrowing owls as temporary roost sites, if they become vacant (i.e. not occupied by desert cottontails or domestic cats) prior to construction.

With the implementation of the proposed mitigation measures for potential Project-related impacts to burrowing owl, the Project will fulfill the requirements related to biological resources pursuant to CEQA and the Plan.

- MM-BUOW 1: Within 30 days of construction, conduct take avoidance surveys for burrowing owl per guidelines specified in the Western Riverside County Regional Conservation Authority Burrowing Owl Survey Instructions for the Plan Area (2006).

- MM-BUOW 2: If burrowing owls are observed to occupy the Project site and/or adjacent areas during take avoidance surveys or incidentally during construction, the City of Moreno Valley Planning Department will be notified, and avoidance measures may be implemented during the breeding season (March 1 through August 31). If burrowing owls are present during the non-breeding season (September 1 through February 28), burrowing owl exclusion measures may be implemented in accordance with the Plan.

6.4 Migratory Birds

The assessment identified suitable habitat and substrate for migratory birds protected under the MBTA and CDFW Codes 3503 and 3503.5. Permanent impacts to migratory birds as a result of the Project may include habitat loss, nesting habitat removal, roosting site loss and/or loss of individuals. Indirect impacts may include fugitive dust, excess noise, increased artificial lighting, and the attraction of predators to the Project site. The following mitigation measure is recommended to reduce potential impacts to migratory bird species below significant levels:

- MM-BIO 2: Perform Per-Construction Nesting Bird Surveys. To the extent feasible, conduct vegetation removal outside of the nesting bird season (generally between March 1 and August 31). If vegetation removal is required during the nesting bird season, conduct take avoidance surveys for nesting birds within 100-feet of areas proposed for vegetation removal. Surveys should be conducted by a qualified biologist(s) within three days of vegetation removal. If active nests are observed, a qualified biologist will determine appropriate minimum disturbance buffers or other adaptive mitigation techniques (e.g., biological monitoring of active nests during construction-related activities, staggered schedules, etc.) to ensure that impacts to nesting birds are avoided until the nest is no longer active.

6.5 MSHCP Urban Wildlands Interface Impacts

As discussed in Section 6.1.3 above, the proposed Project has the potential for indirect impacts to PQP Lands and Plan Conservation Areas through potential stormwater and non-stormwater discharges. However, the Project will incoroporate "best practices" for storm water pollution prevention identified during the development of a Proejct Storm Water Pollution Prevention Plan (SWPPP). Furthermore, the Project has been designed to incorporate stormwater management facitities to manage and control urban run-off during long-term operations. As such, potential indirect impacts to PQP and Conservation Areas are likely considered less than significant.

6.6 Riparian/Riverine Habitat and/or Potentially Jurisdictional Areas

The habitat assessment did not identify Riparian/Riverine habitat and potentially jurisdictional areas subject to regulation by USACE, RWQCB, and/or CDFW. Therefore, there are no anticipated potential impacts to these areas and Project development will not result in significant impacts.

7.0 CONCLUSIONS

The Project site is within the Reche Canyon/Badlands Area Plan of the MSHCP, but not within any Criteria Cell or Cell Group.

The Project does not provide suitable habitat for riparian/riverine associated species. The Project site does not contain vernal pools or potential listed fairy shrimp habitat. At the time the assessment was conducted, the Project site did not provide suitable habitat for burrowing owl; however, two rubble piles, occupied by other species at the time of the assessment, have a low potential to support migrating burrowing owls as temporary roost sites, if they become vacant (i.e. not occupied by desert cottontails or domestic cats) prior to construction. Following the MSHCP recommendation of a preconstruction burrowing owl survey within 30 days prior to construction, no negative impacts to burrowing owl are anticipated. If burrowing owls are present during the non-breeding season (September 1 through February 28), burrowing owl exclusion measures may be implemented in accordance with the Plan. If burrowing owls are present during the breeding season (March 1 through August 31), avoidance measures will be implemented.

The Project site provides potentially suitable habitat for California glossy snake and also provides suitable nesting habitat for California horned lark and other avian species. Adjacent areas, outside of the Project footprint may provide roosting habitat for Western yellow bat in the form of Mexican fan palms. Impacts to adjacent PQP lands, special-status species, PQP Lands, Riverine habitat, potential jurisdictional water resources and nesting birds are anticipated to be less than significant with mitigation proposed herein to offset any direct and/or indirect impacts.

By adhering to the recommendations provided in this Report (and resulting additional actions, if required), payment of the MSHCP mitigation fees and fulfillment of the stipulations set forth by the County of Riverside HANS process, this Project is fully consistent with the Plan and would fulfill requirements for biological resources pursuant to CEQA, FESA, and CESA.

8.0 SURVEYOR CERTIFICATION

All data, statements, analyses, findings and attachments within this report are accurate and truthful in terms of describing the existing conditions and the Project as proposed to Blackhawk Environmental. By adhering to the mitigation measures proposed within this habitat assessment report and payment of appropriate fees to the Western Riverside County Regional Conservation Authority, compensatory mitigation related to the complete the Project will be met to CEQA significance thresholds.

Ryan Quilley
Staff Biologist

BLACKHAWK Environmental

REFERENCES

Baldwin, B. G., D. H. Goldman, D. J. Keil, R. Patterson, T. J. Rosatti, and D. H. Wilken, editors.
2012 The Jepson Manual: Vascular Plants of California, Second Edition. University of California Press, Berkeley, CA.

Calflora
2019 Information on California plants for education, research and conservation. [web application]. Berkeley, California: The Calflora Database [a non-profit organization]. Available: http://www.calflora.org/. Accessed on February 2020.

California Department of Fish and Wildlife (CDFW)
2020 California Natural Diversity Database (CNDDB). RareFind Version 3.1.0. Database Query for the *Perris*, *El Casco, Riverside East, Sunnymead, Steele Peak, Lakeview, Lake Elsinore, Romoland, and Winchester*, USGS 7.5-minute quadrangles. Wildlife and Habitat Data Analysis Branch. Version dated 2019.

California Native Plant Society (CNPS)
2020 Inventory of Rare and Endangered Plants (online edition, v8-02). California Native Plant Society. Sacramento, CA. Accessed February 2020 from: http://www.cnps.org/inventory.

Eng, L.L., D. Belk and C.H. Eriksen.
1990 California Anostraca: distribution, habitat and status. Journal of Crustacean Biology 10: 247 - 277.

Eriksen, C. and D. Belk
1999 Fairy Shrimps of California's Puddles, Pools, and Playas. Mad River Press, Inc., Eureka, California.

Google
2020 Google Earth. US Department of State Geographer. Data SIO, U.S. Navy, NGA, GEBCO. *earth.google.com/*

Klute, D.S., L.W. Ayers, M.T. Green, W.H. Howe, S.L. Jones, J.A. Shaffer, S.R. Sheffield, and T.S. Zimmerman
2003 *Status Assessment and Conservation Plan for Western Burrowing Owl in the United States.* United States Fish and Wildlife Service.

Regional Conservation Authority
2020 Western Riverside County MSHCP Report Generator. Accessed from https://www.wrc-rca.org/rcamaps/ on February 2020.

Transportation and Land Management Agency (TLMA)
2004 Western Riverside Multiple Species Habitat Conservation Plan.

United States Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS)
2020 Soil Survey Staff, Natural Resources Conservation Service, United States Department of Agriculture. Official Soil Series Descriptions. Available URL: "http://soils.usda.gov/technical/classification/osd/index.html" Accessed February 2020.

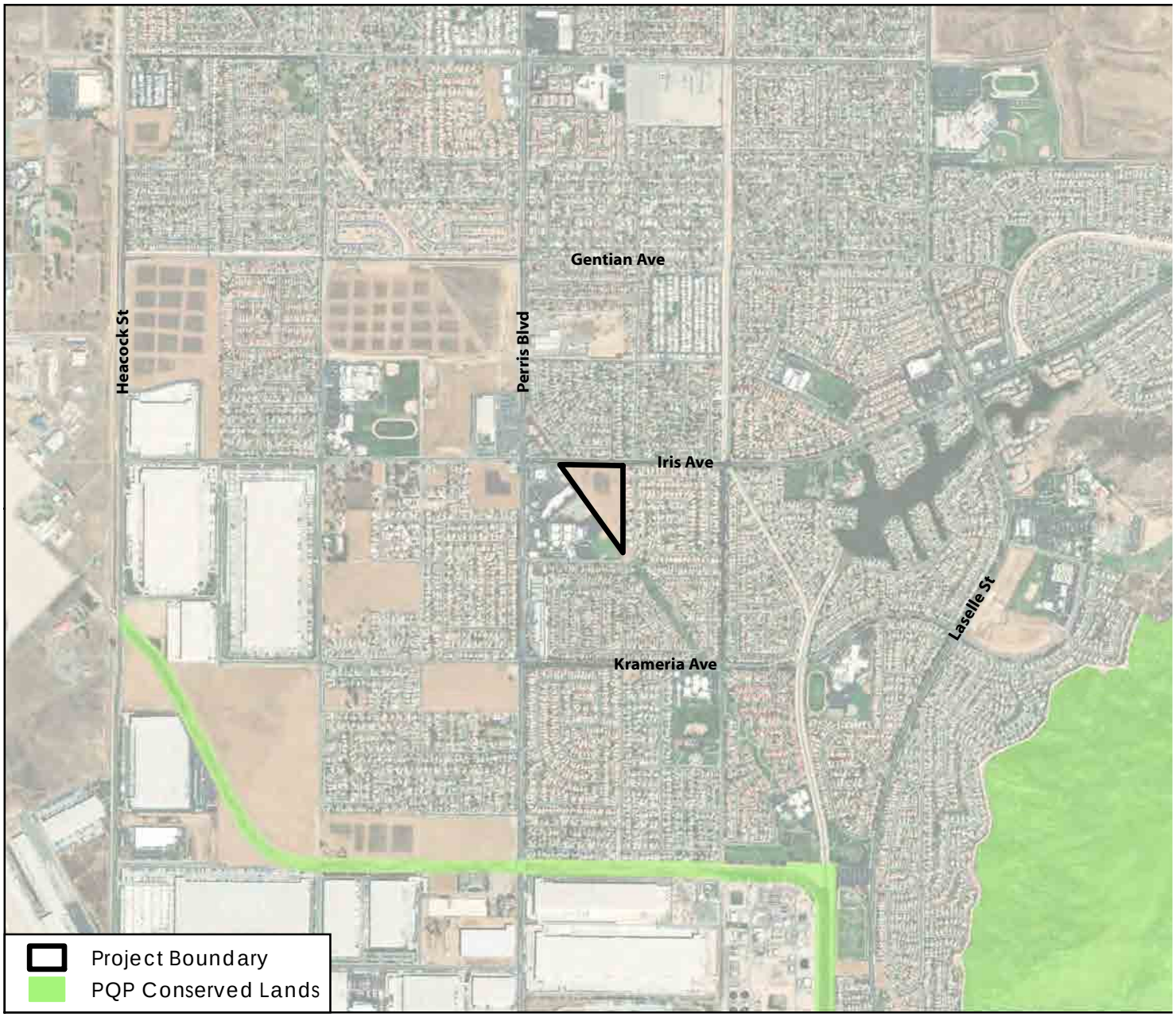
United States Geological Survey (USGS)
2011 7.5-minute topographic quadrangle map for *Moreno Valley*, California.

Zeiner, D.C., W.F. Laudenslayer, Jr., K.E. Mayer, and M. White, eds.
1988-1990 California's Wildlife. Vol. I-III. California Department of Fish and Game, Sacramento, California.

ATTACHMENT A

Figures

BLACKHAWK
Environmental



Source: Maxar 2018, Esri

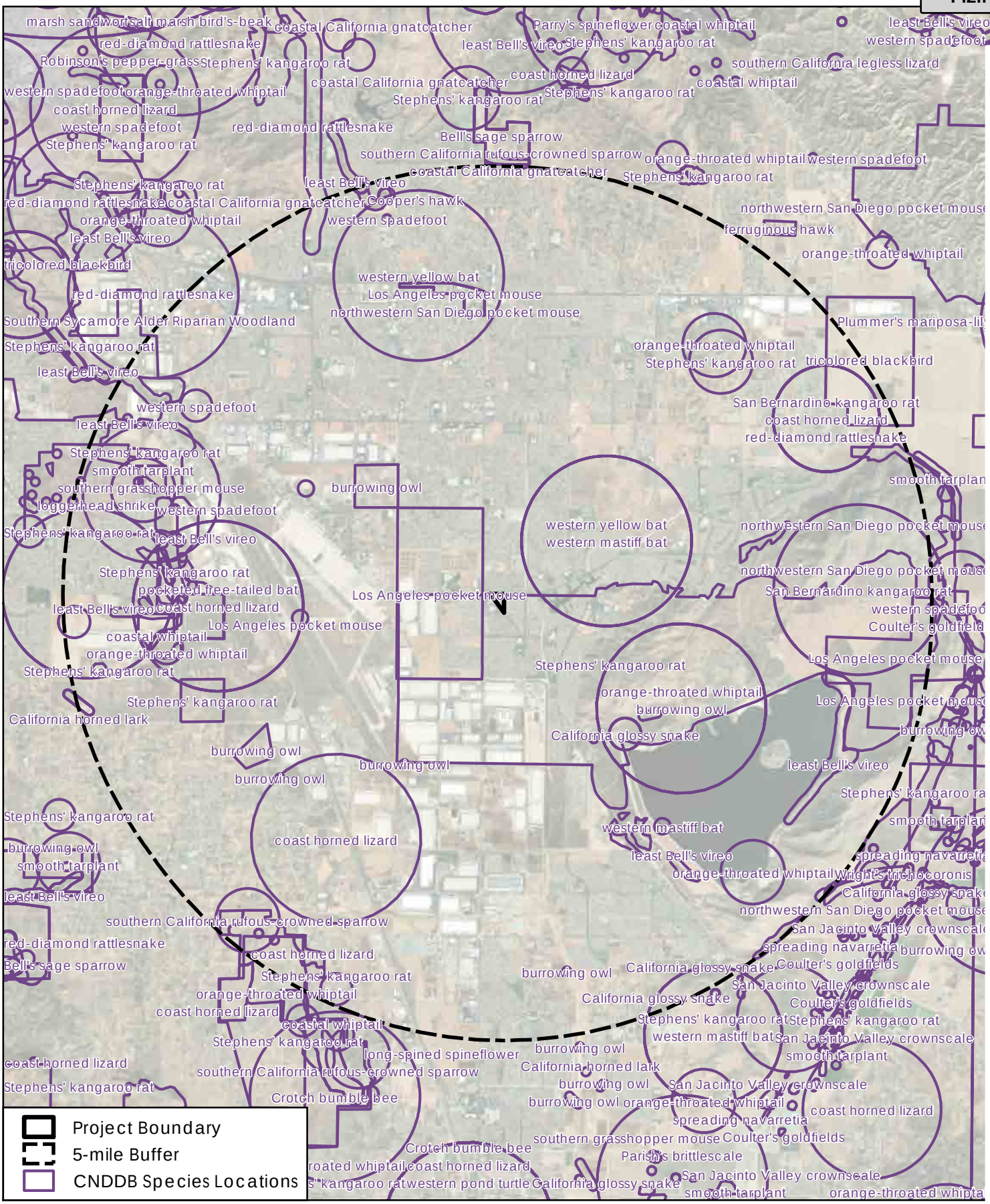
Figure 1

Project Vicinity and Location

APN 312-020-025 Moreno Valley, CA

BLACKHAWK Environmental

N 0 2,000 Feet



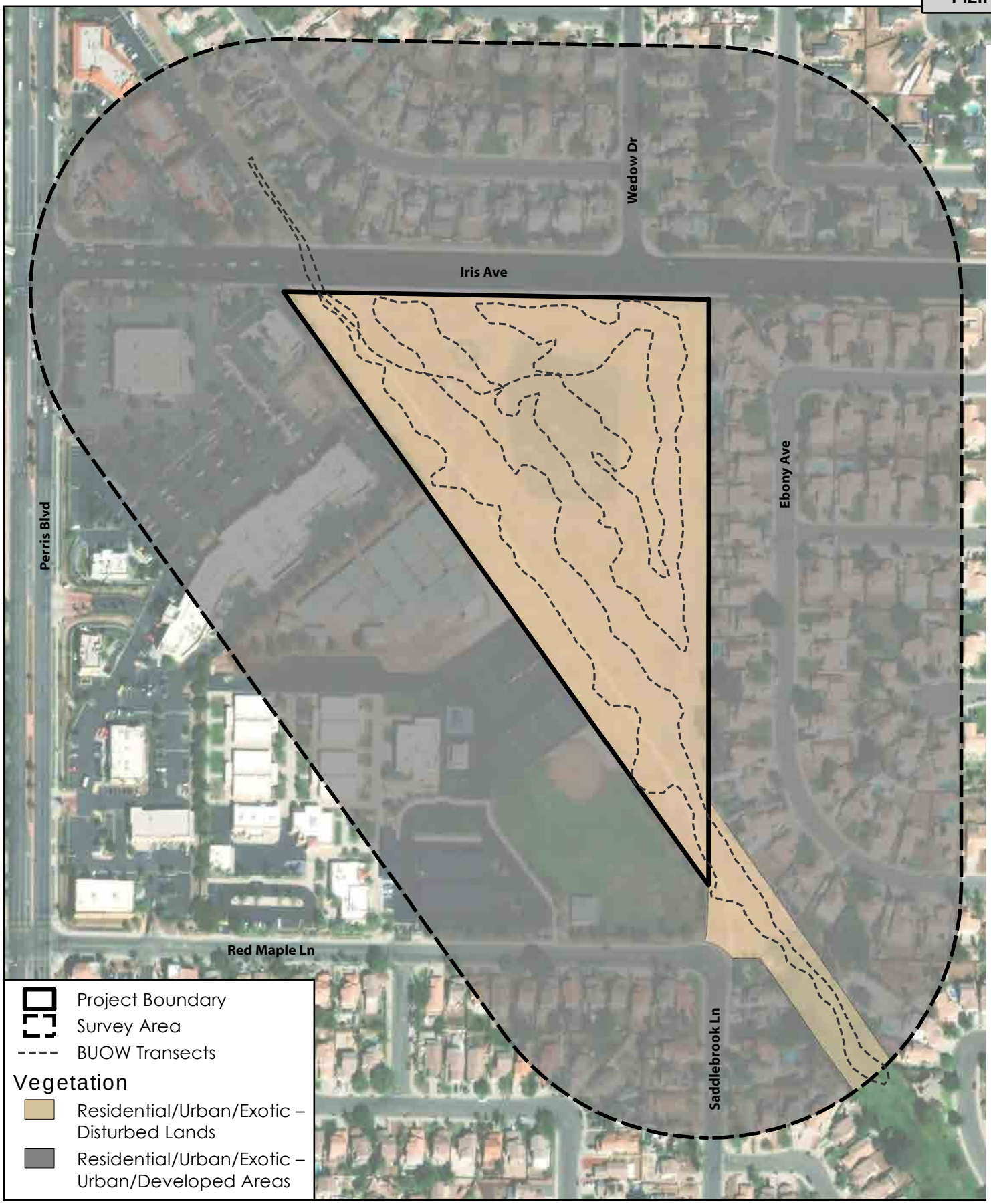
Source: CDFW; Maxar 2018, Esri

Figure 2

CNDDB Results

APN 312-020-025 Moreno Valley, CA

BLACKHAWK Environmental



Source: Maxar 2018, Esri

Figure 3

Vegetation Communities and Project Boundary

BLACKHAWK Environmental

N

0 250 Feet

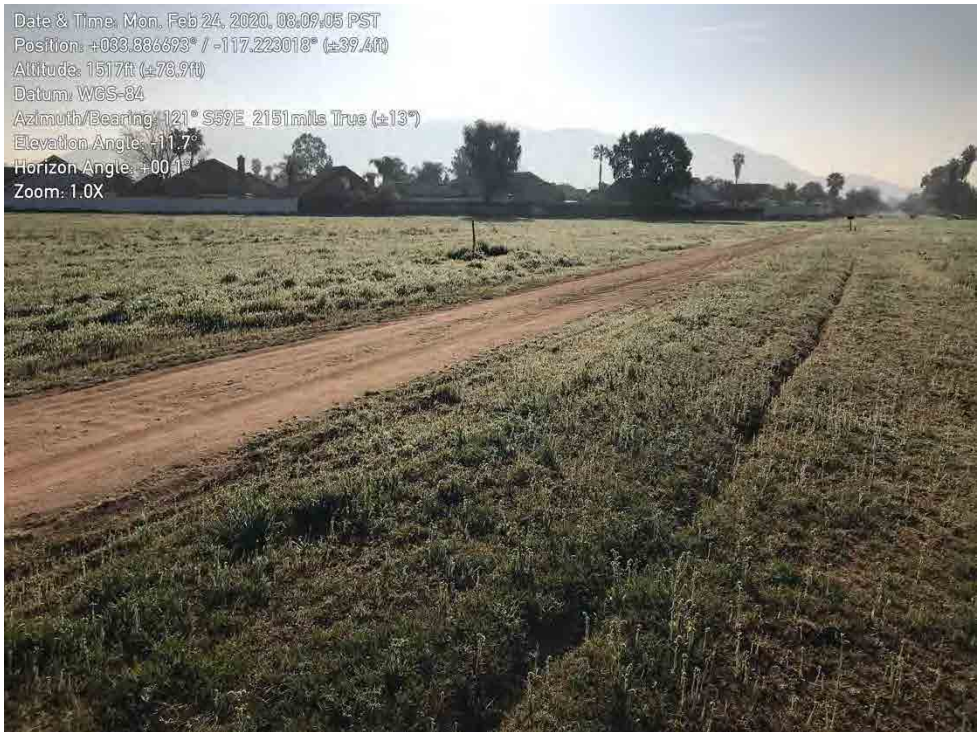
APN 312-020-025 Moreno Valley, CA

ATTACHMENT B

Representative Site Photographs

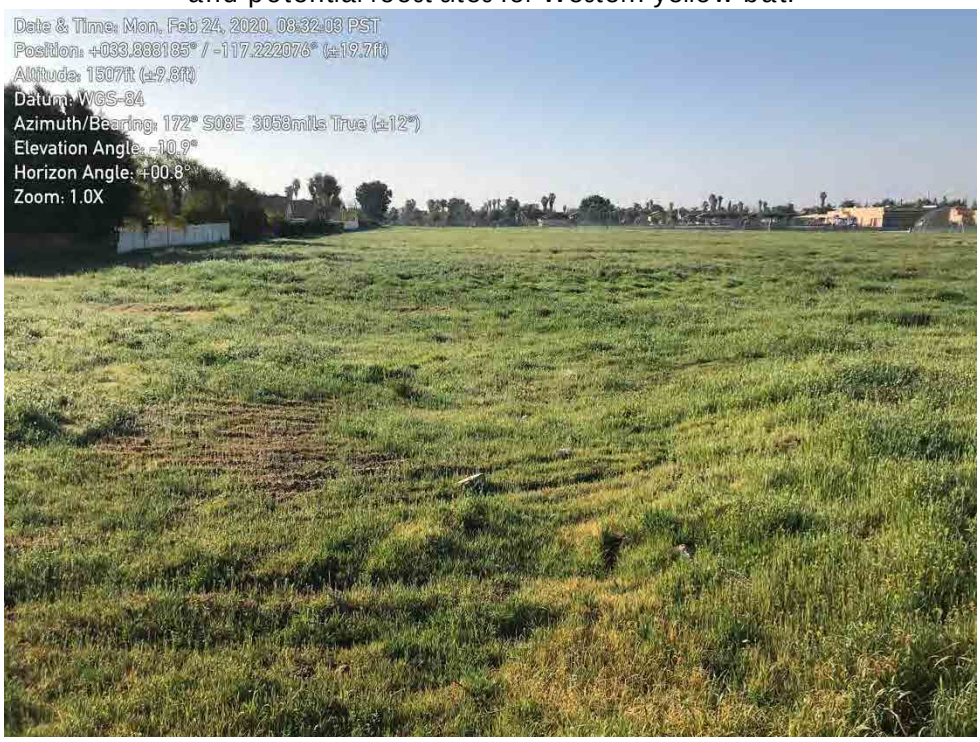
BLACKHAWK
Environmental

- Photograph 1: Northwest-facing photograph taken from southwest portion of the of the Project site, showing Residential/Urban/Exotic – Disturbed Lands dominated by non-native plant species.



Photograph 2: Southeast-facing photograph taken from southwest portion of the of the Project site, showing Residential/Urban/Exotic – Disturbed Lands dominated by non-native plant species. Large ornamental trees

and Mexican fan palms are visible in the background and provide suitable nesting habitat for raptor species and potential roost sites for Western yellow bat.



Photograph 3: South-facing photograph taken from northeastern portion of the of the Project site, showing Residential/Urban/Exotic – Disturbed Lands surrounded by urban development.

Photograph 3: Southwest-facing photograph taken from northeastern portion of the of the Project site, showing Residential/Urban/Exotic – Disturbed Lands surrounded by Residential/Urban/Exotic – Urban/Developed Areas. Iris Avenue is visible on the right side of the photograph.

Photograph 4: North-facing photograph taken from the central portion of the Project area, showing Residential/Urban/Exotic – Disturbed Lands and recent signs of disturbance (tilling).

Photograph 5: Downward-facing photograph showing one of two small rubble piles. A feral cat is pictured here, occupying one of the rubble cavities, precluding burrowing owl occupancy.

ATTACHMENT C

Observed Wildlife Species List

BLACKHAWK
Environmental

AVES	BIRDS
ACCIPITRIDAE	Kites, Hawks, Eagles, and Allies
Falco sparverius	American kestrel
CHARADRIIDAE	Plovers, Dotterels & Lapwings
Charadrius vociferans	killdeer
CORVIDAE	Crows & Jays
Corvus brachyrhynchos	American crow
Corvus corax	common raven
FRINGILLIDAE	Finches and Allies
Haemorhous mexicanus	house finch
ICTERIDAE	Blackbirds and Allies
LARIDAE	Gulls, Terns, and Skimmers
Larus californicus	California gull
MIMIDAE	Mockingbirds & Thrashers
Mimus polyglottos	northern mockingbird
MOTACILLIDAE	Wagtails, Longclaws, and Pipits
Anthus rubescens	American pipit
PARULIDAE	Wood Warblers & relatives
Setophaga coronata	yellow-rumped warbler
PASSERELLIDAE	New World Sparrows
Passerculus sandwichensis	savannah sparrow
PASSERIDAE	Old World Sparrows
*Passer domesticus**	house sparrow
STURNIDAE	Starlings and Mynas
*Sturnus vulgaris**	European starling
TROCHILIDAE	Hummingbirds
Calypte anna	Anna's hummingbird
Selasphorus sp.	rufous or Allen's hummingbird
TURDIDAE	Thrushes
Sialia mexicana	western bluebird
TYRANNIDAE	Tyrant Flycatchers
Sayornis nigricans	black phoebe
Sayornis saya	Say's phoebe

MAMMALIA	MAMMALS
CANIDAE	Canids
*Canis familiaris**	Domestic dog
FELIDAE	Felines
*Felus catus**	domestic cat
GEOMYIDAE	Gophers
Thomomys bottae	Botta's pocket gopher
LEPORIDAE	Rabbits and Hares
Sylvillagus audubonii	desert cottontail

**Non-native*

ATTACHMENT D

Observed Plant Species List

BLACKHAWK
Environmental

MONOCOTS	
EUPHORBIACEAE	Spurge Family
Croton setiger	turkey-mullein
POACEAE	Grass Family
*Bromus madritensis***	red brome
*Hordeum murinum**	smooth barley
*Schismus barbatus***	Mediterranean schismus

DICOTS	
ASTERACEAE	Aster Family
*Cotula coronopifolia***	brass buttons
Erigeron canadensis	horseweed
Heterotheca grandiflora	telegraph weed
*Lactuca serriola**	prickly lettuce
BORAGINACEAE	Borage Family
Amsinckia menziesii	common fiddleneck
Plagiobotrys sp.	popcorn flower
Pectocarya sp.	comb-bur
BRASSICACEAE	Mustard Family
*Brassica nigra***	black mustard
Descurainia pinnata	tansy mustard
*Sisymbrium altissimum***	London rocket
*Raphanus sativus***	wild radish
CHENOPODIACEAE	Amaranth Family
*Salsola sp.***	Russian thistle
FABACEAE	Pea Family
*Acacia sp.***	orange wattle
Lupinus bicolor	miniature lupine
GERANIACEAE	Geranium Family
*Erodium botrys**	longbeak stork's bill
*Erodium cicutarium**	redstem filaree
MALVACEAE	Mallow Family
*Malva parviflora**	cheeseweed

**Non-native*

***Non-native and Invasive according to the California Invasive Plant Council*

Appendix C to Initial Study
Phase I Cultural Resources Assessment

March 2020

MATERIAL CULTURE
CONSULTING

Submitted to:

Rafik Albert
E|P|D Solutions, Inc.
Irvine, California

CULTURAL RESOURCES ASSESSMENT

Iris Park Project

City of Moreno Valley, Riverside County, California

MATERIAL CULTURE
CONSULTING

PHASE I CULTURAL RESOURCES ASSESSMENT:
IRIS PARK PROJECT
CITY OF MORENO VALLEY, RIVERSIDE COUNTY, CALIFORNIA

Prepared for:
E|P|D Solutions, Inc.
2 Park Plaza, Suite 1120
Irvine, CA 92614

Prepared By:

Tria Belcourt, M.A., Registered Professional Archaeologist
Sonia Sifuentes, M.Sc., Registered Professional Archaeologist
Material Culture Consulting, Inc.
2701-B North Towne Avenue
Pomona, California 91767

March 2020

Type of Study: Phase I Cultural Resources Assessment
Cultural Resources within Area of Potential Impact: None
Project Location: USGS 7.5' Topographic Quadrangle Sunnymead, Section 29 of Township 3 South, Range 3 West
APN: 312-020-025
Project Area: Approximately 10.8 acres
Date of Field Survey: March 6, 2020
Key Words: Archaeology, CEQA, Moreno Valley, Riverside County, Low sensitivity

MANAGEMENT SUMMARY

Passco Pacifica LLC (Proponent) proposes the construction of Iris Park, a proposed 81-lot single-family detached subdivision located on the south side of Iris Avenue, about 500 feet east of Perris Boulevard, on APN 312-020-025. The project site is triangular in shape and has a gross acreage of approximately 10.82 acres, including 3.02 acres that is planned for development by the City of Moreno Valley as a public park and trail over the California Aqueduct. The community will have two gated access points off Iris Avenue. Three small park areas are spread out on the site. Residential lots would range from 2,197 sq. ft. to 4,741 sq. ft. Homes would range from 1,848 sq. ft. to 2,201 sq. ft., with 3 to 5 bedrooms and 2.5 to 3 baths. Homes would be two stories, include a back yard approximately 12 to 14 feet deep, and have an attached two-car garage. Three architectural styles are proposed: Spanish, French, and Farmhouse. The project overall would provide 217 parking spaces, including 162 garage spaces and 49 spaces on private streets. Material Culture Consulting, Inc. (MCC) was retained by E|P|D Solutions, Inc. to conduct a Phase I cultural resource investigation of the Project Area. This assessment was conducted in accordance with the California Environmental Quality Act (CEQA) and Riverside County Guidelines, and included a cultural resources records search, a search of the Sacred Lands File (SLF) by the Native American Heritage Commission (NAHC), outreach efforts with 21 Native American tribal representatives, background research, and a pedestrian field survey.

Yahaira Gonzalez, MCC Archaeologist, conducted a search of the California Historical Resource Information System (CHRIS) on February 25, 2020 at the Eastern Information Center (EIC), located on the campus of University of California, Riverside. The cultural resources records search identified twenty-six prior cultural resources investigations within a 1-mile radius of the Project Area. One of these studies intersects the Project Area. A total of five previously recorded cultural resources were identified within a 1-mile radius of the Project Area, yet none of these are documented within the Project Area. A review of historical aerial photographs and topographic maps indicate that prior to the 1990s, the Project Area was used for agricultural purposes. By the late 1990s, the surrounding area saw increased commercial and residential development that has continued up to the present day.

The SLF did not identify any previously known tribal cultural resources or sacred lands within the vicinity of the Project Area. The NAHC provided MCC with contact information for 21 tribes/individuals to reach out to for additional information on February 18, 2020. MCC sent letters on February 18, 2020 to all 21 Native American contacts, requesting any information related to cultural resources or heritage sites within or adjacent to the Project Area. Additional attempts at contact by letter, email, or phone call were made on March 4, 2020 and March 18, 2020. As a result of this outreach effort, MCC received seven responses from Native American Tribes or individuals. Several tribes responded with concerns about presence of nearby resources and presented requests for formal consultation with the Lead Agency. These results are summarized in the Native American Outreach and Background Research section of this report and all correspondence is found in Appendix C. MCC did not conduct formal consultation with any of the Native American representatives, and recommends that appropriate consultation take place as soon as possible between Riverside County, as lead agency, and all interested parties.

The pedestrian survey of the Project Area was conducted on March 6, 2020 by MCC Archaeologist Zachary White. During the course of fieldwork, survey conditions were fair and ground visibility was poor to good (10-80%) throughout the 10.8-acre Project Area, due to prior ground disturbance and vegetation coverage. The property has been disturbed due to vehicular activity and modern dumping activity. No cultural resources were identified during the investigation.

Based on the above findings, the probability of encountering significant cultural resources within the Project Area is considered low. MCC recommends no further mitigation measures prior to implementation of the Project. While we do not recommend additional mitigation, we do recommend including a condition of approval which addresses

inadvertent discoveries of cultural materials and/or human remains, should these be encountered during any phase of Project implementation.

A copy of this report will be permanently filed with the EIC at University of California, Riverside. All notes, photographs, correspondence and other materials related to this Project are located at MCC, Inc., located in Pomona, California.

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INTRODUCTION

Passco Pacifica LLC (Proponent) proposes the construction Iris Park, a proposed 81-lot single-family detached subdivision located on the south side of Iris Avenue, about 500 feet east of Perris Boulevard (Project), located in the City of Moreno Valley in Riverside County, California. Material Culture Consulting, Inc. (MCC) was retained by E|P|D Solutions, Inc. to conduct a Phase I cultural resource investigation of the Project Area. This assessment was conducted pursuant to all applicable State of California regulations regarding cultural resources, as well as guidelines established by the City of Moreno Valley. According to these regulations and guidelines, if development of a Project has the potential to result in significant impacts to cultural resources, a plan must be developed to mitigate those impacts to a level which is less than a significant. This assessment documents the potential for encountering cultural resources during development of this Project and provides recommendations on how to mitigate impacts to those resources.

PROJECT LOCATION AND DESCRIPTION

The Project is located in the City of Moreno Valley, Riverside County, California (Figure 1). Iris Park is a proposed 81-lot single-family detached subdivision located on the south side of Iris Avenue, about 500 feet east of Perris Boulevard, on APN 312-020-025 (Figures 2 and 3). The project site is triangular in shape and has a gross acreage of approximately 10.82 acres, including 3.02 acres that is planned for development by the City of Moreno Valley as a public park and trail over the California Aqueduct. The community will have two gated access points off Iris Avenue. Three small park areas are spread out on the site. Residential lots would range from 2,197 sq. ft. to 4,741 sq. ft. Homes would range from 1,848 sq. ft. to 2,201 sq. ft., with 3 to 5 bedrooms and 2.5 to 3 baths. Homes would be two stories, include a back yard approximately 12 to 14 feet deep, and have an attached two-car garage. Three architectural styles are proposed: Spanish, French, and Farmhouse. The project overall would provide 217 parking spaces, including 162 garage spaces and 49 spaces on private streets. Specifically, the proposed Project is located in Section 29, within Township 3 South, Range 3 West on the U.S. Geological Survey (USGS) Sunnymead 7.5' topographic quadrangle (San Bernardino Baseline and Meridian) (Figure 2).

PROJECT PERSONNEL

Tria Belcourt, M.A., RPA, served as the Principal Investigator for the study and supervised all work. Ms. Belcourt coordinated and oversaw the records searches, communicated with NAHC and Native American individuals, and provided quality control for this report. Ms. Belcourt is a Registered Professional Archaeologist (RPA) and Qualified Riverside County Archaeologist, with a M.A. in Anthropology from the University of Florida, a B.A. in Anthropology from the University of California at Los Angeles and over 16 years of experience in California archaeology (See Appendix A).

Sonia Sifuentes, M.Sc, RPA, provided co-authorship of this report. Julia Carvajal, M.A., managed the field survey and all GIS support for the project and report. Yahaira Gonzalez, B.A., conducted the records search and co-authored this report, and Zachary White, B.A., performed the pedestrian survey.

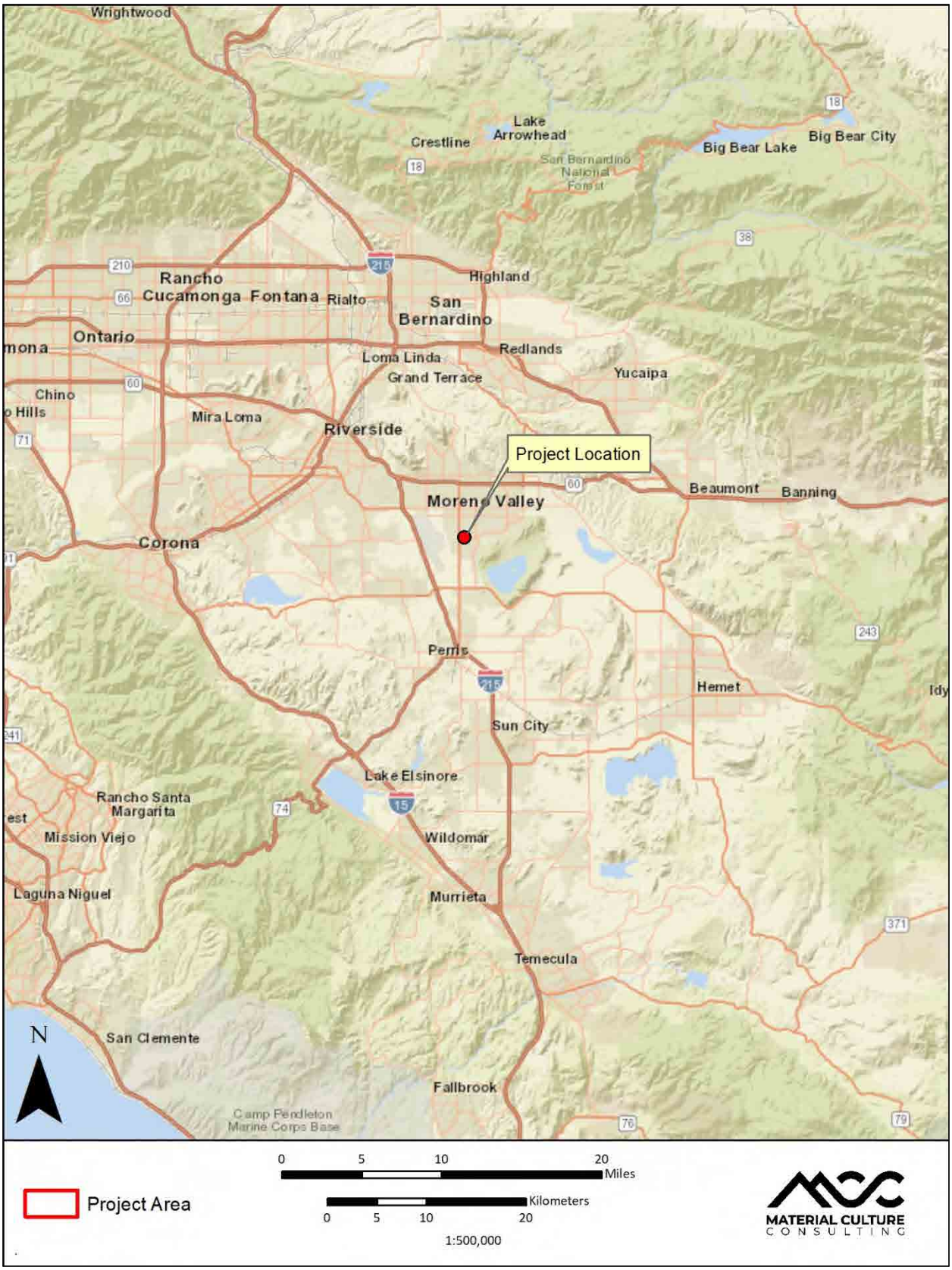

Figure 1. EPD Iris Park Project Vicinity (1:500,000)

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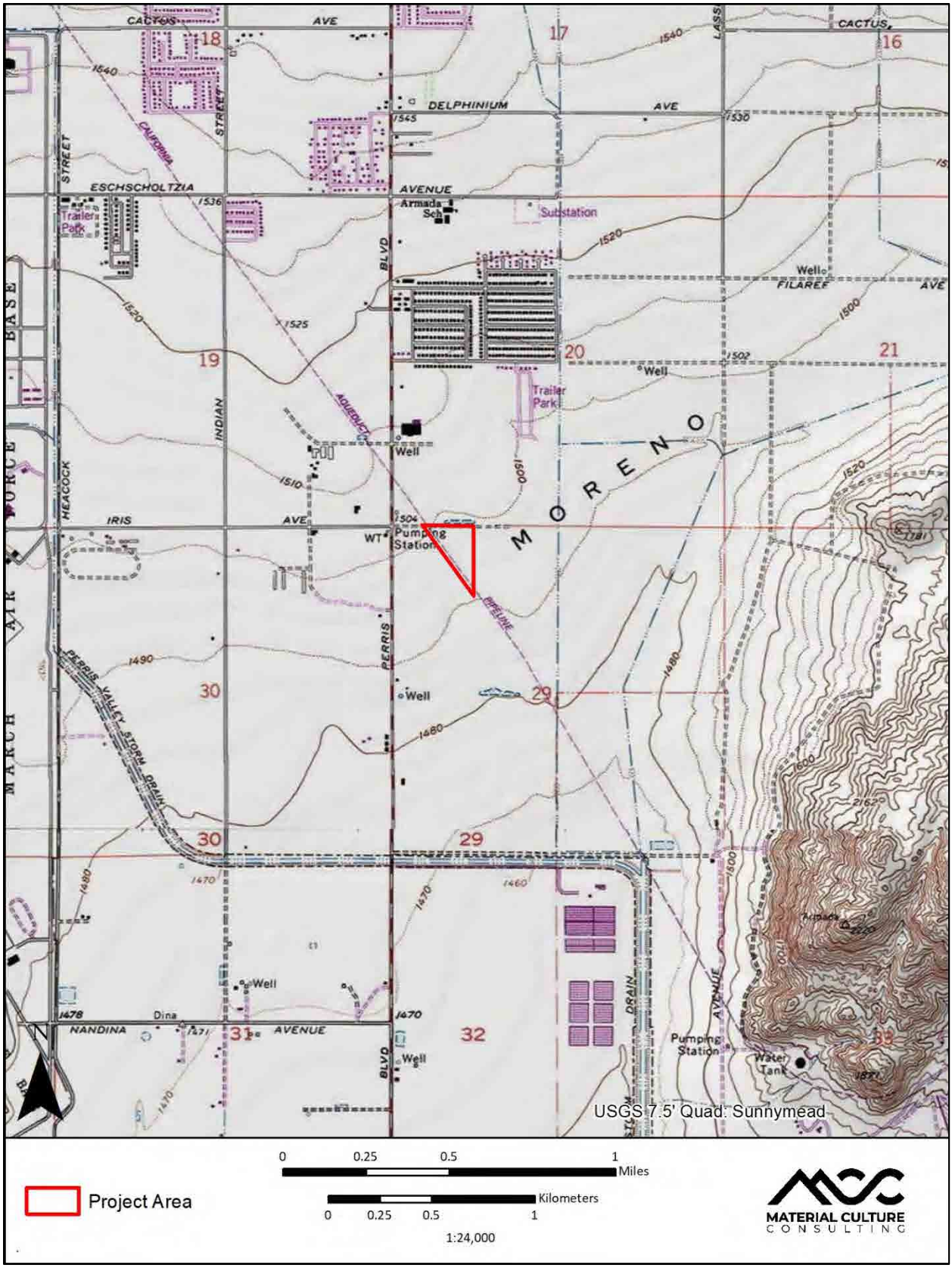


Figure 2. EPD Iris Park Project Area (1:24,000, as depicted on Sunnymead USGS 7.5 Minute Quadrangle)

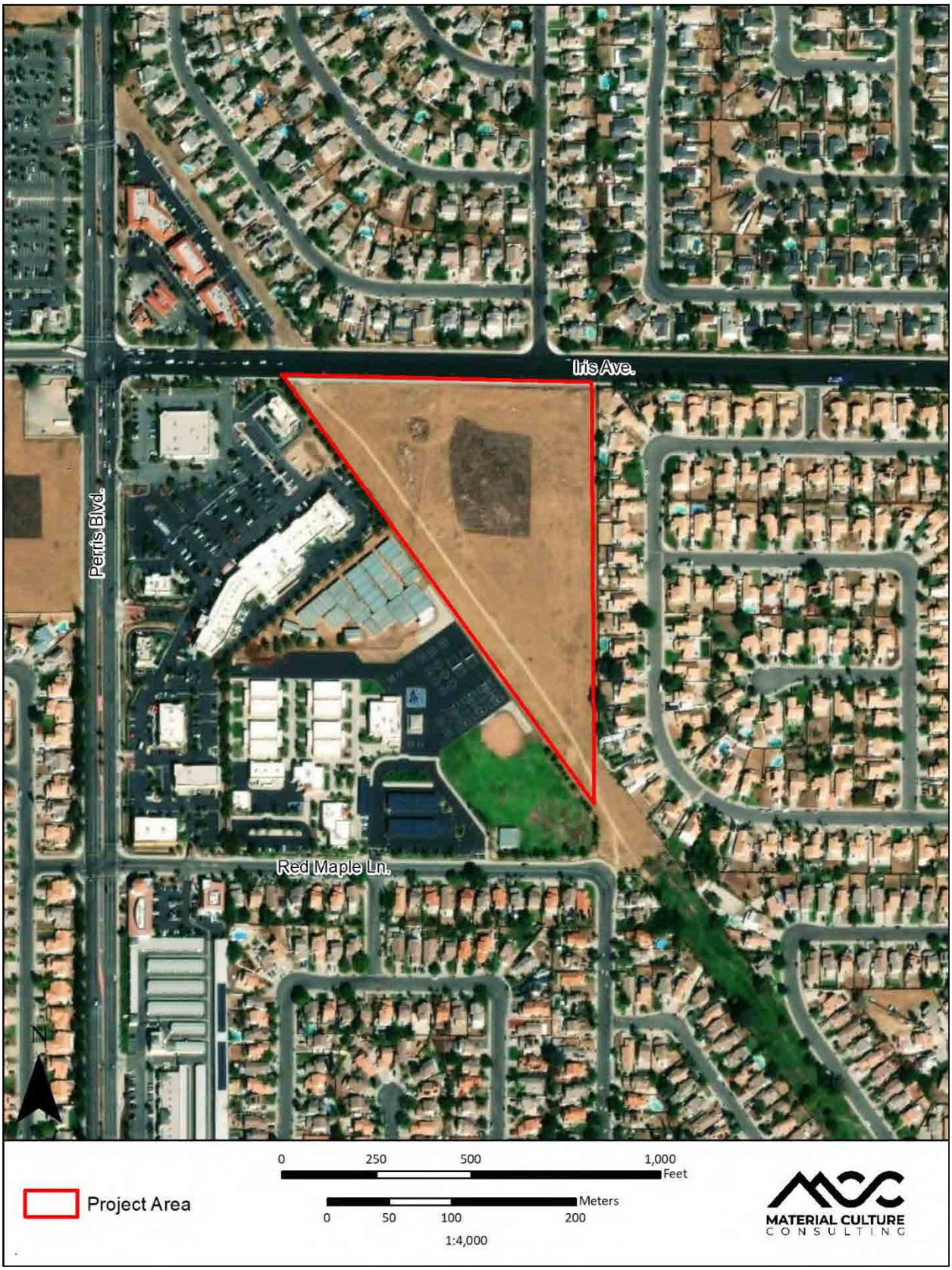


Figure 3. EPD Iris Park Project Area (1:4,000, as depicted on aerial photograph)

ENVIRONMENTAL SETTING

The Project Area is located within the city limits of Moreno Valley in northwestern Riverside County. Riverside County is situated within the Peninsular Ranges Geologic Province, a northwest-southeast oriented complex of blocks separated by similarly trending faults (Norris and Webb 1978). Most geological formations found within this area are comprised the Southern California Batholith, a great mass of basement igneous rocks. The Project Area also lies within the Central Perris Block (Kenney 1999). The Perris Block is a structurally stable, internally cohesive mass of crustal rocks bounded on the east by the San Jacinto fault zone, bounded on the west by the Elsinore and Chino fault zones, and on the north by the Cucamonga fault zone (Norris and Webb, 1976; Morton and Matti, 1989), and on the south by a series of sedimentary basins (Morton and Matti 1989). This structural block is believed to have been active since Pliocene time (Woodford et al 1971).

Vegetation observed within the Project Area include invasive grasses and weeds and brittle bush observed along the southern portion. Non-native landscaping is present within the surround region, with a residential and commercial development located to the South-southwest and Northwest of the Project Area. The climate in the region is characterized as Mediterranean, with hot, dry summers and temperate, wet winters. The Project Area is located within a relatively flat valley, with elevations averaging approximately 456 m (1496 ft.) above mean sea level (AMSL). Vegetation in much of the area has been altered by historical and modern development, with introduced species of flora, including annual grasses, weeds, and sunflowers observed. Perris Reservoir and Russell Mountains are located approximately 2.59 miles southeast of the Project Area. Moreno Valley area enjoys a mild Mediterranean climate characterized by warm, dry summers and cool, moist winters.

PREHISTORIC CONTEXT

The earliest evidence of human presence of North America radiocarbon dates as early as 15,000 years before present (BP) (Waters et al. 2011). Most of the cultural material to this period derives from a site in present-day Salado, Texas. Known as the Buttermilk Creek Complex, this assemblage of over 15,000 artifacts underlaid a Clovis assemblage and provides evidence of occupation prior to the Clovis horizon (Waters et al. 2011). No projectile points have been recovered from the Buttermilk Creek Complex and Clovis Complex is still the earliest known emergence of this technology. In California, the oldest radiocarbon date is derived from a from a site located in Siskiyou County (Tule Lake Rockshelter/CA-SIS- 218A), which dates as early as 13,000 years BP (Jones and Klar 2007; Erlandson et al. 2014).

The chronological prehistory of inland southern California remains more elusive than the much-researched desert and coastal regions. Most researchers generally agree that the earliest occupation for the Riverside County area dates to the late Pleistocene/early Holocene (11,000 to 8,000 years ago). The regional prehistoric chronology discussed here includes San Dieguito Complex, Encinitas Tradition, Milling Stone Horizon, La Jolla Complex, Pauma Complex, and San Luis Rey Complex, as they relate to the archaeological assemblages of the region. Other chronological classification utilized for southern California include King's Early Period, which does includes regional subtraditions of the La Jolla and Pauma Complexes, along with the Early Santa Barbara region subtradition (Oak Grove culture), and the Late Santa Barbara region subtradition (Hunting and Campbell traditions) (King 2001).

The earliest sites known in the area are attributed to the San Dieguito culture, which consisted of a hunting culture with flaked stone tool industry (Warren 1967). Also known as the Paleo Indian Period, the environment during this period was cool and moist, which allowed for glaciation in the mountains and the formation of deep, pluvial lakes in the deserts and basin lands (Moratto 1984). The material culture related to this time included scrapers, hammer stones, large flaked cores, drills, and choppers, which were used to process food and raw materials. During the archaeological investigations at the Eastside Reservoir, an early date of 7,380 +/- 300 before present from site CA-

RIV-5786 implies that people lived in the area at this time. Two other archaeological sites that date to this period are also within the vicinity of nearby Menifee: CA-RIV-2798/H, near the shoreline of Lake Elsinore; and CA-RIV-6069, located in San Jacinto Valley near Mystic Lake. These early sites revealed deep, intact deposits with a number of stone tools and features, which are more likely to be found along ancient lake terraces.

Around 8,000 years ago, subsistence patterns changed, resulting in a material complex consisting of an abundance of milling stones (for grinding food items) and a decrease in the number of chipped stone tools. The material culture from this time period includes large, bifacially worked dart points and grinding stones, handstones, and metates. Archaeologists initially designated this period as the Millingstone Horizon (Wallace 1955), which was later redefined as a cultural tradition named the Encinitas Tradition (Warren 1967). The Encinitas Tradition has various regional expressions including Topanga and La Jolla (Moriarty 1966). Naming conventions for this time period by archaeologists varied as some adopted a generalized Encinitas Tradition without regional variations, while others continued to use Millingstone Horizon, and still others used Middle Holocene (the geologic time period) to indicate this observed pattern (Sutton and Gardner 2010:1-2). Recently, this generalized terminology was criticized by Sutton and Gardner (2010) as suppressing the identification of cultural, spatial, and temporal variation, as well as the movement of peoples throughout space and time. It is these factors that are believed to be critical to an understanding of prehistoric cultural adaptation and change in this portion of southern California (Sutton and Gardner 2010:1-2).

The Encinitas Tradition characteristics include abundant metates and manos; crudely made core and flake tools; bone tools; shell ornaments; and very few projectile points, indicating a subsistence pattern focused on hunting and gathering a variety of floral resources. Faunal remains vary by location but include marine mammals, fish, and shellfish; as well as terrestrial animals, reptiles, and birds (Sutton and Gardner 2010:7). The Encinitas Tradition has been redefined to have four patterns (Sutton and Gardner 2010: 8-25). These include the Topanga Pattern in coastal Los Angeles and Orange counties; the La Jolla Pattern in coastal San Diego County; and the Sayles or Pauma Complex in inland San Diego County extending into western Riverside County, where the project is located. At approximately 3,500 years ago, Pauma Complex in the general Project vicinity adopted new cultural traits which transformed the archaeological site characteristics - including mortar and pestle technology, greater tool variety (including atlatl dart points and crescentics), and evidence of a more sedentary lifestyle (Warren et al. 1961; Meighan 1954).

At approximately 1,500 years before present, bow and arrow technology started to emerge in the archaeological record, which indicated changes in settlement patterns and subsistence systems. The local population incorporated new materials while retaining their day to day subsistence methods of the past, as evidenced by the archaeological record. The Palomar Tradition is attributed to this time, and is comprised of two larger patterns: the Peninsular Pattern in the inland areas of the northern Peninsular Ranges (e.g., San Jacinto and Santa Rosa mountains) and the northern Coachella Valley (Sutton 2010); and the San Luis Rey pattern of the Project Area. Archaeological sites from this time period are characterized by soapstone bowls, arrowhead projectile points, pottery vessels, rock paintings, and evidence of cremation sites. This shift in material culture assemblages is largely attributed to the emergence of Shoshonean (Takic-speaking) people who entered California from the east.

Recent investigations at the Eastside Reservoir project (Applied Earthworks 2001) refined the chronology for the past 1500 years into four stages: Saratoga Springs (1500-750 BP), Late Prehistoric (750-410 BP), Protohistoric (410-180 BP), and Historic (post-180 BP). The indications from this research show a large number of semi-residential sites during the Medieval Climatic Anomaly at the end of the Saratoga Springs period and ending by the Late Prehistoric (Applied Earthworks 2001). The increased use of the area suggests that the area may have had a more favorable environment than in surrounding regions.

ETHNOGRAPHIC CONTEXT

The Project Area has historically been situated between two Native American territories, the Luiseño people and the Cahuilla people, and is located south of the southern boundaries of Serrano traditional use area (Figure 4). The "Takic Expansion", which discusses the concept of migration phases of Takic/proto-Takic speaking peoples from the Great Basin into the desert and coastal Southern California regions, is believed to have occurred approximately 1000 to 600 years B.P (Koerper 1979; Moratto 1984; Laylander 2010). It is believed that both the Cahuilla and Luiseño ethnographic groups derived from this migration.

Cahuilla

The Cahuilla territory was bounded by the San Bernardino Mountains to the north, the Orocopia Mountains to the east, the Santa Ana River/the San Jacinto Plain and the eastern portion of Palomar Mountains to the west, and Borrego Springs and the Chocolate Mountains to the south (Bean 1978). The Project Area falls within the western region of the tribe's traditional territory, denoted by the San Gorgonio Pass. The Cahuilla existed within the most geographically diverse region, having exploited more than 500 native and non-native plants (Bean and Saubel 1972). The Cahuilla spoke a language that belongs to the Cupan group of the Takic subfamily of the Uto-Aztecan language family, a language family that includes the Shoshonean groups of the Great Basin (Bean and Shipek 1978).

The prehistoric Cahuilla occupation is characterized by structures within permanent villages that ranged from small brush shelters to dome-shaped or rectangular dwellings. Villages were situated near water sources, in the canyons near springs, or on alluvial fans at man-made walk-in wells (Bean 1972). There appears to be slight difference in subsistence tools between the Desert, Pass, or Mountain Cahuilla groups. The Desert Cahuilla used deep, wooden mortars with a long pestle whereas San Gorgonio Pass Cahuilla utilized shallower mortars with basketry rims (Kroeber 1908: 40, 43). Cahuilla granaries were usually raised on pole platforms two to four feet high, which resembled birds' nests, and were used to store mesquite (Kroeber 1908: 42).

In comparison with other Southern California tribes, the Cahuilla appeared to have had a lower population density and a less rigid social structure. The Cahuilla are patrilineal, with closely related patrilineages that share an assumed common ancestor which is important socially and ceremonially (Hudlow 2007). The office of lineage leader, also known as a *nét*, directed subsistence activities, settled conflicts, represented the clan regionally and was responsible for correct performances of ceremonies, with the official role of the chief passed from father to eldest son (Bean 1978; Hudlow 2007).

Initial contact with European explorers with the Cahuilla most likely occurred during the expedition of Juan Bautista de Anza in 1777 (Napton and Greathouse 1982). The presence of the San Gabriel Mission in the early 1800s led to more contact via baptisms (Napton and Greathouse 1982). It also led to the Native Americans moving away from traditional habitation sites to separate themselves from the influence of the Mission (Brumgardt 1977). The Cahuilla traditions may have been relatively stable until mission secularization in 1834, due to the policy of the Catholic Mission fathers, or padres, to maintain imported European traditional style settlement and economic patterns (Bean and Shipek 1978). After 1877, when the United States government established Indian reservations in the region and religious missionaries began conversion of the Native American populations in the region, traditional cultural practices were prohibited. Presently, the Cahuilla reside in nine separate reservations in Southern California, located in Imperial, Riverside and San Diego counties (Bean 1978).

Luiseño

The Spanish name Luiseño was used to identify Native Americans who were associated with the Mission San Luis Rey, since the Luiseño most likely had no known native term for their own nationality (Bean and Shipek 1978).

Extensive research has been accumulated that gives detailed accounts of the Luiseño (DuBois 1908, Sparkman 1908, Kroeber 1976, White 1963, and Bean and Shipek 1978). At the time of these ethnographies, the Luiseño maintained a sophisticated political organization structure, and their lands extended from western San Jacinto to the Pacific Ocean along several major waterways, including Temecula, Santa Margarita, and San Luis Rey Rivers (Bean and Shipek 1978). Neighboring tribes included the Cahuilla to the east, the Serrano to the north, and the Gabrielino to the west. Each of these groups are of the same Uto-Aztecan linguistic subfamily of Takic-speakers. The boundaries for territories fluctuate as new information evolves in ethnographic and ethnohistoric research, so there is a likelihood that there was quite a bit of overlap and intermarriage between groups over time.

The Luiseño organized themselves according to family groups or lineages, rather than forming exogamous moieties. Each lineage occupied land that they held in common, and they lived socially and politically separately from others (Bean and Shipek 1978). They typically resided in villages near reliable water sources and maintained special purpose camps close to the main villages. In the springtime, families would replenish food supplies by gathering local fruit, seeds, bulbs and roots. In the fall, families would move into the upland areas to gather acorns, prickly pear, toyon berries, and yucca. The Luiseño territory contained several species of oak that produced edible acorns. Acorns were stored and processed as needed by breaking the shell, grinding the meat into a powder, and leaching the tannic acid from the nut by using water. A porridge was made from the leached nuts and cooked with water using hot stones in baskets. The Luiseño used a wide variety of tools, including manos and metates, bone and shellfish hooks, stone and shell ornaments, bone awls, wooden throwing sticks, hammer stones, handstones, pestles, mortars, and drills, which are evident in late Prehistoric archaeological sites. Presently, there are six federally recognized Luiseño tribes with associated reservations within Southern California.

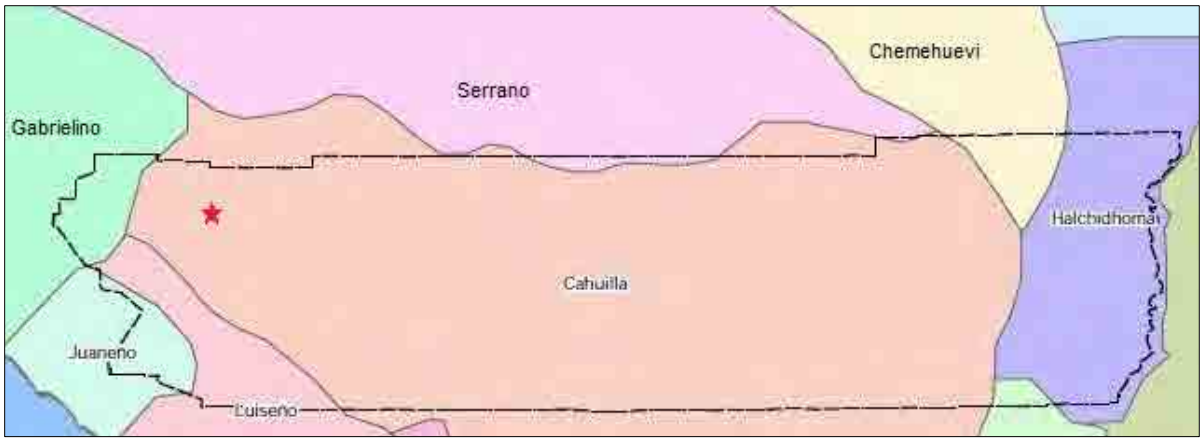


Figure 4. Traditional Tribal Areas in Riverside County and Project Area (derived from County of Riverside 2015)

Serrano

The Serrano has been defined as a Northern Uto-Aztecan language sub-family which resided in the mountains and deserts of interior southern California, known as the Mountain Serrano and the Desert Serrano (Sutton and Earle 2017). The Serrano's traditional use area is believed to located from the Cajon Pass of the San Gabriel/San Bernardino Mountains, as far east as Twentynine Palms, as far south as to Yucaipa, and as far north as Barstow (Bean and Smith 1978). Gifford (1971) categorizes the Serrano as a clan and moiety-oriented, or local lineage-oriented, group tied to traditional territories or use areas. Typically, a "village" consisted of a collection of families centered about a ceremonial house, with individual families inhabiting willow-framed huts with tule thatching. Considered hunter-gatherers, the Serrano exhibited sophisticated technologies devoted to hunting small animals and gathering roots, tubers and seeds of various kinds. Principal game animals included were deer, mountain sheep, antelope, rabbits, small rodents, and various birds (Bean and Smith 1978). The Serrano spoke a language

that belongs to the Takic subfamily of the Uto-Aztecan language family, with some evidence of similarity with the Gabrielino (of the Los Angeles Basin) (Miller 1984).

European influence on the Serrano was limited until 1819, with the establishment of an asistencia near present-day Redlands (Bean and Smith 1978). By 1834, most of the western Serrano population had been displaced, with those located northeast of San Gorgonio Pass continued to thrive. Today, Serrano descendants are found mostly on the Morongo and San Manuel reservations, which are a modern-day culmination of Serrano, Cahuilla, and Cupeno lineages.

HISTORIC CONTEXT

In 1769, Spanish settlers began to enter and colonize Alta California, which caused the region to undergo an immense change. As early as 1827, Anglo-Americans were migrating into Southern California. In the decades to come, California would be taken by the United States with the end of the Mexican-American War and subsequent events such as the Civil War and California Gold Rush continued to shape the history of California.

Spanish Period (1769 to 1821) to Mexican Period (1821 to 1848)
The Spanish period began in 1769 with Captain Gaspar de Portolá's land expedition, and ended in 1821 with Mexican Independence. During the Spanish Period, the influence of San Luis Rey Mission (1798) was apparent throughout the surrounding regions, with much of the area used for cattle grazing. At its peak, the Mission controlled multiple ranches and claimed control over what is now western Riverside County and northern San Diego County, including the Project Area. Most land was managed as outlying ranches known as asistencias. The asistencias allowed the Luiseño of the area to reside in their villages and not move onto the mission itself. However, after control of the area shifted to Mexico, secularization began throughout the area and the missions and their associated ranches began to decline. The Mexican government proceeded to push settlements of Mexican populations from the south by deeding large grants to individuals who promised to employ settlers. Small villages were established on some ranchos, while small towns appeared in areas between ranchos. The Project Area, however, was not part of any Mexican land grant and the general area that is now Moreno Valley was largely uninhabited during these periods.

American Period (1848 to present)
The Gold Rush of 1849 saw a tremendous influx of Americans and Europeans flooding into Southern California. The passage of the Homestead Act of 1862 increased the influx of settlers within the region. Eventually, Riverside County was settled by homesteaders and farmers, and quickly became a diversified agricultural area with citrus, grain, grapes, poultry, and swine being the leading commodities. This influx of settlers led to population pressures and increased conflicts with the local indigenous groups. The passage of the Act for the Governance and Protection of Indians in 1850 further degraded the position of the Luiseño and Cahuilla. By 1877, The Cahuilla were moved to reservations in a checkerboard pattern throughout the Palm Springs and Coachella Valleys in Riverside County (Napton and Greathouse 1982) which broke up reservation land into discontinuous patchwork pieces, restricting access by the tribe to sacred lands and traditional gathering places. The Moreno Valley area remained unclaimed public land until 1870, when a large tract of over 13,400 acres were purchased from the U.S. government in a single transaction (Tang and Hogan 2013).

Development of the City or Moreno Valley began during the late 19th century. In 1883, Frank E. Brown ventured from Redlands into the Moreno Valley region and secured a large acreage that were platted into ten-acre tracts (Ellis 1912). This attracted settlers and farmers into the region and the Town of Moreno was established in Brown's honor in 1890 (Ellis 1912; P&D Consultants 2006). However, due to water conflicts and litigations that ultimate went in favor of the City of Redlands, a period of drought forced the failure of most farmers in the area and lead to

an exodus from the Town of Moreno to other closer locations like Riverside, dubbing the area and town "The Valley/Town on Wheels" (Ellis 1912; Ghori 2014; City of Moreno Valley 2020).

Figure 5. Frank Brown, far right, during pipeline placement, circa 1891 (Ghori 2014)

In 1918, the construction of a military training airfield in the area brought in new community growth. Located approximately 1.30 miles west of the Project Area, it was originally called the Alessandro Aviation Field, with its official name changed to March Air Field in honor of an Army pilot who had died during a training crash (Ghori 2014). First encompassing 640 acres of land, March Air Field grew to encompass more than 7,000 acres, with the base supporting 85,000 troops at its height of activity (City of Moreno Valley 2020). In 1996, March was realigned as an Air Reserves Base and is still currently active.

Figure 6. Postcard of March Air Field, unknown date (Ghori 2014)

From the late 1950s to the late 1980s, the Riverside International Raceway operated within Moreno Valley. Established by Rudy Cleye, it was considered a dangerous track and circuit changes occurred in 1969 (Racing Circuits 2018). It hosted many prominent races, including NASCAR championships (Ghori 2014). By 1989, the land the track was on was sold to create housing and a shopping mall, located 4.5 miles northwest of the Project Area

(Racing Circuits 2018). By 1984, the communities of Edgemont, Sunnymead, and Moreno voted to incorporate after prior failed efforts, and the City of Moreno Valley was established (City of Moreno 2020).

RESEARCH DESIGN

The objectives of an archaeological assessment are to locate, interpret, and evaluate the effects and significance of past human activities within the study area. The indicators of such activities are represented by cultural resources, which can consist of many different types of materials, organizational, distributional, and structural evidence that includes stone tools, historic neighborhoods, historic-era can scatters, village sites, food waste, tool manufacturing waste, trails, stone alignments, petroglyphs, hearths, or human skeletal remains. All of these types of resources are known to exist within the general Project region. The scope of this study is to identify and evaluate the significance of cultural resources within the Project Area and determine protective measures that would minimize negative impacts to these resources if avoidance is not possible.

LEGAL COMPLIANCE BASIS

This project is subject to both state and local regulations, including CEQA and the Riverside County General Use Plan. CEQA declares that it is state policy to "take all action necessary to provide the people of this state with...historic environmental qualities." It further states that public or private projects financed or approved by the state are subject to environmental review by the state. All such projects, unless entitled to an exemption, may proceed only after this requirement has been satisfied. CEQA requires detailed studies that analyze the environmental effects of a proposed project. In the event that a project is determined to have a potential significant environmental effect, the act requires that alternative plans and mitigation measures be considered. CEQA includes historic and archaeological resources as integral features of the environment. The level of consideration may vary with the importance of the resource.

The Moreno Valley General Plan's Objective 7.6 is to "identify and preserve Moreno Valley's unique historical and archaeological resources for future generations" (City of Moreno Valley 2006). Five policies aim to promote this objective, including Policy 7.6.2, "implement appropriate mitigation measures to conserve cultural resources that are uncovered during excavation and construction activities" (City of Moreno Valley 2006).

RESEARCH THEMES WITHIN THE PROJECT AREA

Riverside County and the Perris Valley have a rich prehistoric and historic cultural heritage. Prehistoric sites are known to occur along intermittent drainages, as well as in the hills west of the Project Area and are often associated with boulder outcrops. Food processing sites, consisting of bedrock grinding and milling features, and ground stone artifacts (whole and fragmentary) are found within this region. The closest known sites such as these are located along the foothills and canyons to the west, indicating that certain areas may have been used more frequently or for extended periods. Prehistoric rock art sites are known to exist in the general region; however, no such sites have been identified in the records search of the Project Area.

Future archaeological research within the general Project Area has the potential to address research questions regarding settlement patterns, site structure, subsistence strategies, trade and distribution networks and tool technologies. Questions for the Project have been selected to contribute to the context and understanding of the prehistory and history of California. Based on the literature review, research questions fall into several prehistoric and historic domains. The prehistoric research domains are Chronology and Cultural Affiliation, Subsistence and Site Function, and Toolstone Procurement and Use. Historic research topics focus primarily on the domain of Community Development. Defining research questions also helps focus the documentation of resources during survey so that artifacts, features and other remains that can contribute to an understanding of regional history and prehistory are carefully noted.

CHRONOLOGY AND CULTURAL AFFILIATION

At prehistoric sites throughout Riverside County, chronometric data generally derive from time-sensitive artifacts (e.g., projectile points, beads, and ceramics) and artifacts/organic materials that can provide absolute dating (e.g., obsidian hydration, and calibrated radiocarbon dating). Time-sensitive and dateable artifacts can occur in surface and subsurface contexts, the former sometimes less reliable than the latter in terms of dating archaeological components. Dateable organic remains (e.g., bone, shell, fiber, loose charcoal) occur in multiple contexts within an archaeological site, which include but is not limited to food processing, shell bead manufacturing, and burials.

Chronological measurements using absolute or relative (e.g., stratigraphy and seriation) methods can be used to compare and contrast temporal adaptive patterns in human behavior. For the most part, sites that can be dated have greater information potential than undated sites as they can be placed in time and help refine our understanding of long-and short-term changes in prehistoric human adaptation.

Given the importance of chronological data to all archaeological interpretation, it will be critical to document the presence of any time-sensitive artifacts within the Project Area. Sites that can contribute valuable chronological data may be recommended eligible for listing on CRHR under Criterion (4), research potential.

SUBSISTENCE-SETTLEMENT PATTERNS

Subsistence is one of the most basic of human needs that has a direct effect on human behavior. Prehistoric subsistence procurement activities consist of any number of variables including: site location in relation to land form, water supply, and raw materials; site size; site function; and duration of occupation. Material culture, such as lithic and ground stone tools, ceramics, and faunal and botanical remains, provide data representative of subsistence-related activities and strategies.

The Project Area is within a larger settlement area used by the Luiseño and Cahuilla, with the these cultures and the Serrano utilizing the region for trade. Information on the nature and intensity of prehistoric use of the Project Area, including the types of sites present, their density, and environmental context, will contribute to a more complete picture of settlement and subsistence patterns in this part of California. Combined with chronological information (above), this information can also assist in determining adaptive changes over time. Sites that can offer valuable data concerning prehistoric subsistence-settlement patterns may be recommended eligible for listing on CRHR under Criterion (4), research potential.

TOOL-STONE PROCUREMENT AND USE

Basic patterns in lithic materials use can be useful for reconstructing the approximate geographic extent of past settlement and trade systems. Sites that offer valuable information concerning patterns of raw material procurement and use and tool manufacture may be recommended eligible for listing on CRHR under Criterion (4), research potential, particularly if they are accompanied by chronological data that may be used to place stone-working behaviors in time.

HISTORIC RESEARCH DOMAINS

Historic archaeological sites can offer important data concerning any number of historic themes and may be recommended eligible for listing on CRHR under Criterion (4), research potential. They may also be eligible under Criterion (1) if they can be linked to certain historical events that are important to California's past, Criterion (2) if they are found associated with persons important in history, or under Criterion (3) if they contain structural features that are distinctive of a particular historic period or demonstrate an exceptional aesthetic quality. For the purposes of this project, we plan to focus historic period research on the theme of community development and built environments. The historic research domains will specifically address the historic-era built environment within the project vicinity, as it is felt that this topic is important to our understanding of the history in Western Riverside County.

SIGNIFICANCE EVALUATIONS

The criteria for listing resources on the California Register of Historic Resources (CRHR) were expressly developed to be in accordance with previously established criteria developed for listing on the National Register of Historic Places and require similar protection to that which the National Historic Preservation Act Section 106 mandates for historic properties. According to Public Resources Code (PRC) Section 5024.1(c) (1-4), a resource is considered historically significant if it meets at least one of the following criteria:

1) Associated with events that have made a significant contribution to the broad patterns of local or regional history or the cultural heritage of California or the United States;
2) Associated with the lives of persons important to local, California or national history;
3) Embodies the distinctive characteristics of a type, period, region or method of construction or represents the work of a master or possesses high artistic values; or
4) Has yielded, or has the potential to yield, information important to the prehistory or history of the local area, California or the nation.

In addition to having significance, resources must have integrity for the period of significance. The period of significance is the date or span of time within which significant events transpired, or significant individuals made their important contributions. Integrity is the authenticity of a historical resource's physical identity as evidenced by the survival of characteristics or historic fabric that existed during the resource's period of manufacture and use. Alterations to a resource or changes in its use over time may have historical, cultural, or architectural significance. Simply, resources must retain enough of their historic character or appearance to be recognizable as historical resources and to convey the reasons for their significance. A resource that has lost its historic character or appearance may still have sufficient integrity for the California Register, if, under Criterion 4, it maintains the potential to yield significant scientific or historical information or specific data. Note that California Historical Landmarks with numbers 770 or higher are automatically included in the CRHR.

Sites with the potential to yield artifacts and other data that can address research questions may be evaluated as eligible for CRHR listing per Criterion (4). Some prehistoric sites may be evaluated as CRHR-eligible under Criterion (1) if they relate to culturally significant events or (mythological) persons (Criterion 2), or represent high artistic forms (e.g., rock art), per Criterion (3).

Under CEQA, if an archaeological site is not a significant "historical resource" but meets the definition of a "unique archaeological resource" as defined in PRC Section 21083.2, then it should be treated in accordance with the provisions of that section. A unique archaeological resource is defined in PRC Section 21083.2(g) as follows:
An archaeological artifact, object, or site about which it can be clearly demonstrated that, without merely adding to the current body of knowledge, there is a high probability that it meets any of the following criteria:

1) Contains information needed to answer important scientific research questions and that there is a demonstrable public interest in that information;
2) Has a special and particular quality such as being the oldest of its type or the best available example of its type; or
3) Is directly associated with a scientifically recognized important prehistoric or historic event or person.

Resources that neither meet any of these criteria for listing on the NRHP or CRHR nor qualify as a "unique archaeological resource" under CEQA PRC Section 21083.2 are viewed as not significant. Under CEQA, "A non-unique archaeological resource need be given no further consideration, other than the simple recording of its existence by the lead agency if it so elects" [PRC Section 21083.2(h)].

Under CEQA, impacts to historical resources that alter the characteristics that qualify the historical resource for listing on the CRHR are considered to be a significant effect. The impacts to a historical resource are considered significant if: The Project activities physically destroy or damage all or part of a resource; change the character of the use of the resource or physical feature within the setting of the resource which contribute to its significance; or introduce visual, atmospheric, or audible elements that diminish the integrity of significant features of the resource. If it can be demonstrated that a Project will cause damage to a unique archaeological resource, the lead agency may require reasonable efforts to be made to permit any or all of these resources to be preserved in place or left in an undisturbed state. To the extent that they cannot be left undisturbed, mitigation measures are required (Section 21083.2 (a), (b), and (c)).

TRIBAL CULTURAL RESOURCES

Assembly Bill (AB) 52 (Gatto; Stats. 2014, ch. 532), enacted in September 2014, sets forth both procedural and substantive requirements for analysis of tribal cultural resources as defined in Public Resources Code (PRC) Section 21074, and consultation with California Native American tribes. Tribal cultural resources include sites, features, places, cultural landscapes, and sacred places or objects that have cultural value or significance to a tribe. A tribal cultural resource is one that is either: (1) listed on, or eligible for listing on the CRHR or local register of historical resources (see section below); or (2) a resource that the CEQA lead agency, at its discretion and supported by substantial evidence, determines is significant pursuant to the criteria in PRC Section 5024.1, subdivision (c) (see PRC Section 21074). Further, because tribes traditionally and culturally affiliated with a geographic area may have specific expertise concerning their tribal cultural resources, AB 52 sets forth requirements for notification and invitation to government to government consultation between the CEQA lead agency and geographically affiliated tribes (PRC Section 21080.3.1[a]). Under AB 52, lead agencies must avoid damaging effects to tribal cultural resources, when feasible, regardless of whether consultation occurred or is required.

Tribal cultural resources per PRC 21074 (a)(1)(A)–(B) are defined as either of the following:

1) Sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe that are either of the following:

    a) Included or determined to be eligible for inclusion in the California Register of Historical Resources.

    b) Included in a local register of historical resources as defined in subdivision (k) of Section 5020.1.

2) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Section 5024.1. In applying the criteria set forth in subdivision (c) of Section 5024.1 for the purposes of this paragraph, the lead agency shall consider the significance of the resource to a California Native American tribe.

    a) A cultural landscape that meets the criteria of subdivision (a) is a tribal cultural resource to the extent that the landscape is geographically defined in terms of the size and scope of the landscape.

    b) A historical resource described in Section 21084.1, a unique archaeological resource as defined in subdivision (g) of Section 21083.2, or a “nonunique archaeological resource” as defined in subdivision (h) of Section 21083.2 may also be a tribal cultural resource if it conforms with the criteria of subdivision (a).

METHODS

CALIFORNIA HISTORIC RESOURCES INVENTORY SYSTEM AND CULTURAL BACKGROUND RESEARCH

On February 25, 2020, Yahaira Gonzalez, B.A., MCC Archaeologist, conducted a search of the California Historical Resource Information System (CHRIS) at the Eastern Information Center (EIC), located at the University of California, Riverside, Riverside County. The search identified any previously recorded cultural resources and investigations within a 1-mile radius of the Project Area. The CHRIS search also included a review of the National Register of Historic Places (NRHP), the California Register of Historical Resources (CRHR), the California Points of Historical Interest list, the California Historical Landmarks list, the Archaeological Determinations of Eligibility list, and the California State Inventory of Historic Resources. Additional background research included historical aerial photos and a search of the Bureau of Land Management General Land Office Records.

NATIVE AMERICAN OUTREACH AND BACKGROUND RESEARCH

MCC requested a search of the Sacred Lands File from the Native American Heritage Commission (NAHC) on February 4, 2020. The Commission responded on February 18, 2020, stating that there are no known sacred lands within a 1-mile radius of the Project Area. The NAHC provided contact information for 21 Native American tribes or individuals who could potentially provide additional information regarding the general Project vicinity. MCC subsequently sent letters on February 18, 2020 to the 21 Native American contacts, requesting any information related to cultural resources or heritage sites within or adjacent to the Project Area. Additional attempts at contact by letter, email, or phone call were made on March 4, 2020 and March 18, 2020. MCC did not conduct formal consultation with Native American representatives.

FIELD SURVEY

The survey stage is a necessary component of a project's environmental assessment phase to verify the exact location of each identified cultural resource, the condition or integrity of the resource, and the proximity of the resource to areas of cultural resources sensitivity. Zachary White, B.A., MCC Archaeologist, conducted the survey of the proposed Project Area on March 6, 2020. The survey consisted of walking parallel transects spaced at approximately 6-meter intervals over the Project parcel, while closely inspecting the ground surface. Transects were oriented East to West due to the triangular shape of the Project Area. All undeveloped ground surface areas within the ground disturbance portion of the Project Area were examined for artifacts (e.g., flaked stone tools, tool-making debris, stone milling tools or fire-affected rock), soil discoloration that might indicate the presence of a anthrosol, soil depressions and features indicative of the former presence of structures or buildings (e.g., postholes, foundations), or historic-era debris (e.g., metal, glass, ceramics). Existing ground disturbances (e.g. cutbanks, ditches, animal burrows, etc.) were visually inspected. Representative photographs were taken of the entire Project Area and are located in the Results section.

RESULTS

CALIFORNIA HISTORIC RESOURCES INVENTORY SYSTEM AND CULTURAL BACKGROUND RESEARCH

The cultural resources search identified 26 prior cultural resources investigations within a 1-mile radius of the Project Area. One of these studies intersects the Project Area (see Table 1).

Table 1. Previously Conducted Investigations within 1-mile Buffer of Project Area

CHRIS Report Number	Authors	Year	Title of Study	Affiliation	Distance from Project Area
RI-00146	Joan R. Smith	1974	Archaeological Impact Evaluation: Eastern Water District, Sewage Pipeline, Mariposa Avenue to Existing Reclamation Facility, Sun City	Archaeological Research Unit, U.C. Riverside	Within 1 - mile
RI-01843	Scientific Resource Surveys, Inc.	1984	Cultural Resource Survey Report On Wolfskill Ranch	Scientific Resource Surveys, Inc.	Within ¼ mile
RI-02171	McCarthy, Daniel F.	1987	Cultural Resources Inventory For The City Of Moreno Valley, Riverside County, California	Archaeological Research Unit, U.C. Riverside	Within 1 - mile
RI-03693	Foster, John M., James J. Schmidt, Carmen A. Weber, Gwendolyn R. Romani, And Roberta S. Greenwood	1991	Cultural Resource Investigation: Inland Feeder Project, Metropolitan Water District Of Southern California	Greenwood & Associates	Intersects Project Area
RI-04745	Erika Thal	2004	Letter Report: Proposed Cellular Tower Project(s) in Riverside County, California, Site Name/ Number: CA-8863A/ Iris	EarthTouch, Inc.	Within 1 - mile
RI-05035	Mckenna et al.	2005	Letter Report: Monitoring at the Site of the Proposed Indian Middle School in the City of Perris, Riverside County, California	Mckenna et al.	Within ½ mile
RI-05294	White, Laurie	2000	Letter Report: Records Search Results For Sprint PCS Facility RV37XC917C (SCE Alessandro Substation), City Of Moreno Valley, Riverside County, CA	Michael Brandman Associates	Within 1 - mile
RI-06081	Lorna Billat	2004	Letter Report: Proposed Cellular Tower Project in Riverside County, California, Site Name/Number: CA-8868A/ Lasselle	EarthTouch, Inc.	Within 1 - mile
RI-06140	Aislin-Kay, Marnie	2004	Letter Report: Records Search and Site Visit Results for Cingular Telecommunications Facility Candidate SC-313-01 (El Potrero Park), Arroyo Park and Laselle Street, Moreno Valley, Riverside County, CA	Michael Brandman Associates	Within 1 - mile
RI-06278	Ahmet, Koral, and Evelyn N. Chandler	2005	Cultural Resources Survey for a Proposed Bikeway in Moreno Valley, Riverside County, California	ECORP Consulting, Inc.	Within 1 - mile
RI-06693	Tang, Bai "Tom"	2007	Letter Report: Historical/Archaeological Resources Study: MVRWRF Bardenpho Plant Modification Project, City of Moreno Valley, Riverside County, California	CRM Tech	Within 1 - mile
RI-07127	Jordan, Stacey C.	2007	Archaeological Survey Report for Southern California Edison Company: Conversion of Overhead to Underground Project on the Rule 20C, Riverside County, California (WO#6577-7281, AI#6-7227)	Jones & Stokes	Within ½ mile
RI-07573	Sanka, Jennifer M.	2008	Phase I Cultural Resources Assessment and Paleontological Records Review, APN 486-070-007, Moreno Valley, Riverside County, California	Michael Brandman Associates	Within 1 - mile

Table 1. Previously Conducted Investigations within 1-mile Buffer of Project Area

CHRIS Report Number	Authors	Year	Title of Study	Affiliation	Distance from Project Area
RI-07618	Tang, B. and Hogan M.	2007	Identification and Evaluation of Historic Properties: Moreno Valley Regional Water Reclamation Facility Bardenpho Plant Modification Project	CRM Tech	Within 1 - mile
RI-08124	Wayne Bonner And Marnie Aislin-Kay	2008	Letter Report: Cultural Resource Records Search and Site Visit Results for Royal Street Communications Candidate IE24896A (Extra Space Storage), 16340 Perris Boulevard, Moreno Valley, Riverside County, California	Michael Brandman Associates, Irvine, California	Within ¼ mile
RI-08477	Kurt Heidelberg	2009	Archaeological Survey Report: for Southern California Edison's Service Pole Replacement on the Bazooka 12kV Transmission Line in Moreno Valley, Riverside County, California	AECOM, Inc.	Within ½ mile
RI-09077	Jeanette A. Mckenna	2014	A Phase I Cultural Resources Survey For The Proposed Walmart Supercenter on Approximately 22.28 Acres of Land In The City of Moreno Valley, Riverside County, California	McKenna et al.	Within ½ mile
RI-09311	Carrie D Wills	2014	Cultural Resources Records Search and Site Visit Results for Verizon Wireless Candidate "Gentian", 16015 North Perris Boulevard, Moreno Valley, Riverside County, California	First Carbon Solutions	Within ¼ mile
RI-09413	Brian F. Smith and Associates Inc.	2013	A Phase I Cultural resources Assessment for the Modular Logistics Center, Moreno Valley, Riverside County, California	Brian F. Smith and Associates Inc.	Within 1 - mile
RI-09528	Mary M. Lenich and Brian F. Smith		Phase I Cultural Resources Survey for the Moreno Valley Logistics Center Project City of Moreno Valley, County of Riverside	Brian F. Smith and Associates Inc.	Within 1 - mile
RI-09681	Carrie D. Wills and Sarah A. Williams	2016	Cultural Resources Records Search and Site Visit Results for T-Mobile West, LLC Candidate IE953617 (Alessandro Substation) 15901 Kitching Street, Moreno Valley, Riverside County, California	Environmental Assessment Specialists, Inc.	Within 1 - mile
RI-09828	Elizabeth Wilk	2015	Addendum to FCC Form 620: Gogh/Ensite #25674 (284941), 15091 Kitching Street, Moreno Valley, Riverside County, California 92551, EBI Project #6115003214/ E-106 File Number 0006967049, FCC_2015_1005_009	EBI Consulting	Within 1 - mile
RI-09903	Sabrina R. Corcoran and Brian F. Smith	2016	Phase I Cultural Resources survey of the San Michele Business Center Project, City of Moreno Valley, County of Riverside	Brian F. Smith and Associates, Inc.	Within 1 - mile
RI-10498	David Brunzell	2018	Cultural Resources Assessment Moreno Valley Storage Project City of Moreno Valley, Riverside County, California	BCR Consulting LLC	Within 1 - mile
RI-10700	Don C. Perez	2015	Cultural Resources Survey Gogh / Ensite #25674 (284941)	EBI Consulting	Within 1 - mile
RI-10827	Sarah A. Williams and Carrie D. Wills	2019	Cultural Resource Records Search and Site Visit Results for AT&T Mobility Candidate CSL02876 (Iris Plaza), 16110 Perris Boulevard, Moreno Valley, Riverside County, California (EBI Project Number 6119000825)	HELIX Environmental Planning, Inc.	Within ¼ mile

A total of five previously recorded cultural resources were identified within a 1-mile radius of the Project Area, with none of these recorded within the Project Area. No previously recorded cultural resources have been

documented in the Project Area. Resources identified in the records search include one prehistoric resource and four historic resources (See Table 2). The closest mapped archaeological resource (P-33-023936/CA-RIV-011757) is located less than ½ mile northwest of the Project Area. P-33-023936/CA-RIV-011757 is a historic ranch/farm, known as the Barron/Lantz Holdings.

Table 2. Previously Recorded Resources within 1-mile Buffer of Project Area

Primary Number	Trinomial	Age	Attributes	NRHP/CRHR	Distance from Project Area
P-33-007920		Historic	HP02: Single family property	N/A	Within 1-mile
P-33-015301		Prehistoric	AP16: Other (Isolate)	N/A	Within 1-mile
P-33-023936	CA-RIV-011757	Historic	HP33: Ranch/farm	N/A	Within ½ mile
P-33-028072	CA-RIV-012673	Historic	AH04: Privies/dumps/trash scatters	N/A	Within 1-mile
P-33-028073	CA-RIV-012674	Historic	AH04: Privies/dumps/trash scatters	N/A	Within 1-mile

The complete results of the CHRIS resources records searches are included as Confidential Appendix B of this report.

Several additional sources were consulted for this project as well (Table 3). Additional sources did not identify significant potential for historic-era or prehistoric cultural resources.

Table 3. Additional Sources Consulted for the Project

Source	Results
National Register of Historic Places (1979-2002 & supplements)	Negative
Historical United States Geological Survey topographic maps (USGS 2012)	Some agricultural disturbance noted until 1990s, with increase development in the surrounding area since the 1990s
Historical United States Department of Agriculture aerial photos	Some agricultural disturbance noted until 1990s, with increase development in the surrounding area since the 1990s
California Register of Historical Resources (1992-2010)	Negative
California Inventory of Historic Resources (1976-2010)	Negative
California Historical Landmarks (1995 & supplements to 2010)	Negative
California Points of Historical Interest (1992 to 2010)	Negative
Local Historical Register Listings	Negative
Bureau of Land Management General Land Office Records	Negative

A review of historical aerial photographs and topographic maps indicate that prior to 1990s, the Project Area was agricultural (Figures 7 and 8). By the late 1990s, the surrounding area saw increased commercial and residential development that has continued up to the present day (Figure 9).

Figure 7. Project Area with agricultural activity (as depicted on 1966 aerial)

Figure 8. Project Area with some disturbance and increased surrounding development (as depicted on 2002 aerial)

Figure 9. Project Area with additional development to the south-southeast (as depicted on 2012 aerial)

NATIVE AMERICAN OUTREACH AND BACKGROUND RESEARCH

As a result of the effort to contact the 21 Native American Tribes or individuals identified by the NAHC, MCC received seven responses. These responses came in the form of letters, emails, and phone calls. Below is a summary of the responses provided by Native American Tribes.

On March 9, 2020, MCC received an email from Arysa Gonzalez Romero, Historic Preservation Technician for the Agua Caliente Band of Cahuilla Indians (ACBCI), who notified MCC that the Project is located within the tribe's Traditional Use Area. ACBCI THPO requested copies of any cultural resource documentation generated in connection with the report; copy of the record search; and description of proposed Project.

On February 26, 2020, MCC received an email from Travis Armstrong, Tribal Historic Preservation Officer for Morongo Band of Mission Indians (Morongo). Mr. Armstrong stated that Morongo had no additional comments to provide to MCC at this time but may provide other information to the lead agency during the AB-52 consultation process.

On March 17, 2020, MCC received an email from Molly Earp-Escobar, Cultural Planning Specialist for the Pechanga Band of Luiseno Indians, stating that the Project Area is not within reservation lands although it is within their ancestral territory. The tribe requested to be involved in the project.

On March 3, 2020, MCC received an email from Alexandra McCleary, Tribal Archaeologist for the San Manuel Band of Mission Indians, who stated that the Project is located outside of Serrano ancestral territory and tribe will not be requesting consulting party status

On March 18, 2020, MCC received an email from Jessica Valdez, Cultural Resource Specialist for the Soboba Band of Luiseno Indians, who notified MCC that the Project Area is considered sensitive by the people of Soboba, as

there are existing sites in the surrounding areas. An in-house database search identified multiple areas of potential impact. Specifics will be discussed in direct consultation with the lead agency

MCC contacted Mercedes Estrada from the Santa Rosa Band of Cahuilla Indians via phone call on March 18, 2020. Marina Hendon received the phone call and stated Ms. Estrada is no longer employed by the tribe. Additionally, Ms. Hendon stated that the tribe had no response regarding this project.

MCC contacted Michael Mirelez, Cultural Resource Coordinator for Torres-Martinez Desert Cahuilla Indians via phone call on March 18, 2020. During the phone call, Mr. Mirelez deferred to Soboba for any comments related to the proposed Project.

As of March 27, 2020, MCC has not received any additional responses from the remaining NAHC-listed groups or individuals we contacted for information. Should MCC receive additional responses once the final report is submitted, the information will be passed on to the Proponent to be added to the report as an addendum. The NAHC and Native American correspondence materials, including our communication attempts, are provided as Appendix C.

FIELD SURVEY RESULTS

During the course of fieldwork, survey conditions were fair (See Figures 10 through 13). Ground visibility in the entire Project Area was fair, ranging from less than 10 to 80% due to prior ground disturbance and overgrown vegetation within the Project Area. Disturbances within the Project Area include vehicular activity and modern dumping of concrete and bricks remnants. Soil observed during fieldwork was noted as light brown, fine-grain sandy loam consistent with alluvial fan deposits mapped in the area. No cultural resources were identified during the survey.

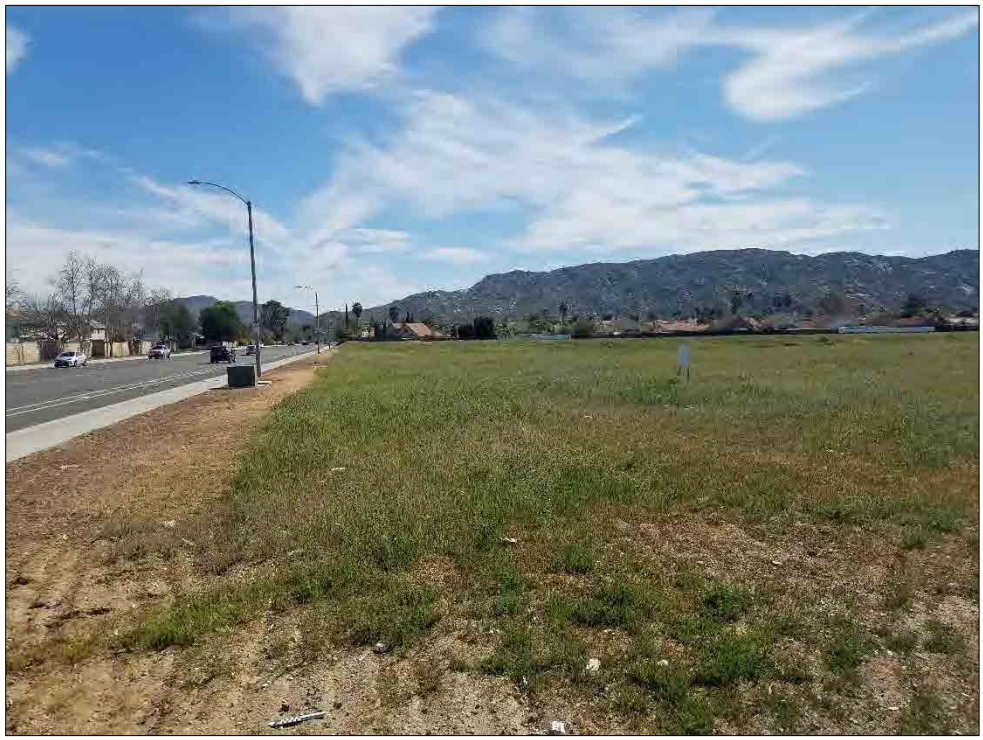


Figure 10. Overview of Project Area from northwestern corner, view towards east

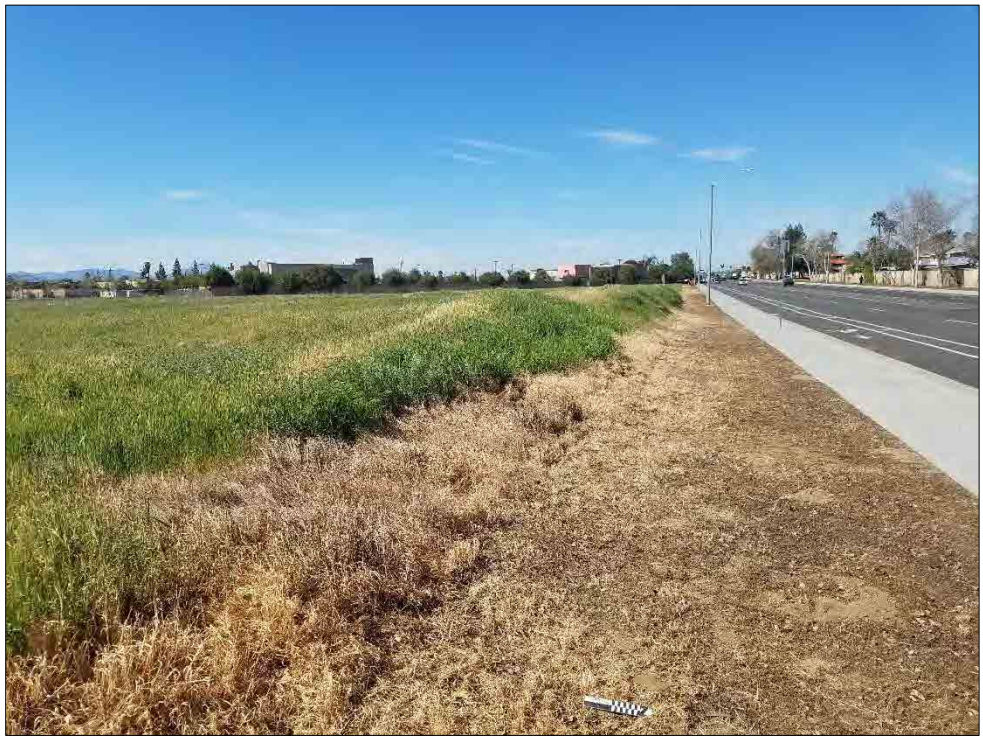


Figure 11. Overview of Project Area from northern corner, view towards west

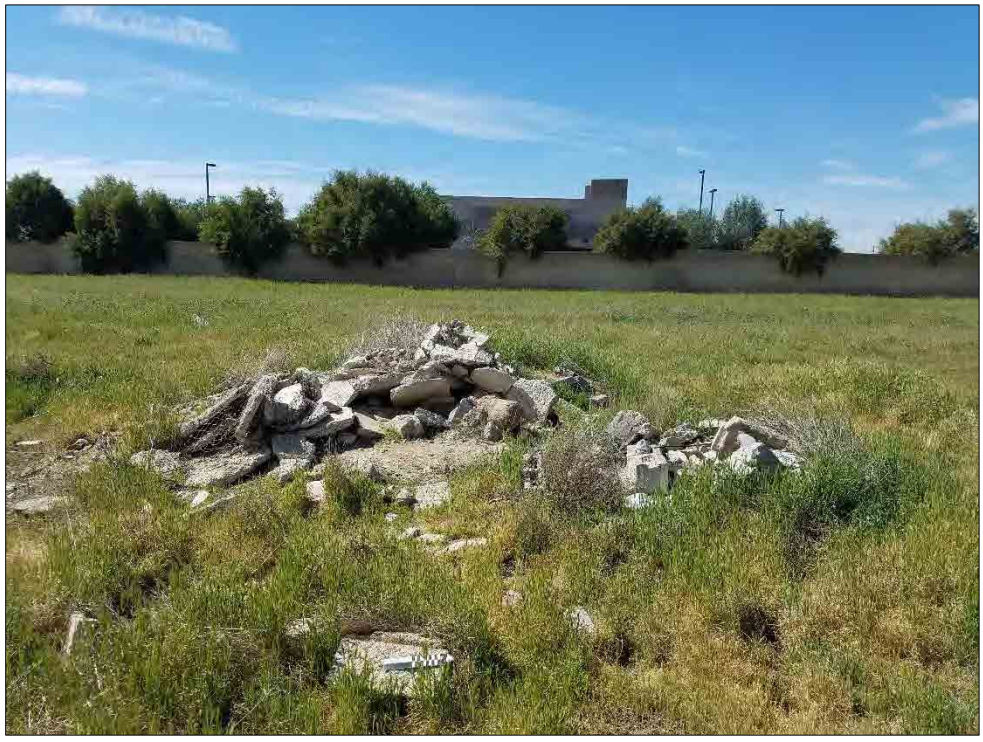


Figure 12. Representative photo of concrete and brick dumping observed within Project Area, view towards west

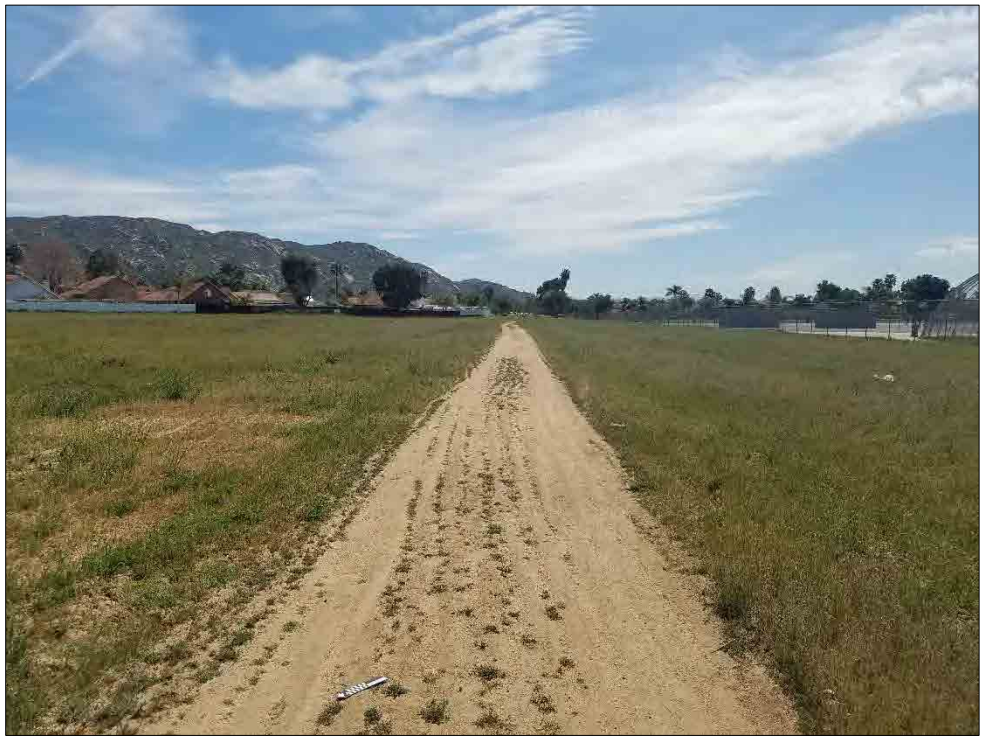


Figure 13. Overview of vehicular road within Project Area, view southeast

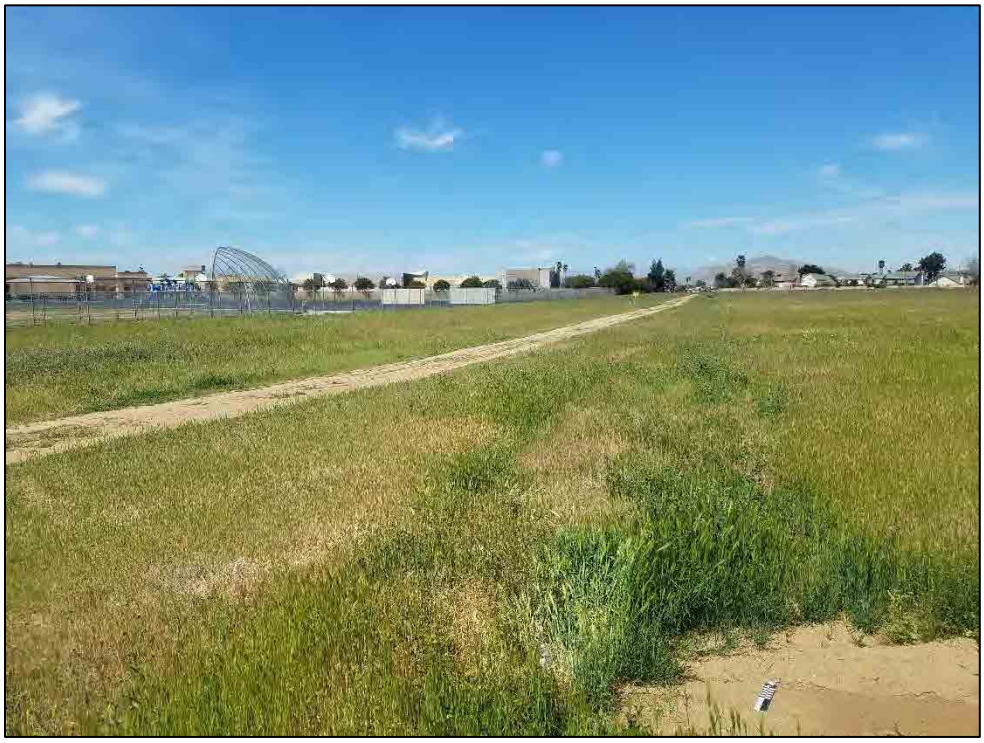


Figure 14. Overview of Project Area from southern boundary, view towards northwest

CONCLUSIONS AND RECOMMENDATIONS

The Phase I cultural resource assessment of the Project Area included a CHRIS records search, NAHC outreach, background research, and a field pedestrian survey. The record search indicated five previously recorded resources located within a 1-mile radius of the area, with no resources located directly within the Project Area. Based on the results of the cultural resources search and survey, the proposed Project Area is considered to have a low sensitivity for presence of significant prehistoric or historical archaeological deposits or features. MCC recommends ***No Mitigation is Needed***. While we do not recommend additional mitigation, MCC does recommend setting a plan in place to expediently address inadvertent discoveries and human remains (as described below), should these be encountered during construction activities. MCC also notes at least two Native American tribes, Soboba and Morongo, request to proceed with AB-52 consultation proceedings with the Project Proponent and the Lead Agency. MCC recommends that the consultation process be initiated as soon as possible, to avoid unnecessary delays to Project development and implementation.

INADVERTENT DISCOVERIES

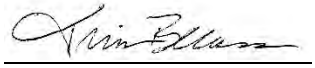
Despite actions taken to ensure that all cultural resources are located prior to construction, including record searches and field surveying, there is a possibility that undiscovered, buried archaeological resources might be encountered during construction. In the event that these resources are inadvertently discovered during ground-disturbing activities, work must be halted within 50 feet of the find until it can be evaluated by a qualified archaeologist. Construction activities could continue in other areas. If the discovery proves to be significant, additional work, such as data recovery excavation or fossil recovery, may be warranted and would be discussed in consultation with the appropriate regulatory agency(ies).

HUMAN REMAINS

Procedures of conduct following the discovery of human remains on non-federal lands have been mandated by California Health and Safety Code §7050.5, PRC §5097.98 and the California Code of Regulations (CCR) §15064.5(e). According to the provisions in CEQA, should human remains be encountered, all work in the immediate vicinity of the burial must cease and any necessary steps to ensure the integrity of the immediate area must be taken. The Riverside County Coroner shall be immediately notified and must then determine whether the remains are Native American. If the Coroner determines the remains are Native American, the Coroner has 24 hours to notify the NAHC, who will in turn, notify the person they identify as the Most-Likely-Descendent (MLD) of any human remains. Further actions will be determined, in part, by the desires of the MLD. The MLD has 48 hours to make recommendations regarding the disposition of the remains following notification from the NAHC of the discovery. If the MLD does not make recommendations within 48 hours, the owner shall, with appropriate dignity, reinter the remains in an area of the property secure from further disturbance. Alternatively, if the owner does not accept the MLD's recommendations, the owner or the descendent may request mediation by the NAHC.

CERTIFICATION: I hereby certify that the statements furnished above and in the attached exhibits present the data and information required for this report, and that the facts, statements, and information presented are true and correct to the best of my knowledge and belief.

Date: **March 27,2020**

Signed: 

Printed Name: **Tria Belcourt, M.A., RPA, Qualified Riverside County Archaeologist**
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REFERENCES CITED

Bean, L.J.
1972 Mukat's People: The Cahuilla Indians of Southern California. University of California Press, Berkeley.
1978 "Cahuilla." In *Handbook of North American Indians*, Volume 8. *California*, volume edited by Robert F. Heizer, pp. 575-587 (W. T. Sturtevant, general editor). The Smithsonian Institution, Washington, D.C.

Bean, L.J. and K.S. Saubel
1972 *Temalpakh: Cahuilla Indian Knowledge and Usage of Plants*. Malki Museum Press, Banning, CA.

Bean, L.J. and F.C. Shipek
1978 "Luiseño." In *Handbook of North American Indians*, Volume 8. *California*, volume edited by Robert F. Heizer, pp. 538-549 (W. T. Sturtevant, general editor). The Smithsonian Institution, Washington, D.C.

BLM GLO (Bureau of Land Management Government Land Office)
2008 Land Grant Records Search Tool. Available online at http://www.glorecords.blm.gov/PatentSearch/Default.asp. Last accessed October 9, 2019.

Brumgardt, Dr. John R.
1977 Site Record P-33-001701, Supplemental Material (The Gilman Ranch). On file at the Eastern Information Center, Riverside, California.

City of Moreno Valley
2006 General Plan of the City of Moreno Valley. Available online at http://www.moreno-valley.ca.us/city_hall/general-plan/06gpfinal/gp/gp-tot.pdf. Last accessed on March 10, 2020.
2018 The History of Moreno Valley. Available online at http://www.moreno-valley.ca.us/community/about.shtml. Last accessed March 10, 2020.

County of Riverside
2015 County of Riverside Environmental Impact Report No. 521, Section 4.9 Cultural and Paleontological Resources.

DuBois, C.
1908 "The Religion of the Luiseño and Diegueno Indians of Southern California." In *University of California Publications in American Archaeology and Ethnology* 8(3):69-186, Berkeley, California.

Erlandson, J., Kennett, D.J., Culleton, B.J., Goebel, T., Nelson, G.C., and Skinner, C.
2014 "Eye Bone Needles from a Younger Dryas Paleoindian Component at Tule Lake Rock Shelter, Northern California." *American Antiquity*. 79(4) pp. 776-781.

Ghori, I.
2014 "Moreno Valley: City's 30-year history includes little-known facts". *The Press Enterprise.* Published December 7. Available online at https://www.pe.com/2014/12/07/moreno-valley-citys-30-year-history-includes-little-known-facts/. Last accessed on March 5, 2020.

Hudlow, Scott M.
2007 *A Phase I Cultural Resource Survey for Global Premiere, APN 541-10-024 and -025, Williams and Alessandro Streets City of Banning, California.* Prepared for National Affordable Communities, Inc.

Jones, T.L. and K.A. Klar
2007 "Colonization, Culture, and Complexity." In *California Prehistory*, ed. by T.L. Jones and K.A. Klar. New York: Altimira Press, pp. 439-632.

King, C.
2001 "Early Southern California; Southern California Early Period. In *Encyclopedia of Prehistory Volume 6: North America*. Edited by, P.N. Peregrine and M. Ember. New York: Kluwer Academic/Plenum Publishers, pp. 144-157.

Kroeber, A.L.
1908 Ethnography of the Cahuilla Indians. In *American Archaeology and Ethnology.* University of California Publications, Vol 8, No 2. pp. 29-68
1976 *Handbook of Indians of California*. Reprint of 1925 original edition, Dover Publications, New York.

Laylander, D.
2010 "Linguistic Prehistory and the Archaic-Late Transition in the Colorado Desert," *Journal of California and Great Basin Anthropology* 30(2): pp. 141-155.

Meighan, C.W.
1954 "A Late Complex in Southern California Prehistory." *Southwestern Journal of Anthropology.* 10(2): pp. 215-227.

Miller, W.
1984 "The Classification of the Uto-Aztecan Languages Based on Lexical Evidence." *International Journal of American Linguistics, 50*(1), 1-24.

Moratto, M. J.
1984 *California Archaeology*. New York: Academic Press.

Moriarty, J.R.
1966 "Culture Phase Divisions Suggested by Topological Change Coordinated with Stratigraphically Controlled Radiocarbon Dating in San Diego." *Anthropological Journal of Canada*. 4(4): pp. 20-30.

Napton, L. Kyle and E. A. Greathouse
1982 *Cultural Resources Investigations Morongo Indian Reservation, California.* Prepared for United States Department of the Interior National Park Service.

Sparkman, P.
1908 *Fading Images Indian Pictographs of Western Riverside County*. Riverside Museum Press, Riverside, California.

Sutton, M.
2010 "The Del Rey Tradition and its Place in the Prehistory of Southern California." *Pacific Coast Archaeological Society Quarterly* 44(2):1-54

Sutton, M. and D.D. Earle
2017 "The Desert Serrano of the Mojave River," *Pacific Coast Archaeological Society Quarterly*. 53(2 & 3): pp. 1-61.

Sutton, M. and J. Gardner
2010 "Reconceptualizing the Encinitas Tradition of Southern California." *Pacific Coast Archaeological Society Quarterly* 42(4):1-64

Wallace, W. J.
1955 "A Suggested Chronology for Southern California Coastal Archaeology." *Southwestern Journal of Anthropology* 11(3):214-230

Warren, C.N.
1967 "Cultural Tradition and Ecological Adaptation on the Southern California Coast." In Archaic Prehistory in the Western United States, edited by C. Irwin-Williams, pp. 1-14. *Eastern New Mexico University Contributions in Anthropology* 1(3).

Warren, C.N., True, D.L., and Eudey, A.A.
1961 "Early Gathering Complexes of Western San Diego County: Results and Interpretations of an Archaeological Survey." *Archaeological Survey Annual Report 1960-1961*. University of California, Los Angeles.

Water, M.R., Forman, S.L., Jennings, T.A., Nordt, L.C., Driese, S.G., Feinberg, J.M., Keene, J.L., Halligan, J., Lindquist, A., Pierson, J., Hallmark, C.T., Collins, M.B., and Wiederhold, J.E.
2011 "The Buttermilk Creek Complex and the Origins of Clovis at the Debra L. Friedkin Site, Texas." *Science*. Vol 331, pp. 1599-1603.

White, R.
1963 "Luiseño Social Organization" *University of California Publications in American Archaeology and Ethnology*" 48(2):91-194, Berkeley, California.

Woodford, A.O., Shelton, J.S., Doehring, D.O., and Morton, R.K.
1971 "Pliocene-Pleistocene History of the Perris Block, Southern California." *Geological Society of America Bulletin* 82(12): pp. 3421-3448.

Appendix D to Initial Study
Phase I Paleontological Resources Assessment

March 2020

MATERIAL CULTURE
CONSULTING

Submitted to:

Rafik Albert
E|P|D Solutions, Inc.
Irvine, California

PALEONTOLOGICAL RESOURCES ASSESSMENT

Iris Park Project

City of Moreno Valley, Riverside County, California

PHASE I PALEONTOLOGICAL RESOURCES ASSESSMENT
IRIS PARK PROJECT
CITY OF MORENO VALLEY, RIVERSIDE COUNTY, CALIFORNIA

Prepared for:
E|P|D Solutions, Inc.
2 Park Plaza, Suite 1120
Irvine, CA 92614

Prepared By:
Jennifer Kelly, M. Sc., Geology, Professional Paleontologist
Sonia Sifuentes, M.Sc., Registered Professional Archaeologist
Material Culture Consulting, Inc.
2701-B North Towne Avenue
Pomona, California 91767

March 2020

Type of Study: Paleontological resources assessment
Paleontological Localities within Area of Potential Impact: None
Project Location: USGS 7.5' Topographic Quadrangle Sunnymead, Section 29 of Township 3 South, Range 3 West
APN:312-020-025
Project Area: approximately 10.8acres
Date of Field Survey: March 6, 2020
Key Words: Paleontology, CEQA, Riverside, RCLIS, Negative Survey, High B Sensitivity, $Qvof_a$, Qyf_a

MANAGEMENT SUMMARY

Passco Pacifica LLC (Proponent) proposes the construction of a residential development project (Project), located in the City of Moreno Valley in Riverside County, California. Material Culture Consulting, Inc. (MCC) was retained by the E|P|D solutions, Inc. to conduct a Phase I paleontological resource investigation of the Project Area in accordance with the California Environmental Quality Act (CEQA). This assessment included a fossil locality search, an examination of geologic maps and paleontological literature, and a pedestrian field survey.

No significant paleontological resources were identified within the Project Area during the fossil locality search or the field survey. The Riverside County Land Information System (RCLIS) GIS data reveals all of the Project Area lies within an area mapped as High B sensitivity. High B sensitivity indicates that excavation has the potential to impact paleontological resources in this area at a depth at or below 5 feet. Excavation during the course of the Project may reach paleontologically sensitive deposits, and, as a result, could impact paleontological resources. Therefore, MCC recommends the following procedures:

- A trained and qualified paleontological monitor shall perform full-time monitoring of any excavations on the Project that have the potential to impact paleontological resources in undisturbed High B sensitivity native sediments, at or below 5 feet in depth. The monitor will have the ability to redirect construction activities to ensure avoidance of adverse impacts to paleontological resources.
- The project paleontologist may re-evaluate the necessity for paleontological monitoring after examination of the affected sediments during excavation, with approval from County and Client representatives.
- Any potentially significant fossils observed shall be collected and recorded in conjunction with best management practices and Society of Vertebrate Paleontology (SVP) professional standards.
- Any fossils recovered during mitigation should be deposited in an accredited and permanent scientific institution for the benefit of current and future generations.
- A report documenting the results of the monitoring, including any salvage activities and the significance of any fossils, will be prepared and submitted to the appropriate County personnel.

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LIST OF FIGURES

INTRODUCTION

Passco Pacifica LLC (Proponent) proposes the construction of a residential development project (Project), located in the City of Moreno Valley in Riverside County, California. Material Culture Consulting, Inc. (MCC) was retained by the E|P|D solutions, Inc. to conduct a Phase I paleontological investigation of the Project Area. This paleontological resource assessment was conducted in compliance with the California Environmental Quality Act (CEQA), Public Resources Code (13 PRC) 2100, (14 CAC) 15000, Appendix G, Section J, (PRC) 2100-21177, Appendix G, (PRC) 5097.5 and guidelines set forth by the County of Riverside. According to these regulations and guidelines, if development of a Project has the potential to result in significant impacts to paleontological resources, a plan must be developed to mitigate those impacts to a level which is less than a significant. This investigation included a fossil locality search, and a pedestrian field survey. The following report identifies the potential for encountering paleontological resources during development of this Project and provides recommendations on how to mitigate impacts to those resources.

PROJECT LOCATION AND DESCRIPTION

The Project is located in the City of Moreno Valley, Riverside County, California (Figure 1). The Project Area is bound by a commercial complex and Perris Boulevard to the west; a commercial complex, a vacant lot and Red Maple Lane to the south; residential properties to the east; and Iris Avenue to the north (Figures 2 and 3). Specifically, the proposed Project is located in Section 29, within Township 3 South, Range 3 West on the U.S. Geological Survey (USGS) Sunnymead 7.5' topographic quadrangle (San Bernardino Baseline and Meridian) (Figure 2). The 10.8-acre Project Area encompasses one parcel, APN 312-020-025. The Project Area is currently a vacant lot. The proposed Project would develop the area into 84 single-family detached home lots. Approximately seven acres will be utilized for the construction of the homes, with a 100-foot wide easement area designated on the west-southwestern boundary, encompassing approximately three acres. The development would include small outdoor recreational areas and stormwater management facilities. The area north of the easement will be landscaped and include a pedestrian trail.

PROJECT PERSONNEL

Jennifer Kelly, M.S., a Qualified Riverside County Paleontologist, served as the Principal Investigator for the study. Ms. Kelly conducted the paleontological resource literature and map reviews, oversaw the field study, and oversaw preparation of this report. Ms. Kelly has a M.Sc. in Geology from California State University, Long Beach. Ms. Kelly has over ten years of experience in environmental and paleontological compliance in California (See Appendix A).

Sonia Sifuentes, M.Sc., co-authored this report. Julia Carvajal, M.A., managed the field survey and all GIS support for the project and report. Zachary White, B.A., MCC archaeologist and cross-trained paleontologist, conducted the pedestrian survey. Yahaira Gonzales, B.A. co-authored this report.

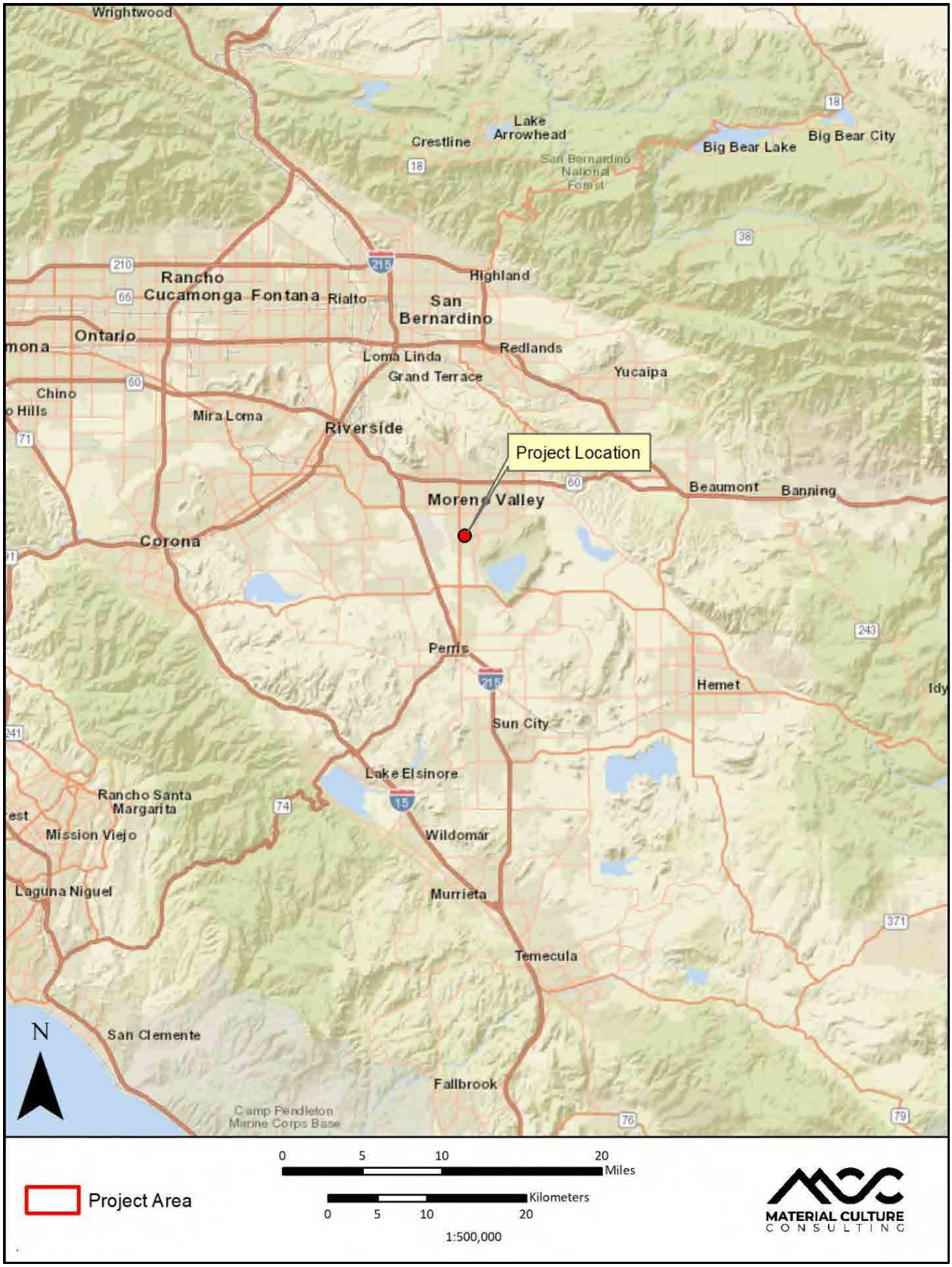

Figure 1. Iris Park Project Vicinity (1:500,000)

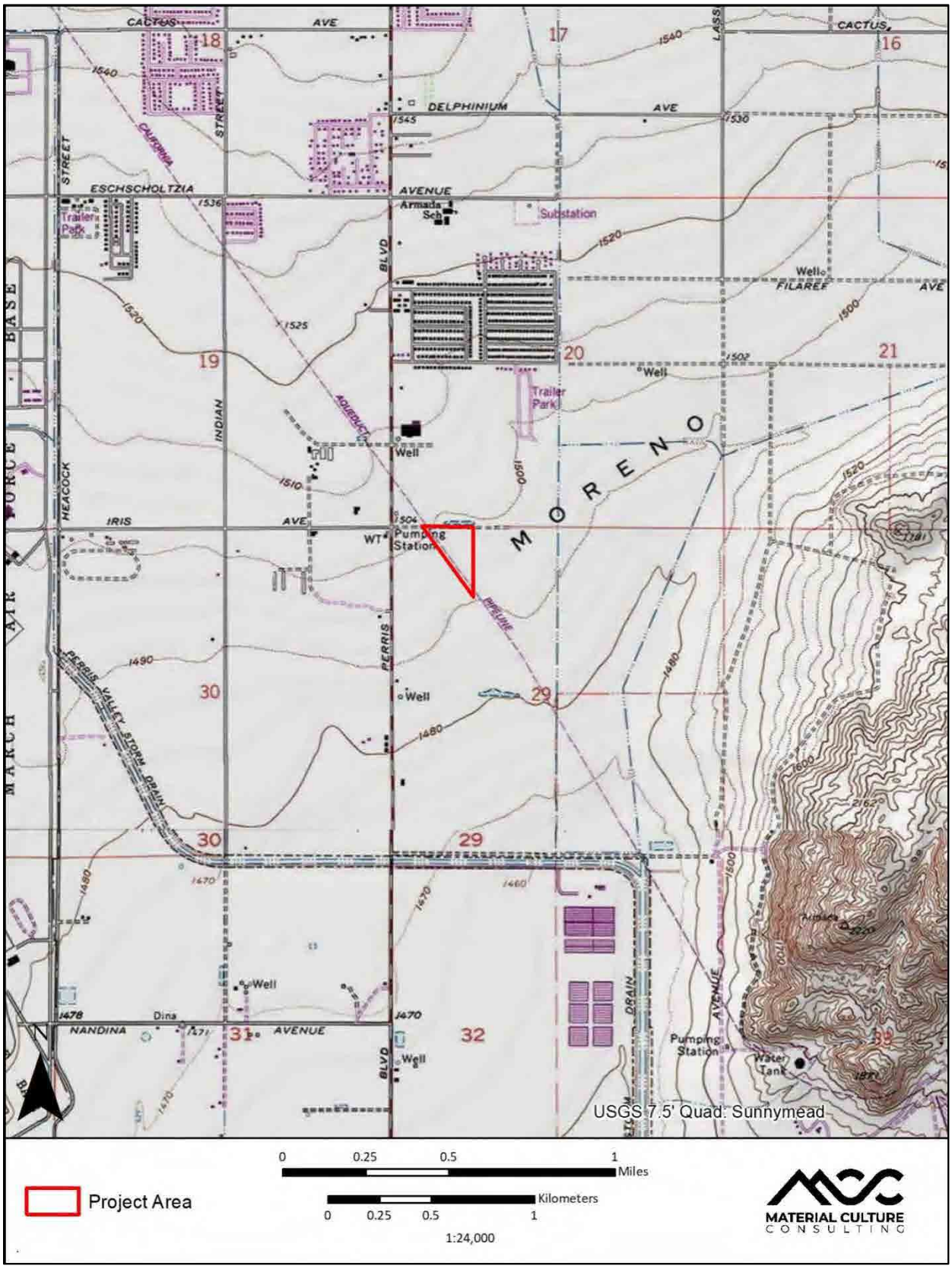

Figure 2. Iris Park Project Area (1:24,000, as depicted on Sunnymead USGS 7.5 Minute Quadrangle)

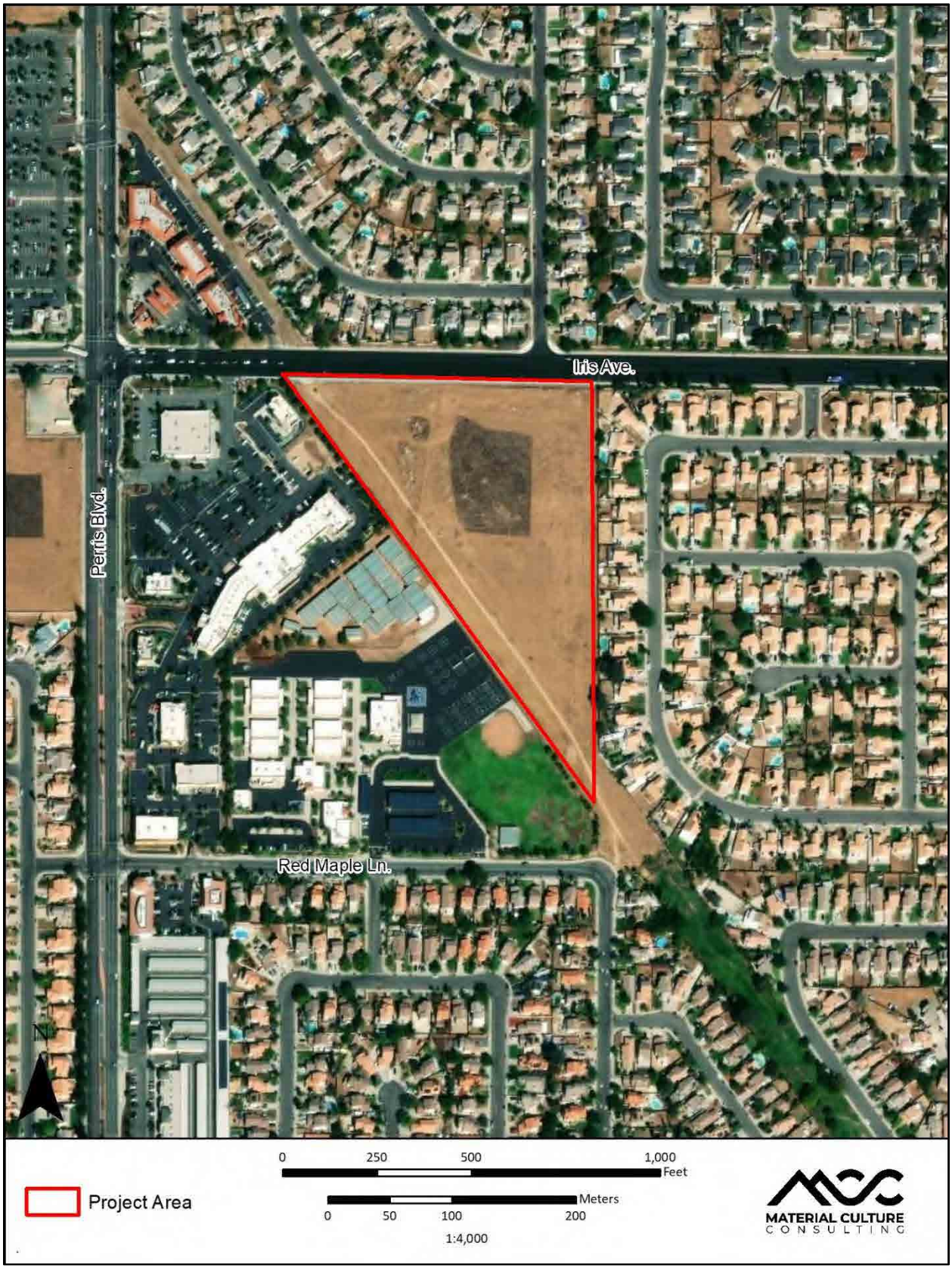

Figure 3. Iris Park Project Area (1:4,000, as depicted on aerial photograph)

ENVIRONMENTAL SETTING

Riverside County is situated within the Peninsular Ranges Geologic Province. The Project Area is located within the city limits of Moreno Valley in northwestern Riverside County. The Project is bounded by a commercial complex and Perris Boulevard to the west, a commercial complex, a vacant lot and Red Maple Lane to the south, residential properties to the east, and Iris Avenue to the north. The Project Area is located within a relatively flat valley, with elevations averaging approximately 456 m (1496 ft.) above mean sea level (AMSL). Vegetation in much of the area has been altered by historical and modern development, with introduced species of flora, including annual grasses, weeds, and sunflowers observed. Perris Reservoir and Russell Mountains are located approximately 2.59 miles southeast of the Project Area. Moreno Valley area enjoys a mild Mediterranean climate characterized by warm, dry summers and cool, moist winters.

GEOLOGICAL CONTEXT

Riverside County is situated within the Peninsular Ranges Geologic Province, a northwest-southeast oriented complex of blocks separated by similarly trending faults (Norris and Webb 1978). Most geological formations found within this area are comprised the Southern California Batholith, a great mass of igneous basement rocks. The Project Area also lies within the Central Perris Block (Kenney 1999). The Perris Block is a structurally stable, internally cohesive mass of crustal rocks bounded on the east by the San Jacinto fault zone, bounded on the west by the Elsinore and Chino fault zones, and on the north by the Cucamonga fault zone (Norris and Webb, 1976; Morton and Matti, 1989), and on the south by a series of sedimentary basins (Morton and Matti 1989). This structural block is believed to have been active since Pliocene time (Woodford et al 1971). The entire Project Area is mapped as Quaternary alluvium (Q) by Jennings, Strand, and Rogers (1977) (Figure 4). Morton and Matti (2001) mapped the Project Area lying mainly within very old alluvial fan deposits ($Qvof_a$) with in young alluvial arenaceous fan deposits (Qyf_a) directly west of the Project Area (Figure 5).

Young Quaternary alluvial fan deposits (arenaceous) (Qyf_a) are Holocene to late Pleistocene-aged alluvial fan deposit that is derived from geologically diverse sediment units. The sediments are mainly gray-hued, slightly consolidated sand (Morton and Matti 2001).

Very Old Alluvial fan deposits ($Qvof_a$) are early Pleistocene deposits consisting of mostly well-dissected, well-indurated, reddish-brown sand deposits with minor gravel (Morton and Matti 2001). These deposits are commonly flanking bedrock areas and can contain duripans and locally silcretes (Morton and Matti 2001). Quaternary very old alluvial fan deposits have the potential to produce scientifically important fossils of land mammals, invertebrates, and plants in this area, and have been assigned a high sensitivity ranking within the County of Riverside. Notably, the excavations for the Diamond Valley Lake in Hemet produced exceptional specimens of Pleistocene animals including mammoths, horses, camels, and bison in units similar to these.

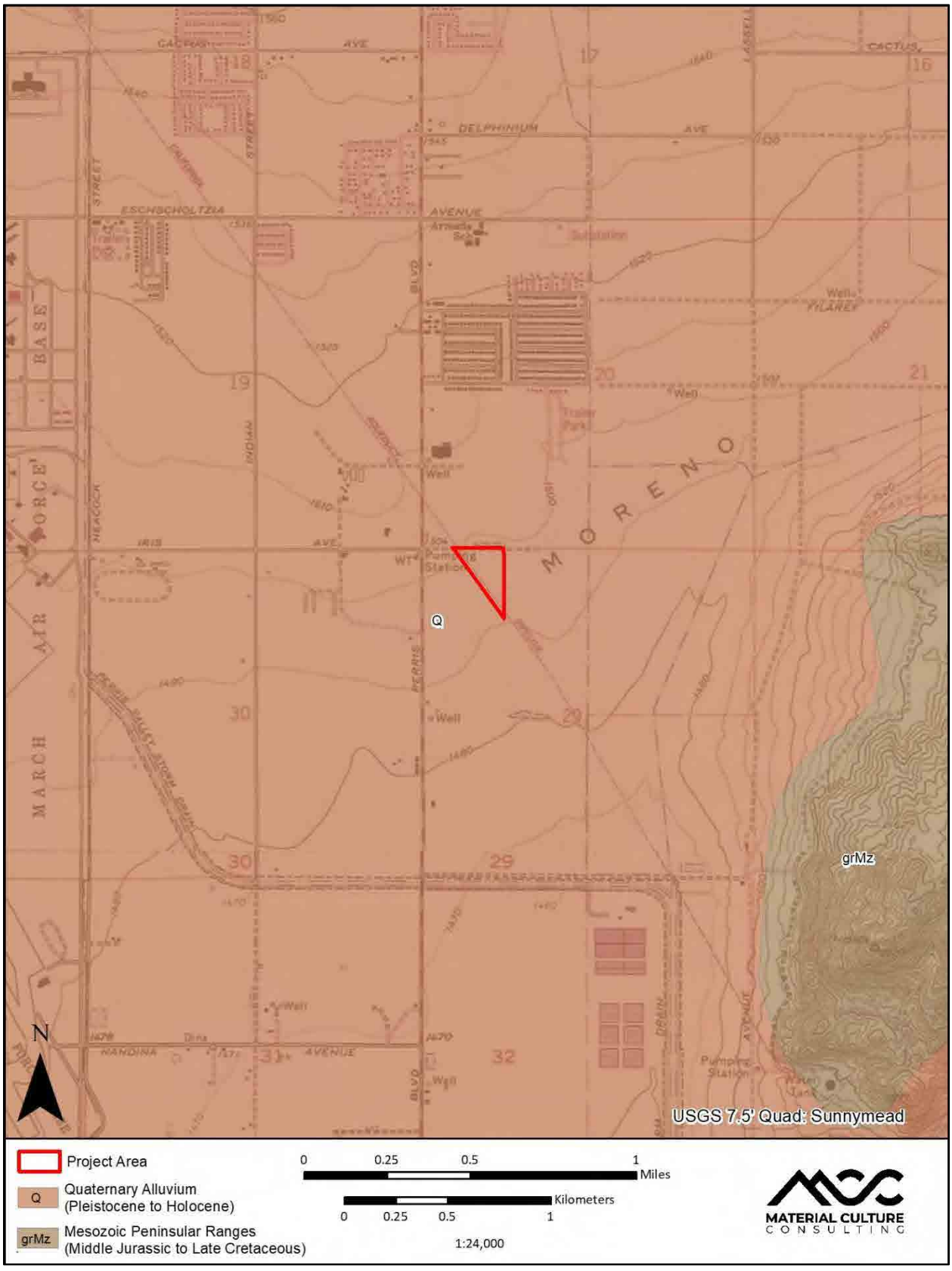

Figure 4. EPD Iris Park Project Geologic Map 1 (from Jennings, Strand, and Rogers 1977)

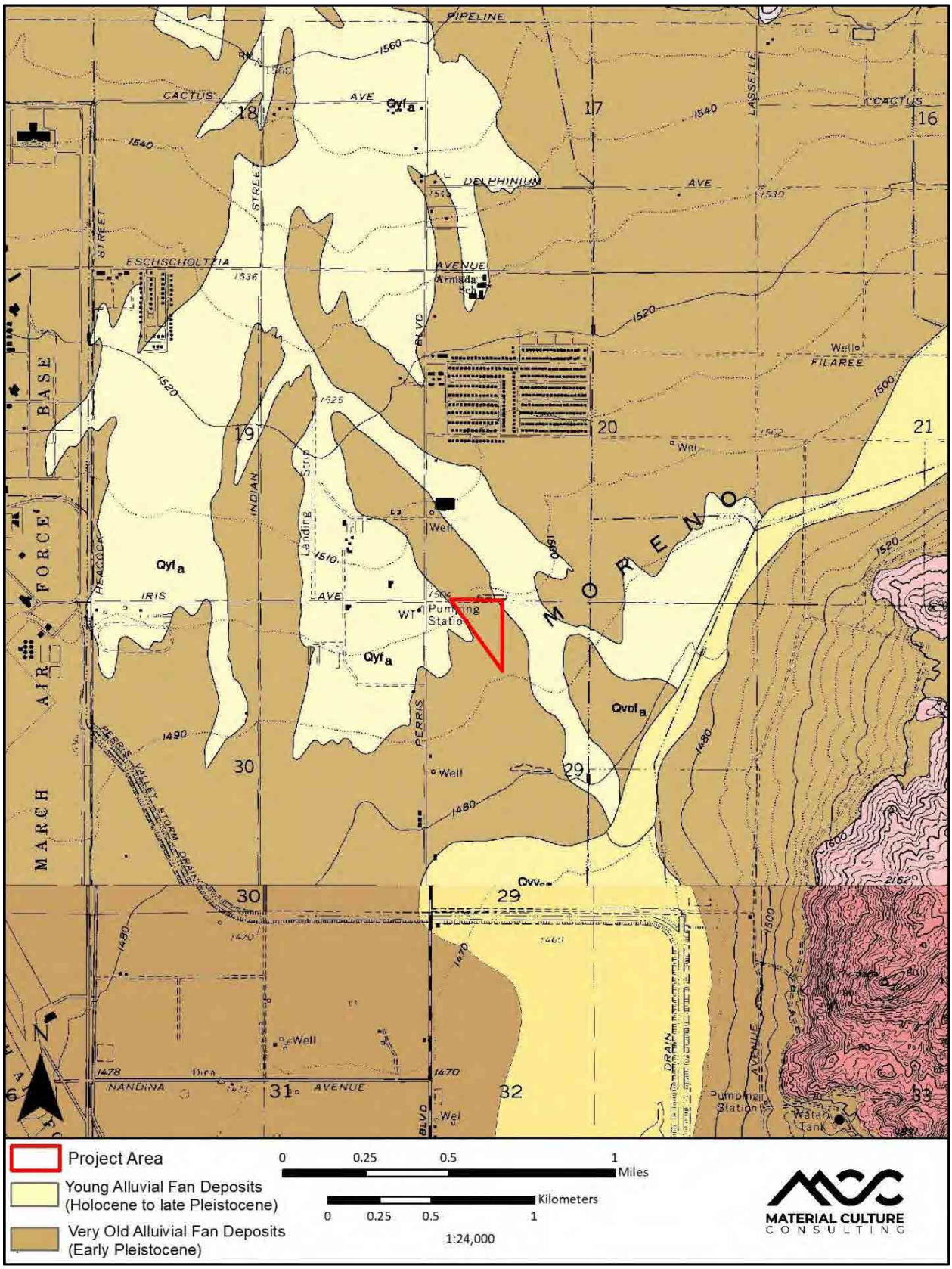

Figure 5.EPD Iris Park Project Geologic Map 2 (from Morton and Matti 2001).

RESEARCH DESIGN

The paleontological resources assessment was conducted according to CEQA, Public Resources Code (13 PRC) 2100, (14 CAC) 15000, Appendix G, Section J, (PRC) 2100-21177, Appendix G, (PRC) 5097.5. The paleontological resources assessment was conducted to evaluate the potential existence of resources that would require a preparation of a monitoring plan and monitoring activities, in order to reduce impacts to a less than significant level. Guidelines set forth by Riverside County were consulted to ensure that all local and state requirements were met.

The Riverside County Land Information System (RCLIS) overlay map defines what significant impact on paleontological resources consists of, and requires monitoring of, activities within designated High sensitivity areas (both High A and B) that may affect these resources. Areas with a "High Potential" for paleontological resources include sedimentary rock units with a high potential for containing significant non-renewable paleontological resources and are rock units within which vertebrate or significant invertebrate fossils have been determined to be present or likely to be present. These units include, but are not limited to, sedimentary formations which contain significant non-renewable paleontological resources anywhere within their geographical extent, and sedimentary rock units temporally or lithologically suitable for the preservation of fossils. High sensitivity includes not only the potential for yielding abundant vertebrate fossils, but also for production of a few significant fossils that may provide new and significant (taxonomic, phylogenetic, ecologic, and/or stratigraphic) data. High sensitivity areas are mapped as either "High A" or "High B."

The *Moreno Valley General Plan*'s (2006) Conservation Element Programs 7-6 states "in areas where archaeological or paleontological resources are known or reasonably expected to exist, based upon the citywide survey conducted by the UCR Archaeological Research Unit, incorporate the recommendations and determinations of that report to reduce potential impacts to levels of insignificance". Additionally, the *Environmental Impact Report for City of Moreno Valley General Plan* (P&D Consultants 2006) has one mitigation measure concerning paleontological resources:

- MM-1. Prior to the approval of a project, the City will assess potential impacts to significant historic, prehistoric archeological, and paleontological resources, including impacts to human remains, pursuant to Section 15064.5 of the California Environmental Quality Act Guidelines. If significant impacts are identified, the City will require the project to be modified to avoid the impacts or require measures to mitigate the impacts. Mitigation may involve monitoring, resource recovery, documentation or other measures.

Paleontological resources (fossils) are the remains of prehistoric life. These remains can be bones, teeth, shells, wood or leaves, or trace fossils (including burrows and trackways). The Society for Vertebrate Paleontology (SVP) generally considers any resource greater than 5,000 years old to be a fossil (SVP 2010). Fossils are evidence of ancient life, and as such provide an invaluable window into the past. Fossils are considered non-renewable resources and in California, impacts to paleontological resources must be considered pursuant to CEQA requirements for environmental reviews.

METHODS

LITERATURE AND MAP REVIEW AND LOCALITY SEARCH

The literature review included an examination of geologic maps of the Project Area and a review of relevant geological and paleontological literature to determine which geologic units are present within the Project Area and whether fossils have been recovered from those geologic units elsewhere in the region. As geologic units may extend over large geographic areas and contain similar lithologies and fossils, the literature review includes areas well beyond the Project Area. The results of this literature review include an overview of the geology of the Project Areas and a discussion of the paleontological sensitivity (or potential) of the geologic units within the Project Area. The County of Riverside also provides a paleontological resource sensitivity map for the entire county (RCLIS). This map was consulted by MCC staff on March 4, 2020.

The purpose of a locality search is to establish the status and extent of previously recorded paleontological resources within and adjacent to the study area for a given project. In February2020, a locality search was conducted through the Natural History Museum of Los Angeles County (LACM) of Los Angeles (Appendix B). This search identified any vertebrate localities in the LACM records that exist near the Project Area in the same or similar deposits.

PALEONTOLOGICAL RESOURCES SURVEY METHODS

The survey stage is a necessary component of a project's environmental assessment phase to verify the exact location of each identified paleontological resource, the condition or integrity of the resource, and provides invaluable information on the type of sediment present within the Project Area, which informs the assessment of paleontological sensitivity. On March 6, 2020, MCC qualified archaeologist and cross-trained paleontologist Zachary White conducted a pedestrian survey of the Project Area. Special attention was paid to any graded areas and to rodent burrows that offered a better view of the underlying sediment. The purpose of a field survey is to note the sediments in the Project Area, relocate any known paleontological localities, and identify any unrecorded paleontological resources exposed on the surface. In this way, impacts to existing, unrecorded paleontological material may be mitigated prior to the beginning of ground-disturbing activities and portions of the Project Area that are more likely to contain paleontological resources may be identified.

RESULTS

LAMC LOCALITY SEARCH AND LITERATURE REVIEW RESEARCH

The record search results from the LACM (McLeod 2020, Appendix B) do not indicate any fossil localities have been found directly within the Project Area, nor within a 1-mile radius. The surficial deposits of younger Quaternary alluvium mapped within the Project Area derived primarily from alluvial fan deposits from the more elevated terrain to the north (McLeod 2020).While these deposits are unlikely to contain significant fossil vertebrates within the uppermost layers, they may be underlain by older Quaternary deposits that do contain significant vertebrate fossils. The closest vertebrate fossil locality from similar older Quaternary deposits is LACM 4540, located approximately 9.5 miles east-southeast of the Project Area around Jack Rabbit Trail in the eastern side of the San Jacinto Valley. This locality produced a fossil specimen of horse (*Equus*) (McLeod 2020). Additional literature was consulted, including The University of California Museum of Paleontology (UCMP)'s Miocene Mammal Mapping Project (MioMap). The database results indicate no fossil localities are within a 1-mile radius of the Project; however, there are a number of localities in the same general area as LACM 4540, approximately 9.5 miles east-southeast of the Project (Carrasco et al. 2005). The RCLIS map indicates that the Project Area has a high potential (High B) to produced paleontological resources during ground disturbing activities (Figure 6).

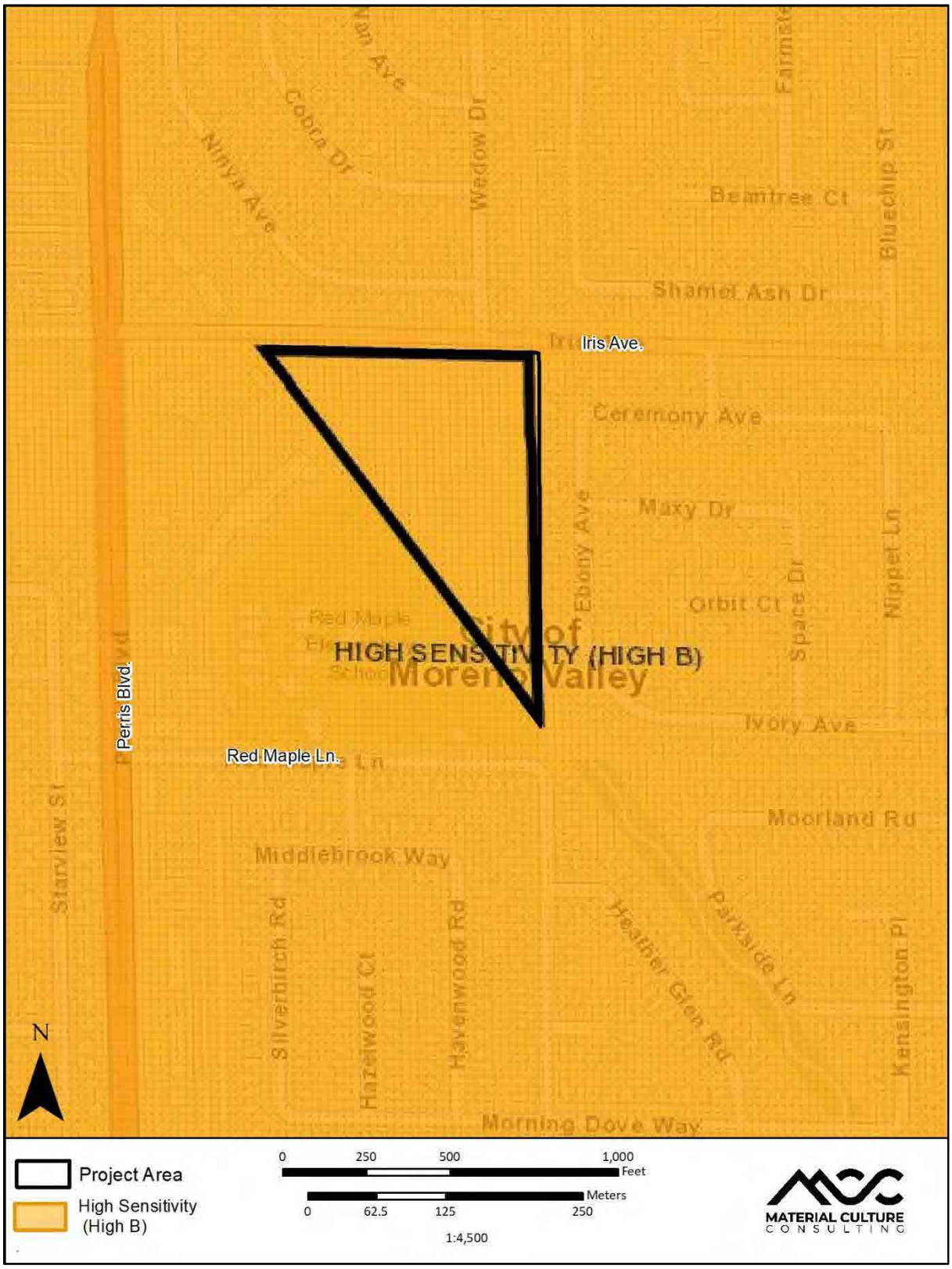

Figure 6. Paleontological Sensitivity (from RCLIS, orange indicates High B Sensitivity)

FIELD SURVEY RESULTS

During the course of fieldwork, survey conditions were fair (see Figures 7 through 13). Ground visibility in the entire Project Area was fair, ranging from less than 10 to 80% due to prior ground disturbance and overgrown vegetation within the Project Area. Disturbances within the Project Area include vehicular activity and modern dumping of concrete and brick remnants. The visual observation of sediment throughout the site does align with the geologic mapping of Quaternary alluvium, with light brown, fine grain sandy loam noted, with sub-rounded pebbles with high sphericity inclusions observed (see Figures 12 and 13). No paleontological resources were observed during the fieldwork survey.

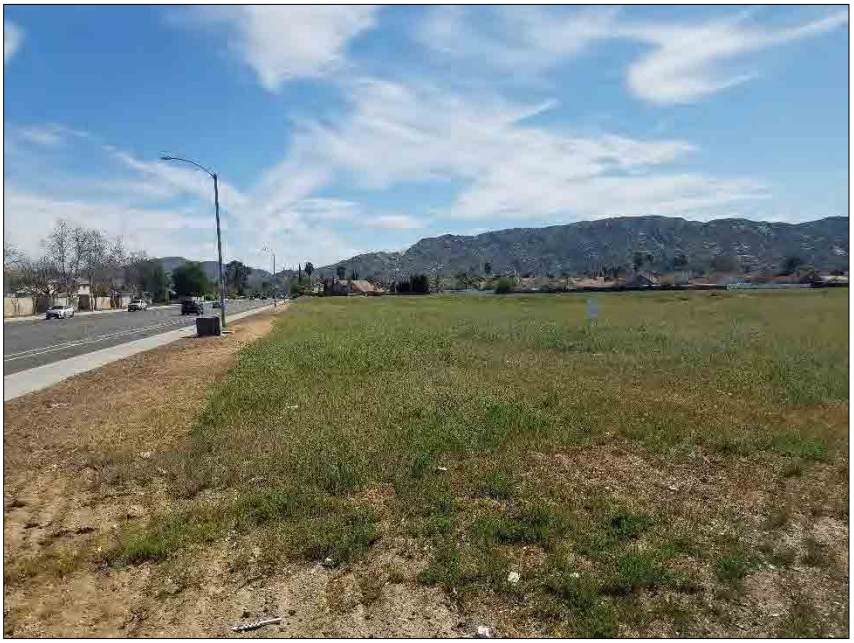

Figure 7. Overview of Project Area from northwestern corner, view towards east

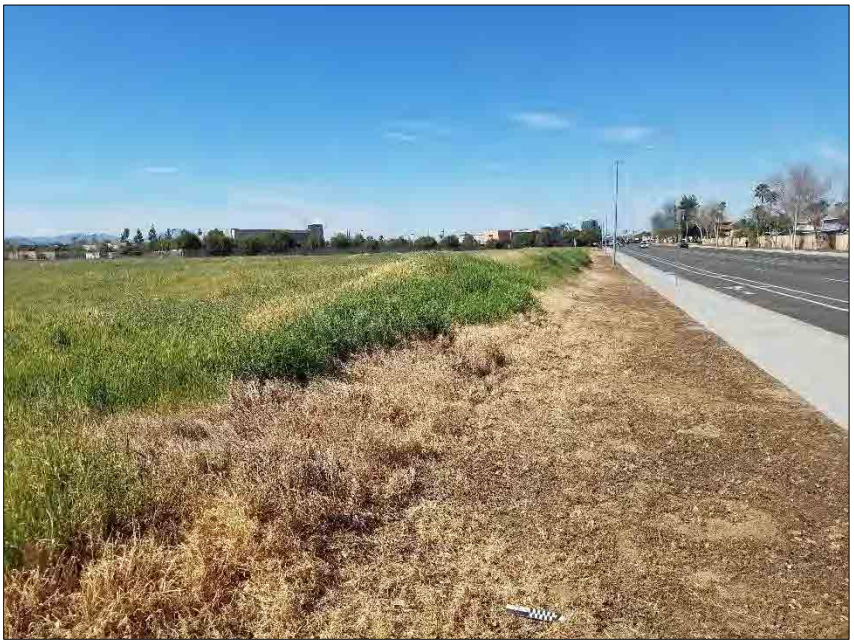

Figure 8. Overview of Project Area from northern corner, view towards west

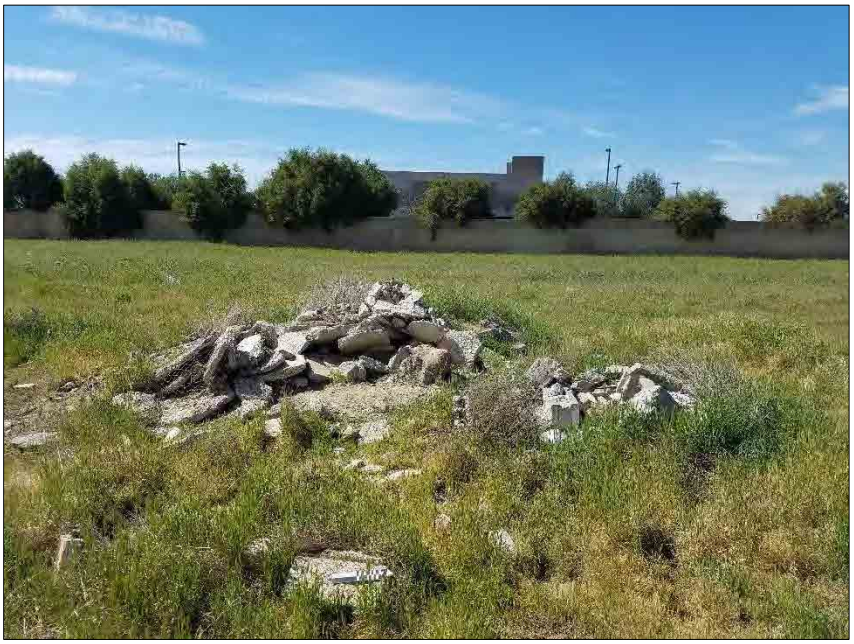

Figure 9. Representative photo of concrete and brick dumping observed within Project Area, view towards west

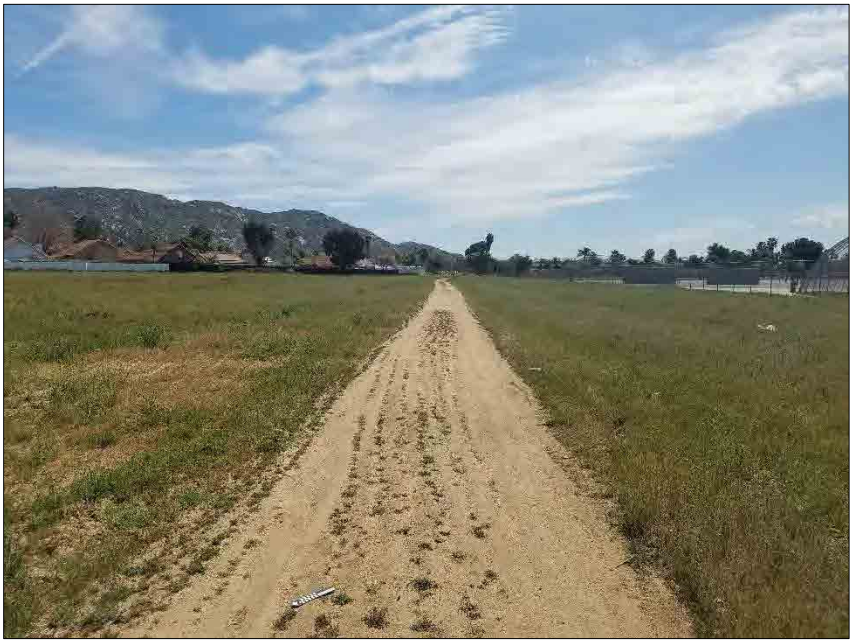

Figure 10. Overview of vehicular road within Project Area, view southeast

Figure 11. Overview of Project Area from southern boundary, view towards northwest

Figure 12. Representative photo of alluvial soils observed in Project Area

Figure 13. Representative photo of alluvial soils observed in Project Area

CONCLUSIONS AND RECOMMENDATIONS

MCC conducted a Phase I paleontological resource assessment of the Project Area that included a fossil locality records search and an intensive pedestrian survey covering all 10.8 acres. No significant paleontological resources were identified within the Project Area during the locality search or field survey. The uppermost layers of soil within the Project Area are of recently disturbed Quaternary alluvium that is unlikely to contain significant fossil vertebrates. However, LACM notes that significant fossils have been found within similar alluvial mapped units, and that any excavations that extend deeper and into older and finer-grained Quaternary deposits may encounter significant fossil vertebrate remains. In addition, the Project Area is mapped in RCLIS as High B is based on geologic formations or mapped rock units that are known to contain (or have the correct age and depositional conditions to contain) significant paleontological resources at a depth below 5 feet.

RECOMMENDED MITIGATION

Based on the results of the Phase I paleontological resource assessment, the proposed Area is considered to have high sensitivity for the potential to impact paleontological resources during construction activities at or below 5 feet in undisturbed sedimentary deposits. MCC recommends preparation of a Paleontological Resource Management Plan (PRMP) prior to construction excavation, in order to mitigate any potential impact to non-renewable fossil resources to a less-than-significant level. It is recommended that a professional paleontologist be hired to oversee monitoring and the preparation of a PRMP. At a minimum, the PRMP should include the following items:

- A trained and qualified paleontological monitor should perform full-time monitoring of any excavations on the Project that have the potential to impact paleontological resources in undisturbed native sediments below 5 feet in depth. The monitor will have the ability to redirect construction activities to ensure avoidance of adverse impacts to paleontological resources.

- The Project paleontologist may re-evaluate the necessity for paleontological monitoring after examination of the affected sediments during excavation, with approval from the City and Client representatives.

- Any potentially significant fossils observed shall be collected and recorded in conjunction with best management practices and SVP professional standards.

- Any fossils recovered during mitigation should be deposited in an accredited and permanent scientific institution for the benefit of current and future generations.

- A report documenting the results of the monitoring, including any salvage activities and the significance of any fossils, will be prepared and submitted to the appropriate City personnel.

CERTIFICATION: I hereby certify that the statements furnished above and in the attached exhibits present the data and information required for this report, and that the facts, statements, and information presented are true and correct to the best of my knowledge and belief.

Date: **March 27, 2020**

Signature: _____

Name: **Jennifer Kelly, MSc., Geology**
Riverside County Qualified Paleontologist

REFERENCES

Carrasco, M.A., B.P. Kraatz, E.B. Davis, and A.D. Barnosky.
2005 Miocene Mammal Mapping Project (MIOMAP). University of California Museum of Paleontology http://www.ucmp.berkeley.edu/miomap/. Last accessed on October 9, 2019.

City of Moreno Valley
2006 General Plan of the City of Moreno Valley. Available online at http://www.moreno-valley.ca.us/city_hall/general-plan/06gpfinal/gp/gp-tot.pdf. Last accessed on March 10, 2020.

Jennings, C.W., Strand, R.G., and Rogers, T.H.,
1977 Geologic map of California: California Division of Mines and Geology, scale 1:750,000.

Kenney, M.D.

1999 *Emplacement, Offset History, and Recent Uplift of Basement Within the San Andreas Fault System, Northeastern San Gabriel Mountains, California*. University of Oregon.

McLeod, S.
2020 *Paleontological resources for proposed Iris Park Project, in the City of Moreno Valley, Riverside County, Project Area.*

Morton, D.M., and Matti, J.C.
1989 A vanished late Pliocene to early Pleistocene alluvial-fan complex in the northern Perris Block, southern California, in Colburn, I.P., Abbott, P.L., and Minch, J., eds., Conglomerates in basin analysis: A symposium dedicated to A.O. Woodford: Pacific Section Society Economic of Paleontologists and Mineralogists, v. 62, p. 73-80.
2001 Geologic Map of the Sunnymead 7.5'Quadrangle, Riverside County, California: U.S. Geological Survey Open-File Report 01-450, https://pubs.usgs.gov/of/2001/0450/pdf/sun_map.pdf

Norris, R. M., and R.W. Webb

1976 *Geology of California*. John Wiley & Sons. New York, New York.

P&D Consultants
2006 *Final Environmental Impact Report City of Moreno Valley General Plan, Vol I* SCH# 200091075.

Riverside County Land Information System (RCLIS)
2020 Riverside County Map My County. Available online at https://gis.countyofriverside.us/Html5Viewer/?viewer=MMC_Public. Last accessed March 6, 2020.

Society of Vertebrate Paleontology (SVP)
1991 Standard Measures for assessment and mitigation of adverse impacts to nonrenewable paleontological resources: Society of Vertebrate Paleontology News Bulletin, v. 152, p. 2-5.
1996 Conditions of receivership for paleontologic salvage collections: Society of Vertebrate Paleontology News Bulletin, v. 166, p. 31-32
2010 Standard Procedures for the Assessment and Mitigation of Adverse Impacts to Paleontological Resources. 11 p. Available at; http://vertpaleo.org/PDFS/68/68c554bb-86f1-442f-a0dc-25299762d36c.pdf

Appendix A:
Qualifications

Jennifer Kelly, M.Sc.
Paleontological Principal Investigator and Project Manager

MATERIAL CULTURE CONSULTING

Jennifer Kelly has experience in all aspects of paleontology. She has extensive experience with monitoring, salvage, fieldwork, project management, and report writing, as well as volunteer experience from the La Brea Tar Pits/Page Museum and the Cooper Center of Orange County (Paleontology department) and field experience as a Staff Geologist for Leighton Geotechnical. Her expertise is Geology, and she has her M.S. in Geological Sciences, emphasis in Geochemistry.

Jennifer has taught lab courses in paleontology and general geology, and also assisted with field mapping classes. Jennifer is HAZWOPER 40-hour certified and a registered Orange County paleontologist. She has authored and co-authored more than 100 paleontological compliance documents, including PRMPs, EIR, EIS, PEA, treatment plans, final monitoring reports, survey reports, and other compliance documents, in compliance with NEPA, CEQA, Caltrans and city and county laws, ordinances, regulations, and statutes.

Education

2012 M.Sc. in Geology, California State University, Long Beach, California
2005 B.S., Geology (preliminary work for entry to M.S. Geology Program), California State University, Long Beach
2004 B.A., Theater Arts, California State University, Long Beach

Certifications and Training

- 40 Hour Certification for HAZWOPER training under 29 CFR 1910. 120, CA (2013 – 2014)
- Orange County Certified Paleontologist
- San Diego County Certified Paleontologist

Recent Professional Experience in California

Paleontological Principal Investigator and Project Manager, Harvill Industrial Project, City of Jurupa Valley, Riverside County, California (2017-present). Ms. Kelly coordinated all surveying, preparation of compliance and environmental documentation for this project, and prepared the Paleontological Resources Impact Mitigation Plan (PRIMP). Kelly also oversees the paleontological monitoring program for this Project. This project is ongoing and is scheduled to be complete in 2020.

Paleontological Principal Investigator and Project Manager, Rider Commerce Center Project, Unincorporated Riverside County, California (2018-present). Ms. Kelly coordinated all surveying, preparation of compliance and environmental documentation for this project, and prepared the Paleontological Resources Impact Mitigation Plan (PRIMP). Kelly also oversees the paleontological monitoring program for this Project. This project is ongoing and is scheduled to be complete in 2020.

Paleontological Principal Investigator and Project Manager, Ontario Ranch Logistic Center, City of Ontario, County of San Bernardino, California (2018-present) Ms. Kelly coordinated all surveying, preparation of compliance and environmental documentation for this project, and authored the PRIMP for this project. Kelly also oversees the paleontological monitoring program for this Project. This project

is ongoing and is scheduled to be complete in 2021.

Paleontological Principal Investigator and Project Manager, Saddleback College, City of Mission Viejo, Orange County (2018-present) Ms. Kelly coordinated all surveying, preparation of compliance and environmental documentation for this project, prepared the Paleontological Resources Impact Mitigation Plan (PRIMP), and oversaw the paleontological monitoring program detailed in the PRIMP. Kelly is currently co-authoring the final paleontological mitigation report This project is in the final stages and is scheduled to be completed 2020.

Private Development Sector Experience

Paleontological Principal Investigator and Project Manager, Proposed Alta Vista Specific Plan Project, SC Development, City of Placentia, Orange County (2017). Ms. Kelly coordinated all surveying, preparation of compliance and environmental documentation relating to Paleontological resources for this project**.**

Paleontological Principal Investigator and Project Manager, Magnolia Tank Farm Project, SLF-HB Magnolia, LLC, City of Huntington Beach, Orange County (2017). Ms. Kelly coordinated all surveying, preparation of compliance and environmental documentation relating to Paleontological resources for this project**.**

Paleontological Principal Investigator and Project Manager, Santa Fe Springs Apartment Project, Clearwater Communities, City of Whittier, Los Angeles County (2017). Ms. Kelly coordinated all surveying, preparation of compliance and environmental documentation relating to Paleontological resources for this project**.**

Paleontological Principal Investigator and Project Manager, Rider Business Center Project, Capstone Advisor, Unincorporated Riverside County (2017). Ms. Kelly coordinated all surveying, preparation of compliance and environmental documentation relating to Paleontological resources for this project**.**

Paleontological Principal Investigator and Project Manager, Los Olivos French Valley Project, Newland Homes LLC, Unincorporated Riverside County (2017). Ms. Kelly coordinated all surveying, preparation of compliance and environmental documentation relating to Paleontological resources for this project**.**

Paleontological Principal Investigator and Project Manager, Veteran's Village Community Development Project, UHC LLC, Cathedral City, Riverside County (2017). Ms. Kelly coordinated all surveying, preparation of compliance and environmental documentation relating to Paleontological resources for this project**.**

Paleontological Principal Investigator and Project Manager, Colony Commerce East Project, CapRock Partners, City of Ontario, San Bernardino County (2016). Ms. Kelly coordinated all surveying, preparation of compliance and environmental documentation relating to Paleontological resources for this project**.**

Paleontological Principal Investigator and Project Manager, Jurupa Valley Medical Clinic Project, Boureston Company, City of Jurupa Valley, Riverside County (2016). Ms. Kelly coordinated all surveying, preparation of compliance and environmental documentation relating to Paleontological resources for this project**.**

Renewable Energy Sector Experience

Paleontological Principal Investigator and Project Manager, California Department of Corrections and

Rehabilitation Ventura Youth Correctional Facility Solar Project, Ecoplexus, Inc, City of Camarillo, Ventura County (2017). Ms. Kelly coordinated all surveying, preparation of compliance and environmental documentation relating to Paleontological resources for this project**.**

Paleontological Principal Investigator and Project Manager, Anderson-Devil's Den Solar Project, Forefront Power, Lost Hills, Kern County (2017). Ms. Kelly coordinated all surveying, preparation of compliance and environmental documentation relating to Paleontological resources for this project**.**

Paleontological Principal Investigator and Project Manager, Anderson-Coalinga 1-1109 Solar Project, Forefront Power, Ora, Unincorporated Fresno County (2017). Ms. Kelly coordinated all surveying, preparation of compliance and environmental documentation relating to Paleontological resources for this project**.**

Paleontological Principal Investigator and Project Manager, Anderson-Coalinga 2 Solar Project, Forefront Power, City of Coalinga, Fresno County (2017). Ms. Kelly coordinated all surveying, preparation of compliance and environmental documentation relating to Paleontological resources for this project**.**

Paleontological Principal Investigator and Project Manager, Anderson-Derrick Solar Project, Forefront Power, City of Coalinga, Fresno County (2017). Ms. Kelly coordinated all surveying, preparation of compliance and environmental documentation relating to Paleontological resources for this project**.**

Paleontological Principal Investigator and Project Manager, Anderson-Dulgarian Solar Project, Forefront Power, Lost Hills, Kern County (2017). Ms. Kelly coordinated all surveying, preparation of compliance and environmental documentation relating to Paleontological resources for this project**.**

Paleontological Principal Investigator and Project Manager, Anderson-Gates Solar Project, Forefront Power, City of Coalinga, Fresno County (2017). Ms. Kelly coordinated all surveying, preparation of compliance and environmental documentation relating to Paleontological resources for this project**.**

Paleontological Principal Investigator and Project Manager, Mahal Property Solar Project, Forefront Power, City of Selma, Fresno County (2017). Ms. Kelly coordinated all surveying, preparation of compliance and environmental documentation relating to Paleontological resources for this project**.**

Paleontological Principal Investigator and Project Manager, Rector Reservoir Solar Facility Project, Forefront Power, Napa Valley, Napa County (2017). Ms. Kelly coordinated all surveying, preparation of compliance and environmental documentation relating to Paleontological resources for this project**.**

Paleontological Principal Investigator and Project Manager, California Men's Colony Solar Facility Project, Forefront Power, San Luis Obispo, San Luis Obispo County (2017). Ms. Kelly coordinated all surveying, preparation of compliance and environmental documentation relating to Paleontological resources for this project**.**

Paleontological Principal Investigator and Project Manager, California Department of Corrections and Rehabilitation California Institute for Women Solar Project, Ecoplexus, Inc, City of Corona, San Bernardino County (2017). Ms. Kelly coordinated all surveying, preparation of compliance and environmental documentation relating to Paleontological resources for this project**.**

Utility Sector Experience

Paleontological Project Manager, Cadiz Ground Water Project, San Bernardino County, California

(2012-2013). Ms. Kelly conducted all research and data collection for the Cadiz Groundwater Conservation and Storage Project for completion of a DEIR section on paleontological resources. Based on the results of the analysis, Kelly prepared the mitigation measures which were designed to reduce potential adverse impacts to paleontological resources.

Paleontological Project Manager, Manzana Wind Express Project, Kern County, California (2012-2015). Ms**.** Kelly prepared the Paleontological Mitigation Monitoring Resource Plan, which allowed her to develop a key role in presenting environmental training programs to construction workers and other environmental compliance monitors. She also authored the final paleontological monitoring report. The Project's construction consisted of the installation more than 300 wind energy turbines, aligned along approximately 26 rows, on the 6,275-acre proposed site. The Manzana Wind Energy Project site was found to have the potential for scientifically significant paleontological resources that could be impacted by construction-related ground disturbance. She co-authored the final paleontological mitigation report in compliance with CEQA and Kern County guidelines.

Paleontological Project Manager, Pacific Wind Express Project, Kern County, California (2008-2009). Ms**.** Kelly prepared the Paleontological Mitigation Monitoring Resource Plan, which allowed her to develop a key role in presenting environmental training programs to construction workers and other environmental compliance monitors. She co-authored the final paleontological mitigation report.

Paleontological Project Manager, Tehachapi Renewable Transmission Project (TRTP), Southern California Edison (SCE), Kern County, Los Angeles County, San Bernardino County (2009-2015). Ms. Kelly conducted and led surveys along this project's right of way. She was also in charge of scheduling monitoring crews during grading in areas of paleontological sensitivity, managing and reviewing log sheets, and tracking data that is incorporated to final reports. Ms. Kelly played a valuable role with scheduling for the project's needs. She monitored, surveyed, and reported on all paleontological facets of this project as the Lead Paleontological Monitor for segment 3B, which was located near Rosamond, and for segments 4-11 which extended into Los Angeles and San Bernardino Counties. She authored more than 10 of the compliance reports for this project. She also performed monitoring on every segment of this Project.

Paleontological Project Manager, SCE, Valley South Subtransmission Line Project, Riverside County, California (2007-2010). Ms. Kelly managed scheduling and provided oversight for coordination of all surveying, preparation of compliance and environmental documentation for this project, including three proposed alternatives, and co-wrote the final PEA and survey reports, utilizing CEQA and Riverside County paleontological guidelines.

Paleontological Project Manager, SCE, San Joaquin Cross Valley Loop Project, Tulare County, California (2010-2013). Ms. Kelly assisted with coordination of all surveying, preparation of compliance and environmental documentation for this project, and co-authored the final Paleontological Monitoring Plan for this project.

Paleontological Project Manager, SCE, Devore Substation Project, San Bernardino County, California (2010-2012). Ms. Kelly prepared the compliance and environmental documents for this project, including paleontological inventory and geological map research.

Paleontological Project Manager, El Casco System-Transmission Line, SCE, throughout Riverside County (2011-2014). Ms. Kelly performed paleontological monitoring. Her duties included salvaging small and large fossils, screen washing and sorting fossils. She aided in the processing of microfossils collected from bulk sampling of fossil bearing sediment, and documenting stratigraphic locations of fossil bearing units. This project was in compliance with both CEQA and under the jurisdiction of the CPUC.

Paleontological Project Manager**, **South of Kramer Project, SCE, Hesperia to Barstow, San Bernardino, County (2009-2016). Ms. Kelly provided project management and compliance surveying, which included surveying from Hesperia to Barstow, CA for a Proponent's Environmental Assessment (PEA). All portions of the Proposed Project were located within San Bernardino County, California. Kelly co-authored the final survey report for this Project. A BLM Permit was authorized for the survey.

Paleontological Project Manager**, **OC Access Road Grading, SCE, Orange and Riverside County (2010-2011). Ms. Kelly assisted in documentation for the cultural resources portion, which include information regarding the location and condition of archaeological and paleontological sites recorded at or near the access roads, and recommends impact avoidance measures for future years in implementing the Protocol for 73 known archaeological sites. This required extensive coordination with Orange County Fire Authority grading department, SCE's Operations and Maintenance (O&M), and Orange County Parks. Trimble units were used for the documentation before and after grading of access roads. Communication played a key role when strategizing which locations were being graded where and when. The company came in under budget because of Kelly's efficiency and ability to coordinate and schedule.

Paleontological Project Manager, West of Devers Transmission Line Project, SCE, Riverside County, California (2009-2016). Ms. Kelly provided all project management and paleontological related services. This included proper BLM authorization and permitting to conduct surveying and a research design for field reconnaissance related to PEA, EIS/EIR documentation for the proposed transmission line. She assisted with managing documentation with laws relating to paleontological resources, among which are CEQA and NEPA compliance.

Paleontological Project Manager, Pacific Gas and Electric (PG&E), Line 300A/MP 147.7 and 180.8 Projects, San Bernardino County, California (2005-2006). Kelly prepared the mitigation recommendations and a paleontological inventory report for this project. She also was responsible for scheduling surveys on BLM and United States Marine Corps lands.

Paleontological Project Manager, PG&E, Jefferson to Stanford No. 2 60 kV Feasibility Project, San Mateo County, California (2012-2014). Kelly assisted with the preparation of the paleontological resources review and paleontological inventory report (PIR) and Proponent's Environmental Assessment (PEA) for this project. Several potential routes were assessed for this project, and the feasibility and paleontological potential was determined for this project. The report and PIR were prepared according to CEQA guidelines.

Paleontological Project Manager**, **Camp Pendleton Project, SDG&E, throughout San Diego and Orange Counties (2013-2017). Kelly provided on-call paleontological services for this project. She was a key facet in report production and research which enabled her firm to perform all survey and monitoring work required on Camp Pendleton for CEQA/NEPA check list assessments requested from SDG&E. Kelly was cleared from the Department of Defense in order to conduct work on the base. Site assessments and monitoring include all work related to: future location of power poles and towers, water control features, trenching and subsurface excavations, access roads, grading impacts to develop substations and other facilities, work pads, staging yards, and gas pipelines.

Appendix B:
LACM Locality Search Results

Natural History Museum
of Los Angeles County
900 Exposition Boulevard
Los Angeles, CA 90007

tel 213.763.DINO
www.nhm.org

Vertebrate Paleontology Section
Telephone: (213) 763-3325

e-mail: smcleod@nhm.org

19 February 2020

Material Culture Consulting
2701-B North Towne Avenue
Pomona, CA 91767

Attn: Julia Carvajal, Archaeologist & GIS Specialist

re: Paleontological resources for the proposed Iris Park Project, in the City of Moreno Valley, Riverside County, project area

Dear Julia:

I have conducted a thorough check of our paleontology collection records for the locality and specimen data for proposed Iris Park Project, in the City of Moreno Valley, Riverside County, project area as outlined on the portion of the Sunnymead USGS topographic quadrangle map that you sent to me via e-mail on 4 February 2020. We do not have any vertebrate fossil localities that lie directly within the proposed project area boundaries, but we do have localities somewhat nearby from sedimentary deposits similar to those that probably occur at depth in the proposed project area.

Surface deposits in the entire proposed project area consist of younger Quaternary Alluvium, derived as alluvial fan deposits from the more elevated terrain to the north. These sedimentary deposits typically do not contain significant vertebrate fossils, at least in the uppermost layers, but they may be underlain by older Quaternary deposits that do contain significant vertebrate fossils. Our closest vertebrate fossil locality from somewhat similar deposits is LACM 4540, from the gravel pits just west of Jack Rabbit Trail east-southeast of the proposed project area on the eastern side of the San Jacinto Valley, that produced a specimen of fossil horse, *Equus*.

Shallow excavations in younger Quaternary Alluvium in the proposed project area are unlikely to uncover significant vertebrate fossil remains. Deeper excavations in the proposed project area that extend down into older Quaternary deposits, however, may well encounter significant vertebrate fossils. Any substantial excavations in the proposed project area, therefore, should be monitored closely to quickly and professionally recover any fossil remains discovered while not impeding development. Also, sediment samples should be collected and processed to determine the small fossil potential in the proposed project area. Any fossils recovered during mitigation should be deposited in an accredited and permanent scientific institution for the benefit of current and future generations.

This records search covers only the vertebrate paleontology records of the Natural History Museum of Los Angeles County. It is not intended to be a thorough paleontological survey of the proposed project area covering other institutional records, a literature survey, or any potential on-site survey.

Sincerely,

Samuel A. McLeod, Ph.D.
Vertebrate Paleontology

enclosure: invoice

Appendix E to Initial Study
Preliminary Geotechnical and Infiltration Feasibility Investigation

LOR GEOTECHNICAL GROUP, INC.
Soil Engineering ▲ Geology ▲ Environmental

PRELIMINARY GEOTECHNICAL AND INFILTRATION FEASIBILITY INVESTIGATION PROPOSED IRIS PARK RESIDENTIAL DEVELOPMENT MORENO VALLEY, CALIFORNIA

PROJECT NO. 33591.1
NOVEMBER 25, 2019

Prepared For:

Passco Pacifica, LLC
333 City Boulevard, Suite 1700
Orange, California 92868

Attention: Mr. Oscar Graham

LOR GEOTECHNICAL GROUP, INC.
Soil Engineering ▲ Geology ▲ Environmental

November 25, 2019

Passco Pacifica, LLC
333 City Boulevard, Suite 1700
Orange, California 92868

Project No. 33591.1

Attention: Mr. Oscar Graham

Subject: Preliminary Geotechnical and Infiltration Feasibility Investigation, Proposed Iris Park Residential Development, APN 312-020-025, Moreno Valley, California.

LOR Geotechnical Group, Inc., is pleased to present this report summarizing our geotechnical investigation for the above referenced project. In summary, it is our opinion that the proposed development is feasible from a geotechnical perspective, provided the recommendations presented in the attached report are incorporated into design and construction.

To provide adequate support for the proposed residential structures, we recommend that a compacted fill mat be constructed beneath footings and slabs. The compacted fill mat will provide a dense, high-strength soil layer to uniformly distribute the anticipated foundation loads over the underlying soils. All undocumented fill material and any loose alluvial materials should be removed from structural areas and areas to receive engineered compacted fill. The data developed during this investigation indicates that removals on the order of approximately 5 to 7 feet will be required within the currently planned development areas. The given removal depths are preliminary. The actual depths of the removals should be determined during the grading operation by observation and/or in-place density testing.

Very low expansion potential, fair R-value quality, poor infiltration characteristics, and a negligible soluble sulfate content generally characterize the onsite soil materials tested.

LOR Geotechnical Group, Inc.

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Passco Pacifica, LLC
November 25, 2019

Project No. 33591.1

INTRODUCTION

During November of 2019, a Preliminary Geotechnical and Infiltration Feasibility Investigation was performed by LOR Geotechnical Group, Inc., for proposed Iris Park residential development of APN 312-020-025 in the City of Moreno Valley, California. The purpose of this investigation was to conduct a technical evaluation of the geologic setting of the site and to provide geotechnical design recommendations for the proposed improvements. The scope of our services included:

- Review of available pertinent geotechnical literature, reports, maps, and agency information pertinent to the study area;
- Interpretation of aerial photographs of the site and surrounding regions dated 1966 through 2018;
- Geologic field reconnaissance mapping to verify the areal distribution of earth units and significance of surficial features as compiled from documents, literature, and reports reviewed;
- A subsurface field investigation to determine the physical soil conditions pertinent to the proposed development;
- Infiltration testing via the constant head test method at two locations within the approximate area proposed for the infiltration of onsite runoff waters;
- Laboratory testing of selected soil samples obtained during the field investigation;
- Development of geotechnical recommendations for site grading and foundation design; and
- Preparation of this report summarizing our findings, and providing conclusions and recommendations for site development.

The approximate location of the site is shown on the attached Index Map, Enclosure A-1, within Appendix A.

To orient our investigation at the site, you provided us with Site Plan, prepared by IDE Arc Architecture & Planning, undated, that showed the proposed development. As noted on that map, the site will be developed with 84 residential lots and the associated interior streets. An infiltration basin is also proposed. The Site Plan was utilized as a base map for our field investigation and is presented as Enclosure A-2, within Appendix A.

PROJECT CONSIDERATIONS

Information furnished to this firm indicates that the proposed project will consist of the construction of 84 single-family residences.

These will likely be one or two stories in height and are anticipated to be of wood frame construction with an exterior plaster veneer. Light to moderate foundation loads are anticipated with such structures. Cuts and fills on the order of a few feet are anticipated to create the planar building pads.

EXISTING SITE CONDITIONS

The subject site consists of a triangular shaped, relatively flat, vacant area of land that is approximately 10 acres in size. At the time of our investigation, vegetation on the site consisted of a light moderate growth of weeds. The topography of the site is planar, with a very gentle fall towards the southeast.

Iris Avenue, a fully improved roadway, bounds the site on the north followed by a tract of single family residences. A tract of single family residences bounds the site on the east. The California Aqueduct easement comprises the western 100 feet of the site with a shopping center and school beyond. South of the site is a tract of single family homes.

AERIAL PHOTOGRAPH ANALYSIS

The aerial photographs reviewed consisted of vertical aerial stereoscopic photographs of varying scales. We reviewed imagery available from Google Earth (2018) and from Historic Aerials (2019).

The site consisted of vacant land which appeared to be dry land farmed with surrounding properties from 1966, the earliest photograph available, to 1978. The 1997 photograph shows the site as vacant land with some stockpiles of fill material in the northeast corner. Numerous dirt paths are visible in this area. The 2006 photograph shows additional smoothed out fill to the west of the previously noted fill. An earthen berm is present on the north and west side of this area. A minor amount of additional end dumped fill is visible in the 2009 photograph.

Our review of the aerial photographs did not reveal any adverse geologic conditions, such as possible faults or landslides, as being present at or within close proximity to the site.

FIELD EXPLORATION PROGRAM

Our subsurface field exploration program was conducted on November 7, 2019 and consisted of drilling 5 exploratory borings with a truck-mounted Mobile B-61 drill rig equipped with 8-inch diameter hollow stem augers. The borings were drilled to depths of approximately 21 to 51.5 feet below the existing ground surface. The approximate locations of our exploratory borings are presented on the attached Site Plan, Enclosure A-2 within Appendix A.

The subsurface conditions encountered in the exploratory borings were logged by a geologist from this firm. Relatively undisturbed and bulk samples were obtained at a maximum depth interval of 5 feet and returned to our geotechnical laboratory in sealed containers for further testing and evaluation. A detailed description of the field exploration program and the boring logs are presented in Appendix B.

LABORATORY TESTING PROGRAM

Selected soil samples obtained during the field investigation were subjected to laboratory testing to evaluate their physical and engineering properties. Laboratory testing included in-place moisture content and dry density, laboratory compaction characteristics, direct shear, sieve analysis, sand equivalent, R-value, consolidation, expansion index, Atterberg limits, and soluble sulfate content. A detailed description of the laboratory testing program and the test results are presented in Appendix C.

GEOLOGIC CONDITIONS

Regional Geologic Setting

The site is located within the south-central portion of Moreno Valley which lies within the northern end of Perris Valley. This area is located on the Perris block, within the northern Peninsular Ranges geologic province of southern California. While the Perris block is considered to be a relatively stable structural block, it is bounded by active faults. The Perris block is underlain predominately by a very large mass of crystalline igneous rocks of Cretaceous age and older metasedimentary and metavolcanic rocks.

The Perris block has a series of erosional surfaces, marked by low topographic relief and capped with unconsolidated alluvial sediments stripped from the surrounding highlands, such as the Box Spring Mountains and the hills around Lake Perris located east of the site.

These were mapped by the California Division of Mines and Geology as being underlain by deposits of relatively unconsolidated, but weakly to moderately indurated younger to older alluvium (Morton and Matti, 2001 and Morton, 2003).

The nearest known active fault zone is the San Jacinto fault zone located approximately 9.8 kilometers (6.1 miles) to the northeast. Other major faults within the region include the Elsinore fault zone located approximately 26 kilometers (16.2 miles) to the southwest, and San Andreas fault zone located approximately 27 kilometers (17 miles) to the northeast. The site and the regional geologic setting are shown on Enclosure A-3 within Appendix A.

Site Geologic Conditions

Fill/Topsoil: As encountered within the majority of our exploratory borings, fill/topsoil materials on the order of 2 feet thick are present across much of the site. The fill materials were noted to be light brown, dry, and loose silty sand. These materials are most likely the result of weed abatement practices (discing).

Fill: As encountered within our exploratory boring placed in the northeast portion of the site, fill materials on the order of 5 feet are present. These materials consisted of dry, loose, silty sand with some debris and are believed to be end dumped fills noted in our review of aerial photographs.

Older Alluvium: Underlying the fill materials at the site, older alluvial materials were encountered within all of our exploratory borings to the maximum depths explored. These units were noted to consist of silty sand and sandy silt, and lessor amounts unit of well graded sand, clayey sand and lean clay with sand. The older alluvial materials were in a relatively loose to medium dense/stiff state upon first encounter, becoming medium dense/very stiff to dense/hard with depth based on our equivalent Standard Penetration Test (SPT) data and in-place density testing. Consolidation testing of the older alluvial materials indicate normal consolidation/hydro-consolidation characteristics at depths of 7 feet and greater.

A detailed description of the subsurface soil conditions as encountered within our exploratory borings is presented on the Boring Logs within Appendix B.

Groundwater Hydrology

Groundwater was encountered within our exploratory borings B-2 at a depth of approximately 33.5 feet below the existing ground surface.

Records for nearby wells which were readily available from the State of California Department of Water Resources online database (CDWR, 2019) and the Western Municipal Water District Cooperative Well Measurement Program (WMWD, 2019) were reviewed as a part of this investigation. In addition, historic groundwater level data was reviewed from a groundwater contour map prepared by the U.S.G.S. (Carson and Matti, 1985).

According to the State of California Department for Water resources online database, the nearest well with available data is State Well Number 03S03W32B001S located to the southeast, approximately 1.4 kilometers (0.9 miles). In this well, groundwater was last measured at a depth of 21 feet below the ground surface on April 26, 2019. The depth to groundwater in the past was noted to vary slightly over time. Data for this well was presented from 2011 to 2019 and the elevation was listed as 1,476 feet above mean sea level.

Groundwater well data from the Cooperative Well Measuring Program, Spring 2019, indicates that the nearest well is the well noted above and no additional relevant information is presented within this database.

As illustrated on Enclosure A-1, the elevation of the site is approximately 1,495 feet above mean sea level. Based on the information above, groundwater is anticipated to lie approximately 35 feet in the general site area.

Surface Runoff

Current surface runoff of precipitation waters across the site is generally as sheet flow to the south-southeast.

Mass Movement

Mass movement features such as landslides, rockfalls, or debris flows within the site vicinity are not known to exist and no evidence of mass movement was observed on the site or in the vicinity during our review of aerial photographs or reconnaissance.

Faulting

No active or potentially active faults are known to exist at the subject site. In addition, the subject site does not lie within a current State of California Earthquake Fault Zone (Hart and Bryant, 2003).

As previously mentioned, the closest known active fault is the San Jacinto Valley segment of the San Jacinto fault zone, located approximately 9.8 kilometers (6.1 miles) to the northeast. In addition, other relatively close active faults include the Glen Ivy segment of the Elsinore fault zone, located approximately 26 kilometers (16.2 miles) to the southwest, and the San Bernardino segment of the San Andreas fault zone located approximately 27 kilometers (17 miles) to the northeast.

The San Jacinto fault zone is a sub-parallel branch of the San Andreas fault zone, extending from the northwestern San Bernardino area, southward into the El Centro region. This fault has been active in recent times with several large magnitude events. It is believed that the San Jacinto fault is capable of producing an earthquake magnitude on the order of 6.5 or greater.

The Elsinore fault zone is one of the largest in southern California. At its northern end it splays into two segments and at its southern end it is cut by the Yuba Wells fault. The primary sense of slip along the Elsinore fault is right lateral strike-slip. It is believed that the Elsinore fault zone is capable of producing an earthquake magnitude on the order of 6.5 to 7.5.

The San Andreas fault is considered to be the major tectonic feature of California, separating the Pacific Plate and the North American Plate. While estimates vary, the San Andreas fault is generally thought to have an average slip rate on the order of 24mm/yr and capable of generating large magnitude events on the order of 7.5 or greater.

Current standards of practice often include a discussion of all potential earthquake sources within a 100 kilometer (62 mile) radius. However, while there are other large earthquake faults within a 100 kilometer (62 mile) radius of the site, none of these are considered as relevant to the site due to their greater distance and/or smaller anticipated magnitudes.

Historical Seismicity

In order to obtain a general perspective of the historical seismicity of the site and surrounding region a search was conducted for seismic events at and around the area within various radii. This search was conducted utilizing the historical seismic search website of the USGS. This website conducts a search of a user selected cataloged seismic events database, within a specified radius and selected magnitudes, and then plots the events onto a map. At the time of our search, the database contained data from January 1, 1932 through November 20, 2019.

In our first search, the general seismicity of the region was analyzed by selecting an epicenter map listing all events of magnitude 4.0 and greater, recorded since 1932, within a 100 kilometer (62 mile)radius of the site, in accordance with guidelines of the California Division of Mines and Geology. This map illustrates the regional seismic history of moderate to large events. As depicted on Enclosure A-4, within Appendix A, the site lies within a relatively active region associated with the San Andreas fault trending northwest and the northwest trending faulting of the Mojave Desert geomorphic province.

In the second search, the micro seismicity of the area lying within a 15 kilometer (9.3 mile) radius of the site was examined by selecting an epicenter map listing events on the order of 1.0 and greater since 1978. In addition, only the “A” events, or most accurate events were selected. Caltech indicates the accuracy of the “A” events to be approximately 1 km. The results of this search is a map that presents the seismic history around the area of the site with much greater detail, not permitted on the larger map. The reason for limiting the events to the last 40± years on the detail map is to enhance the accuracy of the map. Events recorded prior the mid 1970's are generally considered to be less accurate due to advancements in technology. As depicted on this map, Enclosure A-5, the San Jacinto fault zone appear to be the source of numerous events.

In summary, the historical seismicity of the site entails numerous small to medium magnitude earthquake events occurring around the subject site, predominately associated with the presence of the San Jacinto fault zone. Any future developments at the subject site should anticipate that moderate to large seismic events could occur very near the site.

Secondary Seismic Hazards

Other secondary seismic hazards generally associated with severe ground shaking during an earthquake include liquefaction, seiches and tsunamis, earthquake induced flooding, landsliding and rockfalls, and seismic-induced settlement.

Liquefaction: The potential for liquefaction generally occurs during strong ground shaking within granular, loose, sediments where the groundwater is usually less than 50 feet. The County of Riverside has mapped the overall site area as having low liquefaction potential (TLMA, 2019).

Liquefaction is a process in which strong ground shaking causes saturated soils to lose their strength and behave as a fluid (Matti and Carson, 1991). Ground failure associated with liquefaction can result in severe damage to structures. Soil types susceptible to liquefaction include sand, silty sand, sandy silt, and silt, as well as soils having a plasticity

index (PI) less than 7 (Boulanger and Idriss, 2004) and loose soils with a PI less than 12 and a moisture content greater than 85 percent of the liquid limit (Bray and Sancio, 2006). The geologic conditions for increased susceptibility to liquefaction are: 1) shallow groundwater (generally less than 50 feet in depth); 2) the presence of unconsolidated sandy alluvium, typically Holocene in age; and 3) strong ground shaking. All three of these conditions must be present for liquefaction to occur.

Severe seismic shaking may cause dry and non-saturated sands to densify, resulting in settlement expressed at the ground surface. Seismic settlement in dry soils generally occurs in loose sands and silty sands, with cohesive soils being less prone to significant settlement.

A quantitative method using an index called the liquefaction potential index (LPI) was developed and presented by Iwasaki et al. (1978, 1982). The LPI is defined as:

$$LPI = \int_0^{20} F_1 W(z) dz$$

where $W(z) = 10 - 0.5z$, $F_1 = 1 - FS$ for $FS < 1.0$, $F_1 = 0$ for $FS > 1.0$ and z is the depth below the ground surface in meters. The LPI presents the risk of liquefaction damage as a single value with the following indicators of liquefaction-induced damage:

LPI Range and Damage	
LPI Range	**Damage**
LPI = 0	Liquefaction risk is very low.
0 < LPI ≤ 5	Liquefaction risk is low.
5 < LPI ≤ 15	Liquefaction risk is high.
LPI > 15	Liquefaction risk is very high.

The most recent development for quantitative descriptions of liquefaction-induced surface damage, called "liquefaction vulnerability", was made by Tonkin & Taylor (2013) after the Christchurch earthquakes occurred between 2010 and 2011 and was based on field observations and analyses of approximately 7,500 CPT investigations. A new index, the liquefaction severity number (LSN), was proposed and defined as:

$$LSN = \int \frac{\varepsilon_v}{z} dz$$

where ε_v is the calculated volumetric densification strain in the subject layer from Zhang et al. (2002) and z is the depth to the layer of interest in meters below the ground surface. The typical behaviors of sites with a given LSN are summarized in following table.

LSN Ranges and Observed Land Effects

LSN Range	Predominant Performance
0-10	Little to no expression of liquefaction, minor effects
10-20	Minor expression of liquefaction, some sand boils
20-30	Moderate expression of liquefaction, with sand boils and some structural damage
30-40	Moderate to severe expression of liquefaction, settlement can cause structural damage
40-50	Major expression of liquefaction, undulations and damage to ground surface, severe total and differential settlement of structures
>50	Severe damage, extensive evidence of liquefaction at surface, severe total and differential settlements affecting structures, damage to services

Both LPI and LSN indices were calculated for the soil profiles of Exploratory Boring No. B-2. The results indicate that the liquefaction risk of the site is “very low” to "low" per the LPI index of 0. The site exhibits "little to no expression of liquefaction, minor effects" per the LSN index of 0.

The Idriss and Boulanger (2008) and Pradel (1998) methods were used to evaluate liquefaction-induced settlement and dry sand settlement. As input into our calculations a deaggregated modal moment magnitude of 6.5 and an acceleration of 0.553g were utilized for the representative soil profiles as provided in Boring B-2.

The results indicate that a maximum seismic settlement of less than one-half inch can be anticipated. Based on the relative uniformity of soil materials encountered, differential seismic settlement is anticipated to be approximately one-half of the total seismic settlement. The settlement calculated is accumulated from soil layers to a maximum depth of 50 feet and the result of our analysis is provided in Appendix E.

Seiches/Tsunamis: The potential for the site to be affected by a seiche or tsunami (earthquake generated wave) is considered nil due to the absence of any large bodies of water near the site.

Flooding (Water Storage Facility Failure): There are no large water storage facilities located on or upstream near the site which could possibly rupture during an earthquake and affect the site by flooding.

Seismically-Induced Landsliding: Our research, site reconnaissance and review of aerial imagery of the site and vicinity indicates that there are no known or suspected landslides at the site or in close proximity to the site and, therefore, the potential for seismically-induced landslides occurring at the site is considered very low.

Rockfalls: No large, exposed, loose or unrooted boulders that could affect the integrity of the site are present above the site.

Seismically-Induced Settlement: Settlement generally occurs within areas of loose, granular soils with relatively low density. Since the site is underlain by dense/stiff to dense/hard older alluvial materials, the potential for settlement is considered low. In addition, the earthwork operations recommended to be conducted during the development of the site will mitigate any near surface loose soil conditions.

SOILS AND SEISMIC DESIGN CRITERIA (California Building Code 2016)

Section 1613 of Chapter 16 of the 2016 California Building Code (CBC) contains the procedures and definitions for the calculations of the earthquake loads on structures and non structural components that are permanently attached to structures and their supports and attachments.

It should be noted that the classification of use and occupancy of all proposed structures at the site, and thus design requirements, shall be the responsibility of the structural engineer and the building official.

CBC Earthquake Design Summary

The following earthquake design criteria have been formulated for the site utilizing the source referenced above. However, these values should be reviewed and the final design should be performed by a qualified structural engineer familiar with the region.

CBC 2016 SEISMIC DESIGN SUMMARY* Site Location (WGS 84) 33.8872, -117.2226, Occupancy Category II	
Site Class Definition Chapter 20 ASCE 7	D
S_s Mapped Spectral Response Acceleration at 0.2s Period, (Figure 1613.3.1(1))	1.500
S_1 Mapped Spectral Response Acceleration at 1s Period, (Figure 1613.3.3(2))	0.605
F_a Short Period Site Coefficient at 0.2s Period, (Table 1613.3.3(1))	1.0
F_v Long Period Site Coefficient at 1s Period, (Table 1613.3.3(2))	1.5
S_{MS} Adjusted Spectral Response Acceleration at 0.2s Period, (eq .16-37)	1.500
S_{M1} Adjusted Spectral Response Acceleration at 1s Period, (eq .16-38)	0.907
S_{DS} Design Spectral Response Acceleration at 0.2s Period, (eq .16-39)	1.000
S_{D1} Design Spectral Response Acceleration at 1s Period, (eq .16-40)	0.605
Seismic Design Category - Short Period (Table 1613.3.5(1))	D
Seismic Design Category - Long Period (Table 1613.3.5(2))	D
*Values obtained from OSHPD online U.S. Seismic Design Maps tool	

INFILTRATION TESTING AND TEST RESULTS

Two constant head infiltration tests were conducted within the general area proposed for the infiltration of runoff waters. Testing consisted of two test holes which were excavated using a hollow stem auger drill rig to depths of approximately 5 feet below the existing ground surface. The holes were 8-inches in diameter. Two inches of gravel was placed in the bottom of the holes and perforated plastic liners were placed into each hole. A 2-inch PVC pipe with a preset water level of 0.5 feet was inserted into each liner. A 5-gallon glass bottle was then inverted over each pipe with a vacuum seal in order to maintain a constant 0.5 feet of water with each hole. The volume of water used in a given time period was recorded at various time intervals to establish the infiltration rates.

Infiltration test results are summarized in the following table:

Test No.	Depth (ft.)*	Infiltration Rate** in/hr
I-1	4	0.10
I-2	4	0.10

* depth measured below existing ground surface
** clear water rate

The results of our infiltration testing are attached as Enclosures D-1 and D-2. The test results indicate poor infiltration characteristics for the soils tested.

CONCLUSIONS

General

This investigation provides a broad overview of the geotechnical and geologic factors which are expected to influence future site planning and development. On the basis of our field investigation and testing program, it is the opinion of LOR Geotechnical Group, Inc., that the proposed development is feasible from a geotechnical standpoint, provided the recommendations presented in this report are incorporated into design and implemented during grading and construction.

The subsurface conditions encountered in our exploratory borings are indicative of the locations explored. The subsurface conditions presented here are not to be construed as being present the same everywhere on the site. If conditions are encountered during the construction of the project which differ significantly from those presented in this report, this firm should be notified immediately so we may assess the impact to the recommendations provided.

Foundation Support

Based upon the field investigation and test data, it is our opinion that the existing fill/topsoil and fill soils will not, in their present condition, provide uniform and/or adequate support for the proposed improvements. Left as is, this condition could cause unacceptable differential and/or overall settlements upon application of the anticipated foundation loads.

To provide adequate support for the proposed structural improvements, we recommend that a compacted fill mat be constructed beneath footings and slabs.

This compacted fill mat will provide a dense, high-strength soil layer to uniformly distribute the anticipated foundation loads over the underlying soils. In addition, the construction of this compacted fill mat will allow for the removal of any undocumented fill soils that are present within the proposed building areas. Conventional foundation systems, using either individual spread footings and/or continuous wall footings, will provide adequate support for the anticipated downward and lateral loads when utilized in conjunction with the recommended fill mat.

Soil Expansiveness

Our laboratory testing found the soils tested to have a very low expansion potential. For very low expansive soils, no specialized construction procedures to resist expansive soil activity are necessary.

Careful evaluation of on-site soils and any import fill for their expansion potential should be conducted during the grading operation.

Sulfate Protection

The results of the soluble sulfate tests conducted on selected subgrade soils expected to be encountered at foundation levels indicate that there is a negligible sulfate exposure to concrete elements in contact with the on site soils per the 2016 CBC. Therefore, no specific recommendations are given for concrete elements to be in contact with the onsite soils.

Infiltration

The results of our field investigation and test data indicates the site soils are not conducive to infiltration or percolation. Therefore, water quality storm water systems should not incorporate on-site infiltration/percolation when determining storm water treatment capacity.

Geologic Mitigations

No special geologic recommendation methods are deemed necessary at this time, other than the geotechnical recommendations provided in the following sections.

Seismicity

Seismic ground rupture is generally considered most likely to occur along pre-existing active faults. Since no known faults are known to exist at, or project into the site, the probability of ground surface rupture occurring at the site is considered nil.

Due to the site's close proximity to the faults described above, it is reasonable to expect a strong ground motion seismic event to occur during the lifetime of the proposed development on the site. Large earthquakes could occur on other faults in the general area, but because of their lesser anticipated magnitude and/or greater distance, they are considered less significant than the faults described above from a ground motion standpoint.

The effects of ground shaking anticipated at the subject site should be mitigated by the seismic design requirements and procedures outlined in Chapter 16 of the California Building Code. However, it should be noted that the current building code requires the minimum design to allow a structure to remain standing after a seismic event, in order to allow for safe evacuation. A structure built to code may still sustain damage which might ultimately result in the demolishing of the structure (Larson and Slosson, 1992).

RECOMMENDATIONS

Geologic Recommendations

No special geologic recommendation methods are deemed necessary at this time, other than the geotechnical recommendations provided in the following sections.

General Site Grading

It is imperative that no clearing and/or grading operations be performed without the presence of a qualified geotechnical engineer. An on-site, pre-job meeting with the owner, the developer, the contractor, and geotechnical engineer should occur prior to all grading related operations. Operations undertaken at the site without the geotechnical engineer present may result in exclusions of affected areas from the final compaction report for the project.

Grading of the subject site should be performed in accordance with the following recommendations as well as applicable portions of the California Building Code, and/or applicable local ordinances.

All areas to be graded should be stripped of significant vegetation and other deleterious materials.

It is our recommendation that any existing fills under any proposed flatwork and/or paved areas be removed and replaced with engineered compacted fill. If this is not done, premature structural distress (settlement) of the flatwork and pavement may occur. Any undocumented fills encountered during grading should be completely removed and cleaned of significant deleterious materials. These may then be reused as compacted fill.

Cavities created by removal of undocumented fill soils and/or subsurface obstructions should be thoroughly cleaned of loose soil, organic matter and other deleterious materials, shaped to provide access for construction equipment, and backfilled as recommended in the following Engineered Compacted Fill section of this report.

Initial Site Preparation

Any and all existing uncontrolled fills and any loose/soft native alluvial soils should be removed from structural areas and areas to receive structural fills. The data developed during this investigation indicates that removals on the order of 5 to 7 feet will be required to encounter competent older alluvium. However, deeper removals may be required locally. Removals should extend horizontally at a distance equal to the depth of the removals plus proposed fill and at least a minimum of 5 feet. The actual depths of removals should be determined during the grading operation by observation and/or by in-place density testing.

Preparation of Fill Areas

After completion of the removals described above and prior to placing fill, the surfaces of all areas to receive fill should be scarified to a depth of at least 6 inches. The scarified soil should be brought to near optimum moisture content and compacted to a relative compaction of at least 90 percent (ASTM D 1557).

Preparation of Foundation Areas

All footings should rest upon a minimum of 24 inches of properly compacted fill material placed over competent natural alluvial soils. In areas where the required fill thickness is not accomplished by the removal of unsuitable soils, the footing areas should be further subexcavated to a depth of at least 24 inches below the proposed footing base grade, with the subexcavation extending at least 5 feet beyond the footing lines. The bottom of this excavation should then be scarified to a depth of at least 6 inches, brought to near

optimum moisture content, and recompacted to at least 90 percent relative compaction (ASTM D 1557) prior to refilling the excavation to grade as properly compacted fill. Fill areas should not be constructed so as to place structures across any area where the maximum depth of fill to minimum depth of fill is greater than a 3:1 ratio.

To provide adequate support, concrete slabs-on-grade should bear on a minimum of 24 inches of compacted soil. The final pad surfaces should be rolled to provide smooth, dense surfaces upon which to place the concrete.

Engineered Compacted Fill

The on-site soils should provide adequate quality fill material, provided they are free from organic matter and other deleterious materials. Unless approved by the geotechnical engineer, rock or similar irreducible material with a maximum dimension greater than 6 inches should not be buried or placed in fills.

Import fill, if required, should be inorganic, non-expansive granular soils free from rocks or lumps greater than 6 inches in maximum dimension. Sources for import fill should be approved by the geotechnical engineer prior to their use.

Fill should be spread in maximum 8-inch uniform, loose lifts, with each lift brought to near optimum moisture content prior to, during and/or after placement, and compacted to a relative compaction of at least 90 percent in accordance with ASTM D 1557.

Based upon the relative compaction of the near surface soils determined during this investigation and the relative compaction anticipated for compacted fill soil, we estimate a compaction shrinkage factor of approximately 10 to 15 percent. Therefore, 1.10 to 1.15 cubic yards of in-place materials would be necessary to yield one cubic yard of properly compacted fill material. Subsidence is anticipated to be 0.10 feet. These values are for estimating purposes only, and are exclusive of losses due to stripping or the removal of subsurface obstructions.

These values may vary due to differing conditions within the project boundaries and the limitations of this investigation. Shrinkage should be monitored during construction. If percentages vary, provisions should be made to revise final grades or adjust quantities of borrow or export.

Short-Term Excavations

Following the California Occupational and Safety Health Act (CAL-OSHA) requirements, excavations 5 feet deep and greater should be sloped or shored. All excavations and shoring should conform to CAL-OSHA requirements.

Short-term excavations 5-feet deep and greater shall conform to Title 8 of the California Code of Regulations, Construction Safety Orders, Section 1504 and 1539 through 1547. Based on our exploratory borings, it appears that Type C soil is the predominant type of soil on the project and all short-term excavations should be based on this type of soil. Deviation from the standard short-term slopes are permitted using Option 4, Design by a Registered Professional Engineer (Section 1541.1).

Short-term slope construction and maintenance are the responsibility of the contractor, and should be a consideration of his methods of operation and the actual soil conditions encountered.

Slope Construction

Preliminary data indicates that cut and fill slopes should be constructed no steeper than two horizontal to one vertical. Fill slopes should be overfilled during construction and then cut back to expose fully compacted soil. A suitable alternative would be to compact the slopes during construction, then roll the final slopes to provide dense, erosion-resistant surfaces.

Slope Protection

Since the site soils are susceptible to erosion by running water, measures should be provided to prevent surface water from flowing over slope faces. Slopes at the project should be planted with a deep rooted ground cover as soon as possible after completion. The use of succulent ground covers such as iceplant or sedum is not recommended. If watering is necessary to sustain plant growth on slopes, the watering system should be monitored to assure proper operation and to prevent over watering.

Foundation Design

If the site is prepared as recommended, the proposed structures may be safely founded on conventional shallow foundations, either individual spread footings and/or continuous wall footings, bearing on a minimum of 24 inches of engineered compacted fill.

All foundations should have a minimum width of 12 inches and should be established a minimum of 12 inches below lowest adjacent grade.

For the minimum width and depth, spread foundations may be designed using an allowable bearing pressure of 1,800 psf. This bearing pressure may be increased by 400 psf for each additional foot of width, and by 400 psf for each additional foot of depth, up to a maximum of 4,000 psf. For example, a footing 3 feet wide and embedded 2 feet will have an allowable bearing pressure of 3,000 psf.

The above values are net pressures; therefore, the weight of the foundations and the backfill over the foundations may be neglected when computing dead loads. The values apply to the maximum edge pressure for foundations subjected to eccentric loads or overturning. The recommended pressures apply for the total of dead plus frequently applied live loads, and incorporate a factor of safety of at least 3.0. The allowable bearing pressures may be increased by one-third for temporary wind or seismic loading. The resultant of the combined vertical and lateral seismic loads should act within the middle one-third of the footing width. The maximum calculated edge pressure under the toe of foundations subjected to eccentric loads or overturning should not exceed the increased allowable pressure. Buildings should be setback from slopes in accordance with the California Building Code.

Resistance to lateral loads will be provided by passive earth pressure and base friction. For footings bearing against compacted fill, passive earth pressure may be considered to be developed at a rate of 400 pounds per square foot per foot of depth. Base friction may be computed at 0.30 times the normal load. Base friction and passive earth pressure may be combined without reduction. These values are for dead load plus live load and may be increased by one-third for wind or seismic loading.

Settlement

Total settlement of individual foundations will vary depending on the width of the foundation and the actual load supported. Maximum settlement of shallow foundations designed and constructed in accordance with the preceding recommendations are estimated to be on the order of 0.5 inch. Differential settlements between adjacent footings should be about one-half of the total settlement. Settlement of all foundations is expected to occur rapidly, primarily as a result of elastic compression of supporting soils as the loads are applied, and should be essentially completed shortly after initial application of the loads.

Building Area Slab-On-Grade

Concrete floor slabs should bear on a minimum of 24 inches of engineered compacted fill placed over competent native materials. The final pad surfaces should be rolled to provide smooth, dense surfaces upon which to place the concrete.

Slabs to receive moisture-sensitive coverings should be provided with a moisture vapor barrier. This barrier may consist of an impermeable membrane. Two inches of sand over the membrane will reduce punctures and aid in obtaining a satisfactory concrete cure. The sand should be moistened just prior to placing of concrete. The slabs should be protected from rapid and excessive moisture loss which could result in slab curling. Careful attention should be given to slab curing procedures, as the site area is subject to large temperature extremes, humidity, and strong winds.

Exterior Flatwork

To provide adequate support, exterior flatwork improvements should rest on a minimum of 12 inches of soil compacted to at least 90 percent (ASTM D 1557).

Flatwork surface should be sloped a minimum of 1 percent away from buildings and slopes, to approved drainage structures.

Wall Pressures

The design of footings for retaining structures should be performed in accordance with the recommendations described earlier under Preparation of Foundation Areas and Foundation Design. For design of retaining wall footings, the resultant of the applied loads should act in the middle one-third of the footing, and the maximum edge pressure should not exceed the basic allowable value without increase.

For design of retaining walls unrestrained against movement at the top, we recommend an equivalent fluid density of 48 pounds per cubic foot (pcf) be used. This assumes level backfill consisting of recompacted, non-expansive, native soils placed against the structures and with the backcut slope extending upward from the base of the stem at 35 degrees from the vertical or flatter.

To avoid overstressing or excessive tilting during placement of backfill behind walls, heavy compaction equipment should not be allowed within the zone delineated by a 45 degree line extending from the base of the wall to the fill surface.

The backfill directly behind the walls should be compacted using light equipment such as hand operated vibrating plates and rollers. No material larger than 3-inches in diameter should be placed in direct contact with the wall.

Wall pressures should be verified prior to construction, when the actual backfill materials and conditions have been determined. Recommended pressures are applicable only to level, non-expansive, properly drained backfill (with no additional surcharge loadings).

If inclined backfills are proposed, this firm should be contacted to develop appropriate active earth pressure parameters. Toe bearing pressure for non-structural walls on soils, not prepared as described earlier under Preparation of Foundation Areas, should not exceed California Building Code values.

Sulfate Protection

The results of the soluble sulfate tests conducted on selected subgrade soils expected to be encountered at foundation levels are presented on Enclosure C.

Based on the test results it appears that there is a negligible sulfate exposure to concrete elements in contact with on site soils. The CBC, therefore, does not recommend special design criteria for concrete elements in conduct with such materials.

Preliminary Pavement Design

Testing and design for preliminary on-site pavement was conducted in accordance with the California Highway Design Manual. Based upon our preliminary sampling and testing, and upon Traffic Index indicated by the City of Moreno Valley Standard Plans (2018), it appears that the structural section tabulated below should provide satisfactory pavement for the subject pavement improvements:

AREA	T.I.	DESIGN R-VALUE	PRELIMINARY SECTION
Local Street	6.0	30	0.35' AC*/0.70' CAB
AC - Asphalt Concrete CAB - Crushed Aggregate Base * City of Moreno Valley minimum			

The above structural section is predicated upon 90 percent relative compaction (ASTM D 1557) of all utility trench backfills and 95 percent relative compaction (ASTM D 1557) of the upper 12 inches of pavement subgrade soils and of any aggregate base utilized.

In addition, the aggregate base should meet specifications for Crushed Aggregate Base.

In areas of the pavement which will receive high abrasion loads due to start-ups and stops, or where trucks will move on a tight turning radius, consideration should be given to installing concrete pads. Such pads should be a minimum of 0.5-foot thick concrete, with a 0.35-foot thick aggregate base. Concrete pads are also recommended in areas adjacent to trash storage areas where heavier loads will occur due to operation of trucks lifting trash dumpsters.

It should be noted that all of the above pavement design was based upon the results of preliminary sampling and testing, and should be verified by additional sampling and testing during construction when the actual subgrade soils are exposed.

Infiltration

Based upon our field investigation and infiltration test data, the site soils are not considered suitable for infiltration or percolation. Therefore water quality storm water systems should not incorporate on-site infiltration/percolation when determining storm water treatment capacity.

Construction Monitoring

Post investigative services are an important and necessary continuation of this investigation. Project plans and specifications should be reviewed by the project geotechnical consultant prior to construction to confirm that the intent of the

recommendations presented herein have been incorporated into the design. Additional expansion index, R-value, and soluble sulfate testing may be required during site rough grading.

During construction, sufficient and timely geotechnical observation and testing should be provided to correlate the findings of this investigation with the actual subsurface conditions exposed during construction. Items requiring observation and testing include, but are not necessarily limited to, the following:

1. Site preparation-stripping and removals.

2. Excavations, including approval of the bottom of excavation prior to filling.

3. Scarifying and recompacting prior to fill placement.

4. Subgrade preparation for pavements and slabs-on-grade.

5. Placement of engineered compacted fill and backfill, including approval of fill materials and the performance of sufficient density tests to evaluate the degree of compaction being achieved.

6. Foundation excavations.

LIMITATIONS

This report contains geotechnical conclusions and recommendations developed solely for use by Passco Pacifica, LLC, and their design consultants, for the purposes described earlier. It may not contain sufficient information for other uses or the purposes of other parties. The contents should not be extrapolated to other areas or used for other facilities without consulting LOR Geotechnical Group, Inc.

The recommendations are based on interpretations of the subsurface conditions concluded from information gained from subsurface explorations and a surficial site reconnaissance. The interpretations may differ from actual subsurface conditions, which can vary horizontally and vertically across the site. If conditions are encountered during the construction of the project which differ significantly from those presented in this report, this firm should be notified immediately in order that we may assess the impact to the recommendations provided.

Due to possible subsurface variations, all aspects of field construction addressed in this report should be observed and tested by the project geotechnical consultant.

If parties other than LOR Geotechnical Group, Inc., provide construction monitoring services, they must be notified that they will be required to assume responsibility for the geotechnical phase of the project being completed by concurring with the recommendations provided in this report or by providing alternative recommendations.

The report was prepared using generally accepted geotechnical engineering practices under the direction of a state licensed geotechnical engineer. No warranty, expressed or implied, is made as to conclusions and professional advice included in this report. Any persons using this report for bidding or construction purposes should perform such independent investigations as deemed necessary to satisfy themselves as to the surface and subsurface conditions to be encountered and the procedures to be used in the performance of work on this project.

TIME LIMITATIONS

The findings of this report are valid as of this date. Changes in the condition of a property can, however, occur with the passage of time, whether they be due to natural processes or the work of man on this or adjacent properties. In addition, changes in the Standards-of-Practice and/or Governmental Codes may occur. Due to such changes, the findings of this report may be invalidated wholly or in part by changes beyond our control. Therefore, this report should not be relied upon after a significant amount of time without a review by LOR Geotechnical Group, Inc. verifying the suitability of the conclusions and recommendations.

Passco Pacifica, LLC
November 25, 2019

Project No. 33591.1

CLOSURE

It has been a pleasure to assist you with this project. We look forward to being of further assistance to you as construction begins. Should conditions be encountered during construction that appear to be different than as indicated by this report, please contact this office immediately in order that we might evaluate these conditions.

Should you have any questions regarding this report, please do not hesitate to contact our office at your convenience.

Respectfully submitted,
LOR Geotechnical Group, Inc.

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REFERENCES

American Society of Civil Engineers, 2010, Minimum Design Load for Buildings and other Structures, ASCE 7-10.

Bray, J.D., and Sancio, R.B., 2006, Assessment of the Liquefaction Susceptibility of Fine-Grained Soils: American Society of Civil Engineers, Journal of Geotechnical and Geoenvironmental Engineering, v. 132, n. 9, p. 1165-1177.

California Building Standards Commission, 2016 California Building Code.

California Department of Water Resources, 2019, http://www.water.ca.gov/waterdatalibrary/.

County of Riverside, Transportation and Land Management Agency, 2019, Geographic Information System, http://www3.tlma.co.riverside.ca.us.

Google Earth, 2019, Imagery from various years, www.google.com/earth.

Hart, E.W. and W.A. Bryant, 1997, revised 2003, Fault-Rupture Hazard Zones in California, Alquist-Priolo Earthquake Fault Zoning Act with Index to Earthquake Fault Zones Maps: California Dept. of Conservation Division of Mines and Geology Special Publication 42, Revised Edition with Supplements 1, 2 and 3.

Historic Aerials, 2019, Imagery from various years, www.historicaerials.com.

Idriss, I.M., and Boulanger, R.W. (2004). "Semi-empirical procedures for evaluating liquefaction potential during earthquakes." Proc., 11th Int. Conference on Soil Dynamics and Earthquake Engineering, and 3rd Int. Conference on Earthquake Geotechnical Engineering, D. Doolin et al., eds., Stallion Press, Vol. 1, 32-56.

Idriss, I.M., and Boulanger, R.W. (2008). "Soil Liquefaction During Earthquake", Earthquake Engineering Research Institute, EERI Publication MNO-12.

Iwasaki, T., Tatsuoka, F., and Takagi, Y., 1978, Shear Modulus of Sands Under Cyclic Torsional Shear Loading, Soils and Foundations, (18(1), 39-50).

Larson, R., and Slosson, J., 1992, The Role of Seismic Hazard Evaluation in Engineering Reports, in Engineering Geology Practice in Southern California, AEG Special Publication Number 4, pp 191-194.

Morton, D.M., 2003, Geologic Map of the Perris 7.5' Quadrangle, California, Open-File Report 03-270.

Morton, D.M. and Matti, J.C., 2001, Geologic Map of the Sunnymead 7.5' Quadrangle, California, Open-File Report 01-450.

OSPHD, 2019 ,US Seismic Design Maps, https://seismicmaps.org.

Pradel, D. (1998), "Procedure to Evaluate Earthquake-Induced Settlement in Dry Sand Soils", Journal of Geotechnical and Geoenvironmental Engineering, Vol 124, No. 4.

Riverside County Flood Control and Water Conservation District, 2011, Design Handbook for Low Impact Development Best Management Practices, dated September 2011.

Tonkin & Taylor Ltd, 2013, Liquefaction Vulnerability Study, Report prepared for Earthquake Commission, New Zealand.

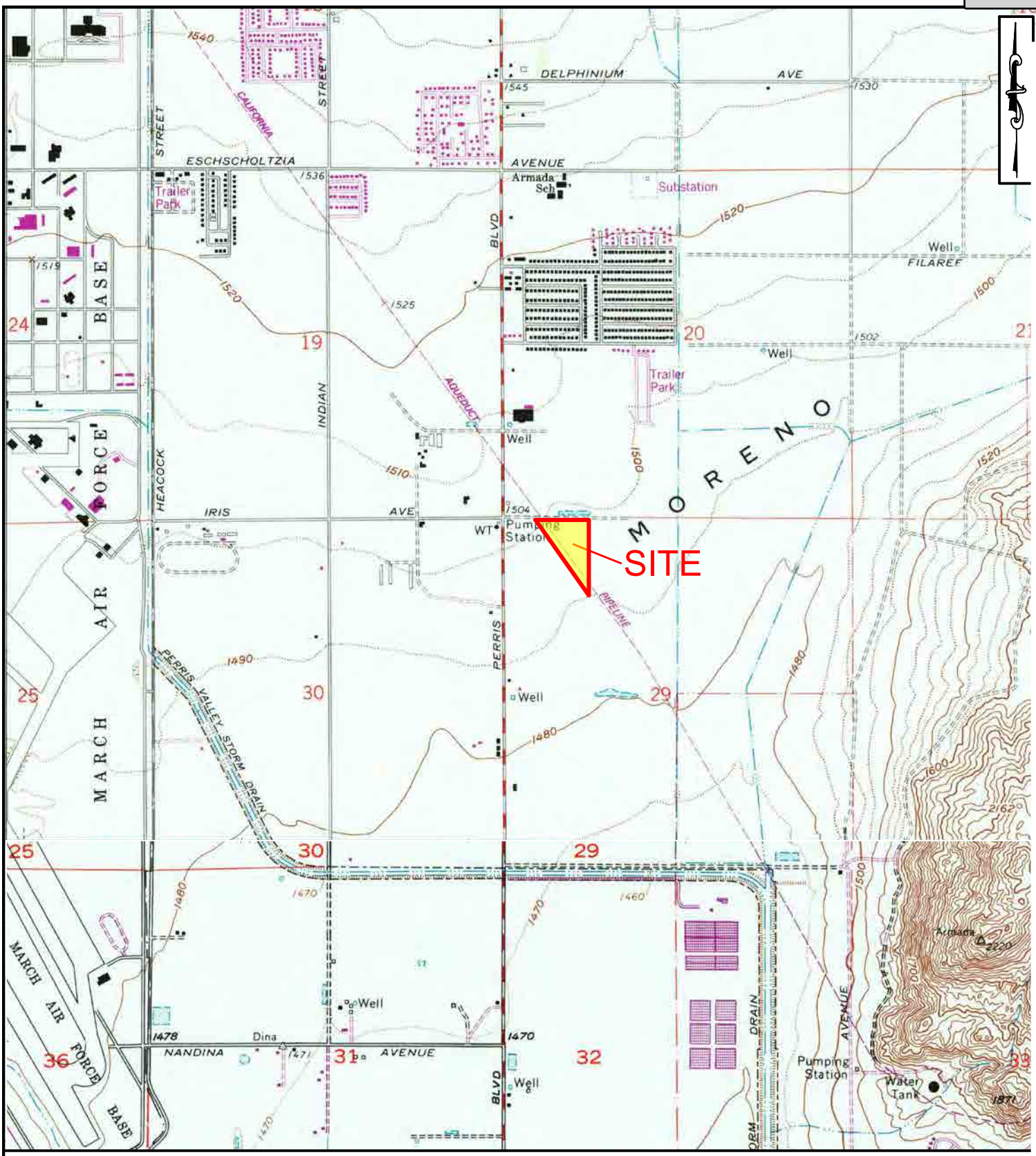
U.S.G.S., 2019, U.S. Seismic Design Maps, earthquake.usgs.gov/designmaps/us/application.php

Western Municipal Water District, 2019, Cooperative Well Measuring Program Spring 2019, Final.

Zhang, G., Robertson, P. K., and Brachman, R. W. I. (2002) "Estimating liquefaction-induced ground settlements from CPT for level ground" Canadian Geotechnical Journal, Ottawa, 39: 1168-1180.

APPENDIX A

Index Map, Site Plan, Regional Geologic Map and Historical Seismicity Maps



INDEX MAP

PROJECT:	IRIS PARK, MORENO VALLEY, CALIFORNIA	**PROJECT NO:**	33591.
CLIENT:	PASSCO PACIFICA, LLC	**ENCLOSURE:**	A-
LOR Geotechnical Group, Inc.		**DATE:**	NOVEMBER 201
		SCALE:	1" = 2,000'

IDEArc

IRIS Park
Illustrative Concept Plan

Legend

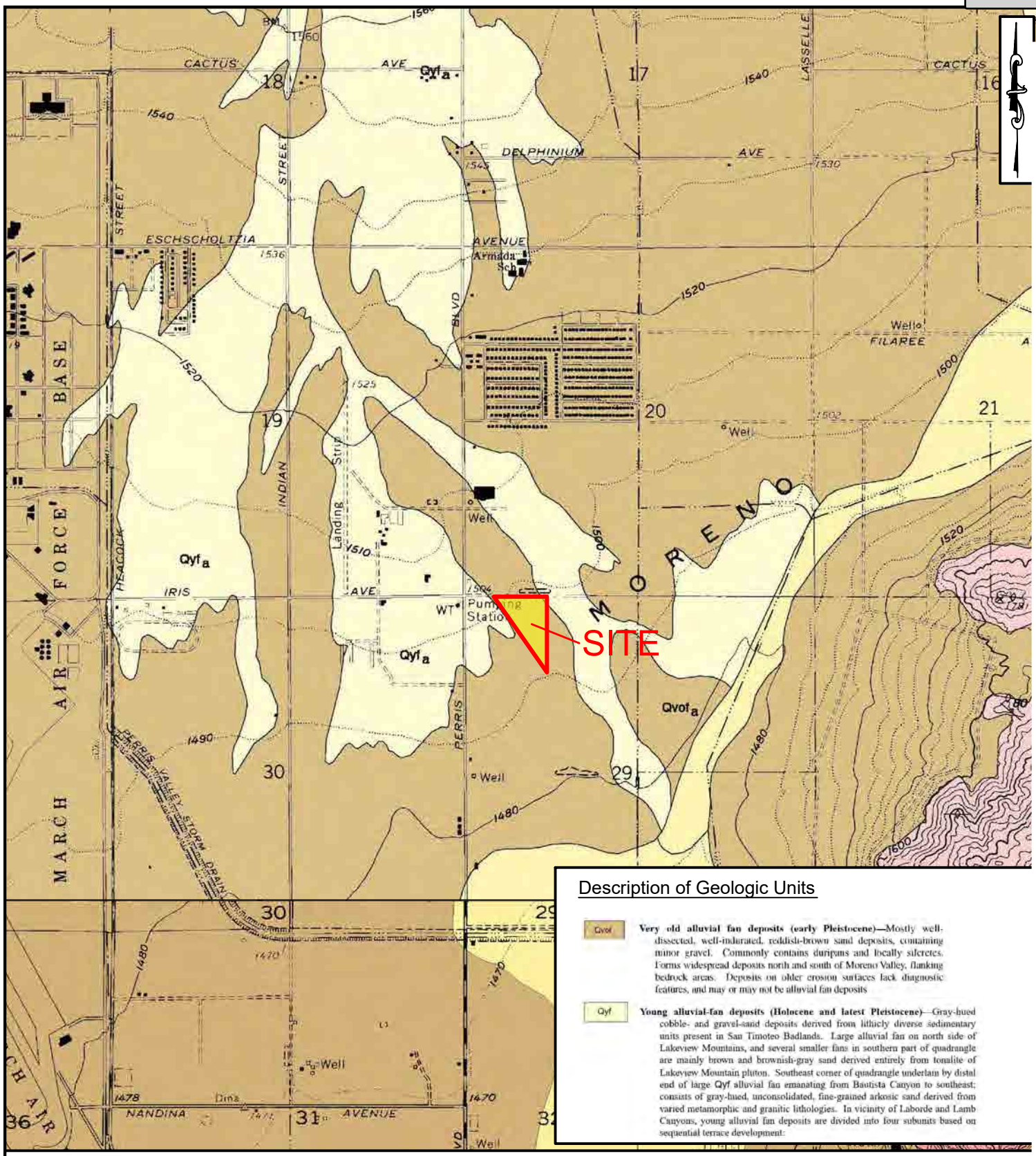
(Locations Approximate)

Map Symbols

- **B-5** - Exploratory Boring
- **I-2** - Infiltration Test

SITE PLAN

PROJECT:	IRIS PARK, MORENO VALLEY, CALIFORNIA	**PROJECT NO:**	33591.
CLIENT:	PASSCO PACIFICA, LLC	**ENCLOSURE:**	A-1
LOR Geotechnical Group, Inc.		**DATE:**	NOVEMBER 201
		SCALE:	1" ≈ 200'



Description of Geologic Units

Qvof — **Very old alluvial fan deposits (early Pleistocene)**—Mostly well-dissected, well-indurated, reddish-brown sand deposits, containing minor gravel. Commonly contains duripans and locally silcretes. Forms widespread deposits north and south of Moreno Valley, flanking bedrock areas. Deposits on older erosion surfaces lack diagnostic features, and may or may not be alluvial fan deposits

Qyf — **Young alluvial-fan deposits (Holocene and latest Pleistocene)**—Gray-hued cobble- and gravel-sand deposits derived from lithicly diverse sedimentary units present in San Timoteo Badlands. Large alluvial fan on north side of Lakeview Mountains, and several smaller fans in southern part of quadrangle are mainly brown and brownish-gray sand derived entirely from tonalite of Lakeview Mountain pluton. Southeast corner of quadrangle underlain by distal end of large Qyf alluvial fan emanating from Bautista Canyon to southeast; consists of gray-hued, unconsolidated, fine-grained arkosic sand derived from varied metamorphic and granitic lithologies. In vicinity of Laborde and Lamb Canyons, young alluvial fan deposits are divided into four subunits based on sequential terrace development:

REGIONAL GEOLOGIC MAP (Morton, 2003 & Morton & Matti, 200

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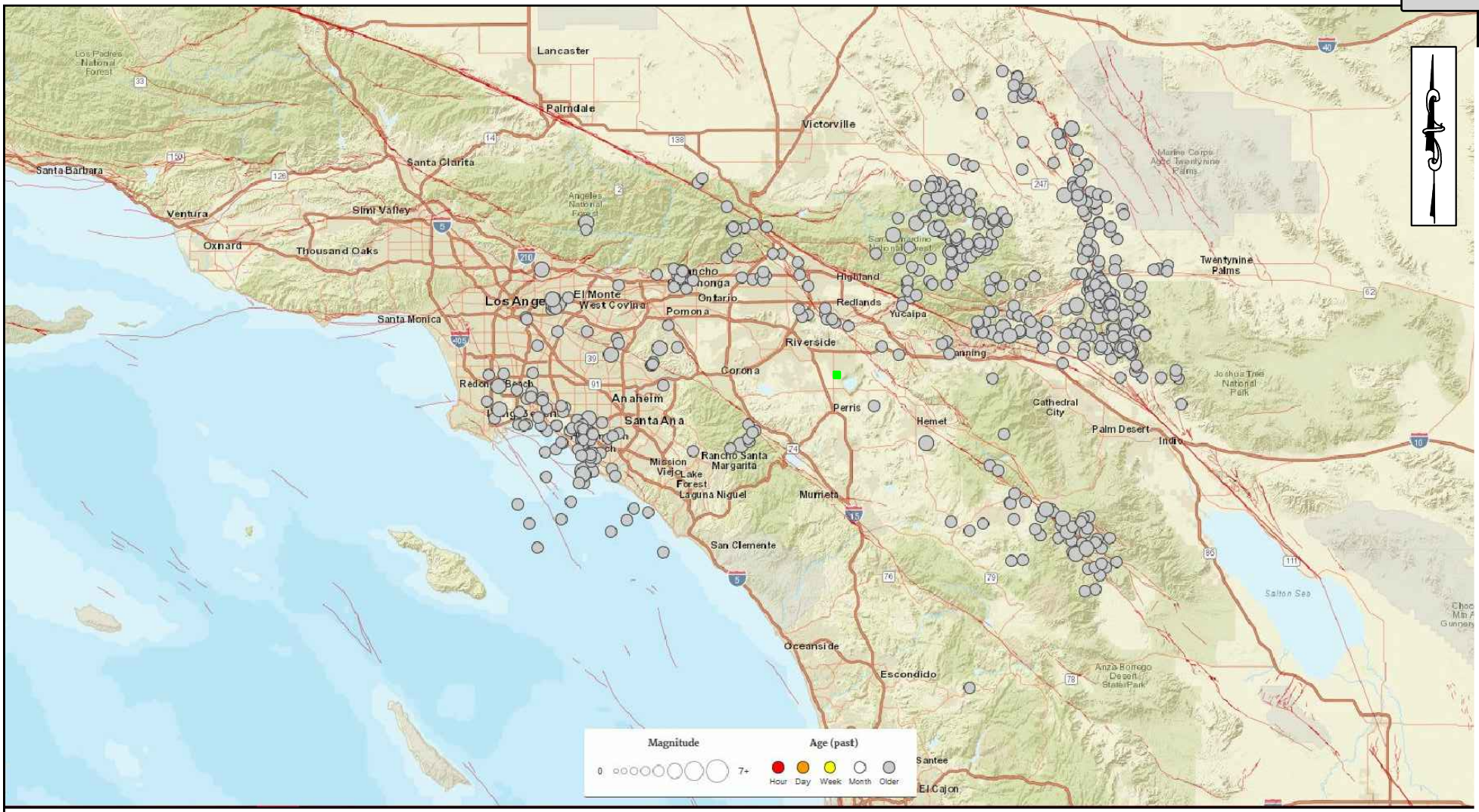
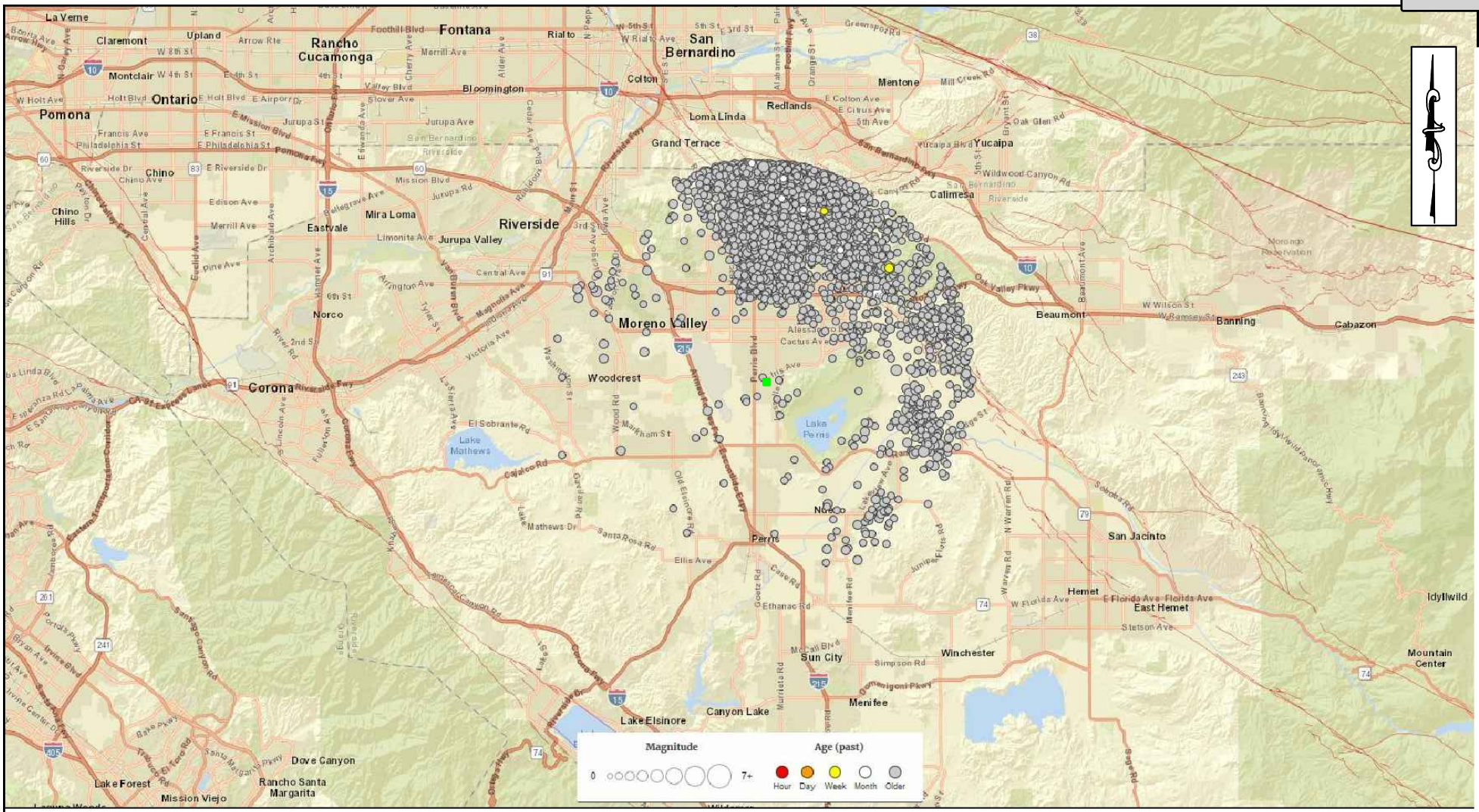
CLIENT:	PASSCO PACIFICA, LLC	**ENCLOSURE:**	A-
LOR Geotechnical Group, Inc.		**DATE:**	NOVEMBER 201
		SCALE:	1" = 2,000'



U.S. Geologic Survey (2017a) real-time earthquake epicenter map. Plotted are 544 epicenters of instrument-recorded events from 1978 to present (11/20/19) of local magnitude M4.0 or greater within a radius of ~62 miles (100 kilometers) of the site. Location accuracy varies. The site is indicated by the green square. The selected magnitude corresponds to a threshold intensity value where very light damage potential begins. These evens are also generally widely felt by persons. Red lines mark the surface traces of known Quaternary-age faults.

HISTORICAL SEISMICITY MAP - 100km Radius

PROJECT:	IRIS PARK, MORENO VALLEY, CALIFORNIA	**PROJECT NO:**	33591.1
CLIENT:	PASSCO PACIFICA, LLC	**FIGURE:**	A-4
LOR Geotechnical Group, Inc.		**DATE:**	NOVEMBER 2019
		SCALE:	1" ≈ 40km



U.S. Geologic Survey (2017a) real-time earthquake epicenter map. Plotted are 4,945 epicenters of instrument-recorded events from 1932 to present (11/20/19) of local magnitude M1.0 or greater within a radius of ~9.3 miles (15 kilometers) of the site. Location accuracy varies. The site is indicated by the green square. Red lines mark the surface traces of known Quaternary-age faults.

HISTORICAL SEISMICITY MAP - 15km Radius

PROJECT:	IRIS PARK, MORENO VALLEY, CALIFORNIA	**PROJECT NO:**	33591.1
CLIENT:	PASSCO PACIFICA, LLC	**FIGURE:**	A-5
LOR Geotechnical Group, Inc.		**DATE:**	NOVEMBER 2019
		SCALE:	1" ≈ 10km

APPENDIX B

Field Investigation Program and Boring Logs

APPENDIX B
FIELD INVESTIGATION

Subsurface Exploration

The site was investigated on November 7, 2019 and consisted of advancing 5 exploratory borings to depths between 21.5 feet and 51.5 feet below the existing ground surface. The approximate locations of the borings are shown on Enclosure A-2, within Appendix A.

The drilling exploration was conducted using a truck-mounted Mobile B-61 drill rig equipped with 8-inch diameter hollow stem augers. The soils were continuously logged by our geologist who inspected the site, created detailed logs of the borings, obtained undisturbed, as well as disturbed, soil samples for evaluation and testing, and classified the soils by visual examination in accordance with the Unified Soil Classification System.

Relatively undisturbed samples of the subsoils were obtained at a maximum interval of 5 feet. The samples were recovered by using a California split barrel sampler of 2.50 inch inside diameter and 3.25 inch outside diameter or a Standard Penetration Sampler (SPT) from the ground surface to the total depth explored. The samplers were driven by a 140 pound automatic trip hammer dropped from a height of 30 inches. The number of hammer blows required to drive the sampler into the ground the final 12 inches were recorded and further converted to an equivalent SPT N-value. Factors such as efficiency of the automatic trip hammer used during this investigation (80%), borehole diameter (8"), and rod length at the test depth were considered for further computing of equivalent SPT N-values corrected for field procedures (N60) which are included in the boring logs, Enclosures B-1 through B-5.

The undisturbed soil samples were retained in brass sample rings of 2.42 inches in diameter and 1.00 inch in height, and placed in sealed containers. Disturbed soil samples were obtained at selected levels within the borings and placed in sealed containers for transport to the laboratory.

All samples obtained were taken to our geotechnical laboratory for storage and testing. Detailed logs of the borings are presented on the enclosed Boring Logs, Enclosures B-1 through B-5. A Boring Log Legend and Soil Classification Chart are presented on Enclosures B-i and B-ii, respectively.

CONSISTENCY OF SOIL

SANDS

SPT BLOWS	CONSISTENCY
0-4	Very Loose
4-10	Loose
10-30	Medium Dense
30-50	Dense
Over 50	Very Dense

COHESIVE SOILS

SPT BLOWS	CONSISTENCY
0-2	Very Soft
2-4	Soft
4-8	Medium
8-15	Stiff
15-30	Very Stiff
30-60	Hard
Over 60	Very Hard

SAMPLE KEY

Symbol	Description
	INDICATES CALIFORNIA SPLIT SPOON SOIL SAMPLE
	INDICATES BULK SAMPLE
	INDICATES SAND CONE OR NUCLEAR DENSITY TEST
	INDICATES STANDARD PENETRATION TEST (SPT) SOIL SAMPLE

TYPES OF LABORATORY TESTS

1	Atterberg Limits
2	Consolidation
3	Direct Shear (undisturbed or remolded)
4	Expansion Index
5	Hydrometer
6	Organic Content
7	Proctor (4", 6", or Cal216)
8	R-value
9	Sand Equivalent
10	Sieve Analysis
11	Soluble Sulfate Content
12	Swell
13	Wash 200 Sieve

BORING LOG LEGEND

PROJECT: PROPOSED IRIS PARK RESIDENTIAL DEVELOPMENT, MORENO VALLEY, CALIFORNIA	PROJECT NO.: 33591.1
CLIENT: PASSCO PACIFICA, LLC	ENCLOSURE: B-
LOR Geotechnical Group, Inc.	DATE: NOVEMBER 2019

SOIL CLASSIFICATION CHART

MAJOR DIVISIONS			SYMBOLS GRAPH	SYMBOLS LETTER	TYPICAL DESCRIPTIONS
COARSE GRAINED SOILS	GRAVEL AND GRAVELLY SOILS	CLEAN GRAVELS (LITTLE OR NO FINES)		GW	WELL-GRADED GRAVELS, GRAVEL - SAND MIXTURES, LITTLE OR NO FINES
	MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE			GP	POORLY-GRADED GRAVELS, GRAVEL - SAND MIXTURES, LITTLE OR NO FINES
		GRAVELS WITH FINES (APPRECIABLE AMOUNT OF FINES)		GM	SILTY GRAVELS, GRAVEL - SAND - SILT MIXTURES
				GC	CLAYEY GRAVELS, GRAVEL - SAND - CLAY MIXTURES
MORE THAN 50% OF MATERIAL IS LARGER THAN NO. 200 SIEVE SIZE	SAND AND SANDY SOILS	CLEAN SANDS (LITTLE OR NO FINES)		SW	WELL-GRADED SANDS, GRAVELLY SANDS, LITTLE OR NO FINES
				SP	POORLY-GRADED SANDS, GRAVELLY SAND, LITTLE OR NO FINES
	MORE THAN 50% OF COARSE FRACTION PASSING ON NO. 4 SIEVE	SANDS WITH FINES (APPRECIABLE AMOUNT OF FINES)		SM	SILTY SANDS, SAND - SILT MIXTURES
				SC	CLAYEY SANDS, SAND - CLAY MIXTURES
FINE GRAINED SOILS	SILTS AND CLAYS	LIQUID LIMIT LESS THAN 50		ML	INORGANIC SILTS AND VERY FINE SANDS, ROCK FLOUR, SILTY OR CLAYEY FINE SANDS OR CLAYEY SILTS WITH SLIGHT PLASTICITY
				CL	INORGANIC CLAYS OF LOW TO MEDIUM PLASTICITY, GRAVELLY CLAYS, SANDY CLAYS, SILTY CLAYS, LEAN CLAYS
				OL	ORGANIC SILTS AND ORGANIC SILTY CLAYS OF LOW PLASTICITY
MORE THAN 50% OF MATERIAL IS SMALLER THAN NO. 200 SIEVE SIZE	SILTS AND CLAYS	LIQUID LIMIT GREATER THAN 50		MH	INORGANIC SILTS, MICACEOUS OR DIATOMACEOUS FINE SAND OR SILTY SOILS
				CH	INORGANIC CLAYS OF HIGH PLASTICITY
				OH	ORGANIC CLAYS OF MEDIUM TO HIGH PLASTICITY, ORGANIC SILTS
HIGHLY ORGANIC SOILS				PT	PEAT, HUMUS, SWAMP SOILS WITH HIGH ORGANIC CONTENTS

NOTE: DUAL SYMBOLS ARE USED TO INDICATE BORDERLINE SOIL CLASSIFICATIONS

PARTICLE SIZE LIMITS

BOULDERS	COBBLES	GRAVEL		SAND			SILT OR CLAY
		COARSE	FINE	COARSE	MEDIUM	FINE	
12"	3"	3/4"	No. 4	No. 10	No. 40	200	

(U.S. STANDARD SIEVE SIZE)

SOIL CLASSIFICATION CHART

PROJECT PROPOSED IRIS PARK RESIDENTIAL DEVELOPMENT, MORENO VALLEY, CALIFORNIA	PROJECT NO. 33591.1
CLIENT: PASSCO PACIFICA, LLC	ENCLOSURE: B-ii
LOR Geotechnical Group, Inc.	DATE: NOVEMBER 2019

LOG OF BORING B-1

DEPTH IN FEET	SPT BLOW COUNTS	LABORATORY TESTS	MOISTURE CONTENT (%)		DRY DENSITY (PCF)	SAMPLE TYPE	LITHOLOGY	U.S.C.S.	DESCRIPTION
	TEST DATA								
0		3, 4, 7, 9, 10, 11						SM	@ 0 feet, FILL/TOPSOIL: SILTY SAND, approximately 10% coarse grained sand, 20% medium grained sand, 30% fine grained sand, 40% silty fines, light brown, dry, loose.
	14		6.0		120.0			ML	@ 2 feet, ALLUVIUM: SANDY SILT, approximately 5% coarse grained sand, 15% medium grained sand, 20% fine grained sand, 60% silty fines, brown, damp, trace pinhole porosity.
5	7		1.8		105.5			SW SM	@ 5 feet, WELL GRADED SAND with SILT, approximately 25% coarse grained sand, 35% medium grained sand, 30% fine grained sand, 10% silty fines, light brown, dry.
	21		9.5		101.2				@ 7 feet, some sandy silt layers approximately 1 to 2" thick, damp.
10	26		9.1		113.8			ML	@ 10 feet, SANDY SILT, approximately 5% coarse grained sand, 10% medium grained sand, 10% fine grained sand, 75% silty fines with trace clay, brown, damp, trace pinhole porosity.
15	32		10.6		117.5				@ 15 feet, increase in clay, strong brown.
20	40		10.9		112.3				@ 20 feet, contains some secondary calcite.
25	37		17.9		109.5			SM	@ 25 feet, SILTY SAND, trace medium grained sand, approximately 80% fine grained sand, 20% silty fines, light brown, damp.
									END OF BORING @ 26.5'
30									Fill/topsoil to 2' No groundwater No bedrock
35									

PROJECT: **Proposed Iris Park Residential Development**	PROJECT NUMBER: **33591.1**
CLIENT: **Passco Pacifica, LLC**	ELEVATION:
LOR GEOTECHNICAL GROUP INC.	DATE DRILLED: **November 7, 2019**
	EQUIPMENT: **Mobile B-61**
	HOLE DIA.: **8"** ENCLOSURE: **B-1**

LOG OF BORING B-2

DEPTH IN FEET	SPT BLOW COUNTS	LABORATORY TESTS	MOISTURE CONTENT (%)		DRY DENSITY (PCF)	SAMPLE TYPE	LITHOLOGY	U.S.C.S.	DESCRIPTION
0								SM	@ 0 feet, FILL/TOPSOIL: SILTY SAND, approximately 15% coarse grained sand, 20% medium grained sand, 20% fine grained sand, 45% silty fines, light brown, dry, loose.
	9	2	3.7		112.4				@ 2 feet, ALLUVIUM: SILTY SAND, approximately 15% coarse grained sand, 25% medium grained sand, 25% fine grained sand, 35% silty fines, brown, damp.
5	8		3.5		100.8				
	21		4.2		113.5				@ 5 feet, SILTY SAND, approximately 10% coarse grained sand, 20% medium grained sand, 50% fine grained sand, 20% silty fines, light brown, dry, trace thin calcite stringers.
10	36		4.0		112.4			SP SM	@ 7 feet, becomes coarser grained, approximately 25% coarse grained sand, 30% medium grained sand, 35% fine grained sand, 15% silty fines, brown, dry.
15	66		13.0		120.6			CL	@ 10 feet, POORLY GRADED SAND with SILT, approximately 5% coarse grained sand, 25% medium grained sand, 60% fine grained sand, 10% silty fines, light brown, dry, micaceous.
									@ 15 feet, LEAN CLAY with SAND, approximately 20% fine grained sand, 80% clayey fines of low plasticity, strong brown, damp.
20	27		7.7		113.5			SM	@ 20 feet, SILTY SAND, approximately 20% coarse grained sand, 20% medium grained sand, 30% fine grained sand, 30% silty fines, brown, damp, some secondary calcite.
25	48		7.6		115.2				
30	31		12.2						
						▽			@ 33.5 feet, groundwater.
35	48		12.8					SW	@ 35 feet, WELL GRADED SAND, approximately 35% coarse grained sand, 35% medium grained sand, 35% fine grained sand, 5% silty fines, speckled red-brown, wet.
40	29		17.7					CL	@ 40 feet, LEAN CLAY with SAND, approximately 10% medium grained sand, 20% fine grained sand, 70% clayey fines of low plasticity, brown, moist.
45	17	1	14.9						
50	32		17.3						
55									END OF BORING @ 51.5'
									Fill/topsoil to 2'
									Groundwater @ 33.5'
									No bedrock

PROJECT: **Proposed Iris Park Residential Development**		PROJECT NUMBER:	**33591.1**
CLIENT:	**Passco Pacifica, LLC**	ELEVATION:	
LOR GEOTECHNICAL GROUP INC.		DATE DRILLED:	**November 7, 2019**
		EQUIPMENT:	**Mobile B-61**
		HOLE DIA.: **8"**	ENCLOSURE: **B-2**

LOG OF BORING B-3

DEPTH IN FEET	SPT BLOW COUNTS	LABORATORY TESTS	MOISTURE CONTENT (%)		DRY DENSITY (PCF)	SAMPLE TYPE	LITHOLOGY	U.S.C.S.	DESCRIPTION
	TEST DATA								
0								SM	@ 0 feet, FILL/TOPSOIL: SILTY SAND, approximately 10% coarse grained sand, 25% medium grained sand, 25% fine grained sand, 40% silty fines, light brown, dry, loose.
	9		6.7		106.3			ML	@ 2 feet, ALLUVIUM: SANDY SILT, approximately 5% coarse grained sand, 15% medium grained sand, 20% fine grained sand, 60% silty fines, brown, damp, trace pinhole porosity.
5	6		3.5		106.1			SM	@ 5 feet, SILTY SAND, approximately 15% coarse grained sand, 25% medium grained sand, 35% fine grained sand, 20% silty fines, light brown, dry.
	15		0.6		109.5			SP	@ 7 feet, POORLY GRADED SAND, approximately 5% coarse grained sand, 35% medium grained sand, 45% fine grained sand, 5% silty fines, red-brown, dry.
10	25		11.8		116.9			CL	@ 10 feet, LEAN CLAY with SAND, approximately 5% coarse grained sand, 10% medium grained sand, 20% fine grained sand, 65% clayey fines of low plasticity, strong brown, damp, trace thin calcite stringers, trace pinhole porosity, some roothairs.
15	22		10.6		117.0			SC	@ 15 feet, CLAYEY SAND, approximately 15% coarse grained sand, 25% medium grained sand, 30% fine grained sand, 30% clayey fines of low plasticity, brown, damp.
20	60		8.4		124.8				END OF BORING @ 21.5' Fill/topsoil to 2' No groundwater No bedrock
25									

PROJECT: **Proposed Iris Park Residential Development**		PROJECT NUMBER:	**33591.1**
CLIENT:	**Passco Pacifica, LLC**	ELEVATION:	
LOR GEOTECHNICAL GROUP INC.		DATE DRILLED:	**November 7, 2019**
		EQUIPMENT:	**Mobile B-61**
		HOLE DIA.: **8"**	ENCLOSURE: **B-3**

LOG OF BORING B-4

DEPTH IN FEET	SPT BLOW COUNTS	LABORATORY TESTS	MOISTURE CONTENT (%)		DRY DENSITY (PCF)	SAMPLE TYPE	LITHOLOGY	U.S.C.S.	DESCRIPTION
	TEST DATA								
0	19	8, 9, 10, 11	5.8		106.8			SM	@ 0 feet, FILL/TOPSOIL: SILTY SAND, approximately 10% coarse grained sand, 15% medium grained sand, 30% fine grained sand, 45% silty fines, brown, dry, loose. @ 2 feet, ALLUVIUM: SILTY SAND, approximately 15% coarse grained sand, 25% medium grained sand, 25% fine grained sand, 35% silty fines, brown, dry, trace pinhole porosity.
5	19		4.9		101.1			ML	@ 5 feet, SANDY SILT, approximately 15% medium grained sand, 25% fine grained sand, 60% silty fines, light brown, dry, some roothairs, trace pinhole porosity.
	21	2	2.6		109.8			SM	@ 7 feet, SILTY SAND, approximately 10% coarse grained sand, 35% medium grained sand, 35% fine grained sand, 20% silty fines, light brown, dry.
10	21		3.5		107.9				
15	38		8.1		128.2			SC	@ 15 feet, CLAYEY SAND, approximately 20% coarse grained sand, 25% medium grained sand, 25% fine grained sand, 30% clayey fines of low plasticity, brown, damp.
20	55		8.8		121.3			ML	@ 20 feet, SANDY SILT, approximately 5% coarse grained sand, 15% medium grained sand, 15% fine grained sand, 65% silty fines with trace clay, brown, damp.
									END OF BORING @ 21.5' Fill/topsoil to 2' No groundwater No bedrock
25									

PROJECT:	Proposed Iris Park Residential Development	PROJECT NUMBER:	33591.1
CLIENT:	Passco Pacifica, LLC	ELEVATION:	
LOR GEOTECHNICAL GROUP INC.		DATE DRILLED:	November 7, 2019
		EQUIPMENT:	Mobile B-61
		HOLE DIA.: 8"	ENCLOSURE: B-4

LOG OF BORING B-5

DEPTH IN FEET	SPT BLOW COUNTS	LABORATORY TESTS	MOISTURE CONTENT (%)		DRY DENSITY (PCF)	SAMPLE TYPE	LITHOLOGY	U.S.C.S.	DESCRIPTION
	TEST DATA								
0	43	9, 10, 11	7.7		104.4			SM	@ 0 feet, FILL: SILTY SAND, approximately 10% coarse grained sand, 25% medium grained sand, 25% fine grained sand, 40% silty fines, dry, loose. @ 2 feet, some rope debris.
5	19		5.5		103.1			ML	@ 5 feet, ALLUVIUM: SANDY SILT, approximately 10% medium grained sand, 30% fine grained sand, 60% silty fines, light brown, dry, some pinhole porosity.
	16	2	7.4		105.4				
10	18	2	8.9		107.0				
15	25		11.6					SC	@ 15 feet, CLAYEY SAND, approximately 20% coarse grained sand, 25% medium grained sand, 30% fine grained sand, 25% clayey fines of low plasticity, brown, damp.
20	28		13.9						END OF BORING @ 21.5' Fill to 5' No groundwater No bedrock
25									

PROJECT: **Proposed Iris Park Residential Development**		PROJECT NUMBER:	**33591.1**
CLIENT:	**Passco Pacifica, LLC**	ELEVATION:	
LOR GEOTECHNICAL GROUP INC.		DATE DRILLED:	**November 7, 2019**
		EQUIPMENT:	**Mobile B-61**
		HOLE DIA.: **8"**	ENCLOSURE: **B-5**

APPENDIX C

Laboratory Testing Program and Test Results

APPENDIX C
LABORATORY TESTING

General

Selected soil samples obtained from our borings were tested in our geotechnical laboratory to evaluate the physical properties of the soils affecting foundation design and construction procedures. The laboratory testing program performed in conjunction with our investigation included in-place moisture content and dry density, laboratory compaction characteristics, direct shear, sieve analysis, sand equivalent, R-value, consolidation, expansion index, Atterberg limits, and soluble sulfate content. Descriptions of the laboratory tests are presented in the following paragraphs:

Moisture Density Tests

The moisture content and dry density information provides an indirect measure of soil consistency for each stratum, and can also provide a correlation between soils on this site. The dry unit weight and field moisture content were determined for selected undisturbed samples, in accordance with ASTM D 2922 and ASTM D 2216, respectively, and the results are shown on the Boring Logs, Enclosures B-1 through B-5 for convenient correlation with the soil profile.

Laboratory Compaction

Selected soil samples were tested in the laboratory to determine compaction characteristics using the ASTM D 1557 compaction test method. The results are presented in the following table:

LABORATORY COMPACTION				
Boring Number	**Sample Depth (feet)**	**Soil Description (U.S.G.S.)**	**Maximum Dry Density (pcf)**	**Optimum Moisture Content (percent)**
B-1	0-3	(SM) Silty Sand	134.0	8.5

Direct Shear Tests

Shear tests are performed with a direct shear machine in general accordance with ASTM D 3080 at a constant rate-of-strain (usually 0.04 inches/minute). The machine is designed to test a sample partially extruded from a sample ring in single shear. Samples are tested at varying normal loads in order to evaluate the shear strength parameters, angle of internal friction and cohesion. Samples are tested in a remolded condition (90 percent relative compaction per ASTM D 1557) and soaked, to represent the worst case conditions expected in the field.

The results of the shear tests are presented in the following table:

DIRECT SHEAR TESTS				
Boring Number	**Sample Depth (feet)**	**Soil Description (U.S.G.S.)**	**Angle of Internal Friction (degrees)**	**Apparent Cohesion (psf)**
B-1	0-3	(SM) Silty Sand	28	200

Sieve Analysis

A quantitative determination of the grain size distribution was performed for selected samples in accordance with the ASTM D 422 laboratory test procedure. The determination is performed by passing the soil through a series of sieves, and recording the weights of retained particles on each screen. The results of the sieve analyses are presented graphically on Enclosure C-1.

Sand Equivalent

The sand equivalent of selected soils were evaluated using the California Sand Equivalent Test Method, Caltrans Number 217. The results of the sand equivalent tests are presented with the grain size distribution analyses on Enclosure C-1.

R-Value Test

Soil samples were obtained at probable pavement subgrade level and was tested to determine its R-value using the California R-Value Test Method, Caltrans Number 301. The results of the R-value test is presented on Enclosure C-1.

Consolidation Tests

The apparatus used for the consolidation tests (odometer) is designed to test a one-inch high portion of the undisturbed soil sample as contained in a sample ring. Porous stones and filler paper are placed in contact with the top and bottom of the specimen to permit the addition or release of water. Loads are applied to the test specimen in specified increments, and the resulting axial deformations are recorded. The results are plotted as log of axial pressure versus consolidation or compression, expressed as strain or sample height.

Samples are tested at field and greater-than field moisture contents. The results are shown on Enclosures C-2 through C-5.

Expansion Index Tests

Remolded samples are tested to determine their expansion potential in accordance with the Expansion Index (EI) test. The test is performed in accordance with the Uniform Building Code Standard 18-2. The test results are presented in the following table:

EXPANSION INDEX TESTS

Boring Number	Sample Depth (feet)	Soil Description (U.S.C.S.)	Expansion Index (EI)	Expansion Potential
B-1	0-3	(SM) Silty Sand	11	Very Low

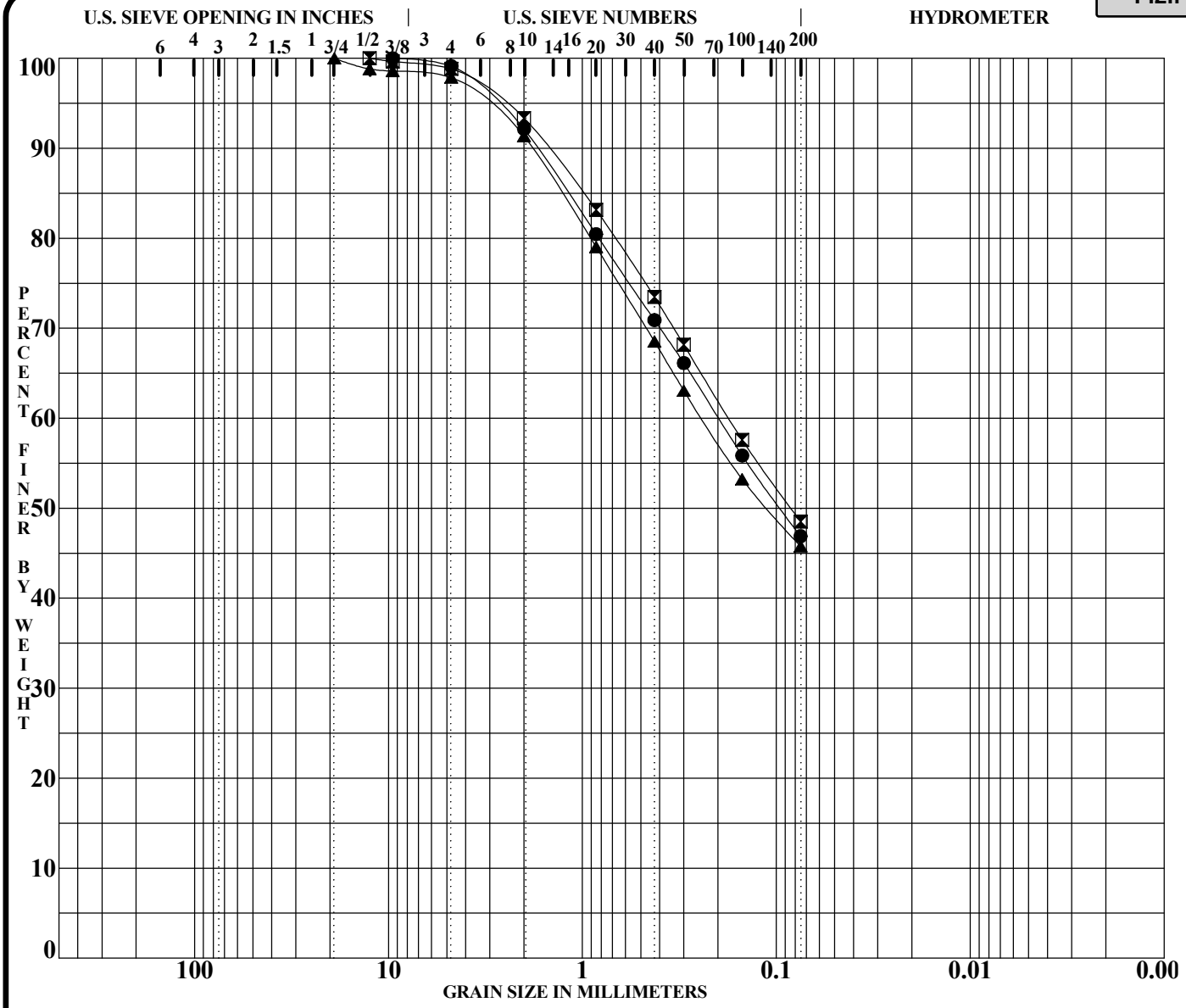
Atterberg Limits

Selected samples of the fine-grained soil units encountered at the site are tested for their Atterberg limits in accordance with ASTM D 4318. The results of these tests are presented on Enclosure C-6.

Soluble Sulfate Content Tests

The soluble sulfate content of selected subgrade soils was evaluated and the concentration of soluble sulfates in the soils was determined by measuring the optical density of a barium sulfate precipitate. The precipitate results from a reaction of barium chloride with water extractions from the soil samples. The measured optical density is correlated with readings on precipitates of known sulfate concentrations. The test results are presented on the following table:

SOLUBLE SULFATE CONTENT TESTS			
Boring Number	**Sample Depth (feet)**	**Soil Description (U.S.G.S.)**	**Sulfate Content (percent by weight)**
B-1	0-3	(SM) Silty Sand	< 0.0085
B-4	0-3	(SM) Silty Sand	< 0.0075
B-5	0-3	(SM) Silty Sand	< 0.0055



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	Specimen Identification		Soil Classification	SE	RV	PL	PI	Cc	Cu
●	B-1	@ 0-3 ft	(SM) Silty Sand	13	--				
⊠	B-4	@ 0-3 ft	(SM) Silty Sand	13	28				
▲	B-5	@ 0-3 ft	(SM) Silty Sand	16	--				

	Specimen Identification		D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	B-1	@ 0-3 ft	9.50	0.20			0.9	52.2	46.9	
⊠	B-4	@ 0-3 ft	12.50	0.18			1.2	50.3	48.5	
▲	B-5	@ 0-3 ft	19.00	0.24			2.1	52.1	45.8	

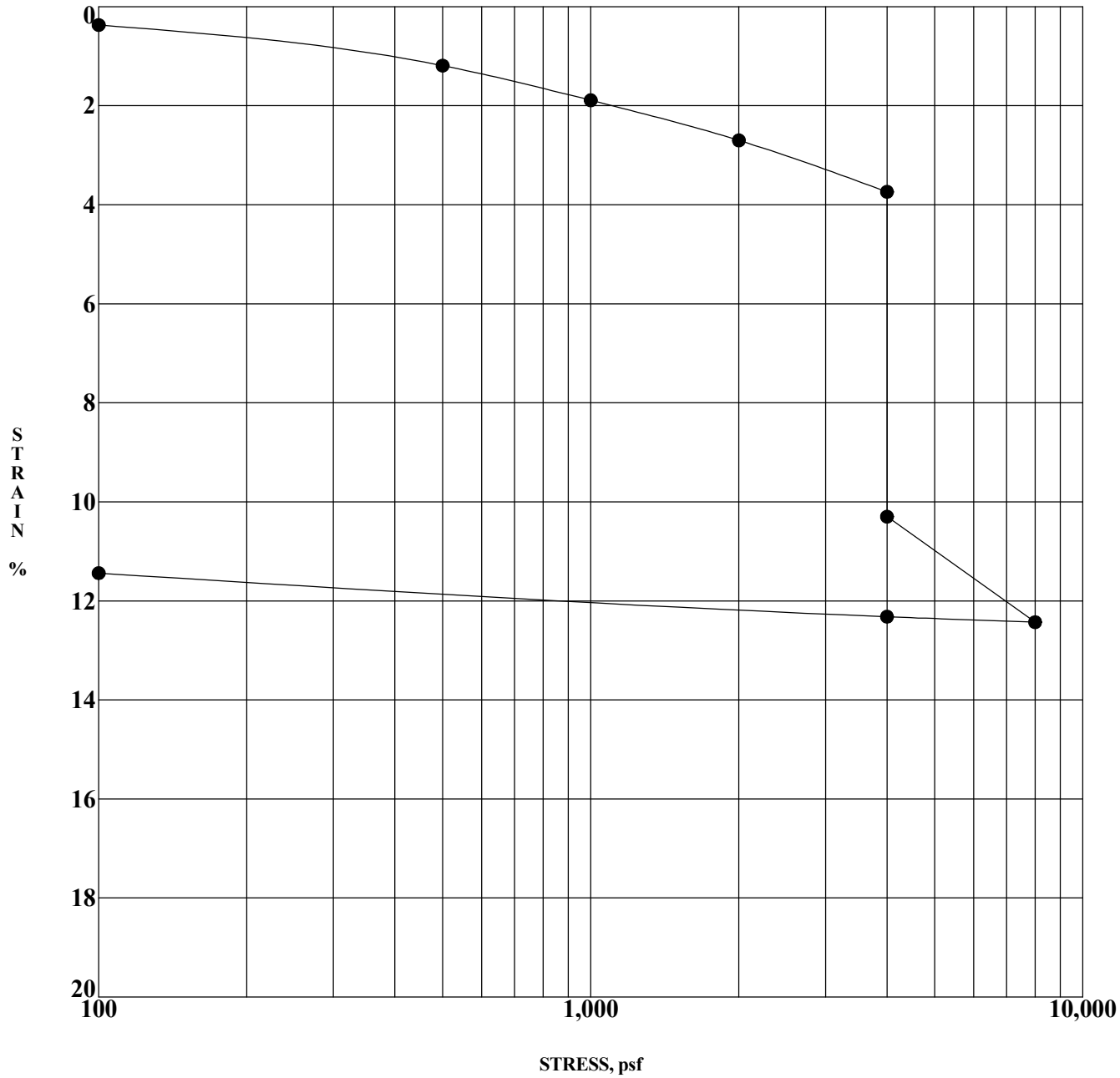
PROJECT *Proposed Iris Park Residential Development*

PROJECT NO. *33591.1*

DATE *11/19/19*

GRADATION CURVES
LOR Geotechnical Group, Inc.

ENCLOSURE C-1



Specimen I.D.		Classification	DD	MC%
● B-2	@ 2 ft	**(SM) Silty Sand**	*107*	*4*

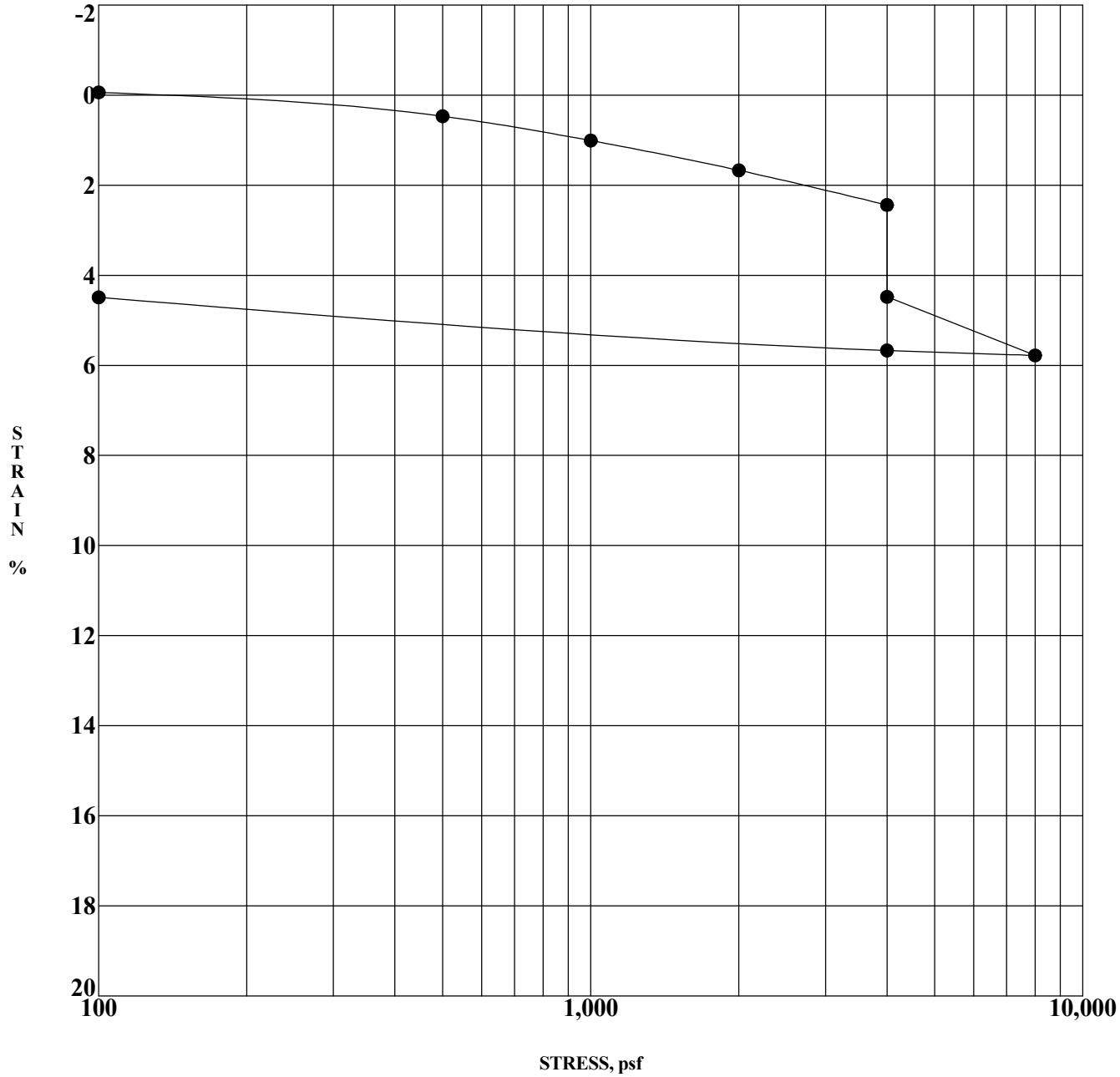
PROJECT *Proposed Iris Park Residential Development*

PROJECT NO. *33591.1*

DATE *11/19/19*

CONSOLIDATION TEST
LOR Geotechnical Group, Inc.

ENCLOSURE C-2



	Specimen I.D.		Classification	DD	MC%
●	B-4	@ 7 ft	**(SM) Silty Sand**	*103*	*3*

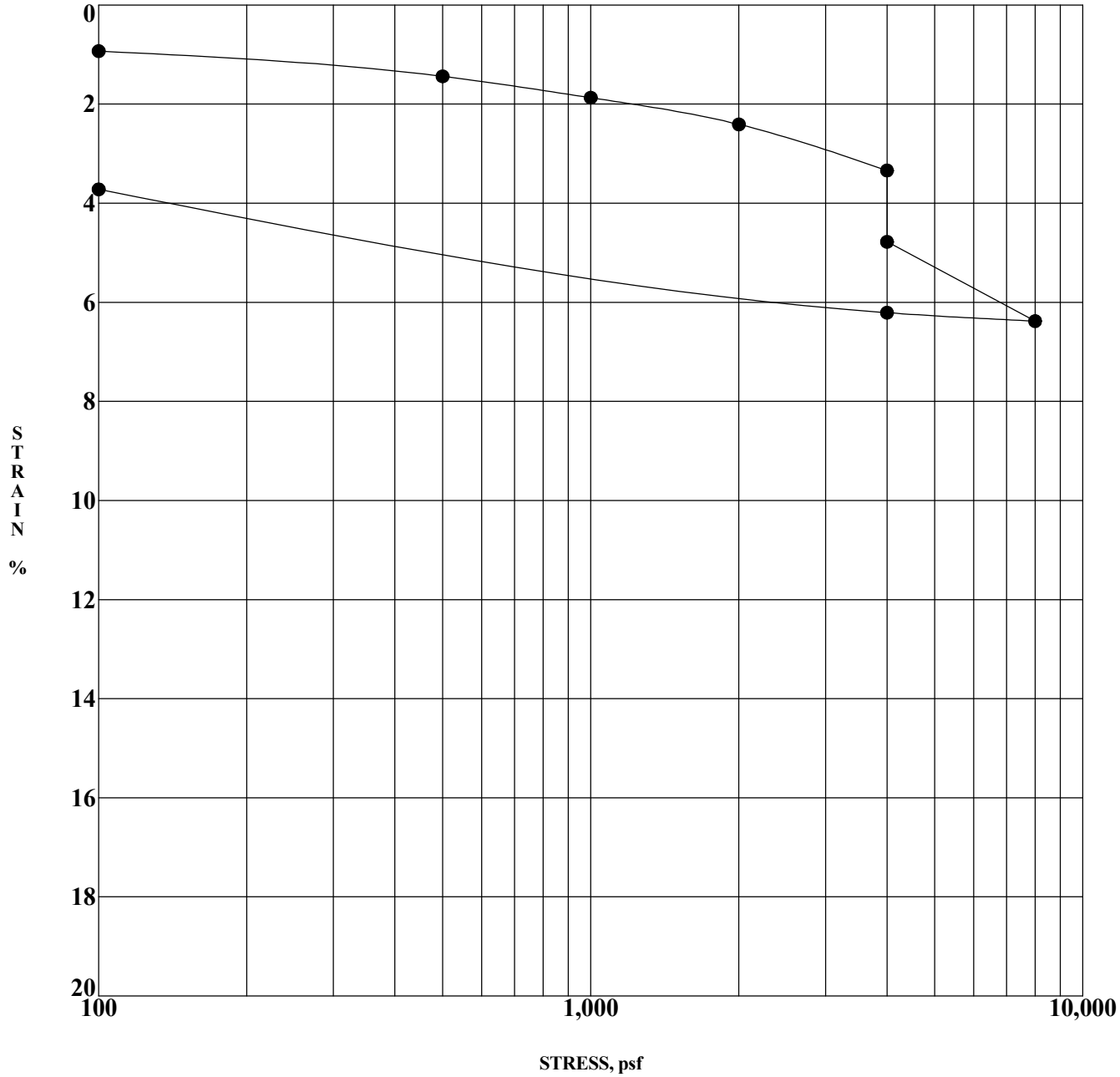
PROJECT *Proposed Iris Park Residential Development*

PROJECT NO. *33591.1*

DATE *11/19/19*

CONSOLIDATION TEST
LOR Geotechnical Group, Inc.

ENCLOSURE C-3



	Specimen I.D.		Classification	DD	MC%
●	B-5	@ 7 ft	**(ML) Sandy Silt**	*103*	*7*

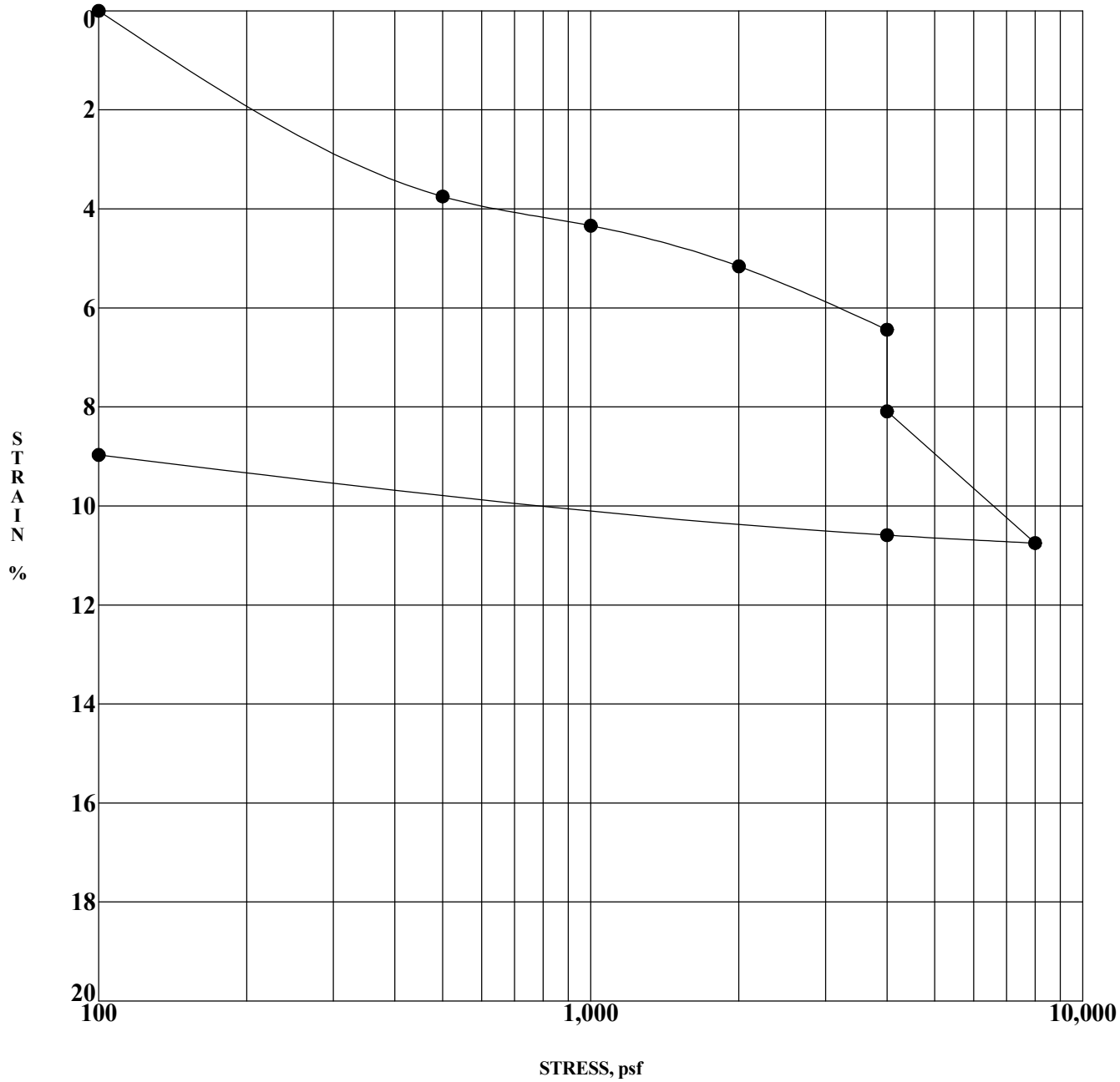
PROJECT *Proposed Iris Park Residential Development*

PROJECT NO. *33591.1*

DATE *11/19/19*

CONSOLIDATION TEST
LOR Geotechnical Group, Inc.

ENCLOSURE C-4



	Specimen I.D.		Classification	DD	MC%
●	B-5	@ 10 ft	**(ML) Sandy Silt**	*106*	*9*

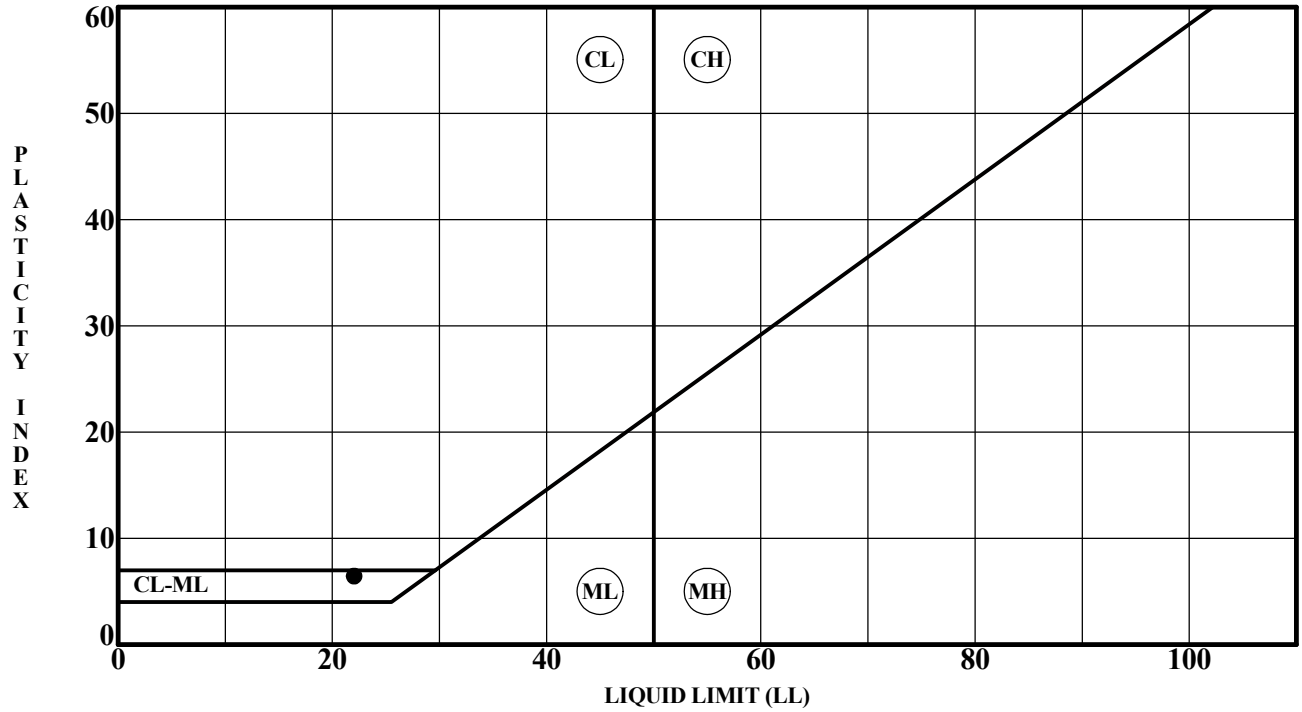
PROJECT *Proposed Iris Park Residential Development*

PROJECT NO. *33591.1*

DATE *11/19/19*

CONSOLIDATION TEST
LOR Geotechnical Group, Inc.

ENCLOSURE C-5



Specimen Identification	LL	PL	PI	Fines	Soil Classification
● B-2 @ 45 ft	22	16	6		(CL) Lean Clay with Sand

PROJECT *Proposed Iris Park Residential Development* **PROJECT NO.** *33591.1*

DATE *11/19/19*

ATTERBERG LIMITS RESULTS
LOR Geotechnical Group, Inc.

ENCLOSURE C-6

APPENDIX D

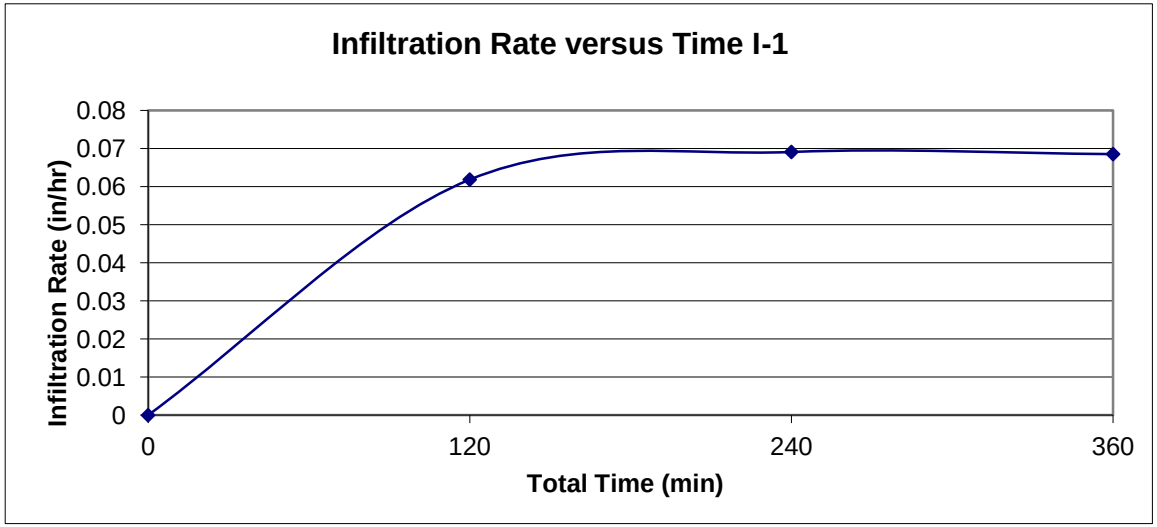
Infiltration Test Results

CONSTANT HEAD INFILTROMETER TEST DATA

Project:	Iris Park	Test Date:	November 7, 2019
Project No.:	33591.1	Test Hole No.:	I-1
Soil Classification:	(ML) Sandy Silt	Test Hole Size:	8" x 8"
Depth of Test Hole:	4 ft.	Date Excavated:	November 7, 2019
Tested By:	A.L.		

TEST PERIOD

TRIAL NO.	TIME		TIME INTERVAL (minutes)	TOTAL ELASPE TIME (minutes)	WATER USED (lbs.)	WATER USED (gal.)	INFILTRATION RATE (gal/sf/day)	INFILTRATION RATE (in/hr)	REMARKS
1	S	8:26	120	120	1.11	0.13	0.9	0.1	
	E	10:26							
2	S	10:26	120	240	1.24	0.15	1.0	0.1	
	E	12:26							
3	S	12:26	120	360	1.23	0.15	1.0	0.1	
	E	14:26							



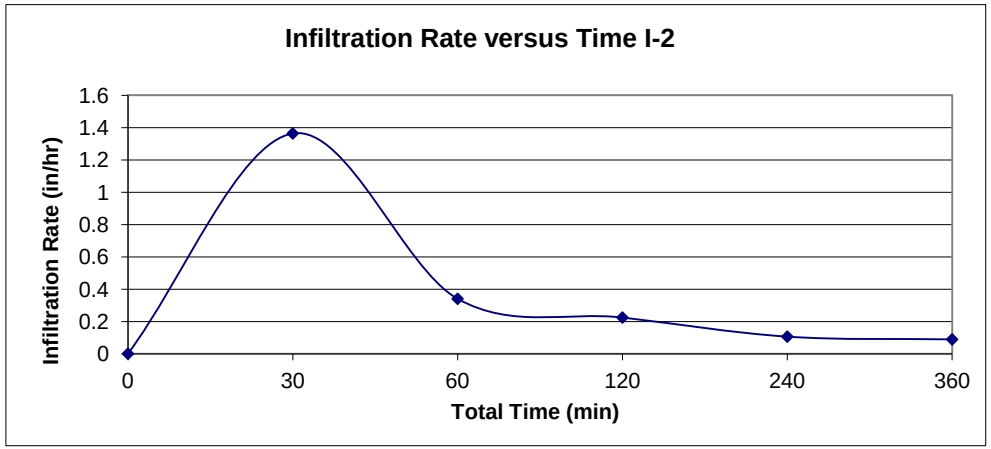
Enclosure D-1

CONSTANT HEAD INFILTROMETER TEST DATA

Project:	Iris Park	Test Date:	November 7, 2019
Project No.:	33591.1	Test Hole No.:	I-2
Soil Classification:	(ML) Sandy Silt	Test Hole Size:	6" x 8"
Depth of Test Hole:	4 ft.	Date Excavated:	November 7, 2019
Tested By:	A.L.		

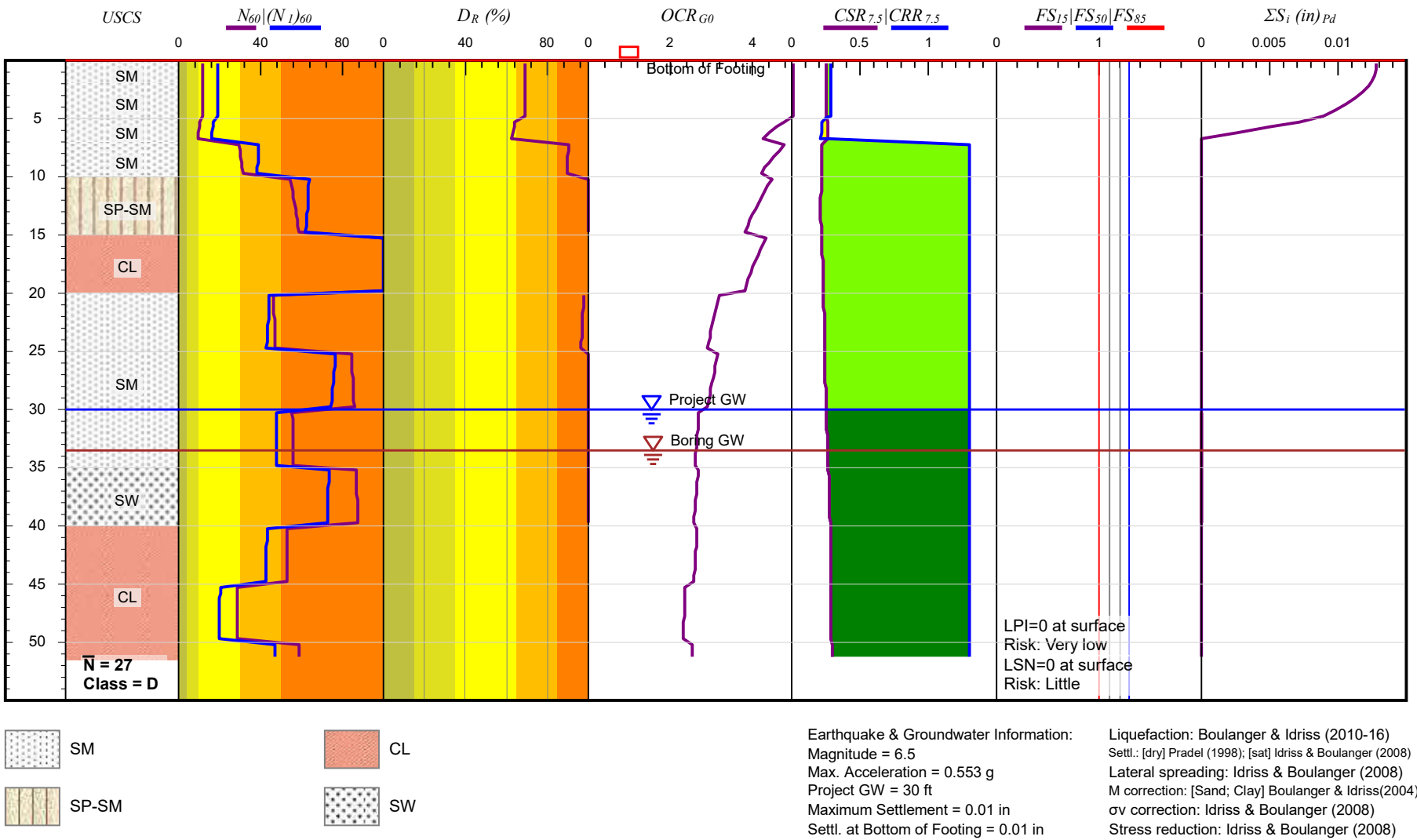
TEST PERIOD

TRIAL NO.	TIME		TIME INTERVAL (minutes)	TOTAL ELASPE TIME (minutes)	WATER USED (lbs.)	WATER USED (gal.)	INFILTRATION RATE (gal/sf/day)	INFILTRATION RATE (in/hr)	REMARKS
1	S	8:20	30	30	4.41	0.53	20.3	1.4	
	E	8:50							
2	S	8:50	30	60	1.10	0.13	5.1	0.3	
	E	9:20							
3	S	9:20	60	120	1.45	0.17	3.3	0.2	
	E	10:20							
4	S	10:20	120	240	1.37	0.16	1.6	0.1	
	E	12:20							
5	S	12:20	120	360	1.15	0.14	1.3	0.1	
	E	14:20							



APPENDIX E

Liquefaction Analysis



Earthquake & Groundwater Information:
Magnitude = 6.5
Max. Acceleration = 0.553 g
Project GW = 30 ft
Maximum Settlement = 0.01 in
Settl. at Bottom of Footing = 0.01 in

Liquefaction: Boulanger & Idriss (2010-16)
Settl.: [dry] Pradel (1998); [sat] Idriss & Boulanger (2008)
Lateral spreading: Idriss & Boulanger (2008)
M correction: [Sand; Clay] Boulanger & Idriss(2004)
σv correction: Idriss & Boulanger (2008)
Stress reduction: Idriss & Boulanger (2008)

LOR GEOTECHNICAL GROUP, INC.
Soil Engineering ▲ Geology ▲ Environmental

Liquefaction Potential - SPT Data

Project:	Iris Park Residential Development				
Location:	Moreno Valley, California				
Job Number:	33591.1	Boring No.:	B-2	Enclosure:	E-1

Due Diligence, Inc.
Architectural/Environmental/Seismic Consultants

November 1, 2019

Pacifica Investments, or their assigns
c/o Mr. Oscar Graham
333 City Boulevard West, Suite 1700
Orange, CA 92688

Re: Phase I Environmental Site Assessment
Iris Park
Iris Avenue, east of Perris Blvd.
Moreno Valley, CA 92551
Project No. 19004122

Dear: Mr. Graham:

In accordance with our accepted proposal, AES performed a walk-through survey of the above-referenced property on October 31, 2019. An electronic copy of the report is provided for your use. AES Due Diligence, Inc. is not affiliated with the client or any other parties to this transaction.

We appreciate the opportunity to provide consulting services to you. If you have any questions, please contact our Corporate Office at (858) 569-0211.

Very truly yours,

AES DUE DILIGENCE, INC.

Robert Presta, MBA, President
Registered Environmental Assessor in the former EPA Program

RP:RED/lo

Enclosures

PHASE I ENVIRONMENTAL SITE ASSESSMENT

Prepared for

Pacifica Investments, or their assigns

Phase I Environmental Site Assessment

Iris Park
Iris Avenue, east of Perris Blvd.
Moreno Valley, CA 92551
November 1, 2019

Prepared by

AES Due Diligence, Inc.

Architectural/Environmental/Seismic Due Diligence Consultants
4542 Ruffner Street, Suite 330
San Diego, CA 92111
(858) 569-0211 -Tel
(858) 569-0275 - Fax

AES Regional Offices

Midwest Region	***Mountain States***	***Southern California***
(847) 498-4780	*(303) 648-9897*	*(949) 363-0058*
Northwest Region	***Texas Region***	***Northern California***
(503) 296-0711	*(972) 754-0673*	*(707) 996-5529*

TABLE OF CONTENTS

EXECUTIVE SUMMARY

Iris Park
Iris Avenue, east of Perris Blvd.
Moreno Valley, CA 92551
Project No. 19004122

ISSUE	ENVIRONMENTAL CONDITION IDENTIFIED					ASSESSMENT				
	NONE	REC	CREC	HREC	*de mini mis*	ACCEPTABLE	O&M	PHASE 2	PHASE 3	COST
Historic Use	X					X				
UST\AST	X					X				
Chemical Use, Storage or Disposal	X					X				
Waste Storage or Disposal	X					X				
PCBs	X					X				
Environmental Records Review	X					X				
REC on Adjoining Property	X					X				
Stains or Odors	X					X				
Solid Waste or Fill	X					X				
Septic Fields, Wells or Drywells	X					X				
Pits, Ponds, Lagoons	X					X				
Vapor Encroachment	X					X				
NON-SCOPE CONSIDERATIONS										
Asbestos	X					X				
Lead Based Paint	X					X				
Lead in Water	X					X				
Mold	X					X				
Wetlands	X					X				
Radon	X					X				

I IDENTIFICATION

Subject Site:	Iris Park - Vacant Land
Location:	Iris Avenue, east of Perris Blvd. Riverside County APN# 312-020-025 Moreno Valley, CA 92551
Observation Date:	October 31, 2019
Site Contact:	Mr. Oscar Graham, Pacifica Investments, 714-609-7257
Client:	Pacifica Investments, or their assigns
Reliance:	This Report is for the exclusive use of Pacifica Investments, or their assigns. No other party shall have the right to rely on any service provided by AES Due Diligence, Inc. without prior written consent.

Environmental Professional Statement

We declare that, to the best of our professional knowledge and belief, we meet the definition of Environmental Professional as defined in § 312.10 of 40 CFR 312. We have the specific qualifications based on education, training, and experience to assess a site of the nature, history, and setting of the subject site. We have developed and performed the all appropriate inquiries in conformance with the standards and practices set forth in 40 CFR Part 312.

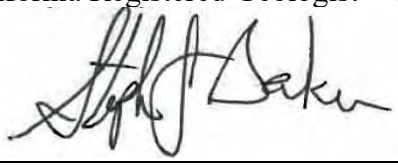
Prepared by:

Richard E. Darwicki
Registered Environmental Assessor in the former EPA Program

Reviewed by:

Timothy K. Dahlstrand
Managing Director of Environmental Services

Reviewed by:
Stephen J. Baker
California Registered Geologist – California License # 4354



II OBJECTIVE AND SCOPE

Objective

The purpose of this Phase I Environmental Site Assessment is to identify recognized environmental conditions that may have an impact on the subject site, using readily available sources of information, interviews and field observations. It is our understanding the Client intends to acquire the site.

Procedures

This Assessment is a Phase I Environmental Site Assessment (ESA) for the improvements located at Iris Avenue, east of Perris Boulevard in Moreno Valley, CA 92551, performed in general accordance with ASTM Designation E 1527-13, *Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process* and following the Scope of Work outlined in AES Due Diligence, Inc.'s proposal. AES Due Diligence, Inc. (AES) conducted on-site observations on October 31, 2019, interviewed site operations personnel and observed adjacent properties. Environmental Data Resources, Inc. (EDR) conducted database searches following ASTM guidelines. Such searches are generally limited to a radius of one mile from the subject site. Additionally, ASTM Non-Scope items are addressed in this Assessment, including Asbestos, Lead-Based Paint, Radon Gas, Mold, Wetlands and Lead in Drinking Water. No testing was conducted for ASTM Non-Scope items.

Limitations

The purpose of the Phase I ESA of the site is to address the range of contaminants within the scope of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) and petroleum products. If requested by the Client, certain non-scope business environmental risks are addressed in the Assessment. The Phase I ESA is intended to allow the Client to satisfy one of the requirements to qualify for the innocent landowner defense, contiguous property Owner or bonafide prospective purchaser limitations on CERCLA liability: i.e. the practice that constitutes "all appropriate inquiry into the previous ownership and uses of the property consistent with good commercial or customary practice" as defined in 42 USC § 9601(35)(B). The Phase I ESA does not address whether requirements in addition to appropriate inquiry were met in order to qualify for CERCLA's innocent landowner defense.

The objectives of the Phase I ESA are as follows:

1. Evaluate if recognized environmental conditions (REC), controlled recognized environmental conditions (CREC), historic recognized environmental conditions (HREC) or *de minimis* environmental conditions are present on the site.

2. Provide sufficient documentation of sources, records and resources utilized in conducting the Phase I ESA.

3. Prepare a professional opinion regarding the presence of RECs at the site.

Special Terms and Conditions

The Phase I ESA is intended to reduce, but not eliminate, uncertainty regarding the potential for recognized environmental conditions in connection with the site.

A Phase I ESA attempts to identify the environmental conditions of the site and vicinity. Environmental conditions and regulations are subject to change and re-interpretation. Current conditions or regulatory requirements should not be assumed to continue to represent conditions at some future time. This Assessment represents AES's professional judgments and opinions based on information presented in this Assessment and no warranty, either expressed or implied, are contained herein.

Limitations and Exceptions of Assessment

The surface conditions of the site were noted by visual observations or information obtained during interviews. No physical testing, soil/groundwater sampling or laboratory analysis was included unless otherwise noted in the Assessment.

The executive summary was prepared for the convenience of the users of this Assessment. This summary does not contain all the information presented in this Assessment and, therefore, the entire Assessment should be read to assure all pertinent information is transmitted.

AES performed the Phase I ESA of the site in substantial conformance with the scope and limitations of ASTM E 1527-13, Standard Practice for Environmental Site Assessments: *Phase I Environmental Site Assessment Process* unless otherwise noted in the Assessment. Certain environmental conditions may exist on a site that are beyond the scope of the Standard but may warrant consideration. Per the Standard, this environmental site assessment is presumed to be valid for a specific time limit as defined in ASTM Designation E-1527-13.

AES utilized the following methods to complete the reconnaissance of the site. AES observed the site and adjoining properties for indicators of existing or potential recognized environmental conditions. The site walkover consisted of walking the site boundary and several transects across the site. For a site with buildings, the accessible areas of the buildings were entered and observed. Please note that AES did not look under floors, above ceilings or inside walls. The adjoining properties were observed from the periphery of the site, if possible. The observations were documented with representative photographs.

The following limiting conditions were encountered during the course of the Phase I ESA:

- The questionnaire was not returned.

However, this did not preclude AES from developing an opinion regarding the environmental condition of the site.

Documents

Our Assessment represents our professional experience and judgment, and a good faith effort to obtain all available information. Documents and data provided by the Client, its designated representatives, or other interested parties, and consulted in the preparation of this Assessment, have been reviewed and may be referenced herein, with the understanding that AES assumes no responsibility or liability for their accuracy or for the withholding by any of the involved parties of any assessments or other information that could affect the transaction.

Intended Use

AES Due Diligence, Inc. is not affiliated with the borrower or any other parties to this transaction. This Assessment is intended to be used in its entirety. No portion of it may be deleted or used out of context without the written consent of AES. The opinions and information contained in this Assessment are time sensitive and represent our evaluation of the environmental site conditions at the time the services were provided. This Assessment was prepared for a limited use involving a single transaction, as set forth herein, and may not be used for any other purpose without the written consent of AES.

Proprietary Information

Field data, field notes, and other data and documents assembled by AES to produce this Assessment represent the work product of AES's training, experience and professional skill. This information belongs to and remains the property of AES Due Diligence, Inc.

Definitions

ASTM defines a Recognized Environmental Condition (REC) as ”the presence or likely presence of an hazardous substance or petroleum products in, on, or at a property: 1) due to release to the environment; 2) under conditions indicative of a release to the environment; or 3) under conditions that pose a material threat of a future release to the environment.”

A Controlled Recognized Environmental Condition (CREC) is defined as “a recognized environmental condition resulting from a past release of hazardous substances or petroleum products that has been addressed to the satisfaction of the applicable regulatory authority (for example, as evidenced by the issuance of a no further action letter or equivalent, of meeting risk-based criteria established by regulatory authority), with hazardous substances or petroleum products allowed to remain in place subject to the implementation of required controls (for example, property use restrictions, activity and use limitations, institutional controls, or engineering controls).”

A Historic Recognized Environmental Condition (HREC) is defined as ”a past release of any hazardous substances or petroleum products that has occurred in connection with the property and has been addressed to the satisfaction of the applicable regulatory authority or meeting unrestricted use criteria established by a regulatory authority, without subjecting the property to any required controls (for example, property use restrictions, activity and use limitations, institutional controls, or engineering controls).”

A *de minimis* environmental condition “generally does not present a threat to human health or the environment and that generally would not be the subject of an enforcement action if brought to the attention of appropriate government agencies.” Conditions determined to be *de minimis* are not a REC.

Business Environmental Risk (BER) is a risk, which can have a material environmental or environmentally-driven impact on the business associated with the current or planned use of the parcel of commercial real estate, not necessarily limited to those environmental issues investigated in this Phase I ESA. Business environmental risk issues may involve addressing one or more non-scope considerations.

III PROPERTY DESCRIPTION

Site Visit and Interviews

On October 31, 2019, AES visited the subject site and reviewed the fixed facility. No one accompanied Richard E. Darwicki of AES during the site visit.

AES observed the vacant property at the specified location. AES looked for underground and aboveground storage tanks, unusual surface appearances, wetlands and other issues that may indicate environmental conditions on the subject site. AES noted the location of on-site storm drainage structures where these were encountered. AES observed sites adjoining the subject site and areas within the immediate vicinity of the subject site.

AES photographed selected features at or near the subject site to support this written Assessment. The photographs are identified, described and appended to this Assessment.

Subject Site

The project is situated on one parcel estimated to total approximately 10.8 acres. The site is located on Iris Avenue, east of Perris Boulevard in Moreno Valley, CA 92551. There is a California Aqueduct easement along the southwest property line. The buildable portion of the lot is indicated to be 7.80 acres. No improvements have been completed at the subject site. The site is planned for residential development.

According to the EDR Database Report the topography of the site is gently sloping to the southeast. The site has a maximum surface elevation difference of approximately 10 feet.

There is a dirt road along the southwest property line but no paved areas on the site.

Utility services that will be providing service to the subject site include the Southern California Edison Company as the electrical supplier; Southern California Gas Company as the natural gas supplier; and municipal water, storm drain and sanitary sewer services from buried utilities along the adjacent thoroughfares.

Building

No buildings are currently located on the subject site.

Adjoining Properties

Properties immediately adjoining the subject site are listed in the following table. The adjoining properties are located in Moreno Valley, CA 92551.

Adjoining Properties			
Name	**Operation**	**Direction from Site**	**Concerns**
Iris Avenue Homes Beyond	Single-Family Residential	North	None
Homes Along Ebony Avenue	Single-Family Residential	East	None
Val Verde Academy 25100 Red Maple Lane	School	Southwest	EnviroStor
IHOP 16080 Perris Blvd	Restaurant	Southwest	None
KFC 16040 Perris Blvd.	Restaurant	Southwest	None
Ortiz Beauty Salon 15974-F Perris Blvd.	Commercial Uses	Northwest	None

The database listings are discussed in the Database Records Review section of this Report. Because of the controlled surface drainage and the predominantly non-hazardous uses on the adjoining properties, they do not, in our opinion, pose a significant environmental risk to the subject site. The above referenced sites with environmental concerns are discussed in the Environmental Records Review section of this Report.

Vicinity

AES observed other properties located near the subject site for current uses or conditions that might be environmentally significant. The local area properties observed by AES did not appear to be engaged in environmentally significant activities.

Topography and Hydrogeology

AES reviewed the United States Geological Survey (USGS) Topographic Map, which indicates that the subject site is approximately 1,500 feet above mean sea level. AES observed that the general drainage flows in a southeasterly direction across the surface of the site. No substantial grade changes appear to have been made to the subject site when compared to the topography of surrounding sites. A copy of the USGS topographic map that covers the subject site is appended.

AES did not observe site grading activities at the site. The lot has been cleared and has a slight weed growth.

Geology and Surficial Soils

According to the EDR Database Report, the subject site is located above Mesozoic era plutonic and intrusive bedrock. The depth to bedrock is unknown.

According to the information obtained through the EDR Database Report, the subject site is located in an area of sandy loam soils. These soil types have moderate permeability and would be expected to have moderate susceptibility as a result of surface spreading of wastes, depending upon local soil conditions

Surface and Ground Water Flow

The regional surface water flows in a southeasterly direction according to the EDR Database Report. The ground water flow in the area is assumed to be to the southeast. The depth to ground water is 70 feet below ground surface.

IV SITE HISTORY

No Environmental Reports prepared by others were provided to AES for review. AES conducted a limited historical review regarding the subject site. The following summarizes AES's review of readily available historical records and maps gathered from government agencies and commercial enterprises regarding the subject site history and use. This should not be considered a listing of all available information.

Interviews

Mr. Graham indicated that the subject site was used for agricultural purposes and is now vacant land.

Building Department Records Review

No permits or Certificates of Occupancy for improvements were found in the City records reviewed.

Regulatory Agency File Review

AES filed Freedom of Information Act requests with the following agencies: None

We searched the State Water Resources Control Board records using the GeoTracker website.

Aerial Photograph and Historical Map Review

Aerial photographs are reviewed to identify past site use and areas of environmental concern on the subject site. AES has reviewed aerial photographs of the subject site. The photographs were obtained from Environmental Data Resources. Copies of the aerial photographs that were obtained and reviewed by AES are appended. Please see chart below for the specific dates and description summary.

Beginning in the 1860s, the Sanborn Fire Insurance Company, and others, prepared maps that depict site improvements and commercial activities in many metropolitan areas in the United States. AES attempted to obtain fire insurance maps, specific to the site, to review as part of this Phase I Environmental Site Assessment. According to EDR, no Sanborn Maps were produced for this site.

Historical maps provide information concerning historical site boundaries and improvements. Historic Topographic Maps were reviewed for the site; please see the chart below for enumeration of years and findings.

The historical maps reviewed were obtained from EDR and are appended.

Site History Summary		
Date	**Record Type**	**Land Use**
1901	Historical Topographic Map	Undeveloped land
1942	Historical Topographic Map	Undeveloped land
1943	Historical Topographic Map	Undeveloped land
1953	Historical Topographic Map	Undeveloped land
1967	Historical Topographic Map	Undeveloped land
1967	Aerial Photograph	Agricultural uses
1973	Historical Topographic Map	Undeveloped land
1978	Aerial Photograph	Agricultural uses
1979	Historical Topographic Map	Undeveloped land
1985	Aerial Photograph	Agricultural uses
1989	Aerial Photograph	Cleared land, residential developments to north and east
1997	Aerial Photograph	Vacant land to southwest, residential to north and east
2002	Aerial Photograph	Vacant land to southwest, residential to north and east
2006	Aerial Photograph	Vacant land, school site under development to the southwest
2006	Aerial Photograph	Vacant land, current adjacent properties
2012	EDR Topographic Map	No buildings plotted
2016	Aerial Photograph	Vacant land, current adjacent properties

Based on AES's interpretation of the available documentation noted above the first developed and historic site use was primarily agricultural uses. Agricultural uses were first noted on the aerial map beginning in 1967.

No evidence of long-term fill activity, surface scarring, staining or other issues of environmental concern were visible in the aerial photographs during the review process.

Directories

City directories often provide information concerning historical site ownership and use. City Directories were reviewed for the years 1971 through 2014, in roughly five-year intervals. No significant listing was found. A copy of the City Directory Abstract is appended.

Title Records Review

A title records review, or chain-of-title, can be used to identify prior ownership of a property and to evaluate previous activities or operations in terms of environmental significance. Significant easements, covenants, restrictions and environmental liens may be indicated in title records. A chain-of-title regarding the subject site was not provided to AES for review as part of this Phase I Environmental Site Assessment. A Preliminary Title Commitment was provided by Chicago Title Company. No environmental concerns were noted and a copy is appended.

Document Review

No reports or other documents were provided for review by AES.

Data Gaps

The history and land use of the subject site has been determined by review of available historical aerial photographs, city directories, old topographic maps, personal interviews, public agency records, and other available resources. This history has been extended back as far as "it can be shown that the property contained structures or from the time the property was first used for residential, agricultural, commercial, industrial or governmental purposes." Necessary and available historical resources (aerial photographs, fire insurance maps, USGS topographic maps, historical city directories, building department records, zoning/land use records, interviews, etc.) were reviewed to establish a thorough land use history in order to identify historical environmental conditions. The following is a list of data gaps (insufficient data) and associated potential environmental significance:

No Data Gaps (insufficient data) were identified by AES for the subject site.

V ENVIRONMENTAL SITE ASSESSMENT

Fixed Facilities Review

No improvements to the subject site were observed by AES on October 31, 2019.

No asbestos containing materials or lead based paint were observed on the subject site.

No landscape maintenance services are performed on the subject site, and no landscape equipment is stored on the subject site. Neither automotive nor landscape equipment is maintained at the subject site.

Site Tenant Activities

AES observed no tenants or structures on the subject site.

AES confirmed the general nature of activities within the site boundaries. Past use of the site is indicated to have been agricultural based on a review of aerial photographs reviewed for this report.

Upon review of the activities at the above locations, AES found no specific environmental concerns regarding these operations.

On-Site Chemical and Petroleum Product Storage

AES looked for chemicals, hazardous substances, petroleum-based fuels and lubricants, and janitorial and cleaning supplies stored on the subject site. No chemicals or hazardous substances were observed on the subject site. The site is generally free of debris and illegal dumping.

Waste Disposal Practices

AES identified no wastes generated at the subject site.

Underground and Aboveground Storage Tanks

Owners and operators of certain USTs are required to register those USTs with the state agency responsible for administering the federally mandated UST program. A search of the list of registered USTs in California, prepared by EDR, showed that there are no registered USTs located on the subject site.

AES observed no presence of USTs and ASTs on the subject site. We found no records of USTs and no records of ASTs currently on the subject site.

AES visually observed the subject site for surficial evidence of USTs and ASTs. AES did not observe evidence of USTs or ASTs at the subject site.

There is an underground portion of the California Aqueduct in an easement along the southwest property line.

Polychlorinated Biphenyls (PCBs)

Federal regulations put into effect following the Toxic Substances Control Act (TSCA) require that electrical transformers be labeled to identify their PCB content. Manufacture and distribution of PCBs was banned in 1979. Transformer owners are responsible for compliance with all applicable regulations governing those transformers, including maintenance of the transformer and any remediation work resulting from a transformer-related incident.

No electrical transformers are provided on site.

Exterior Surface Condition

AES observed the exterior surface of the subject site. It is estimated that no portion of the subject site surface was covered by improvements and pavement. AES's observation of the site soil surfaces included the entire site.

None of the historical documentation reviewed, indicated that the subject site was previously utilized as a quarry and/or solid waste disposal facility.

No pits, ponds or lagoons were observed at the subject site during the site visit. No areas of distressed or dead vegetation, surface depressions or surface stains attributed to chronic leaks or spills were observed during the site visit.

Interior Surface Condition

AES observed no interior surfaces for evidence of unusual conditions. The site has no structures and is vacant land. The 1979 U.S. Geological Survey topographic map illustrates a pipeline trending northwest-southeast. According to the city of Moreno Land Development, this pipeline is an aqueduct that water passes through.

Vapor Encroachment Condition (VEC)

A Vapor Encroachment Screening was performed for the subject site following the guidelines of ASTM E2600-10, Tier 1 Vapor Encroachment Screening. The screening consists of an initial search of all standard government record databases and EDR's proprietary historical records related to former dry cleaners, gas stations and manufactured gas plants within the 1/3 mile radius (default Area of Concern-AOC). Based on local ground water flow direction knowledge, AES reduced the AOC by the Buonicore Method. Individual facilities within the remaining AOC were evaluated.

Based on this evaluation, a VEC can be ruled out because a VEC does not exist or is not likely to exist.

VI DATABASE RECORDS REVIEW

Environmental Records Review

An environmental records database search report dated October 25, 2019, was provided by Environmental Data Resources (EDR). A copy of EDR's report is appended. The following discussion excerpts specific items from the report that deserve additional description.

In addition to the mapped sites in the EDR report, there may also be a list of unmapped sites. These are reported database sites that, due to incomplete addressing information, could not be accurately plotted by EDR. In an attempt to locate all unmappable sites, AES compared each address provided on the unmappable site list to known addresses of the site and vicinity and attempted to locate unmappable sites during reconnaissance of the vicinity. AES concludes that no unmappable sites were identified that meet the search radius criteria of the scope of work and are considered to be environmentally significant to the subject site.

Superfund Enterprise Management System (SEMS) – Formerly Comprehensive Environmental Response, Compensation and Liability Information System (CERCLIS)

Since 1982, the U.S. EPA has maintained lists of contaminated sites under the federal Superfund Program in accord with the Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA). The U.S. EPA discovers these sites from citizen reports, routine inspection of hazardous waste generators, treatment, storage and disposal facilities, and reporting requirements.

Superfund Enterprise Management System (SEMS) tracks hazardous waste sites, potentially hazardous waste sites, and remedial activities performed in support of EPA's Superfund Program across the United States. The list was formerly known as CERCLIS, renamed to SEMS by the EPA in 2015. The list contains data on potentially hazardous waste sites that have been reported to the USEPA by states, municipalities, private companies and private persons, pursuant to Section 103 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). This dataset also contains sites which are either proposed to or on the National Priorities List (NPL) and the sites which are in the screening and assessment phase for possible inclusion on the NPL.

Review of the SEMS list provided by EDR identifies no SEMS sites within the approximate minimum search distance of one-half mile from the subject site.

Federal CERCLIS-NFRAP List (SEMS Archive)

CERCLA sites designated No Further Remedial Action Planned (NFRAP) have been removed from CERCLIS. CERC-NFRAP sites may be where, following an initial investigation, no contamination was found, contamination was removed quickly without the need for the site to be placed on the National Priorities List (NPL), or the contamination was not serious enough to require Federal Superfund action or NPL consideration. CERCLIS-NFRAP sites, however, may continue to represent a concern to local or state regulators. CERCLIS-NFRAP was renamed to SEMS Archive by the EPA in 2015.

Review of the SEMS Archive list provided by EDR identifies no SEMS Archive sites within the approximate minimum search distance of one-half mile from the subject site.

National Priorities List

The U.S. EPA maintains this list as a subset of CERCLIS, identifying over 1,200 CERCLA sites for priority cleanup under the Superfund Program. Once sites have been designated on the CERCLIS list, the U.S. EPA uses its Hazard Ranking System to determine the potential risks of those sites to human health and the environment. Only the sites that present the greatest risk are added to the NPL, which qualifies the sites to receive CERCLA remedial funding.

Review of the NPL list provided by EDR identifies no NPL sites within the approximate minimum search distance of one mile from the subject site.

RCRA – Generators

The U.S. EPA's RCRA (Resource Conservation and Recovery Act, 42 U.S.C. '6991 *et seq.*) Program identifies and tracks hazardous waste from the point of generation to the point of disposal. Generators are also listed in the FINDS database.

Review of the RCRA LQ-Generator list provided by EDR identifies only one RCRA-LQG site listed. There are no RCRA-LQG facilities on the subject site and there are no RCRA-LQG facilities on adjoining properties.

RCRA-Large Quantity Generator Facilities Noted on EDR Report

Facility Name	Location			Violation Status	TSDF Status
	Distance	Direction	Gradient		
Walgreens #9616	0.061 mi.	West	Cross	No Violations	Not TSDF

The above referenced RCRA LQ-Generator facility was evaluated based on the following criteria: violator status, area geology, gradient relationship and separation distance. Based on this evaluation, and due to their regulated nature, it is believed that this does not represent an environmental concern to the subject site.

Review of the RCRA SQ-Generator list provided by EDR identifies a total of three RCRA-SQG sites listed. There are no RCRA-SQG facilities on the subject site and there are no RCRA-SQG facilities on adjoining properties.

RCRA-Small Quantity Generator Facilities Noted on EDR Report					
Facility Name	Location			Violation Status	TSDF Status
	Distance	Direction	Gradient		
Shell Service Station	0.076 mi.	WNW	Up	No Violations	Not TSDF
Malek Ayass	0.093 mi.	WNW	Up	No Violations	Not TSDF
Home Depot	0.141 mi.	WNW	Up	No Violations	Not TSDF

The above referenced RCRA SQ-Generator facilities were evaluated based on the following criteria: violator status, area geology, gradient relationship and separation distance. Based on this evaluation, and due to their regulated nature, it is believed that this does not represent an environmental concern to the subject site.

RCRA - Treatment, Storage, Disposal Facilities (TSD)

The Resource Conservation and Recovery Act Information System (RCRIS) is a compilation of selective information on facilities that generate, store, transport, treat or dispose of hazardous waste. Inclusion of a facility on the RCRIS database is not necessarily an indication of an environmental problem.

Review of the RCRIS-TSD list provided by EDR identifies no RCRIS-TSD sites within the approximate minimum search distance of one mile from the subject site.

Emergency Response Notification System (ERNS)

The ERNS is a compilation of reported releases of hazardous substances into the environment. The database contains information from Spill reports made to federal authorities, including the U.S. EPA, the U.S. Coast Guard, the National Response Center, and the U.S. Department of Transportation.

Review of the ERNS list provided by EDR identifies no ERNS listings adjacent to or at the subject site.

Underground Storage Tanks (USTs)

Certain USTs are regulated under the RCRA Act, and must be registered with the state agency responsible for administering the UST program. USTs are also listed in the CA FID database. Inclusion of a facility on the UST database is not necessarily an indication of an environmental problem.

Review of the list provided by EDR identifies a one site within a search radius of one-quarter mile. There are no facilities on the subject site and there are no facilities on adjoining properties.

The above referenced facility is a Shell gas station with a leaking tank at 15980 Perris Boulevard. Leaking tanks are discussed in the following section.

Leaking Underground Storage Tanks (LUSTs)

LUST records contain an inventory of reported leaking underground storage tank incidents. Not all states maintain these records, and the information stored varies by state. LUSTs are also listed in the CORTESE database.

Review of the list provided by EDR identifies a total of four listings at two unique addresses within the ASTM standard minimum search distance of one-half mile from the subject site. There are no facilities on the subject site and there are no facilities on adjoining properties.

The Shell Station located at 15980 Perris Boulevard has been impacted by a petroleum release that impacted groundwater. Groundwater flow from the Shell station is to the southeast. Depth to groundwater is 70 feet below ground surface. Groundwater samples from monitor well, MW-8, located in the northeast corner of the intersection of Iris Avenue and Perris Boulevard, contained detectable gasoline range hydrocarbons (C_4-C_{12}) and no detectable benzene, toluene, xylene and ethylbenzene. Based on these conditions, the Shell station subsurface contamination is not expected to migrate beneath the subject site.

Registered LUST Facilities

Facility Name and Address	Location			Material Released	Reported Impact and Current Status
	Distance	Direction	Gradient		
Shell Perris Blvd. 15980 Perris Blvd.	0.076 mi.	WNW	Up	Gasoline	Soil only, leak being confirmed 2004
Shell Service Stn. 15980 Perris Blvd.	0.076 mi.	WNW	Up	Gasoline	Aquifer affected, Open case, monitoring on going.
ARCO#5764 16466 Perris Blvd.	0.335 mi.	SSW	Down	Gasoline	Soil only, leak being confirmed 2003
ARCO#5764 16466 Perris Blvd.	0.335 mi.	SSW	Down	Gasoline	Case Closed 11/30/2004

NA – Information not provided in the EDR report

The above referenced facilities were evaluated based on the following criteria: violator status, area geology, gradient relationship, and separation distance. Based on this evaluation, and due to their regulated nature, it is believed that this does not represent an environmental concern to the subject site.

Solid Waste Facilities/Landfills (SWF/LS)

Solid waste records typically contain an inventory of solid waste disposal facilities or landfills in a particular state. Depending on the state, these may be active or inactive facilities or open dumps that failed to meet RCRA Section 2004 criteria for solid waste landfills or disposal sites.

Review of the list provided by EDR identifies no sites within the approximate minimum search distance of one-half mile from the subject site.

EnviroStor

The Department of Toxic Substances Control's (DTSC's) Site Mitigation and Brownfields Reuse Program's (SMBRP's) EnviroStor database identifies sites that have known contamination or sites for which there may be reasons to investigate further. The database includes the following site types: Federal Superfund sites (National Priorities List (NPL)); State Response, including Military Facilities and State Superfund; Voluntary Cleanup; and School sites. EnviroStor provides similar information to the information that was available in CalSites, and provides additional site information, including, but not limited to, identification of formerly-contaminated properties that have been released for reuse, properties where environmental deed restrictions have been recorded to prevent inappropriate land uses, and risk characterization information that is used to assess potential impacts to public health and the environment at contaminated sites.

Review of the list provided by EDR identifies a total of two sites within the ASTM standard minimum search distance of one mile from the subject site. There are no facilities on the subject site and there is one facility on adjoining properties. The Indian Middle School is shown as over ½-mile distant and had DDT removal performed in 2006. The Red Maple School Site (Val Verde Unified School District) adjoining the Subject site was a School Investigation where agricultural row crops historically were grown. No contaminants were found. Completion was noted in the EDR report as November 29, 2001.

The above referenced facilities were evaluated based on the following criteria: violator status, reported status of past investigation on adjacent property, area geology, gradient relationship and separation distance. Based on this evaluation, and due to their regulated nature, it is believed that this does not represent an environmental concern to the subject site.

DEED (Institutional Controls)

Site Mitigation and Brownfield's Reuse Program Facility Sites with Deed Restrictions & Hazardous Waste Management Program Facility Sites with Deed / Land Use Restriction. The DTSC Site Mitigation and Brownfield's Reuse Program (SMBRP) list includes sites cleaned up under the program's oversight and generally does not include current or former hazardous waste facilities that required a hazardous waste facility permit. The list represents deed restrictions that are active. Some sites have multiple deed restrictions. The DTSC Hazardous Waste Management Program (HWMP) has developed a list of current or former hazardous waste facilities that have a recorded land use restriction at the local county recorder's office. The land use restrictions on this list were required by the DTSC HWMP as a result of the presence of hazardous substances that remain on site after the facility (or part of the facility) has been closed or cleaned up. The types of land use restriction include deed notice, deed restriction, or a land use restriction that binds current and future owners.

Review of the list provided by EDR identifies no sites within the approximate minimum search distance of one mile from the subject site.

California Hazardous Material Incident Reporting System (CHMIRS)

The California Office of Emergency Services database contains reported information on incidents involving accidental releases or spills of hazardous materials.

Review of the list provided by EDR identifies no listings adjacent to or at the subject site.

Hazardous Waste and Substances Sites List (CORTESE)

The Cal-EPA publishes a listing of potential and confirmed hazardous waste sites throughout the State of California. Under California Government Code Section 65962.5, these sites are submitted to the Cal-EPA by the State Department of Health Services, State Water Resources Control Board, the Integrated Waste Management Board and the Department of Toxic Substances Control.

The database identifies public drinking water wells with detectable levels of contamination, hazardous substance sites selected for remedial action, sites with known toxic material identified through the abandoned site assessment program, sites with USTs having a reportable release, and all solid waste disposal facilities from which there is a known migration.

Review of the list provided by EDR identifies one site within the ASTM standard minimum search distance of one-half mile from the subject site. There are no facilities on the subject site and there are no facilities on adjoining properties. The site is the formerly discussed Shell Service Station LUST facility at 15980 Perris Boulevard.

The above referenced facility was evaluated based on the following criteria: violator status, area geology, gradient relationship and separation distance. Based on this evaluation, and due to their regulated nature, it is believed that this does not represent an environmental concern to the subject site.

VCP (Voluntary Cleanup Program)

Contains low threat level properties with either confirmed or unconfirmed releases and the project proponents have requested that DTSC oversee investigation and/or cleanup activities and have agreed to provide coverage for DTSC's costs.

Review of the list provided by EDR identifies no listings adjacent to or at the subject site.

Hazardous Waste Information System (HAZNET)

The California Department of Health Services, Toxic Substances Control Division, has developed and maintained lists of hazardous waste generators and hazardous waste treatment, storage and disposal facilities in the State of California, in accordance with the Hazardous Waste Control Law (California Health and Safety Code Section 25100 *et seq.*) And the Hazardous Waste Management Act of 1976 (California Health and Safety Code Section 25179.1 *et seq.*). Inclusion of a facility in the HAZNET list is not necessarily an indication of an environmental problem.

Additionally, the California Health and Safety Code requires all counties to prepare and submit hazardous waste management plans. To assist the counties, the Toxic Substances Control Division maintains lists containing hazardous waste generation and disposal data within each county. The Toxic Substances Control Division has assembled this information from manifest reports required from hazardous waste generators. This database currently lists over 20,000 facilities in the State of California.

Review of the list provided by EDR identifies no listings adjacent to or at the subject site.

Historic USTs

The Hazardous Substance Storage Container Database is a historical listing of former UST sites that are closed and typically not listed with the current UST sites.

Review of the list provided by EDR identifies no listings adjacent to or at the subject site.

EDR Historical Auto Service Stations

EDR Historical Auto Stations: EDR has searched selected national collections of business directories and has collected listings of potential gas station/filling station/service station sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include gas station/filling station/service station establishments. The categories reviewed included, but were not limited to gas, gas station, gasoline station, filling station, auto, automobile repair, auto service station, service station, etc.

Review of the list provided by EDR identifies no listings adjacent to or at the subject site.

Dry Cleaners and EDR Historical Dry Cleaners

This database provides a list of drycleaner facilities that have EPA ID numbers. These facilities have certain SIC codes including: power laundries, family and commercial; garment pressing and cleaner's agents; linen supply; coin-operated laundries and cleaning; dry cleaning plants, except rugs; carpet and upholstery cleaning; industrial launderers and laundry and garment services.

Review of the list provided by EDR identifies a total of six listings for two unique addresses. There are no facilities on the subject site and there are no facilities on adjoining properties.

The above referenced facilities were evaluated based on the following criteria: violator status, area geology, gradient relationship and separation distance. Based on this evaluation, and due to their regulated nature, it is believed that this does not represent an environmental concern to the subject site.

EDR Historical Cleaners: EDR has searched selected national collections of business directories and has collected listings of potential dry cleaner sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include dry cleaning establishments. The categories reviewed included, but were not limited to dry cleaners, cleaners, laundry, Laundromat, cleaning/laundry, wash & dry etc.

Review of the list provided by EDR identifies no Historical Dry Cleaner listings adjacent to or at the subject site.

Waste Management Unit Database System (WMUDS/SWAT)

The California Integrated Waste Management Board maintains an inventory list of both open as well as closed and inactive solid waste disposal facilities and transfer stations in accordance with the Solid Waste Management and Resource Recovery Act of 1972, California Government Code Section 2.66790(b). Generally, the California Integrated Waste Management Board learns of locations of disposal facilities through permit applications and from local enforcement agencies. The Waste Management Unit Database System is used by the California Water Resources Control Board and the Regional Water Quality Control Boards for program tracking and inventory of waste management units.

Review of the latest WMUDS/SWAT listing identifies no WMUDS/SWAT facilities within the approximate minimum search distance of one-half mile from the subject site.

Manufactured Gas Plants (MGP)

Manufactured Gas Plants produced combustible gas for urban use prior to the widespread use and pipeline distribution of natural gas in the 1950s. The main fuels used in production of this gas were coke, coal and oil; the by-products of this manufacturing process include a variety of tars, sludge and other chemicals. MGP sites tend to have subsurface contamination due to the common practice of disposing of the waste products on site.

Review of the MGP list provided by EDR identifies no MGP sites within the approximate minimum search distance of one mile from the subject site.

US Brownfields

Included in the listing are brownfields properties addresses by Cooperative Agreement Recipients and brownfields properties addressed by Targeted Brownfields Assessments. Targeted Brownfields Assessments-EPA's Targeted Brownfields Assessments (TBA) program is designed to help states, tribes, and municipalities minimize the uncertainties of contamination often associated with brownfields. Under the TBA program, EPA provides funding and/or technical assistance for environmental assessments at brownfields sites throughout the country. Targeted Brownfields Assessments supplement and work with other efforts under EPA's Brownfields Initiative to promote cleanup and redevelopment of brownfields.

Review of the list provided by EDR identifies no sites within the approximate minimum search distance of one-half mile from the subject site.

Federal Superfund Lien Searches

Federal Superfund Liens. Under the authority granted the USEPA by CERCLA of 1980, the USEPA has the authority to file liens against real property in order to recover remedial action expenditures or when the property owner received notification of potential liability. USEPA compiles a listing of filed notices of Superfund Liens.

Review of the list provided by EDR identifies no listings adjacent to or at the subject site.

In, addition, there are no Federal, State or non-priority liens on the subject property listed in the EDR Database Report or Activity and Use Limitations (AULs) associated with the subject site.

VII ASTM NON-SCOPE ITEMS

Asbestos

In 1977, the U.S. EPA acted to eliminate friable asbestos from building materials. Friable materials are defined as those that can be crushed or reduced to powder by hand pressure. Materials do not have to be damaged to be identified as friable. Additionally, the United States Occupational Safety and Health Administration (OSHA) now requires certain untested materials to be presumed to contain asbestos for buildings constructed prior to 1981.

During the site visit, AES observed vacant land with no building on site. No documents were provided for review. There was no visible construction and no signs of asbestos containing materials were observed.

No sampling or analytical testing of ASTM Non-Scope items was conducted.

Lead Based Paint

In 1978, the Consumer Product Safety Commission banned the use of lead as an additive in paint. During the site visit, there was vacant land with no signs of painted structures or empty cans.

Potable Water Supply

The subject site is serviced by a municipally operated, public water system, which is regulated by the Safe Drinking Water Act of 1974. This Act requires that public water supplies be tested for the presence of lead in water. AES contacted the local water utility company, the City of Moreno Valley, regarding the results of water tests. The utility company reports that the lead content of the water is below the U.S. EPA action level of 0.015 milligrams per liter.

Radon Gas

Radon gas is a naturally occurring, colorless, odorless gas that is the by-product of the decay of radioactive materials found within bedrock and soil. Radon gas enters buildings through cracks, structural joints, and plumbing openings in floor levels that are in direct contact with the soil. Radon gas, when inhaled, has been found to be carcinogenic in some humans. The U.S. EPA recommended action level for radon gas is 4.0 pCi/L (picoCuries per liter).

The State of California, in conjunction with the U.S. EPA, has conducted residential screening tests in Riverside County. The results of that screening indicate that Riverside County is predicted to have an average indoor radon screening level of 1.7 pCi/L, with 100% of tests less than 4.0 pCi/L.

AES reviewed the U.S. EPA's Map of Radon Zones for California, which identifies Riverside County as being within radon zone 2. Counties within radon zone 2 have a predicted average indoor radon gas screening level of between 2 and 4 pCi/L.

Based on the literature reviewed, it is our opinion that the risk of radon gas accumulation is not a significant environmental concern at the subject site.

No sampling or analytical testing of ASTM Non-Scope items was conducted.

Wetlands

AES did not observe ponded water, flowing water, saturated soils or hydrophytic vegetation at the subject site.

Mold

AES observed portions of the exposed soil for signs of mold and/or mildew and none was observed. Based on the condition of these surfaces, mold and/or mildew were not an environmental concern to the subject property (vacant land) at the time of our site visit.
Please note that AES did not perform any probes of surface materials, use moisture meters to test materials or use specialized equipment to test air quality for signs of existing mold and/or mildew. If further confirmation is required for determining if mold and/or mildew is present in the vacant land, AES recommends that a qualified Industrial Hygienist be retained to perform the necessary industry standard tests and provide a report of their findings.

VIII CONCLUSIONS

Findings and Opinion

AES completed a Phase I ESA for the site in substantial conformance with the scope and limitations of the Standard. Any exceptions to, or deletions from, the Standard are described in the Assessment.

Historical Recognized Environmental Conditions (HRECs)

Based on site observations, interviews and review of available documents and the database records search, AES concludes that no HRECs were identified at the subject site. AES recommends no additional investigation at this time.

Current Recognized Environmental Conditions (RECs)

Based on site observations, interviews and review of available documents and the database records search, AES concludes that no RECs were identified at the subject site. AES recommends no additional investigation at this time.

Business Environmental Risk (BER)

Based on site observations, interviews and review of available documents and the database records search, AES concludes that no *BER's* were identified at the subject site. AES recommends no additional investigation at this time.

Controlled Recognized Environmental Conditions (CREC)

Based on site observations, interviews and review of available documents and the database records search, AES concludes that no CRECs were identified at the subject site. AES recommends no additional investigation at this time.

de minimis Environmental Conditions

Based on site observations, interviews and review of available documents and the database records search, AES concludes that no *de minimis* conditions were identified at the subject site.

Conclusions

We have performed a *Phase I Environmental Site Assessment* in conformance with the scope and limitations ASTM Practice E 1527-13 of Iris Park (Riverside County APN# 312-020-025), Moreno Valley, CA 92551, the *property.* Any exceptions to or deletions from, this practice are described in Section II of this *report.* This assessment has revealed no evidence of *Recognized Environmental Conditions, Controlled Recognized Environmental Conditions, Business Environmental Risks or Historical Recognized Environmental Conditions* with the *property.* AES recommends no additional investigation at this time.

IX INTERVIEWS

Name	Title/Affiliation	Phone
Mr. Oscar Graham	Pacifica Investments	714-609-7257
Staff	Building & Safety Division City of Moreno Valley	951-413-3000
Website	State Water Resources Control Board http://geotracker.waterboards.ca.gov/	
Website	Oil Gas and Thermal Resources http://www.conservation.ca.gov/dog/	

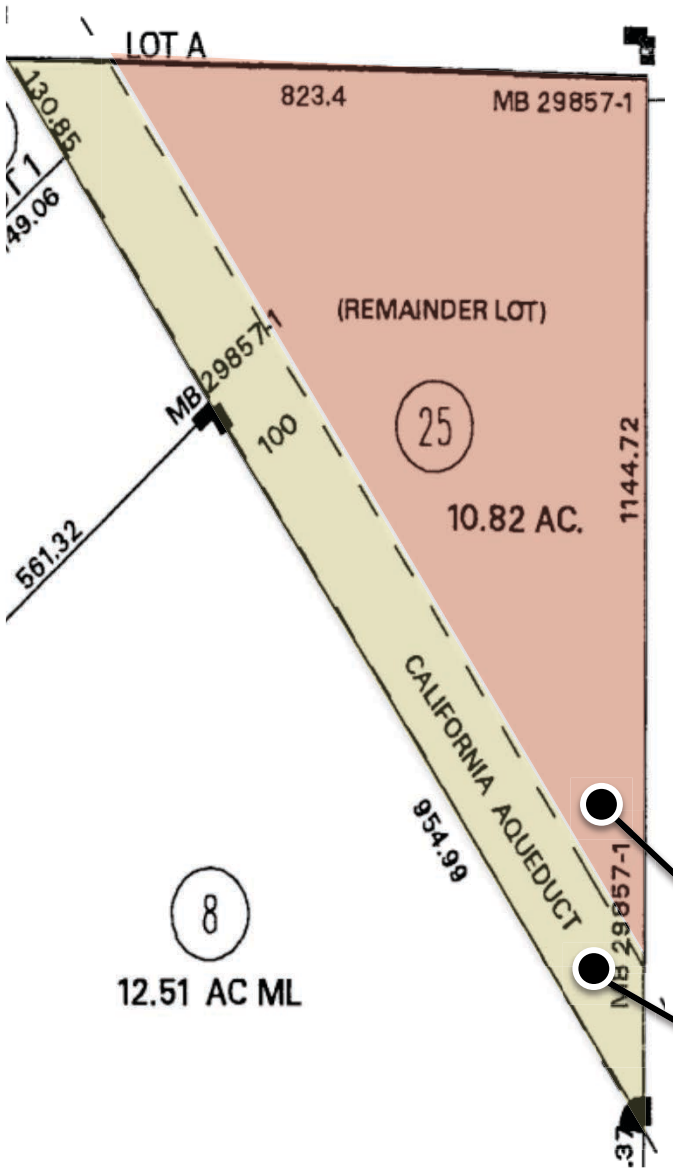
X QUALIFICATIONS OF ENVIRONMENTAL PROFESSIONALS

Richard E. Darwicki - Mr. Darwicki is a Registered Environmental Assessor in the former EPA Program and has over ten years of experience related to environmental assessments and over 30 years experience related to engineering matters. He has completed numerous Phase I Environmental Site Assessments throughout the United States. He is also a Licensed Engineer in the State of California and attended Santa Ana College and Fullerton College.

Timothy K. Dahlstrand - Mr. Dahlstrand has over twenty-five years of experience related to environmental and engineering matters. He has completed and supervised hundreds of Phase I Environmental Site Assessments throughout the United States and internationally. He holds a B.A. in Geology and a M.S. in Civil Engineering from Northwestern University.

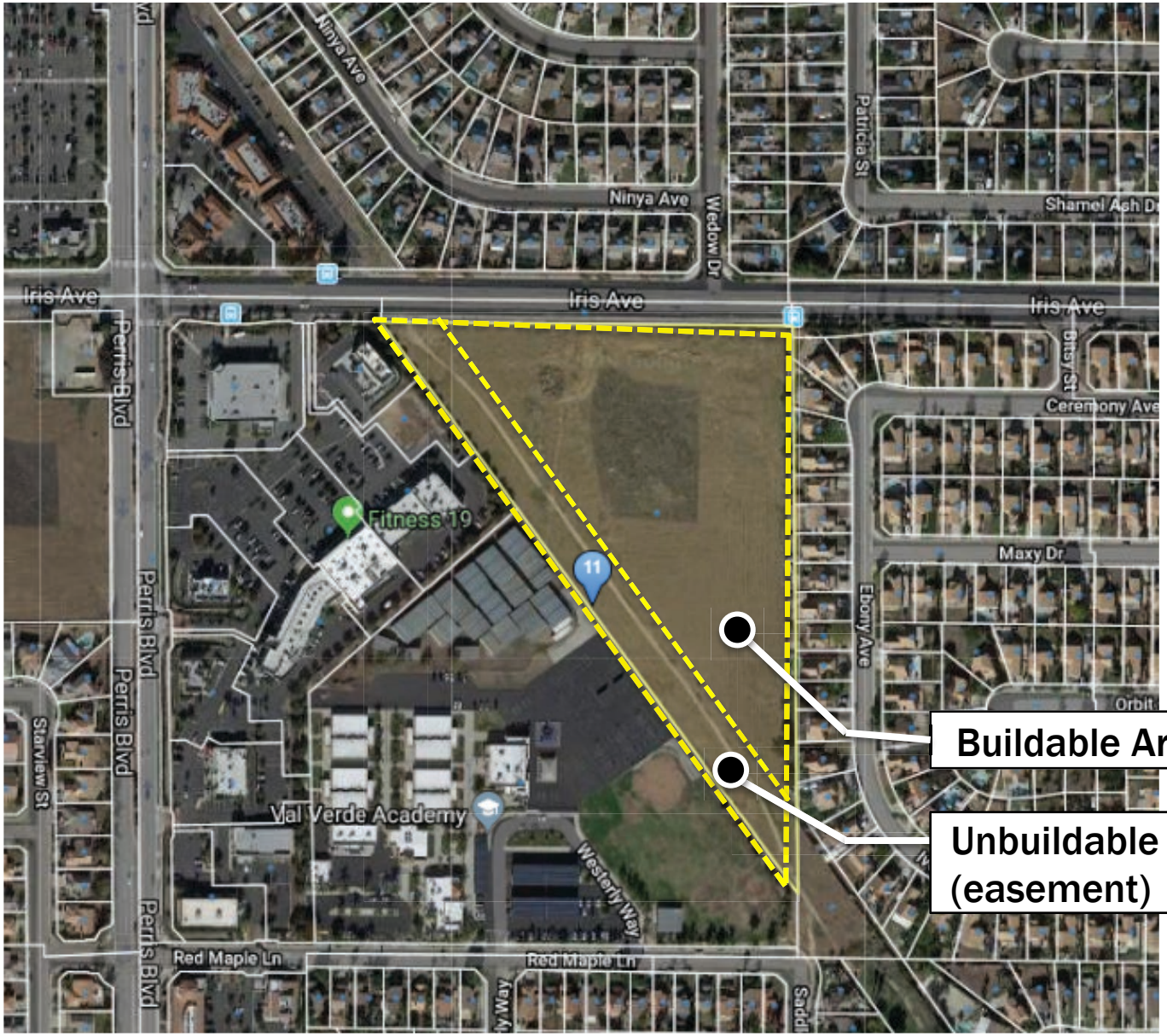
Stephen J. Baker – Mr. Baker is a California and Washington Registered Geologist and Certified Hydrogeologist. He has conducted cursory environmental surveys, Phase I Evaluations, site characterization of sediment and groundwater, remedial design and implementation, post monitoring and achievement of "No Further Action" status by the lead regulating agencies. Mr. Baker holds a degree in geology from Ohio State University and a California Registered Geologist License number 4354.

IRIS PARK - APN # 312-020-025

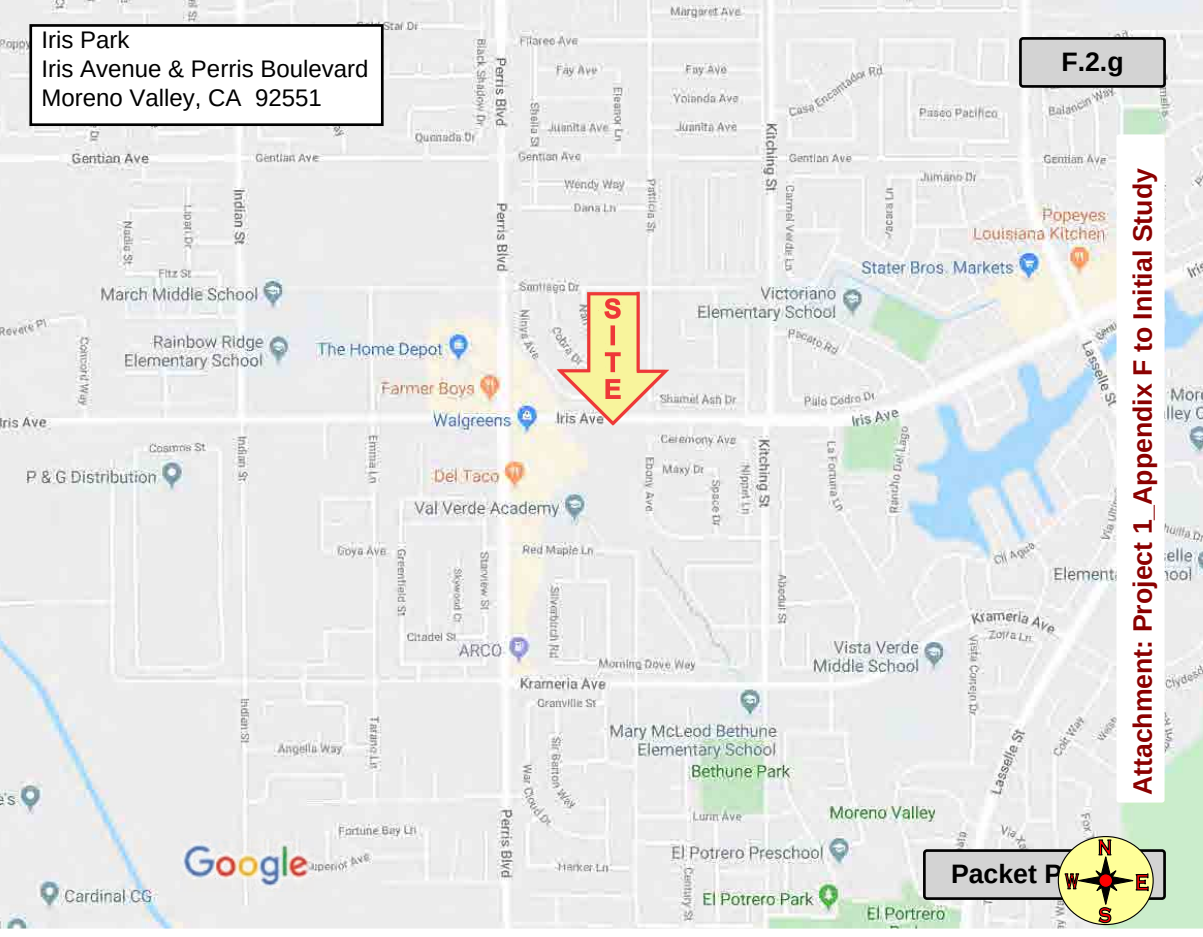


Buildable Area: 7.80 ac

Unbuildable Area: 3.00 ac
(easement)



IRIS PARK - APN # 312-020-025


Iris Park
Iris Avenue & Perris Boulevard
Moreno Valley, CA 92551
F.2.g
Attachment: Project 1_Appendix F to Initial Study
SITE
Iris Ave
Gentian Ave
Perris Blvd
Indian St
Kitching St
Lasselle St
Margaret Ave
Fay Ave
Yolanda Ave
Juanita Ave
Wendy Way
Dana Ln
Santiago Dr
Pacato Rd
Shamel Ash Dr
Palo Cedro Dr
Ceremony Ave
Maxy Dr
Red Maple Ln
Morning Dove Way
Krameria Ave
Granville St
Lunn Ave
Harker Ln
Fortune Bay Ln
Angella Way
Citadel St
Goya Ave
Cosmos St
Fitz St
Nuelle St
Lloyd Dr
Quenada Dr
Fitaree Ave
Sheila St
Eleanor Ln
Patricia St
Carmel Verde Ln
Pacaca Ln
Jumano Dr
Paseo Pacifico
Balancin Way
Casa Encantador Rd
Ninya Ave
Cobra Dr
Ebony Ave
Space Dr
Nipomo Ln
Rancho Del Lago
La Fortuna Ln
Via Del Agua
Absaul St
Zorra Ln
Vista Corrion Dr
Cole Way
Via Xanadu
Century St
Silverbirch Rd
Greenfield St
Skywood Dr
Starview St
Emma Ln
Tarano Ln
Sir Barton Way
War Cloud Dr
Black Shadow Dr
Star Dr
Poppy
Revere Pl
Concord Way
Google
Superior Ave
Cardinal CG
Popeyes Louisiana Kitchen
Stater Bros. Markets
Victoriano Elementary School
March Middle School
Rainbow Ridge Elementary School
The Home Depot
Farmer Boys
Walgreens
P & G Distribution
Del Taco
Val Verde Academy
ARCO
Vista Verde Middle School
Mary McLeod Bethune Elementary School
Bethune Park
Moreno Valley
El Potrero Preschool
El Potrero Park
El Portrero
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1) View of the adjacent property to the north beyond Iris Avenue.

2) View of an adjacent residential property to the east along Ebony Avenue.

3) View of the adjacent schoolyard to the southwest.

4) View of the adjacent vacant and schoolyard property to the southwest.

5) View of the adjacent IHOP restaurant to the southwest.

6) View of the adjacent KFC restaurant to the southwest.

7) View of the commercial property to the north-west.

8) View of the site along the southwest property line looking south.

9) View of the site along the north property line looking east.

10) View of the site along the east property line looking south.

11) View of the site from the northeast corner looking southwest.

Iris Park
Iris Avenue & Perris Boulevard
Moreno Valley, CA 92551

Inquiry Number: 5844302.2s
October 25, 2019

The EDR Radius Map™ Report with GeoCheck®

6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

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Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

EXECUTIVE SUMMARY

A search of available environmental records was conducted by Environmental Data Resources, Inc (EDR). The report was designed to assist parties seeking to meet the search requirements of EPA's Standards and Practices for All Appropriate Inquiries (40 CFR Part 312), the ASTM Standard Practice for Environmental Site Assessments (E 1527-13), the ASTM Standard Practice for Environmental Site Assessments for Forestland or Rural Property (E 2247-16), the ASTM Standard Practice for Limited Environmental Due Diligence: Transaction Screen Process (E 1528-14) or custom requirements developed for the evaluation of environmental risk associated with a parcel of real estate.

TARGET PROPERTY INFORMATION

ADDRESS

IRIS AVENUE & PERRIS BOULEVARD
MORENO VALLEY, CA 92551

COORDINATES

Latitude (North):	33.8875320 - 33° 53' 15.11''
Longitude (West):	117.2227630 - 117° 13' 21.94''
Universal Tranverse Mercator:	Zone 11
UTM X (Meters):	479400.8
UTM Y (Meters):	3749514.0
Elevation:	1500 ft. above sea level

USGS TOPOGRAPHIC MAP ASSOCIATED WITH TARGET PROPERTY

Target Property Map:	5641326 SUNNYMEAD, CA
Version Date:	2012
South Map:	5641330 PERRIS, CA
Version Date:	2012

AERIAL PHOTOGRAPHY IN THIS REPORT

Portions of Photo from:	20140603
Source:	USDA

MAPPED SITES SUMMARY

Target Property Address:
IRIS AVENUE & PERRIS BOULEVARD
MORENO VALLEY, CA 92551

Click on Map ID to see full detail.

MAP ID	SITE NAME	ADDRESS	DATABASE ACRONYMS	RELATIVE ELEVATION	DIST (ft. & DIRECTIC
1	RED MAPLE SCHOOL SIT	RED MAPLE LANE/EBONY	ENVIROSTOR, SCH	Lower	155, 0.029,
A2	WALGREENS #9616	16020 PERRIS BLVD	RCRA-LQG	Higher	318, 0.060,
A3	WALGREENS	16020 PERRIS BLVD	CERS HAZ WASTE, CIWQS, CERS	Higher	318, 0.060,
B4	TESORO SHELL 68567	15980 PERRIS BLVD	CERS HAZ WASTE, CERS TANKS, HAZNET, CERS	Higher	403, 0.076,
B5	SHELL PERRIS BLVD.	15980 PERRIS BLVD.	LUST	Higher	403, 0.076,
B6	TESORO (SHELL) 68567	15980 PERRIS BLVD	UST	Higher	403, 0.076,
B7	TESORO SHELL 68567	15980 PERRIS BLVD	RCRA NonGen / NLR	Higher	403, 0.076,
B8	CAR ENTERPRISES INC	15980 PERRIS BLVD	EDR Hist Auto	Higher	403, 0.076,
B9	SHELL SERVICE STATIO	15980 PERRIS BLVD	RCRA-SQG, LUST, SWEEPS UST, FINDS, ECHO, Cortese,...	Higher	403, 0.076,
B10	MALEK AYASS	15974 PERRIS BLVD UN	RCRA-SQG, FINDS, ECHO	Higher	492, 0.093,
B11	ROLLING RIDGE CLEANE	15974 PERRIS BLVD ST	DRYCLEANERS	Higher	492, 0.093,
B12	ROLLING RIDGE CLEANE	15974 PERRIS BLVD UN	DRYCLEANERS	Higher	492, 0.093,
B13	ROLLING RIDGE CLEANE	15974 PERRIS BLVD UN	DRYCLEANERS	Higher	492, 0.093,
B14	ROLLING RIDGE CLEANE	15974 PERRIS BLVD UN	DRYCLEANERS	Higher	492, 0.093,
B15	ROLLING RIDGE CLEANE	15974 PERRIS BLVD ST	EDR Hist Cleaner	Higher	492, 0.093,
B16	TAN TRAN	15974 PERRIS BLVD UN	DRYCLEANERS	Higher	492, 0.093,
B17	EMWD MORENO #1 PUMPI	16015 PERRIS BLVD	SWEEPS UST	Higher	539, 0.102,
18	MAGIC DRY CLEANERS	16090 PERRIS BLVD #B	DRYCLEANERS	Higher	609, 0.115,
B19	ONE'S RECYCLING	15928 PERRIS BLVD	SWRCY	Higher	621, 0.118,
20	HOME DEPOT USA INC H	15975 PERRIS BLVD	RCRA-SQG, CERS HAZ WASTE, HAZNET, CERS	Higher	743, 0.141,
C21	CERTIFIED TIRE & SER	16190 PERRIS BLVD	CERS HAZ WASTE, HAZNET, CERS	Lower	830, 0.157,
C22	CERTIFIED TIRE & SER	16190 PERRIS BLVD	RCRA NonGen / NLR	Lower	830, 0.157,
C23	AUTOZONE #3714	16210 PERRIS BLVD	RCRA NonGen / NLR	Lower	994, 0.188,
C24	AUTOZONE #3714	16210 PERRIS BLVD	CERS HAZ WASTE, HAZNET, CERS	Lower	994, 0.188,
C25	MAGIC CLEANERS	25025 RED MAPLE LN	EDR Hist Cleaner	Lower	1032, 0.195
26	M G MOBILE SERVICE	25190 MORNING DOVE W	EDR Hist Auto	Lower	1248, 0.236
D27	ARCO #5764	16466 PERRIS BLVD.	LUST, CERS	Lower	1767, 0.335
D28	ARCO #5764	16466 PERRIS BLVD	LUST, CERS HAZ WASTE, CA FID UST, CERS TANKS,...	Lower	1767, 0.335
29	INDIAN MIDDLE SCHOOL	INDIAN AVENUE / IRIS	ENVIROSTOR, SCH, CERS	Higher	3096, 0.586

EXECUTIVE SUMMARY

TARGET PROPERTY SEARCH RESULTS

The target property was not listed in any of the databases searched by EDR.

DATABASES WITH NO MAPPED SITES

No mapped sites were found in EDR's search of available ("reasonably ascertainable ") government records either on the target property or within the search radius around the target property for the following databases:

STANDARD ENVIRONMENTAL RECORDS

Federal NPL site list

NPL ---------- National Priority List
Proposed NPL ---------- Proposed National Priority List Sites
NPL LIENS ---------- Federal Superfund Liens

Federal Delisted NPL site list

Delisted NPL ---------- National Priority List Deletions

Federal CERCLIS list

FEDERAL FACILITY ---------- Federal Facility Site Information listing
SEMS ---------- Superfund Enterprise Management System

Federal CERCLIS NFRAP site list

SEMS-ARCHIVE ---------- Superfund Enterprise Management System Archive

Federal RCRA CORRACTS facilities list

CORRACTS ---------- Corrective Action Report

Federal RCRA non-CORRACTS TSD facilities list

RCRA-TSDF ---------- RCRA - Treatment, Storage and Disposal

Federal RCRA generators list

RCRA-VSQG ---------- RCRA - Very Small Quantity Generators (Formerly Conditionally Exempt Small Quantity Generators)

Federal institutional controls / engineering controls registries

LUCIS ---------- Land Use Control Information System
US ENG CONTROLS ---------- Engineering Controls Sites List
US INST CONTROL ---------- Sites with Institutional Controls

EXECUTIVE SUMMARY

Federal ERNS list

ERNS ..... Emergency Response Notification System

State- and tribal - equivalent NPL

RESPONSE ..... State Response Sites

State and tribal landfill and/or solid waste disposal site lists

SWF/LF ..... Solid Waste Information System

State and tribal leaking storage tank lists

INDIAN LUST ..... Leaking Underground Storage Tanks on Indian Land
CPS-SLIC ..... Statewide SLIC Cases

State and tribal registered storage tank lists

FEMA UST ..... Underground Storage Tank Listing
AST ..... Aboveground Petroleum Storage Tank Facilities
INDIAN UST ..... Underground Storage Tanks on Indian Land

State and tribal voluntary cleanup sites

INDIAN VCP ..... Voluntary Cleanup Priority Listing
VCP ..... Voluntary Cleanup Program Properties

State and tribal Brownfields sites

BROWNFIELDS ..... Considered Brownfieds Sites Listing

ADDITIONAL ENVIRONMENTAL RECORDS

Local Brownfield lists

US BROWNFIELDS ..... A Listing of Brownfields Sites

Local Lists of Landfill / Solid Waste Disposal Sites

WMUDS/SWAT ..... Waste Management Unit Database
HAULERS ..... Registered Waste Tire Haulers Listing
INDIAN ODI ..... Report on the Status of Open Dumps on Indian Lands
DEBRIS REGION 9 ..... Torres Martinez Reservation Illegal Dump Site Locations
ODI ..... Open Dump Inventory
IHS OPEN DUMPS ..... Open Dumps on Indian Land

Local Lists of Hazardous waste / Contaminated Sites

US HIST CDL ..... Delisted National Clandestine Laboratory Register
HIST Cal-Sites ..... Historical Calsites Database
CDL ..... Clandestine Drug Labs
Toxic Pits ..... Toxic Pits Cleanup Act Sites

EXECUTIVE SUMMARY

US CDL ..... National Clandestine Laboratory Register
PFAS ..... PFAS Contamination Site Location Listing

Local Lists of Registered Storage Tanks

HIST UST ..... Hazardous Substance Storage Container Database
CA FID UST ..... Facility Inventory Database

Local Land Records

LIENS ..... Environmental Liens Listing
LIENS 2 ..... CERCLA Lien Information
DEED ..... Deed Restriction Listing

Records of Emergency Release Reports

HMIRS ..... Hazardous Materials Information Reporting System
CHMIRS ..... California Hazardous Material Incident Report System
LDS ..... Land Disposal Sites Listing
MCS ..... Military Cleanup Sites Listing
SPILLS 90 ..... SPILLS 90 data from FirstSearch

Other Ascertainable Records

FUDS ..... Formerly Used Defense Sites
DOD ..... Department of Defense Sites
SCRD DRYCLEANERS ..... State Coalition for Remediation of Drycleaners Listing
US FIN ASSUR ..... Financial Assurance Information
EPA WATCH LIST ..... EPA WATCH LIST
2020 COR ACTION ..... 2020 Corrective Action Program List
TSCA ..... Toxic Substances Control Act
TRIS ..... Toxic Chemical Release Inventory System
SSTS ..... Section 7 Tracking Systems
ROD ..... Records Of Decision
RMP ..... Risk Management Plans
RAATS ..... RCRA Administrative Action Tracking System
PRP ..... Potentially Responsible Parties
PADS ..... PCB Activity Database System
ICIS ..... Integrated Compliance Information System
FTTS ..... FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
MLTS ..... Material Licensing Tracking System
COAL ASH DOE ..... Steam-Electric Plant Operation Data
COAL ASH EPA ..... Coal Combustion Residues Surface Impoundments List
PCB TRANSFORMER ..... PCB Transformer Registration Database
RADINFO ..... Radiation Information Database
HIST FTTS ..... FIFRA/TSCA Tracking System Administrative Case Listing
DOT OPS ..... Incident and Accident Data
CONSENT ..... Superfund (CERCLA) Consent Decrees
INDIAN RESERV ..... Indian Reservations
FUSRAP ..... Formerly Utilized Sites Remedial Action Program
UMTRA ..... Uranium Mill Tailings Sites
LEAD SMELTERS ..... Lead Smelter Sites
US AIRS ..... Aerometric Information Retrieval System Facility Subsystem
US MINES ..... Mines Master Index File

EXECUTIVE SUMMARY

ABANDONED MINES	Abandoned Mines
FINDS	Facility Index System/Facility Registry System
DOCKET HWC	Hazardous Waste Compliance Docket Listing
ECHO	Enforcement & Compliance History Information
UXO	Unexploded Ordnance Sites
FUELS PROGRAM	EPA Fuels Program Registered Listing
CA BOND EXP. PLAN	Bond Expenditure Plan
CUPA Listings	CUPA Resources List
EMI	Emissions Inventory Data
ENF	Enforcement Action Listing
Financial Assurance	Financial Assurance Information Listing
HAZNET	Facility and Manifest Data
ICE	ICE
HIST CORTESE	Hazardous Waste & Substance Site List
HWP	EnviroStor Permitted Facilities Listing
HWT	Registered Hazardous Waste Transporter Database
MINES	Mines Site Location Listing
MWMP	Medical Waste Management Program Listing
NPDES	NPDES Permits Listing
PEST LIC	Pesticide Regulation Licenses Listing
PROC	Certified Processors Database
Notify 65	Proposition 65 Records
UIC	UIC Listing
UIC GEO	UIC GEO (GEOTRACKER)
WASTEWATER PITS	Oil Wastewater Pits Listing
WDS	Waste Discharge System
WIP	Well Investigation Program Case List
MILITARY PRIV SITES	MILITARY PRIV SITES (GEOTRACKER)
PROJECT	PROJECT (GEOTRACKER)
WDR	Waste Discharge Requirements Listing
CIWQS	California Integrated Water Quality System
CERS	CERS
NON-CASE INFO	NON-CASE INFO (GEOTRACKER)
OTHER OIL GAS	OTHER OIL & GAS (GEOTRACKER)
PROD WATER PONDS	PROD WATER PONDS (GEOTRACKER)
SAMPLING POINT	SAMPLING POINT (GEOTRACKER)
WELL STIM PROJ	Well Stimulation Project (GEOTRACKER)
MINES MRDS	Mineral Resources Data System

EDR HIGH RISK HISTORICAL RECORDS

EDR Exclusive Records

EDR MGP	EDR Proprietary Manufactured Gas Plants

SURROUNDING SITES: SEARCH RESULTS

Surrounding sites were identified in the following databases.

Elevations have been determined from the USGS Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified. Sites with an elevation equal to or higher than the target property have been differentiated below from sites with an elevation lower than the target property.
Page numbers and map identification numbers refer to the EDR Radius Map report where detailed data on individual sites can be reviewed.

Sites listed in ***bold italics*** are in multiple databases.

Unmappable (orphan) sites are not considered in the foregoing analysis.

EXECUTIVE SUMMARY

STANDARD ENVIRONMENTAL RECORDS

Federal RCRA generators list

RCRA-LQG: RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Large quantity generators (LQGs) generate over 1,000 kilograms (kg) of hazardous waste, or over 1 kg of acutely hazardous waste per month.

A review of the RCRA-LQG list, as provided by EDR, and dated 06/24/2019 has revealed that there is 1 RCRA-LQG site within approximately 0.25 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
WALGREENS #9616 EPA ID:: CAL000324989	16020 PERRIS BLVD	W 0 - 1/8 (0.060 mi.)	A2	10

RCRA-SQG: RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Small quantity generators (SQGs) generate between 100 kg and 1,000 kg of hazardous waste per month.

A review of the RCRA-SQG list, as provided by EDR, and dated 06/24/2019 has revealed that there are 3 RCRA-SQG sites within approximately 0.25 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
SHELL SERVICE STATIO EPA ID:: CAR000120600	***15980 PERRIS BLVD***	***WNW 0 - 1/8 (0.076 mi.)***	***B9***	***28***
MALEK AYASS EPA ID:: CAR000019851	***15974 PERRIS BLVD UN***	***WNW 0 - 1/8 (0.093 mi.)***	***B10***	***46***
HOME DEPOT USA INC H EPA ID:: CAR000168732	***15975 PERRIS BLVD***	***WNW 1/8 - 1/4 (0.141 mi.)***	***20***	***53***

State- and tribal - equivalent CERCLIS

ENVIROSTOR: The Department of Toxic Substances Control's (DTSC's) Site Mitigation and Brownfields Reuse Program's (SMBRP's) EnviroStor database identifes sites that have known contamination or sites for which there may be reasons to investigate further. The database includes the following site types: Federal Superfund sites (National Priorities List (NPL)); State Response, including Military Facilities and State Superfund; Voluntary Cleanup; and School sites. EnviroStor provides similar information to the information that was available in CalSites, and provides additional site information, including, but not limited to, identification of formerly-contaminated properties that have been released for reuse, properties where environmental deed restrictions have been recorded to prevent inappropriate land uses, and risk characterization information that is used to assess potential impacts to public health and the environment at contaminated sites.

A review of the ENVIROSTOR list, as provided by EDR, and dated 07/29/2019 has revealed that there are

EXECUTIVE SUMMARY

2 ENVIROSTOR sites within approximately 1 mile of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
INDIAN MIDDLE SCHOOL	***INDIAN AVENUE / IRIS***	***WNW 1/2 - 1 (0.586 mi.)***	***29***	***89***
Status: Certified Facility Id: 33000006				

Lower Elevation	Address	Direction / Distance	Map ID	Page
RED MAPLE SCHOOL SIT	***RED MAPLE LANE/EBONY***	***SSE 0 - 1/8 (0.029 mi.)***	***1***	***8***
Status: No Action Required Facility Id: 33010052				

State and tribal leaking storage tank lists

LUST: Leaking Underground Storage Tank (LUST) Sites included in GeoTracker. GeoTracker is the Water Boards data management system for sites that impact, or have the potential to impact, water quality in California, with emphasis on groundwater.

A review of the LUST list, as provided by EDR, has revealed that there are 4 LUST sites within approximately 0.5 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
SHELL PERRIS BLVD.	15980 PERRIS BLVD.	WNW 0 - 1/8 (0.076 mi.)	B5	25
Database: LUST REG 8, Date of Government Version: 02/14/2005 Facility Status: Leak being confirmed Global ID: T0606517323				
SHELL SERVICE STATIO	***15980 PERRIS BLVD***	***WNW 0 - 1/8 (0.076 mi.)***	***B9***	***28***
Database: LUST, Date of Government Version: 06/10/2019 Database: RIVERSIDE CO. LUST, Date of Government Version: 07/10/2019 Status: Open - Verification Monitoring Facility Id: 200420313 Global Id: T0606517323 Facility Status: 9				

Lower Elevation	Address	Direction / Distance	Map ID	Page
ARCO #5764	***16466 PERRIS BLVD.***	***SSW 1/4 - 1/2 (0.335 mi.)***	***D27***	***75***
Database: LUST REG 8, Date of Government Version: 02/14/2005 Facility Status: Leak being confirmed Global ID: T0606531216				
ARCO #5764	***16466 PERRIS BLVD***	***SSW 1/4 - 1/2 (0.335 mi.)***	***D28***	***77***
Database: LUST, Date of Government Version: 06/10/2019 Database: RIVERSIDE CO. LUST, Date of Government Version: 07/10/2019 Status: Completed - Case Closed Facility Id: 200420311 Global Id: T0606531216 Facility Status: 9				

EXECUTIVE SUMMARY

State and tribal registered storage tank lists

UST: The Underground Storage Tank database contains registered USTs. USTs are regulated under Subtitle I of the Resource Conservation and Recovery Act (RCRA). The data come from the State Water Resources Control Board's Hazardous Substance Storage Container Database.

A review of the UST list, as provided by EDR, has revealed that there is 1 UST site within approximately 0.25 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
TESORO (SHELL) 68567	15980 PERRIS BLVD	WNW 0 - 1/8 (0.076 mi.)	B6	26
Database: RIVERSIDE CO. UST, Date of Government Version: 07/10/2019				
Database: UST, Date of Government Version: 06/10/2019				
Facility Id: FA0014655				
Facility Id: 825				

ADDITIONAL ENVIRONMENTAL RECORDS

Local Lists of Landfill / Solid Waste Disposal Sites

SWRCY: A listing of recycling facilities in California.

A review of the SWRCY list, as provided by EDR, and dated 06/11/2019 has revealed that there is 1 SWRCY site within approximately 0.5 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
ONE'S RECYCLING	15928 PERRIS BLVD	NW 0 - 1/8 (0.118 mi.)	B19	53
Cert Id: RC256989.001				

Local Lists of Hazardous waste / Contaminated Sites

SCH: This category contains proposed and existing school sites that are being evaluated by DTSC for possible hazardous materials contamination. In some cases, these properties may be listed in the CalSites category. depending on the level of threat to public health and safety or the. environment they pose.

A review of the SCH list, as provided by EDR, and dated 07/29/2019 has revealed that there is 1 SCH site within approximately 0.25 miles of the target property.

Lower Elevation	Address	Direction / Distance	Map ID	Page
RED MAPLE SCHOOL SIT	***RED MAPLE LANE/EBONY***	***SSE 0 - 1/8 (0.029 mi.)***	***1***	***8***
Facility Id: 33010052				
Status: No Action Required				

EXECUTIVE SUMMARY

CERS HAZ WASTE: List of sites in the California Environmental Protection Agency (CalEPA) Regulated Site Portal which fall under the Hazardous Chemical Management, Hazardous Waste Onsite Treatment, Household Hazardous Waste Collection, Hazardous Waste Generator, and RCRA LQ HW Generator programs.

A review of the CERS HAZ WASTE list, as provided by EDR, and dated 08/14/2019 has revealed that there are 5 CERS HAZ WASTE sites within approximately 0.25 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
WALGREENS	***16020 PERRIS BLVD***	***W 0 - 1/8 (0.060 mi.)***	***A3***	***14***
TESORO SHELL 68567	***15980 PERRIS BLVD***	***WNW 0 - 1/8 (0.076 mi.)***	***B4***	***17***
HOME DEPOT USA INC H	***15975 PERRIS BLVD***	***WNW 1/8 - 1/4 (0.141 mi.)***	***20***	***53***
Lower Elevation	**Address**	**Direction / Distance**	**Map ID**	**Page**
CERTIFIED TIRE & SER	***16190 PERRIS BLVD***	***SW 1/8 - 1/4 (0.157 mi.)***	***C21***	***59***
AUTOZONE #3714	***16210 PERRIS BLVD***	***SW 1/8 - 1/4 (0.188 mi.)***	***C24***	***66***

Local Lists of Registered Storage Tanks

SWEEPS UST: Statewide Environmental Evaluation and Planning System. This underground storage tank listing was updated and maintained by a company contacted by the SWRCB in the early 1990's. The listing is no longer updated or maintained. The local agency is the contact for more information on a site on the SWEEPS list.

A review of the SWEEPS UST list, as provided by EDR, and dated 06/01/1994 has revealed that there are 2 SWEEPS UST sites within approximately 0.25 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
SHELL SERVICE STATIO Status: A Tank Status: A Comp Number: 1985	***15980 PERRIS BLVD***	***WNW 0 - 1/8 (0.076 mi.)***	***B9***	***28***
EMWD MORENO #1 PUMPI Status: A Tank Status: A Comp Number: 30881	16015 PERRIS BLVD	WNW 0 - 1/8 (0.102 mi.)	B17	52

CERS TANKS: List of sites in the California Environmental Protection Agency (CalEPA) Regulated Site Portal which fall under the Aboveground Petroleum Storage and Underground Storage Tank regulatory programs.

A review of the CERS TANKS list, as provided by EDR, and dated 08/14/2019 has revealed that there is 1 CERS TANKS site within approximately 0.25 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
TESORO SHELL 68567	***15980 PERRIS BLVD***	***WNW 0 - 1/8 (0.076 mi.)***	***B4***	***17***

EXECUTIVE SUMMARY

Other Ascertainable Records

RCRA NonGen / NLR: RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Non-Generators do not presently generate hazardous waste.

A review of the RCRA NonGen / NLR list, as provided by EDR, and dated 06/24/2019 has revealed that there are 3 RCRA NonGen / NLR sites within approximately 0.25 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
TESORO SHELL 68567 EPA ID:: CAL000322036	15980 PERRIS BLVD	WNW 0 - 1/8 (0.076 mi.)	B7	27

Lower Elevation	Address	Direction / Distance	Map ID	Page
CERTIFIED TIRE & SER EPA ID:: CAL000332042	16190 PERRIS BLVD	SW 1/8 - 1/4 (0.157 mi.)	C22	64
AUTOZONE #3714 EPA ID:: CAL000334025	16210 PERRIS BLVD	SW 1/8 - 1/4 (0.188 mi.)	C23	65

Cortese: The sites for the list are designated by the State Water Resource Control Board (LUST), the Integrated Waste Board (SWF/LS), and the Department of Toxic Substances Control (Cal-Sites).

A review of the Cortese list, as provided by EDR, and dated 06/24/2019 has revealed that there is 1 Cortese site within approximately 0.5 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
SHELL SERVICE STATIO Cleanup Status: OPEN - VERIFICATION MONITORING	***15980 PERRIS BLVD***	***WNW 0 - 1/8 (0.076 mi.)***	***B9***	***28***

DRYCLEANERS: A list of drycleaner related facilities that have EPA ID numbers. These are facilities with certain SIC codes: power laundries, family and commercial; garment pressing and cleaners' agents; linen supply; coin-operated laundries and cleaning; drycleaning plants except rugs; carpet and upholster cleaning; industrial launderers; laundry and garment services.

A review of the DRYCLEANERS list, as provided by EDR, has revealed that there are 6 DRYCLEANERS sites within approximately 0.25 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
ROLLING RIDGE CLEANE Database: DRYCLEANERS, Date of Government Version: 06/04/2019 EPA Id: CAL000364010 EPA Id: CAL000389130	15974 PERRIS BLVD ST	WNW 0 - 1/8 (0.093 mi.)	B11	48
ROLLING RIDGE CLEANE Database: DRYCLEAN SOUTH COAST, Date of Government Version: 03/19/2019	15974 PERRIS BLVD UN	WNW 0 - 1/8 (0.093 mi.)	B12	49
ROLLING RIDGE CLEANE Database: DRYCLEAN SOUTH COAST, Date of Government Version: 03/19/2019	15974 PERRIS BLVD UN	WNW 0 - 1/8 (0.093 mi.)	B13	49
ROLLING RIDGE CLEANE Database: DRYCLEAN SOUTH COAST, Date of Government Version: 03/19/2019	15974 PERRIS BLVD UN	WNW 0 - 1/8 (0.093 mi.)	B14	50

EXECUTIVE SUMMARY

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
TAN TRAN	15974 PERRIS BLVD UN	WNW 0 - 1/8 (0.093 mi.)	B16	51
Database: DRYCLEAN SOUTH COAST, Date of Government Version: 03/19/2019				
MAGIC DRY CLEANERS	16090 PERRIS BLVD #B	W 0 - 1/8 (0.115 mi.)	18	52
Database: DRYCLEANERS, Date of Government Version: 06/04/2019				
EPA Id: CAL000342712				

EDR HIGH RISK HISTORICAL RECORDS

EDR Exclusive Records

EDR Hist Auto: EDR has searched selected national collections of business directories and has collected listings of potential gas station/filling station/service station sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include gas station/filling station/service station establishments. The categories reviewed included, but were not limited to gas, gas station, gasoline station, filling station, auto, automobile repair, auto service station, service station, etc. This database falls within a category of information EDR classifies as "High Risk Historical Records", or HRHR. EDR's HRHR effort presents unique and sometimes proprietary data about past sites and operations that typically create environmental concerns, but may not show up in current government records searches.

A review of the EDR Hist Auto list, as provided by EDR, has revealed that there are 2 EDR Hist Auto sites within approximately 0.25 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
CAR ENTERPRISES INC	15980 PERRIS BLVD	WNW 0 - 1/8 (0.076 mi.)	B8	28
Lower Elevation	**Address**	**Direction / Distance**	**Map ID**	**Page**
M G MOBILE SERVICE	25190 MORNING DOVE W	SSE 1/8 - 1/4 (0.236 mi.)	26	75

EDR Hist Cleaner: EDR has searched selected national collections of business directories and has collected listings of potential dry cleaner sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include dry cleaning establishments. The categories reviewed included, but were not limited to dry cleaners, cleaners, laundry, laundromat, cleaning/laundry, wash & dry etc. This database falls within a category of information EDR classifies as "High Risk Historical Records", or HRHR. EDR's HRHR effort presents unique and sometimes proprietary data about past sites and operations that typically create environmental concerns, but may not show up in current government records searches.

A review of the EDR Hist Cleaner list, as provided by EDR, has revealed that there are 2 EDR Hist Cleaner sites within approximately 0.25 miles of the target property.

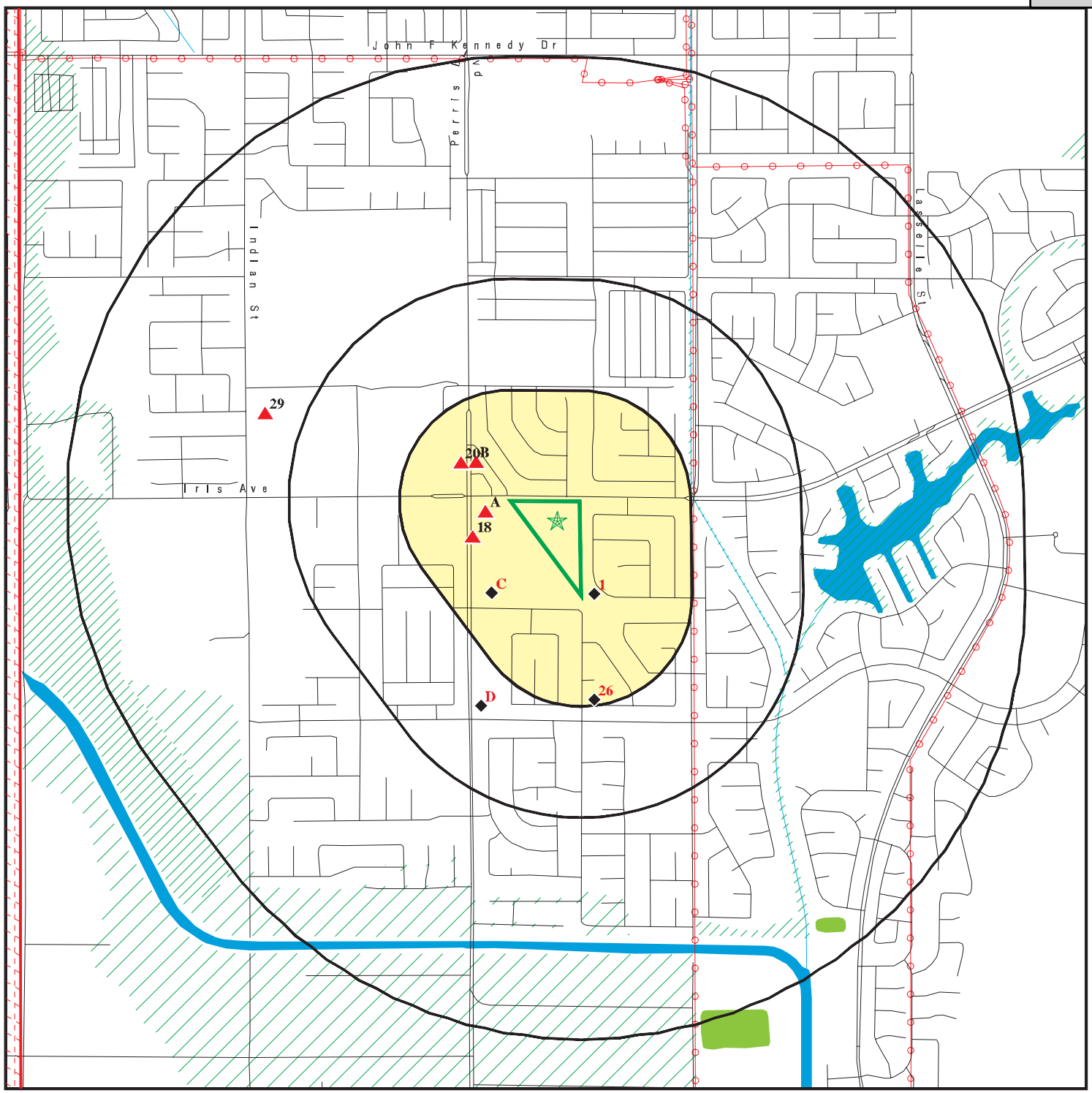
Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
ROLLING RIDGE CLEANE	15974 PERRIS BLVD ST	WNW 0 - 1/8 (0.093 mi.)	B15	51
Lower Elevation	**Address**	**Direction / Distance**	**Map ID**	**Page**
MAGIC CLEANERS	25025 RED MAPLE LN	SW 1/8 - 1/4 (0.195 mi.)	C25	74

EXECUTIVE SUMMARY

Due to poor or inadequate address information, the following sites were not mapped. Count: 3 records.

Site Name	Database(s)
KITCHING ST & IRIS AVE	CIWQS
PALMS CLEANERS, KWANG H. LEE DBA	DRYCLEANERS
DAVID CHANS	DRYCLEANERS

OVERVIEW MAP - 5844302.2S

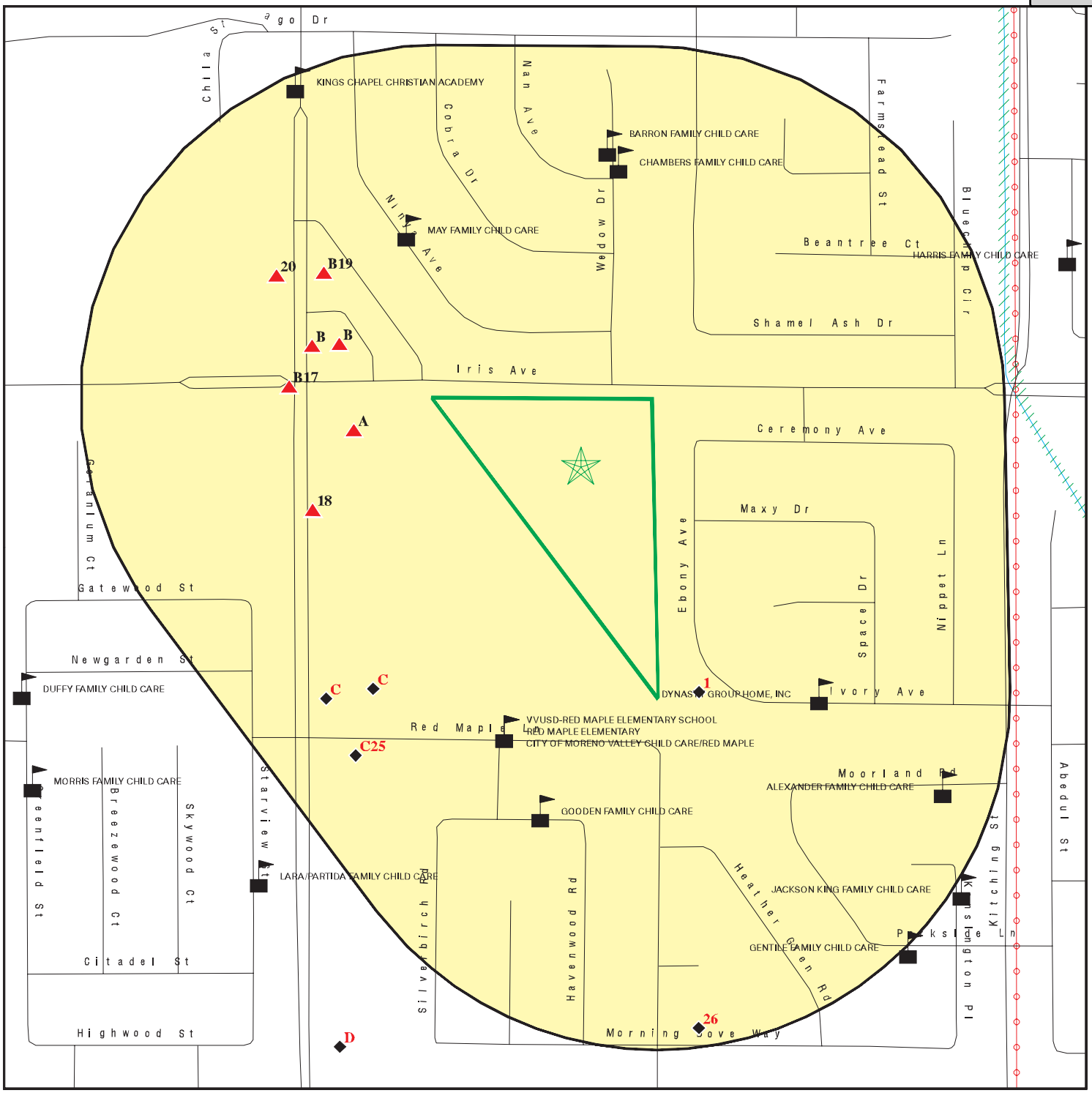


- Target Property
- Sites at elevations higher than or equal to the target property
- Sites at elevations lower than the target property
- Manufactured Gas Plants
- National Priority List Sites
- Dept. Defense Sites
- Indian Reservations BIA
- Power transmission lines
- 100-year flood zone
- 500-year flood zone
- National Wetland Inventory
- State Wetlands
- Areas of Concern

This report includes Interactive Map Layers display and/or hide map information. The legend includes only those icons for the default map view.

SITE NAME:	Iris Park	CLIENT:	AES Due Diligence, Inc
ADDRESS:	Iris Avenue & Perris Boulevard Moreno Valley CA 92551	CONTACT:	Rick Darwicki
LAT/LONG:	33.887532 / 117.222763	INQUIRY #:	5844302.2s
		DATE:	October 25, 2019 2:01 pm

DETAIL MAP - 5844302.2S



- Target Property
- Sites at elevations higher than or equal to the target property
- Sites at elevations lower than the target property
- Manufactured Gas Plants
- Sensitive Receptors
- National Priority List Sites
- Dept. Defense Sites

0 1/16 1/8 1/4 Miles

- Indian Reservations BIA
- Power transmission lines
- 100-year flood zone
- 500-year flood zone
- Areas of Concern

This report includes Interactive Map Layers display and/or hide map information. The legend includes only those icons for the default map view.

SITE NAME:	Iris Park	CLIENT:	AES Due Diligence, Inc
ADDRESS:	Iris Avenue & Perris Boulevard Moreno Valley CA 92551	CONTACT:	Rick Darwicki
LAT/LONG:	33.887532 / 117.222763	INQUIRY #:	5844302.2s
		DATE:	October 25, 2019 2:06 pm

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
STANDARD ENVIRONMENTAL RECORDS								
Federal NPL site list								
NPL	1.000		0	0	0	0	NR	0
Proposed NPL	1.000		0	0	0	0	NR	0
NPL LIENS	TP		NR	NR	NR	NR	NR	0
Federal Delisted NPL site list								
Delisted NPL	1.000		0	0	0	0	NR	0
Federal CERCLIS list								
FEDERAL FACILITY	0.500		0	0	0	NR	NR	0
SEMS	0.500		0	0	0	NR	NR	0
Federal CERCLIS NFRAP site list								
SEMS-ARCHIVE	0.500		0	0	0	NR	NR	0
Federal RCRA CORRACTS facilities list								
CORRACTS	1.000		0	0	0	0	NR	0
Federal RCRA non-CORRACTS TSD facilities list								
RCRA-TSDF	0.500		0	0	0	NR	NR	0
Federal RCRA generators list								
RCRA-LQG	0.250		1	0	NR	NR	NR	1
RCRA-SQG	0.250		2	1	NR	NR	NR	3
RCRA-VSQG	0.250		0	0	NR	NR	NR	0
Federal institutional controls / engineering controls registries								
LUCIS	0.500		0	0	0	NR	NR	0
US ENG CONTROLS	0.500		0	0	0	NR	NR	0
US INST CONTROL	0.500		0	0	0	NR	NR	0
Federal ERNS list								
ERNS	TP		NR	NR	NR	NR	NR	0
State- and tribal - equivalent NPL								
RESPONSE	1.000		0	0	0	0	NR	0
State- and tribal - equivalent CERCLIS								
ENVIROSTOR	1.000		1	0	0	1	NR	2
State and tribal landfill and/or solid waste disposal site lists								
SWF/LF	0.500		0	0	0	NR	NR	0
State and tribal leaking storage tank lists								
LUST	0.500		2	0	2	NR	NR	4

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
INDIAN LUST	0.500		0	0	0	NR	NR	0
CPS-SLIC	0.500		0	0	0	NR	NR	0
State and tribal registered storage tank lists								
FEMA UST	0.250		0	0	NR	NR	NR	0
UST	0.250		1	0	NR	NR	NR	1
AST	0.250		0	0	NR	NR	NR	0
INDIAN UST	0.250		0	0	NR	NR	NR	0
State and tribal voluntary cleanup sites								
INDIAN VCP	0.500		0	0	0	NR	NR	0
VCP	0.500		0	0	0	NR	NR	0
State and tribal Brownfields sites								
BROWNFIELDS	0.500		0	0	0	NR	NR	0
ADDITIONAL ENVIRONMENTAL RECORDS								
Local Brownfield lists								
US BROWNFIELDS	0.500		0	0	0	NR	NR	0
Local Lists of Landfill / Solid Waste Disposal Sites								
WMUDS/SWAT	0.500		0	0	0	NR	NR	0
SWRCY	0.500		1	0	0	NR	NR	1
HAULERS	TP		NR	NR	NR	NR	NR	0
INDIAN ODI	0.500		0	0	0	NR	NR	0
DEBRIS REGION 9	0.500		0	0	0	NR	NR	0
ODI	0.500		0	0	0	NR	NR	0
IHS OPEN DUMPS	0.500		0	0	0	NR	NR	0
Local Lists of Hazardous waste / Contaminated Sites								
US HIST CDL	TP		NR	NR	NR	NR	NR	0
HIST Cal-Sites	1.000		0	0	0	0	NR	0
SCH	0.250		1	0	NR	NR	NR	1
CDL	TP		NR	NR	NR	NR	NR	0
Toxic Pits	1.000		0	0	0	0	NR	0
CERS HAZ WASTE	0.250		2	3	NR	NR	NR	5
US CDL	TP		NR	NR	NR	NR	NR	0
PFAS	0.500		0	0	0	NR	NR	0
Local Lists of Registered Storage Tanks								
SWEEPS UST	0.250		2	0	NR	NR	NR	2
HIST UST	0.250		0	0	NR	NR	NR	0
CA FID UST	0.250		0	0	NR	NR	NR	0
CERS TANKS	0.250		1	0	NR	NR	NR	1
Local Land Records								
LIENS	TP		NR	NR	NR	NR	NR	0

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
LIENS 2	TP		NR	NR	NR	NR	NR	0
DEED	0.500		0	0	0	NR	NR	0
Records of Emergency Release Reports								
HMIRS	TP		NR	NR	NR	NR	NR	0
CHMIRS	TP		NR	NR	NR	NR	NR	0
LDS	TP		NR	NR	NR	NR	NR	0
MCS	TP		NR	NR	NR	NR	NR	0
SPILLS 90	TP		NR	NR	NR	NR	NR	0
Other Ascertainable Records								
RCRA NonGen / NLR	0.250		1	2	NR	NR	NR	3
FUDS	1.000		0	0	0	0	NR	0
DOD	1.000		0	0	0	0	NR	0
SCRD DRYCLEANERS	0.500		0	0	0	NR	NR	0
US FIN ASSUR	TP		NR	NR	NR	NR	NR	0
EPA WATCH LIST	TP		NR	NR	NR	NR	NR	0
2020 COR ACTION	0.250		0	0	NR	NR	NR	0
TSCA	TP		NR	NR	NR	NR	NR	0
TRIS	TP		NR	NR	NR	NR	NR	0
SSTS	TP		NR	NR	NR	NR	NR	0
ROD	1.000		0	0	0	0	NR	0
RMP	TP		NR	NR	NR	NR	NR	0
RAATS	TP		NR	NR	NR	NR	NR	0
PRP	TP		NR	NR	NR	NR	NR	0
PADS	TP		NR	NR	NR	NR	NR	0
ICIS	TP		NR	NR	NR	NR	NR	0
FTTS	TP		NR	NR	NR	NR	NR	0
MLTS	TP		NR	NR	NR	NR	NR	0
COAL ASH DOE	TP		NR	NR	NR	NR	NR	0
COAL ASH EPA	0.500		0	0	0	NR	NR	0
PCB TRANSFORMER	TP		NR	NR	NR	NR	NR	0
RADINFO	TP		NR	NR	NR	NR	NR	0
HIST FTTS	TP		NR	NR	NR	NR	NR	0
DOT OPS	TP		NR	NR	NR	NR	NR	0
CONSENT	1.000		0	0	0	0	NR	0
INDIAN RESERV	1.000		0	0	0	0	NR	0
FUSRAP	1.000		0	0	0	0	NR	0
UMTRA	0.500		0	0	0	NR	NR	0
LEAD SMELTERS	TP		NR	NR	NR	NR	NR	0
US AIRS	TP		NR	NR	NR	NR	NR	0
US MINES	0.250		0	0	NR	NR	NR	0
ABANDONED MINES	TP		NR	NR	NR	NR	NR	0
FINDS	TP		NR	NR	NR	NR	NR	0
DOCKET HWC	TP		NR	NR	NR	NR	NR	0
ECHO	TP		NR	NR	NR	NR	NR	0
UXO	1.000		0	0	0	0	NR	0
FUELS PROGRAM	0.250		0	0	NR	NR	NR	0
CA BOND EXP. PLAN	1.000		0	0	0	0	NR	0
Cortese	0.500		1	0	0	NR	NR	1
CUPA Listings	0.250		0	0	NR	NR	NR	0

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
DRYCLEANERS	0.250		6	0	NR	NR	NR	6
EMI	TP		NR	NR	NR	NR	NR	0
ENF	TP		NR	NR	NR	NR	NR	0
Financial Assurance	TP		NR	NR	NR	NR	NR	0
HAZNET	TP		NR	NR	NR	NR	NR	0
ICE	TP		NR	NR	NR	NR	NR	0
HIST CORTESE	0.500		0	0	0	NR	NR	0
HWP	1.000		0	0	0	0	NR	0
HWT	0.250		0	0	NR	NR	NR	0
MINES	TP		NR	NR	NR	NR	NR	0
MWMP	0.250		0	0	NR	NR	NR	0
NPDES	TP		NR	NR	NR	NR	NR	0
PEST LIC	TP		NR	NR	NR	NR	NR	0
PROC	0.500		0	0	0	NR	NR	0
Notify 65	1.000		0	0	0	0	NR	0
UIC	TP		NR	NR	NR	NR	NR	0
UIC GEO	TP		NR	NR	NR	NR	NR	0
WASTEWATER PITS	0.500		0	0	0	NR	NR	0
WDS	TP		NR	NR	NR	NR	NR	0
WIP	0.250		0	0	NR	NR	NR	0
MILITARY PRIV SITES	TP		NR	NR	NR	NR	NR	0
PROJECT	TP		NR	NR	NR	NR	NR	0
WDR	TP		NR	NR	NR	NR	NR	0
CIWQS	TP		NR	NR	NR	NR	NR	0
CERS	TP		NR	NR	NR	NR	NR	0
NON-CASE INFO	TP		NR	NR	NR	NR	NR	0
OTHER OIL GAS	TP		NR	NR	NR	NR	NR	0
PROD WATER PONDS	TP		NR	NR	NR	NR	NR	0
SAMPLING POINT	TP		NR	NR	NR	NR	NR	0
WELL STIM PROJ	TP		NR	NR	NR	NR	NR	0
MINES MRDS	TP		NR	NR	NR	NR	NR	0
EDR HIGH RISK HISTORICAL RECORDS								
EDR Exclusive Records								
EDR MGP	1.000		0	0	0	0	NR	0
EDR Hist Auto	0.250		1	1	NR	NR	NR	2
EDR Hist Cleaner	0.250		1	1	NR	NR	NR	2
- Totals --		0	24	8	2	1	0	35

NOTES:

TP = Target Property

NR = Not Requested at this Search Distance

Sites may be listed in more than one database

MAP FINDINGS

Map ID / Direction / Distance / Elevation	Site	Database(s)	EDR ID Number / EPA ID Number
1 **SSE** **< 1/8** **0.029 mi.** **155 ft.**	**RED MAPLE SCHOOL SITE** **RED MAPLE LANE/EBONY AVENUE** **MORENO VALLEY, CA 92551**	**ENVIROSTOR** **SCH**	**S118756706** **N/A**

Relative: Lower

Actual: 1493 ft.

ENVIROSTOR:

Name:	RED MAPLE SCHOOL SITE
Address:	RED MAPLE LANE/EBONY AVENUE
City,State,Zip:	MORENO VALLEY, CA 92551
Facility ID:	33010052
Status:	No Action Required
Status Date:	11/29/2001
Site Code:	404298
Site Type:	School Investigation
Site Type Detailed:	School
Acres:	13.76
NPL:	NO
Regulatory Agencies:	DTSC
Lead Agency:	DTSC
Program Manager:	Not reported
Supervisor:	Shahir Haddad
Division Branch:	Southern California Schools & Brownfields Outreach
Assembly:	61
Senate:	31
Special Program:	Not reported
Restricted Use:	NO
Site Mgmt Req:	NONE SPECIFIED
Funding:	School District
Latitude:	33.88519
Longitude:	-117.2213
APN:	NONE SPECIFIED
Past Use:	AGRICULTURAL - ROW CROPS
Potential COC:	NONE SPECIFIED No Contaminants found
Confirmed COC:	NONE SPECIFIED
Potential Description:	NMA
Alias Name:	RED MAPLE SCHOOL SITE (PROPOSED)
Alias Type:	Alternate Name
Alias Name:	VAL VERDE UNIFIED SCHOOL DISTRICT
Alias Type:	Alternate Name
Alias Name:	VAL VERDE USD-RED MAPLE ELEM
Alias Type:	Alternate Name
Alias Name:	VAL VERDE USD-RED MAPLE PROPERTY
Alias Type:	Alternate Name
Alias Name:	404295
Alias Type:	Project Code (Site Code)
Alias Name:	404298
Alias Type:	Project Code (Site Code)
Alias Name:	33010052
Alias Type:	Envirostor ID Number

Completed Info:

Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Phase 1
Completed Date:	11/29/2001
Comments:	Not reported
Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported

RED MAPLE SCHOOL SITE (Continued) **S118756706**

Completed Document Type:	Cost Recovery Closeout Memo
Completed Date:	11/03/2005
Comments:	Two CRU Memos completed for Site Codes 404295 & 404298.
Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Site Inspections/Visit (Non LUR)
Completed Date:	11/08/2001
Comments:	Not reported
Future Area Name:	Not reported
Future Sub Area Name:	Not reported
Future Document Type:	Not reported
Future Due Date:	Not reported
Schedule Area Name:	Not reported
Schedule Sub Area Name:	Not reported
Schedule Document Type:	Not reported
Schedule Due Date:	Not reported
Schedule Revised Date:	Not reported

SCH:

Name:	RED MAPLE SCHOOL SITE
Address:	RED MAPLE LANE/EBONY AVENUE
City,State,Zip:	MORENO VALLEY, CA 92551
Facility ID:	33010052
Site Type:	School Investigation
Site Type Detail:	School
Site Mgmt. Req.:	NONE SPECIFIED
Acres:	13.76
National Priorities List:	NO
Cleanup Oversight Agencies:	DTSC
Lead Agency:	DTSC
Lead Agency Description:	* DTSC
Project Manager:	Not reported
Supervisor:	Shahir Haddad
Division Branch:	Southern California Schools & Brownfields Outreach
Site Code:	404298
Assembly:	61
Senate:	31
Special Program Status:	Not reported
Status:	No Action Required
Status Date:	11/29/2001
Restricted Use:	NO
Funding:	School District
Latitude:	33.88519
Longitude:	-117.2213
APN:	NONE SPECIFIED
Past Use:	AGRICULTURAL - ROW CROPS
Potential COC:	NONE SPECIFIED, No Contaminants found
Confirmed COC:	NONE SPECIFIED
Potential Description:	NMA
Alias Name:	RED MAPLE SCHOOL SITE (PROPOSED)
Alias Type:	Alternate Name
Alias Name:	VAL VERDE UNIFIED SCHOOL DISTRICT
Alias Type:	Alternate Name
Alias Name:	VAL VERDE USD-RED MAPLE ELEM

RED MAPLE SCHOOL SITE (Continued) **S118756706**

Alias Type: Alternate Name
Alias Name: VAL VERDE USD-RED MAPLE PROPERTY
Alias Type: Alternate Name
Alias Name: 404295
Alias Type: Project Code (Site Code)
Alias Name: 404298
Alias Type: Project Code (Site Code)
Alias Name: 33010052
Alias Type: Envirostor ID Number

Completed Info:
Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Phase 1
Completed Date: 11/29/2001
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Cost Recovery Closeout Memo
Completed Date: 11/03/2005
Comments: Two CRU Memos completed for Site Codes 404295 & 404298.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Site Inspections/Visit (Non LUR)
Completed Date: 11/08/2001
Comments: Not reported

Future Area Name: Not reported
Future Sub Area Name: Not reported
Future Document Type: Not reported
Future Due Date: Not reported
Schedule Area Name: Not reported
Schedule Sub Area Name: Not reported
Schedule Document Type: Not reported
Schedule Due Date: Not reported
Schedule Revised Date: Not reported

A2
West
< 1/8
0.060 mi.
318 ft.

WALGREENS #9616 **RCRA-LQG** **1016954453**
16020 PERRIS BLVD **CAL000324989**
MORENO VALLEY, CA 92551

Site 1 of 2 in cluster A

Relative:
Higher

Actual:
1504 ft.

RCRA-LQG:
Date form received by agency: 2018-08-31 00:00:00.0
Facility name: WALGREENS #9616
Facility address: 16020 PERRIS BLVD
MORENO VALLEY, CA 92551
EPA ID: CAL000324989
Mailing address: GREY HAWK CT, SUITE 200
CA92551 CA065US 3207
CARLSBAD, CA 92010
Contact: KIM DASCOLI
Contact address: WILMOT DRIVE, MAIL STOP #2273
DEEFIELD, IL 60015
Contact country: US

Map ID
Direction
Distance
Elevation | Site | MAP FINDINGS | Database(s) | EDR ID Number EPA ID Number

WALGREENS #9616 (Continued) **1016954453**

Contact telephone: 847-315-2812
Contact email: KIM.DASCOLI@WALGREENS.COM
EPA Region: 09
Classification: Large Quantity Generator
Description: Handler: generates 1,000 kg or more of hazardous waste during any calendar month; or generates more than 1 kg of acutely hazardous waste during any calendar month; or generates more than 100 kg of any residue or contaminated soil, waste or other debris resulting from the cleanup of a spill, into or on any land or water, of acutely hazardous waste during any calendar month; or generates 1 kg or less of acutely hazardous waste during any calendar month, and accumulates more than 1 kg of acutely hazardous waste at any time; or generates 100 kg or less of any residue or contaminated soil, waste or other debris resulting from the cleanup of a spill, into or on any land or water, of acutely hazardous waste during any calendar month, and accumulates more than 100 kg of that material at any time

Owner/Operator Summary:
Owner/operator name: WALGREEN CO.
Owner/operator address: WILMOT DRIVE, MAIL STOP #2273
DEEFIELD, IL 60015
Owner/operator country: US
Owner/operator telephone: 847-315-2812
Owner/operator email: KIM.DASCOLI@WALGREENS.COM
Owner/operator fax: Not reported
Owner/operator extension: Not reported
Legal status: Private
Owner/Operator Type: Operator
Owner/Op start date: 2007-06-25 00:00:00.0
Owner/Op end date: Not reported

Owner/operator name: SCHLOSSER PROPERTIES CO INC
Owner/operator address: PO BOX 121
PILOT HILL, CA 95664
Owner/operator country: US
Owner/operator telephone: 650-325-0936
Owner/operator email: KIM.DASCOLI@WALGREENS.COM
Owner/operator fax: Not reported
Owner/operator extension: Not reported
Legal status: Private
Owner/Operator Type: Owner
Owner/Op start date: 2007-06-25 00:00:00.0
Owner/Op end date: Not reported

Handler Activities Summary:
U.S. importer of hazardous waste: No
Mixed waste (haz. and radioactive): No
Recycler of hazardous waste: No
Transporter of hazardous waste: No
Treater, storer or disposer of HW: No
Underground injection activity: No
On-site burner exemption: No
Furnace exemption: No
Used oil fuel burner: No
Used oil processor: No
User oil refiner: No

WALGREENS #9616 (Continued) **1016954453**

Used oil fuel marketer to burner: No
Used oil Specification marketer: No
Used oil transfer facility: No
Used oil transporter: No

Historical Generators:
Date form received by agency: 2016-04-06 00:00:00.0
Site name: WALGREENS #9616
Classification: Conditionally Exempt Small Quantity Generator

Date form received by agency: 2014-06-09 00:00:00.0
Site name: WALGREENS #9616
Classification: Conditionally Exempt Small Quantity Generator

Hazardous Waste Summary:

. Waste code: 122
. Waste name: Alkaline solution without metals (pH > 12.5)

. Waste code: 131
. Waste name: Aqueous solution (2 < pH < 12.5) containing reactive anions (azide, bromate, chlorate, cyanide, fluoride, hypochlorite, nitrite, perchlorate, and sulfide anions)

. Waste code: 214
. Waste name: Unspecified solvent mixture

. Waste code: 311
. Waste name: Pharmaceutical waste

. Waste code: 331
. Waste name: Off-specification, aged, or surplus organics

. Waste code: D001
. Waste name: IGNITABLE WASTE

. Waste code: D002
. Waste name: CORROSIVE WASTE

. Waste code: D007
. Waste name: CHROMIUM

. Waste code: D009
. Waste name: MERCURY

. Waste code: D010
. Waste name: SELENIUM

. Waste code: D024
. Waste name: M-CRESOL

. Waste code: P001
. Waste name: 2H-1-BENZOPYRAN-2-ONE, 4-HYDROXY-3-(3-OXO-1-PHENYLBUTYL)-, & SALTS, WHEN PRESENT AT CONCENTRATIONS GREATER THAN 0.3% (OR) WARFARIN, & SALTS, WHEN PRESENT AT CONCENTRATIONS GREATER THAN 0.3%

WALGREENS #9616 (Continued) **1016954453**

. Waste code: P075
. Waste name: NICOTINE, & SALTS (OR) PYRIDINE, 3-(1-METHYL-2-PYRROLIDINYL)-,(S)-, & SALTS

. Waste code: U034
. Waste name: ACETALDEHYDE, TRICHLORO- (OR) CHLORAL

. Waste code: U165
. Waste name: NAPHTHALENE

Biennial Reports:

Last Biennial Reporting Year: 2017

Annual Waste Handled:

Waste code: D001
Waste name: IGNITABLE HAZARDOUS WASTES ARE THOSE WASTES WHICH HAVE A FLASHPOINT OF LESS THAN 140 DEGREES FAHRENHEIT AS DETERMINED BY A PENSKY-MARTENS CLOSED CUP FLASH POINT TESTER. ANOTHER METHOD OF DETERMINING THE FLASH POINT OF A WASTE IS TO REVIEW THE MATERIAL SAFETY DATA SHEET, WHICH CAN BE OBTAINED FROM THE MANUFACTURER OR DISTRIBUTOR OF THE MATERIAL. LACQUER THINNER IS AN EXAMPLE OF A COMMONLY USED SOLVENT WHICH WOULD BE CONSIDERED AS IGNITABLE HAZARDOUS WASTE.
Amount (Lbs): 99

Waste code: D002
Waste name: A WASTE WHICH HAS A PH OF LESS THAN 2 OR GREATER THAN 12.5 IS CONSIDERED TO BE A CORROSIVE HAZARDOUS WASTE. SODIUM HYDROXIDE, A CAUSTIC SOLUTION WITH A HIGH PH, IS OFTEN USED BY INDUSTRIES TO CLEAN OR DEGREASE PARTS. HYDROCHLORIC ACID, A SOLUTION WITH A LOW PH, IS USED BY MANY INDUSTRIES TO CLEAN METAL PARTS PRIOR TO PAINTING. WHEN THESE CAUSTIC OR ACID SOLUTIONS BECOME CONTAMINATED AND MUST BE DISPOSED, THE WASTE WOULD BE A CORROSIVE HAZARDOUS WASTE.
Amount (Lbs): 45

Waste code: D007
Waste name: CHROMIUM
Amount (Lbs): 6

Waste code: D010
Waste name: SELENIUM
Amount (Lbs): 6

Waste code: D024
Waste name: M-CRESOL
Amount (Lbs): 1

Waste code: P001
Waste name: 2H-1-BENZOPYRAN-2-ONE, 4-HYDROXY-3-(3-OXO-1-PHENYLBUTYL)-, & SALTS, WHEN PRESENT AT CONCENTRATIONS GREATER THAN 0.3%
Amount (Lbs): 6

Waste code: P075
Waste name: NICOTINE, & SALTS
Amount (Lbs): 22

Violation Status: No violations found

MAP FINDINGS

Map ID / Direction / Distance / Elevation	Site	Database(s)	EDR ID Number / EPA ID Number
A3 West < 1/8 0.060 mi. 318 ft.	**WALGREENS 16020 PERRIS BLVD MORENO VALLEY, CA 92551**	**CERS HAZ WASTE CIWQS CERS**	**S121689841 N/A**

Site 2 of 2 in cluster A

Relative: Higher

Actual: 1504 ft.

CERS HAZ WASTE:

Name:	WAGLREENS #9616
Address:	16020 PERRIS BLVD
City,State,Zip:	MORENO VALLEY, CA 92551
Site ID:	84044
CERS ID:	10326247
CERS Description:	Hazardous Waste Generator

CIWQS:

Name:	WALGREENS
Address:	16020 PERRIS BLVD
City,State,Zip:	MORENO VALLEY, CA 92551
Agency:	Iris Partners LLC
Agency Address:	1150 N Mountain Ave #109, Upland, CA 91786
Place/Project Type:	Construction - Commercial
SIC/NAICS:	Not reported
Region:	8
Program:	CONSTW
Regulatory Measure Status:	Terminated
Regulatory Measure Type:	Storm water construction
Order Number:	99-08DW
WDID:	8 33C341703
NPDES Number:	CAS000002
Adoption Date:	Not reported
Effective Date:	06/06/2006
Termination Date:	12/18/2007
Expiration/Review Date:	Not reported
Design Flow:	Not reported
Major/Minor:	Not reported
Complexity:	Not reported
TTWQ:	Not reported
Enforcement Actions within 5 years:	0
Violations within 5 years:	0
Latitude:	0
Longitude:	0

CERS:

Name:	WAGLREENS #9616
Address:	16020 PERRIS BLVD
City,State,Zip:	MORENO VALLEY, CA 92551
Site ID:	84044
CERS ID:	10326247
CERS Description:	Chemical Storage Facilities

Evaluation:

Eval General Type:	Compliance Evaluation Inspection
Eval Date:	05-11-2016
Violations Found:	No
Eval Type:	Routine done by local agency
Eval Notes:	Not reported
Eval Division:	Riverside County Department of Env Health
Eval Program:	HMRRP
Eval Source:	CERS

WALGREENS (Continued) **S121689841**

Eval General Type:	Compliance Evaluation Inspection
Eval Date:	05-11-2016
Violations Found:	No
Eval Type:	Routine done by local agency
Eval Notes:	Not reported
Eval Division:	Riverside County Department of Env Health
Eval Program:	HW
Eval Source:	CERS

Eval General Type:	Other/Unknown
Eval Date:	10-10-2013
Violations Found:	No
Eval Type:	Other, not routine, done by local agency
Eval Notes:	Not reported
Eval Division:	Riverside County Department of Env Health
Eval Program:	HMRRP
Eval Source:	CERS

Eval General Type:	Other/Unknown
Eval Date:	10-10-2013
Violations Found:	No
Eval Type:	Other, not routine, done by local agency
Eval Notes:	Not reported
Eval Division:	Riverside County Department of Env Health
Eval Program:	HW
Eval Source:	CERS

Coordinates:

Site ID:	84044
Facility Name:	Waglreens #9616
Env Int Type Code:	HWG
Program ID:	10326247
Coord Name:	Not reported
Ref Point Type Desc:	Center of a facility or station.
Latitude:	33.887890
Longitude:	-117.225570

Affiliation:

Affiliation Type Desc:	Legal Owner
Entity Name:	Walgreen Co.
Entity Title:	Not reported
Affiliation Address:	200 Wilmot Road
Affiliation City:	Deerfield
Affiliation State:	IL
Affiliation Country:	United States
Affiliation Zip:	60015
Affiliation Phone:	(847) 914-2264

Affiliation Type Desc:	Parent Corporation
Entity Name:	Walgreens
Entity Title:	Not reported
Affiliation Address:	Not reported
Affiliation City:	Not reported
Affiliation State:	Not reported
Affiliation Country:	Not reported
Affiliation Zip:	Not reported

Map ID
Direction
Distance
Elevation | Site | MAP FINDINGS | Database(s) | EDR ID Number EPA ID Number

WALGREENS (Continued) **S121689841**

Affiliation Phone:	Not reported
Affiliation Type Desc:	Environmental Contact
Entity Name:	Verisk 3E, Regulatory Department/Walgreen Co.
Entity Title:	Not reported
Affiliation Address:	3207 Grey Hawk Ct., Suite 200
Affiliation City:	Carlsbad
Affiliation State:	CA
Affiliation Country:	Not reported
Affiliation Zip:	92010
Affiliation Phone:	Not reported
Affiliation Type Desc:	Identification Signer
Entity Name:	Melissa Vales, on behalf of Walgreen Co.
Entity Title:	Regulatory Compliance Specialist, Verisk 3E
Affiliation Address:	Not reported
Affiliation City:	Not reported
Affiliation State:	Not reported
Affiliation Country:	Not reported
Affiliation Zip:	Not reported
Affiliation Phone:	Not reported
Affiliation Type Desc:	Operator
Entity Name:	Walgreen Co.
Entity Title:	Not reported
Affiliation Address:	Not reported
Affiliation City:	Not reported
Affiliation State:	Not reported
Affiliation Country:	Not reported
Affiliation Zip:	Not reported
Affiliation Phone:	(847) 914-2264
Affiliation Type Desc:	CUPA District
Entity Name:	Riverside Cnty Env Health
Entity Title:	Not reported
Affiliation Address:	4065 County Circle Drive, Room 104
Affiliation City:	Riverside
Affiliation State:	CA
Affiliation Country:	Not reported
Affiliation Zip:	92503
Affiliation Phone:	(951) 358-5055
Affiliation Type Desc:	Document Preparer
Entity Name:	Melissa Vales, on behalf of Walgreen Co.
Entity Title:	Not reported
Affiliation Address:	Not reported
Affiliation City:	Not reported
Affiliation State:	Not reported
Affiliation Country:	Not reported
Affiliation Zip:	Not reported
Affiliation Phone:	Not reported
Affiliation Type Desc:	Facility Mailing Address
Entity Name:	Mailing Address
Entity Title:	Not reported
Affiliation Address:	Verisk 3E, Regulatory Dept/Walgreen Co., 3207 Grey Hawk Court, Ste 200
Affiliation City:	Carlsbad

MAP FINDINGS

Map ID / Direction / Distance / Elevation	Site	Database(s)	EDR ID Number / EPA ID Number

WALGREENS (Continued) **S121689841**

Affiliation State: CA
Affiliation Country: Not reported
Affiliation Zip: 92010
Affiliation Phone: Not reported

B4 **TESORO SHELL 68567** **CERS HAZ WASTE** **S113148525**
WNW **15980 PERRIS BLVD** **CERS TANKS** **N/A**
< 1/8 **MORENO VALLEY, CA 92551** **HAZNET**
0.076 mi. **CERS**
403 ft. **Site 1 of 15 in cluster B**

Relative:
Higher

Actual:
1506 ft.

CERS HAZ WASTE:
Name: TESORO (SHELL) 68567 (WRR 6366)
Address: 15980 PERRIS BLVD
City,State,Zip: MORENO VALLEY, CA 92551
Site ID: 74492
CERS ID: 10316209
CERS Description: Hazardous Waste Generator

CERS TANKS:
Name: TESORO (SHELL) 68567 (WRR 6366)
Address: 15980 PERRIS BLVD
City,State,Zip: MORENO VALLEY, CA 92551
Site ID: 74492
CERS ID: 10316209
CERS Description: Underground Storage Tank

HAZNET:
Name: TESORO SHELL 68567
Address: 15980 PERRIS BLVD
City,State,Zip: MORENO VALLEY, CA 92551
Year: 2017
GEPAID: CAL000322036
Contact: BRENDA RAMIREZ
Telephone: 2106265153
Mailing Name: Not reported
Mailing Address: 19100 RIDGEWOOD PKWY
Mailing City,St,Zip: SAN ANTONIO, TX 782590000
Gen County: Riverside
TSD EPA ID: CAT080013352
TSD County: Los Angeles
Tons: 0.021
CA Waste Code: 134-Aqueous solution with total organic residues less than 10 percent
Method: H039-Other Recovery Of Reclamation For Reuse Including Acid Regeneration, Organics Recovery Ect
Facility County: Riverside

Name: TESORO SHELL 68567
Address: 15980 PERRIS BLVD
City,State,Zip: MORENO VALLEY, CA 92551
Year: 2017
GEPAID: CAL000322036
Contact: BRENDA RAMIREZ
Telephone: 2106265153
Mailing Name: Not reported
Mailing Address: 19100 RIDGEWOOD PKWY

Map ID
Direction
Distance
Elevation | Site | MAP FINDINGS | Database(s) | EDR ID Number EPA ID Number

TESORO SHELL 68567 (Continued) **S113148525**

Mailing City,St,Zip: SAN ANTONIO, TX 782590000
Gen County: Riverside
TSD EPA ID: NVT330010000
TSD County: 99
Tons: 0.04
CA Waste Code: 352-Other organic solids
Method: H132-Landfill Or Surface Impoundment That Will Be Closed As Landfill(To Include On-Site Treatment And/Or Stabilization)
Facility County: Riverside

Name: TESORO SHELL 68567
Address: 15980 PERRIS BLVD
City,State,Zip: MORENO VALLEY, CA 92551
Year: 2016
GEPAID: CAL000322036
Contact: JAMES BECK
Telephone: 5624956814
Mailing Name: Not reported
Mailing Address: 19100 RIDGEWOOD PKWY
Mailing City,St,Zip: SAN ANTONIO, TX 782590000
Gen County: Riverside
TSD EPA ID: CAT080013352
TSD County: Los Angeles
Tons: 0.0294
CA Waste Code: 134-Aqueous solution with total organic residues less than 10 percent
Method: H039-Other Recovery Of Reclamation For Reuse Including Acid Regeneration, Organics Recovery Ect
Facility County: Riverside

Name: TESORO SHELL 68567
Address: 15980 PERRIS BLVD
City,State,Zip: MORENO VALLEY, CA 92551
Year: 2016
GEPAID: CAL000322036
Contact: JAMES BECK
Telephone: 5624956814
Mailing Name: Not reported
Mailing Address: 19100 RIDGEWOOD PKWY
Mailing City,St,Zip: SAN ANTONIO, TX 782590000
Gen County: Riverside
TSD EPA ID: NVT330010000
TSD County: 99
Tons: 0.01
CA Waste Code: 352-Other organic solids
Method: H132-Landfill Or Surface Impoundment That Will Be Closed As Landfill(To Include On-Site Treatment And/Or Stabilization)
Facility County: Riverside

Name: TESORO SHELL 68567
Address: 15980 PERRIS BLVD
City,State,Zip: MORENO VALLEY, CA 92551
Year: 2015
GEPAID: CAL000322036
Contact: ROSIE RANGEL
Telephone: 2106266564
Mailing Name: Not reported
Mailing Address: 19100 RIDGEWOOD PKWY

TESORO SHELL 68567 (Continued) **S113148525**

Mailing City,St,Zip: SAN ANTONIO, TX 782590000
Gen County: Riverside
TSD EPA ID: CAT080013352
TSD County: Los Angeles
Tons: 0.504
CA Waste Code: 134-Aqueous solution with total organic residues less than 10 percent
Method: H039-Other Recovery Of Reclamation For Reuse Including Acid Regeneration, Organics Recovery Ect
Facility County: Riverside

Click this hyperlink while viewing on your computer to access
16 additional CA_HAZNET: record(s) in the EDR Site Report.

CERS:
Name: TESORO (SHELL) 68567 (WRR 6366)
Address: 15980 PERRIS BLVD
City,State,Zip: MORENO VALLEY, CA 92551
Site ID: 74492
CERS ID: 10316209
CERS Description: Chemical Storage Facilities

Violations:
Site ID: 74492
Site Name: TESORO (SHELL) 68567 (WRR 6366)
Violation Date: 08-16-2018
Citation: 23 CCR 16 2632(c)(2)(B), 2634(d)(1)(a), 2636(f)(1) - California Code of Regulations, Title 23, Chapter 16, Section(s) 2632(c)(2)(B), 2634(d)(1)(a), 2636(f)(1)
Violation Description: Failure of the leak detection equipment to have an audible and visual alarm as required.
Violation Notes: Returned to compliance on 08/16/2018.
Violation Division: Riverside County Department of Env Health
Violation Program: UST
Violation Source: CERS

Site ID: 74492
Site Name: TESORO (SHELL) 68567 (WRR 6366)
Violation Date: 09-18-2014
Citation: 23 CCR 16 2636(f)(1) - California Code of Regulations, Title 23, Chapter 16, Section(s) 2636(f)(1)
Violation Description: Failure of the double wall pressurized piping in the under dispenser containment to be continuously monitored by a method that either shuts down the flow of product to the dispenser or activates an audible/visual alarm when a leak is detected.
Violation Notes: Returned to compliance on 09/18/2014.
Violation Division: Riverside County Department of Env Health
Violation Program: UST
Violation Source: CERS

Site ID: 74492
Site Name: TESORO (SHELL) 68567 (WRR 6366)
Violation Date: 09-18-2014
Citation: HSC 6.7 25292.1(a) - California Health and Safety Code, Chapter 6.7, Section(s) 25292.1(a)
Violation Description: Failure to operate the UST system to prevent spills and/or overfills.
Violation Notes: Returned to compliance on 09/18/2014.
Violation Division: Riverside County Department of Env Health

TESORO SHELL 68567 (Continued) **S113148525**

Violation Program: UST
Violation Source: CERS

Site ID: 74492
Site Name: TESORO (SHELL) 68567 (WRR 6366)
Violation Date: 08-16-2018
Citation: 23 CCR 16 2712 - California Code of Regulations, Title 23, Chapter 16, Section(s) 2712
Violation Description: Failure to comply with any of the applicable requirements of the permit issued for the operation of the UST system.
Violation Notes: Returned to compliance on 09/26/2018.
Violation Division: Riverside County Department of Env Health
Violation Program: UST
Violation Source: CERS

Site ID: 74492
Site Name: TESORO (SHELL) 68567 (WRR 6366)
Violation Date: 08-16-2018
Citation: 23 CCR 16 2641(h) - California Code of Regulations, Title 23, Chapter 16, Section(s) 2641(h)
Violation Description: Failure to have an approved UST Monitoring Plan.
Violation Notes: Returned to compliance on 09/26/2018.
Violation Division: Riverside County Department of Env Health
Violation Program: UST
Violation Source: CERS

Evaluation:
Eval General Type: Compliance Evaluation Inspection
Eval Date: 08-16-2018
Violations Found: Yes
Eval Type: Routine done by local agency
Eval Notes: Not reported
Eval Division: Riverside County Department of Env Health
Eval Program: UST
Eval Source: CERS

Eval General Type: Compliance Evaluation Inspection
Eval Date: 08-22-2017
Violations Found: No
Eval Type: Routine done by local agency
Eval Notes: Not reported
Eval Division: Riverside County Department of Env Health
Eval Program: HMRRP
Eval Source: CERS

Eval General Type: Compliance Evaluation Inspection
Eval Date: 08-22-2017
Violations Found: No
Eval Type: Routine done by local agency
Eval Notes: Not reported
Eval Division: Riverside County Department of Env Health
Eval Program: HW
Eval Source: CERS

Eval General Type: Compliance Evaluation Inspection
Eval Date: 08-22-2017
Violations Found: No

Map ID
Direction
Distance
Elevation | Site | MAP FINDINGS | Database(s) | EDR ID Number EPA ID Number

TESORO SHELL 68567 (Continued) **S113148525**

Eval Type: Routine done by local agency
Eval Notes: Not reported
Eval Division: Riverside County Department of Env Health
Eval Program: UST
Eval Source: CERS

Eval General Type: Compliance Evaluation Inspection
Eval Date: 08-30-2016
Violations Found: No
Eval Type: Routine done by local agency
Eval Notes: Not reported
Eval Division: Riverside County Department of Env Health
Eval Program: UST
Eval Source: CERS

Eval General Type: Compliance Evaluation Inspection
Eval Date: 09-08-2015
Violations Found: No
Eval Type: Routine done by local agency
Eval Notes: Not reported
Eval Division: Riverside County Department of Env Health
Eval Program: HMRRP
Eval Source: CERS

Eval General Type: Compliance Evaluation Inspection
Eval Date: 09-08-2015
Violations Found: No
Eval Type: Routine done by local agency
Eval Notes: Not reported
Eval Division: Riverside County Department of Env Health
Eval Program: HW
Eval Source: CERS

Eval General Type: Compliance Evaluation Inspection
Eval Date: 09-08-2015
Violations Found: No
Eval Type: Routine done by local agency
Eval Notes: Not reported
Eval Division: Riverside County Department of Env Health
Eval Program: UST
Eval Source: CERS

Eval General Type: Compliance Evaluation Inspection
Eval Date: 09-18-2014
Violations Found: Yes
Eval Type: Routine done by local agency
Eval Notes: Not reported
Eval Division: Riverside County Department of Env Health
Eval Program: UST
Eval Source: CERS

Eval General Type: Compliance Evaluation Inspection
Eval Date: 10-03-2013
Violations Found: No
Eval Type: Routine done by local agency
Eval Notes: Not reported
Eval Division: Riverside County Department of Env Health

TESORO SHELL 68567 (Continued) **S113148525**

Eval Program: HMRRP
Eval Source: CERS

Eval General Type: Compliance Evaluation Inspection
Eval Date: 10-03-2013
Violations Found: No
Eval Type: Routine done by local agency
Eval Notes: Not reported
Eval Division: Riverside County Department of Env Health
Eval Program: HW
Eval Source: CERS

Eval General Type: Compliance Evaluation Inspection
Eval Date: 10-03-2013
Violations Found: No
Eval Type: Routine done by local agency
Eval Notes: Not reported
Eval Division: Riverside County Department of Env Health
Eval Program: UST
Eval Source: CERS

Enforcement Action:
Site ID: 74492
Site Name: TESORO (SHELL) 68567 (WRR 6366)
Site Address: 15980 PERRIS BLVD
Site City: MORENO VALLEY
Site Zip: 92551
Enf Action Date: 09-18-2014
Enf Action Type: Notice of Violation (Unified Program)
Enf Action Description: Notice of Violation Issued by the Inspector at the Time of Inspection
Enf Action Notes: Not reported
Enf Action Division: Riverside County Department of Env Health
Enf Action Program: UST
Enf Action Source: CERS

Coordinates:
Site ID: 74492
Facility Name: TESORO (SHELL) 68567 (WRR 6366)
Env Int Type Code: HWG
Program ID: 10316209
Coord Name: Not reported
Ref Point Type Desc: Center of a facility or station.
Latitude: 33.888770
Longitude: -117.225740

Affiliation:
Affiliation Type Desc: Document Preparer
Entity Name: BELSHIRE ENVIRONMENTAL SERVICES, INC.
Entity Title: Not reported
Affiliation Address: Not reported
Affiliation City: Not reported
Affiliation State: Not reported
Affiliation Country: Not reported
Affiliation Zip: Not reported
Affiliation Phone: Not reported

TESORO SHELL 68567 (Continued) **S113148525**

Affiliation Type Desc:	Environmental Contact
Entity Name:	VESTA C. SLAYMAN
Entity Title:	Not reported
Affiliation Address:	400 OCEANGATE BLVD., SUITE 600
Affiliation City:	LONG BEACH
Affiliation State:	CA
Affiliation Country:	Not reported
Affiliation Zip:	90802
Affiliation Phone:	Not reported

Affiliation Type Desc:	Legal Owner
Entity Name:	TESORO SOUTH COAST COMPANY LLC
Entity Title:	Not reported
Affiliation Address:	19100 RIDGEWOOD PKWY, MS: TX1-022
Affiliation City:	SAN ANTONIO
Affiliation State:	TX
Affiliation Country:	United States
Affiliation Zip:	78259
Affiliation Phone:	(210) 626-4673

Affiliation Type Desc:	CUPA District
Entity Name:	Riverside Cnty Env Health
Entity Title:	Not reported
Affiliation Address:	4065 County Circle Drive, Room 104
Affiliation City:	Riverside
Affiliation State:	CA
Affiliation Country:	Not reported
Affiliation Zip:	92503
Affiliation Phone:	(951) 358-5055

Affiliation Type Desc:	Operator
Entity Name:	WESTERN REFINING AND MARKETING, LLC
Entity Title:	Not reported
Affiliation Address:	Not reported
Affiliation City:	Not reported
Affiliation State:	Not reported
Affiliation Country:	Not reported
Affiliation Zip:	Not reported
Affiliation Phone:	(505) 893-2973

Affiliation Type Desc:	Property Owner
Entity Name:	TESORO SOUTH COAST COMPANY LLC
Entity Title:	Not reported
Affiliation Address:	19100 RIDGEWOOD PKWY, MS: TX1-022
Affiliation City:	SAN ANTONIO
Affiliation State:	TX
Affiliation Country:	United States
Affiliation Zip:	78259
Affiliation Phone:	(210) 626-4673

Affiliation Type Desc:	UST Property Owner Name
Entity Name:	TESORO SOUTH COAST COMPANY LLC
Entity Title:	Not reported
Affiliation Address:	19100 RIDGEWOOD PKWY, MS: TX1-022
Affiliation City:	SAN ANTONIO
Affiliation State:	TX
Affiliation Country:	United States

TESORO SHELL 68567 (Continued) **S113148525**

Affiliation Zip:	78259
Affiliation Phone:	(210) 626-4673
Affiliation Type Desc:	UST Tank Operator
Entity Name:	CAR ENTERPRISES INC. (SAM ANABI)
Entity Title:	Not reported
Affiliation Address:	15980 PERRIS BLVD
Affiliation City:	MORENO VALLEY
Affiliation State:	CA
Affiliation Country:	United States
Affiliation Zip:	92551
Affiliation Phone:	(909) 394-4728
Affiliation Type Desc:	UST Permit Applicant
Entity Name:	TERESA A. MILES
Entity Title:	ENVIRONMENTAL COMPLIANCE SUPERVISOR
Affiliation Address:	Not reported
Affiliation City:	Not reported
Affiliation State:	Not reported
Affiliation Country:	Not reported
Affiliation Zip:	Not reported
Affiliation Phone:	(562) 495-6850
Affiliation Type Desc:	UST Tank Owner
Entity Name:	TESORO SOUTH COAST COMPANY LLC
Entity Title:	Not reported
Affiliation Address:	19100 RIDGEWOOD PKWY, MS: TX1-022
Affiliation City:	SAN ANTONIO
Affiliation State:	TX
Affiliation Country:	United States
Affiliation Zip:	78259
Affiliation Phone:	(210) 626-4673
Affiliation Type Desc:	Facility Mailing Address
Entity Name:	Mailing Address
Entity Title:	Not reported
Affiliation Address:	19100 RIDGEWOOD PKWY, MS: TX1-022
Affiliation City:	SAN ANTONIO
Affiliation State:	TX
Affiliation Country:	Not reported
Affiliation Zip:	78259
Affiliation Phone:	Not reported
Affiliation Type Desc:	Identification Signer
Entity Name:	TERESA A. MILES
Entity Title:	ENVIRONMENTAL COMPLIANCE SUPERVISOR
Affiliation Address:	Not reported
Affiliation City:	Not reported
Affiliation State:	Not reported
Affiliation Country:	Not reported
Affiliation Zip:	Not reported
Affiliation Phone:	Not reported
Affiliation Type Desc:	Parent Corporation
Entity Name:	Tesoro Refining and Marketing Company LLC
Entity Title:	Not reported
Affiliation Address:	Not reported

MAP FINDINGS

Map ID / Direction / Distance / Elevation	Site	Database(s)	EDR ID Number / EPA ID Number

TESORO SHELL 68567 (Continued) **S113148525**

Affiliation City:	Not reported
Affiliation State:	Not reported
Affiliation Country:	Not reported
Affiliation Zip:	Not reported
Affiliation Phone:	Not reported

B5 **SHELL PERRIS BLVD.** **LUST** **S106162092**
WNW **15980 PERRIS BLVD.** **N/A**
< 1/8 **MORENO VALLEY, CA 92551**
0.076 mi.
403 ft. **Site 2 of 15 in cluster B**

Relative: **Higher**

Actual: **1506 ft.**

LUST REG 8:

Name:	SHELL PERRIS BLVD.
Address:	15980 PERRIS BLVD.
City:	MORENO VALLEY
Region:	8
County:	Riverside
Regional Board:	Santa Ana Region
Facility Status:	Leak being confirmed
Case Number:	Not reported
Local Case Num:	200420313
Case Type:	Soil only
Substance:	Gasoline
Qty Leaked:	Not reported
Abate Method:	Not reported
Cross Street:	IRIS
Enf Type:	Not reported
Funding:	Not reported
How Discovered:	OM
How Stopped:	Other Means
Leak Cause:	UNK
Leak Source:	UNK
Global ID:	T0606517323
How Stopped Date:	7/24/2003
Enter Date:	Not reported
Date Confirmation of Leak Began:	2/9/2004
Date Preliminary Assessment Began:	Not reported
Discover Date:	2/9/2004
Enforcement Date:	Not reported
Close Date:	Not reported
Date Prelim Assessment Workplan Submitted:	Not reported
Date Pollution Characterization Began:	Not reported
Date Remediation Plan Submitted:	Not reported
Date Remedial Action Underway:	Not reported
Date Post Remedial Action Monitoring:	Not reported
Enter Date:	Not reported
GW Qualifies:	Not reported
Soil Qualifies:	Not reported
Operator:	Not reported
Facility Contact:	Not reported
Interim:	Not reported
Oversite Program:	Not reported
Latitude:	0
Longitude:	0
MTBE Date:	Not reported
Max MTBE GW:	Not reported

SHELL PERRIS BLVD. (Continued) **S106162092**

MTBE Concentration:	0
Max MTBE Soil:	Not reported
MTBE Fuel:	1
MTBE Tested:	Site NOT Tested for MTBE.Includes Unknown and Not Analyzed.
MTBE Class:	*
Staff:	CAB
Staff Initials:	SCB
Lead Agency:	Local Agency
Local Agency:	33000L
Hydr Basin #:	Not reported
Beneficial:	Not reported
Priority:	Not reported
Cleanup Fund Id:	Not reported
Work Suspended:	Not reported
Summary:	Not reported

B6 **TESORO (SHELL) 68567 (WRR 6366)** **UST** **U003886118**
WNW **15980 PERRIS BLVD** **N/A**
< 1/8 **MORENO VALLEY, CA 92551**
0.076 mi.
403 ft. **Site 3 of 15 in cluster B**

Relative:
Higher

Actual:
1506 ft.

RIVERSIDE CO. UST:

Name:	TESORO (SHELL) 68567 (WRR 6366)
Address:	15980 PERRIS BLVD
City,State,Zip:	MORENO VALLEY, CA 92551
Region:	RIVERSIDE
Total Tanks:	3

UST:

Name:	WESTGATE CENTER SHELL
Address:	15980 PERRIS BLVD
City,State,Zip:	MORENO VALLEY, CA 92551
Facility ID:	825
Permitting Agency:	RIVERSIDE COUNTY
Latitude:	33.8900568
Longitude:	-117.2245158

Name:	TESORO (SHELL) 68567 (WRR 6366)
Address:	15980 PERRIS BLVD
City,State,Zip:	MORENO VALLEY, CA 92551
Facility ID:	FA0014655
Permitting Agency:	Riverside County Department of Environmental Health
Latitude:	33.88877
Longitude:	-117.22574

MAP FINDINGS

Map ID / Direction / Distance / Elevation	Site	Database(s)	EDR ID Number / EPA ID Number
B7	**TESORO SHELL 68567**	**RCRA NonGen / NLR**	**1024817612**
WNW	**15980 PERRIS BLVD**		**CAL000322036**
< 1/8	**MORENO VALLEY, CA 92551**		
0.076 mi.			
403 ft.	**Site 4 of 15 in cluster B**		

Relative:
Higher

Actual:
1506 ft.

RCRA NonGen / NLR:

Date form received by agency:	2007-07-10 00:00:00.0
Facility name:	TESORO SHELL 68567
Facility address:	15980 PERRIS BLVD MORENO VALLEY, CA 92551
EPA ID:	CAL000322036
Mailing address:	19100 RIDGEWOOD PKWY SAN ANTONIO, TX 78259-0000
Contact:	BRENDA RAMIREZ
Contact address:	19100 RIDGEWOOD PKWY SAN ANTONIO, TX 78259
Contact country:	Not reported
Contact telephone:	210-626-5153
Contact email:	BRENDA.RAMIREZ@TSOCORP.COM
EPA Region:	09
Classification:	Non-Generator
Description:	Handler: Non-Generators do not presently generate hazardous waste

Owner/Operator Summary:

Owner/operator name:	TESORO REFINING & MARKETING COMPANY
Owner/operator address:	19100 RIDGEWOOD PKWY SAN ANTONIO, TX 78259
Owner/operator country:	Not reported
Owner/operator telephone:	210-626-6153
Owner/operator email:	Not reported
Owner/operator fax:	Not reported
Owner/operator extension:	Not reported
Legal status:	Other
Owner/Operator Type:	Owner
Owner/Op start date:	Not reported
Owner/Op end date:	Not reported

Owner/operator name:	BRENDA RAMIREZ
Owner/operator address:	19100 RIDGEWOOD PKWY SAN ANTONIO, TX 78259
Owner/operator country:	Not reported
Owner/operator telephone:	210-626-5153
Owner/operator email:	Not reported
Owner/operator fax:	Not reported
Owner/operator extension:	Not reported
Legal status:	Other
Owner/Operator Type:	Operator
Owner/Op start date:	Not reported
Owner/Op end date:	Not reported

Handler Activities Summary:

U.S. importer of hazardous waste:	No
Mixed waste (haz. and radioactive):	No
Recycler of hazardous waste:	No
Transporter of hazardous waste:	Yes
Treater, storer or disposer of HW:	No
Underground injection activity:	No

MAP FINDINGS

Map ID / Direction / Distance / Elevation	Site	Database(s)	EDR ID Number / EPA ID Number

TESORO SHELL 68567 (Continued) **1024817612**

On-site burner exemption:	No
Furnace exemption:	No
Used oil fuel burner:	No
Used oil processor:	No
User oil refiner:	No
Used oil fuel marketer to burner:	No
Used oil Specification marketer:	No
Used oil transfer facility:	No
Used oil transporter:	No

Violation Status: No violations found

B8 **CAR ENTERPRISES INC** **EDR Hist Auto** **1021287021**
WNW **15980 PERRIS BLVD** **N/A**
< 1/8 **MORENO VALLEY, CA 92551**
0.076 mi.
403 ft. **Site 5 of 15 in cluster B**

Relative: EDR Hist Auto
Higher

Actual:
1506 ft.

Year:	Name:	Type:
2012	CAR ENTERPRISES INC	Gasoline Service Stations
2013	CAR ENTERPRISES INC	Gasoline Service Stations
2014	CAR ENTERPRISES INC	Gasoline Service Stations

B9 **SHELL SERVICE STATION** **RCRA-SQG** **1005904292**
WNW **15980 PERRIS BLVD** **LUST** **CAR000120600**
< 1/8 **MORENO VALLEY, CA 92551** **SWEEPS UST**
0.076 mi. **FINDS**
403 ft. **Site 6 of 15 in cluster B** **ECHO**
Cortese

Relative: **HAZNET**
Higher **CERS**

Actual:
1506 ft.

RCRA-SQG:

Date form received by agency:	2002-07-18 00:00:00.0
Facility name:	SHELL SERVICE STATION
Facility address:	15980 PERRIS BLVD S A P 135626 MORENO VALLEY, CA 92388
EPA ID:	CAR000120600
Mailing address:	P O BOX 2648 HOUSTON, TX 77252-2648
Contact:	SONDRA BIENVENU
Contact address:	P O BOX 2648 HOUSTON, TX 77252-2648
Contact country:	US
Contact telephone:	713-241-5036
Contact email:	Not reported
EPA Region:	09
Classification:	Small Small Quantity Generator
Description:	Handler: generates more than 100 and less than 1000 kg of hazardous waste during any calendar month and accumulates less than 6000 kg of hazardous waste at any time; or generates 100 kg or less of hazardous waste during any calendar month, and accumulates more than 1000 kg of hazardous waste at any time

SHELL SERVICE STATION (Continued) **1005904292**

Owner/Operator Summary:
- Owner/operator name: EQUILON ENT LLC DBA S O P US
- Owner/operator address: P O BOX 2648
  HOUSTON, TX 77252
- Owner/operator country: Not reported
- Owner/operator telephone: 713-241-5036
- Owner/operator email: Not reported
- Owner/operator fax: Not reported
- Owner/operator extension: Not reported
- Legal status: Private
- Owner/Operator Type: Owner
- Owner/Op start date: Not reported
- Owner/Op end date: Not reported

Handler Activities Summary:
- U.S. importer of hazardous waste: No
- Mixed waste (haz. and radioactive): No
- Recycler of hazardous waste: No
- Transporter of hazardous waste: No
- Treater, storer or disposer of HW: No
- Underground injection activity: No
- On-site burner exemption: No
- Furnace exemption: No
- Used oil fuel burner: No
- Used oil processor: No
- User oil refiner: No
- Used oil fuel marketer to burner: No
- Used oil Specification marketer: No
- Used oil transfer facility: No
- Used oil transporter: No

Hazardous Waste Summary:

. Waste code: D001
. Waste name: IGNITABLE WASTE

Violation Status: No violations found

LUST:
- Name: SHELL PERRIS BLVD.
- Address: 15980 PERRIS BLVD.
- City,State,Zip: MORENO VALLEY, CA 92551
- Lead Agency: SANTA ANA RWQCB (REGION 8)
- Case Type: LUST Cleanup Site
- Geo Track: http://geotracker.waterboards.ca.gov/profile_report.asp?global_id=T0606517323
- Global Id: T0606517323
- Latitude: 33.888806364
- Longitude: -117.22591758
- Status: Open - Verification Monitoring
- Status Date: 08/19/2016
- Case Worker: CAB
- RB Case Number: Not reported
- Local Agency: Not reported
- File Location: Local Agency
- Local Case Number: 200420313
- Potential Media Affect: Aquifer used for drinking water supply

SHELL SERVICE STATION (Continued) **1005904292**

Potential Contaminants of Concern: Gasoline
Site History: ***Data prior to 2005 does not appear in GeoTracker. Consult agency file for all site data*** Site History/Release Information: July 2003 - Soil samples were taken during dispenser and piping upgrades. Petroleum constituents were detected in several of the samples with the highest concentration in the north-central dispenser area (piping sample P4d7 with 17 ppm TBA). All samples were non-detect (ND) for benzene and MTBE. 203 tons of impacted soil was removed during the upgrades. The site was entered into the Local Oversight Program. Assessment and Remediation: 2005 - Four groundwater (gw) monitoring wells (MW-1 through MW-4) were installed around the perimeter of the UST cavity and dispenser islands. Heaviest soil impacts were identified near the USTs (MW-1 and MW-4) between 20 and 85 feet below grade (ft bg) with the highest concentrations approx 50 to 55 ft bg (78 ppm MTBE in MW-4@50 ft). The highest TBA detection in the soil was 57 ppm (MW-4@30 ft) while other constituents tested were low or ND. Depth to gw was approx 83 ft bg with flow to the southwest. Maximum gw concentrations were: 3800 ppb TPHg (MW-1), 80 ppb B (MW-3), ND<50 ppb TXE, 14000 ppb MTBE (MW-1), ND<500 ppb TBA. Neither the soil or the gw impacts were delineated 2006 - Three gw monitoring wells (MW-6, MW-10, MW-11) were installed at the property boundaries. Two observation wells (OBS-1 and OBS-2) were installed for remedial feasibility pilot testing. One cone penetration test (CPT) boring (CPT-1) was completed adjacent to MW-6. GW grab sample from CPT-1 detected 34000 ppb TPHg, 370000 ppb MTBE, 2600 ppb TBA and 1900 ppb TAME. GW from MW-6 (adjacent to Perris Blvd) and MW-11 (northern portion of the station) had very high MTBE detections (480000 ppb MW-6 and 200000 ppb MW-11). 2007 - Four dual-nested soil vapor extraction (SVE) wells (SVE-1 through SVE-4) were installed for remedial feasibility testing. All four wells had elevated MTBE and TBA in the soil with concentrations up to 42 ppm MTBE (SVE-1@45 feet) and 56 ppm TBA (SVE-4@60 feet). Eleven air sparge (AS) wells (AS-1, AS-3 through AS-11, AS-13) were also installed for remedial feasibility testing. All locations had ppm concentrations of MTBE at depths below 50 ft bg. Three off-site monitoring wells (MW-5, MW-8, and MW-12) were installed northwest (MW-5 and MW-12) and southwest (MW-8) of the site. GW from MW-8 and MW-12 had low to ND concentrations and MW-5 had detections of 1200 ppb TPHg and 2200 ppb MTBE. SVE and gw extraction pilot testing was conducted. SVE mass removal rates were approx 85 lb/day TPHg and 64 lb/day MTBE. Vapor concentrations remained consistent throughout the test. Consultant recommended remediating the site using SVE with air sparging/oxygen injection. 2007 (December) to 2011 SVE and AS remediation was conducted. Beginning December 2007, vapors were extracted from all four dual-nested SVE wells and beginning January 2008, air sparging was implemented on all 11 AS wells. SVE was shut down July 2010 and AS continued to operate until October 2011. A total 836 lbs TPHg and 591 lbs MTBE were removed using SVE. 2008 - One on-site monitoring well (MW-13) and four off-site monitoring wells (MW-14 through MW-16, MW-19) were installed to further delineate the gw plume. The wells provided delineation of the dissolved plume to the north and west. One gw extraction well (EW-1) and two observation wells (OBS-3 and OBS-4) were installed for gw remediation feasibility testing. GW in EW-1 and OBS-4 had elevated concentrations. Nine remedial gw extraction events were conducted to reduce elevated MTBE and TBA in the gw. A vacuum truck was used to pump a total of 2207 gallons of gw from MW-1, MW-4, MW-6, MW-10, and MW-11. 2009 - Off-site monitoring

SHELL SERVICE STATION (Continued) **1005904292**

wells MW-17 and MW-18 were installed west of Perris Blvd. The wells provided delineation of the western gw plume boundary as TBA was the only detection in the gw (34 and 79 ppb). Three re-injection wells (RI-1 through RI-3) were installed for injection of treated gw since off-site discharge permits could not be obtained. GW extraction pilot testing was conducted and it was concluded that this would be a feasible remedial technology for reducing gw impacts at the site. Permits for gw discharge were unable to be obtained, so re-injection of treated gw was proposed. Re-injection pilot testing was conducted and it was concluded that re-injection would be feasible method of managing the treated gw. 2010 - Two on-site monitoring wells (MW-20 and MW-21) were installed southwest of the station building. GW sampling indicated the wells defined the southwestern limits of the dissolved plume. SVE rebound testing was conducted. Test results were favorable with rebounded vapor concentrations all below 1 ppmv. Five confirmation soil borings (CB-1 through CB-5) were drilled to 85 ft bg. Soil samples from each 5-ft depth interval from each boring were ND for all constituents except MTBE and TBA. The highest MTBE detection was 0.2 ppm from CB-4-75 and the highest TBA detection was 3 ppm from CB-2-80. All MTBE and TBA detections were from samples collected below the water table. Soil remedial efforts were considered effective, however, MTBE and TBA concentrations in the gw remained elevated. 2011 - Two off-site monitoring wells (MW-7 and MW-9) were installed south of Iris Avenue. GW sampling indicated the wells defined the southern and southeastern limits of the dissolved plume. 2012 - Two additional gw monitoring wells (MW-22 and MW-23) were installed. MW-22 was installed on-site, adjacent to EW-1, and MW-23 was installed off-site, southeast of MW-9. Neither well had GW impacts. Delineation of soil and gw impacts was considered complete. 2013 to 2015 - Monitored natural attenuation (MNA) was implemented, and Oxygen-releasing sleeves (O-Sox) were placed in wells MW-4, MW-6, MW-11, MW-15 and OBS-4 in an attempt to reduce remaining elevated MTBE and TBA concentrations. Notable decreases in concentrations were not observed and the O-Sox were removed January 2015. MTBE and TBA concentrations have remained relatively stable following another year of monitoring since O-Sox removal. 2015 - With a rise in gw levels of approx 30-ft since monitoring began in 2005, most of the wells associated with the cleanup have submerged well screens. RCDEH requested installation of an appropriately screened well in the area with the highest gw concentrations so the results could be compared with nearby submerged well(s). One gw mon well (MW-24) was installed near submerged well MW-6. Soil from MW-24 was ND for all constituents tested from 5 to 65 ft bg. A year of gw monitoring of MW-24 has shown all constituents ND, except one detection of TBA (11 ppb). During this same sampling period, gw from MW-6 had detections up to 6700 ppb TPHg, 3800 ppb MTBE and 42000 ppb TBA. The consultant concludes that the elevated concentrations in MW-6 are attributable to petroleum fuel constituents trapped in the fine grained material and surrounding filter pack at depths below the current gw level. As such, it is not representative of surrounding conditions and should not be used for LTCP evaluation. Groundwater Monitoring: GW monitoring has been conducted at the site since March 2005. During this time period, gw has risen approx 30 ft from an initial depth of approx 80 ft bg to the current depth of approx 50 ft bg. GW flow has been consistently to the south and southeast. Most of the wells have submerged well screens as discussed above. Maximum historic gw concentrations were: 400000 ppb TPHg (MW-6), 80 ppb benzene (MW-3),

SHELL SERVICE STATION (Continued) **1005904292**

480000 ppb MTBE (MW-6), and 260000 ppb TBA (MW-4). Current (August 2016) gw concentrations are: 6600 ppb TPHg, 2500 ppb MTBE, and 35000 ppb TBA (well MW-6). The new properly screened well, MW-24 (near MW-6), did not have any contaminants detected. Low Threat Closure Policy (LTCP) Evaluation: The site meets the General Criteria and the Direct Contact and Outdoor Air Exposure Criteria of the LTCP. The Petroleum Vapor Intrusion to Indoor Air Criteria was not evaluated based on the active commercial petroleum fueling facility LTCP exemption. Except for the MTBE exceedance in well MW-6 (2500 ppb MTBE Q3-2016), the LTCP Groundwater-Specific Criteria was met using scenario 1.2 (plume length <250 ft, no free product, nearest existing water supply well >1000 ft, benzene <3000 ppb, and <1000 ppb MTBE). MW-6 is located approx 25 ft from MW-24, which is ND for MTBE. It should be noted that elevated TBA concentrations remain in the gw at MW-6 (35000 ppb), however, the LTCP does not specifically address concentrations of TBA, but instead considers TBA attributable to the break-down of MTBE. A UST system is currently installed and operating at the site. Prior to a change in land use, the potential threat of petroleum vapor intrusion into indoor air should be evaluated.

LUST:
Global Id: T0606517323
Contact Type: Regional Board Caseworker
Contact Name: CARL BERNHARDT
Organization Name: SANTA ANA RWQCB (REGION 8)
Address: 3737 MAIN STREET, SUITE 500
City: RIVERSIDE
Email: carl.bernhardt@waterboards.ca.gov
Phone Number: 9517824495

LUST:
Global Id: T0606517323
Action Type: ENFORCEMENT
Date: 09/01/2009
Action: Staff Letter - #Riv Co 090109

Global Id: T0606517323
Action Type: ENFORCEMENT
Date: 05/30/2014
Action: Waste Discharge Requirements

Global Id: T0606517323
Action Type: ENFORCEMENT
Date: 10/19/2018
Action: Meeting

Global Id: T0606517323
Action Type: ENFORCEMENT
Date: 03/28/2019
Action: Meeting

Global Id: T0606517323
Action Type: RESPONSE
Date: 10/30/2009
Action: Pilot Study/ Treatability Report

Global Id: T0606517323

SHELL SERVICE STATION (Continued) **1005904292**

Action Type: RESPONSE
Date: 10/15/2009
Action: Monitoring Report - Quarterly

Global Id: T0606517323
Action Type: RESPONSE
Date: 01/15/2010
Action: Monitoring Report - Quarterly

Global Id: T0606517323
Action Type: RESPONSE
Date: 04/15/2010
Action: Monitoring Report - Annually

Global Id: T0606517323
Action Type: RESPONSE
Date: 07/15/2010
Action: Monitoring Report - Quarterly

Global Id: T0606517323
Action Type: RESPONSE
Date: 10/15/2010
Action: Monitoring Report - Quarterly

Global Id: T0606517323
Action Type: RESPONSE
Date: 04/13/2009
Action: Well Installation Report

Global Id: T0606517323
Action Type: RESPONSE
Date: 08/13/2010
Action: Other Report / Document

Global Id: T0606517323
Action Type: RESPONSE
Date: 04/15/2014
Action: Monitoring Report - Quarterly

Global Id: T0606517323
Action Type: RESPONSE
Date: 01/15/2015
Action: Monitoring Report - Quarterly

Global Id: T0606517323
Action Type: ENFORCEMENT
Date: 08/13/2009
Action: Staff Letter - #Riv Co 081309

Global Id: T0606517323
Action Type: ENFORCEMENT
Date: 09/16/2009
Action: Technical Correspondence / Assistance / Other - #Riv Co 091609

Global Id: T0606517323
Action Type: RESPONSE
Date: 04/15/2015

Map ID
Direction
Distance
Elevation | Site | MAP FINDINGS | Database(s) | EDR ID Number EPA ID Number

SHELL SERVICE STATION (Continued) **1005904292**

Action: Monitoring Report - Quarterly

Global Id: T0606517323
Action Type: RESPONSE
Date: 10/15/2014
Action: Monitoring Report - Quarterly

Global Id: T0606517323
Action Type: RESPONSE
Date: 05/29/2015
Action: Well Installation Report

Global Id: T0606517323
Action Type: ENFORCEMENT
Date: 05/25/2010
Action: Staff Letter - #RCDEH 052510

Global Id: T0606517323
Action Type: RESPONSE
Date: 12/20/2010
Action: Soil and Water Investigation Report

Global Id: T0606517323
Action Type: RESPONSE
Date: 10/15/2015
Action: Monitoring Report - Quarterly

Global Id: T0606517323
Action Type: ENFORCEMENT
Date: 04/09/2007
Action: Technical Correspondence / Assistance / Other - #040807

Global Id: T0606517323
Action Type: ENFORCEMENT
Date: 12/09/2016
Action: File review - #RCDEH uploaded site file

Global Id: T0606517323
Action Type: RESPONSE
Date: 04/15/2011
Action: Monitoring Report - Annually

Global Id: T0606517323
Action Type: RESPONSE
Date: 07/15/2015
Action: Monitoring Report - Quarterly

Global Id: T0606517323
Action Type: RESPONSE
Date: 01/15/2016
Action: Monitoring Report - Quarterly

Global Id: T0606517323
Action Type: ENFORCEMENT
Date: 08/26/2010
Action: Technical Correspondence / Assistance / Other - #RCDEH 082610

SHELL SERVICE STATION (Continued) **1005904292**

Global Id: T0606517323
Action Type: ENFORCEMENT
Date: 10/18/2010
Action: Staff Letter - #RCDEH 101810

Global Id: T0606517323
Action Type: Other
Date: 02/09/2004
Action: Leak Discovery

Global Id: T0606517323
Action Type: RESPONSE
Date: 07/15/2011
Action: Monitoring Report - Quarterly

Global Id: T0606517323
Action Type: RESPONSE
Date: 10/15/2011
Action: Monitoring Report - Quarterly

Global Id: T0606517323
Action Type: RESPONSE
Date: 01/15/2012
Action: Monitoring Report - Quarterly

Global Id: T0606517323
Action Type: RESPONSE
Date: 04/15/2016
Action: Monitoring Report - Quarterly

Global Id: T0606517323
Action Type: RESPONSE
Date: 07/28/2018
Action: Monitoring Report - Semi-Annually

Global Id: T0606517323
Action Type: RESPONSE
Date: 03/28/2019
Action: Other Report / Document

Global Id: T0606517323
Action Type: RESPONSE
Date: 01/23/2019
Action: Monitoring Report - Quarterly

Global Id: T0606517323
Action Type: RESPONSE
Date: 10/03/2018
Action: Other Report / Document

Global Id: T0606517323
Action Type: ENFORCEMENT
Date: 06/08/2007
Action: Notice of Responsibility

Global Id: T0606517323
Action Type: ENFORCEMENT

SHELL SERVICE STATION (Continued) **1005904292**

Date: 09/17/2007
Action: Staff Letter - #RCDEH 091707

Global Id: T0606517323
Action Type: ENFORCEMENT
Date: 03/28/2011
Action: Technical Correspondence / Assistance / Other - #RCDEH 032/11

Global Id: T0606517323
Action Type: ENFORCEMENT
Date: 02/22/2011
Action: Technical Correspondence / Assistance / Other - #RCDEH 022211

Global Id: T0606517323
Action Type: Other
Date: 07/24/2003
Action: Leak Stopped

Global Id: T0606517323
Action Type: RESPONSE
Date: 11/16/2007
Action: Other Report / Document

Global Id: T0606517323
Action Type: RESPONSE
Date: 12/21/2007
Action: Other Report / Document

Global Id: T0606517323
Action Type: RESPONSE
Date: 01/15/2008
Action: Monitoring Report - Quarterly

Global Id: T0606517323
Action Type: RESPONSE
Date: 04/15/2008
Action: Monitoring Report - Quarterly

Global Id: T0606517323
Action Type: RESPONSE
Date: 04/15/2012
Action: Monitoring Report - Annually

Global Id: T0606517323
Action Type: RESPONSE
Date: 06/21/2012
Action: Well Installation Report

Global Id: T0606517323
Action Type: RESPONSE
Date: 07/15/2012
Action: Monitoring Report - Quarterly

Global Id: T0606517323
Action Type: RESPONSE
Date: 10/15/2016
Action: Monitoring Report - Quarterly

SHELL SERVICE STATION (Continued) **1005904292**

Global Id: T0606517323
Action Type: RESPONSE
Date: 07/15/2016
Action: Monitoring Report - Quarterly

Global Id: T0606517323
Action Type: RESPONSE
Date: 05/31/2013
Action: Corrective Action Plan / Remedial Action Plan - Addendum - Regulator Responded

Global Id: T0606517323
Action Type: RESPONSE
Date: 12/17/2014
Action: Other Workplan - Regulator Responded

Global Id: T0606517323
Action Type: RESPONSE
Date: 03/13/2015
Action: Soil and Water Investigation Workplan - Regulator Responded

Global Id: T0606517323
Action Type: RESPONSE
Date: 01/18/2016
Action: Request for Closure - Regulator Responded

Global Id: T0606517323
Action Type: RESPONSE
Date: 08/02/2018
Action: Request for Closure - Regulator Responded

Global Id: T0606517323
Action Type: RESPONSE
Date: 09/25/2017
Action: Soil and Water Investigation Workplan - Regulator Responded

Global Id: T0606517323
Action Type: REMEDIATION
Date: 01/03/2008
Action: In Situ Physical/Chemical Treatment (other than SVE)

Global Id: T0606517323
Action Type: REMEDIATION
Date: 12/07/2007
Action: Soil Vapor Extraction (SVE)

Global Id: T0606517323
Action Type: REMEDIATION
Date: 08/19/2008
Action: Pump & Treat (P&T) Groundwater

Global Id: T0606517323
Action Type: REMEDIATION
Date: 07/01/2003
Action: Excavation

Global Id: T0606517323
Action Type: ENFORCEMENT

SHELL SERVICE STATION (Continued) **1005904292**

Date: 05/27/2008
Action: Staff Letter - #RCDEH052708

Global Id: T0606517323
Action Type: ENFORCEMENT
Date: 12/23/2007
Action: File review

Global Id: T0606517323
Action Type: ENFORCEMENT
Date: 01/30/2008
Action: Staff Letter - #RCDEH013008

Global Id: T0606517323
Action Type: ENFORCEMENT
Date: 03/30/2016
Action: LOP Case Closure Summary to RB - #RCDEH 033016

Global Id: T0606517323
Action Type: RESPONSE
Date: 10/15/2007
Action: Monitoring Report - Quarterly

Global Id: T0606517323
Action Type: RESPONSE
Date: 10/15/2012
Action: Monitoring Report - Quarterly

Global Id: T0606517323
Action Type: RESPONSE
Date: 01/15/2013
Action: Monitoring Report - Quarterly

Global Id: T0606517323
Action Type: ENFORCEMENT
Date: 06/04/2013
Action: Staff Letter - #RCDEH 060413

Global Id: T0606517323
Action Type: ENFORCEMENT
Date: 08/25/2010
Action: Meeting

Global Id: T0606517323
Action Type: ENFORCEMENT
Date: 05/01/2012
Action: Meeting

Global Id: T0606517323
Action Type: ENFORCEMENT
Date: 07/01/2017
Action: Referral to Regional Board - #RCDEH notification letters

Global Id: T0606517323
Action Type: ENFORCEMENT
Date: 08/15/2017
Action: Staff Letter

SHELL SERVICE STATION (Continued) **1005904292**

Global Id: T0606517323
Action Type: ENFORCEMENT
Date: 02/28/2018
Action: Meeting

Global Id: T0606517323
Action Type: Other
Date: 02/09/2004
Action: Leak Reported

Global Id: T0606517323
Action Type: RESPONSE
Date: 04/15/2013
Action: Monitoring Report - Annually

Global Id: T0606517323
Action Type: RESPONSE
Date: 07/15/2013
Action: Monitoring Report - Quarterly

Global Id: T0606517323
Action Type: RESPONSE
Date: 10/31/2013
Action: Well Installation Report

Global Id: T0606517323
Action Type: ENFORCEMENT
Date: 11/10/2008
Action: Staff Letter - #RCDEH 11-10-08

Global Id: T0606517323
Action Type: ENFORCEMENT
Date: 02/23/2011
Action: Meeting

Global Id: T0606517323
Action Type: ENFORCEMENT
Date: 04/22/2013
Action: Notification - Public Notice of ROD/RAP/CAP - #RCDEH 042213

Global Id: T0606517323
Action Type: ENFORCEMENT
Date: 08/17/2009
Action: Meeting

Global Id: T0606517323
Action Type: RESPONSE
Date: 10/15/2008
Action: Monitoring Report - Quarterly

Global Id: T0606517323
Action Type: RESPONSE
Date: 01/15/2009
Action: Monitoring Report - Quarterly

Global Id: T0606517323
Action Type: RESPONSE

SHELL SERVICE STATION (Continued) **1005904292**

Date: 12/12/2008
Action: Well Installation Report

Global Id: T0606517323
Action Type: RESPONSE
Date: 10/30/2008
Action: Other Workplan

Global Id: T0606517323
Action Type: RESPONSE
Date: 06/29/2007
Action: CAP/RAP - Final Remediation / Design Plan

Global Id: T0606517323
Action Type: RESPONSE
Date: 06/27/2008
Action: Other Workplan

Global Id: T0606517323
Action Type: RESPONSE
Date: 10/15/2013
Action: Monitoring Report - Quarterly

Global Id: T0606517323
Action Type: RESPONSE
Date: 01/15/2014
Action: Monitoring Report - Quarterly

Global Id: T0606517323
Action Type: ENFORCEMENT
Date: 01/09/2009
Action: Access Agreement - #RCDEH010909

Global Id: T0606517323
Action Type: ENFORCEMENT
Date: 10/17/2008
Action: File review

Global Id: T0606517323
Action Type: ENFORCEMENT
Date: 10/24/2008
Action: Staff Letter - #RCDEH102408

Global Id: T0606517323
Action Type: ENFORCEMENT
Date: 02/13/2009
Action: File review

Global Id: T0606517323
Action Type: ENFORCEMENT
Date: 01/09/2009
Action: Staff Letter - #RCDEH010909

Global Id: T0606517323
Action Type: ENFORCEMENT
Date: 01/07/2009
Action: NPDES Permit

Map ID
Direction
Distance
Elevation | Site | MAP FINDINGS | Database(s) | EDR ID Number EPA ID Number

SHELL SERVICE STATION (Continued) **1005904292**

Global Id: T0606517323
Action Type: ENFORCEMENT
Date: 09/21/2011
Action: Meeting

Global Id: T0606517323
Action Type: ENFORCEMENT
Date: 04/30/2012
Action: Staff Letter - #RCDEH 043012

Global Id: T0606517323
Action Type: ENFORCEMENT
Date: 07/01/2017
Action: File review - #RCDEH site summary

Global Id: T0606517323
Action Type: ENFORCEMENT
Date: 04/22/2013
Action: Staff Letter - #RCDEH 042213

Global Id: T0606517323
Action Type: ENFORCEMENT
Date: 12/10/2013
Action: Technical Correspondence / Assistance / Other - #RCDEH 121013

Global Id: T0606517323
Action Type: ENFORCEMENT
Date: 11/29/2017
Action: Staff Letter

Global Id: T0606517323
Action Type: RESPONSE
Date: 07/15/2008
Action: Monitoring Report - Quarterly

Global Id: T0606517323
Action Type: RESPONSE
Date: 04/15/2009
Action: Monitoring Report - Quarterly

Global Id: T0606517323
Action Type: RESPONSE
Date: 05/21/2009
Action: Other Workplan

Global Id: T0606517323
Action Type: RESPONSE
Date: 01/09/2009
Action: Well Installation Report

Global Id: T0606517323
Action Type: RESPONSE
Date: 07/15/2014
Action: Monitoring Report - Quarterly

LUST:
Global Id: T0606517323

Map ID
Direction
Distance
Elevation | Site | MAP FINDINGS | Database(s) | EDR ID Number EPA ID Number

SHELL SERVICE STATION (Continued) **1005904292**

Status: Open - Case Begin Date
Status Date: 07/24/2003

Global Id: T0606517323
Status: Open - Site Assessment
Status Date: 02/09/2004

Global Id: T0606517323
Status: Open - Site Assessment
Status Date: 02/01/2005

Global Id: T0606517323
Status: Open - Remediation
Status Date: 09/21/2007

Global Id: T0606517323
Status: Open - Eligible for Closure
Status Date: 03/11/2016

Global Id: T0606517323
Status: Open - Verification Monitoring
Status Date: 08/19/2016

RIVERSIDE CO. LUST:
Name: SHELL PERRIS BLVD.
Address: 15980 PERRIS BLVD.
City,State,Zip: MORENO VALLEY, CA
Region: RIVERSIDE
Facility ID: 200420313
Employee: Shurlow-LOP
Site Closed: Referred to Water Board
Case Type: Drinking Water Aquifer affected
Facility Status: closed/action completed
Casetype Decode: An Aquifer used for Drinking Water supply has been contaminated.
Fstatus Decode: Closed/Action completed

SWEEPS UST:
Name: SHELL PERRIS
Address: 15980 PERRIS BLVD
City: MORENO VALLEY
Status: Active
Comp Number: 1985
Number: 1
Board Of Equalization: 44-000074
Referral Date: 05-18-93
Action Date: 05-18-93
Created Date: 05-18-93
Owner Tank Id: 1
SWRCB Tank Id: 33-000-001985-000001
Tank Status: A
Capacity: 12000
Active Date: 05-18-93
Tank Use: M.V. FUEL
STG: P
Content: REG UNLEADED

SHELL SERVICE STATION (Continued) **1005904292**

Number Of Tanks: 3

Name: SHELL PERRIS
Address: 15980 PERRIS BLVD
City: MORENO VALLEY
Status: Active
Comp Number: 1985
Number: 1
Board Of Equalization: 44-000074
Referral Date: 05-18-93
Action Date: 05-18-93
Created Date: 05-18-93
Owner Tank Id: 2
SWRCB Tank Id: 33-000-001985-000002
Tank Status: A
Capacity: 12000
Active Date: 05-18-93
Tank Use: M.V. FUEL
STG: P
Content: PRM UNLEADED
Number Of Tanks: Not reported

Name: SHELL PERRIS
Address: 15980 PERRIS BLVD
City: MORENO VALLEY
Status: Active
Comp Number: 1985
Number: 1
Board Of Equalization: 44-000074
Referral Date: 05-18-93
Action Date: 05-18-93
Created Date: 05-18-93
Owner Tank Id: 3
SWRCB Tank Id: 33-000-001985-000003
Tank Status: A
Capacity: 12000
Active Date: 05-18-93
Tank Use: M.V. FUEL
STG: P
Content: REG UNLEADED
Number Of Tanks: Not reported

FINDS:

Registry ID: 110012538511

Environmental Interest/Information System

California Hazardous Waste Tracking System - Datamart (HWTS-DATAMART) provides California with information on hazardous waste shipments for generators, transporters, and treatment, storage, and disposal facilities.

RCRAInfo is a national information system that supports the Resource Conservation and Recovery Act (RCRA) program through the tracking of events and activities related to facilities that generate, transport, and treat, store, or dispose of hazardous waste. RCRAInfo allows RCRA program staff to track the notification, permit, compliance, and

SHELL SERVICE STATION (Continued) **1005904292**

corrective action activities required under RCRA.

Click this hyperlink while viewing on your computer to access additional FINDS: detail in the EDR Site Report.

ECHO:

Envid:	1005904292
Registry ID:	110012538511
DFR URL:	http://echo.epa.gov/detailed-facility-report?fid=110012538511

CORTESE:

Name:	SHELL PERRIS BLVD.
Address:	15980 PERRIS BLVD.
City,State,Zip:	MORENO VALLEY, CA 92551
Region:	CORTESE
Envirostor Id:	Not reported
Global ID:	T0606517323
Site/Facility Type:	LUST CLEANUP SITE
Cleanup Status:	OPEN - VERIFICATION MONITORING
Status Date:	Not reported
Site Code:	Not reported
Latitude:	Not reported
Longitude:	Not reported
Owner:	Not reported
Enf Type:	Not reported
Swat R:	Not reported
Flag:	active
Order No:	Not reported
Waste Discharge System No:	Not reported
Effective Date:	Not reported
Region 2:	Not reported
WID Id:	Not reported
Solid Waste Id No:	Not reported
Waste Management Uit Name:	Not reported
File Name:	Active Open

HAZNET:

Name:	SHELL SERVICE STATION
Address:	15980 PERRIS BLVD
City,State,Zip:	MORENO VALLEY, CA 92388
Year:	2015
GEPAID:	CAR000120600
Contact:	ADAM ESTES
Telephone:	3172917007
Mailing Name:	Not reported
Mailing Address:	PO BOX 2099
Mailing City,St,Zip:	HOUSTON, TX 772522099
Gen County:	Riverside
TSD EPA ID:	NVT330010000
TSD County:	99
Tons:	0.1
CA Waste Code:	141-Off-specification, aged or surplus inorganics
Method:	H141-Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Facility County:	Riverside

Map ID
Direction
Distance
Elevation | Site | MAP FINDINGS | Database(s) | EDR ID Number EPA ID Number

SHELL SERVICE STATION (Continued) **1005904292**

Name:	SHELL SERVICE STATION
Address:	15980 PERRIS BLVD
City,State,Zip:	MORENO VALLEY, CA 92388
Year:	2009
GEPAID:	CAR000120600
Contact:	Adam Estes
Telephone:	3172917007
Mailing Name:	Not reported
Mailing Address:	PO BOX 3127
Mailing City,St,Zip:	HOUSTON, TX 772530000
Gen County:	Riverside
TSD EPA ID:	CAD008302903
TSD County:	Los Angeles
Tons:	0.03
CA Waste Code:	352-Other organic solids
Method:	H141-Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Facility County:	Riverside

Name:	SHELL SERVICE STATION
Address:	15980 PERRIS BLVD
City,State,Zip:	MORENO VALLEY, CA 92388
Year:	2007
GEPAID:	CAR000120600
Contact:	Adam Estes
Telephone:	3172917007
Mailing Name:	Not reported
Mailing Address:	PO BOX 3127
Mailing City,St,Zip:	HOUSTON, TX 772530000
Gen County:	Riverside
TSD EPA ID:	CAD008302903
TSD County:	Los Angeles
Tons:	0.0075
CA Waste Code:	352-Other organic solids
Method:	H141-Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Facility County:	Riverside

Name:	SHELL SERVICE STATION
Address:	15980 PERRIS BLVD
City,State,Zip:	MORENO VALLEY, CA 92388
Year:	2007
GEPAID:	CAR000120600
Contact:	Adam Estes
Telephone:	3172917007
Mailing Name:	Not reported
Mailing Address:	PO BOX 3127
Mailing City,St,Zip:	HOUSTON, TX 772530000
Gen County:	Riverside
TSD EPA ID:	CAD028409019
TSD County:	Los Angeles
Tons:	0.02
CA Waste Code:	352-Other organic solids
Method:	H141-Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Facility County:	Riverside

SHELL SERVICE STATION (Continued) **1005904292**

Name:	SHELL SERVICE STATION
Address:	15980 PERRIS BLVD
City,State,Zip:	MORENO VALLEY, CA 92388
Year:	2006
GEPAID:	CAR000120600
Contact:	Adam Estes
Telephone:	3172917007
Mailing Name:	Not reported
Mailing Address:	PO BOX 3127
Mailing City,St,Zip:	HOUSTON, TX 772530000
Gen County:	Riverside
TSD EPA ID:	CAD008302903
TSD County:	Los Angeles
Tons:	0.085
CA Waste Code:	352-Other organic solids
Method:	H01-Transfer Station
Facility County:	Riverside

Click this hyperlink while viewing on your computer to access
7 additional CA_HAZNET: record(s) in the EDR Site Report.

CERS:

Name:	SHELL PERRIS BLVD.
Address:	15980 PERRIS BLVD.
City,State,Zip:	MORENO VALLEY, CA 92551
Site ID:	195812
CERS ID:	T0606517323
CERS Description:	Leaking Underground Storage Tank Cleanup Site

Affiliation:

Affiliation Type Desc:	Regional Board Caseworker
Entity Name:	CARL BERNHARDT - SANTA ANA RWQCB (REGION 8)
Entity Title:	Not reported
Affiliation Address:	3737 MAIN STREET, SUITE 500
Affiliation City:	RIVERSIDE
Affiliation State:	CA
Affiliation Country:	Not reported
Affiliation Zip:	Not reported
Affiliation Phone:	9517824495

B10 **MALEK AYASS** **RCRA-SQG** **1001195410**
WNW **15974 PERRIS BLVD UNIT A** **FINDS** **CAR000019851**
< 1/8 **MORENO VALLEY, CA 92551** **ECHO**
0.093 mi.
492 ft. **Site 7 of 15 in cluster B**

Relative:
Higher

Actual:
1507 ft.

RCRA-SQG:

Date form received by agency:	1997-05-20 00:00:00.0
Facility name:	MALEK AYASS
Facility address:	15974 PERRIS BLVD UNIT A MORENO VALLEY, CA 92551
EPA ID:	CAR000019851
Mailing address:	PERRIS BLVD UNIT A MORENO VALLEY, CA 92551
Contact:	MALEK AYASS
Contact address:	15974 PERRIS BLVD UNIT A MORENO VALLEY, CA 92551

MALEK AYASS (Continued) **1001195410**

Contact country: US
Contact telephone: 909-488-9277
Contact email: Not reported
EPA Region: 09
Classification: Small Small Quantity Generator
Description: Handler: generates more than 100 and less than 1000 kg of hazardous waste during any calendar month and accumulates less than 6000 kg of hazardous waste at any time; or generates 100 kg or less of hazardous waste during any calendar month, and accumulates more than 1000 kg of hazardous waste at any time

Owner/Operator Summary:
Owner/operator name: MALEK AYASS
Owner/operator address: 15974 PERRIS BLVD UNIT A
MORENO VALLEY, CA 92551
Owner/operator country: Not reported
Owner/operator telephone: 909-488-9277
Owner/operator email: Not reported
Owner/operator fax: Not reported
Owner/operator extension: Not reported
Legal status: Private
Owner/Operator Type: Owner
Owner/Op start date: Not reported
Owner/Op end date: Not reported

Handler Activities Summary:
U.S. importer of hazardous waste: No
Mixed waste (haz. and radioactive): No
Recycler of hazardous waste: No
Transporter of hazardous waste: No
Treater, storer or disposer of HW: No
Underground injection activity: No
On-site burner exemption: No
Furnace exemption: No
Used oil fuel burner: No
Used oil processor: No
User oil refiner: No
Used oil fuel marketer to burner: No
Used oil Specification marketer: No
Used oil transfer facility: No
Used oil transporter: No

Violation Status: No violations found

FINDS:

Registry ID: 110002917425

Environmental Interest/Information System
RCRAInfo is a national information system that supports the Resource Conservation and Recovery Act (RCRA) program through the tracking of events and activities related to facilities that generate, transport, and treat, store, or dispose of hazardous waste. RCRAInfo allows RCRA program staff to track the notification, permit, compliance, and corrective action activities required under RCRA.

MAP FINDINGS

Map ID / Direction / Distance / Elevation	Site	Database(s)	EDR ID Number / EPA ID Number

MALEK AYASS (Continued) **1001195410**

Click this hyperlink while viewing on your computer to access additional FINDS: detail in the EDR Site Report.

ECHO:

Envid:	1001195410
Registry ID:	110002917425
DFR URL:	http://echo.epa.gov/detailed-facility-report?fid=110002917425

B11 **ROLLING RIDGE CLEANERS** **DRYCLEANERS** **S103985263**
WNW **15974 PERRIS BLVD STE A** **N/A**
< 1/8 **MORENO VALLEY, CA 92551**
0.093 mi.
492 ft. **Site 8 of 15 in cluster B**

Relative:
Higher

Actual:
1507 ft.

DRYCLEANERS:

Name:	ROLLING RIDGE CLEANERS INC
Address:	15974 PERRIS BLVD STE A
City,State,Zip:	MORENO VALLEY, CA 925514694
EPA Id:	CAL000364010
NAICS Code:	81232
NAICS Description:	Drycleaning and Laundry Services (except Coin-Operated)
SIC Code:	7211
SIC Description:	Power Laundries, Family and Commercial
Create Date:	05/26/2011
Facility Active:	No
Inactive Date:	06/30/2013
Facility Addr2:	Not reported
Owner Name:	JOA PROPERTIES INC
Owner Address:	15694 RIO BLANCO TRL
Owner Address 2:	Not reported
Owner Telephone:	9512955910
Contact Name:	JESS ANDERSON
Contact Address:	15694 RIO BLANCO TRL
Contact Address 2:	Not reported
Contact Telephone:	9512955910
Mailing Name:	Not reported
Mailing Address 1:	15974 PERRIS BLVD STE A
Mailing Address 2:	Not reported
Mailing City:	MORENO VALLEY
Mailing State:	CA
Mailing Zip:	925514694
Owner Fax:	Not reported
Region Code:	4

Name:	ROLLING RIDGE CLEANERS
Address:	15974 PERRIS BLVD STE A
City,State,Zip:	MORENO VALLEY, CA 92551
EPA Id:	CAL000389130
NAICS Code:	81232
NAICS Description:	Drycleaning and Laundry Services (except Coin-Operated)
SIC Code:	7211
SIC Description:	Power Laundries, Family and Commercial
Create Date:	08/30/2013
Facility Active:	No
Inactive Date:	06/30/2016
Facility Addr2:	Not reported

ROLLING RIDGE CLEANERS (Continued) **S103985263**

Owner Name:	TONY TRAN
Owner Address:	15974 PERRIS BLVD STE A
Owner Address 2:	Not reported
Owner Telephone:	9518135526
Contact Name:	TONY TRAN
Contact Address:	15974 PERRIS BLVD STE A
Contact Address 2:	Not reported
Contact Telephone:	9518135526
Mailing Name:	Not reported
Mailing Address 1:	15974 PERRIS BLVD STE A
Mailing Address 2:	Not reported
Mailing City:	MORENO VALLEY
Mailing State:	CA
Mailing Zip:	925510000
Owner Fax:	0000000000
Region Code:	4

B12 **ROLLING RIDGE CLEANERS INC** **DRYCLEANERS** **S113047505**
WNW **15974 PERRIS BLVD UNIT A** **N/A**
< 1/8 **MORENO VALLEY, CA 92551**
0.093 mi.
492 ft. **Site 9 of 15 in cluster B**

Relative: **Higher**
Actual: **1507 ft.**

DRYCLEAN SOUTH COAST:

Name:	ROLLING RIDGE CLEANERS INC
Address:	15974 PERRIS BLVD UNIT A
City,State,Zip:	MORENO VALLEY, CA 92551
Facility ID:	83714
Application Number:	243794
Permit Number:	D39143
Status:	I
Representative Name:	DAVID FUJINAMI
Representative Telephone:	818 4483168
Permit Status:	INACT_NR
BCAT Number:	000234
BCAT Description:	DRY CLEANING EQUIP PERCHLOROETHYLENE
CCAT Number:	Not reported
CCAT Description:	Not reported
UTM East:	430.73001099
UTM North:	3763.3200684

B13 **ROLLING RIDGE CLEANERS, MALEK AYASS,DBA** **DRYCLEANERS** **S121693998**
WNW **15974 PERRIS BLVD UNIT A** **N/A**
< 1/8 **MORENO VALLEY, CA 92551**
0.093 mi.
492 ft. **Site 10 of 15 in cluster B**

Relative: **Higher**
Actual: **1507 ft.**

DRYCLEAN SOUTH COAST:

Name:	ROLLING RIDGE CLEANERS, MALEK AYASS,DBA
Address:	15974 PERRIS BLVD UNIT A
City,State,Zip:	MORENO VALLEY, CA 92551
Facility ID:	113640
Application Number:	437644
Permit Number:	F72936
Status:	S
Representative Name:	MALEK AYASS

ROLLING RIDGE CLEANERS, MALEK AYASS,DBA (Continued) **S121693998**

Representative Telephone:	951 4889277
Permit Status:	INACTIVE
BCAT Number:	000233
BCAT Description:	DRY CLEANING EQUIP PETROLEUM SOLVENT
CCAT Number:	04
CCAT Description:	VAPOR RECOVERY UNIT COMPRESS & CONDENSE
UTM East:	479.0920105
UTM North:	3749.6508789
Name:	ROLLING RIDGE CLEANERS, MALEK AYASS,DBA
Address:	15974 PERRIS BLVD UNIT A
City,State,Zip:	MORENO VALLEY, CA 92551
Facility ID:	113640
Application Number:	332174
Permit Number:	F14622
Status:	S
Representative Name:	MALEK AYASS
Representative Telephone:	951 4889277
Permit Status:	INACTIVE
BCAT Number:	000601
BCAT Description:	DRY CLEANING, DRY-TO-DRY NON-VENT, PERC
CCAT Number:	04
CCAT Description:	VAPOR RECOVERY UNIT COMPRESS & CONDENSE
UTM East:	479.0920105
UTM North:	3749.6508789

B14 **ROLLING RIDGE CLEANERS, JOA PROP DBA** **DRYCLEANERS** **S121696531**
WNW **15974 PERRIS BLVD UNIT A** **N/A**
< 1/8 **MORENO VALLEY, CA 92551**
0.093 mi.
492 ft. **Site 11 of 15 in cluster B**

Relative: DRYCLEAN SOUTH COAST:
Higher

Actual:
1507 ft.

Name:	ROLLING RIDGE CLEANERS, JOA PROP DBA
Address:	15974 PERRIS BLVD UNIT A
City,State,Zip:	MORENO VALLEY, CA 92551
Facility ID:	166980
Application Number:	519767
Permit Number:	G13180
Status:	S
Representative Name:	JEFF ANDERSON
Representative Telephone:	951 2955910
Permit Status:	INACTIVE
BCAT Number:	000233
BCAT Description:	DRY CLEANING EQUIP PETROLEUM SOLVENT
CCAT Number:	Not reported
CCAT Description:	Not reported
UTM East:	479.07998657
UTM North:	3749.6398926

MAP FINDINGS

Map ID / Direction / Distance / Elevation	Site	Database(s)	EDR ID Number / EPA ID Number
B15	**ROLLING RIDGE CLEANERS INC**	**EDR Hist Cleaner**	**1020076607**
WNW	**15974 PERRIS BLVD STE A**		**N/A**
< 1/8	**MORENO VALLEY, CA 92551**		
0.093 mi.			
492 ft.	**Site 12 of 15 in cluster B**		

Relative: Higher

Actual: 1507 ft.

EDR Hist Cleaner

Year:	Name:	Type:
1996	ROLLING RIDGE CLEANERS INC	Drycleaning Plants, Except Rugs
1997	ROLLING RIDGE CLEANERS INC	Drycleaning Plants, Except Rugs
1998	ROLLING RIDGE CLEANERS INC	Drycleaning Plants, Except Rugs
1999	ROLLING RIDGE CLEANERS INC	Drycleaning Plants, Except Rugs
2000	ROLLING RIDGE CLEANERS INC	Drycleaning Plants, Except Rugs
2001	ROLLING RIDGE CLEANERS INC	Drycleaning Plants, Except Rugs
2002	ROLLING RIDGE CLEANERS INC	Drycleaning Plants, Except Rugs
2003	ROLLING RIDGE CLEANERS INC	Drycleaning Plants, Except Rugs
2004	ROLLING RIDGE CLEANERS INC	Drycleaning Plants, Except Rugs
2005	ROLLING RIDGE CLEANERS INC	Drycleaning Plants, Except Rugs
2006	ROLLING RIDGE CLEANERS INC	Drycleaning Plants, Except Rugs
2007	ROLLING RIDGE CLEANERS INC	Drycleaning Plants, Except Rugs
2008	ROLLING RIDGE CLEANERS INC	Drycleaning Plants, Except Rugs
2009	ROLLING RIDGE CLEANERS INC	Drycleaning Plants, Except Rugs
2010	ROLLING RIDGE CLEANERS INC	Drycleaning Plants, Except Rugs
2011	ROLLING RIDGE CLEANERS INC	Drycleaning Plants, Except Rugs
2012	ROLLING RIDGE CLEANERS INC	Drycleaning Plants, Except Rugs
2013	ROLLING RIDGE CLEANERS INC	Drycleaning Plants, Except Rugs
2014	ROLLING RIDGE CLEANERS INC	Drycleaning Plants, Except Rugs

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B16	**TAN TRAN**	**DRYCLEANERS**	**S121696655**
WNW	**15974 PERRIS BLVD UNIT A**		**N/A**
< 1/8	**MORENO VALLEY, CA 92551**		
0.093 mi.			
492 ft.	**Site 13 of 15 in cluster B**		

Relative: Higher

Actual: 1507 ft.

DRYCLEAN SOUTH COAST:

Name:	TAN TRAN
Address:	15974 PERRIS BLVD UNIT A
City,State,Zip:	MORENO VALLEY, CA 92551
Facility ID:	174663
Application Number:	552438
Permit Number:	G27268
Status:	A
Representative Name:	TAN TRAN
Representative Telephone:	951 8135526
Permit Status:	ACTIVE
BCAT Number:	000233
BCAT Description:	DRY CLEANING EQUIP PETROLEUM SOLVENT
CCAT Number:	Not reported
CCAT Description:	Not reported
UTM East:	479.07998657
UTM North:	3749.6398926

MAP FINDINGS

Map ID / Direction / Distance / Elevation	Site	Database(s)	EDR ID Number / EPA ID Number
B17	**EMWD MORENO #1 PUMPING PLANT**	**SWEEPS UST**	**S106925833**
WNW	**16015 PERRIS BLVD**		**N/A**
< 1/8	**MORENO VALLEY, CA 92343**		
0.102 mi.			
539 ft.	**Site 14 of 15 in cluster B**		

Relative: Higher

Actual: 1506 ft.

SWEEPS UST:

Name:	EMWD MORENO #1 PUMPING PLANT
Address:	16015 PERRIS BLVD
City:	MORENO VALLEY
Status:	Active
Comp Number:	30881
Number:	4
Board Of Equalization:	44-018137
Referral Date:	10-29-92
Action Date:	10-29-92
Created Date:	02-29-88
Owner Tank Id:	000433
SWRCB Tank Id:	33-000-030881-000001
Tank Status:	A
Capacity:	150
Active Date:	10-29-92
Tank Use:	OIL
STG:	W
Content:	WASTE OIL
Number Of Tanks:	1

Map ID / Direction / Distance / Elevation	Site	Database(s)	EDR ID Number / EPA ID Number
18	**MAGIC DRY CLEANERS**	**DRYCLEANERS**	**S109611992**
West	**16090 PERRIS BLVD #B**		**N/A**
< 1/8	**MORENO VALLEY, CA 92551**		
0.115 mi.			
609 ft.			

Relative: Higher

Actual: 1503 ft.

DRYCLEANERS:

Name:	MAGIC DRY CLEANERS
Address:	16090 PERRIS BLVD #B
City,State,Zip:	MORENO VALLEY, CA 92551
EPA Id:	CAL000342712
NAICS Code:	81232
NAICS Description:	Drycleaning and Laundry Services (except Coin-Operated)
SIC Code:	7211
SIC Description:	Power Laundries, Family and Commercial
Create Date:	05/01/2009
Facility Active:	No
Inactive Date:	06/30/2009
Facility Addr2:	Not reported
Owner Name:	MAGIC DRY CLEANERS LLC
Owner Address:	16090 PERRIS BLVD #B
Owner Address 2:	Not reported
Owner Telephone:	9519242702
Contact Name:	HANAN FALTAS
Contact Address:	26390 CAMINO LARGO
Contact Address 2:	Not reported
Contact Telephone:	9519066230
Mailing Name:	Not reported
Mailing Address 1:	16090 PERRIS BLVD #B
Mailing Address 2:	Not reported
Mailing City:	MORENO VALLEY
Mailing State:	CA
Mailing Zip:	92551

MAP FINDINGS

Map ID / Direction / Distance / Elevation	Site	Database(s)	EDR ID Number / EPA ID Number
	MAGIC DRY CLEANERS (Continued)		**S109611992**
	Owner Fax: 9519242079 Region Code: 4		
B19 **NW** **< 1/8** **0.118 mi.** **621 ft.**	**ONE'S RECYCLING** **15928 PERRIS BLVD** **MORENO VALLEY, CA 92551** **Site 15 of 15 in cluster B**	**SWRCY**	**S120834945** **N/A**
Relative: **Higher** **Actual:** **1508 ft.**	SWRCY: Name: ONE'S RECYCLING Address: 15928 PERRIS BLVD City,State,Zip: MORENO VALLEY, CA 92551 Reg Id: Not reported Cert Id: RC256989.001 Mailing Address: 1403 Palma Bonita Ln Mailing City: Perris Mailing State: CA Mailing Zip Code: 92571 Website: Not reported Email: Not reported Phone Number: (951) 999-5650 Rural: N Operation Begin Date: 04/01/2017 Aluminium: Not reported Glass: Not reported Plastic: Not reported Bimetal: Not reported Hours of Operation: Mon - Sat 9:00 am - 4:30 pm; Sun Closed Organization ID: Not reported Organization Name: One's Recycling		
20 **WNW** **1/8-1/4** **0.141 mi.** **743 ft.**	**HOME DEPOT USA INC HD 1087** **15975 PERRIS BLVD** **MORENO VALLEY, CA 92551**	**RCRA-SQG** **CERS HAZ WASTE** **HAZNET** **CERS**	**1008880000** **CAR000168732**
Relative: **Higher** **Actual:** **1509 ft.**	RCRA-SQG: Date form received by agency: 2005-06-15 00:00:00.0 Facility name: HOME DEPOT USA INC HD 1087 Facility address: 15975 PERRIS BLVD MORENO VALLEY, CA 92551 EPA ID: CAR000168732 Mailing address: 1905 ASTON AVE STE 100 CARLSBAD, CA 92008 Contact: ROBERT PERKINS Contact address: 1905 ASTON AVE STE 100 CARLSBAD, CA 92008 Contact country: US Contact telephone: 760-602-8700 Contact email: RPERKINS@3ECOMPANY.COM EPA Region: 09 Classification: Small Small Quantity Generator Description: Handler: generates more than 100 and less than 1000 kg of hazardous		

HOME DEPOT USA INC HD 1087 (Continued) **1008880000**

waste during any calendar month and accumulates less than 6000 kg of hazardous waste at any time; or generates 100 kg or less of hazardous waste during any calendar month, and accumulates more than 1000 kg of hazardous waste at any time

Owner/Operator Summary:

Owner/operator name:	HOME DEPOT USA
Owner/operator address:	Not reported
	Not reported
Owner/operator country:	US
Owner/operator telephone:	Not reported
Owner/operator email:	Not reported
Owner/operator fax:	Not reported
Owner/operator extension:	Not reported
Legal status:	Private
Owner/Operator Type:	Operator
Owner/Op start date:	2004-01-15 00:00:00.0
Owner/Op end date:	Not reported
Owner/operator name:	HOME DEPOT USA
Owner/operator address:	2455 PACES FERRY RD
	ATLANTA, GA 30335
Owner/operator country:	US
Owner/operator telephone:	Not reported
Owner/operator email:	Not reported
Owner/operator fax:	Not reported
Owner/operator extension:	Not reported
Legal status:	Private
Owner/Operator Type:	Owner
Owner/Op start date:	2004-01-15 00:00:00.0
Owner/Op end date:	Not reported

Handler Activities Summary:

U.S. importer of hazardous waste:	No
Mixed waste (haz. and radioactive):	No
Recycler of hazardous waste:	No
Transporter of hazardous waste:	No
Treater, storer or disposer of HW:	No
Underground injection activity:	No
On-site burner exemption:	No
Furnace exemption:	No
Used oil fuel burner:	No
Used oil processor:	No
User oil refiner:	No
Used oil fuel marketer to burner:	No
Used oil Specification marketer:	No
Used oil transfer facility:	No
Used oil transporter:	No

Hazardous Waste Summary:

. Waste code:	D001
. Waste name:	IGNITABLE WASTE
. Waste code:	D002
. Waste name:	CORROSIVE WASTE

HOME DEPOT USA INC HD 1087 (Continued) **1008880000**

. Waste code: D009
. Waste name: MERCURY

. Waste code: D016
. Waste name: 2,4-D (2,4-DICHLOROPHENOXYACETIC ACID)

. Waste code: D018
. Waste name: BENZENE

. Waste code: D035
. Waste name: METHYL ETHYL KETONE

. Waste code: F003
. Waste name: THE FOLLOWING SPENT NONHALOGENATED SOLVENTS: XYLENE, ACETONE, ETHYL ACETATE, ETHYL BENZENE, ETHYL ETHER, METHYL ISOBUTYL KETONE, N-BUTYL ALCOHOL, CYCLOHEXANONE, AND METHANOL; ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, ONLY THE ABOVE SPENT NONHALOGENATED SOLVENTS; AND ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, ONE OR MORE OF THE ABOVE NONHALOGENATED SOLVENTS, AND A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THOSE SOLVENTS LISTED IN F001, F002, F004, AND F005; AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.

. Waste code: F005
. Waste name: THE FOLLOWING SPENT NONHALOGENATED SOLVENTS: TOLUENE, METHYL ETHYL KETONE, CARBON DISULFIDE, ISOBUTANOL, PYRIDINE, BENZENE, 2-ETHOXYETHANOL, AND 2-NITROPROPANE; ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THE ABOVE NONHALOGENATED SOLVENTS OR THOSE SOLVENTS LISTED IN F001, F002, OR F004; AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.

Violation Status: No violations found

CERS HAZ WASTE:
Name: THE HOME DEPOT STORE #1087
Address: 15975 PERRIS BLVD
City,State,Zip: MORENO VALLEY, CA 92551
Site ID: 403837
CERS ID: 10140261
CERS Description: Hazardous Waste Generator

HAZNET:
Name: HOME DEPOT #1087
Address: 15975 PERRIS BLVD
City,State,Zip: MORENO VALLEY, CA 925510000
Year: 2017
GEPAID: CAR000168732
Contact: ASHLEY CAMPBELL
Telephone: 7139855472
Mailing Name: Not reported
Mailing Address: 5151 SAN FELIPE ST
Mailing City,St,Zip: HOUSTON, TX 770560000
Gen County: Riverside
TSD EPA ID: CAD008364432
TSD County: Los Angeles

HOME DEPOT USA INC HD 1087 (Continued) **1008880000**

Tons: 1.21
CA Waste Code: 331-Off-specification, aged or surplus organics
Method: H141-Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Facility County: Riverside

Name: HOME DEPOT #1087
Address: 15975 PERRIS BLVD
City,State,Zip: MORENO VALLEY, CA 925510000
Year: 2017
GEPAID: CAR000168732
Contact: ASHLEY CAMPBELL
Telephone: 7139855472
Mailing Name: Not reported
Mailing Address: 5151 SAN FELIPE ST
Mailing City,St,Zip: HOUSTON, TX 770560000
Gen County: Riverside
TSD EPA ID: CAD008364432
TSD County: Los Angeles
Tons: 0.374
CA Waste Code: 122-Alkaline solution without metals pH >= 12.5
Method: H141-Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Facility County: Riverside

Name: HOME DEPOT #1087
Address: 15975 PERRIS BLVD
City,State,Zip: MORENO VALLEY, CA 925510000
Year: 2017
GEPAID: CAR000168732
Contact: ASHLEY CAMPBELL
Telephone: 7139855472
Mailing Name: Not reported
Mailing Address: 5151 SAN FELIPE ST
Mailing City,St,Zip: HOUSTON, TX 770560000
Gen County: Riverside
TSD EPA ID: CAD008364432
TSD County: Los Angeles
Tons: 0.0035
CA Waste Code: 141-Off-specification, aged or surplus inorganics
Method: H141-Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Facility County: Riverside

Name: HOME DEPOT #1087
Address: 15975 PERRIS BLVD
City,State,Zip: MORENO VALLEY, CA 925510000
Year: 2017
GEPAID: CAR000168732
Contact: ASHLEY CAMPBELL
Telephone: 7139855472
Mailing Name: Not reported
Mailing Address: 5151 SAN FELIPE ST
Mailing City,St,Zip: HOUSTON, TX 770560000
Gen County: Riverside
TSD EPA ID: CAD008364432
TSD County: Los Angeles

HOME DEPOT USA INC HD 1087 (Continued) **1008880000**

Tons: 0.043
CA Waste Code: 181-Other inorganic solid waste
Method: H141-Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Facility County: Riverside

Name: HOME DEPOT #1087
Address: 15975 PERRIS BLVD
City,State,Zip: MORENO VALLEY, CA 925510000
Year: 2017
GEPAID: CAR000168732
Contact: ASHLEY CAMPBELL
Telephone: 7139855472
Mailing Name: Not reported
Mailing Address: 5151 SAN FELIPE ST
Mailing City,St,Zip: HOUSTON, TX 770560000
Gen County: Riverside
TSD EPA ID: CAD008364432
TSD County: Los Angeles
Tons: 0.0575
CA Waste Code: 213-Hydrocarbon solvents (benzene, hexane, Stoddard, Etc.)
Method: H061-Fuel Blending Prior To Energy Recovery At Another Site
Facility County: Riverside

Click this hyperlink while viewing on your computer to access
99 additional CA_HAZNET: record(s) in the EDR Site Report.

CERS:
Name: THE HOME DEPOT STORE #1087
Address: 15975 PERRIS BLVD
City,State,Zip: MORENO VALLEY, CA 92551
Site ID: 403837
CERS ID: 10140261
CERS Description: Chemical Storage Facilities

Evaluation:
Eval General Type: Compliance Evaluation Inspection
Eval Date: 01-11-2016
Violations Found: No
Eval Type: Routine done by local agency
Eval Notes: Not reported
Eval Division: Riverside County Department of Env Health
Eval Program: HMRRP
Eval Source: CERS

Eval General Type: Compliance Evaluation Inspection
Eval Date: 01-11-2016
Violations Found: No
Eval Type: Routine done by local agency
Eval Notes: Not reported
Eval Division: Riverside County Department of Env Health
Eval Program: HW
Eval Source: CERS

Coordinates:
Site ID: 403837
Facility Name: The Home Depot Store #1087

HOME DEPOT USA INC HD 1087 (Continued) **1008880000**

Env Int Type Code: HMBP
Program ID: 10140261
Coord Name: Not reported
Ref Point Type Desc: Center of a facility or station.
Latitude: 33.889750
Longitude: -117.227470

Affiliation:
Affiliation Type Desc: Facility Mailing Address
Entity Name: Mailing Address
Entity Title: Not reported
Affiliation Address: 213 Court Street, Suite 700 c/o Compliance Dept.
Affiliation City: Middletown
Affiliation State: CT
Affiliation Country: Not reported
Affiliation Zip: 06457
Affiliation Phone: Not reported

Affiliation Type Desc: Legal Owner
Entity Name: The Home Depot U.S.A., Inc.
Entity Title: Not reported
Affiliation Address: 2455 Paces Ferry Road, C-19
Affiliation City: Atlanta
Affiliation State: GA
Affiliation Country: United States
Affiliation Zip: 30339
Affiliation Phone: (770) 433-8211

Affiliation Type Desc: Operator
Entity Name: The Home Depot U.S.A., Inc.
Entity Title: Not reported
Affiliation Address: Not reported
Affiliation City: Not reported
Affiliation State: Not reported
Affiliation Country: Not reported
Affiliation Zip: Not reported
Affiliation Phone: (770) 433-8211

Affiliation Type Desc: CUPA District
Entity Name: Riverside Cnty Env Health
Entity Title: Not reported
Affiliation Address: 4065 County Circle Drive, Room 104
Affiliation City: Riverside
Affiliation State: CA
Affiliation Country: Not reported
Affiliation Zip: 92503
Affiliation Phone: (951) 358-5055

Affiliation Type Desc: Document Preparer
Entity Name: ARCADIS U.S., Inc.
Entity Title: Not reported
Affiliation Address: Not reported
Affiliation City: Not reported
Affiliation State: Not reported
Affiliation Country: Not reported
Affiliation Zip: Not reported
Affiliation Phone: Not reported

HOME DEPOT USA INC HD 1087 (Continued) **1008880000**

Affiliation Type Desc:	Environmental Contact
Entity Name:	ARCADIS U.S., Inc.
Entity Title:	Not reported
Affiliation Address:	213 Court Street, Suite 700 c/o Compliance Dept.
Affiliation City:	Middletown
Affiliation State:	CT
Affiliation Country:	Not reported
Affiliation Zip:	06457
Affiliation Phone:	Not reported

Affiliation Type Desc:	Identification Signer
Entity Name:	John Falcetti, Agent for The Home Depot
Entity Title:	Regulatory Compliance Specialist
Affiliation Address:	Not reported
Affiliation City:	Not reported
Affiliation State:	Not reported
Affiliation Country:	Not reported
Affiliation Zip:	Not reported
Affiliation Phone:	Not reported

Affiliation Type Desc:	Parent Corporation
Entity Name:	The Home Depot USA, Inc.
Entity Title:	Not reported
Affiliation Address:	Not reported
Affiliation City:	Not reported
Affiliation State:	Not reported
Affiliation Country:	Not reported
Affiliation Zip:	Not reported
Affiliation Phone:	Not reported

C21 **CERTIFIED TIRE & SERVICE CENTERS INC** **CERS HAZ WASTE** **S113152448**
SW **16190 PERRIS BLVD** **HAZNET** **N/A**
1/8-1/4 **MORENO VALLEY, CA 92551** **CERS**
0.157 mi.
830 ft. **Site 1 of 5 in cluster C**

Relative:
Lower

Actual:
1498 ft.

CERS HAZ WASTE:

Name:	CERTIFIED TIRE & SERVICE CENTERS#23
Address:	16190 PERRIS BLVD
City,State,Zip:	MORENO VALLEY, CA 92551
Site ID:	17851
CERS ID:	10327111
CERS Description:	Hazardous Waste Generator

HAZNET:

Name:	CERTIFIED TIRE & SERVICE CENTERS INC
Address:	16190 PERRIS BLVD
City,State,Zip:	MORENO VALLEY, CA 92551
Year:	2017
GEPAID:	CAL000332042
Contact:	MICHELE SCHOOF
Telephone:	9513690025
Mailing Name:	Not reported
Mailing Address:	1875 IOWA AVE
Mailing City,St,Zip:	RIVERSIDE, CA 925070000
Gen County:	Riverside

CERTIFIED TIRE & SERVICE CENTERS INC (Continued) **S113152448**

TSD EPA ID: CAD097030993
TSD County: Los Angeles
Tons: 0.065
CA Waste Code: 352-Other organic solids
Method: H141-Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Facility County: Riverside

Name: CERTIFIED TIRE & SERVICE CENTERS INC
Address: 16190 PERRIS BLVD
City,State,Zip: MORENO VALLEY, CA 92551
Year: 2017
GEPAID: CAL000332042
Contact: MICHELE SCHOOF
Telephone: 9513690025
Mailing Name: Not reported
Mailing Address: 1875 IOWA AVE
Mailing City,St,Zip: RIVERSIDE, CA 925070000
Gen County: Riverside
TSD EPA ID: CAL000330453
TSD County: Los Angeles
Tons: 0.2
CA Waste Code: 352-Other organic solids
Method: H010-Metals Recovery Including Retoring,Smelting,Chemicals,Ect
Facility County: Riverside

Name: CERTIFIED TIRE & SERVICE CENTERS INC
Address: 16190 PERRIS BLVD
City,State,Zip: MORENO VALLEY, CA 92551
Year: 2017
GEPAID: CAL000332042
Contact: MICHELE SCHOOF
Telephone: 9513690025
Mailing Name: Not reported
Mailing Address: 1875 IOWA AVE
Mailing City,St,Zip: RIVERSIDE, CA 925070000
Gen County: Riverside
TSD EPA ID: CAL000330453
TSD County: Los Angeles
Tons: 0.025
CA Waste Code: 352-Other organic solids
Method: H141-Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Facility County: Riverside

Name: CERTIFIED TIRE & SERVICE CENTERS INC
Address: 16190 PERRIS BLVD
City,State,Zip: MORENO VALLEY, CA 92551
Year: 2017
GEPAID: CAL000332042
Contact: MICHELE SCHOOF
Telephone: 9513690025
Mailing Name: Not reported
Mailing Address: 1875 IOWA AVE
Mailing City,St,Zip: RIVERSIDE, CA 925070000
Gen County: Riverside
TSD EPA ID: CAT080013352

CERTIFIED TIRE & SERVICE CENTERS INC (Continued) **S113152448**

TSD County: Los Angeles
Tons: 0.18765
CA Waste Code: 223-Unspecified oil-containing waste
Method: H039-Other Recovery Of Reclamation For Reuse Including Acid Regeneration, Organics Recovery Ect
Facility County: Riverside

Name: CERTIFIED TIRE & SERVICE CENTERS INC
Address: 16190 PERRIS BLVD
City,State,Zip: MORENO VALLEY, CA 92551
Year: 2014
GEPAID: CAL000332042
Contact: MICHELE SCHOOF
Telephone: 9513690025
Mailing Name: Not reported
Mailing Address: 1875 IOWA AVE
Mailing City,St,Zip: RIVERSIDE, CA 925070000
Gen County: Riverside
TSD EPA ID: CAT080013352
TSD County: Los Angeles
Tons: 0.10425
CA Waste Code: 223-Unspecified oil-containing waste
Method: H039-Other Recovery Of Reclamation For Reuse Including Acid Regeneration, Organics Recovery Ect
Facility County: Riverside

Click this hyperlink while viewing on your computer to access
2 additional CA_HAZNET: record(s) in the EDR Site Report.

CERS:
Name: CERTIFIED TIRE & SERVICE CENTERS#23
Address: 16190 PERRIS BLVD
City,State,Zip: MORENO VALLEY, CA 92551
Site ID: 17851
CERS ID: 10327111
CERS Description: Chemical Storage Facilities

Violations:
Site ID: 17851
Site Name: Certified Tire & Service Centers#23
Violation Date: 05-18-2016
Citation: 22 CCR 16 66266.81(a)(4)(B) - California Code of Regulations, Title 22, Chapter 16, Section(s) 66266.81(a)(4)(B)
Violation Description: Failure to retain disposal records of spent lead batteries for three years.
Violation Notes: Returned to compliance on 07/27/2016.
Violation Division: Riverside County Department of Env Health
Violation Program: HW
Violation Source: CERS

Evaluation:
Eval General Type: Compliance Evaluation Inspection
Eval Date: 05-18-2016
Violations Found: No
Eval Type: Routine done by local agency
Eval Notes: Not reported
Eval Division: Riverside County Department of Env Health

CERTIFIED TIRE & SERVICE CENTERS INC (Continued) **S113152448**

Eval Program:	HMRRP
Eval Source:	CERS
Eval General Type:	Compliance Evaluation Inspection
Eval Date:	05-18-2016
Violations Found:	Yes
Eval Type:	Routine done by local agency
Eval Notes:	Not reported
Eval Division:	Riverside County Department of Env Health
Eval Program:	HW
Eval Source:	CERS
Eval General Type:	Other/Unknown
Eval Date:	07-27-2016
Violations Found:	No
Eval Type:	Other, not routine, done by local agency
Eval Notes:	Not reported
Eval Division:	Riverside County Department of Env Health
Eval Program:	HW
Eval Source:	CERS

Coordinates:

Site ID:	17851
Facility Name:	Certified Tire & Service Centers#23
Env Int Type Code:	HWG
Program ID:	10327111
Coord Name:	Not reported
Ref Point Type Desc:	Center of a facility or station.
Latitude:	33.885230
Longitude:	-117.225330

Affiliation:

Affiliation Type Desc:	Document Preparer
Entity Name:	Steven Bauby
Entity Title:	Not reported
Affiliation Address:	Not reported
Affiliation City:	Not reported
Affiliation State:	Not reported
Affiliation Country:	Not reported
Affiliation Zip:	Not reported
Affiliation Phone:	Not reported
Affiliation Type Desc:	Facility Mailing Address
Entity Name:	Mailing Address
Entity Title:	Not reported
Affiliation Address:	1875 Iowa St
Affiliation City:	Riverside
Affiliation State:	CA
Affiliation Country:	Not reported
Affiliation Zip:	92507
Affiliation Phone:	Not reported
Affiliation Type Desc:	Identification Signer
Entity Name:	Steven Bauby
Entity Title:	Clerk
Affiliation Address:	Not reported

CERTIFIED TIRE & SERVICE CENTERS INC (Continued) **S113152448**

Affiliation City:	Not reported
Affiliation State:	Not reported
Affiliation Country:	Not reported
Affiliation Zip:	Not reported
Affiliation Phone:	Not reported
Affiliation Type Desc:	Legal Owner
Entity Name:	Jeff Darrow
Entity Title:	Not reported
Affiliation Address:	1875 IOWA AVE.
Affiliation City:	RIVERSIDE
Affiliation State:	CA
Affiliation Country:	United States
Affiliation Zip:	92507
Affiliation Phone:	(951) 369-0025
Affiliation Type Desc:	CUPA District
Entity Name:	Riverside Cnty Env Health
Entity Title:	Not reported
Affiliation Address:	4065 County Circle Drive, Room 104
Affiliation City:	Riverside
Affiliation State:	CA
Affiliation Country:	Not reported
Affiliation Zip:	92503
Affiliation Phone:	(951) 358-5055
Affiliation Type Desc:	Environmental Contact
Entity Name:	Jeremy Darrow
Entity Title:	Not reported
Affiliation Address:	1875 IOWA AVE.
Affiliation City:	RIVERSIDE
Affiliation State:	CA
Affiliation Country:	Not reported
Affiliation Zip:	92507
Affiliation Phone:	Not reported
Affiliation Type Desc:	Operator
Entity Name:	Certified Tire & Service Centers
Entity Title:	Not reported
Affiliation Address:	Not reported
Affiliation City:	Not reported
Affiliation State:	Not reported
Affiliation Country:	Not reported
Affiliation Zip:	Not reported
Affiliation Phone:	(951) 369-0025
Affiliation Type Desc:	Parent Corporation
Entity Name:	MNRO Holdings, LLC dba Tire Choice
Entity Title:	Not reported
Affiliation Address:	Not reported
Affiliation City:	Not reported
Affiliation State:	Not reported
Affiliation Country:	Not reported
Affiliation Zip:	Not reported
Affiliation Phone:	Not reported

C22
SW
1/8-1/4
0.157 mi.
830 ft.

CERTIFIED TIRE & SERVICE CENTERS
16190 PERRIS BLVD
MORENO VALLEY, CA 92551

Site 2 of 5 in cluster C

RCRA NonGen / NLR | **1024820066**
CAL000332042

Relative:
Lower

Actual:
1498 ft.

RCRA NonGen / NLR:

Date form received by agency:	2018-07-26 00:00:00.0
Facility name:	CERTIFIED TIRE & SERVICE CENTERS
Facility address:	16190 PERRIS BLVD MORENO VALLEY, CA 92551
EPA ID:	CAL000332042
Mailing address:	IOWA AVE RIVERSIDE, CA 92507
Contact:	JEREMY DARROW
Contact address:	IOWA AVE RIVERSIDE, CA 92507
Contact country:	US
Contact telephone:	951-369-0025
Contact email:	JADARROW@CERTIFIEDTIRE.COM
EPA Region:	09
Classification:	Non-Generator
Description:	Handler: Non-Generators do not presently generate hazardous waste

Owner/Operator Summary:

Owner/operator name:	CERTIFIED TIRE & SERVICE CENTERS
Owner/operator address:	IOWA AVE RIVERSIDE, CA 92507
Owner/operator country:	US
Owner/operator telephone:	951-369-0025
Owner/operator email:	MSCHOOF@CERTIFIEDTIRE.COM
Owner/operator fax:	951-369-0690
Owner/operator extension:	Not reported
Legal status:	Private
Owner/Operator Type:	Owner
Owner/Op start date:	Not reported
Owner/Op end date:	Not reported

Owner/operator name:	CERTIFIED TIRE & SERVICE CENTERS
Owner/operator address:	IOWA AVE RIVERSIDE, CA 92507
Owner/operator country:	US
Owner/operator telephone:	951-369-0025
Owner/operator email:	MSCHOOF@CERTIFIEDTIRE.COM
Owner/operator fax:	951-369-0690
Owner/operator extension:	Not reported
Legal status:	Private
Owner/Operator Type:	Operator
Owner/Op start date:	Not reported
Owner/Op end date:	Not reported

Handler Activities Summary:

U.S. importer of hazardous waste:	No
Mixed waste (haz. and radioactive):	No
Recycler of hazardous waste:	No
Transporter of hazardous waste:	No
Treater, storer or disposer of HW:	No
Underground injection activity:	No

CERTIFIED TIRE & SERVICE CENTERS (Continued) **1024820066**

On-site burner exemption:	No
Furnace exemption:	No
Used oil fuel burner:	No
Used oil processor:	No
User oil refiner:	No
Used oil fuel marketer to burner:	No
Used oil Specification marketer:	No
Used oil transfer facility:	No
Used oil transporter:	No

Hazardous Waste Summary:

. Waste code:	221
. Waste name:	Waste oil and mixed oil

Violation Status: No violations found

C23 **AUTOZONE #3714** **RCRA NonGen / NLR** **1024820552**
SW **16210 PERRIS BLVD** **CAL000334025**
1/8-1/4 **MORENO VALLEY, CA 92351**
0.188 mi.
994 ft. **Site 3 of 5 in cluster C**

Relative:
Lower

Actual:
1498 ft.

RCRA NonGen / NLR:

Date form received by agency:	2008-06-27 00:00:00.0
Facility name:	AUTOZONE #3714
Facility address:	16210 PERRIS BLVD MORENO VALLEY, CA 92351
EPA ID:	CAL000334025
Mailing address:	DEPT 8190, 123 S FRONT ST MEMPHIS, TN 38103-3607
Contact:	BRYAN BLAIR
Contact address:	DEPT 8190, 123 SOUTH FRONT STREET MEMPHIS, TN 38103
Contact country:	Not reported
Contact telephone:	901-495-7217
Contact email:	BRYAN.BLAIR@AUTOZONE.COM
EPA Region:	09
Classification:	Non-Generator
Description:	Handler: Non-Generators do not presently generate hazardous waste

Owner/Operator Summary:

Owner/operator name:	BRYAN BLAIR
Owner/operator address:	DEPT 8190, 123 SOUTH FRONT STREET MEMPHIS, TN 38103
Owner/operator country:	Not reported
Owner/operator telephone:	901-495-7217
Owner/operator email:	Not reported
Owner/operator fax:	Not reported
Owner/operator extension:	Not reported
Legal status:	Other
Owner/Operator Type:	Operator
Owner/Op start date:	Not reported
Owner/Op end date:	Not reported

Owner/operator name:	AUTO ZONE CORPORTATION
Owner/operator address:	123 S FRONT ST MEMPHIS, TN 38103

AUTOZONE #3714 (Continued) **1024820552**

Owner/operator country: Not reported
Owner/operator telephone: 901-495-6500
Owner/operator email: Not reported
Owner/operator fax: Not reported
Owner/operator extension: Not reported
Legal status: Other
Owner/Operator Type: Owner
Owner/Op start date: Not reported
Owner/Op end date: Not reported

Handler Activities Summary:
U.S. importer of hazardous waste: No
Mixed waste (haz. and radioactive): No
Recycler of hazardous waste: No
Transporter of hazardous waste: Yes
Treater, storer or disposer of HW: No
Underground injection activity: No
On-site burner exemption: No
Furnace exemption: No
Used oil fuel burner: No
Used oil processor: No
User oil refiner: No
Used oil fuel marketer to burner: No
Used oil Specification marketer: No
Used oil transfer facility: No
Used oil transporter: No

Violation Status: No violations found

C24 **AUTOZONE #3714** **CERS HAZ WASTE** **S113153123**
SW **16210 PERRIS BLVD** **HAZNET** **N/A**
1/8-1/4 **MORENO VALLEY, CA 92351** **CERS**
0.188 mi.
994 ft. **Site 4 of 5 in cluster C**

Relative:
Lower

Actual:
1498 ft.

CERS HAZ WASTE:
Name: AUTOZONE #3714
Address: 16210 PERRIS BLVD
City,State,Zip: MORENO VALLEY, CA 92551
Site ID: 386942
CERS ID: 10139777
CERS Description: Hazardous Waste Generator

Name: AUTOZONE #3714
Address: 16210 PERRIS BLVD
City,State,Zip: MORENO VALLEY, CA 92551
Site ID: 386942
CERS ID: 10139777
CERS Description: Hazardous Waste Onsite Treatment

HAZNET:
Name: AUTOZONE #3714
Address: 16210 PERRIS BLVD
City,State,Zip: MORENO VALLEY, CA 92351
Year: 2017
GEPAID: CAL000334025
Contact: BRYAN BLAIR
Telephone: 9014957217

AUTOZONE #3714 (Continued) **S113153123**

Mailing Name:	Not reported
Mailing Address:	DEPT 8190, 123 S FRONT ST
Mailing City,St,Zip:	MEMPHIS, TN 381033607
Gen County:	Riverside
TSD EPA ID:	CAD059494310
TSD County:	Santa Clara
Tons:	0.0125
CA Waste Code:	223-Unspecified oil-containing waste
Method:	H141-Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Facility County:	Riverside

Name:	AUTOZONE #3714
Address:	16210 PERRIS BLVD
City,State,Zip:	MORENO VALLEY, CA 92351
Year:	2017
GEPAID:	CAL000334025
Contact:	BRYAN BLAIR
Telephone:	9014957217
Mailing Name:	Not reported
Mailing Address:	DEPT 8190, 123 S FRONT ST
Mailing City,St,Zip:	MEMPHIS, TN 381033607
Gen County:	Riverside
TSD EPA ID:	CAD008364432
TSD County:	Los Angeles
Tons:	0.046
CA Waste Code:	331-Off-specification, aged or surplus organics
Method:	H141-Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Facility County:	Riverside

Name:	AUTOZONE #3714
Address:	16210 PERRIS BLVD
City,State,Zip:	MORENO VALLEY, CA 92351
Year:	2017
GEPAID:	CAL000334025
Contact:	BRYAN BLAIR
Telephone:	9014957217
Mailing Name:	Not reported
Mailing Address:	DEPT 8190, 123 S FRONT ST
Mailing City,St,Zip:	MEMPHIS, TN 381033607
Gen County:	Riverside
TSD EPA ID:	CAD044429835
TSD County:	Los Angeles
Tons:	0.3
CA Waste Code:	352-Other organic solids
Method:	H141-Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Facility County:	Riverside

Name:	AUTOZONE #3714
Address:	16210 PERRIS BLVD
City,State,Zip:	MORENO VALLEY, CA 92351
Year:	2017
GEPAID:	CAL000334025
Contact:	BRYAN BLAIR
Telephone:	9014957217

AUTOZONE #3714 (Continued) **S113153123**

Mailing Name: Not reported
Mailing Address: DEPT 8190, 123 S FRONT ST
Mailing City,St,Zip: MEMPHIS, TN 381033607
Gen County: Riverside
TSD EPA ID: CAD008364432
TSD County: Los Angeles
Tons: 0.0075
CA Waste Code: 181-Other inorganic solid waste
Method: H141-Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Facility County: Riverside

Name: AUTOZONE #3714
Address: 16210 PERRIS BLVD
City,State,Zip: MORENO VALLEY, CA 92351
Year: 2017
GEPAID: CAL000334025
Contact: BRYAN BLAIR
Telephone: 9014957217
Mailing Name: Not reported
Mailing Address: DEPT 8190, 123 S FRONT ST
Mailing City,St,Zip: MEMPHIS, TN 381033607
Gen County: Riverside
TSD EPA ID: NED981723513
TSD County: 99
Tons: 0.125
CA Waste Code: 223-Unspecified oil-containing waste
Method: H040-Incineration--Thermal Destruction Other Than Use As A Fuel
Facility County: Riverside

Click this hyperlink while viewing on your computer to access
41 additional CA_HAZNET: record(s) in the EDR Site Report.

CERS:
Name: AUTOZONE #3714
Address: 16210 PERRIS BLVD
City,State,Zip: MORENO VALLEY, CA 92551
Site ID: 386942
CERS ID: 10139777
CERS Description: Chemical Storage Facilities

Violations:
Site ID: 386942
Site Name: AutoZone #3714
Violation Date: 03-30-2016
Citation: 22 CCR 12 66262.40(a) - California Code of Regulations, Title 22, Chapter 12, Section(s) 66262.40(a)
Violation Description: Failure to maintain uniform hazardous waste manifest, consolidated manifest, or bills of lading copies for three years.
Violation Notes: Returned to compliance on 05/04/2016.
Violation Division: Riverside County Department of Env Health
Violation Program: HW
Violation Source: CERS

Site ID: 386942
Site Name: AutoZone #3714
Violation Date: 12-09-2015

AUTOZONE #3714 (Continued) **S113153123**

Citation:	22 CCR 12 66262.40(a) - California Code of Regulations, Title 22, Chapter 12, Section(s) 66262.40(a)
Violation Description:	Failure to maintain uniform hazardous waste manifest, consolidated manifest, or bills of lading copies for three years.
Violation Notes:	Returned to compliance on 05/04/2016.
Violation Division:	Riverside County Department of Env Health
Violation Program:	HW
Violation Source:	CERS
Site ID:	386942
Site Name:	AutoZone #3714
Violation Date:	12-09-2015
Citation:	HSC 6.5 25201.5(d)(6) - California Health and Safety Code, Chapter 6.5, Section(s) 25201.5(d)(6)
Violation Description:	Failure of the generator to prepare and maintain onsite, for a period of three years, the following: (1) compliance records of all pretreatment and discharge records to the POTW; (2) records of the dates, concentrations, amounts, and types of waste treated; and (3) operating instructions.
Violation Notes:	Returned to compliance on 05/04/2016.
Violation Division:	Riverside County Department of Env Health
Violation Program:	CE
Violation Source:	CERS
Site ID:	386942
Site Name:	AutoZone #3714
Violation Date:	12-09-2015
Citation:	22 CCR 15 66265.16 - California Code of Regulations, Title 22, Chapter 15, Section(s) 66265.16
Violation Description:	Failure to provide employees within the first six months after the date of their employment, or assignment to the facility, or to work unsupervised, or to a new position at a facility with hazardous waste training to ensure employees are competent in the following areas: hazardous waste management procedures (including contingency plan implementation) relevant to the positions in which they are employed, emergency response and emergency equipment, and procedures for using, inspecting, repairing, and replacing facility emergency and monitoring equipment. In addition, the owner/operator shall ensure facility personnel take part in an annual review of the initial training and training records training records on current personnel shall be kept until closure of the facility. Training records on former employees shall be kept for at least three years from the date the employee last worked at the facility. The records shall include the following: the job title for each position at the facility related to hazardous waste management, and the name of the employee filling each job; a written job description for each position, duties of facility personnel assigned to each position, and a written description of the type and amount of both introductory and continuing training that will be given to each person filling a position.
Violation Notes:	Returned to compliance on 05/04/2016.
Violation Division:	Riverside County Department of Env Health
Violation Program:	CE
Violation Source:	CERS
Site ID:	386942
Site Name:	AutoZone #3714
Violation Date:	12-09-2015

AUTOZONE #3714 (Continued) **S113153123**

Citation:	22 CCR 12 66262.42 - California Code of Regulations, Title 22, Chapter 12, Section(s) 66262.42
Violation Description:	Failure to complete the uniform hazardous waste manifest exception requirements.
Violation Notes:	Returned to compliance on 05/04/2016.
Violation Division:	Riverside County Department of Env Health
Violation Program:	HW
Violation Source:	CERS
Site ID:	386942
Site Name:	AutoZone #3714
Violation Date:	12-09-2015
Citation:	40 CFR 1 262.34(d)(5)(iii) - U.S. Code of Federal Regulations, Title 40, Chapter 1, Section(s) 262.34(d)(5)(iii)
Violation Description:	Failure to ensure employees are familiar with the handling and compliance of hazardous waste regulations and emergency response.
Violation Notes:	Returned to compliance on 03/30/2016.
Violation Division:	Riverside County Department of Env Health
Violation Program:	HW
Violation Source:	CERS
Site ID:	386942
Site Name:	AutoZone #3714
Violation Date:	12-09-2015
Citation:	HSC 6.95 25505(a)(4) - California Health and Safety Code, Chapter 6.95, Section(s) 25505(a)(4)
Violation Description:	Failure to provide initial and annual training to all employees in safety procedures in the event of a release or threatened release of a hazardous material or failure to document and maintain training records for a minimum of three years.
Violation Notes:	Returned to compliance on 03/30/2016.
Violation Division:	Riverside County Department of Env Health
Violation Program:	HMRRP
Violation Source:	CERS
Site ID:	386942
Site Name:	AutoZone #3714
Violation Date:	03-30-2016
Citation:	22 CCR 12 66262.42 - California Code of Regulations, Title 22, Chapter 12, Section(s) 66262.42
Violation Description:	Failure to complete the uniform hazardous waste manifest exception requirements.
Violation Notes:	Returned to compliance on 05/04/2016.
Violation Division:	Riverside County Department of Env Health
Violation Program:	HW
Violation Source:	CERS

Evaluation:

Eval General Type:	Other/Unknown
Eval Date:	03-30-2016
Violations Found:	No
Eval Type:	Other, not routine, done by local agency
Eval Notes:	Not reported
Eval Division:	Riverside County Department of Env Health
Eval Program:	HMRRP
Eval Source:	CERS

AUTOZONE #3714 (Continued) **S113153123**

Eval General Type:	Other/Unknown
Eval Date:	03-30-2016
Violations Found:	Yes
Eval Type:	Other, not routine, done by local agency
Eval Notes:	Not reported
Eval Division:	Riverside County Department of Env Health
Eval Program:	HW
Eval Source:	CERS

Eval General Type:	Other/Unknown
Eval Date:	05-04-2016
Violations Found:	No
Eval Type:	Other, not routine, done by local agency
Eval Notes:	Not reported
Eval Division:	Riverside County Department of Env Health
Eval Program:	HW
Eval Source:	CERS

Eval General Type:	Compliance Evaluation Inspection
Eval Date:	12-09-2015
Violations Found:	Yes
Eval Type:	Routine done by local agency
Eval Notes:	Not reported
Eval Division:	Riverside County Department of Env Health
Eval Program:	CE
Eval Source:	CERS

Eval General Type:	Compliance Evaluation Inspection
Eval Date:	12-09-2015
Violations Found:	Yes
Eval Type:	Routine done by local agency
Eval Notes:	Not reported
Eval Division:	Riverside County Department of Env Health
Eval Program:	HMRRP
Eval Source:	CERS

Eval General Type:	Compliance Evaluation Inspection
Eval Date:	12-09-2015
Violations Found:	Yes
Eval Type:	Routine done by local agency
Eval Notes:	Not reported
Eval Division:	Riverside County Department of Env Health
Eval Program:	HW
Eval Source:	CERS

Enforcement Action:

Site ID:	386942
Site Name:	AutoZone #3714
Site Address:	16210 PERRIS BLVD
Site City:	MORENO VALLEY
Site Zip:	92551
Enf Action Date:	03-30-2016
Enf Action Type:	Notice of Violation (Unified Program)
Enf Action Description:	Notice of Violation Issued by the Inspector at the Time of Inspection
Enf Action Notes:	Not reported
Enf Action Division:	Riverside County Department of Env Health
Enf Action Program:	HW

AUTOZONE #3714 (Continued) **S113153123**

Enf Action Source: CERS

Site ID: 386942
Site Name: AutoZone #3714
Site Address: 16210 PERRIS BLVD
Site City: MORENO VALLEY
Site Zip: 92551
Enf Action Date: 12-09-2015
Enf Action Type: Notice of Violation (Unified Program)
Enf Action Description: Notice of Violation Issued by the Inspector at the Time of Inspection
Enf Action Notes: Not reported
Enf Action Division: Riverside County Department of Env Health
Enf Action Program: CE
Enf Action Source: CERS

Site ID: 386942
Site Name: AutoZone #3714
Site Address: 16210 PERRIS BLVD
Site City: MORENO VALLEY
Site Zip: 92551
Enf Action Date: 12-09-2015
Enf Action Type: Notice of Violation (Unified Program)
Enf Action Description: Notice of Violation Issued by the Inspector at the Time of Inspection
Enf Action Notes: Not reported
Enf Action Division: Riverside County Department of Env Health
Enf Action Program: HMRRP
Enf Action Source: CERS

Site ID: 386942
Site Name: AutoZone #3714
Site Address: 16210 PERRIS BLVD
Site City: MORENO VALLEY
Site Zip: 92551
Enf Action Date: 12-09-2015
Enf Action Type: Notice of Violation (Unified Program)
Enf Action Description: Notice of Violation Issued by the Inspector at the Time of Inspection
Enf Action Notes: Not reported
Enf Action Division: Riverside County Department of Env Health
Enf Action Program: HW
Enf Action Source: CERS

Coordinates:
Site ID: 386942
Facility Name: AutoZone #3714
Env Int Type Code: HMBP
Program ID: 10139777
Coord Name: Not reported
Ref Point Type Desc: Center of a facility or station.
Latitude: 33.885060
Longitude: -117.225720

Affiliation:
Affiliation Type Desc: Environmental Contact
Entity Name: Andrew Beaven
Entity Title: Not reported
Affiliation Address: Dept 8190, 123 South Front Street

AUTOZONE #3714 (Continued) **S113153123**

Affiliation City:	Memphis
Affiliation State:	TN
Affiliation Country:	Not reported
Affiliation Zip:	38103
Affiliation Phone:	Not reported
Affiliation Type Desc:	Identification Signer
Entity Name:	Deborah Williams
Entity Title:	Environmental Coordinator
Affiliation Address:	Not reported
Affiliation City:	Not reported
Affiliation State:	Not reported
Affiliation Country:	Not reported
Affiliation Zip:	Not reported
Affiliation Phone:	Not reported
Affiliation Type Desc:	Parent Corporation
Entity Name:	Auto Zone
Entity Title:	Not reported
Affiliation Address:	Not reported
Affiliation City:	Not reported
Affiliation State:	Not reported
Affiliation Country:	Not reported
Affiliation Zip:	Not reported
Affiliation Phone:	Not reported
Affiliation Type Desc:	Property Owner
Entity Name:	VELIMIR PETAKOVICH
Entity Title:	Not reported
Affiliation Address:	9939 Hibert Street Suite 206
Affiliation City:	San Diego
Affiliation State:	CA
Affiliation Country:	United States
Affiliation Zip:	92131
Affiliation Phone:	(760) 489-5024
Affiliation Type Desc:	Onsite Treatment Unit Owner Operator
Entity Name:	Bryan Blair
Entity Title:	Environmental Specialist
Affiliation Address:	Not reported
Affiliation City:	Not reported
Affiliation State:	Not reported
Affiliation Country:	Not reported
Affiliation Zip:	Not reported
Affiliation Phone:	Not reported
Affiliation Type Desc:	CUPA District
Entity Name:	Riverside Cnty Env Health
Entity Title:	Not reported
Affiliation Address:	4065 County Circle Drive, Room 104
Affiliation City:	Riverside
Affiliation State:	CA
Affiliation Country:	Not reported
Affiliation Zip:	92503
Affiliation Phone:	(951) 358-5055
Affiliation Type Desc:	Document Preparer

Map ID
Direction
Distance
Elevation | Site | MAP FINDINGS | Database(s) | EDR ID Number EPA ID Number

AUTOZONE #3714 (Continued) **S113153123**

Entity Name:	Deborah Williams
Entity Title:	Not reported
Affiliation Address:	Not reported
Affiliation City:	Not reported
Affiliation State:	Not reported
Affiliation Country:	Not reported
Affiliation Zip:	Not reported
Affiliation Phone:	Not reported
Affiliation Type Desc:	Facility Mailing Address
Entity Name:	Mailing Address
Entity Title:	Not reported
Affiliation Address:	Dept 8190, 123 South Front Street
Affiliation City:	Memphis
Affiliation State:	TN
Affiliation Country:	Not reported
Affiliation Zip:	38103
Affiliation Phone:	Not reported
Affiliation Type Desc:	Legal Owner
Entity Name:	AutoZone Stores Inc
Entity Title:	Not reported
Affiliation Address:	123 South Front Street
Affiliation City:	Memphis
Affiliation State:	TN
Affiliation Country:	United States
Affiliation Zip:	38103
Affiliation Phone:	(901) 495-6500
Affiliation Type Desc:	Operator
Entity Name:	Store Manager On Duty (Various Shifts)
Entity Title:	Not reported
Affiliation Address:	Not reported
Affiliation City:	Not reported
Affiliation State:	Not reported
Affiliation Country:	Not reported
Affiliation Zip:	Not reported
Affiliation Phone:	(760) 471-0463

C25 **MAGIC CLEANERS** **EDR Hist Cleaner** **1020032612**
SW **25025 RED MAPLE LN** **N/A**
1/8-1/4 **MORENO VALLEY, CA 92551**
0.195 mi.
1032 ft. **Site 5 of 5 in cluster C**

Relative: EDR Hist Cleaner
Lower

Actual: **1497 ft.**

Year:	Name:	Type:
2008	MAGIC CLEANERS	Drycleaning Plants, Except Rugs, NEC
2009	MAGIC CLEANERS	Drycleaning Plants, Except Rugs, NEC

MAP FINDINGS

Map ID / Direction / Distance / Elevation	Site	Database(s)	EDR ID Number / EPA ID Number
26 **SSE** **1/8-1/4** **0.236 mi.** **1248 ft.**	**M G MOBILE SERVICE** **25190 MORNING DOVE WAY** **MORENO VALLEY, CA 92551**	**EDR Hist Auto**	**1021075737** **N/A**

Relative: **Lower**

Actual: **1485 ft.**

EDR Hist Auto

Year:	Name:	Type:
2013	M G MOBILE SERVICE	Gasoline Service Stations, NEC
2014	M G MOBILE SERVICE	Gasoline Service Stations, NEC

Map ID / Direction / Distance / Elevation	Site	Database(s)	EDR ID Number / EPA ID Number
D27 **SSW** **1/4-1/2** **0.335 mi.** **1767 ft.**	**ARCO #5764** **16466 PERRIS BLVD.** **MORENO VALLEY, CA 92551** **Site 1 of 2 in cluster D**	**LUST** **CERS**	**S106163538** **N/A**

Relative: **Lower**

Actual: **1490 ft.**

LUST REG 8:

Name:	ARCO #5764
Address:	16466 PERRIS BLVD.
City:	MORENO VALLEY
Region:	8
County:	Riverside
Regional Board:	Santa Ana Region
Facility Status:	Leak being confirmed
Case Number:	Not reported
Local Case Num:	200420311
Case Type:	Undefined
Substance:	Gasoline
Qty Leaked:	Not reported
Abate Method:	Not reported
Cross Street:	7TH
Enf Type:	Not reported
Funding:	Not reported
How Discovered:	OM
How Stopped:	Not reported
Leak Cause:	UNK
Leak Source:	UNK
Global ID:	T0606531216
How Stopped Date:	1/9/2003
Enter Date:	Not reported
Date Confirmation of Leak Began:	1/9/2003
Date Preliminary Assessment Began:	Not reported
Discover Date:	10/21/2002
Enforcement Date:	Not reported
Close Date:	Not reported
Date Prelim Assessment Workplan Submitted:	Not reported
Date Pollution Characterization Began:	Not reported
Date Remediation Plan Submitted:	Not reported
Date Remedial Action Underway:	Not reported
Date Post Remedial Action Monitoring:	Not reported
Enter Date:	Not reported
GW Qualifies:	Not reported
Soil Qualifies:	Not reported
Operator:	Not reported
Facility Contact:	Not reported
Interim:	Not reported
Oversite Program:	Not reported
Latitude:	0

ARCO #5764 (Continued) **S106163538**

Longitude:	0
MTBE Date:	Not reported
Max MTBE GW:	Not reported
MTBE Concentration:	0
Max MTBE Soil:	Not reported
MTBE Fuel:	1
MTBE Tested:	Site NOT Tested for MTBE.Includes Unknown and Not Analyzed.
MTBE Class:	*
Staff:	VJJ
Staff Initials:	SCB
Lead Agency:	Local Agency
Local Agency:	33000L
Hydr Basin #:	Not reported
Beneficial:	Not reported
Priority:	Not reported
Cleanup Fund Id:	Not reported
Work Suspended:	Not reported

Summary: SOIL SAMPLE TPHG NG<1.0 MILLIGRAMS PER KILOGRAM (MG/KG) >BENZENE 0.00028 MG/KG >TOLUENE 0.00088 MG/KG >ETHYLBENZENE ND<0.00021 MG/KG >XYLENES ND<0.00063 MG/KG >MTBE 0.11 MG/KG >DIPE ND<0.00022 MG/KG>ETBE ND<0.00041 MG/KG >TAME ND<0.00050 MG/KG >TBA ND<0.0047 MG/KG

CERS:

Name:	ARCO #5764
Address:	16466 PERRIS BLVD.
City,State,Zip:	MORENO VALLEY, CA 92551
Site ID:	217560
CERS ID:	T0606531216
CERS Description:	Leaking Underground Storage Tank Cleanup Site

Affiliation:

Affiliation Type Desc:	Regional Board Caseworker
Entity Name:	VALERIE JAHN-BULL - SANTA ANA RWQCB (REGION 8)
Entity Title:	Not reported
Affiliation Address:	3737 MAIN STREET, SUITE 500
Affiliation City:	RIVERSIDE
Affiliation State:	CA
Affiliation Country:	Not reported
Affiliation Zip:	Not reported
Affiliation Phone:	9517824903

Affiliation Type Desc:	Local Agency Caseworker
Entity Name:	SHARON BOLTINGHOUSE - RIVERSIDE COUNTY LOP
Entity Title:	Not reported
Affiliation Address:	3880 LEMON ST SUITE 200
Affiliation City:	RIVERSIDE
Affiliation State:	CA
Affiliation Country:	Not reported
Affiliation Zip:	Not reported
Affiliation Phone:	9519558980

MAP FINDINGS

Map ID / Direction / Distance / Elevation	Site	Database(s)	EDR ID Number / EPA ID Number
D28 SSW 1/4-1/2 0.335 mi. 1767 ft.	**ARCO #5764** **16466 PERRIS BLVD** **MORENO VALLEY, CA 92388** **Site 2 of 2 in cluster D**	**LUST** **CERS HAZ WASTE** **CA FID UST** **CERS TANKS** **HAZNET** **CERS**	**S101590180** **N/A**

Relative: Lower

Actual: 1490 ft.

LUST:

Name:	ARCO #5764
Address:	16466 PERRIS BLVD.
City,State,Zip:	MORENO VALLEY, CA 92551
Lead Agency:	RIVERSIDE COUNTY LOP
Case Type:	LUST Cleanup Site
Geo Track:	http://geotracker.waterboards.ca.gov/profile_report.asp?global_id=T0606531216
Global Id:	T0606531216
Latitude:	33.8814694942017
Longitude:	-117.22577682209
Status:	Completed - Case Closed
Status Date:	11/30/2004
Case Worker:	SCB
RB Case Number:	Not reported
Local Agency:	RIVERSIDE COUNTY LOP
File Location:	Not reported
Local Case Number:	200420311
Potential Media Affect:	Under Investigation
Potential Contaminants of Concern:	Gasoline
Site History:	Not reported

LUST:

Global Id:	T0606531216
Contact Type:	Local Agency Caseworker
Contact Name:	SHARON BOLTINGHOUSE
Organization Name:	RIVERSIDE COUNTY LOP
Address:	3880 LEMON ST SUITE 200
City:	RIVERSIDE
Email:	sbolting@rivco.org
Phone Number:	9519558980

Global Id:	T0606531216
Contact Type:	Regional Board Caseworker
Contact Name:	VALERIE JAHN-BULL
Organization Name:	SANTA ANA RWQCB (REGION 8)
Address:	3737 MAIN STREET, SUITE 500
City:	RIVERSIDE
Email:	valerie.jahn-bull@waterboards.ca.gov
Phone Number:	9517824903

LUST:

Global Id:	T0606531216
Action Type:	ENFORCEMENT
Date:	11/29/2004
Action:	File review - #RCDEH uploaded site file 12/12/2014

Global Id:	T0606531216
Action Type:	Other
Date:	10/21/2002
Action:	Leak Discovery

Global Id:	T0606531216

ARCO #5764 (Continued) **S101590180**

Action Type: Other
Date: 01/09/2003
Action: Leak Stopped

Global Id: T0606531216
Action Type: REMEDIATION
Date: 01/09/2003
Action: Other (Use Description Field)

Global Id: T0606531216
Action Type: Other
Date: 01/09/2003
Action: Leak Reported

LUST:
Global Id: T0606531216
Status: Open - Case Begin Date
Status Date: 10/21/2002

Global Id: T0606531216
Status: Open - Site Assessment
Status Date: 01/09/2003

Global Id: T0606531216
Status: Completed - Case Closed
Status Date: 11/30/2004

RIVERSIDE CO. LUST:
Name: ARCO #5764
Address: 16466 PERRIS BLVD
City,State,Zip: MORENO VALLEY, CA
Region: RIVERSIDE
Facility ID: 200420311
Employee: Boltinghous-LOP
Site Closed: Yes
Case Type: Soil only
Facility Status: closed/action completed
Casetype Decode: Soil only is impacted
Fstatus Decode: Closed/Action completed

CERS HAZ WASTE:
Name: ARCO #82581
Address: 16466 PERRIS BLVD
City,State,Zip: MORENO VALLEY, CA 92551
Site ID: 92980
CERS ID: 10470889
CERS Description: Hazardous Waste Generator

CA FID UST:
Facility ID: 33006357
Regulated By: UTNKA
Regulated ID: Not reported
Cortese Code: Not reported
SIC Code: Not reported

ARCO #5764 (Continued) **S101590180**

Facility Phone: 7142472668
Mail To: Not reported
Mailing Address: P O BOX 6038
Mailing Address 2: Not reported
Mailing City,St,Zip: MORENO VALLEY 92388
Contact: Not reported
Contact Phone: Not reported
DUNs Number: Not reported
NPDES Number: Not reported
EPA ID: Not reported
Comments: Not reported
Status: Active

CERS TANKS:
Name: ARCO #82581
Address: 16466 PERRIS BLVD
City,State,Zip: MORENO VALLEY, CA 92551
Site ID: 92980
CERS ID: 10470889
CERS Description: Underground Storage Tank

HAZNET:
Name: TRISHA INVESTMENTS LLC
Address: 16466 PERRIS BLVD
City,State,Zip: MORENO VALLEY, CA 925519282
Year: 2017
GEPAID: CAL000391537
Contact: SUNIL PATEL
Telephone: 9097092876
Mailing Name: Not reported
Mailing Address: 16466 PERRIS BLVD
Mailing City,St,Zip: MORENO VALLEY, CA 92551
Gen County: Riverside
TSD EPA ID: CAD982444481
TSD County: San Bernardino
Tons: 0.02
CA Waste Code: 352-Other organic solids
Method: H010-Metals Recovery Including Retoring,Smelting,Chemicals,Ect
Facility County: Riverside

CERS:
Name: ARCO #82581
Address: 16466 PERRIS BLVD
City,State,Zip: MORENO VALLEY, CA 92551
Site ID: 92980
CERS ID: 10470889
CERS Description: Chemical Storage Facilities

Violations:
Site ID: 92980
Site Name: Arco #82581
Violation Date: 06-19-2019
Citation: 23 CCR 16 2715(f) - California Code of Regulations, Title 23, Chapter 16, Section(s) 2715(f)
Violation Description: Failure to have a properly qualified service technician test leak detection equipment as required every 12 months (vapor, pressure,

ARCO #5764 (Continued) **S101590180**

hydrostatic (VPH) system, sensors, line-leak detectors (LLD), automatic tank gauge (ATG), etc.).

Violation Notes: Returned to compliance on 06/19/2019. OBSERVATION: Owner/operator failed to certify the UST monitoring equipment every 12 months as required. Observed that the most recent monitoring certification was conducted at this facility on May 29, 2018. CORRECTIVE ACTION: Owner/operator shall certify the continuous monitoring system as required every 12 months. The monitoring certification was conducted today at the time of inspection. The violation is corrected on site. The monitoring certification is due annually in May and should not be conducted in June next year due to late testing.
Violation Division: Riverside County Department of Env Health
Violation Program: UST
Violation Source: CERS

Site ID: 92980
Site Name: Arco #82581
Violation Date: 05-29-2018
Citation: 23 CCR 16 2641(h) - California Code of Regulations, Title 23, Chapter 16, Section(s) 2641(h)
Violation Description: Failure to have an approved UST Monitoring Plan.
Violation Notes: Returned to compliance on 07/02/2018.
Violation Division: Riverside County Department of Env Health
Violation Program: UST
Violation Source: CERS

Site ID: 92980
Site Name: Arco #82581
Violation Date: 05-29-2018
Citation: HSC 6.7 25284, 25286 - California Health and Safety Code, Chapter 6.7, Section(s) 25284, 25286
Violation Description: Failure to submit a complete and accurate application for a permit to operate a UST, or for renewal of the permit.
Violation Notes: Returned to compliance on 07/02/2018.
Violation Division: Riverside County Department of Env Health
Violation Program: UST
Violation Source: CERS

Site ID: 92980
Site Name: Arco #82581
Violation Date: 05-14-2015
Citation: 40 CFR 1 265.174 - U.S. Code of Federal Regulations, Title 40, Chapter 1, Section(s) 265.174
Violation Description: Failure to inspect hazardous waste storage areas at least weekly.
Violation Notes: Returned to compliance on 06/13/2015.
Violation Division: Riverside County Department of Env Health
Violation Program: HW
Violation Source: CERS

Site ID: 92980
Site Name: Arco #82581
Violation Date: 05-12-2016
Citation: 23 CCR 16 2712(b) - California Code of Regulations, Title 23, Chapter 16, Section(s) 2712(b)
Violation Description: Failure to maintain records of repairs, lining, and upgrades on site, or off site if approved by the CUPA, for the life of the underground storage tank and/or failure to maintain written monitoring and

ARCO #5764 (Continued) **S101590180**

maintenance records on site, or off site if approved by the CUPA, for a period of 3 years, 6 1/2 years for cathodic protection, and 5 years for written performance claims pertaining to release detection systems and calibration and maintenance records for such systems.
Violation Notes: Returned to compliance on 07/12/2016.
Violation Division: Riverside County Department of Env Health
Violation Program: UST
Violation Source: CERS

Site ID: 92980
Site Name: Arco #82581
Violation Date: 05-14-2015
Citation: 23 CCR 16 2712(b) - California Code of Regulations, Title 23, Chapter 16, Section(s) 2712(b)
Violation Description: Failure to maintain leak detection alarm logs and/or maintain records of appropriate follow-up actions
Violation Notes: Returned to compliance on 07/02/2015.
Violation Division: Riverside County Department of Env Health
Violation Program: UST
Violation Source: CERS

Site ID: 92980
Site Name: Arco #82581
Violation Date: 05-29-2018
Citation: 23 CCR 16 2665 - California Code of Regulations, Title 23, Chapter 16, Section(s) 2665
Violation Description: Failure to comply with one or more of the following: Failure to install or maintain a liquid-tight spill bucket. Have a minimum capacity of five gallons. Have a functional drain valve or other method for the removal of liquid from the spill bucket/spill container. Be resistant to galvanic corrosion.
Violation Notes: Returned to compliance on 07/19/2018.
Violation Division: Riverside County Department of Env Health
Violation Program: UST
Violation Source: CERS

Site ID: 92980
Site Name: Arco #82581
Violation Date: 05-14-2015
Citation: 22 CCR 12 66262.34(f) - California Code of Regulations, Title 22, Chapter 12, Section(s) 66262.34(f)
Violation Description: Failure to properly label hazardous waste accumulation containers with the following requirements: "Hazardous Waste", name and address of the generator, physical and chemical characteristics of the Hazardous Waste, and starting accumulation date.
Violation Notes: Returned to compliance on 06/13/2015.
Violation Division: Riverside County Department of Env Health
Violation Program: HW
Violation Source: CERS

Site ID: 92980
Site Name: Arco #82581
Violation Date: 05-14-2015
Citation: 40 CFR 1 262.34(d)(5)(iii) - U.S. Code of Federal Regulations, Title 40, Chapter 1, Section(s) 262.34(d)(5)(iii)
Violation Description: Failure to ensure employees are familiar with the handling and compliance of hazardous waste regulations and emergency response.

ARCO #5764 (Continued) **S101590180**

Violation Notes:	Returned to compliance on 07/02/2015.
Violation Division:	Riverside County Department of Env Health
Violation Program:	HW
Violation Source:	CERS
Site ID:	92980
Site Name:	Arco #82581
Violation Date:	05-29-2018
Citation:	23 CCR 16 2637(e) - California Code of Regulations, Title 23, Chapter 16, Section(s) 2637(e)
Violation Description:	Failure to submit a copy of the secondary containment test results to the UPA within 30 days after the test.
Violation Notes:	Returned to compliance on 05/29/2018.
Violation Division:	Riverside County Department of Env Health
Violation Program:	UST
Violation Source:	CERS
Site ID:	92980
Site Name:	Arco #82581
Violation Date:	05-14-2014
Citation:	HSC 6.7 Multiple Sections - California Health and Safety Code, Chapter 6.7, Section(s) Multiple Sections
Violation Description:	UST Program - Administration/Documentation - General
Violation Notes:	Returned to compliance on 06/10/2014.
Violation Division:	Riverside County Department of Env Health
Violation Program:	UST
Violation Source:	CERS
Site ID:	92980
Site Name:	Arco #82581
Violation Date:	05-14-2015
Citation:	HSC 6.95 25505(a)(4) - California Health and Safety Code, Chapter 6.95, Section(s) 25505(a)(4)
Violation Description:	Failure to provide initial and annual training to all employees in safety procedures in the event of a release or threatened release of a hazardous material or failure to document and maintain training records for a minimum of three years.
Violation Notes:	Returned to compliance on 07/02/2015.
Violation Division:	Riverside County Department of Env Health
Violation Program:	HMRRP
Violation Source:	CERS
Site ID:	92980
Site Name:	Arco #82581
Violation Date:	05-29-2018
Citation:	23 CCR 16 2712 - California Code of Regulations, Title 23, Chapter 16, Section(s) 2712
Violation Description:	Failure to comply with any of the applicable requirements of the permit issued for the operation of the UST system.
Violation Notes:	Returned to compliance on 07/02/2018.
Violation Division:	Riverside County Department of Env Health
Violation Program:	UST
Violation Source:	CERS
Site ID:	92980
Site Name:	Arco #82581
Violation Date:	05-14-2014

ARCO #5764 (Continued) **S101590180**

Citation:	HSC 6.7 Multiple Sections - California Health and Safety Code, Chapter 6.7, Section(s) Multiple Sections
Violation Description:	UST Program - Operations/Maintenance - General
Violation Notes:	Returned to compliance on 06/10/2014.
Violation Division:	Riverside County Department of Env Health
Violation Program:	UST
Violation Source:	CERS

Evaluation:

Eval General Type:	Other/Unknown
Eval Date:	01-22-2019
Violations Found:	No
Eval Type:	Other, not routine, done by local agency
Eval Notes:	Reviewing submitted Overfill prevention equipment inspection report form. Pass.
Eval Division:	Riverside County Department of Env Health
Eval Program:	UST
Eval Source:	CERS

Eval General Type:	Compliance Evaluation Inspection
Eval Date:	05-12-2016
Violations Found:	Yes
Eval Type:	Routine done by local agency
Eval Notes:	Not reported
Eval Division:	Riverside County Department of Env Health
Eval Program:	UST
Eval Source:	CERS

Eval General Type:	Compliance Evaluation Inspection
Eval Date:	05-14-2014
Violations Found:	No
Eval Type:	Routine done by local agency
Eval Notes:	Not reported
Eval Division:	Riverside County Department of Env Health
Eval Program:	HW
Eval Source:	CERS

Eval General Type:	Compliance Evaluation Inspection
Eval Date:	05-14-2014
Violations Found:	Yes
Eval Type:	Routine done by local agency
Eval Notes:	Not reported
Eval Division:	Riverside County Department of Env Health
Eval Program:	UST
Eval Source:	CERS

Eval General Type:	Compliance Evaluation Inspection
Eval Date:	05-14-2015
Violations Found:	Yes
Eval Type:	Routine done by local agency
Eval Notes:	Not reported
Eval Division:	Riverside County Department of Env Health
Eval Program:	HMRRP
Eval Source:	CERS

Eval General Type:	Compliance Evaluation Inspection
Eval Date:	05-14-2015

Map ID
Direction
Distance
Elevation | Site | MAP FINDINGS | Database(s) | EDR ID Number EPA ID Number

ARCO #5764 (Continued) **S101590180**

Violations Found:	Yes
Eval Type:	Routine done by local agency
Eval Notes:	Not reported
Eval Division:	Riverside County Department of Env Health
Eval Program:	HW
Eval Source:	CERS
Eval General Type:	Compliance Evaluation Inspection
Eval Date:	05-14-2015
Violations Found:	Yes
Eval Type:	Routine done by local agency
Eval Notes:	Not reported
Eval Division:	Riverside County Department of Env Health
Eval Program:	UST
Eval Source:	CERS
Eval General Type:	Compliance Evaluation Inspection
Eval Date:	05-18-2017
Violations Found:	No
Eval Type:	Routine done by local agency
Eval Notes:	Not reported
Eval Division:	Riverside County Department of Env Health
Eval Program:	HMRRP
Eval Source:	CERS
Eval General Type:	Compliance Evaluation Inspection
Eval Date:	05-18-2017
Violations Found:	No
Eval Type:	Routine done by local agency
Eval Notes:	Not reported
Eval Division:	Riverside County Department of Env Health
Eval Program:	HW
Eval Source:	CERS
Eval General Type:	Compliance Evaluation Inspection
Eval Date:	05-18-2017
Violations Found:	No
Eval Type:	Routine done by local agency
Eval Notes:	Not reported
Eval Division:	Riverside County Department of Env Health
Eval Program:	UST
Eval Source:	CERS
Eval General Type:	Compliance Evaluation Inspection
Eval Date:	05-29-2018
Violations Found:	Yes
Eval Type:	Routine done by local agency
Eval Notes:	Not reported
Eval Division:	Riverside County Department of Env Health
Eval Program:	UST
Eval Source:	CERS
Eval General Type:	Other/Unknown
Eval Date:	06-10-2014
Violations Found:	No
Eval Type:	Other, not routine, done by local agency
Eval Notes:	Not reported

Map ID
Direction
Distance
Elevation | Site | MAP FINDINGS | Database(s) | EDR ID Number EPA ID Number

ARCO #5764 (Continued) **S101590180**

Eval Division: Riverside County Department of Env Health
Eval Program: UST
Eval Source: CERS

Eval General Type: Compliance Evaluation Inspection
Eval Date: 06-19-2019
Violations Found: Yes
Eval Type: Routine done by local agency
Eval Notes: Annual monitoring certification today. Vasquez Maintenance on site for testing.
Eval Division: Riverside County Department of Env Health
Eval Program: UST
Eval Source: CERS

Eval General Type: Other/Unknown
Eval Date: 07-02-2015
Violations Found: No
Eval Type: Other, not routine, done by local agency
Eval Notes: Not reported
Eval Division: Riverside County Department of Env Health
Eval Program: HMRRP
Eval Source: CERS

Eval General Type: Other/Unknown
Eval Date: 07-02-2015
Violations Found: No
Eval Type: Other, not routine, done by local agency
Eval Notes: Not reported
Eval Division: Riverside County Department of Env Health
Eval Program: HW
Eval Source: CERS

Eval General Type: Other/Unknown
Eval Date: 07-02-2015
Violations Found: No
Eval Type: Other, not routine, done by local agency
Eval Notes: Not reported
Eval Division: Riverside County Department of Env Health
Eval Program: UST
Eval Source: CERS

Eval General Type: Other/Unknown
Eval Date: 07-12-2016
Violations Found: No
Eval Type: Other, not routine, done by local agency
Eval Notes: Not reported
Eval Division: Riverside County Department of Env Health
Eval Program: UST
Eval Source: CERS

Eval General Type: Other/Unknown
Eval Date: 12-20-2017
Violations Found: No
Eval Type: Other, not routine, done by local agency
Eval Notes: Not reported
Eval Division: Riverside County Department of Env Health
Eval Program: UST

ARCO #5764 (Continued) **S101590180**

Eval Source: CERS

Enforcement Action:
Site ID: 92980
Site Name: Arco #82581
Site Address: 16466 PERRIS BLVD
Site City: MORENO VALLEY
Site Zip: 92551
Enf Action Date: 05-14-2014
Enf Action Type: Notice of Violation (Unified Program)
Enf Action Description: Notice of Violation Issued by the Inspector at the Time of Inspection
Enf Action Notes: Not reported
Enf Action Division: Riverside County Department of Env Health
Enf Action Program: UST
Enf Action Source: CERS

Site ID: 92980
Site Name: Arco #82581
Site Address: 16466 PERRIS BLVD
Site City: MORENO VALLEY
Site Zip: 92551
Enf Action Date: 05-14-2015
Enf Action Type: Notice of Violation (Unified Program)
Enf Action Description: Notice of Violation Issued by the Inspector at the Time of Inspection
Enf Action Notes: Not reported
Enf Action Division: Riverside County Department of Env Health
Enf Action Program: HMRRP
Enf Action Source: CERS

Site ID: 92980
Site Name: Arco #82581
Site Address: 16466 PERRIS BLVD
Site City: MORENO VALLEY
Site Zip: 92551
Enf Action Date: 05-14-2015
Enf Action Type: Notice of Violation (Unified Program)
Enf Action Description: Notice of Violation Issued by the Inspector at the Time of Inspection
Enf Action Notes: Not reported
Enf Action Division: Riverside County Department of Env Health
Enf Action Program: HW
Enf Action Source: CERS

Site ID: 92980
Site Name: Arco #82581
Site Address: 16466 PERRIS BLVD
Site City: MORENO VALLEY
Site Zip: 92551
Enf Action Date: 05-14-2015
Enf Action Type: Notice of Violation (Unified Program)
Enf Action Description: Notice of Violation Issued by the Inspector at the Time of Inspection
Enf Action Notes: Not reported
Enf Action Division: Riverside County Department of Env Health
Enf Action Program: UST
Enf Action Source: CERS

Coordinates:

ARCO #5764 (Continued) **S101590180**

Site ID:	92980
Facility Name:	Arco #82581
Env Int Type Code:	HWG
Program ID:	10470889
Coord Name:	Not reported
Ref Point Type Desc:	Center of a facility or station.
Latitude:	33.881530
Longitude:	-117.225740

Affiliation:

Affiliation Type Desc:	Environmental Contact
Entity Name:	SUNIL PATEL
Entity Title:	Not reported
Affiliation Address:	16466 Perris Blvd
Affiliation City:	Moreno Valley
Affiliation State:	CA
Affiliation Country:	Not reported
Affiliation Zip:	92251
Affiliation Phone:	Not reported

Affiliation Type Desc:	Facility Mailing Address
Entity Name:	Mailing Address
Entity Title:	Not reported
Affiliation Address:	16466 Perris Blvd.
Affiliation City:	Moreno Valley
Affiliation State:	CA
Affiliation Country:	Not reported
Affiliation Zip:	92551
Affiliation Phone:	Not reported

Affiliation Type Desc:	UST Tank Operator
Entity Name:	SUNIL PATEL
Entity Title:	Not reported
Affiliation Address:	16466 Perris Blvd.
Affiliation City:	Moreno Valley
Affiliation State:	ca
Affiliation Country:	United States
Affiliation Zip:	92551
Affiliation Phone:	(951) 247-2668

Affiliation Type Desc:	Parent Corporation
Entity Name:	YUCAIPA GAS MART
Entity Title:	Not reported
Affiliation Address:	Not reported
Affiliation City:	Not reported
Affiliation State:	Not reported
Affiliation Country:	Not reported
Affiliation Zip:	Not reported
Affiliation Phone:	Not reported

Affiliation Type Desc:	Property Owner
Entity Name:	Trisha Investments LLC.
Entity Title:	Not reported
Affiliation Address:	16466 Perris Blvd.
Affiliation City:	Moreno Valley
Affiliation State:	CA
Affiliation Country:	United States

ARCO #5764 (Continued) **S101590180**

Affiliation Zip:	92251
Affiliation Phone:	(951) 247-2668
Affiliation Type Desc:	UST Permit Applicant
Entity Name:	Sunil Patel
Entity Title:	Parnter
Affiliation Address:	Not reported
Affiliation City:	Not reported
Affiliation State:	Not reported
Affiliation Country:	Not reported
Affiliation Zip:	Not reported
Affiliation Phone:	(909) 709-2876
Affiliation Type Desc:	Document Preparer
Entity Name:	sunil patel
Entity Title:	Not reported
Affiliation Address:	Not reported
Affiliation City:	Not reported
Affiliation State:	Not reported
Affiliation Country:	Not reported
Affiliation Zip:	Not reported
Affiliation Phone:	Not reported
Affiliation Type Desc:	Identification Signer
Entity Name:	SUNIL PATEL
Entity Title:	PARTNER
Affiliation Address:	Not reported
Affiliation City:	Not reported
Affiliation State:	Not reported
Affiliation Country:	Not reported
Affiliation Zip:	Not reported
Affiliation Phone:	Not reported
Affiliation Type Desc:	Legal Owner
Entity Name:	Trisha Investments LLC.
Entity Title:	Not reported
Affiliation Address:	16466 Perris Blvd
Affiliation City:	Moreno Valley
Affiliation State:	CA
Affiliation Country:	United States
Affiliation Zip:	92551
Affiliation Phone:	(951) 247-2668
Affiliation Type Desc:	UST Property Owner Name
Entity Name:	Trisha Investments LLC.
Entity Title:	Not reported
Affiliation Address:	16466 Perris Blvd.
Affiliation City:	Moreno Valley
Affiliation State:	ca
Affiliation Country:	United States
Affiliation Zip:	92551
Affiliation Phone:	(951) 247-2668
Affiliation Type Desc:	CUPA District
Entity Name:	Riverside Cnty Env Health
Entity Title:	Not reported
Affiliation Address:	4065 County Circle Drive, Room 104

ARCO #5764 (Continued) **S101590180**

Affiliation City:	Riverside
Affiliation State:	CA
Affiliation Country:	Not reported
Affiliation Zip:	92503
Affiliation Phone:	(951) 358-5055
Affiliation Type Desc:	Operator
Entity Name:	SUNIL PATEL
Entity Title:	Not reported
Affiliation Address:	Not reported
Affiliation City:	Not reported
Affiliation State:	Not reported
Affiliation Country:	Not reported
Affiliation Zip:	Not reported
Affiliation Phone:	(951) 247-2668
Affiliation Type Desc:	UST Tank Owner
Entity Name:	Trisha Investments LLC.
Entity Title:	Not reported
Affiliation Address:	16466 Perris Blvd.
Affiliation City:	Moreno Valley
Affiliation State:	CA
Affiliation Country:	United States
Affiliation Zip:	92551
Affiliation Phone:	(951) 247-2668

29
WNW
1/2-1
0.586 mi.
3096 ft.

INDIAN MIDDLE SCHOOL **ENVIROSTOR** **S106568096**
INDIAN AVENUE / IRIS AVENUE **SCH** **N/A**
MORENO VALLEY, CA 92551 **CERS**

Relative:
Higher

Actual:
1512 ft.

ENVIROSTOR:

Name:	INDIAN MIDDLE SCHOOL
Address:	INDIAN AVENUE / IRIS AVENUE
City,State,Zip:	MORENO VALLEY, CA 92551
Facility ID:	33000006
Status:	Certified
Status Date:	03/10/2006
Site Code:	404555
Site Type:	School Cleanup
Site Type Detailed:	School
Acres:	29
NPL:	NO
Regulatory Agencies:	SMBRP
Lead Agency:	SMBRP
Program Manager:	Amit Pathak
Supervisor:	Shahir Haddad
Division Branch:	Southern California Schools & Brownfields Outreach
Assembly:	61
Senate:	31
Special Program:	Not reported
Restricted Use:	NO
Site Mgmt Req:	NONE SPECIFIED
Funding:	School District
Latitude:	33.8911
Longitude:	-117.2342

INDIAN MIDDLE SCHOOL (Continued) **S106568096**

APN: NONE SPECIFIED
Past Use: AGRICULTURAL - ROW CROPS
Potential COC: DDT Toxaphene
Confirmed COC: DDT Toxaphene
Potential Description: SOIL
Alias Name: INDIAN MIDDLE SCHOOL
Alias Type: Alternate Name
Alias Name: VAL VERDE UNIFIED
Alias Type: Alternate Name
Alias Name: VAL VERDE USD-PRPSD INDIAN MID SCL
Alias Type: Alternate Name
Alias Name: 110033615112
Alias Type: EPA (FRS #)
Alias Name: 404555
Alias Type: Project Code (Site Code)
Alias Name: 33000006
Alias Type: Envirostor ID Number

Completed Info:
Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Preliminary Endangerment Assessment Report
Completed Date: 02/09/2005
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Phase 1
Completed Date: 06/30/2004
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Preliminary Endangerment Assessment Report
Completed Date: 11/09/2004
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Supplemental Site Investigation Workplan
Completed Date: 04/28/2005
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Supplemental Site Investigation Workplan
Completed Date: 07/06/2005
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Supplemental Site Investigation Report
Completed Date: 11/01/2005
Comments: Further Action with RAW for Toxaphene and DDT

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Removal Action Workplan

INDIAN MIDDLE SCHOOL (Continued) **S106568096**

Completed Date: 12/28/2005
Comments: Approved along with NOE/Public Comment Response Letter

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Fact Sheets
Completed Date: 12/20/2005
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Public Notice
Completed Date: 12/20/2005
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Removal Action Completion Report
Completed Date: 03/06/2006
Comments: DTSC issued a No Further Action determination based on a Removal Action Completion Report

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: 4.15 Request
Completed Date: 03/01/2005
Comments: Approved.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: CEQA - Notice of Exemption
Completed Date: 01/03/2006
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Cost Recovery Closeout Memo
Completed Date: 06/02/2006
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Certification
Completed Date: 03/10/2006
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Environmental Oversight Agreement
Completed Date: 08/09/2004
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Environmental Oversight Agreement
Completed Date: 11/18/2004
Comments: Not reported

INDIAN MIDDLE SCHOOL (Continued) **S106568096**

Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Site Inspections/Visit (Non LUR)
Completed Date:	07/13/2005
Comments:	Not reported

Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	School Cleanup Agreement
Completed Date:	03/01/2005
Comments:	Not reported

Future Area Name:	Not reported
Future Sub Area Name:	Not reported
Future Document Type:	Not reported
Future Due Date:	Not reported
Schedule Area Name:	Not reported
Schedule Sub Area Name:	Not reported
Schedule Document Type:	Not reported
Schedule Due Date:	Not reported
Schedule Revised Date:	Not reported

SCH:

Name:	INDIAN MIDDLE SCHOOL
Address:	INDIAN AVENUE / IRIS AVENUE
City,State,Zip:	MORENO VALLEY, CA 92551
Facility ID:	33000006
Site Type:	School Cleanup
Site Type Detail:	School
Site Mgmt. Req.:	NONE SPECIFIED
Acres:	29
National Priorities List:	NO
Cleanup Oversight Agencies:	SMBRP
Lead Agency:	SMBRP
Lead Agency Description:	DTSC - Site Cleanup Program
Project Manager:	Amit Pathak
Supervisor:	Shahir Haddad
Division Branch:	Southern California Schools & Brownfields Outreach
Site Code:	404555
Assembly:	61
Senate:	31
Special Program Status:	Not reported
Status:	Certified
Status Date:	03/10/2006
Restricted Use:	NO
Funding:	School District
Latitude:	33.8911
Longitude:	-117.2342
APN:	NONE SPECIFIED
Past Use:	AGRICULTURAL - ROW CROPS
Potential COC:	DDT, Toxaphene
Confirmed COC:	DDT, Toxaphene
Potential Description:	SOIL
Alias Name:	INDIAN MIDDLE SCHOOL
Alias Type:	Alternate Name
Alias Name:	VAL VERDE UNIFIED

INDIAN MIDDLE SCHOOL (Continued) **S106568096**

Alias Type: Alternate Name
Alias Name: VAL VERDE USD-PRPSD INDIAN MID SCL
Alias Type: Alternate Name
Alias Name: 110033615112
Alias Type: EPA (FRS #)
Alias Name: 404555
Alias Type: Project Code (Site Code)
Alias Name: 33000006
Alias Type: Envirostor ID Number

Completed Info:

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Preliminary Endangerment Assessment Report
Completed Date: 02/09/2005
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Phase 1
Completed Date: 06/30/2004
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Preliminary Endangerment Assessment Report
Completed Date: 11/09/2004
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Supplemental Site Investigation Workplan
Completed Date: 04/28/2005
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Supplemental Site Investigation Workplan
Completed Date: 07/06/2005
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Supplemental Site Investigation Report
Completed Date: 11/01/2005
Comments: Further Action with RAW for Toxaphene and DDT

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Removal Action Workplan
Completed Date: 12/28/2005
Comments: Approved along with NOE/Public Comment Response Letter

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Fact Sheets
Completed Date: 12/20/2005
Comments: Not reported

INDIAN MIDDLE SCHOOL (Continued) **S106568096**

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Public Notice
Completed Date: 12/20/2005
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Removal Action Completion Report
Completed Date: 03/06/2006
Comments: DTSC issued a No Further Action determination based on a Removal Action Completion Report

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: 4.15 Request
Completed Date: 03/01/2005
Comments: Approved.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: CEQA - Notice of Exemption
Completed Date: 01/03/2006
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Cost Recovery Closeout Memo
Completed Date: 06/02/2006
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Certification
Completed Date: 03/10/2006
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Environmental Oversight Agreement
Completed Date: 08/09/2004
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Environmental Oversight Agreement
Completed Date: 11/18/2004
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Site Inspections/Visit (Non LUR)
Completed Date: 07/13/2005
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported

INDIAN MIDDLE SCHOOL (Continued) **S106568096**

Completed Document Type:	School Cleanup Agreement
Completed Date:	03/01/2005
Comments:	Not reported
Future Area Name:	Not reported
Future Sub Area Name:	Not reported
Future Document Type:	Not reported
Future Due Date:	Not reported
Schedule Area Name:	Not reported
Schedule Sub Area Name:	Not reported
Schedule Document Type:	Not reported
Schedule Due Date:	Not reported
Schedule Revised Date:	Not reported

CERS:

Name:	INDIAN MIDDLE SCHOOL
Address:	INDIAN AVENUE / IRIS AVENUE
City,State,Zip:	MORENO VALLEY, CA 92551
Site ID:	338551
CERS ID:	33000006
CERS Description:	School Cleanup

Affiliation:

Affiliation Type Desc:	Lead Project Manager
Entity Name:	AMIT PATHAK
Entity Title:	Not reported
Affiliation Address:	Not reported
Affiliation City:	CYPRESS
Affiliation State:	CA
Affiliation Country:	Not reported
Affiliation Zip:	Not reported
Affiliation Phone:	Not reported
Affiliation Type Desc:	Supervisor
Entity Name:	SHAHIR HADDAD
Entity Title:	Not reported
Affiliation Address:	Not reported
Affiliation City:	Not reported
Affiliation State:	Not reported
Affiliation Country:	Not reported
Affiliation Zip:	Not reported
Affiliation Phone:	Not reported

Count: 3 records.

ORPHAN SUMMARY

City	EDR ID	Site Name	Site Address	Zip	Database(s)
MORENO VALLEY	S121695513	PALMS CLEANERS, KWANG H. LEE DBA	25910 IRIS AVE SUITE A7 & 8	92551	DRYCLEANERS
MORENO VALLEY	S121696270	DAVID CHANS	25910 IRIS AVE SUITE A7 & 8	92551	DRYCLEANERS
MORENO VALLEY	S121648746	KITCHING ST & IRIS AVE	KITCHING ST & IRIS AVE		CIWQS

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

To maintain currency of the following federal and state databases, EDR contacts the appropriate governmental agency on a monthly or quarterly basis, as required.

Number of Days to Update: Provides confirmation that EDR is reporting records that have been updated within 90 days from the date the government agency made the information available to the public.

STANDARD ENVIRONMENTAL RECORDS

Federal NPL site list

NPL: National Priority List

National Priorities List (Superfund). The NPL is a subset of CERCLIS and identifies over 1,200 sites for priority cleanup under the Superfund Program. NPL sites may encompass relatively large areas. As such, EDR provides polygon coverage for over 1,000 NPL site boundaries produced by EPA's Environmental Photographic Interpretation Center (EPIC) and regional EPA offices.

Date of Government Version: 07/19/2019
Date Data Arrived at EDR: 07/30/2019
Date Made Active in Reports: 09/03/2019
Number of Days to Update: 35

Source: EPA
Telephone: N/A
Last EDR Contact: 10/02/2019
Next Scheduled EDR Contact: 01/13/2020
Data Release Frequency: Quarterly

NPL Site Boundaries

Sources:

EPA's Environmental Photographic Interpretation Center (EPIC)
Telephone: 202-564-7333

EPA Region 1
Telephone 617-918-1143

EPA Region 6
Telephone: 214-655-6659

EPA Region 3
Telephone 215-814-5418

EPA Region 7
Telephone: 913-551-7247

EPA Region 4
Telephone 404-562-8033

EPA Region 8
Telephone: 303-312-6774

EPA Region 5
Telephone 312-886-6686

EPA Region 9
Telephone: 415-947-4246

EPA Region 10
Telephone 206-553-8665

Proposed NPL: Proposed National Priority List Sites

A site that has been proposed for listing on the National Priorities List through the issuance of a proposed rule in the Federal Register. EPA then accepts public comments on the site, responds to the comments, and places on the NPL those sites that continue to meet the requirements for listing.

Date of Government Version: 07/19/2019
Date Data Arrived at EDR: 07/30/2019
Date Made Active in Reports: 09/03/2019
Number of Days to Update: 35

Source: EPA
Telephone: N/A
Last EDR Contact: 10/02/2019
Next Scheduled EDR Contact: 01/13/2020
Data Release Frequency: Quarterly

NPL LIENS: Federal Superfund Liens

Federal Superfund Liens. Under the authority granted the USEPA by CERCLA of 1980, the USEPA has the authority to file liens against real property in order to recover remedial action expenditures or when the property owner received notification of potential liability. USEPA compiles a listing of filed notices of Superfund Liens.

Date of Government Version: 10/15/1991
Date Data Arrived at EDR: 02/02/1994
Date Made Active in Reports: 03/30/1994
Number of Days to Update: 56

Source: EPA
Telephone: 202-564-4267
Last EDR Contact: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: No Update Planned

Federal Delisted NPL site list

Delisted NPL: National Priority List Deletions

The National Oil and Hazardous Substances Pollution Contingency Plan (NCP) establishes the criteria that the EPA uses to delete sites from the NPL. In accordance with 40 CFR 300.425.(e), sites may be deleted from the NPL where no further response is appropriate.

Date of Government Version: 07/19/2019
Date Data Arrived at EDR: 07/30/2019
Date Made Active in Reports: 09/03/2019
Number of Days to Update: 35

Source: EPA
Telephone: N/A
Last EDR Contact: 10/02/2019
Next Scheduled EDR Contact: 01/13/2020
Data Release Frequency: Quarterly

Federal CERCLIS list

FEDERAL FACILITY: Federal Facility Site Information listing

A listing of National Priority List (NPL) and Base Realignment and Closure (BRAC) sites found in the Comprehensive Environmental Response, Compensation and Liability Information System (CERCLIS) Database where EPA Federal Facilities Restoration and Reuse Office is involved in cleanup activities.

Date of Government Version: 04/03/2019
Date Data Arrived at EDR: 04/05/2019
Date Made Active in Reports: 05/14/2019
Number of Days to Update: 39

Source: Environmental Protection Agency
Telephone: 703-603-8704
Last EDR Contact: 10/04/2019
Next Scheduled EDR Contact: 01/13/2020
Data Release Frequency: Varies

SEMS: Superfund Enterprise Management System

SEMS (Superfund Enterprise Management System) tracks hazardous waste sites, potentially hazardous waste sites, and remedial activities performed in support of EPA's Superfund Program across the United States. The list was formerly know as CERCLIS, renamed to SEMS by the EPA in 2015. The list contains data on potentially hazardous waste sites that have been reported to the USEPA by states, municipalities, private companies and private persons, pursuant to Section 103 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). This dataset also contains sites which are either proposed to or on the National Priorities List (NPL) and the sites which are in the screening and assessment phase for possible inclusion on the NPL.

Date of Government Version: 07/19/2019
Date Data Arrived at EDR: 07/30/2019
Date Made Active in Reports: 09/03/2019
Number of Days to Update: 35

Source: EPA
Telephone: 800-424-9346
Last EDR Contact: 10/02/2019
Next Scheduled EDR Contact: 01/27/2020
Data Release Frequency: Quarterly

Federal CERCLIS NFRAP site list

SEMS-ARCHIVE: Superfund Enterprise Management System Archive

SEMS-ARCHIVE (Superfund Enterprise Management System Archive) tracks sites that have no further interest under the Federal Superfund Program based on available information. The list was formerly known as the CERCLIS-NFRAP, renamed to SEMS ARCHIVE by the EPA in 2015. EPA may perform a minimal level of assessment work at a site while it is archived if site conditions change and/or new information becomes available. Archived sites have been removed and archived from the inventory of SEMS sites. Archived status indicates that, to the best of EPA's knowledge, assessment at a site has been completed and that EPA has determined no further steps will be taken to list the site on the National Priorities List (NPL), unless information indicates this decision was not appropriate or other considerations require a recommendation for listing at a later time. The decision does not necessarily mean that there is no hazard associated with a given site; it only means that. based upon available information, the location is not judged to be potential NPL site.

Date of Government Version: 07/19/2019
Date Data Arrived at EDR: 07/30/2019
Date Made Active in Reports: 09/03/2019
Number of Days to Update: 35

Source: EPA
Telephone: 800-424-9346
Last EDR Contact: 10/02/2019
Next Scheduled EDR Contact: 01/27/2020
Data Release Frequency: Quarterly

Federal RCRA CORRACTS facilities list

CORRACTS: Corrective Action Report

CORRACTS identifies hazardous waste handlers with RCRA corrective action activity.

Date of Government Version: 06/24/2019
Date Data Arrived at EDR: 06/26/2019
Date Made Active in Reports: 10/17/2019
Number of Days to Update: 113

Source: EPA
Telephone: 800-424-9346
Last EDR Contact: 09/16/2019
Next Scheduled EDR Contact: 01/06/2020
Data Release Frequency: Quarterly

Federal RCRA non-CORRACTS TSD facilities list

RCRA-TSDF: RCRA - Treatment, Storage and Disposal

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Transporters are individuals or entities that move hazardous waste from the generator offsite to a facility that can recycle, treat, store, or dispose of the waste. TSDFs treat, store, or dispose of the waste.

Date of Government Version: 06/24/2019
Date Data Arrived at EDR: 06/26/2019
Date Made Active in Reports: 10/17/2019
Number of Days to Update: 113

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 09/16/2019
Next Scheduled EDR Contact: 01/06/2020
Data Release Frequency: Quarterly

Federal RCRA generators list

RCRA-LQG: RCRA - Large Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Large quantity generators (LQGs) generate over 1,000 kilograms (kg) of hazardous waste, or over 1 kg of acutely hazardous waste per month.

Date of Government Version: 06/24/2019
Date Data Arrived at EDR: 06/26/2019
Date Made Active in Reports: 10/17/2019
Number of Days to Update: 113

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 09/16/2019
Next Scheduled EDR Contact: 01/06/2020
Data Release Frequency: Quarterly

RCRA-SQG: RCRA - Small Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Small quantity generators (SQGs) generate between 100 kg and 1,000 kg of hazardous waste per month.

Date of Government Version: 06/24/2019
Date Data Arrived at EDR: 06/26/2019
Date Made Active in Reports: 10/17/2019
Number of Days to Update: 113

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 09/16/2019
Next Scheduled EDR Contact: 01/06/2020
Data Release Frequency: Quarterly

RCRA-VSQG: RCRA - Very Small Quantity Generators (Formerly Conditionally Exempt Small Quantity Generators)

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Very small quantity generators (VSQGs) generate less than 100 kg of hazardous waste, or less than 1 kg of acutely hazardous waste per month.

Date of Government Version: 06/24/2019
Date Data Arrived at EDR: 06/26/2019
Date Made Active in Reports: 10/17/2019
Number of Days to Update: 113

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 09/16/2019
Next Scheduled EDR Contact: 01/06/2020
Data Release Frequency: Quarterly

Federal institutional controls / engineering controls registries

LUCIS: Land Use Control Information System

LUCIS contains records of land use control information pertaining to the former Navy Base Realignment and Closure properties.

Date of Government Version: 08/13/2019
Date Data Arrived at EDR: 08/20/2019
Date Made Active in Reports: 08/26/2019
Number of Days to Update: 6

Source: Department of the Navy
Telephone: 843-820-7326
Last EDR Contact: 08/07/2019
Next Scheduled EDR Contact: 11/25/2019
Data Release Frequency: Varies

US ENG CONTROLS: Engineering Controls Sites List

A listing of sites with engineering controls in place. Engineering controls include various forms of caps, building foundations, liners, and treatment methods to create pathway elimination for regulated substances to enter environmental media or effect human health.

Date of Government Version: 08/19/2019
Date Data Arrived at EDR: 08/20/2019
Date Made Active in Reports: 08/26/2019
Number of Days to Update: 6

Source: Environmental Protection Agency
Telephone: 703-603-0695
Last EDR Contact: 08/20/2019
Next Scheduled EDR Contact: 12/09/2019
Data Release Frequency: Varies

US INST CONTROL: Sites with Institutional Controls

A listing of sites with institutional controls in place. Institutional controls include administrative measures, such as groundwater use restrictions, construction restrictions, property use restrictions, and post remediation care requirements intended to prevent exposure to contaminants remaining on site. Deed restrictions are generally required as part of the institutional controls.

Date of Government Version: 08/19/2019
Date Data Arrived at EDR: 08/20/2019
Date Made Active in Reports: 08/26/2019
Number of Days to Update: 6

Source: Environmental Protection Agency
Telephone: 703-603-0695
Last EDR Contact: 08/20/2019
Next Scheduled EDR Contact: 12/09/2019
Data Release Frequency: Varies

Federal ERNS list

ERNS: Emergency Response Notification System

Emergency Response Notification System. ERNS records and stores information on reported releases of oil and hazardous substances.

Date of Government Version: 09/09/2019
Date Data Arrived at EDR: 09/09/2019
Date Made Active in Reports: 09/23/2019
Number of Days to Update: 14

Source: National Response Center, United States Coast Guard
Telephone: 202-267-2180
Last EDR Contact: 09/09/2019
Next Scheduled EDR Contact: 01/06/2020
Data Release Frequency: Quarterly

State- and tribal - equivalent NPL

RESPONSE: State Response Sites

Identifies confirmed release sites where DTSC is involved in remediation, either in a lead or oversight capacity. These confirmed release sites are generally high-priority and high potential risk.

Date of Government Version: 07/29/2019
Date Data Arrived at EDR: 07/31/2019
Date Made Active in Reports: 10/08/2019
Number of Days to Update: 69

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 07/31/2019
Next Scheduled EDR Contact: 11/11/2019
Data Release Frequency: Quarterly

State- and tribal - equivalent CERCLIS

ENVIROSTOR: EnviroStor Database

The Department of Toxic Substances Control's (DTSC's) Site Mitigation and Brownfields Reuse Program's (SMBRP's) EnviroStor database identifes sites that have known contamination or sites for which there may be reasons to investigate further. The database includes the following site types: Federal Superfund sites (National Priorities List (NPL)); State Response, including Military Facilities and State Superfund; Voluntary Cleanup; and School sites. EnviroStor provides similar information to the information that was available in CalSites, and provides additional site information, including, but not limited to, identification of formerly-contaminated properties that have been released for reuse, properties where environmental deed restrictions have been recorded to prevent inappropriate land uses, and risk characterization information that is used to assess potential impacts to public health and the environment at contaminated sites.

Date of Government Version: 07/29/2019
Date Data Arrived at EDR: 07/31/2019
Date Made Active in Reports: 10/08/2019
Number of Days to Update: 69

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 07/31/2019
Next Scheduled EDR Contact: 11/11/2019
Data Release Frequency: Quarterly

State and tribal landfill and/or solid waste disposal site lists

SWF/LF (SWIS): Solid Waste Information System

Active, Closed and Inactive Landfills. SWF/LF records typically contain an inve ntory of solid waste disposal facilities or landfills. These may be active or i nactive facilities or open dumps that failed to meet RCRA Section 4004 criteria for solid waste landfills or disposal sites.

Date of Government Version: 08/12/2019
Date Data Arrived at EDR: 08/13/2019
Date Made Active in Reports: 10/09/2019
Number of Days to Update: 57

Source: Department of Resources Recycling and Recovery
Telephone: 916-341-6320
Last EDR Contact: 08/13/2019
Next Scheduled EDR Contact: 11/25/2019
Data Release Frequency: Quarterly

State and tribal leaking storage tank lists

LUST REG 9: Leaking Underground Storage Tank Report
Orange, Riverside, San Diego counties. For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 03/01/2001
Date Data Arrived at EDR: 04/23/2001
Date Made Active in Reports: 05/21/2001
Number of Days to Update: 28

Source: California Regional Water Quality Control Board San Diego Region (9)
Telephone: 858-637-5595
Last EDR Contact: 09/26/2011
Next Scheduled EDR Contact: 01/09/2012
Data Release Frequency: No Update Planned

LUST REG 5: Leaking Underground Storage Tank Database
Leaking Underground Storage Tank locations. Alameda, Alpine, Amador, Butte, Colusa, Contra Costa, Calveras, El Dorado, Fresno, Glenn, Kern, Kings, Lake, Lassen, Madera, Mariposa, Merced, Modoc, Napa, Nevada, Placer, Plumas, Sacramento, San Joaquin, Shasta, Solano, Stanislaus, Sutter, Tehama, Tulare, Tuolumne, Yolo, Yuba counties.

Date of Government Version: 07/01/2008
Date Data Arrived at EDR: 07/22/2008
Date Made Active in Reports: 07/31/2008
Number of Days to Update: 9

Source: California Regional Water Quality Control Board Central Valley Region (5)
Telephone: 916-464-4834
Last EDR Contact: 07/01/2011
Next Scheduled EDR Contact: 10/17/2011
Data Release Frequency: No Update Planned

LUST REG 1: Active Toxic Site Investigation
Del Norte, Humboldt, Lake, Mendocino, Modoc, Siskiyou, Sonoma, Trinity counties. For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 02/01/2001
Date Data Arrived at EDR: 02/28/2001
Date Made Active in Reports: 03/29/2001
Number of Days to Update: 29

Source: California Regional Water Quality Control Board North Coast (1)
Telephone: 707-570-3769
Last EDR Contact: 08/01/2011
Next Scheduled EDR Contact: 11/14/2011
Data Release Frequency: No Update Planned

LUST REG 6V: Leaking Underground Storage Tank Case Listing
Leaking Underground Storage Tank locations. Inyo, Kern, Los Angeles, Mono, San Bernardino counties.

Date of Government Version: 06/07/2005
Date Data Arrived at EDR: 06/07/2005
Date Made Active in Reports: 06/29/2005
Number of Days to Update: 22

Source: California Regional Water Quality Control Board Victorville Branch Office (6)
Telephone: 760-241-7365
Last EDR Contact: 09/12/2011
Next Scheduled EDR Contact: 12/26/2011
Data Release Frequency: No Update Planned

LUST REG 6L: Leaking Underground Storage Tank Case Listing
For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 09/09/2003
Date Data Arrived at EDR: 09/10/2003
Date Made Active in Reports: 10/07/2003
Number of Days to Update: 27

Source: California Regional Water Quality Control Board Lahontan Region (6)
Telephone: 530-542-5572
Last EDR Contact: 09/12/2011
Next Scheduled EDR Contact: 12/26/2011
Data Release Frequency: No Update Planned

LUST: Leaking Underground Fuel Tank Report (GEOTRACKER)
Leaking Underground Storage Tank (LUST) Sites included in GeoTracker. GeoTracker is the Water Boards data management system for sites that impact, or have the potential to impact, water quality in California, with emphasis on groundwater.

Date of Government Version: 06/10/2019
Date Data Arrived at EDR: 06/11/2019
Date Made Active in Reports: 08/05/2019
Number of Days to Update: 55

Source: State Water Resources Control Board
Telephone: see region list
Last EDR Contact: 09/09/2019
Next Scheduled EDR Contact: 12/23/2019
Data Release Frequency: Quarterly

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

LUST REG 2: Fuel Leak List
Leaking Underground Storage Tank locations. Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, Santa Clara, Solano, Sonoma counties.

Date of Government Version: 09/30/2004
Date Data Arrived at EDR: 10/20/2004
Date Made Active in Reports: 11/19/2004
Number of Days to Update: 30

Source: California Regional Water Quality Control Board San Francisco Bay Region (2)
Telephone: 510-622-2433
Last EDR Contact: 09/19/2011
Next Scheduled EDR Contact: 01/02/2012
Data Release Frequency: No Update Planned

LUST REG 8: Leaking Underground Storage Tanks
California Regional Water Quality Control Board Santa Ana Region (8). For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 02/14/2005
Date Data Arrived at EDR: 02/15/2005
Date Made Active in Reports: 03/28/2005
Number of Days to Update: 41

Source: California Regional Water Quality Control Board Santa Ana Region (8)
Telephone: 909-782-4496
Last EDR Contact: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: No Update Planned

LUST REG 4: Underground Storage Tank Leak List
Los Angeles, Ventura counties. For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 09/07/2004
Date Data Arrived at EDR: 09/07/2004
Date Made Active in Reports: 10/12/2004
Number of Days to Update: 35

Source: California Regional Water Quality Control Board Los Angeles Region (4)
Telephone: 213-576-6710
Last EDR Contact: 09/06/2011
Next Scheduled EDR Contact: 12/19/2011
Data Release Frequency: No Update Planned

LUST REG 3: Leaking Underground Storage Tank Database
Leaking Underground Storage Tank locations. Monterey, San Benito, San Luis Obispo, Santa Barbara, Santa Cruz counties.

Date of Government Version: 05/19/2003
Date Data Arrived at EDR: 05/19/2003
Date Made Active in Reports: 06/02/2003
Number of Days to Update: 14

Source: California Regional Water Quality Control Board Central Coast Region (3)
Telephone: 805-542-4786
Last EDR Contact: 07/18/2011
Next Scheduled EDR Contact: 10/31/2011
Data Release Frequency: No Update Planned

LUST REG 7: Leaking Underground Storage Tank Case Listing
Leaking Underground Storage Tank locations. Imperial, Riverside, San Diego, Santa Barbara counties.

Date of Government Version: 02/26/2004
Date Data Arrived at EDR: 02/26/2004
Date Made Active in Reports: 03/24/2004
Number of Days to Update: 27

Source: California Regional Water Quality Control Board Colorado River Basin Region (7
Telephone: 760-776-8943
Last EDR Contact: 08/01/2011
Next Scheduled EDR Contact: 11/14/2011
Data Release Frequency: No Update Planned

INDIAN LUST R5: Leaking Underground Storage Tanks on Indian Land
Leaking underground storage tanks located on Indian Land in Michigan, Minnesota and Wisconsin.

Date of Government Version: 04/08/2019
Date Data Arrived at EDR: 07/30/2019
Date Made Active in Reports: 10/17/2019
Number of Days to Update: 79

Source: EPA, Region 5
Telephone: 312-886-7439
Last EDR Contact: 07/29/2019
Next Scheduled EDR Contact: 11/04/2019
Data Release Frequency: Varies

INDIAN LUST R4: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Florida, Mississippi and North Carolina.

Date of Government Version: 04/12/2019
Date Data Arrived at EDR: 07/29/2019
Date Made Active in Reports: 10/17/2019
Number of Days to Update: 80

Source: EPA Region 4
Telephone: 404-562-8677
Last EDR Contact: 07/23/2019
Next Scheduled EDR Contact: 11/04/2019
Data Release Frequency: Varies

INDIAN LUST R8: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Colorado, Montana, North Dakota, South Dakota, Utah and Wyoming.

Date of Government Version: 10/16/2018
Date Data Arrived at EDR: 03/07/2019
Date Made Active in Reports: 05/01/2019
Number of Days to Update: 55

Source: EPA Region 8
Telephone: 303-312-6271
Last EDR Contact: 07/29/2019
Next Scheduled EDR Contact: 11/04/2019
Data Release Frequency: Varies

INDIAN LUST R6: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in New Mexico and Oklahoma.

Date of Government Version: 05/01/2019
Date Data Arrived at EDR: 07/29/2019
Date Made Active in Reports: 10/17/2019
Number of Days to Update: 80

Source: EPA Region 6
Telephone: 214-665-6597
Last EDR Contact: 07/29/2019
Next Scheduled EDR Contact: 11/04/2019
Data Release Frequency: Varies

INDIAN LUST R7: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Iowa, Kansas, and Nebraska

Date of Government Version: 07/02/2019
Date Data Arrived at EDR: 10/16/2019
Date Made Active in Reports: 10/24/2019
Number of Days to Update: 8

Source: EPA Region 7
Telephone: 913-551-7003
Last EDR Contact: 10/16/2019
Next Scheduled EDR Contact: 11/04/2019
Data Release Frequency: Varies

INDIAN LUST R9: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Arizona, California, New Mexico and Nevada

Date of Government Version: 04/08/2019
Date Data Arrived at EDR: 07/29/2019
Date Made Active in Reports: 10/17/2019
Number of Days to Update: 80

Source: Environmental Protection Agency
Telephone: 415-972-3372
Last EDR Contact: 07/29/2019
Next Scheduled EDR Contact: 11/04/2019
Data Release Frequency: Varies

INDIAN LUST R10: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Alaska, Idaho, Oregon and Washington.

Date of Government Version: 04/16/2019
Date Data Arrived at EDR: 07/29/2019
Date Made Active in Reports: 10/17/2019
Number of Days to Update: 80

Source: EPA Region 10
Telephone: 206-553-2857
Last EDR Contact: 07/29/2019
Next Scheduled EDR Contact: 11/04/2019
Data Release Frequency: Varies

INDIAN LUST R1: Leaking Underground Storage Tanks on Indian Land
A listing of leaking underground storage tank locations on Indian Land.

Date of Government Version: 04/11/2019
Date Data Arrived at EDR: 07/29/2019
Date Made Active in Reports: 10/17/2019
Number of Days to Update: 80

Source: EPA Region 1
Telephone: 617-918-1313
Last EDR Contact: 07/29/2019
Next Scheduled EDR Contact: 11/04/2019
Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

CPS-SLIC: Statewide SLIC Cases (GEOTRACKER)
Cleanup Program Sites (CPS; also known as Site Cleanups [SC] and formerly known as Spills, Leaks, Investigations, and Cleanups [SLIC] sites) included in GeoTracker. GeoTracker is the Water Boards data management system for sites that impact, or have the potential to impact, water quality in California, with emphasis on groundwater.

Date of Government Version: 06/10/2019
Date Data Arrived at EDR: 06/11/2019
Date Made Active in Reports: 08/05/2019
Number of Days to Update: 55
Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 09/09/2019
Next Scheduled EDR Contact: 12/23/2019
Data Release Frequency: Varies

SLIC REG 1: Active Toxic Site Investigations
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 04/03/2003
Date Data Arrived at EDR: 04/07/2003
Date Made Active in Reports: 04/25/2003
Number of Days to Update: 18
Source: California Regional Water Quality Control Board, North Coast Region (1)
Telephone: 707-576-2220
Last EDR Contact: 08/01/2011
Next Scheduled EDR Contact: 11/14/2011
Data Release Frequency: No Update Planned

SLIC REG 2: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 09/30/2004
Date Data Arrived at EDR: 10/20/2004
Date Made Active in Reports: 11/19/2004
Number of Days to Update: 30
Source: Regional Water Quality Control Board San Francisco Bay Region (2)
Telephone: 510-286-0457
Last EDR Contact: 09/19/2011
Next Scheduled EDR Contact: 01/02/2012
Data Release Frequency: No Update Planned

SLIC REG 3: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 05/18/2006
Date Data Arrived at EDR: 05/18/2006
Date Made Active in Reports: 06/15/2006
Number of Days to Update: 28
Source: California Regional Water Quality Control Board Central Coast Region (3)
Telephone: 805-549-3147
Last EDR Contact: 07/18/2011
Next Scheduled EDR Contact: 10/31/2011
Data Release Frequency: No Update Planned

SLIC REG 4: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 11/17/2004
Date Data Arrived at EDR: 11/18/2004
Date Made Active in Reports: 01/04/2005
Number of Days to Update: 47
Source: Region Water Quality Control Board Los Angeles Region (4)
Telephone: 213-576-6600
Last EDR Contact: 07/01/2011
Next Scheduled EDR Contact: 10/17/2011
Data Release Frequency: No Update Planned

SLIC REG 5: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 04/01/2005
Date Data Arrived at EDR: 04/05/2005
Date Made Active in Reports: 04/21/2005
Number of Days to Update: 16
Source: Regional Water Quality Control Board Central Valley Region (5)
Telephone: 916-464-3291
Last EDR Contact: 09/12/2011
Next Scheduled EDR Contact: 12/26/2011
Data Release Frequency: No Update Planned

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

SLIC REG 6V: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 05/24/2005
Date Data Arrived at EDR: 05/25/2005
Date Made Active in Reports: 06/16/2005
Number of Days to Update: 22

Source: Regional Water Quality Control Board, Victorville Branch
Telephone: 619-241-6583
Last EDR Contact: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: No Update Planned

SLIC REG 6L: SLIC Sites
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 09/07/2004
Date Data Arrived at EDR: 09/07/2004
Date Made Active in Reports: 10/12/2004
Number of Days to Update: 35

Source: California Regional Water Quality Control Board, Lahontan Region
Telephone: 530-542-5574
Last EDR Contact: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: No Update Planned

SLIC REG 7: SLIC List
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 11/24/2004
Date Data Arrived at EDR: 11/29/2004
Date Made Active in Reports: 01/04/2005
Number of Days to Update: 36

Source: California Regional Quality Control Board, Colorado River Basin Region
Telephone: 760-346-7491
Last EDR Contact: 08/01/2011
Next Scheduled EDR Contact: 11/14/2011
Data Release Frequency: No Update Planned

SLIC REG 8: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 04/03/2008
Date Data Arrived at EDR: 04/03/2008
Date Made Active in Reports: 04/14/2008
Number of Days to Update: 11

Source: California Region Water Quality Control Board Santa Ana Region (8)
Telephone: 951-782-3298
Last EDR Contact: 09/12/2011
Next Scheduled EDR Contact: 12/26/2011
Data Release Frequency: No Update Planned

SLIC REG 9: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 09/10/2007
Date Data Arrived at EDR: 09/11/2007
Date Made Active in Reports: 09/28/2007
Number of Days to Update: 17

Source: California Regional Water Quality Control Board San Diego Region (9)
Telephone: 858-467-2980
Last EDR Contact: 08/08/2011
Next Scheduled EDR Contact: 11/21/2011
Data Release Frequency: No Update Planned

State and tribal registered storage tank lists

FEMA UST: Underground Storage Tank Listing
A listing of all FEMA owned underground storage tanks.

Date of Government Version: 05/15/2017
Date Data Arrived at EDR: 05/30/2017
Date Made Active in Reports: 10/13/2017
Number of Days to Update: 136

Source: FEMA
Telephone: 202-646-5797
Last EDR Contact: 10/11/2019
Next Scheduled EDR Contact: 01/20/2020
Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

MILITARY UST SITES: Military UST Sites (GEOTRACKER)
Military ust sites

Date of Government Version: 06/10/2019
Date Data Arrived at EDR: 06/11/2019
Date Made Active in Reports: 07/24/2019
Number of Days to Update: 43

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 09/09/2019
Next Scheduled EDR Contact: 12/23/2019
Data Release Frequency: Varies

UST: Active UST Facilities
Active UST facilities gathered from the local regulatory agencies

Date of Government Version: 06/10/2019
Date Data Arrived at EDR: 06/11/2019
Date Made Active in Reports: 07/23/2019
Number of Days to Update: 42

Source: SWRCB
Telephone: 916-341-5851
Last EDR Contact: 09/09/2019
Next Scheduled EDR Contact: 12/23/2019
Data Release Frequency: Semi-Annually

UST CLOSURE: Proposed Closure of Underground Storage Tank (UST) Cases
UST cases that are being considered for closure by either the State Water Resources Control Board or the Executive Director have been posted for a 60-day public comment period. UST Case Closures being proposed for consideration by the State Water Resources Control Board. These are primarily UST cases that meet closure criteria under the decisional framework in State Water Board Resolution No. 92-49 and other Board orders. UST Case Closures proposed for consideration by the Executive Director pursuant to State Water Board Resolution No. 2012-0061. These are cases that meet the criteria of the Low-Threat UST Case Closure Policy. UST Case Closure Review Denials and Approved Orders.

Date of Government Version: 06/10/2019
Date Data Arrived at EDR: 06/12/2019
Date Made Active in Reports: 07/23/2019
Number of Days to Update: 41

Source: State Water Resources Control Board
Telephone: 916-327-7844
Last EDR Contact: 09/09/2019
Next Scheduled EDR Contact: 12/23/2019
Data Release Frequency: Varies

AST: Aboveground Petroleum Storage Tank Facilities
A listing of aboveground storage tank petroleum storage tank locations.

Date of Government Version: 07/06/2016
Date Data Arrived at EDR: 07/12/2016
Date Made Active in Reports: 09/19/2016
Number of Days to Update: 69

Source: California Environmental Protection Agency
Telephone: 916-327-5092
Last EDR Contact: 09/12/2019
Next Scheduled EDR Contact: 12/30/2019
Data Release Frequency: Varies

INDIAN UST R5: Underground Storage Tanks on Indian Land
The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 5 (Michigan, Minnesota and Wisconsin and Tribal Nations).

Date of Government Version: 04/08/2019
Date Data Arrived at EDR: 07/29/2019
Date Made Active in Reports: 10/17/2019
Number of Days to Update: 80

Source: EPA Region 5
Telephone: 312-886-6136
Last EDR Contact: 07/29/2019
Next Scheduled EDR Contact: 11/05/2019
Data Release Frequency: Varies

INDIAN UST R7: Underground Storage Tanks on Indian Land
The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 7 (Iowa, Kansas, Missouri, Nebraska, and 9 Tribal Nations).

Date of Government Version: 05/02/2019
Date Data Arrived at EDR: 07/29/2019
Date Made Active in Reports: 10/17/2019
Number of Days to Update: 80

Source: EPA Region 7
Telephone: 913-551-7003
Last EDR Contact: 07/29/2019
Next Scheduled EDR Contact: 11/04/2019
Data Release Frequency: Varies

INDIAN UST R10: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 10 (Alaska, Idaho, Oregon, Washington, and Tribal Nations).

Date of Government Version: 04/16/2019
Date Data Arrived at EDR: 07/30/2019
Date Made Active in Reports: 10/17/2019
Number of Days to Update: 79

Source: EPA Region 10
Telephone: 206-553-2857
Last EDR Contact: 07/29/2019
Next Scheduled EDR Contact: 11/04/2019
Data Release Frequency: Varies

INDIAN UST R9: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 9 (Arizona, California, Hawaii, Nevada, the Pacific Islands, and Tribal Nations).

Date of Government Version: 04/08/2019
Date Data Arrived at EDR: 07/29/2019
Date Made Active in Reports: 10/17/2019
Number of Days to Update: 80

Source: EPA Region 9
Telephone: 415-972-3368
Last EDR Contact: 07/29/2019
Next Scheduled EDR Contact: 11/04/2019
Data Release Frequency: Varies

INDIAN UST R8: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 8 (Colorado, Montana, North Dakota, South Dakota, Utah, Wyoming and 27 Tribal Nations).

Date of Government Version: 10/16/2018
Date Data Arrived at EDR: 03/07/2019
Date Made Active in Reports: 05/01/2019
Number of Days to Update: 55

Source: EPA Region 8
Telephone: 303-312-6137
Last EDR Contact: 08/05/2019
Next Scheduled EDR Contact: 11/04/2019
Data Release Frequency: Varies

INDIAN UST R6: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 6 (Louisiana, Arkansas, Oklahoma, New Mexico, Texas and 65 Tribes).

Date of Government Version: 05/01/2019
Date Data Arrived at EDR: 07/29/2019
Date Made Active in Reports: 10/17/2019
Number of Days to Update: 80

Source: EPA Region 6
Telephone: 214-665-7591
Last EDR Contact: 07/29/2019
Next Scheduled EDR Contact: 11/04/2019
Data Release Frequency: Varies

INDIAN UST R4: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 4 (Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee and Tribal Nations)

Date of Government Version: 04/12/2019
Date Data Arrived at EDR: 07/29/2019
Date Made Active in Reports: 10/17/2019
Number of Days to Update: 80

Source: EPA Region 4
Telephone: 404-562-9424
Last EDR Contact: 07/23/2019
Next Scheduled EDR Contact: 11/04/2019
Data Release Frequency: Varies

INDIAN UST R1: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 1 (Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont and ten Tribal Nations).

Date of Government Version: 04/11/2019
Date Data Arrived at EDR: 07/30/2019
Date Made Active in Reports: 10/17/2019
Number of Days to Update: 79

Source: EPA, Region 1
Telephone: 617-918-1313
Last EDR Contact: 07/29/2019
Next Scheduled EDR Contact: 11/04/2019
Data Release Frequency: Varies

State and tribal voluntary cleanup sites

VCP: Voluntary Cleanup Program Properties

Contains low threat level properties with either confirmed or unconfirmed releases and the project proponents have request that DTSC oversee investigation and/or cleanup activities and have agreed to provide coverage for DTSC's costs.

Date of Government Version: 07/29/2019
Date Data Arrived at EDR: 07/31/2019
Date Made Active in Reports: 10/08/2019
Number of Days to Update: 69

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 07/31/2019
Next Scheduled EDR Contact: 11/11/2019
Data Release Frequency: Quarterly

INDIAN VCP R7: Voluntary Cleanup Priority Lisitng

A listing of voluntary cleanup priority sites located on Indian Land located in Region 7.

Date of Government Version: 03/20/2008
Date Data Arrived at EDR: 04/22/2008
Date Made Active in Reports: 05/19/2008
Number of Days to Update: 27

Source: EPA, Region 7
Telephone: 913-551-7365
Last EDR Contact: 04/20/2009
Next Scheduled EDR Contact: 07/20/2009
Data Release Frequency: Varies

INDIAN VCP R1: Voluntary Cleanup Priority Listing

A listing of voluntary cleanup priority sites located on Indian Land located in Region 1.

Date of Government Version: 07/27/2015
Date Data Arrived at EDR: 09/29/2015
Date Made Active in Reports: 02/18/2016
Number of Days to Update: 142

Source: EPA, Region 1
Telephone: 617-918-1102
Last EDR Contact: 09/19/2019
Next Scheduled EDR Contact: 01/06/2020
Data Release Frequency: Varies

State and tribal Brownfields sites

BROWNFIELDS: Considered Brownfieds Sites Listing

A listing of sites the SWRCB considers to be Brownfields since these are sites have come to them through the MOA Process.

Date of Government Version: 06/24/2019
Date Data Arrived at EDR: 06/25/2019
Date Made Active in Reports: 08/21/2019
Number of Days to Update: 57

Source: State Water Resources Control Board
Telephone: 916-323-7905
Last EDR Contact: 09/24/2019
Next Scheduled EDR Contact: 01/06/2020
Data Release Frequency: Quarterly

ADDITIONAL ENVIRONMENTAL RECORDS

Local Brownfield lists

US BROWNFIELDS: A Listing of Brownfields Sites

Brownfields are real property, the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant. Cleaning up and reinvesting in these properties takes development pressures off of undeveloped, open land, and both improves and protects the environment. Assessment, Cleanup and Redevelopment Exchange System (ACRES) stores information reported by EPA Brownfields grant recipients on brownfields properties assessed or cleaned up with grant funding as well as information on Targeted Brownfields Assessments performed by EPA Regions. A listing of ACRES Brownfield sites is obtained from Cleanups in My Community. Cleanups in My Community provides information on Brownfields properties for which information is reported back to EPA, as well as areas served by Brownfields grant programs.

Date of Government Version: 06/03/2019
Date Data Arrived at EDR: 06/04/2019
Date Made Active in Reports: 08/26/2019
Number of Days to Update: 83

Source: Environmental Protection Agency
Telephone: 202-566-2777
Last EDR Contact: 09/19/2019
Next Scheduled EDR Contact: 12/30/2019
Data Release Frequency: Semi-Annually

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Local Lists of Landfill / Solid Waste Disposal Sites

WMUDS/SWAT: Waste Management Unit Database

Waste Management Unit Database System. WMUDS is used by the State Water Resources Control Board staff and the Regional Water Quality Control Boards for program tracking and inventory of waste management units. WMUDS is composed of the following databases: Facility Information, Scheduled Inspections Information, Waste Management Unit Information, SWAT Program Information, SWAT Report Summary Information, SWAT Report Summary Data, Chapter 15 (formerly Subchapter 15) Information, Chapter 15 Monitoring Parameters, TPCA Program Information, RCRA Program Information, Closure Information, and Interested Parties Information.

Date of Government Version: 04/01/2000
Date Data Arrived at EDR: 04/10/2000
Date Made Active in Reports: 05/10/2000
Number of Days to Update: 30

Source: State Water Resources Control Board
Telephone: 916-227-4448
Last EDR Contact: 07/25/2019
Next Scheduled EDR Contact: 11/11/2019
Data Release Frequency: No Update Planned

SWRCY: Recycler Database

A listing of recycling facilities in California.

Date of Government Version: 06/11/2019
Date Data Arrived at EDR: 06/12/2019
Date Made Active in Reports: 08/15/2019
Number of Days to Update: 64

Source: Department of Conservation
Telephone: 916-323-3836
Last EDR Contact: 09/09/2019
Next Scheduled EDR Contact: 12/23/2019
Data Release Frequency: Quarterly

HAULERS: Registered Waste Tire Haulers Listing

A listing of registered waste tire haulers.

Date of Government Version: 03/26/2019
Date Data Arrived at EDR: 03/27/2019
Date Made Active in Reports: 04/30/2019
Number of Days to Update: 34

Source: Integrated Waste Management Board
Telephone: 916-341-6422
Last EDR Contact: 08/07/2019
Next Scheduled EDR Contact: 11/25/2019
Data Release Frequency: Varies

INDIAN ODI: Report on the Status of Open Dumps on Indian Lands

Location of open dumps on Indian land.

Date of Government Version: 12/31/1998
Date Data Arrived at EDR: 12/03/2007
Date Made Active in Reports: 01/24/2008
Number of Days to Update: 52

Source: Environmental Protection Agency
Telephone: 703-308-8245
Last EDR Contact: 07/25/2019
Next Scheduled EDR Contact: 11/11/2019
Data Release Frequency: Varies

DEBRIS REGION 9: Torres Martinez Reservation Illegal Dump Site Locations

A listing of illegal dump sites location on the Torres Martinez Indian Reservation located in eastern Riverside County and northern Imperial County, California.

Date of Government Version: 01/12/2009
Date Data Arrived at EDR: 05/07/2009
Date Made Active in Reports: 09/21/2009
Number of Days to Update: 137

Source: EPA, Region 9
Telephone: 415-947-4219
Last EDR Contact: 10/17/2019
Next Scheduled EDR Contact: 02/03/2020
Data Release Frequency: No Update Planned

ODI: Open Dump Inventory

An open dump is defined as a disposal facility that does not comply with one or more of the Part 257 or Part 258 Subtitle D Criteria.

Date of Government Version: 06/30/1985
Date Data Arrived at EDR: 08/09/2004
Date Made Active in Reports: 09/17/2004
Number of Days to Update: 39

Source: Environmental Protection Agency
Telephone: 800-424-9346
Last EDR Contact: 06/09/2004
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

IHS OPEN DUMPS: Open Dumps on Indian Land

A listing of all open dumps located on Indian Land in the United States.

Date of Government Version: 04/01/2014
Date Data Arrived at EDR: 08/06/2014
Date Made Active in Reports: 01/29/2015
Number of Days to Update: 176

Source: Department of Health & Human Serivces, Indian Health Service
Telephone: 301-443-1452
Last EDR Contact: 08/02/2019
Next Scheduled EDR Contact: 11/11/2019
Data Release Frequency: Varies

Local Lists of Hazardous waste / Contaminated Sites

US HIST CDL: National Clandestine Laboratory Register

A listing of clandestine drug lab locations that have been removed from the DEAs National Clandestine Laboratory Register.

Date of Government Version: 06/11/2019
Date Data Arrived at EDR: 06/13/2019
Date Made Active in Reports: 09/03/2019
Number of Days to Update: 82

Source: Drug Enforcement Administration
Telephone: 202-307-1000
Last EDR Contact: 08/21/2019
Next Scheduled EDR Contact: 12/09/2019
Data Release Frequency: No Update Planned

HIST CAL-SITES: Calsites Database

The Calsites database contains potential or confirmed hazardous substance release properties. In 1996, California EPA reevaluated and significantly reduced the number of sites in the Calsites database. No longer updated by the state agency. It has been replaced by ENVIROSTOR.

Date of Government Version: 08/08/2005
Date Data Arrived at EDR: 08/03/2006
Date Made Active in Reports: 08/24/2006
Number of Days to Update: 21

Source: Department of Toxic Substance Control
Telephone: 916-323-3400
Last EDR Contact: 02/23/2009
Next Scheduled EDR Contact: 05/25/2009
Data Release Frequency: No Update Planned

SCH: School Property Evaluation Program

This category contains proposed and existing school sites that are being evaluated by DTSC for possible hazardous materials contamination. In some cases, these properties may be listed in the CalSites category depending on the level of threat to public health and safety or the environment they pose.

Date of Government Version: 07/29/2019
Date Data Arrived at EDR: 07/31/2019
Date Made Active in Reports: 10/08/2019
Number of Days to Update: 69

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 07/31/2019
Next Scheduled EDR Contact: 11/11/2019
Data Release Frequency: Quarterly

CDL: Clandestine Drug Labs

A listing of drug lab locations. Listing of a location in this database does not indicate that any illegal drug lab materials were or were not present there, and does not constitute a determination that the location either requires or does not require additional cleanup work.

Date of Government Version: 06/30/2018
Date Data Arrived at EDR: 07/16/2019
Date Made Active in Reports: 09/24/2019
Number of Days to Update: 70

Source: Department of Toxic Substances Control
Telephone: 916-255-6504
Last EDR Contact: 09/24/2019
Next Scheduled EDR Contact: 01/20/2020
Data Release Frequency: Varies

TOXIC PITS: Toxic Pits Cleanup Act Sites

Toxic PITS Cleanup Act Sites. TOXIC PITS identifies sites suspected of containing hazardous substances where cleanup has not yet been completed.

Date of Government Version: 07/01/1995
Date Data Arrived at EDR: 08/30/1995
Date Made Active in Reports: 09/26/1995
Number of Days to Update: 27

Source: State Water Resources Control Board
Telephone: 916-227-4364
Last EDR Contact: 01/26/2009
Next Scheduled EDR Contact: 04/27/2009
Data Release Frequency: No Update Planned

CERS HAZ WASTE: CERS HAZ WASTE

List of sites in the California Environmental Protection Agency (CalEPA) Regulated Site Portal which fall under the Hazardous Chemical Management, Hazardous Waste Onsite Treatment, Household Hazardous Waste Collection, Hazardous Waste Generator, and RCRA LQ HW Generator programs.

Date of Government Version: 08/14/2019
Date Data Arrived at EDR: 08/14/2019
Date Made Active in Reports: 08/21/2019
Number of Days to Update: 7

Source: CalEPA
Telephone: 916-323-2514
Last EDR Contact: 10/22/2019
Next Scheduled EDR Contact: 02/03/2020
Data Release Frequency: Quarterly

US CDL: Clandestine Drug Labs

A listing of clandestine drug lab locations. The U.S. Department of Justice ("the Department") provides this web site as a public service. It contains addresses of some locations where law enforcement agencies reported they found chemicals or other items that indicated the presence of either clandestine drug laboratories or dumpsites. In most cases, the source of the entries is not the Department, and the Department has not verified the entry and does not guarantee its accuracy. Members of the public must verify the accuracy of all entries by, for example, contacting local law enforcement and local health departments.

Date of Government Version: 06/11/2019
Date Data Arrived at EDR: 06/13/2019
Date Made Active in Reports: 09/03/2019
Number of Days to Update: 82

Source: Drug Enforcement Administration
Telephone: 202-307-1000
Last EDR Contact: 08/21/2019
Next Scheduled EDR Contact: 12/09/2019
Data Release Frequency: Quarterly

PFAS: PFAS Contamination Site Location Listing

A listing of PFAS contaminated sites included in the GeoTracker database.

Date of Government Version: 06/28/2019
Date Data Arrived at EDR: 06/28/2019
Date Made Active in Reports: 07/24/2019
Number of Days to Update: 26

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 09/09/2019
Next Scheduled EDR Contact: 12/23/2019
Data Release Frequency: Varies

Local Lists of Registered Storage Tanks

SWEEPS UST: SWEEPS UST Listing

Statewide Environmental Evaluation and Planning System. This underground storage tank listing was updated and maintained by a company contacted by the SWRCB in the early 1990's. The listing is no longer updated or maintained. The local agency is the contact for more information on a site on the SWEEPS list.

Date of Government Version: 06/01/1994
Date Data Arrived at EDR: 07/07/2005
Date Made Active in Reports: 08/11/2005
Number of Days to Update: 35

Source: State Water Resources Control Board
Telephone: N/A
Last EDR Contact: 06/03/2005
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

UST MENDOCINO: Mendocino County UST Database

A listing of underground storage tank locations in Mendocino County.

Date of Government Version: 12/04/2018
Date Data Arrived at EDR: 12/06/2018
Date Made Active in Reports: 12/14/2018
Number of Days to Update: 8

Source: Department of Public Health
Telephone: 707-463-4466
Last EDR Contact: 08/21/2019
Next Scheduled EDR Contact: 12/09/2019
Data Release Frequency: Annually

HIST UST: Hazardous Substance Storage Container Database

The Hazardous Substance Storage Container Database is a historical listing of UST sites. Refer to local/county source for current data.

Date of Government Version: 10/15/1990
Date Data Arrived at EDR: 01/25/1991
Date Made Active in Reports: 02/12/1991
Number of Days to Update: 18

Source: State Water Resources Control Board
Telephone: 916-341-5851
Last EDR Contact: 07/26/2001
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

SAN FRANCISCO AST: Aboveground Storage Tank Site Listing
Aboveground storage tank sites

Date of Government Version: 08/01/2019
Date Data Arrived at EDR: 08/02/2019
Date Made Active in Reports: 10/11/2019
Number of Days to Update: 70

Source: San Francisco County Department of Public Health
Telephone: 415-252-3896
Last EDR Contact: 07/31/2019
Next Scheduled EDR Contact: 11/18/2019
Data Release Frequency: Varies

CERS TANKS: California Environmental Reporting System (CERS) Tanks
List of sites in the California Environmental Protection Agency (CalEPA) Regulated Site Portal which fall under the Aboveground Petroleum Storage and Underground Storage Tank regulatory programs.

Date of Government Version: 08/14/2019
Date Data Arrived at EDR: 08/14/2019
Date Made Active in Reports: 08/21/2019
Number of Days to Update: 7

Source: California Environmental Protection Agency
Telephone: 916-323-2514
Last EDR Contact: 10/22/2019
Next Scheduled EDR Contact: 02/03/2020
Data Release Frequency: Quarterly

CA FID UST: Facility Inventory Database
The Facility Inventory Database (FID) contains a historical listing of active and inactive underground storage tank locations from the State Water Resource Control Board. Refer to local/county source for current data.

Date of Government Version: 10/31/1994
Date Data Arrived at EDR: 09/05/1995
Date Made Active in Reports: 09/29/1995
Number of Days to Update: 24

Source: California Environmental Protection Agency
Telephone: 916-341-5851
Last EDR Contact: 12/28/1998
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

Local Land Records

LIENS: Environmental Liens Listing
A listing of property locations with environmental liens for California where DTSC is a lien holder.

Date of Government Version: 06/05/2019
Date Data Arrived at EDR: 06/06/2019
Date Made Active in Reports: 08/09/2019
Number of Days to Update: 64

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 08/28/2019
Next Scheduled EDR Contact: 12/16/2019
Data Release Frequency: Varies

LIENS 2: CERCLA Lien Information
A Federal CERCLA ('Superfund') lien can exist by operation of law at any site or property at which EPA has spent Superfund monies. These monies are spent to investigate and address releases and threatened releases of contamination. CERCLIS provides information as to the identity of these sites and properties.

Date of Government Version: 07/30/2019
Date Data Arrived at EDR: 07/30/2019
Date Made Active in Reports: 09/03/2019
Number of Days to Update: 35

Source: Environmental Protection Agency
Telephone: 202-564-6023
Last EDR Contact: 10/02/2019
Next Scheduled EDR Contact: 01/13/2020
Data Release Frequency: Semi-Annually

DEED: Deed Restriction Listing

Site Mitigation and Brownfields Reuse Program Facility Sites with Deed Restrictions & Hazardous Waste Management Program Facility Sites with Deed / Land Use Restriction. The DTSC Site Mitigation and Brownfields Reuse Program (SMBRP) list includes sites cleaned up under the program's oversight and generally does not include current or former hazardous waste facilities that required a hazardous waste facility permit. The list represents deed restrictions that are active. Some sites have multiple deed restrictions. The DTSC Hazardous Waste Management Program (HWMP) has developed a list of current or former hazardous waste facilities that have a recorded land use restriction at the local county recorder's office. The land use restrictions on this list were required by the DTSC HWMP as a result of the presence of hazardous substances that remain on site after the facility (or part of the facility) has been closed or cleaned up. The types of land use restriction include deed notice, deed restriction, or a land use restriction that binds current and future owners.

Date of Government Version: 06/04/2019
Date Data Arrived at EDR: 06/04/2019
Date Made Active in Reports: 08/08/2019
Number of Days to Update: 65

Source: DTSC and SWRCB
Telephone: 916-323-3400
Last EDR Contact: 09/04/2019
Next Scheduled EDR Contact: 12/16/2019
Data Release Frequency: Semi-Annually

Records of Emergency Release Reports

HMIRS: Hazardous Materials Information Reporting System

Hazardous Materials Incident Report System. HMIRS contains hazardous material spill incidents reported to DOT.

Date of Government Version: 06/24/2019
Date Data Arrived at EDR: 06/26/2019
Date Made Active in Reports: 09/23/2019
Number of Days to Update: 89

Source: U.S. Department of Transportation
Telephone: 202-366-4555
Last EDR Contact: 09/24/2019
Next Scheduled EDR Contact: 01/06/2020
Data Release Frequency: Quarterly

CHMIRS: California Hazardous Material Incident Report System

California Hazardous Material Incident Reporting System. CHMIRS contains information on reported hazardous material incidents (accidental releases or spills).

Date of Government Version: 05/15/2019
Date Data Arrived at EDR: 06/24/2019
Date Made Active in Reports: 08/21/2019
Number of Days to Update: 58

Source: Office of Emergency Services
Telephone: 916-845-8400
Last EDR Contact: 07/26/2019
Next Scheduled EDR Contact: 11/04/2019
Data Release Frequency: Semi-Annually

LDS: Land Disposal Sites Listing (GEOTRACKER)

Land Disposal sites (Landfills) included in GeoTracker. GeoTracker is the Water Boards data management system for sites that impact, or have the potential to impact, water quality in California, with emphasis on groundwater.

Date of Government Version: 06/10/2019
Date Data Arrived at EDR: 06/11/2019
Date Made Active in Reports: 08/05/2019
Number of Days to Update: 55

Source: State Water Qualilty Control Board
Telephone: 866-480-1028
Last EDR Contact: 09/09/2019
Next Scheduled EDR Contact: 12/23/2019
Data Release Frequency: Quarterly

MCS: Military Cleanup Sites Listing (GEOTRACKER)

Military sites (consisting of: Military UST sites; Military Privatized sites; and Military Cleanup sites [formerly known as DoD non UST]) included in GeoTracker. GeoTracker is the Water Boards data management system for sites that impact, or have the potential to impact, water quality in California, with emphasis on groundwater.

Date of Government Version: 06/10/2019
Date Data Arrived at EDR: 06/11/2019
Date Made Active in Reports: 07/24/2019
Number of Days to Update: 43

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 09/09/2019
Next Scheduled EDR Contact: 12/23/2019
Data Release Frequency: Quarterly

SPILLS 90: SPILLS90 data from FirstSearch

Spills 90 includes those spill and release records available exclusively from FirstSearch databases. Typically, they may include chemical, oil and/or hazardous substance spills recorded after 1990. Duplicate records that are already included in EDR incident and release records are not included in Spills 90.

Date of Government Version: 06/06/2012
Date Data Arrived at EDR: 01/03/2013
Date Made Active in Reports: 02/22/2013
Number of Days to Update: 50

Source: FirstSearch
Telephone: N/A
Last EDR Contact: 01/03/2013
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

Other Ascertainable Records

RCRA NonGen / NLR: RCRA - Non Generators / No Longer Regulated

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Non-Generators do not presently generate hazardous waste.

Date of Government Version: 06/24/2019
Date Data Arrived at EDR: 06/26/2019
Date Made Active in Reports: 10/17/2019
Number of Days to Update: 113

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 09/16/2019
Next Scheduled EDR Contact: 01/06/2020
Data Release Frequency: Quarterly

FUDS: Formerly Used Defense Sites

The listing includes locations of Formerly Used Defense Sites properties where the US Army Corps of Engineers is actively working or will take necessary cleanup actions.

Date of Government Version: 05/15/2019
Date Data Arrived at EDR: 05/21/2019
Date Made Active in Reports: 08/08/2019
Number of Days to Update: 79

Source: U.S. Army Corps of Engineers
Telephone: 202-528-4285
Last EDR Contact: 08/23/2019
Next Scheduled EDR Contact: 12/02/2019
Data Release Frequency: Varies

DOD: Department of Defense Sites

This data set consists of federally owned or administered lands, administered by the Department of Defense, that have any area equal to or greater than 640 acres of the United States, Puerto Rico, and the U.S. Virgin Islands.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 11/10/2006
Date Made Active in Reports: 01/11/2007
Number of Days to Update: 62

Source: USGS
Telephone: 888-275-8747
Last EDR Contact: 10/11/2019
Next Scheduled EDR Contact: 01/20/2020
Data Release Frequency: Semi-Annually

FEDLAND: Federal and Indian Lands

Federally and Indian administrated lands of the United States. Lands included are administrated by: Army Corps of Engineers, Bureau of Reclamation, National Wild and Scenic River, National Wildlife Refuge, Public Domain Land, Wilderness, Wilderness Study Area, Wildlife Management Area, Bureau of Indian Affairs, Bureau of Land Management, Department of Justice, Forest Service, Fish and Wildlife Service, National Park Service.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 02/06/2006
Date Made Active in Reports: 01/11/2007
Number of Days to Update: 339

Source: U.S. Geological Survey
Telephone: 888-275-8747
Last EDR Contact: 10/07/2019
Next Scheduled EDR Contact: 01/20/2020
Data Release Frequency: N/A

SCRD DRYCLEANERS: State Coalition for Remediation of Drycleaners Listing

The State Coalition for Remediation of Drycleaners was established in 1998, with support from the U.S. EPA Office of Superfund Remediation and Technology Innovation. It is comprised of representatives of states with established drycleaner remediation programs. Currently the member states are Alabama, Connecticut, Florida, Illinois, Kansas, Minnesota, Missouri, North Carolina, Oregon, South Carolina, Tennessee, Texas, and Wisconsin.

Date of Government Version: 01/01/2017
Date Data Arrived at EDR: 02/03/2017
Date Made Active in Reports: 04/07/2017
Number of Days to Update: 63

Source: Environmental Protection Agency
Telephone: 615-532-8599
Last EDR Contact: 08/16/2019
Next Scheduled EDR Contact: 11/25/2019
Data Release Frequency: Varies

US FIN ASSUR: Financial Assurance Information

All owners and operators of facilities that treat, store, or dispose of hazardous waste are required to provide proof that they will have sufficient funds to pay for the clean up, closure, and post-closure care of their facilities.

Date of Government Version: 06/24/2019
Date Data Arrived at EDR: 06/26/2019
Date Made Active in Reports: 09/23/2019
Number of Days to Update: 89

Source: Environmental Protection Agency
Telephone: 202-566-1917
Last EDR Contact: 09/24/2019
Next Scheduled EDR Contact: 01/06/2020
Data Release Frequency: Quarterly

EPA WATCH LIST: EPA WATCH LIST

EPA maintains a "Watch List" to facilitate dialogue between EPA, state and local environmental agencies on enforcement matters relating to facilities with alleged violations identified as either significant or high priority. Being on the Watch List does not mean that the facility has actually violated the law only that an investigation by EPA or a state or local environmental agency has led those organizations to allege that an unproven violation has in fact occurred. Being on the Watch List does not represent a higher level of concern regarding the alleged violations that were detected, but instead indicates cases requiring additional dialogue between EPA, state and local agencies - primarily because of the length of time the alleged violation has gone unaddressed or unresolved.

Date of Government Version: 08/30/2013
Date Data Arrived at EDR: 03/21/2014
Date Made Active in Reports: 06/17/2014
Number of Days to Update: 88

Source: Environmental Protection Agency
Telephone: 617-520-3000
Last EDR Contact: 08/05/2019
Next Scheduled EDR Contact: 11/18/2019
Data Release Frequency: Quarterly

2020 COR ACTION: 2020 Corrective Action Program List

The EPA has set ambitious goals for the RCRA Corrective Action program by creating the 2020 Corrective Action Universe. This RCRA cleanup baseline includes facilities expected to need corrective action. The 2020 universe contains a wide variety of sites. Some properties are heavily contaminated while others were contaminated but have since been cleaned up. Still others have not been fully investigated yet, and may require little or no remediation. Inclusion in the 2020 Universe does not necessarily imply failure on the part of a facility to meet its RCRA obligations.

Date of Government Version: 09/30/2017
Date Data Arrived at EDR: 05/08/2018
Date Made Active in Reports: 07/20/2018
Number of Days to Update: 73

Source: Environmental Protection Agency
Telephone: 703-308-4044
Last EDR Contact: 08/09/2019
Next Scheduled EDR Contact: 11/18/2019
Data Release Frequency: Varies

TSCA: Toxic Substances Control Act

Toxic Substances Control Act. TSCA identifies manufacturers and importers of chemical substances included on the TSCA Chemical Substance Inventory list. It includes data on the production volume of these substances by plant site.

Date of Government Version: 12/31/2016
Date Data Arrived at EDR: 06/21/2017
Date Made Active in Reports: 01/05/2018
Number of Days to Update: 198

Source: EPA
Telephone: 202-260-5521
Last EDR Contact: 09/19/2019
Next Scheduled EDR Contact: 12/30/2019
Data Release Frequency: Every 4 Years

TRIS: Toxic Chemical Release Inventory System

Toxic Release Inventory System. TRIS identifies facilities which release toxic chemicals to the air, water and land in reportable quantities under SARA Title III Section 313.

Date of Government Version: 12/31/2016
Date Data Arrived at EDR: 01/10/2018
Date Made Active in Reports: 01/12/2018
Number of Days to Update: 2

Source: EPA
Telephone: 202-566-0250
Last EDR Contact: 08/23/2019
Next Scheduled EDR Contact: 12/02/2019
Data Release Frequency: Annually

SSTS: Section 7 Tracking Systems

Section 7 of the Federal Insecticide, Fungicide and Rodenticide Act, as amended (92 Stat. 829) requires all registered pesticide-producing establishments to submit a report to the Environmental Protection Agency by March 1st each year. Each establishment must report the types and amounts of pesticides, active ingredients and devices being produced, and those having been produced and sold or distributed in the past year.

Date of Government Version: 09/30/2018
Date Data Arrived at EDR: 04/24/2019
Date Made Active in Reports: 08/08/2019
Number of Days to Update: 106

Source: EPA
Telephone: 202-564-4203
Last EDR Contact: 10/23/2019
Next Scheduled EDR Contact: 02/03/2020
Data Release Frequency: Annually

ROD: Records Of Decision

Record of Decision. ROD documents mandate a permanent remedy at an NPL (Superfund) site containing technical and health information to aid in the cleanup.

Date of Government Version: 07/19/2019
Date Data Arrived at EDR: 07/30/2019
Date Made Active in Reports: 09/03/2019
Number of Days to Update: 35

Source: EPA
Telephone: 703-416-0223
Last EDR Contact: 10/02/2019
Next Scheduled EDR Contact: 12/16/2019
Data Release Frequency: Annually

RMP: Risk Management Plans

When Congress passed the Clean Air Act Amendments of 1990, it required EPA to publish regulations and guidance for chemical accident prevention at facilities using extremely hazardous substances. The Risk Management Program Rule (RMP Rule) was written to implement Section 112(r) of these amendments. The rule, which built upon existing industry codes and standards, requires companies of all sizes that use certain flammable and toxic substances to develop a Risk Management Program, which includes a(n): Hazard assessment that details the potential effects of an accidental release, an accident history of the last five years, and an evaluation of worst-case and alternative accidental releases; Prevention program that includes safety precautions and maintenance, monitoring, and employee training measures; and Emergency response program that spells out emergency health care, employee training measures and procedures for informing the public and response agencies (e.g the fire department) should an accident occur.

Date of Government Version: 04/25/2019
Date Data Arrived at EDR: 05/02/2019
Date Made Active in Reports: 05/23/2019
Number of Days to Update: 21

Source: Environmental Protection Agency
Telephone: 202-564-8600
Last EDR Contact: 10/21/2019
Next Scheduled EDR Contact: 02/03/2020
Data Release Frequency: Varies

RAATS: RCRA Administrative Action Tracking System

RCRA Administration Action Tracking System. RAATS contains records based on enforcement actions issued under RCRA pertaining to major violators and includes administrative and civil actions brought by the EPA. For administration actions after September 30, 1995, data entry in the RAATS database was discontinued. EPA will retain a copy of the database for historical records. It was necessary to terminate RAATS because a decrease in agency resources made it impossible to continue to update the information contained in the database.

Date of Government Version: 04/17/1995
Date Data Arrived at EDR: 07/03/1995
Date Made Active in Reports: 08/07/1995
Number of Days to Update: 35

Source: EPA
Telephone: 202-564-4104
Last EDR Contact: 06/02/2008
Next Scheduled EDR Contact: 09/01/2008
Data Release Frequency: No Update Planned

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

PRP: Potentially Responsible Parties
A listing of verified Potentially Responsible Parties

Date of Government Version: 08/20/2019
Date Data Arrived at EDR: 09/05/2019
Date Made Active in Reports: 09/23/2019
Number of Days to Update: 18

Source: EPA
Telephone: 202-564-6023
Last EDR Contact: 10/02/2019
Next Scheduled EDR Contact: 11/18/2019
Data Release Frequency: Quarterly

PADS: PCB Activity Database System
PCB Activity Database. PADS Identifies generators, transporters, commercial storers and/or brokers and disposers of PCB's who are required to notify the EPA of such activities.

Date of Government Version: 03/20/2019
Date Data Arrived at EDR: 04/10/2019
Date Made Active in Reports: 05/14/2019
Number of Days to Update: 34

Source: EPA
Telephone: 202-566-0500
Last EDR Contact: 10/11/2019
Next Scheduled EDR Contact: 01/20/2020
Data Release Frequency: Annually

ICIS: Integrated Compliance Information System
The Integrated Compliance Information System (ICIS) supports the information needs of the national enforcement and compliance program as well as the unique needs of the National Pollutant Discharge Elimination System (NPDES) program.

Date of Government Version: 11/18/2016
Date Data Arrived at EDR: 11/23/2016
Date Made Active in Reports: 02/10/2017
Number of Days to Update: 79

Source: Environmental Protection Agency
Telephone: 202-564-2501
Last EDR Contact: 10/07/2019
Next Scheduled EDR Contact: 01/20/2020
Data Release Frequency: Quarterly

FTTS: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
FTTS tracks administrative cases and pesticide enforcement actions and compliance activities related to FIFRA, TSCA and EPCRA (Emergency Planning and Community Right-to-Know Act). To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 04/09/2009
Date Data Arrived at EDR: 04/16/2009
Date Made Active in Reports: 05/11/2009
Number of Days to Update: 25

Source: EPA/Office of Prevention, Pesticides and Toxic Substances
Telephone: 202-566-1667
Last EDR Contact: 08/18/2017
Next Scheduled EDR Contact: 12/04/2017
Data Release Frequency: No Update Planned

FTTS INSP: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
A listing of FIFRA/TSCA Tracking System (FTTS) inspections and enforcements.

Date of Government Version: 04/09/2009
Date Data Arrived at EDR: 04/16/2009
Date Made Active in Reports: 05/11/2009
Number of Days to Update: 25

Source: EPA
Telephone: 202-566-1667
Last EDR Contact: 08/18/2017
Next Scheduled EDR Contact: 12/04/2017
Data Release Frequency: No Update Planned

MLTS: Material Licensing Tracking System
MLTS is maintained by the Nuclear Regulatory Commission and contains a list of approximately 8,100 sites which possess or use radioactive materials and which are subject to NRC licensing requirements. To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 06/20/2019
Date Data Arrived at EDR: 06/20/2019
Date Made Active in Reports: 08/08/2019
Number of Days to Update: 49

Source: Nuclear Regulatory Commission
Telephone: 301-415-7169
Last EDR Contact: 09/04/2019
Next Scheduled EDR Contact: 11/04/2019
Data Release Frequency: Quarterly

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

COAL ASH DOE: Steam-Electric Plant Operation Data
A listing of power plants that store ash in surface ponds.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 08/07/2009
Date Made Active in Reports: 10/22/2009
Number of Days to Update: 76

Source: Department of Energy
Telephone: 202-586-8719
Last EDR Contact: 09/06/2019
Next Scheduled EDR Contact: 12/16/2019
Data Release Frequency: Varies

COAL ASH EPA: Coal Combustion Residues Surface Impoundments List
A listing of coal combustion residues surface impoundments with high hazard potential ratings.

Date of Government Version: 07/01/2014
Date Data Arrived at EDR: 09/10/2014
Date Made Active in Reports: 10/20/2014
Number of Days to Update: 40

Source: Environmental Protection Agency
Telephone: N/A
Last EDR Contact: 09/03/2019
Next Scheduled EDR Contact: 12/16/2019
Data Release Frequency: Varies

PCB TRANSFORMER: PCB Transformer Registration Database
The database of PCB transformer registrations that includes all PCB registration submittals.

Date of Government Version: 05/24/2017
Date Data Arrived at EDR: 11/30/2017
Date Made Active in Reports: 12/15/2017
Number of Days to Update: 15

Source: Environmental Protection Agency
Telephone: 202-566-0517
Last EDR Contact: 08/09/2019
Next Scheduled EDR Contact: 11/04/2019
Data Release Frequency: Varies

RADINFO: Radiation Information Database
The Radiation Information Database (RADINFO) contains information about facilities that are regulated by U.S. Environmental Protection Agency (EPA) regulations for radiation and radioactivity.

Date of Government Version: 07/01/2019
Date Data Arrived at EDR: 07/01/2019
Date Made Active in Reports: 09/23/2019
Number of Days to Update: 84

Source: Environmental Protection Agency
Telephone: 202-343-9775
Last EDR Contact: 10/15/2019
Next Scheduled EDR Contact: 01/13/2020
Data Release Frequency: Quarterly

HIST FTTS: FIFRA/TSCA Tracking System Administrative Case Listing
A complete administrative case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.

Date of Government Version: 10/19/2006
Date Data Arrived at EDR: 03/01/2007
Date Made Active in Reports: 04/10/2007
Number of Days to Update: 40

Source: Environmental Protection Agency
Telephone: 202-564-2501
Last EDR Contact: 12/17/2007
Next Scheduled EDR Contact: 03/17/2008
Data Release Frequency: No Update Planned

HIST FTTS INSP: FIFRA/TSCA Tracking System Inspection & Enforcement Case Listing
A complete inspection and enforcement case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.

Date of Government Version: 10/19/2006
Date Data Arrived at EDR: 03/01/2007
Date Made Active in Reports: 04/10/2007
Number of Days to Update: 40

Source: Environmental Protection Agency
Telephone: 202-564-2501
Last EDR Contact: 12/17/2008
Next Scheduled EDR Contact: 03/17/2008
Data Release Frequency: No Update Planned

DOT OPS: Incident and Accident Data

Department of Transporation, Office of Pipeline Safety Incident and Accident data.

Date of Government Version: 07/01/2019
Date Data Arrived at EDR: 07/31/2019
Date Made Active in Reports: 10/24/2019
Number of Days to Update: 85

Source: Department of Transporation, Office of Pipeline Safety
Telephone: 202-366-4595
Last EDR Contact: 07/31/2019
Next Scheduled EDR Contact: 11/11/2019
Data Release Frequency: Quarterly

CONSENT: Superfund (CERCLA) Consent Decrees

Major legal settlements that establish responsibility and standards for cleanup at NPL (Superfund) sites. Released periodically by United States District Courts after settlement by parties to litigation matters.

Date of Government Version: 06/30/2019
Date Data Arrived at EDR: 07/16/2019
Date Made Active in Reports: 10/02/2019
Number of Days to Update: 78

Source: Department of Justice, Consent Decree Library
Telephone: Varies
Last EDR Contact: 10/02/2019
Next Scheduled EDR Contact: 01/20/2020
Data Release Frequency: Varies

BRS: Biennial Reporting System

The Biennial Reporting System is a national system administered by the EPA that collects data on the generation and management of hazardous waste. BRS captures detailed data from two groups: Large Quantity Generators (LQG) and Treatment, Storage, and Disposal Facilities.

Date of Government Version: 12/31/2015
Date Data Arrived at EDR: 02/22/2017
Date Made Active in Reports: 09/28/2017
Number of Days to Update: 218

Source: EPA/NTIS
Telephone: 800-424-9346
Last EDR Contact: 09/16/2019
Next Scheduled EDR Contact: 01/06/2020
Data Release Frequency: Biennially

INDIAN RESERV: Indian Reservations

This map layer portrays Indian administered lands of the United States that have any area equal to or greater than 640 acres.

Date of Government Version: 12/31/2014
Date Data Arrived at EDR: 07/14/2015
Date Made Active in Reports: 01/10/2017
Number of Days to Update: 546

Source: USGS
Telephone: 202-208-3710
Last EDR Contact: 10/06/2019
Next Scheduled EDR Contact: 01/19/2020
Data Release Frequency: Semi-Annually

FUSRAP: Formerly Utilized Sites Remedial Action Program

DOE established the Formerly Utilized Sites Remedial Action Program (FUSRAP) in 1974 to remediate sites where radioactive contamination remained from Manhattan Project and early U.S. Atomic Energy Commission (AEC) operations.

Date of Government Version: 08/08/2017
Date Data Arrived at EDR: 09/11/2018
Date Made Active in Reports: 09/14/2018
Number of Days to Update: 3

Source: Department of Energy
Telephone: 202-586-3559
Last EDR Contact: 07/30/2019
Next Scheduled EDR Contact: 11/18/2019
Data Release Frequency: Varies

UMTRA: Uranium Mill Tailings Sites

Uranium ore was mined by private companies for federal government use in national defense programs. When the mills shut down, large piles of the sand-like material (mill tailings) remain after uranium has been extracted from the ore. Levels of human exposure to radioactive materials from the piles are low; however, in some cases tailings were used as construction materials before the potential health hazards of the tailings were recognized.

Date of Government Version: 06/23/2017
Date Data Arrived at EDR: 10/11/2017
Date Made Active in Reports: 11/03/2017
Number of Days to Update: 23

Source: Department of Energy
Telephone: 505-845-0011
Last EDR Contact: 08/21/2019
Next Scheduled EDR Contact: 12/02/2019
Data Release Frequency: Varies

LEAD SMELTER 1: Lead Smelter Sites

A listing of former lead smelter site locations.

Date of Government Version: 07/19/2019
Date Data Arrived at EDR: 07/30/2019
Date Made Active in Reports: 09/03/2019
Number of Days to Update: 35

Source: Environmental Protection Agency
Telephone: 703-603-8787
Last EDR Contact: 10/02/2019
Next Scheduled EDR Contact: 01/13/2020
Data Release Frequency: Varies

LEAD SMELTER 2: Lead Smelter Sites

A list of several hundred sites in the U.S. where secondary lead smelting was done from 1931and 1964. These sites may pose a threat to public health through ingestion or inhalation of contaminated soil or dust

Date of Government Version: 04/05/2001
Date Data Arrived at EDR: 10/27/2010
Date Made Active in Reports: 12/02/2010
Number of Days to Update: 36

Source: American Journal of Public Health
Telephone: 703-305-6451
Last EDR Contact: 12/02/2009
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

US AIRS (AFS): Aerometric Information Retrieval System Facility Subsystem (AFS)

The database is a sub-system of Aerometric Information Retrieval System (AIRS). AFS contains compliance data on air pollution point sources regulated by the U.S. EPA and/or state and local air regulatory agencies. This information comes from source reports by various stationary sources of air pollution, such as electric power plants, steel mills, factories, and universities, and provides information about the air pollutants they produce. Action, air program, air program pollutant, and general level plant data. It is used to track emissions and compliance data from industrial plants.

Date of Government Version: 10/12/2016
Date Data Arrived at EDR: 10/26/2016
Date Made Active in Reports: 02/03/2017
Number of Days to Update: 100

Source: EPA
Telephone: 202-564-2496
Last EDR Contact: 09/26/2017
Next Scheduled EDR Contact: 01/08/2018
Data Release Frequency: Annually

US AIRS MINOR: Air Facility System Data

A listing of minor source facilities.

Date of Government Version: 10/12/2016
Date Data Arrived at EDR: 10/26/2016
Date Made Active in Reports: 02/03/2017
Number of Days to Update: 100

Source: EPA
Telephone: 202-564-2496
Last EDR Contact: 09/26/2017
Next Scheduled EDR Contact: 01/08/2018
Data Release Frequency: Annually

US MINES: Mines Master Index File

Contains all mine identification numbers issued for mines active or opened since 1971. The data also includes violation information.

Date of Government Version: 05/03/2019
Date Data Arrived at EDR: 05/29/2019
Date Made Active in Reports: 08/08/2019
Number of Days to Update: 71

Source: Department of Labor, Mine Safety and Health Administration
Telephone: 303-231-5959
Last EDR Contact: 08/27/2019
Next Scheduled EDR Contact: 12/09/2019
Data Release Frequency: Semi-Annually

MINES VIOLATIONS: MSHA Violation Assessment Data

Mines violation and assessment information. Department of Labor, Mine Safety & Health Administration.

Date of Government Version: 06/06/2019
Date Data Arrived at EDR: 06/06/2019
Date Made Active in Reports: 10/24/2019
Number of Days to Update: 140

Source: DOL, Mine Safety & Health Admi
Telephone: 202-693-9424
Last EDR Contact: 09/12/2019
Next Scheduled EDR Contact: 12/16/2019
Data Release Frequency: Quarterly

US MINES 2: Ferrous and Nonferrous Metal Mines Database Listing

This map layer includes ferrous (ferrous metal mines are facilities that extract ferrous metals, such as iron ore or molybdenum) and nonferrous (Nonferrous metal mines are facilities that extract nonferrous metals, such as gold, silver, copper, zinc, and lead) metal mines in the United States.

Date of Government Version: 12/05/2005
Date Data Arrived at EDR: 02/29/2008
Date Made Active in Reports: 04/18/2008
Number of Days to Update: 49

Source: USGS
Telephone: 703-648-7709
Last EDR Contact: 08/30/2019
Next Scheduled EDR Contact: 12/09/2019
Data Release Frequency: Varies

US MINES 3: Active Mines & Mineral Plants Database Listing

Active Mines and Mineral Processing Plant operations for commodities monitored by the Minerals Information Team of the USGS.

Date of Government Version: 04/14/2011
Date Data Arrived at EDR: 06/08/2011
Date Made Active in Reports: 09/13/2011
Number of Days to Update: 97

Source: USGS
Telephone: 703-648-7709
Last EDR Contact: 08/30/2019
Next Scheduled EDR Contact: 12/09/2019
Data Release Frequency: Varies

ABANDONED MINES: Abandoned Mines

An inventory of land and water impacted by past mining (primarily coal mining) is maintained by OSMRE to provide information needed to implement the Surface Mining Control and Reclamation Act of 1977 (SMCRA). The inventory contains information on the location, type, and extent of AML impacts, as well as, information on the cost associated with the reclamation of those problems. The inventory is based upon field surveys by State, Tribal, and OSMRE program officials. It is dynamic to the extent that it is modified as new problems are identified and existing problems are reclaimed.

Date of Government Version: 09/10/2019
Date Data Arrived at EDR: 09/10/2019
Date Made Active in Reports: 10/17/2019
Number of Days to Update: 37

Source: Department of Interior
Telephone: 202-208-2609
Last EDR Contact: 09/10/2019
Next Scheduled EDR Contact: 12/23/2019
Data Release Frequency: Quarterly

FINDS: Facility Index System/Facility Registry System

Facility Index System. FINDS contains both facility information and 'pointers' to other sources that contain more detail. EDR includes the following FINDS databases in this report: PCS (Permit Compliance System), AIRS (Aerometric Information Retrieval System), DOCKET (Enforcement Docket used to manage and track information on civil judicial enforcement cases for all environmental statutes), FURS (Federal Underground Injection Control), C-DOCKET (Criminal Docket System used to track criminal enforcement actions for all environmental statutes), FFIS (Federal Facilities Information System), STATE (State Environmental Laws and Statutes), and PADS (PCB Activity Data System).

Date of Government Version: 05/03/2019
Date Data Arrived at EDR: 06/05/2019
Date Made Active in Reports: 09/03/2019
Number of Days to Update: 90

Source: EPA
Telephone: (415) 947-8000
Last EDR Contact: 09/04/2019
Next Scheduled EDR Contact: 12/16/2019
Data Release Frequency: Quarterly

ECHO: Enforcement & Compliance History Information

ECHO provides integrated compliance and enforcement information for about 800,000 regulated facilities nationwide.

Date of Government Version: 07/06/2019
Date Data Arrived at EDR: 07/09/2019
Date Made Active in Reports: 10/02/2019
Number of Days to Update: 85

Source: Environmental Protection Agency
Telephone: 202-564-2280
Last EDR Contact: 10/08/2019
Next Scheduled EDR Contact: 01/20/2020
Data Release Frequency: Quarterly

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

UXO: Unexploded Ordnance Sites
A listing of unexploded ordnance site locations

Date of Government Version: 12/31/2017
Date Data Arrived at EDR: 01/17/2019
Date Made Active in Reports: 04/01/2019
Number of Days to Update: 74

Source: Department of Defense
Telephone: 703-704-1564
Last EDR Contact: 10/10/2019
Next Scheduled EDR Contact: 01/27/2020
Data Release Frequency: Varies

DOCKET HWC: Hazardous Waste Compliance Docket Listing
A complete list of the Federal Agency Hazardous Waste Compliance Docket Facilities.

Date of Government Version: 05/31/2018
Date Data Arrived at EDR: 07/26/2018
Date Made Active in Reports: 10/05/2018
Number of Days to Update: 71

Source: Environmental Protection Agency
Telephone: 202-564-0527
Last EDR Contact: 08/21/2019
Next Scheduled EDR Contact: 12/09/2019
Data Release Frequency: Varies

FUELS PROGRAM: EPA Fuels Program Registered Listing
This listing includes facilities that are registered under the Part 80 (Code of Federal Regulations) EPA Fuels Programs. All companies now are required to submit new and updated registrations.

Date of Government Version: 05/20/2019
Date Data Arrived at EDR: 05/21/2019
Date Made Active in Reports: 08/08/2019
Number of Days to Update: 79

Source: EPA
Telephone: 800-385-6164
Last EDR Contact: 08/20/2019
Next Scheduled EDR Contact: 12/02/2019
Data Release Frequency: Quarterly

CA BOND EXP. PLAN: Bond Expenditure Plan
Department of Health Services developed a site-specific expenditure plan as the basis for an appropriation of Hazardous Substance Cleanup Bond Act funds. It is not updated.

Date of Government Version: 01/01/1989
Date Data Arrived at EDR: 07/27/1994
Date Made Active in Reports: 08/02/1994
Number of Days to Update: 6

Source: Department of Health Services
Telephone: 916-255-2118
Last EDR Contact: 05/31/1994
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

CORTESE: "Cortese" Hazardous Waste & Substances Sites List
The sites for the list are designated by the State Water Resource Control Board (LUST), the Integrated Waste Board (SWF/LS), and the Department of Toxic Substances Control (Cal-Sites).

Date of Government Version: 06/24/2019
Date Data Arrived at EDR: 06/25/2019
Date Made Active in Reports: 08/21/2019
Number of Days to Update: 57

Source: CAL EPA/Office of Emergency Information
Telephone: 916-323-3400
Last EDR Contact: 09/24/2019
Next Scheduled EDR Contact: 01/06/2020
Data Release Frequency: Quarterly

CUPA SAN FRANCISCO CO: CUPA Facility Listing
Cupa facilities

Date of Government Version: 08/01/2019
Date Data Arrived at EDR: 08/02/2019
Date Made Active in Reports: 10/09/2019
Number of Days to Update: 68

Source: San Francisco County Department of Environmental Health
Telephone: 415-252-3896
Last EDR Contact: 07/31/2019
Next Scheduled EDR Contact: 11/18/2019
Data Release Frequency: Varies

CUPA LIVERMORE-PLEASANTON: CUPA Facility Listing
list of facilities associated with the various CUPA programs in Livermore-Pleasanton

Date of Government Version: 05/01/2019
Date Data Arrived at EDR: 05/14/2019
Date Made Active in Reports: 07/17/2019
Number of Days to Update: 64

Source: Livermore-Pleasanton Fire Department
Telephone: 925-454-2361
Last EDR Contact: 08/15/2019
Next Scheduled EDR Contact: 11/25/2019
Data Release Frequency: Varies

DRYCLEANERS: Cleaner Facilities

A list of drycleaner related facilities that have EPA ID numbers. These are facilities with certain SIC codes: power laundries, family and commercial; garment pressing and cleaner's agents; linen supply; coin-operated laundries and cleaning; drycleaning plants, except rugs; carpet and upholster cleaning; industrial launderers; laundry and garment services.

Date of Government Version: 06/04/2019
Date Data Arrived at EDR: 06/28/2019
Date Made Active in Reports: 08/22/2019
Number of Days to Update: 55

Source: Department of Toxic Substance Control
Telephone: 916-327-4498
Last EDR Contact: 08/28/2019
Next Scheduled EDR Contact: 12/16/2019
Data Release Frequency: Annually

DRYCLEAN SOUTH COAST: South Coast Air Quality Management District Drycleaner Listing

A listing of dry cleaners in the South Coast Air Quality Management District

Date of Government Version: 03/19/2019
Date Data Arrived at EDR: 03/22/2019
Date Made Active in Reports: 04/09/2019
Number of Days to Update: 18

Source: South Coast Air Quality Management District
Telephone: 909-396-3211
Last EDR Contact: 08/21/2019
Next Scheduled EDR Contact: 12/09/2019
Data Release Frequency: Varies

DRYCLEAN AVAQMD: Antelope Valley Air Quality Management District Drycleaner Listing

A listing of dry cleaners in the Antelope Valley Air Quality Management District.

Date of Government Version: 06/03/2019
Date Data Arrived at EDR: 06/04/2019
Date Made Active in Reports: 08/08/2019
Number of Days to Update: 65

Source: Antelope Valley Air Quality Management District
Telephone: 661-723-8070
Last EDR Contact: 08/28/2019
Next Scheduled EDR Contact: 12/16/2019
Data Release Frequency: Varies

EMI: Emissions Inventory Data

Toxics and criteria pollutant emissions data collected by the ARB and local air pollution agencies.

Date of Government Version: 12/31/2017
Date Data Arrived at EDR: 06/24/2019
Date Made Active in Reports: 08/22/2019
Number of Days to Update: 59

Source: California Air Resources Board
Telephone: 916-322-2990
Last EDR Contact: 09/18/2019
Next Scheduled EDR Contact: 12/30/2019
Data Release Frequency: Varies

ENF: Enforcement Action Listing

A listing of Water Board Enforcement Actions. Formal is everything except Oral/Verbal Communication, Notice of Violation, Expedited Payment Letter, and Staff Enforcement Letter.

Date of Government Version: 07/19/2019
Date Data Arrived at EDR: 07/22/2019
Date Made Active in Reports: 09/26/2019
Number of Days to Update: 66

Source: State Water Resoruces Control Board
Telephone: 916-445-9379
Last EDR Contact: 10/17/2019
Next Scheduled EDR Contact: 02/03/2020
Data Release Frequency: Varies

Financial Assurance 1: Financial Assurance Information Listing

Financial Assurance information

Date of Government Version: 07/19/2019
Date Data Arrived at EDR: 07/23/2019
Date Made Active in Reports: 09/30/2019
Number of Days to Update: 69

Source: Department of Toxic Substances Control
Telephone: 916-255-3628
Last EDR Contact: 10/17/2019
Next Scheduled EDR Contact: 02/03/2020
Data Release Frequency: Varies

Financial Assurance 2: Financial Assurance Information Listing

A listing of financial assurance information for solid waste facilities. Financial assurance is intended to ensure that resources are available to pay for the cost of closure, post-closure care, and corrective measures if the owner or operator of a regulated facility is unable or unwilling to pay.

Date of Government Version: 08/16/2019
Date Data Arrived at EDR: 08/20/2019
Date Made Active in Reports: 10/18/2019
Number of Days to Update: 59

Source: California Integrated Waste Management Board
Telephone: 916-341-6066
Last EDR Contact: 08/07/2019
Next Scheduled EDR Contact: 11/25/2019
Data Release Frequency: Varies

HAZNET: Facility and Manifest Data

Facility and Manifest Data. The data is extracted from the copies of hazardous waste manifests received each year by the DTSC. The annual volume of manifests is typically 700,000 - 1,000,000 annually, representing approximately 350,000 - 500,000 shipments. Data are from the manifests submitted without correction, and therefore many contain some invalid values for data elements such as generator ID, TSD ID, waste category, and disposal method. This database begins with calendar year 1993.

Date of Government Version: 12/31/2017
Date Data Arrived at EDR: 05/29/2019
Date Made Active in Reports: 07/22/2019
Number of Days to Update: 54

Source: California Environmental Protection Agency
Telephone: 916-255-1136
Last EDR Contact: 10/11/2019
Next Scheduled EDR Contact: 01/20/2020
Data Release Frequency: Annually

ICE: ICE

Contains data pertaining to the Permitted Facilities with Inspections / Enforcements sites tracked in Envirostor.

Date of Government Version: 08/19/2019
Date Data Arrived at EDR: 08/20/2019
Date Made Active in Reports: 10/18/2019
Number of Days to Update: 59

Source: Department of Toxic Subsances Control
Telephone: 877-786-9427
Last EDR Contact: 08/20/2019
Next Scheduled EDR Contact: 12/02/2019
Data Release Frequency: Quarterly

HIST CORTESE: Hazardous Waste & Substance Site List

The sites for the list are designated by the State Water Resource Control Board [LUST], the Integrated Waste Board [SWF/LS], and the Department of Toxic Substances Control [CALSITES]. This listing is no longer updated by the state agency.

Date of Government Version: 04/01/2001
Date Data Arrived at EDR: 01/22/2009
Date Made Active in Reports: 04/08/2009
Number of Days to Update: 76

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 01/22/2009
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

HWP: EnviroStor Permitted Facilities Listing

Detailed information on permitted hazardous waste facilities and corrective action ("cleanups") tracked in EnviroStor.

Date of Government Version: 08/19/2019
Date Data Arrived at EDR: 08/20/2019
Date Made Active in Reports: 10/18/2019
Number of Days to Update: 59

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 08/20/2019
Next Scheduled EDR Contact: 12/02/2019
Data Release Frequency: Quarterly

HWT: Registered Hazardous Waste Transporter Database

A listing of hazardous waste transporters. In California, unless specifically exempted, it is unlawful for any person to transport hazardous wastes unless the person holds a valid registration issued by DTSC. A hazardous waste transporter registration is valid for one year and is assigned a unique registration number.

Date of Government Version: 07/08/2019
Date Data Arrived at EDR: 07/09/2019
Date Made Active in Reports: 09/20/2019
Number of Days to Update: 73

Source: Department of Toxic Substances Control
Telephone: 916-440-7145
Last EDR Contact: 10/08/2019
Next Scheduled EDR Contact: 01/20/2020
Data Release Frequency: Quarterly

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

MINES: Mines Site Location Listing
A listing of mine site locations from the Office of Mine Reclamation.

Date of Government Version: 06/10/2019
Date Data Arrived at EDR: 06/11/2019
Date Made Active in Reports: 08/15/2019
Number of Days to Update: 65

Source: Department of Conservation
Telephone: 916-322-1080
Last EDR Contact: 09/09/2019
Next Scheduled EDR Contact: 12/23/2019
Data Release Frequency: Quarterly

MWMP: Medical Waste Management Program Listing
The Medical Waste Management Program (MWMP) ensures the proper handling and disposal of medical waste by permitting and inspecting medical waste Offsite Treatment Facilities (PDF) and Transfer Stations (PDF) throughout the state. MWMP also oversees all Medical Waste Transporters.

Date of Government Version: 05/17/2019
Date Data Arrived at EDR: 06/04/2019
Date Made Active in Reports: 08/09/2019
Number of Days to Update: 66

Source: Department of Public Health
Telephone: 916-558-1784
Last EDR Contact: 09/04/2019
Next Scheduled EDR Contact: 12/16/2019
Data Release Frequency: Varies

NPDES: NPDES Permits Listing
A listing of NPDES permits, including stormwater.

Date of Government Version: 08/12/2019
Date Data Arrived at EDR: 08/13/2019
Date Made Active in Reports: 10/16/2019
Number of Days to Update: 64

Source: State Water Resources Control Board
Telephone: 916-445-9379
Last EDR Contact: 08/13/2019
Next Scheduled EDR Contact: 11/25/2019
Data Release Frequency: Quarterly

PEST LIC: Pesticide Regulation Licenses Listing
A listing of licenses and certificates issued by the Department of Pesticide Regulation. The DPR issues licenses and/or certificates to: Persons and businesses that apply or sell pesticides; Pest control dealers and brokers; Persons who advise on agricultural pesticide applications.

Date of Government Version: 06/04/2019
Date Data Arrived at EDR: 06/04/2019
Date Made Active in Reports: 08/09/2019
Number of Days to Update: 66

Source: Department of Pesticide Regulation
Telephone: 916-445-4038
Last EDR Contact: 09/04/2019
Next Scheduled EDR Contact: 12/16/2019
Data Release Frequency: Quarterly

PROC: Certified Processors Database
A listing of certified processors.

Date of Government Version: 06/11/2019
Date Data Arrived at EDR: 06/12/2019
Date Made Active in Reports: 08/15/2019
Number of Days to Update: 64

Source: Department of Conservation
Telephone: 916-323-3836
Last EDR Contact: 09/09/2019
Next Scheduled EDR Contact: 12/23/2019
Data Release Frequency: Quarterly

NOTIFY 65: Proposition 65 Records
Listings of all Proposition 65 incidents reported to counties by the State Water Resources Control Board and the Regional Water Quality Control Board. This database is no longer updated by the reporting agency.

Date of Government Version: 06/17/2019
Date Data Arrived at EDR: 06/18/2019
Date Made Active in Reports: 08/22/2019
Number of Days to Update: 65

Source: State Water Resources Control Board
Telephone: 916-445-3846
Last EDR Contact: 09/16/2019
Next Scheduled EDR Contact: 12/30/2019
Data Release Frequency: No Update Planned

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

UIC: UIC Listing
A listing of wells identified as underground injection wells, in the California Oil and Gas Wells database.

Date of Government Version: 04/27/2018
Date Data Arrived at EDR: 06/13/2018
Date Made Active in Reports: 07/17/2018
Number of Days to Update: 34

Source: Deaprtment of Conservation
Telephone: 916-445-2408
Last EDR Contact: 08/20/2019
Next Scheduled EDR Contact: 12/23/2019
Data Release Frequency: Varies

UIC GEO: Underground Injection Control Sites (GEOTRACKER)
Underground control injection sites

Date of Government Version: 06/10/2019
Date Data Arrived at EDR: 06/11/2019
Date Made Active in Reports: 07/24/2019
Number of Days to Update: 43

Source: State Water Resource Control Board
Telephone: 866-480-1028
Last EDR Contact: 09/09/2019
Next Scheduled EDR Contact: 12/23/2019
Data Release Frequency: Varies

WASTEWATER PITS: Oil Wastewater Pits Listing
Water officials discovered that oil producers have been dumping chemical-laden wastewater into hundreds of unlined pits that are operating without proper permits. Inspections completed by the Central Valley Regional Water Quality Control Board revealed the existence of previously unidentified waste sites. The water boards review found that more than one-third of the region's active disposal pits are operating without permission.

Date of Government Version: 05/08/2018
Date Data Arrived at EDR: 07/11/2018
Date Made Active in Reports: 09/13/2018
Number of Days to Update: 64

Source: RWQCB, Central Valley Region
Telephone: 559-445-5577
Last EDR Contact: 10/11/2019
Next Scheduled EDR Contact: 01/20/2020
Data Release Frequency: Varies

WDS: Waste Discharge System
Sites which have been issued waste discharge requirements.

Date of Government Version: 06/19/2007
Date Data Arrived at EDR: 06/20/2007
Date Made Active in Reports: 06/29/2007
Number of Days to Update: 9

Source: State Water Resources Control Board
Telephone: 916-341-5227
Last EDR Contact: 08/14/2019
Next Scheduled EDR Contact: 12/02/2019
Data Release Frequency: No Update Planned

WIP: Well Investigation Program Case List
Well Investigation Program case in the San Gabriel and San Fernando Valley area.

Date of Government Version: 07/03/2009
Date Data Arrived at EDR: 07/21/2009
Date Made Active in Reports: 08/03/2009
Number of Days to Update: 13

Source: Los Angeles Water Quality Control Board
Telephone: 213-576-6726
Last EDR Contact: 09/19/2019
Next Scheduled EDR Contact: 01/06/2020
Data Release Frequency: No Update Planned

MILITARY PRIV SITES: Military Privatized Sites (GEOTRACKER)
Military privatized sites

Date of Government Version: 06/10/2019
Date Data Arrived at EDR: 06/11/2019
Date Made Active in Reports: 07/24/2019
Number of Days to Update: 43

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 09/09/2019
Next Scheduled EDR Contact: 12/23/2019
Data Release Frequency: Varies

PROJECT: Project Sites (GEOTRACKER)
Projects sites

Date of Government Version: 06/10/2019
Date Data Arrived at EDR: 06/11/2019
Date Made Active in Reports: 07/24/2019
Number of Days to Update: 43

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 09/09/2019
Next Scheduled EDR Contact: 12/23/2019
Data Release Frequency: Varies

WDR: Waste Discharge Requirements Listing

In general, the Waste Discharge Requirements (WDRs) Program (sometimes also referred to as the "Non Chapter 15 (Non 15) Program") regulates point discharges that are exempt pursuant to Subsection 20090 of Title 27 and not subject to the Federal Water Pollution Control Act. Exemptions from Title 27 may be granted for nine categories of discharges (e.g., sewage, wastewater, etc.) that meet, and continue to meet, the preconditions listed for each specific exemption. The scope of the WDRs Program also includes the discharge of wastes classified as inert, pursuant to section 20230 of Title 27.

Date of Government Version: 06/11/2019
Date Data Arrived at EDR: 06/12/2019
Date Made Active in Reports: 08/15/2019
Number of Days to Update: 64

Source: State Water Resources Control Board
Telephone: 916-341-5810
Last EDR Contact: 09/09/2019
Next Scheduled EDR Contact: 12/23/2019
Data Release Frequency: Quarterly

CIWQS: California Integrated Water Quality System

The California Integrated Water Quality System (CIWQS) is a computer system used by the State and Regional Water Quality Control Boards to track information about places of environmental interest, manage permits and other orders, track inspections, and manage violations and enforcement activities.

Date of Government Version: 06/04/2019
Date Data Arrived at EDR: 06/04/2019
Date Made Active in Reports: 08/08/2019
Number of Days to Update: 65

Source: State Water Resources Control Board
Telephone: 866-794-4977
Last EDR Contact: 09/04/2019
Next Scheduled EDR Contact: 12/16/2019
Data Release Frequency: Varies

CERS: CalEPA Regulated Site Portal Data

The CalEPA Regulated Site Portal database combines data about environmentally regulated sites and facilities in California into a single database. It combines data from a variety of state and federal databases, and provides an overview of regulated activities across the spectrum of environmental programs for any given location in California. These activities include hazardous materials and waste, state and federal cleanups, impacted ground and surface waters, and toxic materials

Date of Government Version: 08/14/2019
Date Data Arrived at EDR: 08/14/2019
Date Made Active in Reports: 08/21/2019
Number of Days to Update: 7

Source: California Environmental Protection Agency
Telephone: 916-323-2514
Last EDR Contact: 10/22/2019
Next Scheduled EDR Contact: 02/03/2020
Data Release Frequency: Varies

NON-CASE INFO: Non-Case Information Sites (GEOTRACKER)

Non-Case Information sites

Date of Government Version: 06/10/2019
Date Data Arrived at EDR: 06/11/2019
Date Made Active in Reports: 07/24/2019
Number of Days to Update: 43

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 09/09/2019
Next Scheduled EDR Contact: 12/23/2019
Data Release Frequency: Varies

OTHER OIL GAS: Other Oil & Gas Projects Sites (GEOTRACKER)

Other Oil & Gas Projects sites

Date of Government Version: 06/10/2019
Date Data Arrived at EDR: 06/11/2019
Date Made Active in Reports: 07/24/2019
Number of Days to Update: 43

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 09/09/2019
Next Scheduled EDR Contact: 12/23/2019
Data Release Frequency: Varies

PROD WATER PONDS: Produced Water Ponds Sites (GEOTRACKER)
Produced water ponds sites

Date of Government Version: 06/10/2019
Date Data Arrived at EDR: 06/11/2019
Date Made Active in Reports: 07/24/2019
Number of Days to Update: 43

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 09/09/2019
Next Scheduled EDR Contact: 12/23/2019
Data Release Frequency: Varies

SAMPLING POINT: Sampling Point ? Public Sites (GEOTRACKER)
Sampling point - public sites

Date of Government Version: 06/10/2019
Date Data Arrived at EDR: 06/11/2019
Date Made Active in Reports: 07/24/2019
Number of Days to Update: 43

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 09/09/2019
Next Scheduled EDR Contact: 12/23/2019
Data Release Frequency: Varies

WELL STIM PROJ: Well Stimulation Project (GEOTRACKER)
Includes areas of groundwater monitoring plans, a depiction of the monitoring network, and the facilities, boundaries, and subsurface characteristics of the oilfield and the features (oil and gas wells, produced water ponds, UIC wells, water supply wells, etc?) being monitored

Date of Government Version: 06/10/2019
Date Data Arrived at EDR: 06/11/2019
Date Made Active in Reports: 07/24/2019
Number of Days to Update: 43

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 09/09/2019
Next Scheduled EDR Contact: 12/23/2019
Data Release Frequency: Varies

MINES MRDS: Mineral Resources Data System
Mineral Resources Data System

Date of Government Version: 04/06/2018
Date Data Arrived at EDR: 10/21/2019
Date Made Active in Reports: 10/24/2019
Number of Days to Update: 3

Source: USGS
Telephone: 703-648-6533
Last EDR Contact: 08/30/2019
Next Scheduled EDR Contact: 12/09/2019
Data Release Frequency: Varies

EDR HIGH RISK HISTORICAL RECORDS

EDR Exclusive Records

EDR MGP: EDR Proprietary Manufactured Gas Plants
The EDR Proprietary Manufactured Gas Plant Database includes records of coal gas plants (manufactured gas plants) compiled by EDR's researchers. Manufactured gas sites were used in the United States from the 1800's to 1950's to produce a gas that could be distributed and used as fuel. These plants used whale oil, rosin, coal, or a mixture of coal, oil, and water that also produced a significant amount of waste. Many of the byproducts of the gas production, such as coal tar (oily waste containing volatile and non-volatile chemicals), sludges, oils and other compounds are potentially hazardous to human health and the environment. The byproduct from this process was frequently disposed of directly at the plant site and can remain or spread slowly, serving as a continuous source of soil and groundwater contamination.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

EDR Hist Auto: EDR Exclusive Historical Auto Stations
EDR has searched selected national collections of business directories and has collected listings of potential gas station/filling station/service station sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include gas station/filling station/service station establishments. The categories reviewed included, but were not limited to gas, gas station, gasoline station, filling station, auto, automobile repair, auto service station, service station, etc. This database falls within a category of information EDR classifies as "High Risk Historical Records", or HRHR. EDR's HRHR effort presents unique and sometimes proprietary data about past sites and operations that typically create environmental concerns, but may not show up in current government records searches.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

EDR Hist Cleaner: EDR Exclusive Historical Cleaners

EDR has searched selected national collections of business directories and has collected listings of potential dry cleaner sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include dry cleaning establishments. The categories reviewed included, but were not limited to dry cleaners, cleaners, laundry, laundromat, cleaning/laundry, wash & dry etc. This database falls within a category of information EDR classifies as "High Risk Historical Records", or HRHR. EDR's HRHR effort presents unique and sometimes proprietary data about past sites and operations that typically create environmental concerns, but may not show up in current government records searches.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

COUNTY RECORDS

ALAMEDA COUNTY:

CS ALAMEDA: Contaminated Sites

A listing of contaminated sites overseen by the Toxic Release Program (oil and groundwater contamination from chemical releases and spills) and the Leaking Underground Storage Tank Program (soil and ground water contamination from leaking petroleum USTs).

Date of Government Version: 01/09/2019
Date Data Arrived at EDR: 01/11/2019
Date Made Active in Reports: 03/05/2019
Number of Days to Update: 53

Source: Alameda County Environmental Health Services
Telephone: 510-567-6700
Last EDR Contact: 10/02/2019
Next Scheduled EDR Contact: 01/20/2020
Data Release Frequency: Semi-Annually

UST ALAMEDA: Underground Tanks

Underground storage tank sites located in Alameda county.

Date of Government Version: 04/10/2019
Date Data Arrived at EDR: 04/11/2019
Date Made Active in Reports: 06/20/2019
Number of Days to Update: 70

Source: Alameda County Environmental Health Services
Telephone: 510-567-6700
Last EDR Contact: 10/02/2019
Next Scheduled EDR Contact: 04/24/2047
Data Release Frequency: Semi-Annually

AMADOR COUNTY:

CUPA AMADOR: CUPA Facility List

Cupa Facility List

Date of Government Version: 06/27/2019
Date Data Arrived at EDR: 06/28/2019
Date Made Active in Reports: 07/24/2019
Number of Days to Update: 26

Source: Amador County Environmental Health
Telephone: 209-223-6439
Last EDR Contact: 08/28/2019
Next Scheduled EDR Contact: 12/16/2019
Data Release Frequency: Varies

BUTTE COUNTY:

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

CUPA BUTTE: CUPA Facility Listing
Cupa facility list.

Date of Government Version: 04/21/2017
Date Data Arrived at EDR: 04/25/2017
Date Made Active in Reports: 08/09/2017
Number of Days to Update: 106

Source: Public Health Department
Telephone: 530-538-7149
Last EDR Contact: 10/02/2019
Next Scheduled EDR Contact: 01/20/2020
Data Release Frequency: No Update Planned

CALVERAS COUNTY:

CUPA CALVERAS: CUPA Facility Listing
Cupa Facility Listing

Date of Government Version: 08/05/2019
Date Data Arrived at EDR: 08/07/2019
Date Made Active in Reports: 10/09/2019
Number of Days to Update: 63

Source: Calveras County Environmental Health
Telephone: 209-754-6399
Last EDR Contact: 09/23/2019
Next Scheduled EDR Contact: 01/06/2020
Data Release Frequency: Quarterly

COLUSA COUNTY:

CUPA COLUSA: CUPA Facility List
Cupa facility list.

Date of Government Version: 08/14/2019
Date Data Arrived at EDR: 08/20/2019
Date Made Active in Reports: 10/18/2019
Number of Days to Update: 59

Source: Health & Human Services
Telephone: 530-458-0396
Last EDR Contact: 08/14/2019
Next Scheduled EDR Contact: 11/18/2019
Data Release Frequency: Semi-Annually

CONTRA COSTA COUNTY:

SL CONTRA COSTA: Site List
List includes sites from the underground tank, hazardous waste generator and business plan/2185 programs.

Date of Government Version: 08/20/2019
Date Data Arrived at EDR: 08/23/2019
Date Made Active in Reports: 10/22/2019
Number of Days to Update: 60

Source: Contra Costa Health Services Department
Telephone: 925-646-2286
Last EDR Contact: 07/26/2019
Next Scheduled EDR Contact: 11/11/2019
Data Release Frequency: Semi-Annually

DEL NORTE COUNTY:

CUPA DEL NORTE: CUPA Facility List
Cupa Facility list

Date of Government Version: 07/30/2019
Date Data Arrived at EDR: 08/02/2019
Date Made Active in Reports: 10/09/2019
Number of Days to Update: 68

Source: Del Norte County Environmental Health Division
Telephone: 707-465-0426
Last EDR Contact: 07/25/2019
Next Scheduled EDR Contact: 11/11/2019
Data Release Frequency: Varies

EL DORADO COUNTY:

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

CUPA EL DORADO: CUPA Facility List
CUPA facility list.

Date of Government Version: 06/05/2019
Date Data Arrived at EDR: 06/06/2019
Date Made Active in Reports: 07/23/2019
Number of Days to Update: 47

Source: El Dorado County Environmental Management Department
Telephone: 530-621-6623
Last EDR Contact: 09/05/2019
Next Scheduled EDR Contact: 11/11/2019
Data Release Frequency: Varies

FRESNO COUNTY:

CUPA FRESNO: CUPA Resources List
Certified Unified Program Agency. CUPA's are responsible for implementing a unified hazardous materials and hazardous waste management regulatory program. The agency provides oversight of businesses that deal with hazardous materials, operate underground storage tanks or aboveground storage tanks.

Date of Government Version: 07/11/2019
Date Data Arrived at EDR: 07/11/2019
Date Made Active in Reports: 09/20/2019
Number of Days to Update: 71

Source: Dept. of Community Health
Telephone: 559-445-3271
Last EDR Contact: 10/09/2019
Next Scheduled EDR Contact: 01/13/2020
Data Release Frequency: Semi-Annually

GLENN COUNTY:

CUPA GLENN: CUPA Facility List
Cupa facility list

Date of Government Version: 01/22/2018
Date Data Arrived at EDR: 01/24/2018
Date Made Active in Reports: 03/14/2018
Number of Days to Update: 49

Source: Glenn County Air Pollution Control District
Telephone: 830-934-6500
Last EDR Contact: 10/17/2019
Next Scheduled EDR Contact: 02/03/2020
Data Release Frequency: No Update Planned

HUMBOLDT COUNTY:

CUPA HUMBOLDT: CUPA Facility List
CUPA facility list.

Date of Government Version: 07/08/2019
Date Data Arrived at EDR: 07/10/2019
Date Made Active in Reports: 09/20/2019
Number of Days to Update: 72

Source: Humboldt County Environmental Health
Telephone: N/A
Last EDR Contact: 08/19/2019
Next Scheduled EDR Contact: 12/02/2019
Data Release Frequency: Semi-Annually

IMPERIAL COUNTY:

CUPA IMPERIAL: CUPA Facility List
Cupa facility list.

Date of Government Version: 07/19/2019
Date Data Arrived at EDR: 07/23/2019
Date Made Active in Reports: 09/26/2019
Number of Days to Update: 65

Source: San Diego Border Field Office
Telephone: 760-339-2777
Last EDR Contact: 10/17/2019
Next Scheduled EDR Contact: 02/03/2020
Data Release Frequency: Varies

INYO COUNTY:

CUPA INYO: CUPA Facility List
Cupa facility list.

Date of Government Version: 04/02/2018
Date Data Arrived at EDR: 04/03/2018
Date Made Active in Reports: 06/14/2018
Number of Days to Update: 72

Source: Inyo County Environmental Health Services
Telephone: 760-878-0238
Last EDR Contact: 08/14/2019
Next Scheduled EDR Contact: 12/02/2019
Data Release Frequency: Varies

KERN COUNTY:

UST KERN: Underground Storage Tank Sites & Tank Listing
Kern County Sites and Tanks Listing.

Date of Government Version: 08/01/2019
Date Data Arrived at EDR: 08/06/2019
Date Made Active in Reports: 10/08/2019
Number of Days to Update: 63

Source: Kern County Environment Health Services Department
Telephone: 661-862-8700
Last EDR Contact: 07/31/2019
Next Scheduled EDR Contact: 11/18/2019
Data Release Frequency: Quarterly

KINGS COUNTY:

CUPA KINGS: CUPA Facility List
A listing of sites included in the county's Certified Unified Program Agency database. California's Secretary for Environmental Protection established the unified hazardous materials and hazardous waste regulatory program as required by chapter 6.11 of the California Health and Safety Code. The Unified Program consolidates the administration, permits, inspections, and enforcement activities.

Date of Government Version: 08/14/2019
Date Data Arrived at EDR: 08/20/2019
Date Made Active in Reports: 10/18/2019
Number of Days to Update: 59

Source: Kings County Department of Public Health
Telephone: 559-584-1411
Last EDR Contact: 08/14/2019
Next Scheduled EDR Contact: 12/02/2019
Data Release Frequency: Varies

LAKE COUNTY:

CUPA LAKE: CUPA Facility List
Cupa facility list

Date of Government Version: 08/16/2019
Date Data Arrived at EDR: 08/20/2019
Date Made Active in Reports: 10/18/2019
Number of Days to Update: 59

Source: Lake County Environmental Health
Telephone: 707-263-1164
Last EDR Contact: 10/15/2019
Next Scheduled EDR Contact: 01/27/2020
Data Release Frequency: Varies

LASSEN COUNTY:

CUPA LASSEN: CUPA Facility List
Cupa facility list

Date of Government Version: 07/22/2019
Date Data Arrived at EDR: 07/23/2019
Date Made Active in Reports: 09/26/2019
Number of Days to Update: 65

Source: Lassen County Environmental Health
Telephone: 530-251-8528
Last EDR Contact: 10/17/2019
Next Scheduled EDR Contact: 02/03/2020
Data Release Frequency: Varies

LOS ANGELES COUNTY:

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

AOCONCERN: Key Areas of Concerns in Los Angeles County

San Gabriel Valley areas where VOC contamination is at or above the MCL as designated by region 9 EPA office. Date of Government Version: 3/30/2009 Exide Site area is a cleanup plan of lead-impacted soil surrounding the former Exide Facility as designated by the DTSC. Date of Government Version: 7/17/2017

Date of Government Version: 03/30/2009
Date Data Arrived at EDR: 03/31/2009
Date Made Active in Reports: 10/23/2009
Number of Days to Update: 206

Source: N/A
Telephone: N/A
Last EDR Contact: 09/12/2019
Next Scheduled EDR Contact: 12/30/2019
Data Release Frequency: No Update Planned

HMS LOS ANGELES: HMS: Street Number List

Industrial Waste and Underground Storage Tank Sites.

Date of Government Version: 07/09/2019
Date Data Arrived at EDR: 07/11/2019
Date Made Active in Reports: 09/20/2019
Number of Days to Update: 71

Source: Department of Public Works
Telephone: 626-458-3517
Last EDR Contact: 10/02/2019
Next Scheduled EDR Contact: 01/20/2020
Data Release Frequency: Semi-Annually

LF LOS ANGELES: List of Solid Waste Facilities

Solid Waste Facilities in Los Angeles County.

Date of Government Version: 07/15/2019
Date Data Arrived at EDR: 07/17/2019
Date Made Active in Reports: 09/26/2019
Number of Days to Update: 71

Source: La County Department of Public Works
Telephone: 818-458-5185
Last EDR Contact: 10/16/2019
Next Scheduled EDR Contact: 01/27/2020
Data Release Frequency: Varies

LF LOS ANGELES CITY: City of Los Angeles Landfills

Landfills owned and maintained by the City of Los Angeles.

Date of Government Version: 01/01/2019
Date Data Arrived at EDR: 01/15/2019
Date Made Active in Reports: 03/07/2019
Number of Days to Update: 51

Source: Engineering & Construction Division
Telephone: 213-473-7869
Last EDR Contact: 10/09/2019
Next Scheduled EDR Contact: 01/27/2020
Data Release Frequency: Varies

LOS ANGELES AST: Active & Inactive AST Inventory

A listing of active & inactive above ground petroleum storage tank site locations, located in the City of Los Angeles.

Date of Government Version: 06/01/2019
Date Data Arrived at EDR: 06/25/2019
Date Made Active in Reports: 08/22/2019
Number of Days to Update: 58

Source: Los Angeles Fire Department
Telephone: 213-978-3800
Last EDR Contact: 09/27/2019
Next Scheduled EDR Contact: 01/06/2020
Data Release Frequency: Varies

LOS ANGELES CO LF METHANE: Methane Producing Landfills

This data was created on April 30, 2012 to represent known disposal sites in Los Angeles County that may produce and emanate methane gas. The shapefile contains disposal sites within Los Angeles County that once accepted degradable refuse material. Information used to create this data was extracted from a landfill survey performed by County Engineers (Major Waste System Map, 1973) as well as historical records from CalRecycle, Regional Water Quality Control Board, and Los Angeles County Department of Public Health

Date of Government Version: 04/30/2012
Date Data Arrived at EDR: 04/17/2019
Date Made Active in Reports: 05/29/2019
Number of Days to Update: 42

Source: Los Angeles County Department of Public Works
Telephone: 626-458-6973
Last EDR Contact: 10/18/2019
Next Scheduled EDR Contact: 01/27/2020
Data Release Frequency: No Update Planned

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

LOS ANGELES HM: Active & Inactive Hazardous Materials Inventory
A listing of active & inactive hazardous materials facility locations, located in the City of Los Angeles.

Date of Government Version: 06/01/2019
Date Data Arrived at EDR: 06/25/2019
Date Made Active in Reports: 08/22/2019
Number of Days to Update: 58

Source: Los Angeles Fire Department
Telephone: 213-978-3800
Last EDR Contact: 09/27/2019
Next Scheduled EDR Contact: 01/06/2020
Data Release Frequency: Varies

LOS ANGELES UST: Active & Inactive UST Inventory
A listing of active & inactive underground storage tank site locations and underground storage tank historical sites, located in the City of Los Angeles.

Date of Government Version: 06/01/2019
Date Data Arrived at EDR: 06/25/2019
Date Made Active in Reports: 08/22/2019
Number of Days to Update: 58

Source: Los Angeles Fire Department
Telephone: 213-978-3800
Last EDR Contact: 06/25/2019
Next Scheduled EDR Contact: 10/07/2019
Data Release Frequency: Varies

SITE MIT LOS ANGELES: Site Mitigation List
Industrial sites that have had some sort of spill or complaint.

Date of Government Version: 07/15/2019
Date Data Arrived at EDR: 07/17/2019
Date Made Active in Reports: 08/05/2019
Number of Days to Update: 19

Source: Community Health Services
Telephone: 323-890-7806
Last EDR Contact: 10/18/2019
Next Scheduled EDR Contact: 01/27/2020
Data Release Frequency: Annually

UST EL SEGUNDO: City of El Segundo Underground Storage Tank
Underground storage tank sites located in El Segundo city.

Date of Government Version: 01/21/2017
Date Data Arrived at EDR: 04/19/2017
Date Made Active in Reports: 05/10/2017
Number of Days to Update: 21

Source: City of El Segundo Fire Department
Telephone: 310-524-2236
Last EDR Contact: 10/09/2019
Next Scheduled EDR Contact: 01/27/2020
Data Release Frequency: No Update Planned

UST LONG BEACH: City of Long Beach Underground Storage Tank
Underground storage tank sites located in the city of Long Beach.

Date of Government Version: 04/22/2019
Date Data Arrived at EDR: 04/23/2019
Date Made Active in Reports: 06/27/2019
Number of Days to Update: 65

Source: City of Long Beach Fire Department
Telephone: 562-570-2563
Last EDR Contact: 10/17/2019
Next Scheduled EDR Contact: 02/03/2020
Data Release Frequency: Varies

UST TORRANCE: City of Torrance Underground Storage Tank
Underground storage tank sites located in the city of Torrance.

Date of Government Version: 06/27/2019
Date Data Arrived at EDR: 07/30/2019
Date Made Active in Reports: 10/02/2019
Number of Days to Update: 64

Source: City of Torrance Fire Department
Telephone: 310-618-2973
Last EDR Contact: 10/17/2019
Next Scheduled EDR Contact: 02/03/2020
Data Release Frequency: Semi-Annually

MADERA COUNTY:

CUPA MADERA: CUPA Facility List
A listing of sites included in the county's Certified Unified Program Agency database. California's Secretary for Environmental Protection established the unified hazardous materials and hazardous waste regulatory program as required by chapter 6.11 of the California Health and Safety Code. The Unified Program consolidates the administration, permits, inspections, and enforcement activities.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 05/28/2019
Date Data Arrived at EDR: 05/30/2019
Date Made Active in Reports: 08/05/2019
Number of Days to Update: 67

Source: Madera County Environmental Health
Telephone: 559-675-7823
Last EDR Contact: 08/14/2019
Next Scheduled EDR Contact: 12/02/2019
Data Release Frequency: Varies

MARIN COUNTY:

UST MARIN: Underground Storage Tank Sites
Currently permitted USTs in Marin County.

Date of Government Version: 09/26/2018
Date Data Arrived at EDR: 10/04/2018
Date Made Active in Reports: 11/02/2018
Number of Days to Update: 29

Source: Public Works Department Waste Management
Telephone: 415-473-6647
Last EDR Contact: 09/25/2019
Next Scheduled EDR Contact: 01/13/2020
Data Release Frequency: Semi-Annually

MERCED COUNTY:

CUPA MERCED: CUPA Facility List
CUPA facility list.

Date of Government Version: 05/29/2019
Date Data Arrived at EDR: 05/30/2019
Date Made Active in Reports: 07/22/2019
Number of Days to Update: 53

Source: Merced County Environmental Health
Telephone: 209-381-1094
Last EDR Contact: 08/14/2019
Next Scheduled EDR Contact: 12/02/2019
Data Release Frequency: Varies

MONO COUNTY:

CUPA MONO: CUPA Facility List
CUPA Facility List

Date of Government Version: 05/23/2019
Date Data Arrived at EDR: 05/30/2019
Date Made Active in Reports: 07/22/2019
Number of Days to Update: 53

Source: Mono County Health Department
Telephone: 760-932-5580
Last EDR Contact: 08/21/2019
Next Scheduled EDR Contact: 12/09/2019
Data Release Frequency: Varies

MONTEREY COUNTY:

CUPA MONTEREY: CUPA Facility Listing
CUPA Program listing from the Environmental Health Division.

Date of Government Version: 07/25/2019
Date Data Arrived at EDR: 07/30/2019
Date Made Active in Reports: 09/30/2019
Number of Days to Update: 62

Source: Monterey County Health Department
Telephone: 831-796-1297
Last EDR Contact: 09/30/2019
Next Scheduled EDR Contact: 01/13/2020
Data Release Frequency: Varies

NAPA COUNTY:

LUST NAPA: Sites With Reported Contamination
A listing of leaking underground storage tank sites located in Napa county.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 01/09/2017
Date Data Arrived at EDR: 01/11/2017
Date Made Active in Reports: 03/02/2017
Number of Days to Update: 50

Source: Napa County Department of Environmental Management
Telephone: 707-253-4269
Last EDR Contact: 08/21/2019
Next Scheduled EDR Contact: 12/09/2019
Data Release Frequency: No Update Planned

UST NAPA: Closed and Operating Underground Storage Tank Sites
Underground storage tank sites located in Napa county.

Date of Government Version: 02/21/2019
Date Data Arrived at EDR: 02/22/2019
Date Made Active in Reports: 03/08/2019
Number of Days to Update: 14

Source: Napa County Department of Environmental Management
Telephone: 707-253-4269
Last EDR Contact: 09/05/2019
Next Scheduled EDR Contact: 12/09/2019
Data Release Frequency: No Update Planned

NEVADA COUNTY:

CUPA NEVADA: CUPA Facility List
CUPA facility list.

Date of Government Version: 07/23/2019
Date Data Arrived at EDR: 07/30/2019
Date Made Active in Reports: 10/02/2019
Number of Days to Update: 64

Source: Community Development Agency
Telephone: 530-265-1467
Last EDR Contact: 07/25/2019
Next Scheduled EDR Contact: 11/11/2019
Data Release Frequency: Varies

ORANGE COUNTY:

IND_SITE ORANGE: List of Industrial Site Cleanups
Petroleum and non-petroleum spills.

Date of Government Version: 07/10/2019
Date Data Arrived at EDR: 08/07/2019
Date Made Active in Reports: 10/09/2019
Number of Days to Update: 63

Source: Health Care Agency
Telephone: 714-834-3446
Last EDR Contact: 08/05/2019
Next Scheduled EDR Contact: 11/18/2019
Data Release Frequency: Annually

LUST ORANGE: List of Underground Storage Tank Cleanups
Orange County Underground Storage Tank Cleanups (LUST).

Date of Government Version: 07/10/2019
Date Data Arrived at EDR: 08/09/2019
Date Made Active in Reports: 10/09/2019
Number of Days to Update: 61

Source: Health Care Agency
Telephone: 714-834-3446
Last EDR Contact: 08/05/2019
Next Scheduled EDR Contact: 11/18/2019
Data Release Frequency: Quarterly

UST ORANGE: List of Underground Storage Tank Facilities
Orange County Underground Storage Tank Facilities (UST).

Date of Government Version: 07/10/2019
Date Data Arrived at EDR: 08/06/2019
Date Made Active in Reports: 10/09/2019
Number of Days to Update: 64

Source: Health Care Agency
Telephone: 714-834-3446
Last EDR Contact: 08/05/2019
Next Scheduled EDR Contact: 11/18/2019
Data Release Frequency: Quarterly

PLACER COUNTY:

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

MS PLACER: Master List of Facilities
List includes aboveground tanks, underground tanks and cleanup sites.

Date of Government Version: 06/03/2019
Date Data Arrived at EDR: 06/04/2019
Date Made Active in Reports: 08/12/2019
Number of Days to Update: 69

Source: Placer County Health and Human Services
Telephone: 530-745-2363
Last EDR Contact: 08/28/2019
Next Scheduled EDR Contact: 12/16/2019
Data Release Frequency: Semi-Annually

PLUMAS COUNTY:

CUPA PLUMAS: CUPA Facility List
Plumas County CUPA Program facilities.

Date of Government Version: 03/31/2019
Date Data Arrived at EDR: 04/23/2019
Date Made Active in Reports: 06/26/2019
Number of Days to Update: 64

Source: Plumas County Environmental Health
Telephone: 530-283-6355
Last EDR Contact: 10/17/2019
Next Scheduled EDR Contact: 02/03/2020
Data Release Frequency: Varies

RIVERSIDE COUNTY:

LUST RIVERSIDE: Listing of Underground Tank Cleanup Sites
Riverside County Underground Storage Tank Cleanup Sites (LUST).

Date of Government Version: 07/10/2019
Date Data Arrived at EDR: 07/11/2019
Date Made Active in Reports: 09/20/2019
Number of Days to Update: 71

Source: Department of Environmental Health
Telephone: 951-358-5055
Last EDR Contact: 09/16/2019
Next Scheduled EDR Contact: 12/30/2019
Data Release Frequency: Quarterly

UST RIVERSIDE: Underground Storage Tank Tank List
Underground storage tank sites located in Riverside county.

Date of Government Version: 07/10/2019
Date Data Arrived at EDR: 07/11/2019
Date Made Active in Reports: 09/23/2019
Number of Days to Update: 74

Source: Department of Environmental Health
Telephone: 951-358-5055
Last EDR Contact: 09/16/2019
Next Scheduled EDR Contact: 12/30/2019
Data Release Frequency: Quarterly

SACRAMENTO COUNTY:

CS SACRAMENTO: Toxic Site Clean-Up List
List of sites where unauthorized releases of potentially hazardous materials have occurred.

Date of Government Version: 05/06/2019
Date Data Arrived at EDR: 06/28/2019
Date Made Active in Reports: 08/22/2019
Number of Days to Update: 55

Source: Sacramento County Environmental Management
Telephone: 916-875-8406
Last EDR Contact: 10/01/2019
Next Scheduled EDR Contact: 01/13/2020
Data Release Frequency: Quarterly

ML SACRAMENTO: Master Hazardous Materials Facility List
Any business that has hazardous materials on site - hazardous material storage sites, underground storage tanks, waste generators.

Date of Government Version: 05/06/2019
Date Data Arrived at EDR: 06/28/2019
Date Made Active in Reports: 09/13/2019
Number of Days to Update: 77

Source: Sacramento County Environmental Management
Telephone: 916-875-8406
Last EDR Contact: 10/01/2019
Next Scheduled EDR Contact: 01/13/2020
Data Release Frequency: Quarterly

SAN BENITO COUNTY:

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

CUPA SAN BENITO: CUPA Facility List
Cupa facility list

Date of Government Version: 07/16/2019
Date Data Arrived at EDR: 07/16/2019
Date Made Active in Reports: 09/24/2019
Number of Days to Update: 70

Source: San Benito County Environmental Health
Telephone: N/A
Last EDR Contact: 07/16/2019
Next Scheduled EDR Contact: 11/18/2019
Data Release Frequency: Varies

SAN BERNARDINO COUNTY:

PERMITS SAN BERNARDINO: Hazardous Material Permits
This listing includes underground storage tanks, medical waste handlers/generators, hazardous materials handlers, hazardous waste generators, and waste oil generators/handlers.

Date of Government Version: 05/31/2019
Date Data Arrived at EDR: 05/31/2019
Date Made Active in Reports: 07/22/2019
Number of Days to Update: 52

Source: San Bernardino County Fire Department Hazardous Materials Division
Telephone: 909-387-3041
Last EDR Contact: 08/05/2019
Next Scheduled EDR Contact: 11/18/2019
Data Release Frequency: Quarterly

SAN DIEGO COUNTY:

HMMD SAN DIEGO: Hazardous Materials Management Division Database
The database includes: HE58 - This report contains the business name, site address, business phone number, establishment 'H' permit number, type of permit, and the business status. HE17 - In addition to providing the same information provided in the HE58 listing, HE17 provides inspection dates, violations received by the establishment, hazardous waste generated, the quantity, method of storage, treatment/disposal of waste and the hauler, and information on underground storage tanks. Unauthorized Release List - Includes a summary of environmental contamination cases in San Diego County (underground tank cases, non-tank cases, groundwater contamination, and soil contamination are included.)

Date of Government Version: 06/04/2019
Date Data Arrived at EDR: 06/04/2019
Date Made Active in Reports: 08/08/2019
Number of Days to Update: 65

Source: Hazardous Materials Management Division
Telephone: 619-338-2268
Last EDR Contact: 09/04/2019
Next Scheduled EDR Contact: 12/16/2019
Data Release Frequency: Quarterly

LF SAN DIEGO: Solid Waste Facilities
San Diego County Solid Waste Facilities.

Date of Government Version: 04/18/2018
Date Data Arrived at EDR: 04/24/2018
Date Made Active in Reports: 06/19/2018
Number of Days to Update: 56

Source: Department of Health Services
Telephone: 619-338-2209
Last EDR Contact: 10/17/2019
Next Scheduled EDR Contact: 02/03/2020
Data Release Frequency: Varies

SAN DIEGO CO LOP: Local Oversight Program Listing
A listing of all LOP release sites that are or were under the County of San Diego's jurisdiction. Included are closed or transferred cases, open cases, and cases that did not have a case type indicated. The cases without a case type are mostly complaints; however, some of them could be LOP cases.

Date of Government Version: 07/16/2019
Date Data Arrived at EDR: 07/23/2019
Date Made Active in Reports: 09/30/2019
Number of Days to Update: 69

Source: Department of Environmental Health
Telephone: 858-505-6874
Last EDR Contact: 10/17/2019
Next Scheduled EDR Contact: 02/03/2020
Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

SAN DIEGO CO SAM: Environmental Case Listing
The listing contains all underground tank release cases and projects pertaining to properties contaminated with hazardous substances that are actively under review by the Site Assessment and Mitigation Program.

Date of Government Version: 03/23/2010
Date Data Arrived at EDR: 06/15/2010
Date Made Active in Reports: 07/09/2010
Number of Days to Update: 24

Source: San Diego County Department of Environmental Health
Telephone: 619-338-2371
Last EDR Contact: 08/28/2019
Next Scheduled EDR Contact: 12/16/2019
Data Release Frequency: No Update Planned

SAN FRANCISCO COUNTY:

LUST SAN FRANCISCO: Local Oversite Facilities
A listing of leaking underground storage tank sites located in San Francisco county.

Date of Government Version: 09/19/2008
Date Data Arrived at EDR: 09/19/2008
Date Made Active in Reports: 09/29/2008
Number of Days to Update: 10

Source: Department Of Public Health San Francisco County
Telephone: 415-252-3920
Last EDR Contact: 07/31/2019
Next Scheduled EDR Contact: 11/18/2019
Data Release Frequency: No Update Planned

UST SAN FRANCISCO: Underground Storage Tank Information
Underground storage tank sites located in San Francisco county.

Date of Government Version: 08/01/2019
Date Data Arrived at EDR: 08/02/2019
Date Made Active in Reports: 10/08/2019
Number of Days to Update: 67

Source: Department of Public Health
Telephone: 415-252-3920
Last EDR Contact: 07/31/2019
Next Scheduled EDR Contact: 11/18/2019
Data Release Frequency: Quarterly

SAN JOAQUIN COUNTY:

UST SAN JOAQUIN: San Joaquin Co. UST
A listing of underground storage tank locations in San Joaquin county.

Date of Government Version: 06/22/2018
Date Data Arrived at EDR: 06/26/2018
Date Made Active in Reports: 07/11/2018
Number of Days to Update: 15

Source: Environmental Health Department
Telephone: N/A
Last EDR Contact: 09/11/2019
Next Scheduled EDR Contact: 12/29/2019
Data Release Frequency: Semi-Annually

SAN LUIS OBISPO COUNTY:

CUPA SAN LUIS OBISPO: CUPA Facility List
Cupa Facility List.

Date of Government Version: 08/14/2019
Date Data Arrived at EDR: 08/20/2019
Date Made Active in Reports: 10/18/2019
Number of Days to Update: 59

Source: San Luis Obispo County Public Health Department
Telephone: 805-781-5596
Last EDR Contact: 08/14/2019
Next Scheduled EDR Contact: 12/02/2019
Data Release Frequency: Varies

SAN MATEO COUNTY:

BI SAN MATEO: Business Inventory
List includes Hazardous Materials Business Plan, hazardous waste generators, and underground storage tanks.

Date of Government Version: 08/06/2019
Date Data Arrived at EDR: 08/14/2019
Date Made Active in Reports: 08/15/2019
Number of Days to Update: 1

Source: San Mateo County Environmental Health Services Division
Telephone: 650-363-1921
Last EDR Contact: 09/09/2019
Next Scheduled EDR Contact: 12/23/2019
Data Release Frequency: Annually

LUST SAN MATEO: Fuel Leak List
A listing of leaking underground storage tank sites located in San Mateo county.

Date of Government Version: 03/29/2019
Date Data Arrived at EDR: 03/29/2019
Date Made Active in Reports: 05/29/2019
Number of Days to Update: 61

Source: San Mateo County Environmental Health Services Division
Telephone: 650-363-1921
Last EDR Contact: 09/05/2019
Next Scheduled EDR Contact: 12/23/2019
Data Release Frequency: Semi-Annually

SANTA BARBARA COUNTY:

CUPA SANTA BARBARA: CUPA Facility Listing
CUPA Program Listing from the Environmental Health Services division.

Date of Government Version: 09/08/2011
Date Data Arrived at EDR: 09/09/2011
Date Made Active in Reports: 10/07/2011
Number of Days to Update: 28

Source: Santa Barbara County Public Health Department
Telephone: 805-686-8167
Last EDR Contact: 08/14/2019
Next Scheduled EDR Contact: 12/02/2019
Data Release Frequency: No Update Planned

SANTA CLARA COUNTY:

CUPA SANTA CLARA: Cupa Facility List
Cupa facility list

Date of Government Version: 08/14/2019
Date Data Arrived at EDR: 08/20/2019
Date Made Active in Reports: 10/18/2019
Number of Days to Update: 59

Source: Department of Environmental Health
Telephone: 408-918-1973
Last EDR Contact: 08/14/2019
Next Scheduled EDR Contact: 12/02/2019
Data Release Frequency: Varies

HIST LUST SANTA CLARA: HIST LUST - Fuel Leak Site Activity Report
A listing of open and closed leaking underground storage tanks. This listing is no longer updated by the county. Leaking underground storage tanks are now handled by the Department of Environmental Health.

Date of Government Version: 03/29/2005
Date Data Arrived at EDR: 03/30/2005
Date Made Active in Reports: 04/21/2005
Number of Days to Update: 22

Source: Santa Clara Valley Water District
Telephone: 408-265-2600
Last EDR Contact: 03/23/2009
Next Scheduled EDR Contact: 06/22/2009
Data Release Frequency: No Update Planned

LUST SANTA CLARA: LOP Listing
A listing of leaking underground storage tanks located in Santa Clara county.

Date of Government Version: 03/03/2014
Date Data Arrived at EDR: 03/05/2014
Date Made Active in Reports: 03/18/2014
Number of Days to Update: 13

Source: Department of Environmental Health
Telephone: 408-918-3417
Last EDR Contact: 08/21/2019
Next Scheduled EDR Contact: 12/09/2019
Data Release Frequency: No Update Planned

SAN JOSE HAZMAT: Hazardous Material Facilities
Hazardous material facilities, including underground storage tank sites.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 07/30/2019
Date Data Arrived at EDR: 08/02/2019
Date Made Active in Reports: 10/08/2019
Number of Days to Update: 67

Source: City of San Jose Fire Department
Telephone: 408-535-7694
Last EDR Contact: 07/31/2019
Next Scheduled EDR Contact: 11/18/2019
Data Release Frequency: Annually

SANTA CRUZ COUNTY:

CUPA SANTA CRUZ: CUPA Facility List
CUPA facility listing.

Date of Government Version: 01/21/2017
Date Data Arrived at EDR: 02/22/2017
Date Made Active in Reports: 05/23/2017
Number of Days to Update: 90

Source: Santa Cruz County Environmental Health
Telephone: 831-464-2761
Last EDR Contact: 08/14/2019
Next Scheduled EDR Contact: 12/02/2019
Data Release Frequency: Varies

SHASTA COUNTY:

CUPA SHASTA: CUPA Facility List
Cupa Facility List.

Date of Government Version: 06/15/2017
Date Data Arrived at EDR: 06/19/2017
Date Made Active in Reports: 08/09/2017
Number of Days to Update: 51

Source: Shasta County Department of Resource Management
Telephone: 530-225-5789
Last EDR Contact: 08/14/2019
Next Scheduled EDR Contact: 12/02/2019
Data Release Frequency: Varies

SOLANO COUNTY:

LUST SOLANO: Leaking Underground Storage Tanks
A listing of leaking underground storage tank sites located in Solano county.

Date of Government Version: 06/04/2019
Date Data Arrived at EDR: 06/06/2019
Date Made Active in Reports: 08/13/2019
Number of Days to Update: 68

Source: Solano County Department of Environmental Management
Telephone: 707-784-6770
Last EDR Contact: 08/28/2019
Next Scheduled EDR Contact: 12/16/2019
Data Release Frequency: Quarterly

UST SOLANO: Underground Storage Tanks
Underground storage tank sites located in Solano county.

Date of Government Version: 06/04/2019
Date Data Arrived at EDR: 06/06/2019
Date Made Active in Reports: 07/23/2019
Number of Days to Update: 47

Source: Solano County Department of Environmental Management
Telephone: 707-784-6770
Last EDR Contact: 08/28/2019
Next Scheduled EDR Contact: 12/16/2019
Data Release Frequency: Quarterly

SONOMA COUNTY:

CUPA SONOMA: Cupa Facility List
Cupa Facility list

Date of Government Version: 06/18/2019
Date Data Arrived at EDR: 06/25/2019
Date Made Active in Reports: 07/24/2019
Number of Days to Update: 29

Source: County of Sonoma Fire & Emergency Services Department
Telephone: 707-565-1174
Last EDR Contact: 10/17/2019
Next Scheduled EDR Contact: 01/06/2020
Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

LUST SONOMA: Leaking Underground Storage Tank Sites
A listing of leaking underground storage tank sites located in Sonoma county.

Date of Government Version: 07/02/2019
Date Data Arrived at EDR: 07/02/2019
Date Made Active in Reports: 09/20/2019
Number of Days to Update: 80

Source: Department of Health Services
Telephone: 707-565-6565
Last EDR Contact: 09/19/2019
Next Scheduled EDR Contact: 01/06/2020
Data Release Frequency: Quarterly

STANISLAUS COUNTY:

CUPA STANISLAUS: CUPA Facility List
Cupa facility list

Date of Government Version: 07/18/2019
Date Data Arrived at EDR: 07/18/2019
Date Made Active in Reports: 09/26/2019
Number of Days to Update: 70

Source: Stanislaus County Department of Ennvironmental Protection
Telephone: 209-525-6751
Last EDR Contact: 10/15/2019
Next Scheduled EDR Contact: 01/27/2020
Data Release Frequency: Varies

SUTTER COUNTY:

UST SUTTER: Underground Storage Tanks
Underground storage tank sites located in Sutter county.

Date of Government Version: 06/03/2019
Date Data Arrived at EDR: 06/04/2019
Date Made Active in Reports: 07/23/2019
Number of Days to Update: 49

Source: Sutter County Environmental Health Services
Telephone: 530-822-7500
Last EDR Contact: 08/28/2019
Next Scheduled EDR Contact: 12/16/2019
Data Release Frequency: Semi-Annually

TEHAMA COUNTY:

CUPA TEHAMA: CUPA Facility List
Cupa facilities

Date of Government Version: 05/20/2019
Date Data Arrived at EDR: 05/21/2019
Date Made Active in Reports: 07/18/2019
Number of Days to Update: 58

Source: Tehama County Department of Environmental Health
Telephone: 530-527-8020
Last EDR Contact: 07/31/2019
Next Scheduled EDR Contact: 11/18/2019
Data Release Frequency: Varies

TRINITY COUNTY:

CUPA TRINITY: CUPA Facility List
Cupa facility list

Date of Government Version: 07/19/2019
Date Data Arrived at EDR: 07/23/2019
Date Made Active in Reports: 09/26/2019
Number of Days to Update: 65

Source: Department of Toxic Substances Control
Telephone: 760-352-0381
Last EDR Contact: 10/17/2019
Next Scheduled EDR Contact: 02/03/2020
Data Release Frequency: Varies

TULARE COUNTY:

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

CUPA TULARE: CUPA Facility List
Cupa program facilities

Date of Government Version: 08/12/2019
Date Data Arrived at EDR: 08/14/2019
Date Made Active in Reports: 10/17/2019
Number of Days to Update: 64

Source: Tulare County Environmental Health Services Division
Telephone: 559-624-7400
Last EDR Contact: 08/05/2019
Next Scheduled EDR Contact: 11/18/2019
Data Release Frequency: Varies

TUOLUMNE COUNTY:

CUPA TUOLUMNE: CUPA Facility List
Cupa facility list

Date of Government Version: 04/23/2018
Date Data Arrived at EDR: 04/25/2018
Date Made Active in Reports: 06/25/2018
Number of Days to Update: 61

Source: Divison of Environmental Health
Telephone: 209-533-5633
Last EDR Contact: 10/17/2019
Next Scheduled EDR Contact: 02/03/2020
Data Release Frequency: Varies

VENTURA COUNTY:

BWT VENTURA: Business Plan, Hazardous Waste Producers, and Operating Underground Tanks
The BWT list indicates by site address whether the Environmental Health Division has Business Plan (B), Waste Producer (W), and/or Underground Tank (T) information.

Date of Government Version: 05/29/2019
Date Data Arrived at EDR: 07/29/2019
Date Made Active in Reports: 09/30/2019
Number of Days to Update: 63

Source: Ventura County Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 10/21/2019
Next Scheduled EDR Contact: 02/03/2020
Data Release Frequency: Quarterly

LF VENTURA: Inventory of Illegal Abandoned and Inactive Sites
Ventura County Inventory of Closed, Illegal Abandoned, and Inactive Sites.

Date of Government Version: 12/01/2011
Date Data Arrived at EDR: 12/01/2011
Date Made Active in Reports: 01/19/2012
Number of Days to Update: 49

Source: Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 09/25/2019
Next Scheduled EDR Contact: 01/13/2020
Data Release Frequency: No Update Planned

LUST VENTURA: Listing of Underground Tank Cleanup Sites
Ventura County Underground Storage Tank Cleanup Sites (LUST).

Date of Government Version: 05/29/2008
Date Data Arrived at EDR: 06/24/2008
Date Made Active in Reports: 07/31/2008
Number of Days to Update: 37

Source: Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 08/07/2019
Next Scheduled EDR Contact: 11/25/2019
Data Release Frequency: No Update Planned

MED WASTE VENTURA: Medical Waste Program List
To protect public health and safety and the environment from potential exposure to disease causing agents, the Environmental Health Division Medical Waste Program regulates the generation, handling, storage, treatment and disposal of medical waste throughout the County.

Date of Government Version: 05/29/2019
Date Data Arrived at EDR: 07/29/2019
Date Made Active in Reports: 09/30/2019
Number of Days to Update: 63

Source: Ventura County Resource Management Agency
Telephone: 805-654-2813
Last EDR Contact: 10/21/2019
Next Scheduled EDR Contact: 02/03/2020
Data Release Frequency: Quarterly

UST VENTURA: Underground Tank Closed Sites List
Ventura County Operating Underground Storage Tank Sites (UST)/Underground Tank Closed Sites List.

Date of Government Version: 06/10/2019
Date Data Arrived at EDR: 06/12/2019
Date Made Active in Reports: 07/24/2019
Number of Days to Update: 42

Source: Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 09/09/2019
Next Scheduled EDR Contact: 12/23/2019
Data Release Frequency: Quarterly

YOLO COUNTY:

UST YOLO: Underground Storage Tank Comprehensive Facility Report
Underground storage tank sites located in Yolo county.

Date of Government Version: 06/26/2019
Date Data Arrived at EDR: 06/28/2019
Date Made Active in Reports: 07/31/2019
Number of Days to Update: 33

Source: Yolo County Department of Health
Telephone: 530-666-8646
Last EDR Contact: 09/25/2019
Next Scheduled EDR Contact: 01/13/2020
Data Release Frequency: Annually

YUBA COUNTY:

CUPA YUBA: CUPA Facility List
CUPA facility listing for Yuba County.

Date of Government Version: 07/26/2019
Date Data Arrived at EDR: 07/31/2019
Date Made Active in Reports: 10/08/2019
Number of Days to Update: 69

Source: Yuba County Environmental Health Department
Telephone: 530-749-7523
Last EDR Contact: 07/25/2019
Next Scheduled EDR Contact: 11/11/2019
Data Release Frequency: Varies

OTHER DATABASE(S)

Depending on the geographic area covered by this report, the data provided in these specialty databases may or may not be complete. For example, the existence of wetlands information data in a specific report does not mean that all wetlands in the area covered by the report are included. Moreover, the absence of any reported wetlands information does not necessarily mean that wetlands do not exist in the area covered by the report.

CT MANIFEST: Hazardous Waste Manifest Data
Facility and manifest data. Manifest is a document that lists and tracks hazardous waste from the generator through transporters to a tsd facility.

Date of Government Version: 05/14/2019
Date Data Arrived at EDR: 05/14/2019
Date Made Active in Reports: 08/05/2019
Number of Days to Update: 83

Source: Department of Energy & Environmental Protection
Telephone: 860-424-3375
Last EDR Contact: 08/07/2019
Next Scheduled EDR Contact: 11/25/2019
Data Release Frequency: No Update Planned

NJ MANIFEST: Manifest Information
Hazardous waste manifest information.

Date of Government Version: 12/31/2018
Date Data Arrived at EDR: 04/10/2019
Date Made Active in Reports: 05/16/2019
Number of Days to Update: 36

Source: Department of Environmental Protection
Telephone: N/A
Last EDR Contact: 10/02/2019
Next Scheduled EDR Contact: 01/20/2020
Data Release Frequency: Annually

NY MANIFEST: Facility and Manifest Data

Manifest is a document that lists and tracks hazardous waste from the generator through transporters to a TSD facility.

Date of Government Version: 01/01/2019
Date Data Arrived at EDR: 05/01/2019
Date Made Active in Reports: 06/21/2019
Number of Days to Update: 51

Source: Department of Environmental Conservation
Telephone: 518-402-8651
Last EDR Contact: 07/29/2019
Next Scheduled EDR Contact: 11/11/2019
Data Release Frequency: Quarterly

PA MANIFEST: Manifest Information

Hazardous waste manifest information.

Date of Government Version: 06/30/2018
Date Data Arrived at EDR: 07/19/2019
Date Made Active in Reports: 09/10/2019
Number of Days to Update: 53

Source: Department of Environmental Protection
Telephone: 717-783-8990
Last EDR Contact: 10/09/2019
Next Scheduled EDR Contact: 12/07/2020
Data Release Frequency: Annually

RI MANIFEST: Manifest information

Hazardous waste manifest information

Date of Government Version: 12/31/2017
Date Data Arrived at EDR: 02/23/2018
Date Made Active in Reports: 04/09/2018
Number of Days to Update: 45

Source: Department of Environmental Management
Telephone: 401-222-2797
Last EDR Contact: 08/16/2019
Next Scheduled EDR Contact: 12/02/2019
Data Release Frequency: Annually

WI MANIFEST: Manifest Information

Hazardous waste manifest information.

Date of Government Version: 05/31/2018
Date Data Arrived at EDR: 06/19/2019
Date Made Active in Reports: 09/03/2019
Number of Days to Update: 76

Source: Department of Natural Resources
Telephone: N/A
Last EDR Contact: 09/06/2019
Next Scheduled EDR Contact: 12/23/2019
Data Release Frequency: Annually

Oil/Gas Pipelines

Source: Endeavor Business Media

Petroleum Bundle (Crude Oil, Refined Products, Petrochemicals, Gas Liquids (LPG/NGL), and Specialty Gases (Miscellaneous)) N = Natural Gas Bundle (Natural Gas, Gas Liquids (LPG/NGL), and Specialty Gases (Miscellaneous)). This map includes information copyrighted by Endeavor Business Media. This information is provided on a best effort basis and Endeavor Business Media does not guarantee its accuracy nor warrant its fitness for any particular purpose. Such information has been reprinted with the permission of Endeavor Business Media.

Electric Power Transmission Line Data

Source: Endeavor Business Media

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Sensitive Receptors: There are individuals deemed sensitive receptors due to their fragile immune systems and special sensitivity to environmental discharges. These sensitive receptors typically include the elderly, the sick, and children. While the location of all sensitive receptors cannot be determined, EDR indicates those buildings and facilities - schools, daycares, hospitals, medical centers, and nursing homes - where individuals who are sensitive receptors are likely to be located.

AHA Hospitals:

Source: American Hospital Association, Inc.
Telephone: 312-280-5991
The database includes a listing of hospitals based on the American Hospital Association's annual survey of hospitals.

Medical Centers: Provider of Services Listing

Source: Centers for Medicare & Medicaid Services
Telephone: 410-786-3000
A listing of hospitals with Medicare provider number, produced by Centers of Medicare & Medicaid Services, a federal agency within the U.S. Department of Health and Human Services.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Nursing Homes
Source: National Institutes of Health
Telephone: 301-594-6248
Information on Medicare and Medicaid certified nursing homes in the United States.
Public Schools
Source: National Center for Education Statistics
Telephone: 202-502-7300
The National Center for Education Statistics' primary database on elementary and secondary public education in the United States. It is a comprehensive, annual, national statistical database of all public elementary and secondary schools and school districts, which contains data that are comparable across all states.
Private Schools
Source: National Center for Education Statistics
Telephone: 202-502-7300
The National Center for Education Statistics' primary database on private school locations in the United States.
Daycare Centers: Licensed Facilities
Source: Department of Social Services
Telephone: 916-657-4041

Flood Zone Data: This data was obtained from the Federal Emergency Management Agency (FEMA). It depicts 100-year and 500-year flood zones as defined by FEMA. It includes the National Flood Hazard Layer (NFHL) which incorporates Flood Insurance Rate Map (FIRM) data and Q3 data from FEMA in areas not covered by NFHL.
Source: FEMA
Telephone: 877-336-2627
Date of Government Version: 2003, 2015

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002, 2005 and 2010 from the U.S. Fish and Wildlife Service.

State Wetlands Data: Wetland Inventory
Source: Department of Fish and Wildlife
Telephone: 916-445-0411

Current USGS 7.5 Minute Topographic Map
Source: U.S. Geological Survey

STREET AND ADDRESS INFORMATION

GEOCHECK ®- PHYSICAL SETTING SOURCE ADDENDUM

TARGET PROPERTY ADDRESS

IRIS PARK
IRIS AVENUE & PERRIS BOULEVARD
MORENO VALLEY, CA 92551

TARGET PROPERTY COORDINATES

Latitude (North):	33.887532 - 33° 53' 15.12''
Longitude (West):	117.222763 - 117° 13' 21.95''
Universal Tranverse Mercator:	Zone 11
UTM X (Meters):	479400.8
UTM Y (Meters):	3749514.0
Elevation:	1500 ft. above sea level

USGS TOPOGRAPHIC MAP

Target Property Map:	5641326 SUNNYMEAD, CA
Version Date:	2012
South Map:	5641330 PERRIS, CA
Version Date:	2012

EDR's GeoCheck Physical Setting Source Addendum is provided to assist the environmental professional in forming an opinion about the impact of potential contaminant migration.

Assessment of the impact of contaminant migration generally has two principle investigative components:

1. Groundwater flow direction, and
2. Groundwater flow velocity.

Groundwater flow direction may be impacted by surface topography, hydrology, hydrogeology, characteristics of the soil, and nearby wells. Groundwater flow velocity is generally impacted by the nature of the geologic strata.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

GROUNDWATER FLOW DIRECTION INFORMATION

Groundwater flow direction for a particular site is best determined by a qualified environmental professional using site-specific well data. If such data is not reasonably ascertainable, it may be necessary to rely on other sources of information, such as surface topographic information, hydrologic information, hydrogeologic data collected on nearby properties, and regional groundwater flow information (from deep aquifers).

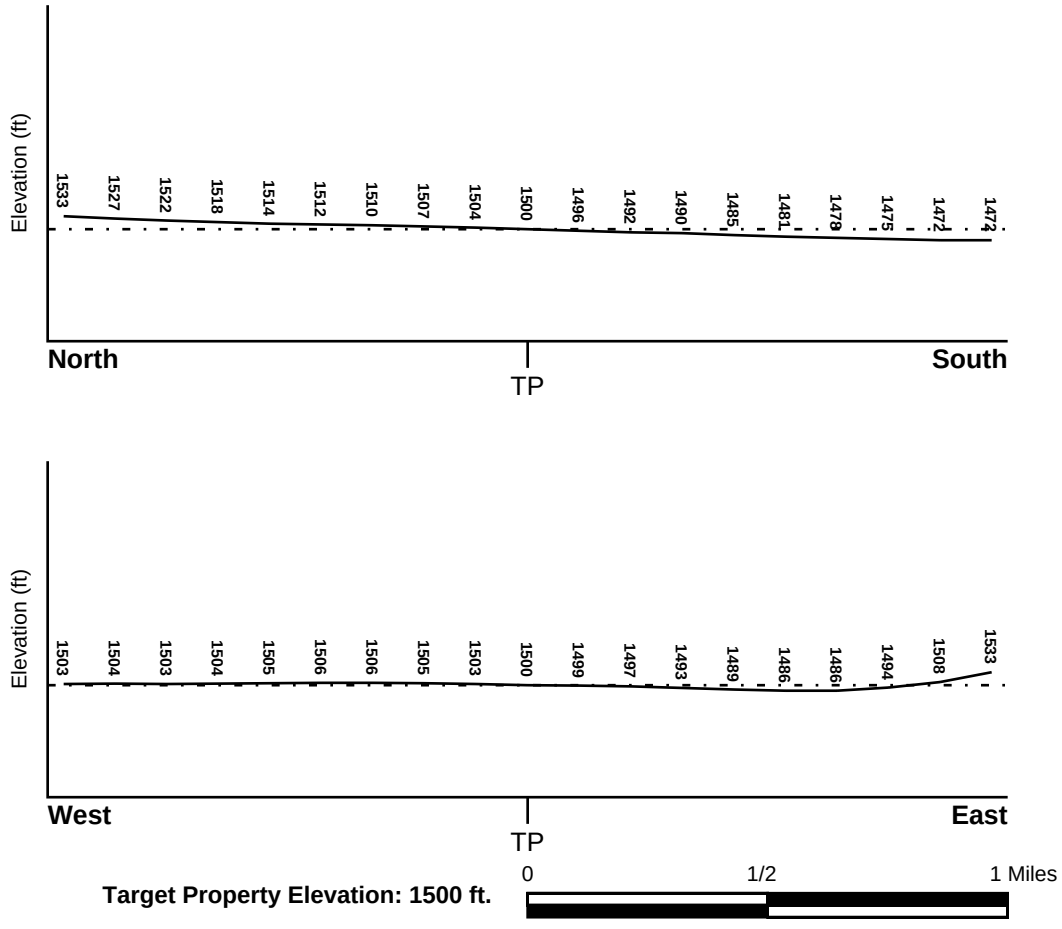
TOPOGRAPHIC INFORMATION

Surface topography may be indicative of the direction of surficial groundwater flow. This information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

TARGET PROPERTY TOPOGRAPHY

General Topographic Gradient: General SSE

SURROUNDING TOPOGRAPHY: ELEVATION PROFILES



Target Property Elevation: 1500 ft.

Source: Topography has been determined from the USGS 7.5' Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

HYDROLOGIC INFORMATION

Surface water can act as a hydrologic barrier to groundwater flow. Such hydrologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

Refer to the Physical Setting Source Map following this summary for hydrologic information (major waterways and bodies of water).

FEMA FLOOD ZONE

Flood Plain Panel at Target Property	FEMA Source Type
06065C0765G	FEMA FIRM Flood data

Additional Panels in search area:	FEMA Source Type
06065C1430H	FEMA FIRM Flood data

NATIONAL WETLAND INVENTORY

NWI Quad at Target Property	NWI Electronic Data Coverage
NOT AVAILABLE	YES - refer to the Overview Map and Detail Map

HYDROGEOLOGIC INFORMATION

Hydrogeologic information obtained by installation of wells on a specific site can often be an indicator of groundwater flow direction in the immediate area. Such hydrogeologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

Site-Specific Hydrogeological Data*:

Search Radius:	1.25 miles
Status:	Not found

AQUIFLOW®

Search Radius: 1.000 Mile.

EDR has developed the AQUIFLOW Information System to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted by environmental professionals to regulatory authorities at select sites and has extracted the date of the report, groundwater flow direction as determined hydrogeologically, and the depth to water table.

MAP ID	LOCATION FROM TP	GENERAL DIRECTION GROUNDWATER FLOW
Not Reported		

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

GROUNDWATER FLOW VELOCITY INFORMATION

Groundwater flow velocity information for a particular site is best determined by a qualified environmental professional using site specific geologic and soil strata data. If such data are not reasonably ascertainable, it may be necessary to rely on other sources of information, including geologic age identification, rock stratigraphic unit and soil characteristics data collected on nearby properties and regional soil information. In general, contaminant plumes move more quickly through sandy-gravelly types of soils than silty-clayey types of soils.

GEOLOGIC INFORMATION IN GENERAL AREA OF TARGET PROPERTY

Geologic information can be used by the environmental professional in forming an opinion about the relative speed at which contaminant migration may be occurring.

ROCK STRATIGRAPHIC UNIT

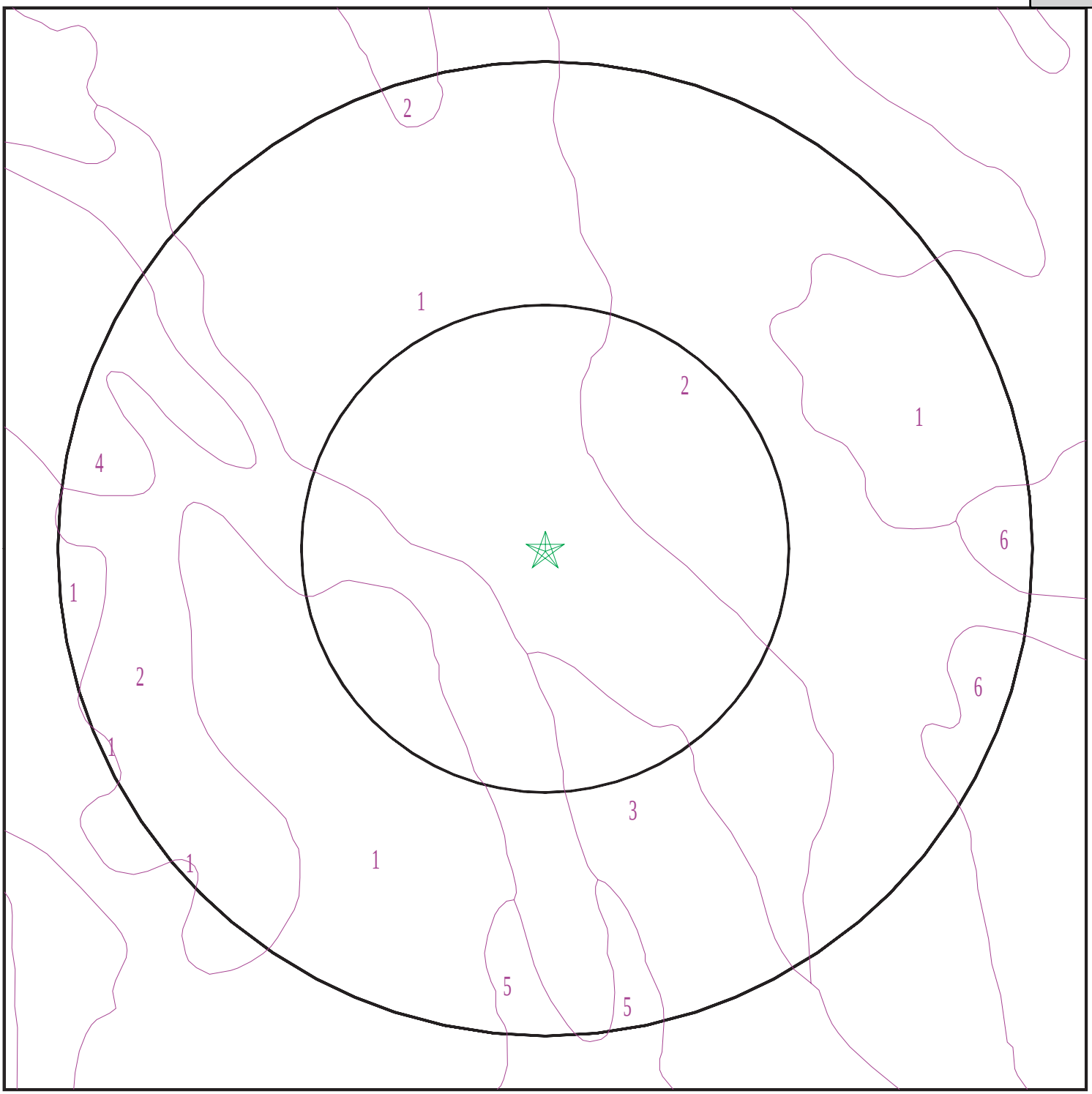
Era:	Mesozoic
System:	Cretaceous
Series:	Cretaceous granitic rocks
Code:	Kg *(decoded above as Era, System & Series)*

GEOLOGIC AGE IDENTIFICATION

Category: Plutonic and Intrusive Rocks

Geologic Age and Rock Stratigraphic Unit Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - a digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

SSURGO SOIL MAP - 5844302.2s



Target Property
SSURGO Soil
Water

0 1/16 1/8 1/4 Miles

N

SITE NAME:	Iris Park	CLIENT:	AES Due Diligence, Inc
ADDRESS:	Iris Avenue & Perris Boulevard Moreno Valley CA 92551	CONTACT:	Rick Darwicki
LAT/LONG:	33.887532 / 117.222763	INQUIRY #:	5844302.2s
		DATE:	October 25, 2019 2:07 pm

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

DOMINANT SOIL COMPOSITION IN GENERAL AREA OF TARGET PROPERTY

The U.S. Department of Agriculture's (USDA) Soil Conservation Service (SCS) leads the National Cooperative Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. The following information is based on Soil Conservation Service SSURGO data.

Soil Map ID: 1

Soil Component Name: GREENFIELD

Soil Surface Texture: sandy loam

Hydrologic Group: Class B - Moderate infiltration rates. Deep and moderately deep, moderately well and well drained soils with moderately coarse textures.

Soil Drainage Class: Well drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: Low

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	25 inches	sandy loam	Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 42 Min: 14	Max: 8.4 Min: 6.6
2	25 inches	42 inches	fine sandy loam	Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 42 Min: 14	Max: 8.4 Min: 6.6
3	42 inches	59 inches	loam	Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 42 Min: 14	Max: 8.4 Min: 6.6

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
4	59 inches	72 inches	stratified loamy sand to sandy loam	Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 42 Min: 14	Max: 8.4 Min: 6.6

Soil Map ID: 2

Soil Component Name: HANFORD

Soil Surface Texture: fine sandy loam

Hydrologic Group: Class B - Moderate infiltration rates. Deep and moderately deep, moderately well and well drained soils with moderately coarse textures.

Soil Drainage Class: Well drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: Low

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	7 inches	fine sandy loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 141 Min: 42	Max: 7.8 Min: 5.6
2	7 inches	40 inches	fine sandy loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 141 Min: 42	Max: 7.8 Min: 5.6

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
3	40 inches	59 inches	stratified loamy sand to coarse sandy loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 141 Min: 42	Max: 7.8 Min: 5.6

Soil Map ID: 3

Soil Component Name: EXETER

Soil Surface Texture: sandy loam

Hydrologic Group: Class C - Slow infiltration rates. Soils with layers impeding downward movement of water, or soils with moderately fine or fine textures.

Soil Drainage Class: Well drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: High

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	16 inches	sandy loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), silt.	Max: 4 Min: 1.4	Max: 8.4 Min: 7.4
2	16 inches	37 inches	sandy clay loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), silt.	Max: 4 Min: 1.4	Max: 8.4 Min: 7.4

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
3	37 inches	50 inches	indurated	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), silt.	Max: 4 Min: 1.4	Max: 8.4 Min: 7.4
4	50 inches	59 inches	stratified sandy loam to silt loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), silt.	Max: 4 Min: 1.4	Max: 8.4 Min: 7.4

Soil Map ID: 4

Soil Component Name: HANFORD

Soil Surface Texture: coarse sandy loam

Hydrologic Group: Class B - Moderate infiltration rates. Deep and moderately deep, moderately well and well drained soils with moderately coarse textures.

Soil Drainage Class: Somewhat excessively drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: Low

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	7 inches	coarse sandy loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 141 Min: 42	Max: 7.8 Min: 5.6

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
2	7 inches	40 inches	fine sandy loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 141 Min: 42	Max: 7.8 Min: 5.6
3	40 inches	59 inches	stratified loamy sand to coarse sandy loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 141 Min: 42	Max: 7.8 Min: 5.6

Soil Map ID: 5

Soil Component Name: EXETER

Soil Surface Texture: sandy loam

Hydrologic Group: Class B - Moderate infiltration rates. Deep and moderately deep, moderately well and well drained soils with moderately coarse textures.

Soil Drainage Class: Well drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: High

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	16 inches	sandy loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), silt.	Max: 4 Min: 1.4	Max: 8.4 Min: 7.4

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
2	16 inches	37 inches	sandy clay loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), silt.	Max: 4 Min: 1.4	Max: 8.4 Min: 7.4
3	37 inches	50 inches	indurated	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), silt.	Max: 4 Min: 1.4	Max: 8.4 Min: 7.4
4	50 inches	59 inches	stratified sandy loam to silt loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), silt.	Max: 4 Min: 1.4	Max: 8.4 Min: 7.4

Soil Map ID: 6

Soil Component Name: PACHAPPA

Soil Surface Texture: fine sandy loam

Hydrologic Group: Class B - Moderate infiltration rates. Deep and moderately deep, moderately well and well drained soils with moderately coarse textures.

Soil Drainage Class: Well drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: Low

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	20 inches	fine sandy loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay	Max: 14 Min: 4	Max: 7.8 Min: 6.6
2	20 inches	62 inches	loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay	Max: 14 Min: 4	Max: 7.8 Min: 6.6

LOCAL / REGIONAL WATER AGENCY RECORDS

EDR Local/Regional Water Agency records provide water well information to assist the environmental professional in assessing sources that may impact ground water flow direction, and in forming an opinion about the impact of contaminant migration on nearby drinking water wells.

WELL SEARCH DISTANCE INFORMATION

DATABASE	SEARCH DISTANCE (miles)
Federal USGS	1.000
Federal FRDS PWS	Nearest PWS within 1 mile
State Database	1.000

FEDERAL USGS WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
1	USGS40000138759	1/2 - 1 Mile SSW

FEDERAL FRDS PUBLIC WATER SUPPLY SYSTEM INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
No PWS System Found		

Note: PWS System location is not always the same as well location.

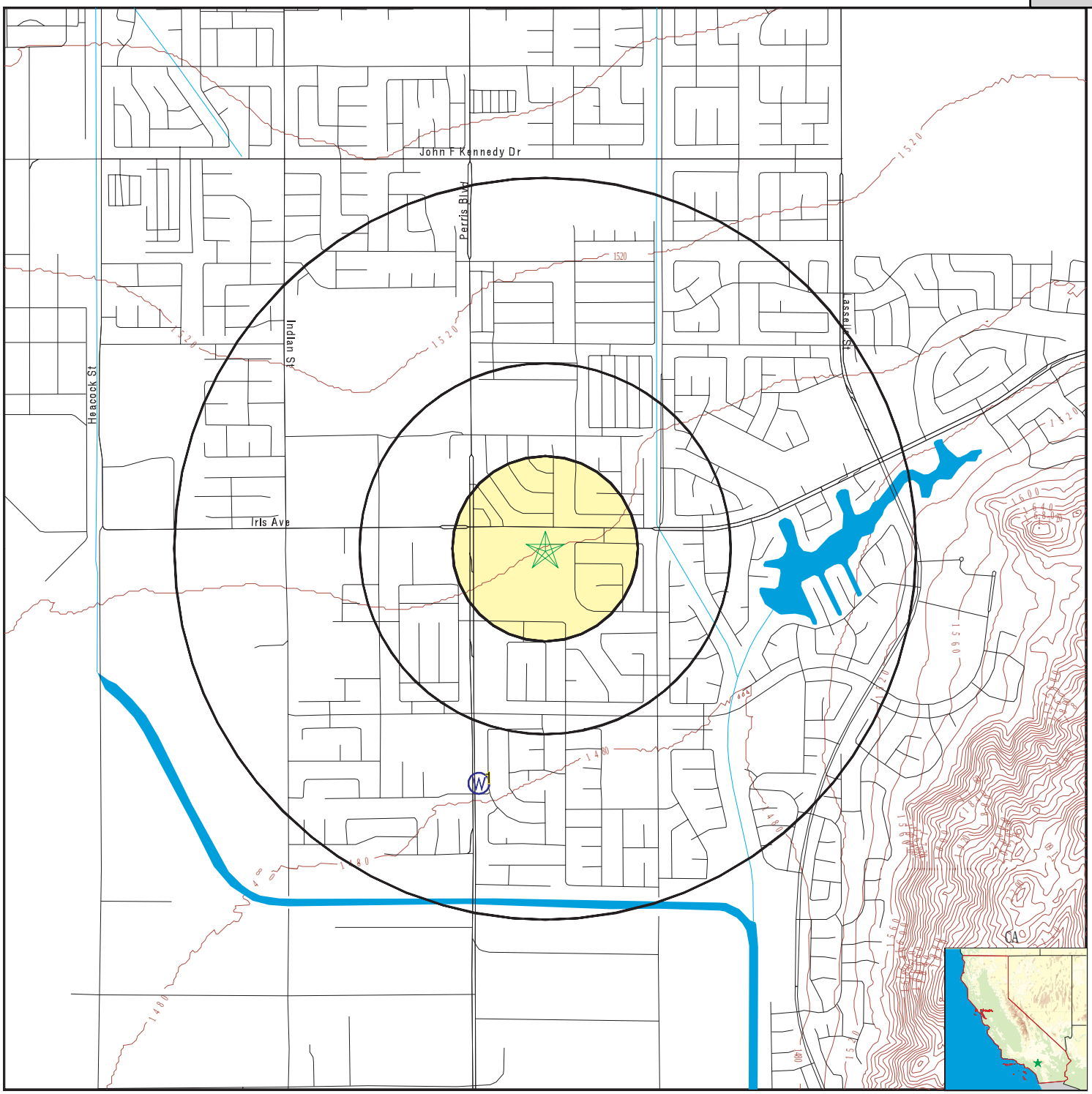
GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

STATE DATABASE WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
No Wells Found		

PHYSICAL SETTING SOURCE MAP - 5844302.2s

F.2.g



- County Boundary
- Major Roads
- Contour Lines
- Earthquake Fault Lines
- Earthquake epicenter, Richter 5 or greater
- Water Wells
- Public Water Supply Wells
- Cluster of Multiple Icons

0 1/4 1/2 1 Miles

- Groundwater Flow Direction
- GI Indeterminate Groundwater Flow at Location
- GV Groundwater Flow Varies at Location
- HD Closest Hydrogeological Data
- Oil, gas or related wells

N

SITE NAME:	Iris Park	CLIENT:	AES Due Diligence, Inc
ADDRESS:	Iris Avenue & Perris Boulevard Moreno Valley CA 92551	CONTACT:	Rick Darwicki
LAT/LONG:	33.887532 / 117.222763	INQUIRY #:	5844302.2s
		DATE:	October 25, 2019 2:07 pm

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation

Database	EDR ID Number
FED USGS	**USGS40000138759**

1
SSW
1/2 - 1 Mile
Lower

Organization ID:	USGS-CA		
Organization Name:	USGS California Water Science Center		
Monitor Location:	003S003W29M001S	Type:	Well
Description:	Not Reported	HUC:	18070202
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	California Coastal Basin aquifers		
Formation Type:	Not Reported	Aquifer Type:	Not Reported
Construction Date:	Not Reported	Well Depth:	622
Well Depth Units:	ft	Well Hole Depth:	622
Well Hole Depth Units:	ft		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS
RADON

AREA RADON INFORMATION

State Database: CA Radon

Radon Test Results

Zipcode	Num Tests	> 4 pCi/L
92551	4	0

Federal EPA Radon Zone for RIVERSIDE County: 2

Note: Zone 1 indoor average level > 4 pCi/L.
: Zone 2 indoor average level >= 2 pCi/L and <= 4 pCi/L.
: Zone 3 indoor average level < 2 pCi/L.

Federal Area Radon Information for RIVERSIDE COUNTY, CA

Number of sites tested: 12

Area	Average Activity	% <4 pCi/L	% 4-20 pCi/L	% >20 pCi/L
Living Area - 1st Floor	0.117 pCi/L	100%	0%	0%
Living Area - 2nd Floor	0.450 pCi/L	100%	0%	0%
Basement	1.700 pCi/L	100%	0%	0%

PHYSICAL SETTING SOURCE RECORDS SEARCHED

TOPOGRAPHIC INFORMATION

USGS 7.5' Digital Elevation Model (DEM)
Source: United States Geologic Survey
EDR acquired the USGS 7.5' Digital Elevation Model in 2002 and updated it in 2006. The 7.5 minute DEM corresponds to the USGS 1:24,000- and 1:25,000-scale topographic quadrangle maps. The DEM provides elevation data with consistent elevation units and projection.

Current USGS 7.5 Minute Topographic Map
Source: U.S. Geological Survey

HYDROLOGIC INFORMATION

Flood Zone Data: This data was obtained from the Federal Emergency Management Agency (FEMA). It depicts 100-year and 500-year flood zones as defined by FEMA. It includes the National Flood Hazard Layer (NFHL) which incorporates Flood Insurance Rate Map (FIRM) data and Q3 data from FEMA in areas not covered by NFHL.
Source: FEMA
Telephone: 877-336-2627
Date of Government Version: 2003, 2015

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002, 2005 and 2010 from the U.S. Fish and Wildlife Service.

State Wetlands Data: Wetland Inventory
Source: Department of Fish and Wildlife
Telephone: 916-445-0411

HYDROGEOLOGIC INFORMATION

AQUIFLOW^{R} Information System
Source: EDR proprietary database of groundwater flow information
EDR has developed the AQUIFLOW Information System (AIS) to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted to regulatory authorities at select sites and has extracted the date of the report, hydrogeologically determined groundwater flow direction and depth to water table information.

GEOLOGIC INFORMATION

Geologic Age and Rock Stratigraphic Unit
Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - A digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

STATSGO: State Soil Geographic Database
Source: Department of Agriculture, Natural Resources Conservation Service (NRCS)
The U.S. Department of Agriculture's (USDA) Natural Resources Conservation Service (NRCS) leads the national Conservation Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. Soil maps for STATSGO are compiled by generalizing more detailed (SSURGO) soil survey maps.

SSURGO: Soil Survey Geographic Database
Source: Department of Agriculture, Natural Resources Conservation Service (NRCS)
Telephone: 800-672-5559
SSURGO is the most detailed level of mapping done by the Natural Resources Conservation Service, mapping scales generally range from 1:12,000 to 1:63,360. Field mapping methods using national standards are used to construct the soil maps in the Soil Survey Geographic (SSURGO) database. SSURGO digitizing duplicates the original soil survey maps. This level of mapping is designed for use by landowners, townships and county natural resource planning and management.

PHYSICAL SETTING SOURCE RECORDS SEARCHED

LOCAL / REGIONAL WATER AGENCY RECORDS

FEDERAL WATER WELLS

PWS: Public Water Systems
Source: EPA/Office of Drinking Water
Telephone: 202-564-3750
Public Water System data from the Federal Reporting Data System. A PWS is any water system which provides water to at least 25 people for at least 60 days annually. PWSs provide water from wells, rivers and other sources.

PWS ENF: Public Water Systems Violation and Enforcement Data
Source: EPA/Office of Drinking Water
Telephone: 202-564-3750
Violation and Enforcement data for Public Water Systems from the Safe Drinking Water Information System (SDWIS) after August 1995. Prior to August 1995, the data came from the Federal Reporting Data System (FRDS).

USGS Water Wells: USGS National Water Inventory System (NWIS)
This database contains descriptive information on sites where the USGS collects or has collected data on surface water and/or groundwater. The groundwater data includes information on wells, springs, and other sources of groundwater.

STATE RECORDS

Water Well Database
Source: Department of Water Resources
Telephone: 916-651-9648

California Drinking Water Quality Database
Source: Department of Public Health
Telephone: 916-324-2319
The database includes all drinking water compliance and special studies monitoring for the state of California since 1984. It consists of over 3,200,000 individual analyses along with well and water system information.

OTHER STATE DATABASE INFORMATION

California Oil and Gas Well Locations
Source: Department of Conservation
Telephone: 916-323-1779
Oil and Gas well locations in the state.

California Earthquake Fault Lines
Source: California Division of Mines and Geology
The fault lines displayed on EDR's Topographic map are digitized quaternary fault lines prepared in 1975 by the United State Geological Survey. Additional information (also from 1975) regarding activity at specific fault lines comes from California's Preliminary Fault Activity Map prepared by the California Division of Mines and Geology.

RADON

State Database: CA Radon
Source: Department of Public Health
Telephone: 916-210-8558
Radon Database for California

Area Radon Information
Source: USGS
Telephone: 703-356-4020
The National Radon Database has been developed by the U.S. Environmental Protection Agency (USEPA) and is a compilation of the EPA/State Residential Radon Survey and the National Residential Radon Survey. The study covers the years 1986 - 1992. Where necessary data has been supplemented by information collected at private sources such as universities and research institutions.

PHYSICAL SETTING SOURCE RECORDS SEARCHED

EPA Radon Zones
Source: EPA
Telephone: 703-356-4020
Sections 307 & 309 of IRAA directed EPA to list and identify areas of U.S. with the potential for elevated indoor radon levels.

OTHER

Airport Landing Facilities: Private and public use landing facilities
Source: Federal Aviation Administration, 800-457-6656

Epicenters: World earthquake epicenters, Richter 5 or greater
Source: Department of Commerce, National Oceanic and Atmospheric Administration

California Earthquake Fault Lines: The fault lines displayed on EDR's Topographic map are digitized quaternary fault lines, prepared in 1975 by the United State Geological Survey. Additional information (also from 1975) regarding activity at specific fault lines comes from California's Preliminary Fault Activity Map prepared by the California Division of Mines and Geology.

STREET AND ADDRESS INFORMATION

Iris Park
Iris Avenue & Perris Boulevard
Moreno Valley, CA 92551

Inquiry Number: 5844302.3
October 25, 2019

Certified Sanborn® Map Report

6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

Certified Sanborn® Map Report

10/25/19

Site Name:

Iris Park
Iris Avenue & Perris Boulevard
Moreno Valley, CA 92551
EDR Inquiry # 5844302.3

Client Name:

AES Due Diligence, Inc
4542 Ruffner Street, Suite 330
San Diego, CA 92111
Contact: Rick Darwicki

The Sanborn Library has been searched by EDR and maps covering the target property location as provided by AES Due Diligence, Inc were identified for the years listed below. The Sanborn Library is the largest, most complete collection of fire insurance maps. The collection includes maps from Sanborn, Bromley, Perris & Browne, Hopkins, Barlow, and others. Only Environmental Data Resources Inc. (EDR) is authorized to grant rights for commercial reproduction of maps by the Sanborn Library LLC, the copyright holder for the collection. Results can be authenticated by visiting www.edrnet.com/sanborn.

The Sanborn Library is continually enhanced with newly identified map archives. This report accesses all maps in the collection as of the day this report was generated.

Certified Sanborn Results:

Certification # 5ED4-440A-9DA6

PO # NA

Project 19004122

UNMAPPED PROPERTY

This report certifies that the complete holdings of the Sanborn Library, LLC collection have been searched based on client supplied target property information, and fire insurance maps covering the target property were not found.

Sanborn® Library search results

Certification #: 5ED4-440A-9DA6

The Sanborn Library includes more than 1.2 million fire insurance maps from Sanborn, Bromley, Perris & Browne, Hopkins, Barlow and others which track historical property usage in approximately 12,000 American cities and towns. Collections searched:

- ☑ Library of Congress
- ☑ University Publications of America
- ☑ EDR Private Collection

The Sanborn Library LLC Since 1866™

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Iris Park
Iris Avenue & Perris Boulevard
Moreno Valley, CA 92551

Inquiry Number: 5844302.10
October 29, 2019

The EDR-City Directory Image Repor

EDR® Environmental Data Resources Inc

6 Armstrong Road
Shelton, CT 06484
800.352.0050
www.edrnet.com

TABLE OF CONTENTS

SECTION

Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

EXECUTIVE SUMMARY

DESCRIPTION

Environmental Data Resources, Inc.'s (EDR) City Directory Report is a screening tool designed to assist environmental professionals in evaluating potential liability on a target property resulting from past activities. EDR's City Directory Report includes a search of available city directory data at 5 year intervals.

RECORD SOURCES

EDR's Digital Archive combines historical directory listings from sources such as Cole Information and Dun & Bradstreet. These standard sources of property information complement and enhance each other to provide a more comprehensive report.

EDR is licensed to reproduce certain City Directory works by the copyright holders of those works. The purchaser of this EDR City Directory Report may include it in report(s) delivered to a customer. Reproduction of City Directories without permission of the publisher or licensed vendor may be a violation of copyright.

Data by infoUSA®

RESEARCH SUMMARY

The following research sources were consulted in the preparation of this report. A check mark indicates where information was identified in the source and provided in this report.

Year	Target Street	Cross Street	Source
2014	☑	☐	EDR Digital Archive
2010	☑	☐	EDR Digital Archive
2005	☑	☐	EDR Digital Archive
2000	☑	☐	EDR Digital Archive
1995	☑	☐	EDR Digital Archive
1990	☑	☐	Haines Criss-Cross Directory
1985	☑	☐	Haines Criss-Cross Directory
1981	☑	☐	Haines Criss-Cross Directory
1975	☑	☐	Haines Criss-Cross Directory
1971	☐	☐	Haines Criss-Cross Directory

FINDINGS

TARGET PROPERTY STREET

Iris Avenue & Perris Boulevard
Moreno Valley, CA 92551

Year	CD Image	Source	
IRIS AVE			
2014	pg A2	EDR Digital Archive	
2010	pg A12	EDR Digital Archive	
2005	pg A18	EDR Digital Archive	
2000	pg A21	EDR Digital Archive	
1995	pg A23	EDR Digital Archive	
1990	pg A25	Haines Criss-Cross Directory	
1985	pg A27	Haines Criss-Cross Directory	
1981	pg A29	Haines Criss-Cross Directory	
1975	pg A31	Haines Criss-Cross Directory	
1971	-	Haines Criss-Cross Directory	Street not listed in Source
PERRIS BLVD			
2014	pg A6	EDR Digital Archive	
2010	pg A16	EDR Digital Archive	
2005	pg A19	EDR Digital Archive	
2000	pg A22	EDR Digital Archive	
1995	pg A24	EDR Digital Archive	
1990	pg A26	Haines Criss-Cross Directory	
1985	pg A28	Haines Criss-Cross Directory	
1981	pg A30	Haines Criss-Cross Directory	
1975	pg A32	Haines Criss-Cross Directory	
1971	-	Haines Criss-Cross Directory	Street not listed in Source

FINDINGS

CROSS STREETS

No Cross Streets Identified

City Directory Images

Target Street	Cross Street	Source
✓	-	EDR Digital Archive

IRIS AVE 2014

24525	IMANI PRAISE FELLOWSHIP
	OCCUPANT UNKNOWN,
24581	REBOLLO, SALVADOR
24601	NILAAD, JOSEPH K
	VALLEY MEDIVAN
24623	BERMUDEZ, SAUL
24771	WEST ANGELES CH GOD IN CHRST
24850	KEEGAN, CAROL A
	KEEGAN/ROBERTSON COMPANY
25790	GARCIA, VALERIE
25792	MEHDI, KHALIGHI
	SPENCER, CHRIS J
25794	CHEN, WENJUN
	LACOMBE, JOSEPH J
	NATIVIDAD, B
25796	DUPREZ, KEVIN T
	NATIVIDAD, HERMIE R
25798	ARCHER, ASHLYNN D
	HAYES, SARAH
	ROSAS, HENRY M
25800	BEDFORD, LAKEVA
	PROUT, AMANDA
	WILSON, FRANK
25802	ACHACOSO, CHERRY R
	THOMPSON, DARNELL
	YORK, ARLISHA
25804	LINDSEY, JUNE A
	ZAMEER, AHMAD
25806	CHAVARRIA, VANESSA
	FORD, SAMUEL
	GOMEZ, JUAN
25808	CHAVEZ, ASTRID
	CRETIN, FRANCISCO C
	MOORE, KWASI C
25810	BONILLA, ROSALBA
	SCOTT, RAY
	SMITH, D
25812	HERNANDEZ, DAVID
	REYES, LIGIA
25814	KYLES, KENNETH W
25816	BUTLER, PEGGY M
	CAMACHO, CHRISTOPHER
	PEREZ, FERMIN
	TUCKER, JESSE
	WILLIAMS, SHIRLEY A
25818	LIN, JASON J
	MEJRI, RIDHA
25820	COLLINS, ROBERT W
	JONES, KATHRYN L
	ROLDAN, JACK

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IRIS AVE 2014 (Cont'd)

25822	ALSABIA, AUSAMA A
	JUNO, A S
	TORRES, AUGUST C
25824	GIPSON, DANIELLE
	LANE, JESSICA D
	LUJAN, SANDRA M
	WILLIAMS, MALCOLM E
25826	PERALES, ANTONIO
	ZETINA, GERARDO
25828	CABADING, A
	CABADONG, ADORACION S
25830	DAVIS, RODNEY J
	LYNCH, PONSIETTE W
	RUSSO, BRYAN M
25832	HARDAWAY, DELVON
	LAM, YUET F
	LEWIS-GILL, JOHNNY
25834	ASSAF, GEORGE
	MITCHELL, BRIAN W
	OBRIEN, PATRICK
25836	CHATMAN, TAMOND A
	GILLIAM, CHARLETE
	NELSON, VICTORIA
25838	MCFALL, VIVIAN
	TRAN, CHARLENE
25840	CABADING, BRIGITTE
	CESCOLINI, MICHAEL J
	KOZNA, JONATHAN
	RODRIGUEZ, LYNN M
25842	GE, HEMING
	KANG, SOON O
	LIM, RONALD
25846	ROLDAN, ERIC S
	SEATON, ANGELITA M
	YOUNG, JANET M
25848	FLOWERS, ARTESHA R
	SERRANO, DAVID
	SUMAGAYSAY, TOLLY I
25850	HOWARD, GARRETT
	MONROE, JOHNNY M
	RODRIGUEZ, JOSE J
25852	BAHENA, JOSE
	DAVIDSON, MELVIN
	LING, ANTHONY
	POOLE, LILLIE
	SOLTERO, ANDRES
25854	ALLEN, KIMBERLY I
	HEROD, TERRANCE
25856	DUARTE, TONY L
	SAHA, PALAN K

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Target Street	Cross Street	Source
✓	-	EDR Digital Archive

IRIS AVE 2014 (Cont'd)

25858 CHASE, ANNA M
JOHNSON, DASHION N
TAYLOR, RYAN P
25860 CLARK, GUY R
FONTAINE, PAUL L
25862 BOOHER, BRAD
RICHIER, BRIAN
SMITH, JESSE
25864 CORONADO, ALEJANDRO C
DILLARD, MARCUS T
VELEZ, TERESA T
25866 RAFFERTY, TIMOTHY
SPEARMAN, CHARZETTA
25868 CORLEW, ANNA M
DEPUY, RENEE M
PENA, STEPHANIE
25870 FULK, BRANDON P
GUADARRAMA, ROSEMARIE
KENDALL, MELODY E
25872 RUYZ, JACLYN
TIPPENS, LASHONAY
25874 GILBERT, EBONI
25876 SERENE, PHILLIP M
25878 ARRIZON, SERGIO
BUSH, ASHLEY
25880 BAUTISTA, MIKE
GRAHAM, LANE
XIAO, BO
25882 BARFIELD, WAYNE
WHITE, TIFFANEY
25884 DELATORRE, ALEJANDRO
JUAREZ, ANA
PICKER, MAGGIE J
25886 GROUT, SHAWN F
MATTHEWS, KEISHA
25888 BUFKIN, ANTHONY
CANARE, PABLITO
25890 CASTANEDA, JAVIER J
HIMMAT, HOSAI
25892 BROWN, COREY
JONES, BETTY
SCHULKE, GLEN
25894 MCDANIEL, MELISSA
PERIE, MARTHA R
SANCHEZ, ANGELICA M
25898 COPRICH, PAMELA C
LUI, DAVID
WILEY, CRYSTAL N
25900 STATER BROS MARKETS
US BANK NATIONAL ASSOCIATION

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Target Street	Cross Street	Source
✓	-	EDR Digital Archive

IRIS AVE 2014 (Cont'd)

25910	DOAN HA
	HOLCOMB JOHN R
	PLAZA AT LAKESIDE
25920	1ST SECURE PRIVATE SECURITY
	CREATIVE WOOD CABINETRY INC
	CWT ENTERPRISES INC
	DESERT MOON PROPERTIES LLC
	DUVALL, CYNTHIA D
	G DUB ENTERPRISES INC
	GET IT MOVED TRANSPORT SVCS
	GILLILAN, ANTHONY
	JONES SERVICE CO
	KELLY, DONALD
	KEY ASSET SERVICES
	LOPEZ, NATALIE
	LOVE YOUR NEIGHBOR NOW
	OKADA, TAMARA
	PARAGON DESIGN INC
	PEOPLE EMPOWER PEOPLE
	SANCHEZ, JOSE
	SIMPLY LACED
	TABACCO LEAF
	TELFORD, KENNETH L
	WALLACE, MARQUESE
	WILLIAMS, RENICIA Y
	ZOE CITY RFUGE RSTART MISSIONS
25940	BANK AMERICA NATIONAL ASSN
25950	JACK IN THE BOX INC
25960	RANCHITO TACOS AL CARBON
	STARBUCKS CORPORATION

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Target Street	Cross Street	Source
✓	-	EDR Digital Archive

PERRIS BLVD 2014

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15020	7-ELEVEN INC
15025	CVS PHARMACY INC
15030	JACK IN THE BOX INC
15075	FAMILY DOLLAR STORES INC
15146	CRUMP, REGINA A
	OLAZABA, GENESYS
	PURIOY, CRISTINE
	RODRIGUEZ, JOSE
	RODRIQUEZ, J
	SANCHEZ, EDNA
	SLACK, DAEJA
15150	BURNS, SHARINA
	RAMIREZ, JOSE
	REYES, BRIANDA
	VILLALOBOS, ANA M
15154	ARANDA, DANIEL A
	COLEMAN, TRASHONA
	CROSBY, DEMETRIS
	GARCIA, JAIME
	GASTELUM, ARTURO G
	HALL, NASHAUN
	HORNE, JEWIANO A
	WILLIAMS, KIM
15158	CANO, ARMANDO
	CARRERA, LAURA
	CARROSO, ROSALIO
	CLOUD, PAUL
	GARCIA, MIRNA
	HERNANDEZ, JAIME
	JIMENEZ, ANA
	VALENTIN, ATHENA Y
15162	CARRETO, LETICIA
	GIBBS, BARBARA
	KNIGHTON, MARCEL
	LLOYD, MARIAN
	LUNA, JUAN M
	MOODY, LATOYA R
	REYES, MIRIAM
	TORRES, TERESA B
	WILSON, MICHEAL
15166	RODRIGUEZ, REBECCA
	SMITH, CASSANDRA M
	STANDIFER, RAHN K
	WALLACE, PAMELA
	WATTS, MYRON S
	ZUNIGA, GILBERTO
15170	ROSE FRANK CONSTRUCTION
15174	WALKER, JEROME
15178	AZPEITIA, ELENA
	CISNEROS, CARLOS

Target Street	Cross Street	Source
✓	-	EDR Digital Archive

PERRIS BLVD 2014 (Cont'd)

F.2

15178 EDWARDS, LAUREN
GARNES, KILEENA
JIMENEZ, BEATRIZ R
JOYA, CLEMENTINA
MANNING, MARY
ROBERTS, JERMAINE
ROBINSON, LARON
THEUS, RYSHECIA
WILLIAMS, TAMIKA

15182 CAMPOS, RUBEN
GAINES, KAREN
JONES, ROSHAWN
LARA, MARTHA
NICHOLS, JESSICA

15186 CLAYTON, TIFFANY
DEVANT, JAMES
HARDAWAY, DELVON
MALECKE, LISA
ROBINSON, BRANDI
ROCKMORE, AMANDA
WILLIAMS, SUZANNE

15190 ALEXANDER, KENISHA
BLACKWELL, WENDA B
CONLEY, ADRIAN
GARCIA, ANABEL
JACKSON, SARAH
PERKINS, MARNISHA
ROBINSON, VIVIAN
SANTOYO, ANABEL
SHORTERS, P

15194 AGUIRRE, EFREN
HUGHES, TIERRA
MAGA, A M
MENDOZA, KRISTAN
POSEY, TAKIEDA
ROBLES, ANNA M
SAMUELS, BARBARA

15198 BROWN, HOWARD
CLAXTON, T
GRIMES, LATRICE L
HALL, PRINCESS
MARTINEZ, YOLANDA
MEJIA, WATLER J
PARRISH, STEVE
PLASCENCIA, JOSE
RICO, JUANA
SANDERS, CORETTA
SANTIAGO, PATRICIA

15202 ANDERSON, ROGER
DELGADO, ANTONIO

Target Street	Cross Street	Source
✓	-	EDR Digital Archive

PERRIS BLVD 2014 (Cont'd)

15202 DENNIS, EARL S
DUARTE, LLUVIA
GEORGE, CHRIS
LETE, THOMAS
MIDDLETON, R
MOORE, IDA
SACRISTAN, LILIA
15206 ALARCON, CINTHYA
FLEMING, TERESA
GUTIEREZ, ELSA
JIMENEZ, M
LADET, JOEL V
LAIRY, ROSE
VELASCO, DANIEL
15210 GRINNER, DARICK
GRINNER, VINCENT E
HERNANDEZ, MIGUEL
MYERS, JEAN C
NICKLEBERRY, PATRICK
QUIJADA, WENDY
15214 ATKINS, JAMEL
AXTELL, SHANNON
CONNORS, JERROD
DEHARO, VELIA
LYON, GERALDINE L
MILLER, SIEARA D
MORALES, JOE S
ROBERSON, JANIE
SANDOVAL, MAURICIO
SIMMS, ISAAC
VILLASENOR, JOSE J
15218 ALBALA, JALILEH
ALONSO, MISTY E
CAMARENA, JESSICA
COVARRUBIA, GINA
MENJIVAR, JACQUELINE
RANGEL, CHRISTOPHER
ROMERO, LAURA L
STEFFEN, TIMOTHY W
15222 ALVAREZ, ANTONIA J
DOTSON, TERESA
GORDON, HOLLY
HARRIS, TAMEIKA
HUITRON, NAYELI
MARTINEZ, ANTONIO
MONDRAGON, ANTHONY
RIVAS, JOSE F
RUZA, MATTHEW A
15226 ESTERS, TANIEKA
GALVAN, CATALINO

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PERRIS BLVD 2014 (Cont'd)

15226 LEE, DIANA C
LIZARRAGA, MARTHA
MEDINA, JOSE L
PEREZ, FABIOLA
15230 BRANDON, DEREK
FIGURES, QUANETHA
HUDSPETH, MELISSA
JAMERSON, RICKEY
JOHNSON, AUTHERIE
JONES, BRADLEY
LAWTY, CHANDA
LUGO, AMY
MACKENZIE, DANIELLE
MAXWELL, JERRY W
RICKS, YETTE
15278 TICKETBIDS
15320 DAVIS, GREGORY
LOPEZ, MARIA
MITCHELL, EMERALD
VASQUEZ, AURELIO
15332 COVARRUBIAS-MONTER, JUAN
GARCIA, MARIA
GUZMAN, HILDA
HERNANDEZ, MARIA
KELLY, L
MORALES, PEDRO
OROZCO, LUIS
REYES, ANSELMO M
15344 ALVAREZ, MARTHA M
CHAMBERS, STEWART
15360 CARNES, WILLIAM
MONTIEL, JORGE A
SWAYNE, VALERIE J
VELER, LORRIE A
15384 CHAVEZ, HILDA T
SARWAR, MUHAMMAD
15394 BRANSON, DONELL
FERNANDEZ, DESTINEE
PARIS, DAVID H
TOLBERT, BARRY S
15414 BANKS, LAURA
WATSON, KRISTINA
15426 GUTTIEREZ, LORENA
LEAL, MARISA
MCCALL, LYDIA
PINEDA, MAGDALENO
SILVER, TEILIA
15452 GARCIA, LETICIA
HERNANDEZ, MARIA D
15670 MORENO VALLEY CITY OF

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Target Street	Cross Street	Source
✓	-	EDR Digital Archive

PERRIS BLVD 2014 (Cont'd)

15928 AK FREIGHT SOLUTIONS INC
AROCHE, JORGE
BAXTER, JUNE
CHAVEZ, GILBERT J
CLAIR, NATHAN
ECOGEN RECYCLING CENTER
FLAGSTAFF TRADERS
JOBFINDERS INC
MARTIN, KEVIN T
MARZETT, DAMIEN
MEN & WOMEN ON MOVE MINISTRY
MUNOZ, MIKE H
NATURALLY YOURS BOUTIQUE
NEW AGE INVESTMENTS
ROBERTS, SONYA
ROSS, CHERRY L
SHAMOLIAN, HOMAYOON
WAGNER, REGINA
WEST GATE LIQUOR
WHITE, TAMMI
15952 DENTAL CARE MORENO VALLEY
15975 HOME DEPOT USA INC
LA ROSA BAKERY 4
15980 CAR ENTERPRISES INC
15982 RADE, MARY E
15991 FARMER BOY FOODS INC
16020 WALGREEN CO
16040 KENTUCKY FRIED CHICKEN
16080 FITNESS 19
16090 PIRIS CLEANER
WATER SHOP
16100 YUCAIPA COMPANIES LLC
16110 LOS AMAYA WIRELESS NO3
SMOKE SHOP MV
SWEET TART FROZEN YOGURT
16130 CARLS JR
16150 DEL TACO
16190 CERTIFIED TIRE AND SERVICE CTR
16210 AUTOZONE INC
16340 EXTRA SPACE MANAGEMENT INC
16380 ALBERTOS MEXICAN FOOD
BARRAZA-PENUELAS ANGELICA
16420 CELLULAR SOLUTIONS
16466 PRESTIGE STATIONS INC
SPPI
16641 LEE KEN SERVICE SUPPLY
LEE, KEN A
16659 BRAATEN, LARRY G
16675 MARTINEZ, CORINA
17041 WILLIAMS, RICHARD A

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Target Street	Cross Street	Source
✓	-	EDR Digital Archive

PERRIS BLVD 2014 (Cont'd)

17111 DERDA, MARIA
17300 ELDORADO STONE
STONECRAFT
17500 BERKELEY LEASING
WALGREEN CO
17800 MJO STAFFING-MV
ROSS STORES INC

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Target Street	Cross Street	Source
✓	-	EDR Digital Archive

IRIS AVE 2010

24015 ZIMMER, RANDAL H
24518 SANTIAGO, CECILIA
24525 CROWN OF LIFE MINISTRIES
24581 REBOLLO, SALVADOR
24601 RANCHO PLUMBING
VALLEY MEDIVAN
24623 LUPO, BARBRA H
24771 WEST ANGELES CH GOD IN CHRST
24850 KEEGAN, CAROL A
KEEGAN/ROBERTSON COMPANY
25790 ALMONTE, CARLO M
BIG GUYS PIZZA PASTA & SPT BAR
GRAHAM, MICHELLE M
PARKER, JEROME
25792 HARRIS, SHANISHA
MEJIA, RUBEN L
PALACIO DE ORO SOUTH ASSOC
PRILLWITZ, MONIQUE
SWAUNCY, SHERMAN
25794 GRAYSON, EDDIE
JOHNSON, TAURIONA
SPEIGHTS, SHAWNTIANA
25796 TAYLOR, AUJAH
TOROK, MIHAELA
25798 ARCHER, ASHLYNN D
SCOTT, PHILIP
25800 OVANDO, DIANA L
WILSON, FRANK
25802 ANNIE, MC C
RAMIREZ, ELIZABETH F
SAENZ, ERNEST
YORK, ARLISHA
25804 DAUGAARD, TRACY A
LINDSEY, JUNE A
25806 KEITH, KEVIN
WILLIAMS, KRISTIAN L
25808 KAZOR, JEFF A
MOORE, KWASI C
25810 BUSHEY, CRYSTAL M
EMAT PRODUCTIONS INC
FREY, SARAH M
JACKSON, EMANUEL
25812 CHAVEZ, ARACELI E
MACWAN, NILESHKUMAR I
25814 HERNANDEZ, DAVID
HU, GANG
JACOBO, IRMA
25816 RIVERA, HENRY M
SMITH, WENDY E
25818 LIN, JASON J

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IRIS AVE 2010 (Cont'd)

25820 COLLINS, ROBERT
25822 CALIMA, ROBERT P
NAPIER, BRANDON
TORRES, AUGUST C
25824 GALVEZ, EULALIO
HIGGINS, SHAUN
VINLLAN, JEANETTE
25826 PERALES, ANTONIO
RICE, JOSEPH
25828 BAGIRYAN, IRINA
JAUREGUI, LYDIA
25830 DAVIS, RODNEY J
WHITTED, TARANGELA
WOODSON, CHANTEL
25832 ADAMS, EMMITT
ROBINSON, EBONY J
25834 MITCHELL, BRIAN W
VARGAS, ALFONSO R
WILSON, RICHARD A
25836 CHATMAN, TAMOND A
DIMESORO, OGECHUKWU
LEE, VIVIAN
25838 GHALY, HANY I
VILLEGAS, CHARLENE M
25840 RODRIGUEZ, LYNN M
WALLER, CHRIS
25842 KIM, CHRISTOPHER
SMITH, JATRONA
25844 SERNA, CLORISSA
WEYLAND, GORDON P
25846 LACHAPELLE, NICOLE I
ROWE, CAREN S
25848 ESQUIVEL, SERRANO N
FLOWERS, ARTESHA R
25850 CRAIG, BETHANY
MONROE, JOHNNY M
RODRIGUEZ, STEVEN A
25852 LING, ANTHONY
25854 CAWTHORNE, REGINA
LINARES, BLANCA E
25856 REESE, HERMAN L
RODRIGUEZ, NICHOLAS J
25858 CHASE, ANNA M
JOHNSON, DONIELLE
PENRICE, TONYA
YOUNG, TRAVIS L
25860 CLARK, GUY R
DIAZ, MARYANN
DUARTE, TONY L
FONTAINE, PAUL L

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Target Street	Cross Street	Source
✓	-	EDR Digital Archive

IRIS AVE 2010 (Cont'd)

25862 POTTROFF, DENNISE
RICHIER, MERLE P
25864 AZAD, ASHLEY
CORONADO, ALEJANDRO C
25866 CHRISTENSEN, DUSTIN S
DASS, SHANE
STEELE, STEPHANIE L
25868 DEPUY, RENEE M
MARINO, MATTHEW
25870 JIMENES, VIRIDIANA
KENDALL, MELODY E
25872 GARCIA, EWING
LIU, HARRIS H
ORTIZ, OCTAVIO
RODRIGUEZ, LIDIA
RUYZ, JACLYN
25874 WILKES, ROBERT
25876 BUTLER, RASHAAD
25878 GUILLERMO, LEOPOLDO
OLSEN, BETTY
QUALLS, JUAN
25880 GRAHAM, LANE
REINALDA, STACI
TORRES, MARK J
25882 DELEON, ALISIA
25884 MOORE, CASIE L
PICKER, MAGGIE J
25886 GROUT, SHAWN F
LU, SAM
WHITE, EFFIE J
25888 CANARE, PABLITO
TORRES, THOMAS V
VILLACORTA, NELSON
25890 GALVEZ, ROSELLI S
HIMMAT, HOSAI
SMITH, ROXANE F
25892 QUICKLEY, MICHELLE
ROBINSON, ROBIN
TURNER, A
25894 FOK, GORDON
MILNER, NORMAN V
ROMERO, MARLON I
25896 JONES, CLIFFORD N
PHYLOW, D
25898 PURIFOY, JEFFERY B
SPRING, TIMOTHY
25900 STATER BROS MARKETS INC
WELLS FARGO BANK NATIONAL ASSN
25910 HOLCOMB JOHN R
NAMASTE

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Target Street	Cross Street	Source
✓	-	EDR Digital Archive

IRIS AVE 2010 (Cont'd)

25910 PLAZA AT LAKESIDE
Q NAILS & SPA INC
25920 1ST SECURE PRIVATE SECURITY
ABC LEARNING TREE ACADEMY INC
BRACKINS, SANDRA L
CREATIVE WOOD CABINETRY INC
CWT ENTERPRISES INC
DIRECT PROTECTIVE SERVICES
EUNICE J ROBLES
KEY ASSET SERVICES
LOVE YOUR NEIGHBOR NOW
NELSON, SAMUEL C
OKADA, TAMARA
PARAGON DESIGN INC
PEOPLE EMPOWER PEOPLE
R6 SYSTEMS
ROCIO ILEANA CAMACHO
SZL
TELFORD, ALICE A
THOMPSON, DARNELL
WCCOMFORT INC
25940 BANK AMERICA NATIONAL ASSN
25950 JACK IN THE BOX INC
25970 BELAL GHALIB SADIK
DONNA ALESANDRO SADIK
25976 FORECAST HOMES PLACIDIO DEORO

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Target Street	Cross Street	Source
✓	-	EDR Digital Archive

PERRIS BLVD 2010

15020	7-ELEVEN INC
15025	CVS PHARMACY INC
15030	JACK IN THE BOX INC
15320	BEATRIZ, RANGEL D
	LOPEZ, MARIA
	MUNOZ, BERTA
	PARRA, ELVIRA
	VALENZUELA, VERONICA
	VASQUEZ, AURELIO
15332	ARREOLA, IGNACIO
	FOUR EAST A CALIF GEN PARTNR
	GOMEZ, F
	GUZMAN, HILDA
	KELLY, L
	MORALES, ALEX
	OROZCO, LUIS
	ORTEGA, RAY
	VILLEGAS, TEODORO
15344	ALVAREZ, MARTHA M
	DEVIDES, ENRIQUE
	DOMINGUEZ, DIANA
	LEMUZ, ELISEL
	VALENZUELA, APOLONIO M
15360	CARR, CHANTEL
	MONTIEL, JORGE J
	SWAYNE, VALERIE J
15384	ARIAS, OLVIN
	BELTRAN, LUIS
	CALDERON, ARACELI
	CHAVEZ, HILDA T
	CUEVAS, RENE A
	HALL, CHRISTINA
	NORIEGA, MABEL
	SARWAR, MUHAMMAD
15394	TOLBERT, BARRY S
	WILLIAMS, LOUISE
15414	BROWN, LANESHIA
	TORRES, ERNESTO
	TURNER, ISAAC
	VALENZUELA, VERONICA
15426	GONZALEZ, EVANGELINA
15452	GONZALEZ, REYNA
	HERRERA, TORRES M
15670	MORENO VALLEY CITY OF
15928	AGUAYO, ROSA E
	DUFFY, SHELLI
	DUFFY-HARRIS, STEPHANIE D
	FLAGSTAFF TRADERS
	HOUSE, THOMAS
	JOBFINDERS INC

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Target Street	Cross Street	Source
✓	-	EDR Digital Archive

PERRIS BLVD 2010 (Cont'd)

15928 MEN & WOMEN ON MOVE MINISTRY
MUNOZ, MIKE H
NEW AGE INVESTMENTS
ROSS, CHERRY L
SHAMOLIAN, HOMAYOON
15952 MD INVESTMENTS
TOUCH ONE CELLULAR
15975 HOME DEPOT USA INC
15982 RADE, MARY E
15991 FARMER BOYS
16020 WALGREEN CO
16080 FITNESS 19
16090 PIRIS CLEANER
16100 FRESH & EASY NEIGHBORHOOD MKT
GO WIRELESS OF SAN DIEGO INC
16110 ALONDRA HOME FASHION
DELGADO WIRELESS
FASHION HAIR SALON
FREEWAY INSURANCE SERVICES
JAMIES
LEVAN, THI K
MISTER YOU EXPRESS 3
ROMEROS PARTY SUPPLY
16150 DEL TACO
16170 ARBYS
CHASE NEWPORT & CO INC
GUS CHAVEZ INC A CORP
16340 EXTRA SPACE MANAGEMENT INC
16380 ALBERTOS MEXICAN FOOD
LYNN GREEN BEAUTY
NICHOLAS JACKSON
TRENDY KIDS
16466 PRESTIGE STATIONS INC
SALIB ENTERPRISES INC
16610 SWEET TART FROZEN YOGURT
16641 KIMBERLY S HOUSE CLEANING
LEE KEN SERVICE SUPPLY
LEE, JOHN L
16659 OCCUPANT UNKNOWN,
17041 WILLIAMS, RICHARD A
17300 ELDORADO STONE
STONECRAFT
17500 BERKELEY LEASING
SELECT STAFFING
17800 DDS DISTRIBUTION CENTER
MJO STAFFING-MV
OCCUPANT UNKNOWN,
ROSS STORES INC

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Target Street	Cross Street	Source
✓	-	EDR Digital Archive

IRIS AVE 2005

24161 BLOOMQIST CHARLES TRAINING CTR
24581 CENDEJAS, DANIEL
24601 GILL, DEREK M
24771 WEST ANGELES CH GOD CHRIST INC
25900 ONSITE BUILDERS
STATER BROS MARKETS
25910 HOLCOMB JOHN R
25920 JON VANESS
NUTRISHOP
PEOPLE EMPOWER PEOPLE
25976 FORECAST HOMES PLACIDIO DEORO

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Target Street	Cross Street	Source
✓	-	EDR Digital Archive

PERRIS BLVD 2005

15020	7-ELEVEN INC
15320	BEATRIZ, RANGEL
	CORNEJO, MIGUEL
	ORTEGA, ALEJANDRA
	VASQUEZ, AURELIO
15332	ARREOLA, IGNACIO
	MENDEZ, MARTHA
	ORTEGA, CARMEN
	PRECIADO, MARTHA
	REYES, ANSELMO
15344	DEVIDES, ENRIQUE
	GARCIA, MAURICIO
	LEMUZ, ELISEL
	RODRIGUEZ, JESSICA
15360	GARCIA, ANGELA
	GOMEZ, MARCO D
	WILLIAMS, DANIELLE L
15384	ARIAS, OLVIN
	CALDERON, ARACELI
	HALL, CHRISTINA
	MONTES, LEONARDA
	SAVITZ, EDITH R
	SMITH, KELLY
15394	BARNEY, EFFIE
	PARRISH, JOANNA
	WILLIAMS, LOUISE
15414	BROWN, LANESHIA
	LEON, MAXIMO
	MCCLENDON, KEMEO
	PIERRE, ALVIN
	PINEDA, NANCY
	RAMIREZ, ROBERT
	ROBERTSON, SHAY
	SANDOVAL, VENTURA
	SKIPPER, JACKIE
	TURNER, ISAAC
15426	ALLEN, DONNA
	BLACKBURN, JAMES
	RUIZ, JORGE M
	SADLER, ANGELA
15452	MALDONADO, ROSA
	ROBLEDO, CATALINA
	RUIZ, PASCUAL
15670	MORENO VALLEY CITY OF
15795	MANNA CHRISTIAN FELLOWSHIP
	RAINBOW RANCH
15928	AVERY-JR, CHARLES E
	BAILEY, ROBERTA Y
	BURNS, ALEXANDER L
	COMMONWEALTH COMMUNITY SVC CTR

F.2

Target Street	Cross Street	Source
✓	-	EDR Digital Archive

PERRIS BLVD 2005 (Cont'd)

15928	ESCALERA, FRANCES A
	GARCIA, MARGIE A
	HAZLETT, WILLIAM H
	HERBEST, ANGELA N
	LONA, REBECCA
	MCQUEEN, SHAREE
	MOORE, DENISE
	MUNOZ, JONNETTE M
	NEW AGE INVESTMENTS
	ORNELAZ, JOLENE Y
	PEEVY, FREDERICK L
	PENA, MARCELINO
	RICHARDSON, WILLIE
	SORIANO, STANLEY A
	TARUMOTO, BRENDA L
	TRAVIS, DELORES R
	WILLIAMS, ALENE
	WILLIAMS, MARLENE M
	WINANS, MYRTLE F
15952	MOORE, ERIC C
15975	HOME DEPOT USA INC
16380	EASYSELL REALTY
	SMOKE SHOP & TOBACCO
16420	FAST BUCKS
	US HEALTHWORKS INC
16466	PRESTIGE STATIONS INC
	SALIB ENTERPRISES INC
16641	LEE KEN SERVICE SUPPLY
	LEE, JOHN
16659	BRAATEN, LARRY G
16675	LEE, KEN W
17041	WILLIAMS, RICHARD A
17111	OFF THE COUCH ENTERTAINMENT
	RAYMOND AL ENTERPRISES
	WEN, MEI Y
17500	GLOBAL INDUSTRIAL

F.2

Target Street	Cross Street	Source
✓	-	EDR Digital Archive

IRIS AVE 2000

24161 BLOOMQIST CHARLES TRAINING CTR
24581 KOON, SHIH D
24601 OCCUPANT UNKNOWN,
24623 LUPO, SALVATO
24771 WEST ANGELES CH GOD CHRIST INC

F.2

Target Street	Cross Street	Source
✓	-	EDR Digital Archive

PERRIS BLVD 2000

15298 GILL, WILLIAM
15310 BATECH, KAMAL
15320 OCCUPANT UNKNOWN,
15332 ORTEGA, CARMEN
15344 ALVAREZ, ELISA
15360 BAUTISTA, LEA
GOMEZ, MARCO
MEADOW VIEW PROPERTIES
15384 CHAVEZ, M I
HARROD, EMBERLY J
SAVITZ, EDITH R
15394 GILLETTE, ANTHONY G
RELIFORD, DEREK
15426 BURCH, BRIAN
THOMAS, RONALD
15452 SANCHEZ, DANIEL
ZBIKOWSKI, MAY
15670 MORENO VALLEY CITY OF
15795 KINGS CHAPEL CHRISTIAN CENTER
MOSLEY, ORVAL C
15925 TEA ROOM CHINESE REST
15928 ACE INTERNATIONAL SHIPPER
B P CONSTRUCTION
BADON, JEROME L
BAUTISTA, ERNEST
BENHAM, P C
CCC INTERNATIONAL INC
LOPEZ, CATHY
LY, S
PATTEN, P C
PERRIS DONUT & BURGER SHOP
RADE, MARY
RANDALL, KEITH R
RICHARD, ANTHONY
SEGAL, M F
WALLACE, S D
WILLIAMS, F V
15952 HERRERA, SANTOS R
KAMF CORP BUSINESS SERVICES
MACDONALD, JACKIE
SISTER LIZS ACCESSORIES
15974 KUTZ PLUS
OCCUPANT UNKNOWN,
15980 SHELL FOOD MART INC
16466 PRESTIGE STATIONS INC
SALIB ENTERPRISES INC
16641 LEE KEN SERVICE SPPLY
OCCUPANT UNKNOWN,
16659 BRAATEN, LARRY

F.2

Target Street	Cross Street	Source
✓	-	EDR Digital Archive

IRIS AVE 1995

24161 BLOOMQIST CHARLES TRAINING CTR
24756 NORMAN LENNIS H
24771 OOTEN, JOHN

F.2

Target Street	Cross Street	Source
✓	-	EDR Digital Archive

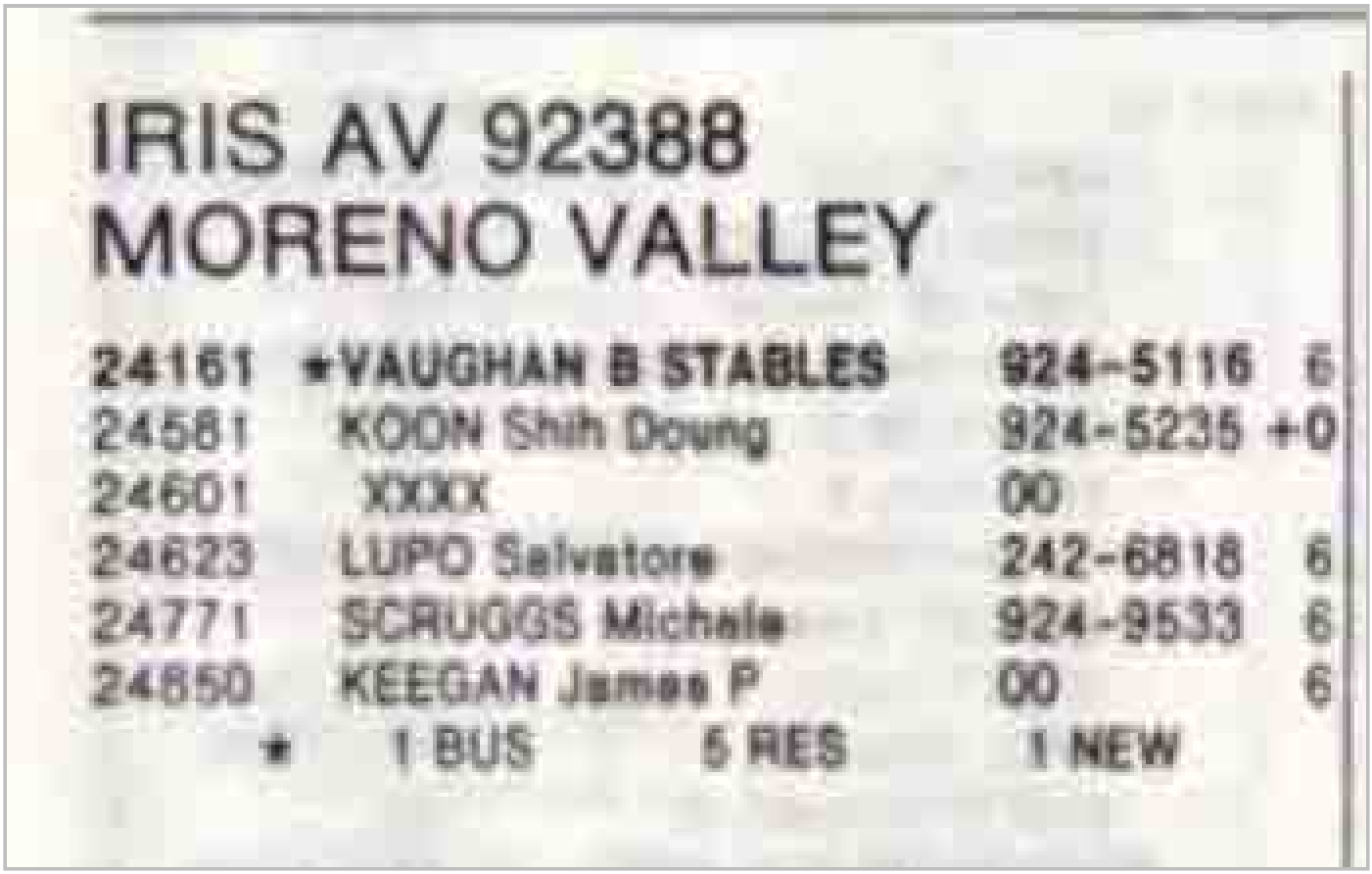
PERRIS BLVD 1995

15310 LAKE PERRIS LIQUOR AND DELI
15394 SCOBEY, RICHARD L
15426 OCCUPANT UNKNOWNN
15795 KINGS CHAPEL CHRISTIAN CENTER
15925 TEA ROOM CHINESE REST
15928 NEVINS, RICHARD F
PARKER, TINA
15952 MATULEWICZ JACKI INSURANCE
NAIL COTTAGE
15974 HAIR ETC BARBER & BEAUTY
15980 SHELL FOOD MART INC

F.2

Target Street	Cross Street	Source
✓	-	Haines Criss-Cross Directory

IRIS AVE 1990



IRIS AV 92388
MORENO VALLEY

24161	*VAUGHAN B STABLES	924-5116	6
24581	KOON Shih Doung	924-5235	+0
24601	XXXX	00	
24623	LUPO Salvatore	242-6818	6
24771	SCRUGGS Michele	924-9533	6
24850	KEEGAN James P	00	6

* 1 BUS 5 RES 1 NEW

F.2

Target Street	Cross Street	Source
✓	-	Haines Criss-Cross Directory

PERRIS BLVD 1990

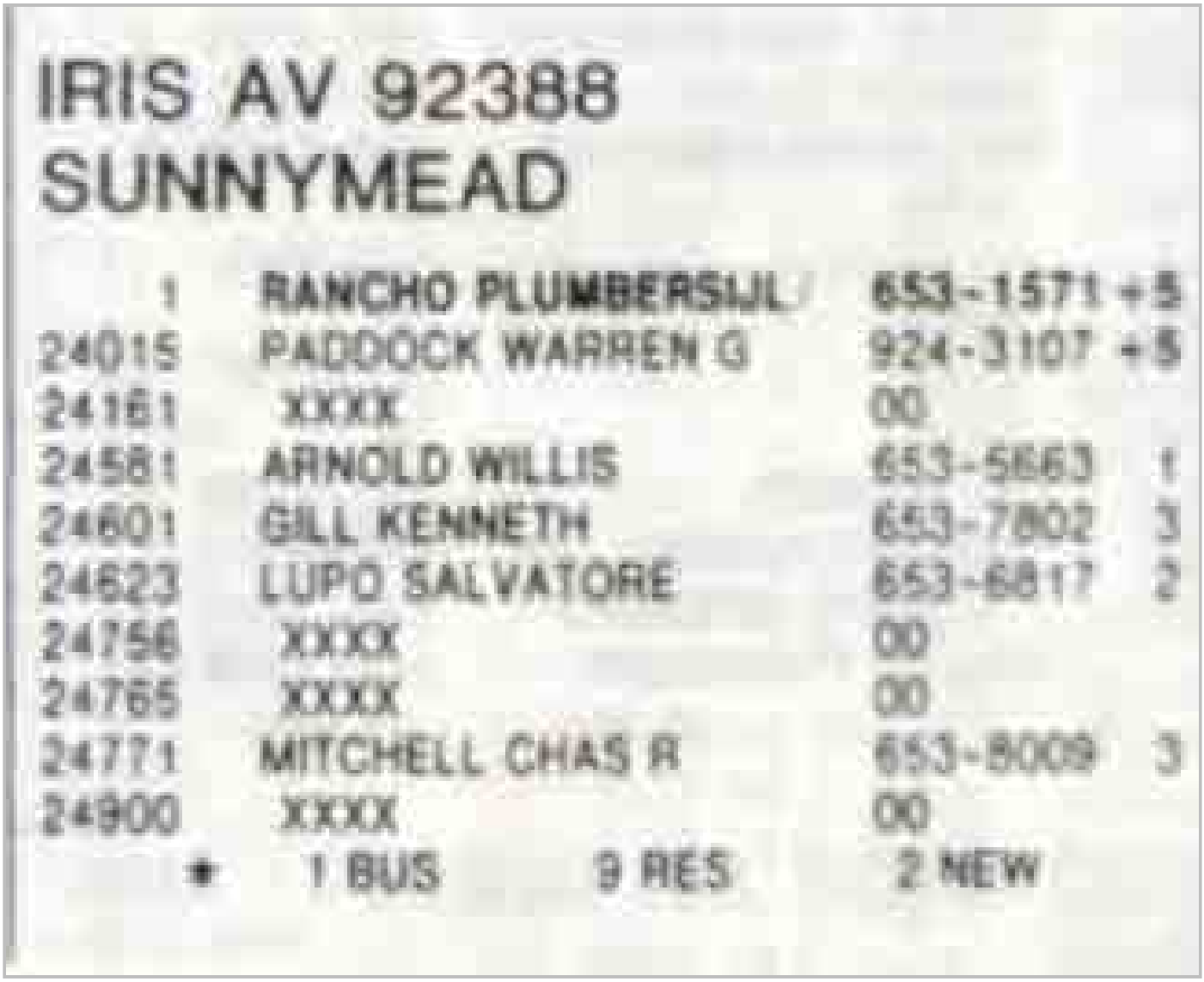
15168	CATANZARO Jos	924-2292	6
15320	DELCARMEN Inocencio	924-9649	+0
	WEIL Brent A	247-5282	+0
15332	HOGGAN Nancy K	00	+0
	PATCH Raymond E	00	4
	***PERRIS VLY APTS**	**247-4770**	**+0**
	SAINZ Maria	247-3269	9
15344	MENDEZ Tulio N	00	4
15360	ARMSTRONG Paul S	00	+0
	LONG Sheila	247-3282	+0
	LONG Timmy	247-3282	+0
	OKORO Jerry	247-1356	+0
15384	BREWER Richard W	00	+0
	HERNANDEZ Roberto	00	4
	LUMLEY Marc	247-6714	9
15394	CHUNG Jaeyong	242-5054	+0
	CUNNINGHAM Harold	924-5437	+0
	HONG Sam	247-9639	+0
	PACHECO Oscar	247-1495	+0
15414	CHESNUT Cheryl L	00	4
	OSBORNE Roosevelt	00	7
15426	JEFFERSON Kenneth L	00	+0
15452	JACKSON Odessa	00	+0
	SHANLEY Jas F	924-9604	7
15670	***MORENO VLY PUB WRKS**	**247-2204**	**9**
15795	FLORES D	247-5015	9
	***KINGS CHPL CHRSTN**	**242-2210**	**6**
	MOSLEY Orval C Rev	242-2210	6
	***RAINBOW RANCH**	**242-2210**	**6**
16641	BRAATEN Donald J	00	5
	LEE John	242-3588	6
16659	MARCH James H	00	7
16675	HUSETH Audrey	653-8854	
	HUSETH Duane	653-8854	
	NAGGLE Denise D	00	+0
16756	XXXX	00	
17010	***C B I NA CON INC**	**943-5556**	**+0**
	***SHASTA ELECTRIC**	**943-0250**	**9**
17041	EIDE David V	00	7
17111	AVONNE Raymond L	00	+0
	RAYMOND Al	653-3551	
	RAYMOND Al	653-6362	5
	***RAYMOND AL ENTPRS**	**653-1709**	**9**
	RAYMOND Sally	653-3551	
17801	XXXX	00	
17867	***ATLASTA RANCH**	**653-2000**	
	DURFEY Brett F	00	4
	MORENO Joe Jr	657-3031	4
	***MORENO JOE JR**	**653-2000**	**4**
	MORENO Joe Jr	657-4581	5

* 72 BUS 208 RES 72 NEW

F.2

Target Street	Cross Street	Source
✓	-	Haines Criss-Cross Directory

IRIS AVE 1985



IRIS AV 92388
SUNNYMEAD

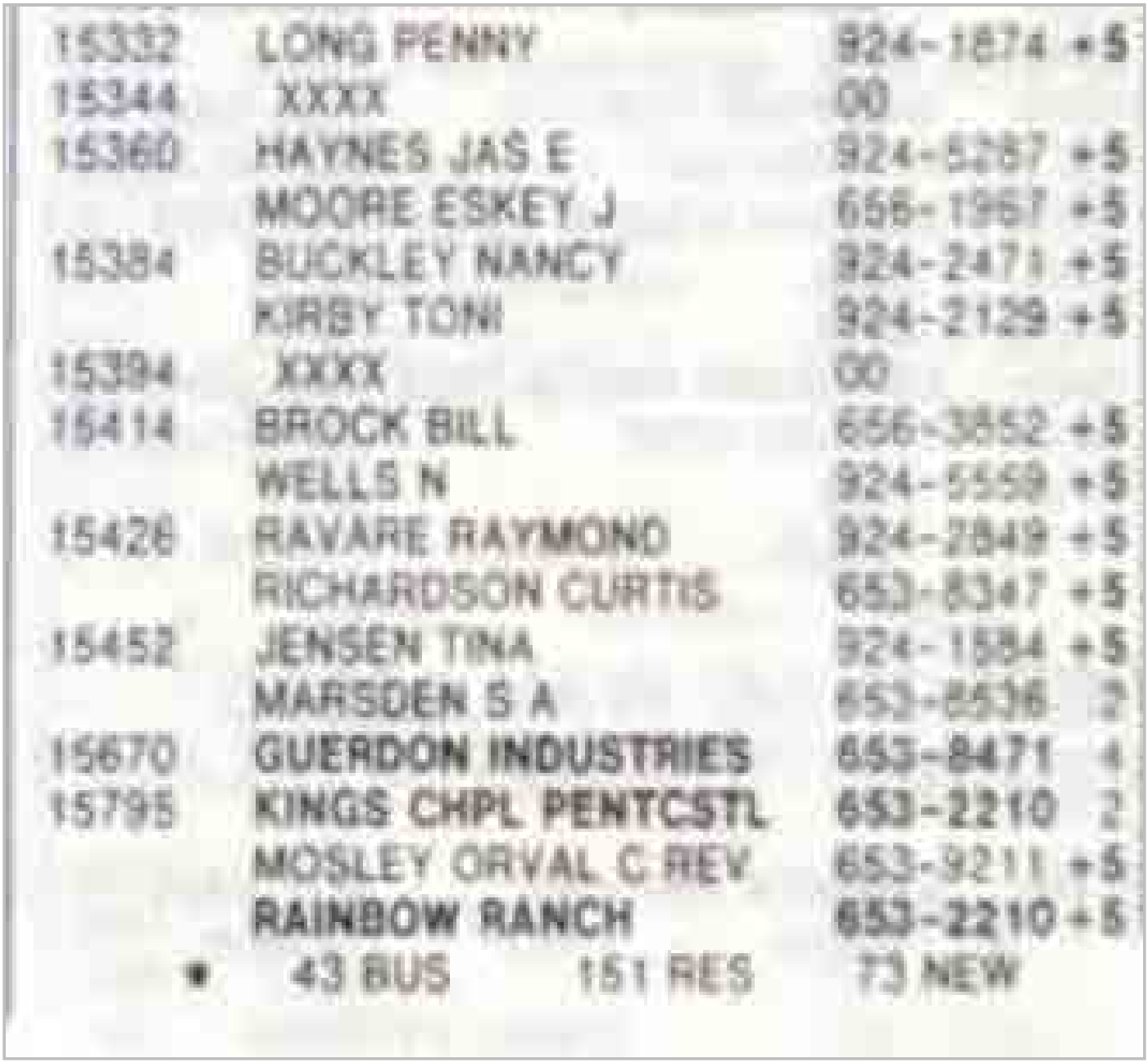
1	RANCHO PLUMBERSJL	653-1571	+5
24015	PADDOCK WARREN G	924-3107	+5
24161	XXXX	00	
24581	ARNOLD WILLIS	653-5663	1
24601	GILL KENNETH	653-7802	3
24623	LUPO SALVATORE	653-6817	2
24756	XXXX	00	
24765	XXXX	00	
24771	MITCHELL CHAS R	653-8009	3
24900	XXXX	00	

* 1 BUS 9 RES 2 NEW

F.2

Target Street	Cross Street	Source
✓	-	Haines Criss-Cross Directory

PERRIS BLVD 1985

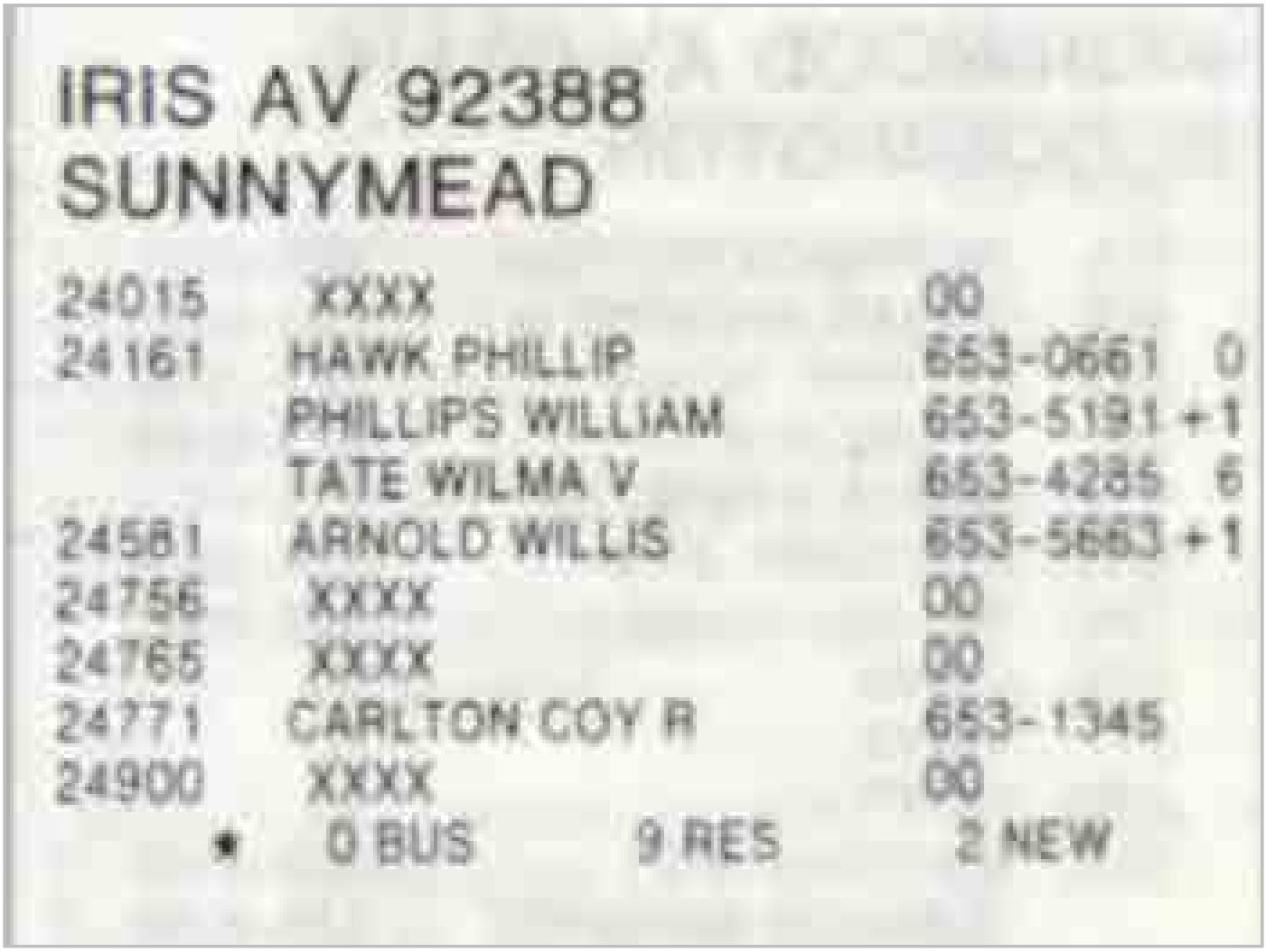


15332	LONG PENNY	924-1874	+5
15344	XXXX	00	
15360	HAYNES JAS E	924-5287	+5
	MOORE ESKEY J	656-1967	+5
15384	BUCKLEY NANCY	924-2471	+5
	KIRBY TONI	924-2129	+5
15394	XXXX	00	
15414	BROCK BILL	656-3852	+5
	WELLS N	924-5559	+5
15428	RAVARE RAYMOND	924-2849	+5
	RICHARDSON CURTIS	653-8347	+5
15452	JENSEN TINA	924-1584	+5
	MARSDEN S A	653-8536	2
15670	GUERDON INDUSTRIES	653-8471	4
15795	KINGS CHPL PENTCSTL	653-2210	2
	MOSLEY ORVAL C REV	653-9211	+5
	RAINBOW RANCH	653-2210	+5
•	43 BUS 151 RES	73 NEW	

F.2

Target Street	Cross Street	Source
✓	-	Haines Criss-Cross Directory

IRIS AVE 1981



IRIS AV 92388
SUNNYMEAD

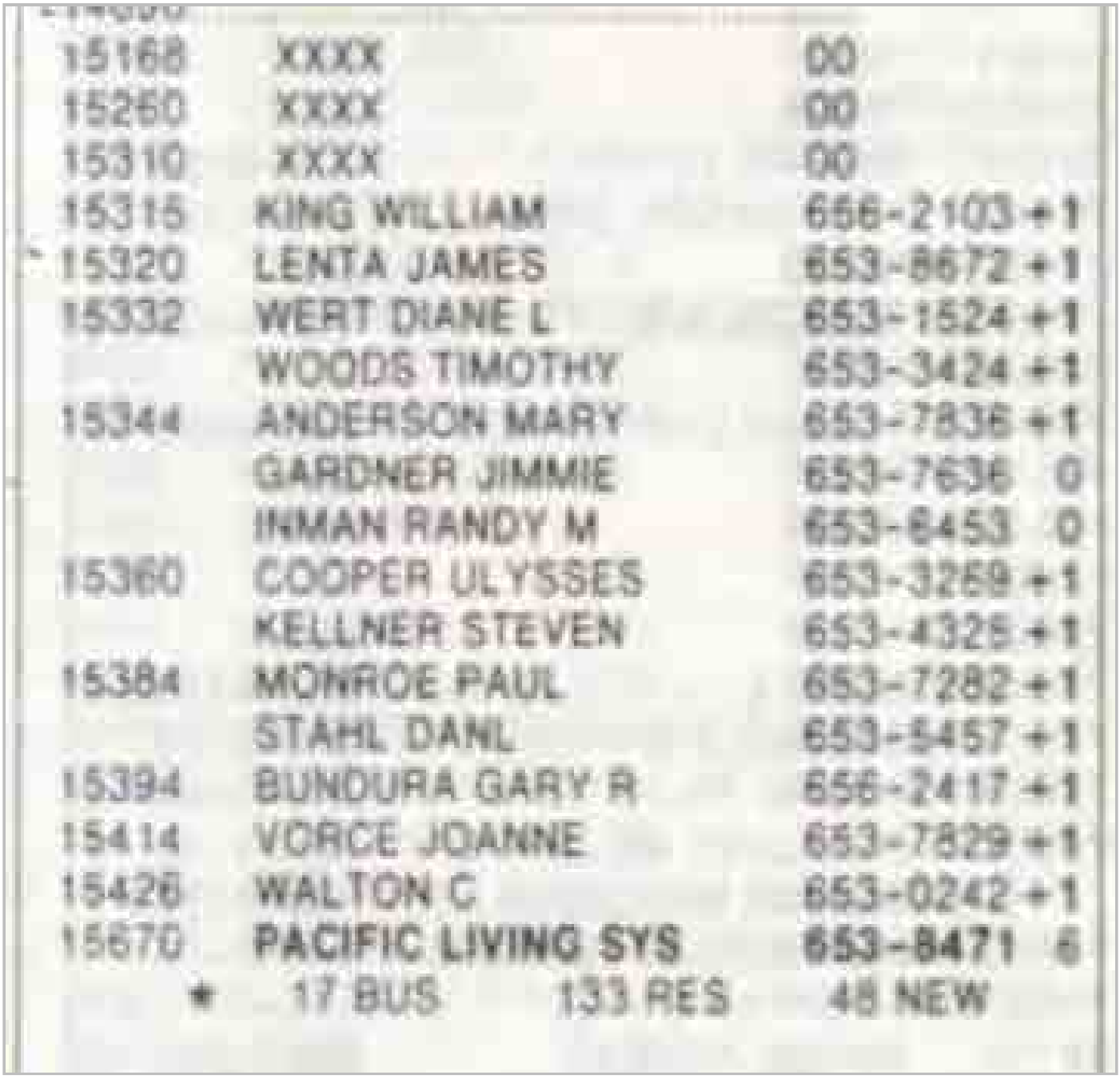
24015	XXXX	00
24161	HAWK PHILLIP	653-0661 0
	PHILLIPS WILLIAM	653-5191 +1
	TATE WILMA V	653-4285 6
24581	ARNOLD WILLIS	653-5663 +1
24756	XXXX	00
24765	XXXX	00
24771	CARLTON COY R	653-1345
24900	XXXX	00

* 0 BUS 9 RES 2 NEW

F.2

Target Street	Cross Street	Source
✓	-	Haines Criss-Cross Directory

PERRIS BLVD 1981



15168	XXXX	00
15260	XXXX	00
15310	XXXX	00
15315	KING WILLIAM	656-2103 +1
15320	LENTA JAMES	653-8672 +1
15332	WERT DIANE L	653-1524 +1
	WOODS TIMOTHY	653-3424 +1
15344	ANDERSON MARY	653-7836 +1
	GARDNER JIMMIE	653-7636 0
	INMAN RANDY M	653-6453 0
15360	COOPER ULYSSES	653-3269 +1
	KELLNER STEVEN	653-4326 +1
15384	MONROE PAUL	653-7282 +1
	STAHL DANL	653-5457 +1
15394	BUNDURA GARY R	656-2417 +1
15414	VORCE JOANNE	653-7829 +1
15426	WALTON C	653-0242 +1
15670	PACIFIC LIVING SYS	653-8471 6
*	17 BUS 133 RES	48 NEW

F.2

Target Street	Cross Street	Source
✓	-	Haines Criss-Cross Directory

IRIS AVE 1975

IRIS AV 92388 SUNNYMEAD

24015 LIEBHERR PAUL K 653
24161*RANCHO D E T O D O 653-1590 4
24756 DURBIN P M 653-3095 4
24765*UNITED CORRUGATING 653-5683 4
24771 CARLTON COY R 653-1345
24900 SUMMERS DAVID R 653-4787
* 2 BUS 4 RES 0 NEW

F.2

Target Street	Cross Street	Source
✓	-	Haines Criss-Cross Directory

PERRIS BLVD 1975

```
15168 CARLSON MERRITT          653-65
      GARZA RODOLFO            653-39
15260  XXXX                    00
15310*CIRCLE K FOOD 531        653-2
15320 CLARK EUGENE R           653-1
      FOSSE JERRY              653-3
      MINEGAR STEVE            653-1
      RAMIREZ ARTURO           653-1
15332 GILL OWEN J JR           653-6
      HENNING ROBT D           653-1
      OAS JOHN R               653-7
      RESENDEZ BOBBI           653-6
15344 BOWEN TEDDY              653-
      SHIMEALL ROBT            653-
15600  XXXX                    00
15670*ARLINGTON HOMES INC       653-
     *GREENBRIAR HOMES         653-
     *RAMADA HOMES INC         653-
16641 LEE JOHN                 653-
16659 STAROSTKA WM             653-
16675  XXXX                    00
     *  14 BUS   108 RES   34
```

F.2

Iris Park
Iris Avenue & Perris Boulevard
Moreno Valley, CA 92551

Inquiry Number: 5844302.2s
October 25, 2019

EDR Vapor Encroachment Screen

Prepared using EDR's Vapor Encroachment Worksheet

EDR® Environmental Data Resources Inc

6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

TABLE OF CONTENTS

Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

EXECUTIVE SUMMARY

A search of available environmental records was conducted by EDR. The report was designed to assist parties seeking to meet the search requirements of the ASTM Standard Practice for Assessment of Vapor Encroachment into Structures on Property Involved in Real Estate Transactions (E 2600).

STANDARD ENVIRONMENTAL RECORDS	Default Area of Concern (Miles)*	property	1/10	> 1/10
Federal NPL site list	1.0	0	0	0
Federal Delisted NPL site list	1.0	0	0	0
Federal CERCLIS list	0.5	0	0	0
Federal CERCLIS NFRAP site list	0.5	0	0	0
Federal RCRA CORRACTS facilities list	1.0	0	0	0
Federal RCRA non-CORRACTS TSD facilities list	0.5	0	0	0
Federal RCRA generators list	0.25	0	1	0
Federal institutional controls / engineering controls registries	0.5	0	0	0
Federal ERNS list	property	0	-	-
State- and tribal - equivalent NPL	1.0	0	0	0
State- and tribal - equivalent CERCLIS	1.0	0	0	0
State and tribal landfill and/or solid waste disposal site lists	0.5	0	0	0
State and tribal leaking storage tank lists	0.5	0	2	0
State and tribal registered storage tank lists	0.25	0	0	0
State and tribal institutional control / engineering control registries	not searched	-	-	-
State and tribal voluntary cleanup sites	0.5	0	0	0
State and tribal Brownfields sites	0.5	0	0	0

ADDITIONAL ENVIRONMENTAL RECORDS				
Local Brownfield lists	0.5	0	0	0
Local Lists of Landfill / Solid Waste Disposal Sites	0.5	0	0	0
Local Lists of Hazardous waste / Contaminated Sites	1.0	0	1	0
Local Lists of Registered Storage Tanks	0.25	0	1	0
Local Land Records	0.5	0	0	0
Records of Emergency Release Reports	0.5	0	0	0
Other Ascertainable Records	1.0	0	7	0

EDR HIGH RISK HISTORICAL RECORDS				
EDR Exclusive Records	1.0	0	1	0
Exclusive Recovered Govt. Archives	not searched	-	-	-

EXECUTIVE SUMMARY

EDR RECOVERED GOVERNMENT ARCHIVES

EDR Exclusive Records	1.0	0	1	0
Exclusive Recovered Govt. Archives	not searched	-	-	-

*The Default Area of Concern may be adjusted by the environmental professional using experience and professional judgement. Each category may include several databases, and each database may have a different distance. A list of individual databases is provided at the back of this report.

EXECUTIVE SUMMARY

TARGET PROPERTY INFORMATION

ADDRESS

IRIS PARK
IRIS AVENUE & PERRIS BOULEVARD
MORENO VALLEY, CA 92551

COORDINATES

Latitude (North):	33.887532 - 33° 53′ 15.11261″
Longitude (West):	117.222763 - 117° 13′ 21.947021″
Elevation:	1500 ft. above sea level

EXECUTIVE SUMMARY

SEARCH RESULTS

Unmappable (orphan) sites are not considered in the foregoing analysis.

STANDARD ENVIRONMENTAL RECORDS

Name	Address	Dist/Dir	Map ID	Page
SHELL PERRIS BLVD. LUST: LUST	15980 PERRIS BLVD.	<1/10 WNW	▲ A2	12
SHELL SERVICE STATION RCRA-SQG: RCRA-SQG FINDS: FINDS ECHO: ECHO CERS: CERS LUST: LUST SWEEPS UST: SWEEPS UST HAZNET: HAZNET Cortese: CORTESE	15980 PERRIS BLVD	<1/10 WNW	▲ A3	14

ADDITIONAL ENVIRONMENTAL RECORDS

Name	Address	Dist/Dir	Map ID	Page
WALGREENS CIWQS: CIWQS CERS: CERS CERS HAZ WASTE: CERS HAZ WASTE	16020 PERRIS BLVD	<1/10 W	▲ 1	9
SHELL SERVICE STATION RCRA-SQG: RCRA-SQG FINDS: FINDS ECHO: ECHO CERS: CERS LUST: LUST SWEEPS UST: SWEEPS UST HAZNET: HAZNET Cortese: CORTESE	15980 PERRIS BLVD	<1/10 WNW	▲ A3	14
ROLLING RIDGE CLEANERS DRYCLEANERS: DRYCLEANERS	15974 PERRIS BLVD STE A	<1/10 WNW	▲ A4	35
ROLLING RIDGE CLEANERS INC DRYCLEANERS: DRYCLEANERS	15974 PERRIS BLVD UNIT A	<1/10 WNW	▲ A5	36
ROLLING RIDGE CLEANERS, MALEK AYASS,DBA DRYCLEANERS: DRYCLEANERS	15974 PERRIS BLVD UNIT A	<1/10 WNW	▲ A6	37
ROLLING RIDGE CLEANERS, JOA PROP DBA DRYCLEANERS: DRYCLEANERS	15974 PERRIS BLVD UNIT A	<1/10 WNW	▲ A7	38
TAN TRAN DRYCLEANERS: DRYCLEANERS	15974 PERRIS BLVD UNIT A	<1/10 WNW	▲ A9	39

EDR HIGH RISK HISTORICAL RECORDS

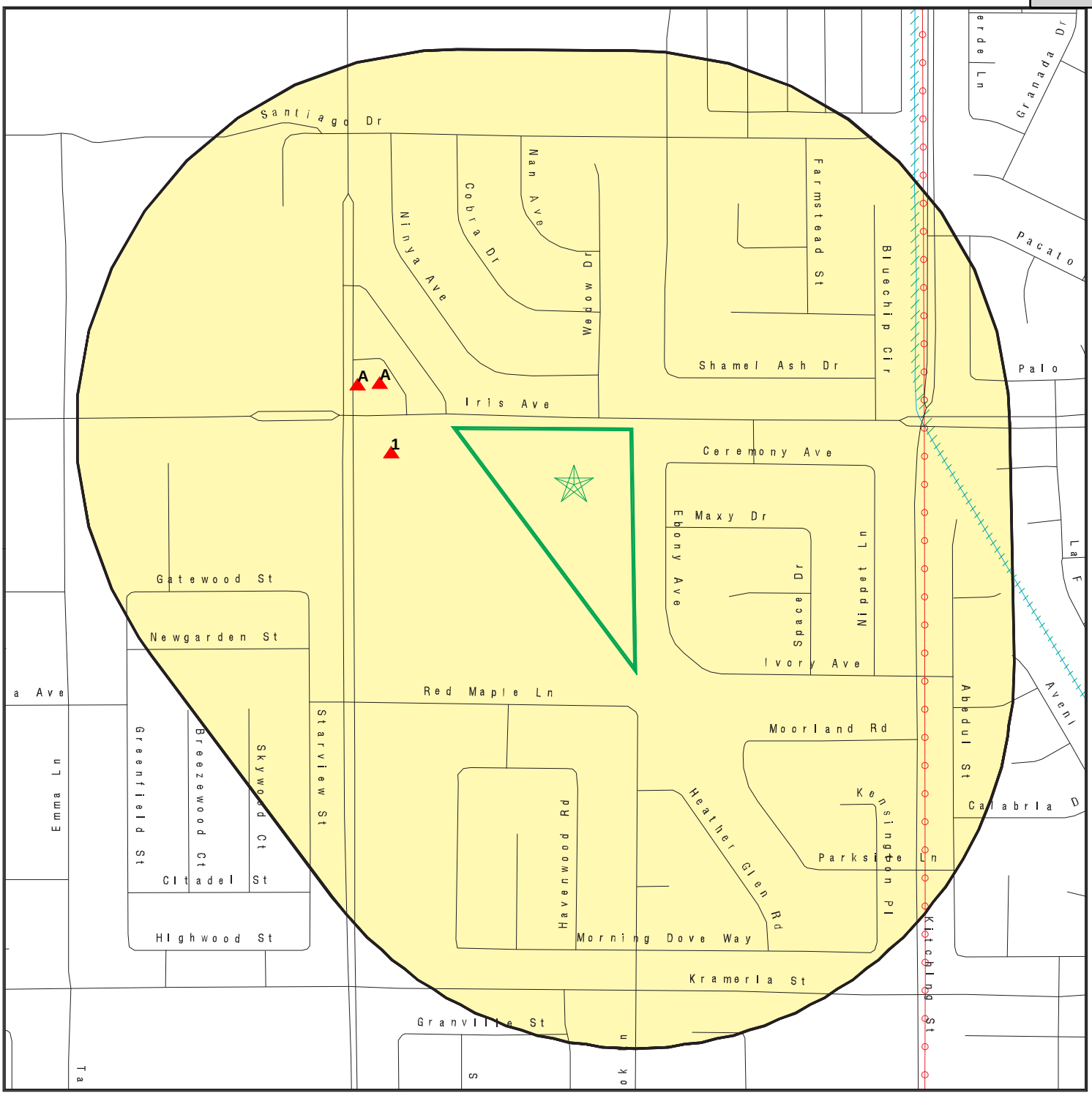
EXECUTIVE SUMMARY

Name	Address	Dist/Dir	Map ID	Page
ROLLING RIDGE CLEANERS INC EDR Hist Cleaner: EDR Hist Cleaner	15974 PERRIS BLVD STE A	<1/10 WNW	▲ A8	38

EDR RECOVERED GOVERNMENT ARCHIVES

Name	Address	Dist/Dir	Map ID	Page
Not Reported				

PRIMARY MAP - 5844302.2S



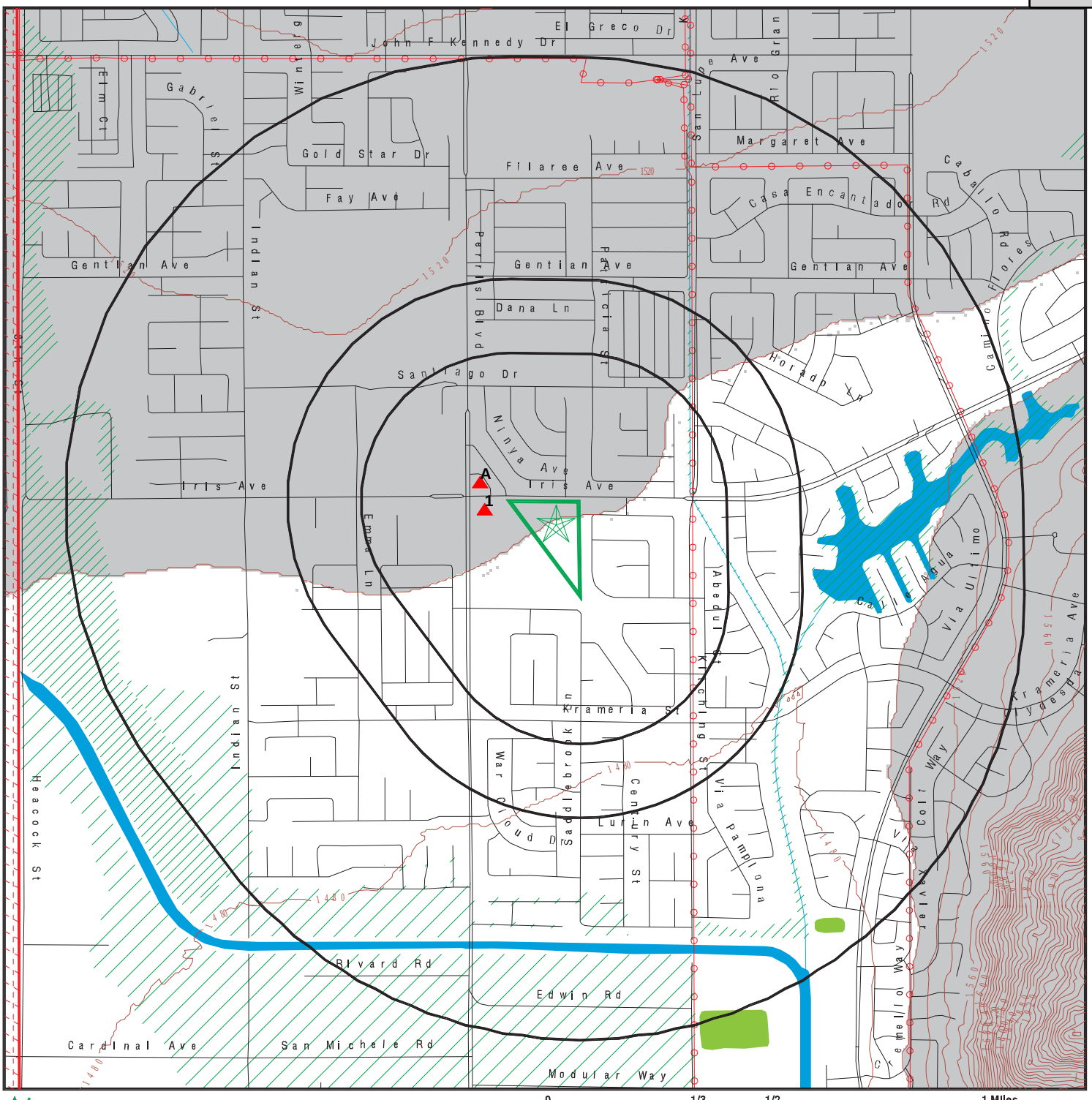
0 300 1/3 Miles

- Target Property
- Sites at elevations higher than or equal to the target property
- Sites at elevations lower than the target property
- Manufactured Gas Plants
- National Priority List Sites
- Dept. Defense Sites
- Indian Reservations BIA
- Power transmission lines
- 100-year flood zone
- 500-year flood zone
- Areas of Concern

This report includes Interactive Map Layers display and/or hide map information. The legend includes only those icons for the default map view.

SITE NAME: Iris Park	CLIENT: AES Due Diligence, Inc
ADDRESS: Iris Avenue & Perris Boulevard Moreno Valley CA 92551	CONTACT: Rick Darwicki
LAT/LONG: 33.887532 / 117.222763	INQUIRY #: 5844302.2s DATE: October 25, 2019 2:02 pm

SECONDARY MAP - 5844302.2S



0 1/3 1/2 1 Miles

- Target Property
- Sites at elevations higher than or equal to the target property
- Sites at elevations lower than the target property
- Manufactured Gas Plants
- National Priority List Sites
- Dept. Defense Sites
- Indian Reservations BIA
- Power transmission lines
- 100-year flood zone
- 500-year flood zone
- National Wetland Inventory
- State Wetlands
- Upgradient Area
- Areas of Concern

This report includes Interactive Map Layers display and/or hide map information. The legend includes only those icons for the default map view.

SITE NAME:	Iris Park	CLIENT:	AES Due Diligence, Inc
ADDRESS:	Iris Avenue & Perris Boulevard Moreno Valley CA 92551	CONTACT:	Rick Darwicki
LAT/LONG:	33.887532 / 117.222763	INQUIRY #:	5844302.2s
		DATE:	October 25, 2019 1:59 pm

MAP FINDINGS

LEGEND

FACILITY NAME **FACILITY ADDRESS, CITY, ST, ZIP**		EDR SITE ID NUMBER
◆ **MAP ID#**	Direction Distance Range (Distance feet / miles) Relative Elevation Feet Above Sea Level	ASTM 2600 Record Sources found in this report. Each database searched has been assigned to one or more categories. For detailed information about categorization, see the section of the report Records Searched and Currency.

Worksheet:

Comments:
Comments may be added on the online Vapor Encroachment Worksheet.

DATABASE ACRONYM: Applicable categories (A hoverbox with database description).

WALGREENS 16020 PERRIS BLVD, MORENO VALLEY, CA, 92551		S121689841
▲ 1	W <1/10 (318 ft. / 0.06 mi.) 4 ft. Higher Elevation 1504 ft. Above Sea Level	Local Lists of Hazardous waste / Contaminated Sites Other Ascertainable Records

Worksheet:

Impact on Target Property: VEC does not exist

CERS HAZ WASTE: Local Lists of Hazardous waste / Contaminated Sites

Name:	WAGLREENS #9616
Address:	16020 PERRIS BLVD
City,State,Zip:	MORENO VALLEY, CA 92551
Site ID:	84044
CERS ID:	10326247
CERS Description:	Hazardous Waste Generator

CIWQS: Other Ascertainable Records

Name:	WALGREENS
Address:	16020 PERRIS BLVD
City,State,Zip:	MORENO VALLEY, CA 92551
Agency:	Iris Partners LLC
Agency Address:	1150 N Mountain Ave #109, Upland, CA 91786
Place/Project Type:	Construction - Commercial
SIC/NAICS:	Not Reported
Region:	8
Program:	CONSTW
Regulatory Measure Status:	Terminated
Regulatory Measure Type:	Storm water construction
Order Number:	99-08DW
WDID:	8 33C341703
NPDES Number:	CAS000002

MAP FINDINGS

WALGREENS, 16020 PERRIS BLVD, MORENO VALLEY, CA 92551 (Continued)

Adoption Date:	Not Reported
Effective Date:	06/06/2006
Termination Date:	12/18/2007
Expiration/Review Date:	Not Reported
Design Flow:	Not Reported
Major/Minor:	Not Reported
Complexity:	Not Reported
TTWQ:	Not Reported
Enforcement Actions within 5 years:	0
Violations within 5 years:	0
Latitude:	0
Longitude:	0

CERS: Other Ascertainable Records

Name:	WAGLREENS #9616
Address:	16020 PERRIS BLVD
City,State,Zip:	MORENO VALLEY, CA 92551
Site ID:	84044
CERS ID:	10326247
CERS Description:	Chemical Storage Facilities

Evaluation:

Eval General Type:	Compliance Evaluation Inspection
Eval Date:	05-11-2016
Violations Found:	No
Eval Type:	Routine done by local agency
Eval Notes:	Not Reported
Eval Division:	Riverside County Department of Env Health
Eval Program:	HMRRP
Eval Source:	CERS
Eval General Type:	Compliance Evaluation Inspection
Eval Date:	05-11-2016
Violations Found:	No
Eval Type:	Routine done by local agency
Eval Notes:	Not Reported
Eval Division:	Riverside County Department of Env Health
Eval Program:	HW
Eval Source:	CERS
Eval General Type:	Other/Unknown
Eval Date:	10-10-2013
Violations Found:	No
Eval Type:	Other, not routine, done by local agency
Eval Notes:	Not Reported
Eval Division:	Riverside County Department of Env Health
Eval Program:	HMRRP
Eval Source:	CERS
Eval General Type:	Other/Unknown
Eval Date:	10-10-2013

MAP FINDINGS

WALGREENS, 16020 PERRIS BLVD, MORENO VALLEY, CA 92551 (Continued)

Violations Found:	No
Eval Type:	Other, not routine, done by local agency
Eval Notes:	Not Reported
Eval Division:	Riverside County Department of Env Health
Eval Program:	HW
Eval Source:	CERS

Coordinates:

Site ID:	84044
Facility Name:	Waglreens #9616
Env Int Type Code:	HWG
Program ID:	10326247
Coord Name:	Not Reported
Ref Point Type Desc:	Center of a facility or station.
Latitude:	33.887890
Longitude:	-117.225570

Affiliation:

Affiliation Type Desc:	Legal Owner
Entity Name:	Walgreen Co.
Entity Title:	Not Reported
Affiliation Address:	200 Wilmot Road
Affiliation City:	Deerfield
Affiliation State:	IL
Affiliation Country:	United States
Affiliation Zip:	60015
Affiliation Phone:	(847) 914-2264
Affiliation Type Desc:	Parent Corporation
Entity Name:	Walgreens
Entity Title:	Not Reported
Affiliation Address:	Not Reported
Affiliation City:	Not Reported
Affiliation State:	Not Reported
Affiliation Country:	Not Reported
Affiliation Zip:	Not Reported
Affiliation Phone:	Not Reported
Affiliation Type Desc:	Environmental Contact
Entity Name:	Verisk 3E, Regulatory Department/Walgreen Co.
Entity Title:	Not Reported
Affiliation Address:	3207 Grey Hawk Ct., Suite 200
Affiliation City:	Carlsbad
Affiliation State:	CA
Affiliation Country:	Not Reported
Affiliation Zip:	92010
Affiliation Phone:	Not Reported
Affiliation Type Desc:	Identification Signer
Entity Name:	Melissa Vales, on behalf of Walgreen Co.

MAP FINDINGS

WALGREENS, 16020 PERRIS BLVD, MORENO VALLEY, CA 92551 (Continued)

Entity Title:	Regulatory Compliance Specialist, Verisk 3E
Affiliation Address:	Not Reported
Affiliation City:	Not Reported
Affiliation State:	Not Reported
Affiliation Country:	Not Reported
Affiliation Zip:	Not Reported
Affiliation Phone:	Not Reported
Affiliation Type Desc:	Operator
Entity Name:	Walgreen Co.
Entity Title:	Not Reported
Affiliation Address:	Not Reported
Affiliation City:	Not Reported
Affiliation State:	Not Reported
Affiliation Country:	Not Reported
Affiliation Zip:	Not Reported
Affiliation Phone:	(847) 914-2264
Affiliation Type Desc:	CUPA District
Entity Name:	Riverside Cnty Env Health
Entity Title:	Not Reported
Affiliation Address:	4065 County Circle Drive, Room 104
Affiliation City:	Riverside
Affiliation State:	CA
Affiliation Country:	Not Reported
Affiliation Zip:	92503
Affiliation Phone:	(951) 358-5055
Affiliation Type Desc:	Document Preparer
Entity Name:	Melissa Vales, on behalf of Walgreen Co.
Entity Title:	Not Reported
Affiliation Address:	Not Reported
Affiliation City:	Not Reported
Affiliation State:	Not Reported
Affiliation Country:	Not Reported
Affiliation Zip:	Not Reported
Affiliation Phone:	Not Reported
Affiliation Type Desc:	Facility Mailing Address
Entity Name:	Mailing Address
Entity Title:	Not Reported
Affiliation Address:	Verisk 3E, Regulatory Dept/Walgreen Co., 3207 Grey Hawk Court, Ste 200
Affiliation City:	Carlsbad
Affiliation State:	CA
Affiliation Country:	Not Reported
Affiliation Zip:	92010
Affiliation Phone:	Not Reported

SHELL PERRIS BLVD.
15980 PERRIS BLVD., MORENO VALLEY, CA, 92551 S106162092

MAP FINDINGS

▲ A2	WNW <1/10	(403 ft. / 0.076 mi.)	State and tribal leaking storage tank lists
	6 ft. Higher Elevation	1506 ft. Above Sea Level	

Worksheet:

Impact on Target Property: VEC does not exist

LUST REG 8: State and tribal leaking storage tank lists

Name:	SHELL PERRIS BLVD.
Address:	15980 PERRIS BLVD.
City:	MORENO VALLEY
Region:	8
County:	Riverside
Regional Board:	Santa Ana Region
Facility Status:	Leak being confirmed
Case Number:	Not Reported
Local Case Num:	200420313
Case Type:	Soil only
Substance:	Gasoline
Qty Leaked:	Not Reported
Abate Method:	Not Reported
Cross Street:	IRIS
Enf Type:	Not Reported
Funding:	Not Reported
How Discovered:	OM
How Stopped:	Other Means
Leak Cause:	UNK
Leak Source:	UNK
Global ID:	T0606517323
How Stopped Date:	7/24/2003
Enter Date:	Not Reported
Date Confirmation of Leak Began:	2/9/2004
Date Preliminary Assessment Began:	Not Reported
Discover Date:	2/9/2004
Enforcement Date:	Not Reported
Close Date:	Not Reported
Date Prelim Assessment Workplan Submitted:	Not Reported
Date Pollution Characterization Began:	Not Reported
Date Remediation Plan Submitted:	Not Reported
Date Remedial Action Underway:	Not Reported
Date Post Remedial Action Monitoring:	Not Reported
Enter Date:	Not Reported
GW Qualifies:	Not Reported
Soil Qualifies:	Not Reported
Operator:	Not Reported
Facility Contact:	Not Reported
Interim:	Not Reported
Oversite Program:	Not Reported
Latitude:	0

MAP FINDINGS

SHELL PERRIS BLVD., 15980 PERRIS BLVD., MORENO VALLEY, CA 92551 (Continued)

Longitude:	0
MTBE Date:	Not Reported
Max MTBE GW:	Not Reported
MTBE Concentration:	0
Max MTBE Soil:	Not Reported
MTBE Fuel:	1
MTBE Tested:	Site NOT Tested for MTBE.Includes Unknown and Not Analyzed.
MTBE Class:	*
Staff:	CAB
Staff Initials:	SCB
Lead Agency:	Local Agency
Local Agency:	33000L
Hydr Basin #:	Not Reported
Beneficial:	Not Reported
Priority:	Not Reported
Cleanup Fund Id:	Not Reported
Work Suspended:	Not Reported
Summary:	Not Reported

SHELL SERVICE STATION 15980 PERRIS BLVD, MORENO VALLEY, CA, 92551-4691		1005904292
▲ A3	WNW <1/10 (403 ft. / 0.076 mi.) 6 ft. Higher Elevation 1506 ft. Above Sea Level	Federal RCRA generators list State and tribal leaking storage tank lists Local Lists of Registered Storage Tanks Other Ascertainable Records

Worksheet:

Impact on Target Property: VEC does not exist

RCRA-SQG: Federal RCRA generators list

Date form received by agency:	2002-07-18 00:00:00.0
Facility name:	SHELL SERVICE STATION
Facility address:	15980 PERRIS BLVD S A P 135626 MORENO VALLEY, CA 92388
EPA ID:	CAR000120600
Mailing address:	P O BOX 2648 HOUSTON, TX 77252-2648
Contact:	SONDRA BIENVENU
Contact address:	P O BOX 2648 HOUSTON, TX 77252-2648
Contact country:	US
Contact telephone:	713-241-5036
Contact email:	Not Reported
EPA Region:	09
Classification:	Small Small Quantity Generator

SHELL SERVICE STATION, 15980 PERRIS BLVD, MORENO VALLEY, CA 92551-4691 (Continued)

Description:	Handler: generates more than 100 and less than 1000 kg of hazardous waste during any calendar month and accumulates less than 6000 kg of hazardous waste at any time; or generates 100 kg or less of hazardous waste during any calendar month, and accumulates more than 1000 kg of hazardous waste at any time

Owner/Operator Summary:

Owner/operator name:	EQUILON ENT LLC DBA S O P US
Owner/operator address:	P O BOX 2648 HOUSTON, TX 77252
Owner/operator country:	Not Reported
Owner/operator telephone:	713-241-5036
Owner/operator email:	Not Reported
Owner/operator fax:	Not Reported
Owner/operator extension:	Not Reported
Legal status:	Private
Owner/Operator Type:	Owner
Owner/Op start date:	Not Reported
Owner/Op end date:	Not Reported

Handler Activities Summary:

U.S. importer of hazardous waste:	No
Mixed waste (haz. and radioactive):	No
Recycler of hazardous waste:	No
Transporter of hazardous waste:	No
Treater, storer or disposer of HW:	No
Underground injection activity:	No
On-site burner exemption:	No
Furnace exemption:	No
Used oil fuel burner:	No
Used oil processor:	No
User oil refiner:	No
Used oil fuel marketer to burner:	No
Used oil Specification marketer:	No
Used oil transfer facility:	No
Used oil transporter:	No

Hazardous Waste Summary:

. Waste code:	D001
. Waste name:	IGNITABLE WASTE
Violation Status:	No violations found

LUST: State and tribal leaking storage tank lists

Name:	SHELL PERRIS BLVD.
Address:	15980 PERRIS BLVD.
City,State,Zip:	MORENO VALLEY, CA 92551
Lead Agency:	SANTA ANA RWQCB (REGION 8)
Case Type:	LUST Cleanup Site
Geo Track:	http://geotracker.waterboards.ca.gov/profile_report.asp?global_id=T0606517323

SHELL SERVICE STATION, 15980 PERRIS BLVD, MORENO VALLEY, CA 92551-4691 (Continued)

Global Id:	T0606517323
Latitude:	33.888806364
Longitude:	-117.22591758
Status:	Open - Verification Monitoring
Status Date:	08/19/2016
Case Worker:	CAB
RB Case Number:	Not Reported
Local Agency:	Not Reported
File Location:	Local Agency
Local Case Number:	200420313
Potential Media Affect:	Aquifer used for drinking water supply
Potential Contaminants of Concern:	Gasoline
Site History:	***Data prior to 2005 does not appear in GeoTracker. Consult agency file for all site data*** Site History/Release Information: July 2003 - Soil samples were taken during dispenser and piping upgrades. Petroleum constituents were detected in several of the samples with the highest concentration in the north-central dispenser area (piping sample P4d7 with 17 ppm TBA). All samples were non-detect (ND) for benzene and MTBE. 203 tons of impacted soil was removed during the upgrades. The site was entered into the Local Oversight Program. Assessment and Remediation: 2005 - Four groundwater (gw) monitoring wells (MW-1 through MW-4) were installed around the perimeter of the UST cavity and dispenser islands. Heaviest soil impacts were identified near the USTs (MW-1 and MW-4) between 20 and 85 feet below grade (ft bg) with the highest concentrations approx 50 to 55 ft bg (78 ppm MTBE in MW-4@50 ft). The highest TBA detection in the soil was 57 ppm (MW-4@30 ft) while other constituents tested were low or ND. Depth to gw was approx 83 ft bg with flow to the southwest. Maximum gw concentrations were: 3800 ppb TPHg (MW-1), 80 ppb B (MW-3), ND<50 ppb TXE, 14000 ppb MTBE (MW-1), ND<500 ppb TBA. Neither the soil or the gw impacts were delineated 2006 - Three gw monitoring wells (MW-6, MW-10, MW-11) were installed at the property boundaries. Two observation wells (OBS-1 and OBS-2) were installed for remedial feasibility pilot testing. One cone penetration test (CPT) boring (CPT-1) was completed adjacent to MW-6. GW grab sample from CPT-1 detected 34000 ppb TPHg, 370000 ppb MTBE, 2600 ppb TBA and 1900 ppb TAME. GW from MW-6 (adjacent to Perris Blvd) and MW-11 (northern portion of the station) had very high MTBE detections (480000 ppb MW-6 and 200000 ppb MW-11). 2007 - Four dual-nested soil vapor extraction (SVE) wells (SVE-1 through SVE-4) were installed for remedial feasibility testing. All four wells had elevated MTBE and

SHELL SERVICE STATION, 15980 PERRIS BLVD, MORENO VALLEY, CA 92551-4691 (Continued)

TBA in the soil with concentrations up to 42 ppm MTBE (SVE-1@45 feet) and 56 ppm TBA (SVE-4@60 feet). Eleven air sparge (AS) wells (AS-1, AS-3 through AS-11, AS-13) were also installed for remedial feasibility testing. All locations had ppm concentrations of MTBE at depths below 50 ft bg. Three off-site monitoring wells (MW-5, MW-8, and MW-12) were installed northwest (MW-5 and MW-12) and southwest (MW-8) of the site. GW from MW-8 and MW-12 had low to ND concentrations and MW-5 had detections of 1200 ppb TPHg and 2200 ppb MTBE. SVE and gw extraction pilot testing was conducted. SVE mass removal rates were approx 85 lb/day TPHg and 64 lb/day MTBE. Vapor concentrations remained consistent throughout the test. Consultant recommended remediating the site using SVE with air sparging/oxygen injection. 2007 (December) to 2011 SVE and AS remediation was conducted. Beginning December 2007, vapors were extracted from all four dual-nested SVE wells and beginning January 2008, air sparging was implemented on all 11 AS wells. SVE was shut down July 2010 and AS continued to operate until October 2011. A total 836 lbs TPHg and 591 lbs MTBE were removed using SVE. 2008 - One on-site monitoring well (MW-13) and four off-site monitoring wells (MW-14 through MW-16, MW-19) were installed to further delineate the gw plume. The wells provided delineation of the dissolved plume to the north and west. One gw extraction well (EW-1) and two observation wells (OBS-3 and OBS-4) were installed for gw remediation feasibility testing. GW in EW-1 and OBS-4 had elevated concentrations. Nine remedial gw extraction events were conducted to reduce elevated MTBE and TBA in the gw. A vacuum truck was used to pump a total of 2207 gallons of gw from MW-1, MW-4, MW-6, MW-10, and MW-11. 2009 - Off-site monitoring wells MW-17 and MW-18 were installed west of Perris Blvd. The wells provided delineation of the western gw plume boundary as TBA was the only detection in the gw (34 and 79 ppb). Three re-injection wells (RI-1 through RI-3) were installed for injection of treated gw since off-site discharge permits could not be obtained. GW extraction pilot testing was conducted and it was concluded that this would be a feasible remedial technology for reducing gw impacts at the site. Permits for gw discharge were unable to be obtained, so re-injection of treated gw was proposed. Re-injection pilot testing was conducted and it was concluded that re-injection would be feasible method of

SHELL SERVICE STATION, 15980 PERRIS BLVD, MORENO VALLEY, CA 92551-4691 (Continued)

managing the treated gw. 2010 - Two on-site monitoring wells (MW-20 and MW-21) were installed southwest of the station building. GW sampling indicated the wells defined the southwestern limits of the dissolved plume. SVE rebound testing was conducted. Test results were favorable with rebounded vapor concentrations all below 1 ppmv. Five confirmation soil borings (CB-1 through CB-5) were drilled to 85 ft bg. Soil samples from each 5-ft depth interval from each boring were ND for all constituents except MTBE and TBA. The highest MTBE detection was 0.2 ppm from CB-4-75 and the highest TBA detection was 3 ppm from CB-2-80. All MTBE and TBA detections were from samples collected below the water table. Soil remedial efforts were considered effective, however, MTBE and TBA concentrations in the gw remained elevated. 2011 - Two off-site monitoring wells (MW-7 and MW-9) were installed south of Iris Avenue. GW sampling indicated the wells defined the southern and southeastern limits of the dissolved plume. 2012 - Two additional gw monitoring wells (MW-22 and MW-23) were installed. MW-22 was installed on-site, adjacent to EW-1, and MW-23 was installed off-site, southeast of MW-9. Neither well had GW impacts. Delineation of soil and gw impacts was considered complete. 2013 to 2015 - Monitored natural attenuation (MNA) was implemented, and Oxygen-releasing sleeves (O-Sox) were placed in wells MW-4, MW-6, MW-11, MW-15 and OBS-4 in an attempt to reduce remaining elevated MTBE and TBA concentrations. Notable decreases in concentrations were not observed and the O-Sox were removed January 2015. MTBE and TBA concentrations have remained relatively stable following another year of monitoring since O-Sox removal. 2015 - With a rise in gw levels of approx 30-ft since monitoring began in 2005, most of the wells associated with the cleanup have submerged well screens. RCDEH requested installation of an appropriately screened well in the area with the highest gw concentrations so the results could be compared with nearby submerged well(s). One gw mon well (MW-24) was installed near submerged well MW-6. Soil from MW-24 was ND for all constituents tested from 5 to 65 ft bg. A year of gw monitoring of MW-24 has shown all constituents ND, except one detection of TBA (11 ppb). During this same sampling period, gw from MW-6 had detections up to 6700 ppb TPHg, 3800 ppb MTBE and 42000 ppb TBA. The consultant concludes that the elevated concentrations in MW-6 are attributable to petroleum

MAP FINDINGS

SHELL SERVICE STATION, 15980 PERRIS BLVD, MORENO VALLEY, CA 92551-4691 (Continued)

fuel constituents trapped in the fine grained material and surrounding filter pack at depths below the current gw level. As such, it is not representative of surrounding conditions and should not be used for LTCP evaluation. Groundwater Monitoring: GW monitoring has been conducted at the site since March 2005. During this time period, gw has risen approx 30 ft from an initial depth of approx 80 ft bg to the current depth of approx 50 ft bg. GW flow has been consistently to the south and southeast. Most of the wells have submerged well screens as discussed above. Maximum historic gw concentrations were: 400000 ppb TPHg (MW-6), 80 ppb benzene (MW-3), 480000 ppb MTBE (MW-6), and 260000 ppb TBA (MW-4). Current (August 2016) gw concentrations are: 6600 ppb TPHg, 2500 ppb MTBE, and 35000 ppb TBA (well MW-6). The new properly screened well, MW-24 (near MW-6), did not have any contaminants detected. Low Threat Closure Policy (LTCP) Evaluation: The site meets the General Criteria and the Direct Contact and Outdoor Air Exposure Criteria of the LTCP. The Petroleum Vapor Intrusion to Indoor Air Criteria was not evaluated based on the active commercial petroleum fueling facility LTCP exemption. Except for the MTBE exceedance in well MW-6 (2500 ppb MTBE Q3-2016), the LTCP Groundwater-Specific Criteria was met using scenario 1.2 (plume length <250 ft, no free product, nearest existing water supply well >1000 ft, benzene <3000 ppb, and <1000 ppb MTBE). MW-6 is located approx 25 ft from MW-24, which is ND for MTBE. It should be noted that elevated TBA concentrations remain in the gw at MW-6 (35000 ppb), however, the LTCP does not specifically address concentrations of TBA, but instead considers TBA attributable to the break-down of MTBE. A UST system is currently installed and operating at the site. Prior to a change in land use, the potential threat of petroleum vapor intrusion into indoor air should be evaluated.

LUST:

Global Id:	T0606517323
Contact Type:	Regional Board Caseworker
Contact Name:	CARL BERNHARDT
Organization Name:	SANTA ANA RWQCB (REGION 8)
Address:	3737 MAIN STREET, SUITE 500
City:	RIVERSIDE
Email:	carl.bernhardt@waterboards.ca.gov
Phone Number:	9517824495

MAP FINDINGS

SHELL SERVICE STATION, 15980 PERRIS BLVD, MORENO VALLEY, CA 92551-4691 (Continued)

LUST:

Global Id:	T0606517323
Action Type:	ENFORCEMENT
Date:	09/01/2009
Action:	Staff Letter - #Riv Co 090109
Global Id:	T0606517323
Action Type:	ENFORCEMENT
Date:	05/30/2014
Action:	Waste Discharge Requirements
Global Id:	T0606517323
Action Type:	ENFORCEMENT
Date:	10/19/2018
Action:	Meeting
Global Id:	T0606517323
Action Type:	ENFORCEMENT
Date:	03/28/2019
Action:	Meeting
Global Id:	T0606517323
Action Type:	RESPONSE
Date:	10/30/2009
Action:	Pilot Study/ Treatability Report
Global Id:	T0606517323
Action Type:	RESPONSE
Date:	10/15/2009
Action:	Monitoring Report - Quarterly
Global Id:	T0606517323
Action Type:	RESPONSE
Date:	01/15/2010
Action:	Monitoring Report - Quarterly
Global Id:	T0606517323
Action Type:	RESPONSE
Date:	04/15/2010
Action:	Monitoring Report - Annually
Global Id:	T0606517323
Action Type:	RESPONSE
Date:	07/15/2010
Action:	Monitoring Report - Quarterly
Global Id:	T0606517323
Action Type:	RESPONSE
Date:	10/15/2010
Action:	Monitoring Report - Quarterly
Global Id:	T0606517323
Action Type:	RESPONSE
Date:	04/13/2009

MAP FINDINGS

SHELL SERVICE STATION, 15980 PERRIS BLVD, MORENO VALLEY, CA 92551-4691 (Continued)

Action:	Well Installation Report
Global Id:	T0606517323
Action Type:	RESPONSE
Date:	08/13/2010
Action:	Other Report / Document
Global Id:	T0606517323
Action Type:	RESPONSE
Date:	04/15/2014
Action:	Monitoring Report - Quarterly
Global Id:	T0606517323
Action Type:	RESPONSE
Date:	01/15/2015
Action:	Monitoring Report - Quarterly
Global Id:	T0606517323
Action Type:	ENFORCEMENT
Date:	08/13/2009
Action:	Staff Letter - #Riv Co 081309
Global Id:	T0606517323
Action Type:	ENFORCEMENT
Date:	09/16/2009
Action:	Technical Correspondence / Assistance / Other - #Riv Co 091609
Global Id:	T0606517323
Action Type:	RESPONSE
Date:	04/15/2015
Action:	Monitoring Report - Quarterly
Global Id:	T0606517323
Action Type:	RESPONSE
Date:	10/15/2014
Action:	Monitoring Report - Quarterly
Global Id:	T0606517323
Action Type:	RESPONSE
Date:	05/29/2015
Action:	Well Installation Report
Global Id:	T0606517323
Action Type:	ENFORCEMENT
Date:	05/25/2010
Action:	Staff Letter - #RCDEH 052510
Global Id:	T0606517323
Action Type:	RESPONSE
Date:	12/20/2010
Action:	Soil and Water Investigation Report
Global Id:	T0606517323
Action Type:	RESPONSE
Date:	10/15/2015

SHELL SERVICE STATION, 15980 PERRIS BLVD, MORENO VALLEY, CA 92551-4691 (Continued)

Action:	Monitoring Report - Quarterly
Global Id:	T0606517323
Action Type:	ENFORCEMENT
Date:	04/09/2007
Action:	Technical Correspondence / Assistance / Other - #040807
Global Id:	T0606517323
Action Type:	ENFORCEMENT
Date:	12/09/2016
Action:	File review - #RCDEH uploaded site file
Global Id:	T0606517323
Action Type:	RESPONSE
Date:	04/15/2011
Action:	Monitoring Report - Annually
Global Id:	T0606517323
Action Type:	RESPONSE
Date:	07/15/2015
Action:	Monitoring Report - Quarterly
Global Id:	T0606517323
Action Type:	RESPONSE
Date:	01/15/2016
Action:	Monitoring Report - Quarterly
Global Id:	T0606517323
Action Type:	ENFORCEMENT
Date:	08/26/2010
Action:	Technical Correspondence / Assistance / Other - #RCDEH 082610
Global Id:	T0606517323
Action Type:	ENFORCEMENT
Date:	10/18/2010
Action:	Staff Letter - #RCDEH 101810
Global Id:	T0606517323
Action Type:	Other
Date:	02/09/2004
Action:	Leak Discovery
Global Id:	T0606517323
Action Type:	RESPONSE
Date:	07/15/2011
Action:	Monitoring Report - Quarterly
Global Id:	T0606517323
Action Type:	RESPONSE
Date:	10/15/2011
Action:	Monitoring Report - Quarterly
Global Id:	T0606517323
Action Type:	RESPONSE
Date:	01/15/2012

MAP FINDINGS

SHELL SERVICE STATION, 15980 PERRIS BLVD, MORENO VALLEY, CA 92551-4691 (Continued)

Action:	Monitoring Report - Quarterly
Global Id:	T0606517323
Action Type:	RESPONSE
Date:	04/15/2016
Action:	Monitoring Report - Quarterly
Global Id:	T0606517323
Action Type:	RESPONSE
Date:	07/28/2018
Action:	Monitoring Report - Semi-Annually
Global Id:	T0606517323
Action Type:	RESPONSE
Date:	03/28/2019
Action:	Other Report / Document
Global Id:	T0606517323
Action Type:	RESPONSE
Date:	01/23/2019
Action:	Monitoring Report - Quarterly
Global Id:	T0606517323
Action Type:	RESPONSE
Date:	10/03/2018
Action:	Other Report / Document
Global Id:	T0606517323
Action Type:	ENFORCEMENT
Date:	06/08/2007
Action:	Notice of Responsibility
Global Id:	T0606517323
Action Type:	ENFORCEMENT
Date:	09/17/2007
Action:	Staff Letter - #RCDEH 091707
Global Id:	T0606517323
Action Type:	ENFORCEMENT
Date:	03/28/2011
Action:	Technical Correspondence / Assistance / Other - #RCDEH 032/11
Global Id:	T0606517323
Action Type:	ENFORCEMENT
Date:	02/22/2011
Action:	Technical Correspondence / Assistance / Other - #RCDEH 022211
Global Id:	T0606517323
Action Type:	Other
Date:	07/24/2003
Action:	Leak Stopped
Global Id:	T0606517323
Action Type:	RESPONSE
Date:	11/16/2007

MAP FINDINGS

SHELL SERVICE STATION, 15980 PERRIS BLVD, MORENO VALLEY, CA 92551-4691 (Continued)

Action:	Other Report / Document
Global Id:	T0606517323
Action Type:	RESPONSE
Date:	12/21/2007
Action:	Other Report / Document
Global Id:	T0606517323
Action Type:	RESPONSE
Date:	01/15/2008
Action:	Monitoring Report - Quarterly
Global Id:	T0606517323
Action Type:	RESPONSE
Date:	04/15/2008
Action:	Monitoring Report - Quarterly
Global Id:	T0606517323
Action Type:	RESPONSE
Date:	04/15/2012
Action:	Monitoring Report - Annually
Global Id:	T0606517323
Action Type:	RESPONSE
Date:	06/21/2012
Action:	Well Installation Report
Global Id:	T0606517323
Action Type:	RESPONSE
Date:	07/15/2012
Action:	Monitoring Report - Quarterly
Global Id:	T0606517323
Action Type:	RESPONSE
Date:	10/15/2016
Action:	Monitoring Report - Quarterly
Global Id:	T0606517323
Action Type:	RESPONSE
Date:	07/15/2016
Action:	Monitoring Report - Quarterly
Global Id:	T0606517323
Action Type:	RESPONSE
Date:	05/31/2013
Action:	Corrective Action Plan / Remedial Action Plan - Addendum - Regulator Responded
Global Id:	T0606517323
Action Type:	RESPONSE
Date:	12/17/2014
Action:	Other Workplan - Regulator Responded
Global Id:	T0606517323
Action Type:	RESPONSE
Date:	03/13/2015

MAP FINDINGS

SHELL SERVICE STATION, 15980 PERRIS BLVD, MORENO VALLEY, CA 92551-4691 (Continued)

Action:	Soil and Water Investigation Workplan - Regulator Responded
Global Id:	T0606517323
Action Type:	RESPONSE
Date:	01/18/2016
Action:	Request for Closure - Regulator Responded
Global Id:	T0606517323
Action Type:	RESPONSE
Date:	08/02/2018
Action:	Request for Closure - Regulator Responded
Global Id:	T0606517323
Action Type:	RESPONSE
Date:	09/25/2017
Action:	Soil and Water Investigation Workplan - Regulator Responded
Global Id:	T0606517323
Action Type:	REMEDIATION
Date:	01/03/2008
Action:	In Situ Physical/Chemical Treatment (other than SVE)
Global Id:	T0606517323
Action Type:	REMEDIATION
Date:	12/07/2007
Action:	Soil Vapor Extraction (SVE)
Global Id:	T0606517323
Action Type:	REMEDIATION
Date:	08/19/2008
Action:	Pump & Treat (P&T) Groundwater
Global Id:	T0606517323
Action Type:	REMEDIATION
Date:	07/01/2003
Action:	Excavation
Global Id:	T0606517323
Action Type:	ENFORCEMENT
Date:	05/27/2008
Action:	Staff Letter - #RCDEH052708
Global Id:	T0606517323
Action Type:	ENFORCEMENT
Date:	12/23/2007
Action:	File review
Global Id:	T0606517323
Action Type:	ENFORCEMENT
Date:	01/30/2008
Action:	Staff Letter - #RCDEH013008
Global Id:	T0606517323
Action Type:	ENFORCEMENT
Date:	03/30/2016

MAP FINDINGS

SHELL SERVICE STATION, 15980 PERRIS BLVD, MORENO VALLEY, CA 92551-4691 (Continued)

Action:	LOP Case Closure Summary to RB - #RCDEH 033016
Global Id:	T0606517323
Action Type:	RESPONSE
Date:	10/15/2007
Action:	Monitoring Report - Quarterly
Global Id:	T0606517323
Action Type:	RESPONSE
Date:	10/15/2012
Action:	Monitoring Report - Quarterly
Global Id:	T0606517323
Action Type:	RESPONSE
Date:	01/15/2013
Action:	Monitoring Report - Quarterly
Global Id:	T0606517323
Action Type:	ENFORCEMENT
Date:	06/04/2013
Action:	Staff Letter - #RCDEH 060413
Global Id:	T0606517323
Action Type:	ENFORCEMENT
Date:	08/25/2010
Action:	Meeting
Global Id:	T0606517323
Action Type:	ENFORCEMENT
Date:	05/01/2012
Action:	Meeting
Global Id:	T0606517323
Action Type:	ENFORCEMENT
Date:	07/01/2017
Action:	Referral to Regional Board - #RCDEH notification letters
Global Id:	T0606517323
Action Type:	ENFORCEMENT
Date:	08/15/2017
Action:	Staff Letter
Global Id:	T0606517323
Action Type:	ENFORCEMENT
Date:	02/28/2018
Action:	Meeting
Global Id:	T0606517323
Action Type:	Other
Date:	02/09/2004
Action:	Leak Reported
Global Id:	T0606517323
Action Type:	RESPONSE
Date:	04/15/2013

MAP FINDINGS

SHELL SERVICE STATION, 15980 PERRIS BLVD, MORENO VALLEY, CA 92551-4691 (Continued)

Action:	Monitoring Report - Annually
Global Id:	T0606517323
Action Type:	RESPONSE
Date:	07/15/2013
Action:	Monitoring Report - Quarterly
Global Id:	T0606517323
Action Type:	RESPONSE
Date:	10/31/2013
Action:	Well Installation Report
Global Id:	T0606517323
Action Type:	ENFORCEMENT
Date:	11/10/2008
Action:	Staff Letter - #RCDEH 11-10-08
Global Id:	T0606517323
Action Type:	ENFORCEMENT
Date:	02/23/2011
Action:	Meeting
Global Id:	T0606517323
Action Type:	ENFORCEMENT
Date:	04/22/2013
Action:	Notification - Public Notice of ROD/RAP/CAP - #RCDEH 042213
Global Id:	T0606517323
Action Type:	ENFORCEMENT
Date:	08/17/2009
Action:	Meeting
Global Id:	T0606517323
Action Type:	RESPONSE
Date:	10/15/2008
Action:	Monitoring Report - Quarterly
Global Id:	T0606517323
Action Type:	RESPONSE
Date:	01/15/2009
Action:	Monitoring Report - Quarterly
Global Id:	T0606517323
Action Type:	RESPONSE
Date:	12/12/2008
Action:	Well Installation Report
Global Id:	T0606517323
Action Type:	RESPONSE
Date:	10/30/2008
Action:	Other Workplan
Global Id:	T0606517323
Action Type:	RESPONSE
Date:	06/29/2007

MAP FINDINGS

SHELL SERVICE STATION, 15980 PERRIS BLVD, MORENO VALLEY, CA 92551-4691 (Continued)

Action:	CAP/RAP - Final Remediation / Design Plan
Global Id:	T0606517323
Action Type:	RESPONSE
Date:	06/27/2008
Action:	Other Workplan
Global Id:	T0606517323
Action Type:	RESPONSE
Date:	10/15/2013
Action:	Monitoring Report - Quarterly
Global Id:	T0606517323
Action Type:	RESPONSE
Date:	01/15/2014
Action:	Monitoring Report - Quarterly
Global Id:	T0606517323
Action Type:	ENFORCEMENT
Date:	01/09/2009
Action:	Access Agreement - #RCDEH010909
Global Id:	T0606517323
Action Type:	ENFORCEMENT
Date:	10/17/2008
Action:	File review
Global Id:	T0606517323
Action Type:	ENFORCEMENT
Date:	10/24/2008
Action:	Staff Letter - #RCDEH102408
Global Id:	T0606517323
Action Type:	ENFORCEMENT
Date:	02/13/2009
Action:	File review
Global Id:	T0606517323
Action Type:	ENFORCEMENT
Date:	01/09/2009
Action:	Staff Letter - #RCDEH010909
Global Id:	T0606517323
Action Type:	ENFORCEMENT
Date:	01/07/2009
Action:	NPDES Permit
Global Id:	T0606517323
Action Type:	ENFORCEMENT
Date:	09/21/2011
Action:	Meeting
Global Id:	T0606517323
Action Type:	ENFORCEMENT
Date:	04/30/2012

MAP FINDINGS

SHELL SERVICE STATION, 15980 PERRIS BLVD, MORENO VALLEY, CA 92551-4691 (Continued)

Action:	Staff Letter - #RCDEH 043012
Global Id:	T0606517323
Action Type:	ENFORCEMENT
Date:	07/01/2017
Action:	File review - #RCDEH site summary
Global Id:	T0606517323
Action Type:	ENFORCEMENT
Date:	04/22/2013
Action:	Staff Letter - #RCDEH 042213
Global Id:	T0606517323
Action Type:	ENFORCEMENT
Date:	12/10/2013
Action:	Technical Correspondence / Assistance / Other - #RCDEH 121013
Global Id:	T0606517323
Action Type:	ENFORCEMENT
Date:	11/29/2017
Action:	Staff Letter
Global Id:	T0606517323
Action Type:	RESPONSE
Date:	07/15/2008
Action:	Monitoring Report - Quarterly
Global Id:	T0606517323
Action Type:	RESPONSE
Date:	04/15/2009
Action:	Monitoring Report - Quarterly
Global Id:	T0606517323
Action Type:	RESPONSE
Date:	05/21/2009
Action:	Other Workplan
Global Id:	T0606517323
Action Type:	RESPONSE
Date:	01/09/2009
Action:	Well Installation Report
Global Id:	T0606517323
Action Type:	RESPONSE
Date:	07/15/2014
Action:	Monitoring Report - Quarterly

LUST:

Global Id:	T0606517323
Status:	Open - Case Begin Date
Status Date:	07/24/2003
Global Id:	T0606517323
Status:	Open - Site Assessment

MAP FINDINGS

SHELL SERVICE STATION, 15980 PERRIS BLVD, MORENO VALLEY, CA 92551-4691 (Continued)

Status Date:	02/09/2004
Global Id:	T0606517323
Status:	Open - Site Assessment
Status Date:	02/01/2005
Global Id:	T0606517323
Status:	Open - Remediation
Status Date:	09/21/2007
Global Id:	T0606517323
Status:	Open - Eligible for Closure
Status Date:	03/11/2016
Global Id:	T0606517323
Status:	Open - Verification Monitoring
Status Date:	08/19/2016

RIVERSIDE CO. LUST:

Name:	SHELL PERRIS BLVD.
Address:	15980 PERRIS BLVD.
City,State,Zip:	MORENO VALLEY, CA
Region:	RIVERSIDE
Facility ID:	200420313
Employee:	Shurlow-LOP
Site Closed:	Referred to Water Board
Case Type:	Drinking Water Aquifer affected
Facility Status:	closed/action completed
Casetype Decode:	An Aquifer used for Drinking Water supply has been contaminated.
Fstatus Decode:	Closed/Action completed

SWEEPS UST: Local Lists of Registered Storage Tanks

Name:	SHELL PERRIS
Address:	15980 PERRIS BLVD
City:	MORENO VALLEY
Status:	Active
Comp Number:	1985
Number:	1
Board Of Equalization:	44-000074
Referral Date:	05-18-93
Action Date:	05-18-93
Created Date:	05-18-93
Owner Tank Id:	1
SWRCB Tank Id:	33-000-001985-000001
Tank Status:	A
Capacity:	12000
Active Date:	05-18-93
Tank Use:	M.V. FUEL
STG:	P
Content:	REG UNLEADED

MAP FINDINGS

SHELL SERVICE STATION, 15980 PERRIS BLVD, MORENO VALLEY, CA 92551-4691 (Continued)

Number Of Tanks:	3
Name:	SHELL PERRIS
Address:	15980 PERRIS BLVD
City:	MORENO VALLEY
Status:	Active
Comp Number:	1985
Number:	1
Board Of Equalization:	44-000074
Referral Date:	05-18-93
Action Date:	05-18-93
Created Date:	05-18-93
Owner Tank Id:	2
SWRCB Tank Id:	33-000-001985-000002
Tank Status:	A
Capacity:	12000
Active Date:	05-18-93
Tank Use:	M.V. FUEL
STG:	P
Content:	PRM UNLEADED
Number Of Tanks:	Not Reported
Name:	SHELL PERRIS
Address:	15980 PERRIS BLVD
City:	MORENO VALLEY
Status:	Active
Comp Number:	1985
Number:	1
Board Of Equalization:	44-000074
Referral Date:	05-18-93
Action Date:	05-18-93
Created Date:	05-18-93
Owner Tank Id:	3
SWRCB Tank Id:	33-000-001985-000003
Tank Status:	A
Capacity:	12000
Active Date:	05-18-93
Tank Use:	M.V. FUEL
STG:	P
Content:	REG UNLEADED
Number Of Tanks:	Not Reported

FINDS: Other Ascertainable Records

Registry ID:	110012538511

Environmental Interest/Information System:

California Hazardous Waste Tracking System - Datamart (HWTS-DATAMART) provides California with information on hazardous waste shipments for generators, transporters, and treatment, storage, and disposal facilities.

SHELL SERVICE STATION, 15980 PERRIS BLVD, MORENO VALLEY, CA 92551-4691 (Continued)

RCRAInfo is a national information system that supports the Resource Conservation and Recovery Act (RCRA) program through the tracking of events and activities related to facilities that generate, transport, and treat, store, or dispose of hazardous waste. RCRAInfo allows RCRA program staff to track the notification, permit, compliance, and corrective action activities required under RCRA.

The Click here to access additional FINDS: detail in the EDR Site Report. database contains
http://www.edrnet.com/srf2/FinalSiteReport.aspx?ID=6.6d6EPb.Pit6O1Ndofg3hMwEThVPzAZbLnYA9NiPOwVigwKtpkv7xSKOslh1dzeNJn83U6Rob8qfcKegBzE4Ntchi3uMLgfwKnTA35gTeoUh6oaV6m48YrAz8IpAkw0ZwQ07YDGLaYsnpkuYWQu34Zi9jxON9QEiqTn6mMV.xgk6F9ZdsuW3gBWErTbPMv4b9cF9ctAP3n8imNHtxmA4wqSOesd13KMNoCj3T3.oNmcf14ZgBnG5mx.hd0tMVXbw03m8IvQTLiahP.hVjBu4TFIzYwxASxuZnl1CK5.LQr0nF1CYf8v6Bln.XS56iAhdePo4sVXEOmdPGsXb.1F3AONPgUzilMxtxgR8cdpOHoM16E3NCkuBlAyobWGfIKmg3VB7e5GhRaYMcZZwZBp7xCETMD1hIo.VaxR6jctzWknApDfZGYy3LvlL.nBnnQ7YPLY5cfI9qTLN.odiLpC2vECOFbQwREMVC.W5nqCgdUWw9s9KJHlvuoZpPGwk68vvPBR64eB.RXv6KCcdWoW4AUWEadHPDLtb9F83CQ0PdieizDCt0vK45SSOoMM1RevNaYE3.XRomHzfLf4gSR03XBXhgioMG9zwams8BYKT.Ryhv4kV7JIChDJzMXnA1WuZaNG3rOhL41tnK8FYQg87Af39arBNyb5icGp5pJROuflwF4tVCfpCMqJg4pOw5.IK.1W5QY7prhrkXwAvXFv3
additional records for this site. Please contact your EDR Account Executive for more information.

ECHO: Other Ascertainable Records

Envid:	1005904292
Registry ID:	110012538511
DFR URL:	http://echo.epa.gov/detailed-facility-report?fid=110012538511

CORTESE: Other Ascertainable Records

Name:	SHELL PERRIS BLVD.
Address:	15980 PERRIS BLVD.
City,State,Zip:	MORENO VALLEY, CA 92551
Region:	CORTESE
Envirostor Id:	Not Reported
Global ID:	T0606517323
Site/Facility Type:	LUST CLEANUP SITE
Cleanup Status:	OPEN - VERIFICATION MONITORING
Status Date:	Not Reported
Site Code:	Not Reported
Latitude:	Not Reported
Longitude:	Not Reported
Owner:	Not Reported
Enf Type:	Not Reported
Swat R:	Not Reported
Flag:	active
Order No:	Not Reported
Waste Discharge System No:	Not Reported
Effective Date:	Not Reported
Region 2:	Not Reported
WID Id:	Not Reported
Solid Waste Id No:	Not Reported
Waste Management Uit Name:	Not Reported
File Name:	Active Open

HAZNET: Other Ascertainable Records

Name:	SHELL SERVICE STATION
Address:	15980 PERRIS BLVD
City,State,Zip:	MORENO VALLEY, CA 92388
Year:	2015
GEPAID:	CAR000120600
Contact:	ADAM ESTES

MAP FINDINGS

SHELL SERVICE STATION, 15980 PERRIS BLVD, MORENO VALLEY, CA 92551-4691 (Continued)

Telephone:	3172917007
Mailing Name:	Not Reported
Mailing Address:	PO BOX 2099
Mailing City,St,Zip:	HOUSTON, TX 772522099
Gen County:	Riverside
TSD EPA ID:	NVT330010000
TSD County:	99
Tons:	0.1
CA Waste Code:	141-Off-specification, aged or surplus inorganics
Method:	H141-Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Facility County:	Riverside
Name:	SHELL SERVICE STATION
Address:	15980 PERRIS BLVD
City,State,Zip:	MORENO VALLEY, CA 92388
Year:	2009
GEPAID:	CAR000120600
Contact:	Adam Estes
Telephone:	3172917007
Mailing Name:	Not Reported
Mailing Address:	PO BOX 3127
Mailing City,St,Zip:	HOUSTON, TX 772530000
Gen County:	Riverside
TSD EPA ID:	CAD008302903
TSD County:	Los Angeles
Tons:	0.03
CA Waste Code:	352-Other organic solids
Method:	H141-Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Facility County:	Riverside
Name:	SHELL SERVICE STATION
Address:	15980 PERRIS BLVD
City,State,Zip:	MORENO VALLEY, CA 92388
Year:	2007
GEPAID:	CAR000120600
Contact:	Adam Estes
Telephone:	3172917007
Mailing Name:	Not Reported
Mailing Address:	PO BOX 3127
Mailing City,St,Zip:	HOUSTON, TX 772530000
Gen County:	Riverside
TSD EPA ID:	CAD008302903
TSD County:	Los Angeles
Tons:	0.0075
CA Waste Code:	352-Other organic solids
Method:	H141-Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Facility County:	Riverside
Name:	SHELL SERVICE STATION
Address:	15980 PERRIS BLVD
City,State,Zip:	MORENO VALLEY, CA 92388

SHELL SERVICE STATION, 15980 PERRIS BLVD, MORENO VALLEY, CA 92551-4691 (Continued)

Year:	2007
GEPAID:	CAR000120600
Contact:	Adam Estes
Telephone:	3172917007
Mailing Name:	Not Reported
Mailing Address:	PO BOX 3127
Mailing City,St,Zip:	HOUSTON, TX 772530000
Gen County:	Riverside
TSD EPA ID:	CAD028409019
TSD County:	Los Angeles
Tons:	0.02
CA Waste Code:	352-Other organic solids
Method:	H141-Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Facility County:	Riverside

Name:	SHELL SERVICE STATION
Address:	15980 PERRIS BLVD
City,State,Zip:	MORENO VALLEY, CA 92388
Year:	2006
GEPAID:	CAR000120600
Contact:	Adam Estes
Telephone:	3172917007
Mailing Name:	Not Reported
Mailing Address:	PO BOX 3127
Mailing City,St,Zip:	HOUSTON, TX 772530000
Gen County:	Riverside
TSD EPA ID:	CAD008302903
TSD County:	Los Angeles
Tons:	0.085
CA Waste Code:	352-Other organic solids
Method:	H01-Transfer Station
Facility County:	Riverside

The Click here to access 7 additional CA_HAZNET: record(s) in the EDR Site Report. database contains http://www.edrnet.com/srf2/FinalSiteReport.aspx?ID=6.6d6EPb.Pit6O1Ndofg3hMwEThVPzAZbLnYA9NiPOwVigwKtpkv7xSKOslh1dzeNJn83U6Rob8qfcKegBzE4Ntchi3uMLgfwKnTA35gTeoUh6oaV6m48YrAz8IpAkw0ZwQ07YDGLaYsnpkuYWQu34Zi9jxON9QEiqTn6mMV.xgk6F9ZdsuW3gBWErTbPMv4b9cF9ctAP3n8imNHtxmA4wqSOesd13KMNoCj3T3.oNmcf14ZgBnG5mx.hd0tMVXbw03m8IvQTLiahP.hVjBu4TFlzYwxASxuZnl1CK5.LQr0nF1CYf8v6Bln.XS56iAhdePo4sVXEOmdPGsXb.1F3AONPgUzilMxtxgR8cdpOHoM16E3NCkuBlAyobWGfIKmg3VB7e5GhRaYMcZZwZBp7xCETMD1hIo.VaxR6jctzWknApDfZGYy3LvlL.nBnnQ7YPLY5cfI9qTLN.odiLpC2vECOFbQwREMVC.W5nqCgdUWw9s9KJHlvuoZpPGwk68vvPBR64eB.RXv6KCcdWoW4AUWEadHPDLtb9F83CQ0PdieizDCt0vK45SSOoMM1RevNaYE3.XRomHzfLf4gSR03XBXhgioMG9zwams8BYKT.Ryhv4kV7JIChDJzMXnA1WuZaNG3rOhL41tnK8FYQg87Af39arBNyb5icGp5pJROuflwF4tVCfpCMqJg4pOw5.IK.1W5QY7prhrkXwAvXFv3 additional records for this site. Please contact your EDR Account Executive for more information.

CERS: Other Ascertainable Records

Name:	SHELL PERRIS BLVD.
Address:	15980 PERRIS BLVD.
City,State,Zip:	MORENO VALLEY, CA 92551
Site ID:	195812
CERS ID:	T0606517323
CERS Description:	Leaking Underground Storage Tank Cleanup Site

Affiliation:

Affiliation Type Desc:	Regional Board Caseworker
Entity Name:	CARL BERNHARDT - SANTA ANA RWQCB (REGION 8)

MAP FINDINGS

SHELL SERVICE STATION, 15980 PERRIS BLVD, MORENO VALLEY, CA 92551-4691 (Continued)

Entity Title:	Not Reported
Affiliation Address:	3737 MAIN STREET, SUITE 500
Affiliation City:	RIVERSIDE
Affiliation State:	CA
Affiliation Country:	Not Reported
Affiliation Zip:	Not Reported
Affiliation Phone:	9517824495

ROLLING RIDGE CLEANERS
15974 PERRIS BLVD STE A, MORENO VALLEY, CA, 92551 S103985263

▲ A4	WNW <1/10	(492 ft. / 0.093 mi.)	Other Ascertainable Records
	7 ft. Higher Elevation	1507 ft. Above Sea Level	

Worksheet:

Impact on Target Property: VEC does not exist

DRYCLEANERS: Other Ascertainable Records

Name:	ROLLING RIDGE CLEANERS INC
Address:	15974 PERRIS BLVD STE A
City,State,Zip:	MORENO VALLEY, CA 925514694
EPA Id:	CAL000364010
NAICS Code:	81232
NAICS Description:	Drycleaning and Laundry Services (except Coin-Operated)
SIC Code:	7211
SIC Description:	Power Laundries, Family and Commercial
Create Date:	05/26/2011
Facility Active:	No
Inactive Date:	06/30/2013
Facility Addr2:	Not Reported
Owner Name:	JOA PROPERTIES INC
Owner Address:	15694 RIO BLANCO TRL
Owner Address 2:	Not Reported
Owner Telephone:	9512955910
Contact Name:	JESS ANDERSON
Contact Address:	15694 RIO BLANCO TRL
Contact Address 2:	Not Reported
Contact Telephone:	9512955910
Mailing Name:	Not Reported
Mailing Address 1:	15974 PERRIS BLVD STE A
Mailing Address 2:	Not Reported
Mailing City:	MORENO VALLEY
Mailing State:	CA
Mailing Zip:	925514694
Owner Fax:	Not Reported
Region Code:	4

Name:	ROLLING RIDGE CLEANERS
Address:	15974 PERRIS BLVD STE A

MAP FINDINGS

ROLLING RIDGE CLEANERS, 15974 PERRIS BLVD STE A, MORENO VALLEY, CA 92551 (Continued)

City,State,Zip:	MORENO VALLEY, CA 92551
EPA Id:	CAL000389130
NAICS Code:	81232
NAICS Description:	Drycleaning and Laundry Services (except Coin-Operated)
SIC Code:	7211
SIC Description:	Power Laundries, Family and Commercial
Create Date:	08/30/2013
Facility Active:	No
Inactive Date:	06/30/2016
Facility Addr2:	Not Reported
Owner Name:	TONY TRAN
Owner Address:	15974 PERRIS BLVD STE A
Owner Address 2:	Not Reported
Owner Telephone:	9518135526
Contact Name:	TONY TRAN
Contact Address:	15974 PERRIS BLVD STE A
Contact Address 2:	Not Reported
Contact Telephone:	9518135526
Mailing Name:	Not Reported
Mailing Address 1:	15974 PERRIS BLVD STE A
Mailing Address 2:	Not Reported
Mailing City:	MORENO VALLEY
Mailing State:	CA
Mailing Zip:	925510000
Owner Fax:	0000000000
Region Code:	4

ROLLING RIDGE CLEANERS INC 15974 PERRIS BLVD UNIT A, MORENO VALLEY, CA, 92551		S113047505
▲ A5	WNW <1/10 (492 ft. / 0.093 mi.)	Other Ascertainable Records
	7 ft. Higher Elevation 1507 ft. Above Sea Level	

Worksheet:

Impact on Target Property: VEC does not exist

DRYCLEAN SOUTH COAST: Other Ascertainable Records

Name:	ROLLING RIDGE CLEANERS INC
Address:	15974 PERRIS BLVD UNIT A
City,State,Zip:	MORENO VALLEY, CA 92551
Facility ID:	83714
Application Number:	243794
Permit Number:	D39143
Status:	I
Representative Name:	DAVID FUJINAMI
Representative Telephone:	818 4483168
Permit Status:	INACT_NR
BCAT Number:	000234
BCAT Description:	DRY CLEANING EQUIP PERCHLOROETHYLENE

MAP FINDINGS

ROLLING RIDGE CLEANERS INC, 15974 PERRIS BLVD UNIT A, MORENO VALLEY, CA 92551 (Continued)

CCAT Number:	Not Reported
CCAT Description:	Not Reported
UTM East:	430.73001099
UTM North:	3763.3200684

ROLLING RIDGE CLEANERS, MALEK AYASS,DBA 15974 PERRIS BLVD UNIT A, MORENO VALLEY, CA, 92551		S121693998
▲ A6	WNW <1/10 (492 ft. / 0.093 mi.)	Other Ascertainable Records
	7 ft. Higher Elevation 1507 ft. Above Sea Level	

Worksheet:

Impact on Target Property: VEC does not exist

DRYCLEAN SOUTH COAST: Other Ascertainable Records

Name:	ROLLING RIDGE CLEANERS, MALEK AYASS,DBA
Address:	15974 PERRIS BLVD UNIT A
City,State,Zip:	MORENO VALLEY, CA 92551
Facility ID:	113640
Application Number:	437644
Permit Number:	F72936
Status:	S
Representative Name:	MALEK AYASS
Representative Telephone:	951 4889277
Permit Status:	INACTIVE
BCAT Number:	000233
BCAT Description:	DRY CLEANING EQUIP PETROLEUM SOLVENT
CCAT Number:	04
CCAT Description:	VAPOR RECOVERY UNIT COMPRESS & CONDENSE
UTM East:	479.0920105
UTM North:	3749.6508789

Name:	ROLLING RIDGE CLEANERS, MALEK AYASS,DBA
Address:	15974 PERRIS BLVD UNIT A
City,State,Zip:	MORENO VALLEY, CA 92551
Facility ID:	113640
Application Number:	332174
Permit Number:	F14622
Status:	S
Representative Name:	MALEK AYASS
Representative Telephone:	951 4889277
Permit Status:	INACTIVE
BCAT Number:	000601
BCAT Description:	DRY CLEANING, DRY-TO-DRY NON-VENT, PERC
CCAT Number:	04
CCAT Description:	VAPOR RECOVERY UNIT COMPRESS & CONDENSE
UTM East:	479.0920105
UTM North:	3749.6508789

MAP FINDINGS

ROLLING RIDGE CLEANERS, JOA PROP DBA 15974 PERRIS BLVD UNIT A, MORENO VALLEY, CA, 92551			S121696531
▲ A7	WNW <1/10	(492 ft. / 0.093 mi.)	Other Ascertainable Records
	7 ft. Higher Elevation	1507 ft. Above Sea Level	

Worksheet:

Impact on Target Property: VEC does not exist

DRYCLEAN SOUTH COAST: Other Ascertainable Records

Name:	ROLLING RIDGE CLEANERS, JOA PROP DBA
Address:	15974 PERRIS BLVD UNIT A
City,State,Zip:	MORENO VALLEY, CA 92551
Facility ID:	166980
Application Number:	519767
Permit Number:	G13180
Status:	S
Representative Name:	JEFF ANDERSON
Representative Telephone:	951 2955910
Permit Status:	INACTIVE
BCAT Number:	000233
BCAT Description:	DRY CLEANING EQUIP PETROLEUM SOLVENT
CCAT Number:	Not Reported
CCAT Description:	Not Reported
UTM East:	479.07998657
UTM North:	3749.6398926

ROLLING RIDGE CLEANERS INC 15974 PERRIS BLVD STE A, MORENO VALLEY, CA, 92551			1020076607
▲ A8	WNW <1/10	(492 ft. / 0.093 mi.)	EDR Exclusive Records
	7 ft. Higher Elevation	1507 ft. Above Sea Level	

Worksheet:

Impact on Target Property: VEC does not exist

EDR Hist Cleaner: EDR Exclusive Records

Year:	Name: / Type:
1996:	ROLLING RIDGE CLEANERS INC / Drycleaning Plants, Except Rugs
1997:	ROLLING RIDGE CLEANERS INC / Drycleaning Plants, Except Rugs
1998:	ROLLING RIDGE CLEANERS INC / Drycleaning Plants, Except Rugs
1999:	ROLLING RIDGE CLEANERS INC / Drycleaning Plants, Except Rugs
2000:	ROLLING RIDGE CLEANERS INC / Drycleaning Plants, Except Rugs
2001:	ROLLING RIDGE CLEANERS INC / Drycleaning Plants, Except Rugs
2002:	ROLLING RIDGE CLEANERS INC / Drycleaning Plants, Except Rugs
2003:	ROLLING RIDGE CLEANERS INC / Drycleaning Plants, Except Rugs
2004:	ROLLING RIDGE CLEANERS INC / Drycleaning Plants, Except Rugs
2005:	ROLLING RIDGE CLEANERS INC / Drycleaning Plants, Except Rugs
2006:	ROLLING RIDGE CLEANERS INC / Drycleaning Plants, Except Rugs

MAP FINDINGS

ROLLING RIDGE CLEANERS INC, 15974 PERRIS BLVD STE A, MORENO VALLEY, CA 92551 (Continued)

2007:	ROLLING RIDGE CLEANERS INC / Drycleaning Plants, Except Rugs
2008:	ROLLING RIDGE CLEANERS INC / Drycleaning Plants, Except Rugs
2009:	ROLLING RIDGE CLEANERS INC / Drycleaning Plants, Except Rugs
2010:	ROLLING RIDGE CLEANERS INC / Drycleaning Plants, Except Rugs
2011:	ROLLING RIDGE CLEANERS INC / Drycleaning Plants, Except Rugs
2012:	ROLLING RIDGE CLEANERS INC / Drycleaning Plants, Except Rugs
2013:	ROLLING RIDGE CLEANERS INC / Drycleaning Plants, Except Rugs
2014:	ROLLING RIDGE CLEANERS INC / Drycleaning Plants, Except Rugs

TAN TRAN 15974 PERRIS BLVD UNIT A, MORENO VALLEY, CA, 92551		S121696655
▲ A9	WNW <1/10	(492 ft. / 0.093 mi.)	Other Ascertainable Records
	7 ft. Higher Elevation	1507 ft. Above Sea Level	

Worksheet:

Impact on Target Property: VEC does not exist

DRYCLEAN SOUTH COAST: Other Ascertainable Records

Name:	TAN TRAN
Address:	15974 PERRIS BLVD UNIT A
City,State,Zip:	MORENO VALLEY, CA 92551
Facility ID:	174663
Application Number:	552438
Permit Number:	G27268
Status:	A
Representative Name:	TAN TRAN
Representative Telephone:	951 8135526
Permit Status:	ACTIVE
BCAT Number:	000233
BCAT Description:	DRY CLEANING EQUIP PETROLEUM SOLVENT
CCAT Number:	Not Reported
CCAT Description:	Not Reported
UTM East:	479.07998657
UTM North:	3749.6398926

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

St	Acronym	Full Name	Government Agency	Gov Date	Arvl. Date	Active Dat
ENVIRONMENTAL RECORDS						
Federal NPL site list						
US	NPL	National Priority List	EPA	07/19/2019	07/30/2019	09/03/2019
US	Proposed NPL	Proposed National Priority List Sites	EPA	07/19/2019	07/30/2019	09/03/2019
US	NPL LIENS	Federal Superfund Liens	EPA	10/15/1991	02/02/1994	03/30/1994
Federal CERCLIS list						
US	SEMS	Superfund Enterprise Management System	EPA	07/19/2019	07/30/2019	09/03/2019
Federal RCRA CORRACTS facilities list						
US	CORRACTS	Corrective Action Report	EPA	06/24/2019	06/26/2019	10/17/2019
Federal RCRA TSD facilities list						
US	RCRA-TSDF	RCRA - Treatment, Storage and Disposal	Environmental Protection Agency	06/24/2019	06/26/2019	10/17/2019
Federal RCRA generators list						
US	RCRA-LQG	RCRA - Large Quantity Generators	Environmental Protection Agency	06/24/2019	06/26/2019	10/17/2019
US	RCRA-SQG	RCRA - Small Quantity Generators	Environmental Protection Agency	06/24/2019	06/26/2019	10/17/2019
US	RCRA-VSQG	RCRA - Very Small Quantity Generators (Formerly Conditionall	Environmental Protection Agency	06/24/2019	06/26/2019	10/17/2019
Federal institutional controls / engineering controls registries						
US	LUCIS	Land Use Control Information System	Department of the Navy	08/13/2019	08/20/2019	08/26/2019
US	US ENG CONTROLS	Engineering Controls Sites List	Environmental Protection Agency	08/19/2019	08/20/2019	08/26/2019
US	US INST CONTROL	Sites with Institutional Controls	Environmental Protection Agency	08/19/2019	08/20/2019	08/26/2019
Federal ERNS list						
US	ERNS	Emergency Response Notification System	National Response Center, United States Coast	09/09/2019	09/09/2019	09/23/2019
State and tribal - equivalent NPL						
CA	RESPONSE	State Response Sites	Department of Toxic Substances Control	07/29/2019	07/31/2019	10/08/2019
State and tribal - equivalent CERCLIS						
CA	ENVIROSTOR	EnviroStor Database	Department of Toxic Substances Control	07/29/2019	07/31/2019	10/08/2019
State and tribal landfill / solid waste disposal						
CA	SWF/LF (SWIS)	Solid Waste Information System	Department of Resources Recycling and Recover	08/12/2019	08/13/2019	10/09/2019
State and tribal leaking storage tank lists						
CA	LUST REG 8	Leaking Underground Storage Tanks	California Regional Water Quality Control Boa	02/14/2005	02/15/2005	03/28/2005
CA	LUST REG 7	Leaking Underground Storage Tank Case Listing	California Regional Water Quality Control Boa	02/26/2004	02/26/2004	03/24/2004
CA	LUST REG 5	Leaking Underground Storage Tank Database	California Regional Water Quality Control Boa	07/01/2008	07/22/2008	07/31/2008
CA	LUST REG 4	Underground Storage Tank Leak List	California Regional Water Quality Control Boa	09/07/2004	09/07/2004	10/12/2004
CA	LUST REG 3	Leaking Underground Storage Tank Database	California Regional Water Quality Control Boa	05/19/2003	05/19/2003	06/02/2003
CA	LUST REG 2	Fuel Leak List	California Regional Water Quality Control Boa	09/30/2004	10/20/2004	11/19/2004
CA	LUST REG 1	Active Toxic Site Investigation	California Regional Water Quality Control Boa	02/01/2001	02/28/2001	03/29/2001

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

St	Acronym	Full Name	Government Agency	Gov Date	Arvl. Date	Active Dat
CA	LUST REG 6V	Leaking Underground Storage Tank Case Listing	California Regional Water Quality Control Boa	06/07/2005	06/07/2005	06/29/2005
CA	LUST REG 6L	Leaking Underground Storage Tank Case Listing	California Regional Water Quality Control Boa	09/09/2003	09/10/2003	10/07/2003
CA	LUST REG 9	Leaking Underground Storage Tank Report	California Regional Water Quality Control Boa	03/01/2001	04/23/2001	05/21/2001
CA	LUST	Leaking Underground Fuel Tank Report (GEOTRACKER)	State Water Resources Control Board	06/10/2019	06/11/2019	08/05/2019
US	INDIAN LUST R8	Leaking Underground Storage Tanks on Indian Land	EPA Region 8	10/16/2018	03/07/2019	05/01/2019
US	INDIAN LUST R4	Leaking Underground Storage Tanks on Indian Land	EPA Region 4	04/12/2019	07/29/2019	10/17/2019
US	INDIAN LUST R5	Leaking Underground Storage Tanks on Indian Land	EPA, Region 5	04/08/2019	07/30/2019	10/17/2019
US	INDIAN LUST R1	Leaking Underground Storage Tanks on Indian Land	EPA Region 1	04/11/2019	07/29/2019	10/17/2019
US	INDIAN LUST R10	Leaking Underground Storage Tanks on Indian Land	EPA Region 10	04/16/2019	07/29/2019	10/17/2019
US	INDIAN LUST R6	Leaking Underground Storage Tanks on Indian Land	EPA Region 6	05/01/2019	07/29/2019	10/17/2019
US	INDIAN LUST R9	Leaking Underground Storage Tanks on Indian Land	Environmental Protection Agency	04/08/2019	07/29/2019	10/17/2019
US	INDIAN LUST R7	Leaking Underground Storage Tanks on Indian Land	EPA Region 7	07/02/2019	10/16/2019	10/24/2019
CA	CPS-SLIC	Statewide SLIC Cases (GEOTRACKER)	State Water Resources Control Board	06/10/2019	06/11/2019	08/05/2019
CA	SLIC REG 1	Active Toxic Site Investigations	California Regional Water Quality Control Boa	04/03/2003	04/07/2003	04/25/2003
CA	SLIC REG 2	Spills, Leaks, Investigation & Cleanup Cost Recovery Listing	Regional Water Quality Control Board San Fran	09/30/2004	10/20/2004	11/19/2004
CA	SLIC REG 3	Spills, Leaks, Investigation & Cleanup Cost Recovery Listing	California Regional Water Quality Control Boa	05/18/2006	05/18/2006	06/15/2006
CA	SLIC REG 4	Spills, Leaks, Investigation & Cleanup Cost Recovery Listing	Region Water Quality Control Board Los Angele	11/17/2004	11/18/2004	01/04/2005
CA	SLIC REG 5	Spills, Leaks, Investigation & Cleanup Cost Recovery Listing	Regional Water Quality Control Board Central	04/01/2005	04/05/2005	04/21/2005
CA	SLIC REG 6V	Spills, Leaks, Investigation & Cleanup Cost Recovery Listing	Regional Water Quality Control Board, Victorv	05/24/2005	05/25/2005	06/16/2005
CA	SLIC REG 6L	SLIC Sites	California Regional Water Quality Control Boa	09/07/2004	09/07/2004	10/12/2004
CA	SLIC REG 7	SLIC List	California Regional Quality Control Board, Co	11/24/2004	11/29/2004	01/04/2005
CA	SLIC REG 8	Spills, Leaks, Investigation & Cleanup Cost Recovery Listing	California Region Water Quality Control Board	04/03/2008	04/03/2008	04/14/2008
CA	SLIC REG 9	Spills, Leaks, Investigation & Cleanup Cost Recovery Listing	California Regional Water Quality Control Boa	09/10/2007	09/11/2007	09/28/2007
State and tribal registered storage tank lists						
CA	UST	Active UST Facilities	SWRCB	06/10/2019	06/11/2019	07/23/2019
CA	UST CLOSURE	Proposed Closure of Underground Storage Tank (UST) Cases	State Water Resources Control Board	06/10/2019	06/12/2019	07/23/2019
CA	MILITARY UST SITES	Military UST Sites (GEOTRACKER)	State Water Resources Control Board	06/10/2019	06/11/2019	07/24/2019
CA	UST MENDOCINO	Mendocino County UST Database	Department of Public Health	12/04/2018	12/06/2018	12/14/2018
CA	AST	Aboveground Petroleum Storage Tank Facilities	California Environmental Protection Agency	07/06/2016	07/12/2016	09/19/2016
US	INDIAN UST R9	Underground Storage Tanks on Indian Land	EPA Region 9	04/08/2019	07/29/2019	10/17/2019
US	INDIAN UST R8	Underground Storage Tanks on Indian Land	EPA Region 8	10/16/2018	03/07/2019	05/01/2019
US	INDIAN UST R6	Underground Storage Tanks on Indian Land	EPA Region 6	05/01/2019	07/29/2019	10/17/2019
US	INDIAN UST R5	Underground Storage Tanks on Indian Land	EPA Region 5	04/08/2019	07/29/2019	10/17/2019
US	INDIAN UST R4	Underground Storage Tanks on Indian Land	EPA Region 4	04/12/2019	07/29/2019	10/17/2019
US	INDIAN UST R1	Underground Storage Tanks on Indian Land	EPA, Region 1	04/11/2019	07/30/2019	10/17/2019
US	INDIAN UST R7	Underground Storage Tanks on Indian Land	EPA Region 7	05/02/2019	07/29/2019	10/17/2019
US	INDIAN UST R10	Underground Storage Tanks on Indian Land	EPA Region 10	04/16/2019	07/30/2019	10/17/2019
US	FEMA UST	Underground Storage Tank Listing	FEMA	05/15/2017	05/30/2017	10/13/2017

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

St	Acronym	Full Name	Government Agency	Gov Date	Arvl. Date	Active Dat
State and tribal voluntary cleanup sites						
US	INDIAN VCP R1	Voluntary Cleanup Priority Listing	EPA, Region 1	07/27/2015	09/29/2015	02/18/2016
CA	VCP	Voluntary Cleanup Program Properties	Department of Toxic Substances Control	07/29/2019	07/31/2019	10/08/2019
US	INDIAN VCP R7	Voluntary Cleanup Priority Lisitng	EPA, Region 7	03/20/2008	04/22/2008	05/19/2008
State and tribal Brownfields sites						
CA	BROWNFIELDS	Considered Brownfieds Sites Listing	State Water Resources Control Board	06/24/2019	06/25/2019	08/21/2019
Other Records						
US	CONSENT	Superfund (CERCLA) Consent Decrees	Department of Justice, Consent Decree Library	06/30/2019	07/16/2019	10/02/2019
US	ROD	Records Of Decision	EPA	07/19/2019	07/30/2019	09/03/2019
US	LIENS 2	CERCLA Lien Information	Environmental Protection Agency	07/30/2019	07/30/2019	09/03/2019
CA	HIST CAL-SITES	Calsites Database	Department of Toxic Substance Control	08/08/2005	08/03/2006	08/24/2006
US	DEBRIS REGION 9	Torres Martinez Reservation Illegal Dump Site Locations	EPA, Region 9	01/12/2009	05/07/2009	09/21/2009
CA	SWRCY	Recycler Database	Department of Conservation	06/11/2019	06/12/2019	08/15/2019
CA	CA FID UST	Facility Inventory Database	California Environmental Protection Agency	10/31/1994	09/05/1995	09/29/1995
CA	HIST UST	Hazardous Substance Storage Container Database	State Water Resources Control Board	10/15/1990	01/25/1991	02/12/1991
CA	SAN FRANCISCO AST	Aboveground Storage Tank Site Listing	San Francisco County Department of Public Hea	08/01/2019	08/02/2019	10/11/2019
CA	SWEEPS UST	SWEEPS UST Listing	State Water Resources Control Board	06/01/1994	07/07/2005	08/11/2005
US	US HIST CDL	National Clandestine Laboratory Register	Drug Enforcement Administration	06/11/2019	06/13/2019	09/03/2019
US	FUSRAP	Formerly Utilized Sites Remedial Action Program	Department of Energy	08/08/2017	09/11/2018	09/14/2018
US	LEAD SMELTER 1	Lead Smelter Sites	Environmental Protection Agency	07/19/2019	07/30/2019	09/03/2019
US	LEAD SMELTER 2	Lead Smelter Sites	American Journal of Public Health	04/05/2001	10/27/2010	12/02/2010
US	2020 COR ACTION	2020 Corrective Action Program List	Environmental Protection Agency	09/30/2017	05/08/2018	07/20/2018
US	PCB TRANSFORMER	PCB Transformer Registration Database	Environmental Protection Agency	05/24/2017	11/30/2017	12/15/2017
US	SCRD DRYCLEANERS	State Coalition for Remediation of Drycleaners Listing	Environmental Protection Agency	01/01/2017	02/03/2017	04/07/2017
US	COAL ASH EPA	Coal Combustion Residues Surface Impoundments List	Environmental Protection Agency	07/01/2014	09/10/2014	10/20/2014
US	COAL ASH DOE	Steam-Electric Plant Operation Data	Department of Energy	12/31/2005	08/07/2009	10/22/2009
US	US AIRS (AFS)	Aerometric Information Retrieval System Facility Subsystem (	EPA	10/12/2016	10/26/2016	02/03/2017
US	US AIRS MINOR	Air Facility System Data	EPA	10/12/2016	10/26/2016	02/03/2017
US	EPA WATCH LIST	EPA WATCH LIST	Environmental Protection Agency	08/30/2013	03/21/2014	06/17/2014
US	US FIN ASSUR	Financial Assurance Information	Environmental Protection Agency	06/24/2019	06/26/2019	09/23/2019
US	Delisted NPL	National Priority List Deletions	EPA	07/19/2019	07/30/2019	09/03/2019
US	SEMS-ARCHIVE	Superfund Enterprise Management System Archive	EPA	07/19/2019	07/30/2019	09/03/2019
US	RCRA NonGen / NLR	RCRA - Non Generators / No Longer Regulated	Environmental Protection Agency	06/24/2019	06/26/2019	10/17/2019
US	HMIRS	Hazardous Materials Information Reporting System	U.S. Department of Transportation	06/24/2019	06/26/2019	09/23/2019
US	DOT OPS	Incident and Accident Data	Department of Transporation, Office of Pipeli	07/01/2019	07/31/2019	10/24/2019
US	US CDL	Clandestine Drug Labs	Drug Enforcement Administration	06/11/2019	06/13/2019	09/03/2019
US	US BROWNFIELDS	A Listing of Brownfields Sites	Environmental Protection Agency	06/03/2019	06/04/2019	08/26/2019
US	DOD	Department of Defense Sites	USGS	12/31/2005	11/10/2006	01/11/2007
US	FEDLAND	Federal and Indian Lands	U.S. Geological Survey	12/31/2005	02/06/2006	01/11/2007
US	FUDS	Formerly Used Defense Sites	U.S. Army Corps of Engineers	05/15/2019	05/21/2019	08/08/2019
US	UMTRA	Uranium Mill Tailings Sites	Department of Energy	06/23/2017	10/11/2017	11/03/2017
US	ODI	Open Dump Inventory	Environmental Protection Agency	06/30/1985	08/09/2004	09/17/2004
US	MINES VIOLATIONS	MSHA Violation Assessment Data	DOL, Mine Safety & Health Admi	06/06/2019	06/06/2019	10/24/2019
US	US MINES	Mines Master Index File	Department of Labor, Mine Safety and Health A	05/03/2019	05/29/2019	08/08/2019

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

St	Acronym	Full Name	Government Agency	Gov Date	Arvl. Date	Active Dat
US	US MINES 2	Ferrous and Nonferrous Metal Mines Database Listing	USGS	12/05/2005	02/29/2008	04/18/2008
US	US MINES 3	Active Mines & Mineral Plants Database Listing	USGS	04/14/2011	06/08/2011	09/13/2011
US	PRP	Potentially Responsible Parties	EPA	08/20/2019	09/05/2019	09/23/2019
US	TRIS	Toxic Chemical Release Inventory System	EPA	12/31/2016	01/10/2018	01/12/2018
US	TSCA	Toxic Substances Control Act	EPA	12/31/2016	06/21/2017	01/05/2018
US	FTTS	FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fu	EPA/Office of Prevention, Pesticides and Toxi	04/09/2009	04/16/2009	05/11/2009
US	FTTS INSP	FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fu	EPA	04/09/2009	04/16/2009	05/11/2009
US	HIST FTTS	FIFRA/TSCA Tracking System Administrative Case Listing	Environmental Protection Agency	10/19/2006	03/01/2007	04/10/2007
US	HIST FTTS INSP	FIFRA/TSCA Tracking System Inspection & Enforcement Case Lis	Environmental Protection Agency	10/19/2006	03/01/2007	04/10/2007
US	SSTS	Section 7 Tracking Systems	EPA	09/30/2018	04/24/2019	08/08/2019
US	ICIS	Integrated Compliance Information System	Environmental Protection Agency	11/18/2016	11/23/2016	02/10/2017
US	PADS	PCB Activity Database System	EPA	03/20/2019	04/10/2019	05/14/2019
US	MLTS	Material Licensing Tracking System	Nuclear Regulatory Commission	06/20/2019	06/20/2019	08/08/2019
US	RADINFO	Radiation Information Database	Environmental Protection Agency	07/01/2019	07/01/2019	09/23/2019
US	FINDS	Facility Index System/Facility Registry System	EPA	05/03/2019	06/05/2019	09/03/2019
US	RAATS	RCRA Administrative Action Tracking System	EPA	04/17/1995	07/03/1995	08/07/1995
US	RMP	Risk Management Plans	Environmental Protection Agency	04/25/2019	05/02/2019	05/23/2019
US	BRS	Biennial Reporting System	EPA/NTIS	12/31/2015	02/22/2017	09/28/2017
US	PWS	Public Water System Data	EPA	12/17/2013	01/09/2014	10/15/2014
US	INDIAN RESERV	Indian Reservations	USGS	12/31/2014	07/14/2015	01/10/2017
US	INDIAN ODI	Report on the Status of Open Dumps on Indian Lands	Environmental Protection Agency	12/31/1998	12/03/2007	01/24/2008
US	IHS OPEN DUMPS	Open Dumps on Indian Land	Department of Health & Human Serivces, Indian	04/01/2014	08/06/2014	01/29/2015
US	ABANDONED MINES	Abandoned Mines	Department of Interior	09/10/2019	09/10/2019	10/17/2019
CA	CA BOND EXP. PLAN	Bond Expenditure Plan	Department of Health Services	01/01/1989	07/27/1994	08/02/1994
CA	CDL	Clandestine Drug Labs	Department of Toxic Substances Control	06/30/2018	07/16/2019	09/24/2019
CA	CHMIRS	California Hazardous Material Incident Report System	Office of Emergency Services	05/15/2019	06/24/2019	08/21/2019
CA	CORTESE	"Cortese" Hazardous Waste & Substances Sites List	CAL EPA/Office of Emergency Information	06/24/2019	06/25/2019	08/21/2019
CA	CUPA SAN FRANCISCO CO	CUPA Facility Listing	San Francisco County Department of Environmen	08/01/2019	08/02/2019	10/09/2019
CA	CUPA LIVERMORE-PLEASANTON	CUPA Facility Listing	Livermore-Pleasanton Fire Department	05/01/2019	05/14/2019	07/17/2019
CA	DEED	Deed Restriction Listing	DTSC and SWRCB	06/04/2019	06/04/2019	08/08/2019
CA	DRYCLEAN AVAQMD	Antelope Valley Air Quality Management District Drycleaner L	Antelope Valley Air Quality Management Distri	06/03/2019	06/04/2019	08/08/2019
CA	DRYCLEAN SOUTH COAST	South Coast Air Quality Management District Drycleaner Listi	South Coast Air Quality Management District	03/19/2019	03/22/2019	04/09/2019
CA	DRYCLEANERS	Cleaner Facilities	Department of Toxic Substance Control	06/04/2019	06/28/2019	08/22/2019
CA	EMI	Emissions Inventory Data	California Air Resources Board	12/31/2017	06/24/2019	08/22/2019
CA	ENF	Enforcement Action Listing	State Water Resoruces Control Board	07/19/2019	07/22/2019	09/26/2019
CA	Financial Assurance 1	Financial Assurance Information Listing	Department of Toxic Substances Control	07/19/2019	07/23/2019	09/30/2019
CA	Financial Assurance 2	Financial Assurance Information Listing	California Integrated Waste Management Board	08/16/2019	08/20/2019	10/18/2019
CA	HAULERS	Registered Waste Tire Haulers Listing	Integrated Waste Management Board	03/26/2019	03/27/2019	04/30/2019
CA	HAZNET	Facility and Manifest Data	California Environmental Protection Agency	12/31/2017	05/29/2019	07/22/2019
CA	HIST CORTESE	Hazardous Waste & Substance Site List	Department of Toxic Substances Control	04/01/2001	01/22/2009	04/08/2009
CA	HWP	EnviroStor Permitted Facilities Listing	Department of Toxic Substances Control	08/19/2019	08/20/2019	10/18/2019
CA	HWT	Registered Hazardous Waste Transporter Database	Department of Toxic Substances Control	07/08/2019	07/09/2019	09/20/2019
CA	ICE	ICE	Department of Toxic Subsances Control	08/19/2019	08/20/2019	10/18/2019
CA	LDS	Land Disposal Sites Listing (GEOTRACKER)	State Water Qualilty Control Board	06/10/2019	06/11/2019	08/05/2019
CA	LIENS	Environmental Liens Listing	Department of Toxic Substances Control	06/05/2019	06/06/2019	08/09/2019
CA	MCS	Military Cleanup Sites Listing (GEOTRACKER)	State Water Resources Control Board	06/10/2019	06/11/2019	07/24/2019
CA	MINES	Mines Site Location Listing	Department of Conservation	06/10/2019	06/11/2019	08/15/2019

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

St	Acronym	Full Name	Government Agency	Gov Date	Arvl. Date	Active Dat
CA	MWMP	Medical Waste Management Program Listing	Department of Public Health	05/17/2019	06/04/2019	08/09/2019
CA	NPDES	NPDES Permits Listing	State Water Resources Control Board	08/12/2019	08/13/2019	10/16/2019
CA	PEST LIC	Pesticide Regulation Licenses Listing	Department of Pesticide Regulation	06/04/2019	06/04/2019	08/09/2019
CA	PROC	Certified Processors Database	Department of Conservation	06/11/2019	06/12/2019	08/15/2019
CA	NOTIFY 65	Proposition 65 Records	State Water Resources Control Board	06/17/2019	06/18/2019	08/22/2019
CA	SCH	School Property Evaluation Program	Department of Toxic Substances Control	07/29/2019	07/31/2019	10/08/2019
CA	SPILLS 90	SPILLS90 data from FirstSearch	FirstSearch	06/06/2012	01/03/2013	02/22/2013
CA	TOXIC PITS	Toxic Pits Cleanup Act Sites	State Water Resources Control Board	07/01/1995	08/30/1995	09/26/1995
CA	UIC	UIC Listing	Deaprtment of Conservation	04/27/2018	06/13/2018	07/17/2018
CA	WASTEWATER PITS	Oil Wastewater Pits Listing	RWQCB, Central Valley Region	05/08/2018	07/11/2018	09/13/2018
CA	WDS	Waste Discharge System	State Water Resources Control Board	06/19/2007	06/20/2007	06/29/2007
CA	WIP	Well Investigation Program Case List	Los Angeles Water Quality Control Board	07/03/2009	07/21/2009	08/03/2009
CA	WMUDS/SWAT	Waste Management Unit Database	State Water Resources Control Board	04/01/2000	04/10/2000	05/10/2000
US	ECHO	Enforcement & Compliance History Information	Environmental Protection Agency	07/06/2019	07/09/2019	10/02/2019
CA	PFAS	PFAS Contamination Site Location Listing	State Water Resources Control Board	06/28/2019	06/28/2019	07/24/2019
CA	WELL STIM PROJ	Well Stimulation Project (GEOTRACKER)	State Water Resources Control Board	06/10/2019	06/11/2019	07/24/2019
CA	NON-CASE INFO	Non-Case Information Sites (GEOTRACKER)	State Water Resources Control Board	06/10/2019	06/11/2019	07/24/2019
CA	MILITARY PRIV SITES	Military Privatized Sites (GEOTRACKER)	State Water Resources Control Board	06/10/2019	06/11/2019	07/24/2019
CA	CIWQS	California Integrated Water Quality System	State Water Resources Control Board	06/04/2019	06/04/2019	08/08/2019
US	DOCKET HWC	Hazardous Waste Compliance Docket Listing	Environmental Protection Agency	05/31/2018	07/26/2018	10/05/2018
US	FUELS PROGRAM	EPA Fuels Program Registered Listing	EPA	05/20/2019	05/21/2019	08/08/2019
US	UXO	Unexploded Ordnance Sites	Department of Defense	12/31/2017	01/17/2019	04/01/2019
CA	WDR	Waste Discharge Requirements Listing	State Water Resources Control Board	06/11/2019	06/12/2019	08/15/2019
US	MINES MRDS	Mineral Resources Data System	USGS	04/06/2018	10/21/2019	10/24/2019
CA	OTHER OIL GAS	Other Oil & Gas Projects Sites (GEOTRACKER)	State Water Resources Control Board	06/10/2019	06/11/2019	07/24/2019
CA	CERS TANKS	California Environmental Reporting System (CERS) Tanks	California Environmental Protection Agency	08/14/2019	08/14/2019	08/21/2019
CA	CERS HAZ WASTE	CERS HAZ WASTE	CalEPA	08/14/2019	08/14/2019	08/21/2019
CA	CERS	CalEPA Regulated Site Portal Data	California Environmental Protection Agency	08/14/2019	08/14/2019	08/21/2019
CA	UIC GEO	Underground Injection Control Sites (GEOTRACKER)	State Water Resource Control Board	06/10/2019	06/11/2019	07/24/2019
CA	PROJECT	Project Sites (GEOTRACKER)	State Water Resources Control Board	06/10/2019	06/11/2019	07/24/2019
CA	PROD WATER PONDS	Produced Water Ponds Sites (GEOTRACKER)	State Water Resources Control Board	06/10/2019	06/11/2019	07/24/2019
CA	SAMPLING POINT	Sampling Point ? Public Sites (GEOTRACKER)	State Water Resources Control Board	06/10/2019	06/11/2019	07/24/2019

HISTORICAL USE RECORDS

US	EDR MGP	EDR Proprietary Manufactured Gas Plants	EDR, Inc.
US	EDR Hist Auto	EDR Exclusive Historical Auto Stations	EDR, Inc.
US	EDR Hist Cleaner	EDR Exclusive Historical Cleaners	EDR, Inc.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

St	Acronym	Full Name	Government Agency	Gov Date	Arvl. Date	Active Dat
COUNTY RECORDS						
CA	CS ALAMEDA	Contaminated Sites	Alameda County Environmental Health Services	01/09/2019	01/11/2019	03/05/2019
CA	UST ALAMEDA	Underground Tanks	Alameda County Environmental Health Services	04/10/2019	04/11/2019	06/20/2019
CA	CUPA AMADOR	CUPA Facility List	Amador County Environmental Health	06/27/2019	06/28/2019	07/24/2019
CA	CUPA BUTTE	CUPA Facility Listing	Public Health Department	04/21/2017	04/25/2017	08/09/2017
CA	CUPA CALVERAS	CUPA Facility Listing	Calveras County Environmental Health	08/05/2019	08/07/2019	10/09/2019
CA	CUPA COLUSA	CUPA Facility List	Health & Human Services	08/14/2019	08/20/2019	10/18/2019
CA	SL CONTRA COSTA	Site List	Contra Costa Health Services Department	08/20/2019	08/23/2019	10/22/2019
CA	CUPA DEL NORTE	CUPA Facility List	Del Norte County Environmental Health Divisio	07/30/2019	08/02/2019	10/09/2019
CA	CUPA EL DORADO	CUPA Facility List	El Dorado County Environmental Management Dep	06/05/2019	06/06/2019	07/23/2019
CA	CUPA FRESNO	CUPA Resources List	Dept. of Community Health	07/11/2019	07/11/2019	09/20/2019
CA	CUPA GLENN	CUPA Facility List	Glenn County Air Pollution Control District	01/22/2018	01/24/2018	03/14/2018
CA	CUPA HUMBOLDT	CUPA Facility List	Humboldt County Environmental Health	07/08/2019	07/10/2019	09/20/2019
CA	CUPA IMPERIAL	CUPA Facility List	San Diego Border Field Office	07/19/2019	07/23/2019	09/26/2019
CA	CUPA INYO	CUPA Facility List	Inyo County Environmental Health Services	04/02/2018	04/03/2018	06/14/2018
CA	UST KERN	Underground Storage Tank Sites & Tank Listing	Kern County Environment Health Services Depar	08/01/2019	08/06/2019	10/08/2019
CA	CUPA KINGS	CUPA Facility List	Kings County Department of Public Health	08/14/2019	08/20/2019	10/18/2019
CA	CUPA LAKE	CUPA Facility List	Lake County Environmental Health	08/16/2019	08/20/2019	10/18/2019
CA	CUPA LASSEN	CUPA Facility List	Lassen County Environmental Health	07/22/2019	07/23/2019	09/26/2019
CA	AOCONCERN	Key Areas of Concerns in Los Angeles County		03/30/2009	03/31/2009	10/23/2009
CA	HMS LOS ANGELES	HMS: Street Number List	Department of Public Works	07/09/2019	07/11/2019	09/20/2019
CA	LF LOS ANGELES	List of Solid Waste Facilities	La County Department of Public Works	07/15/2019	07/17/2019	09/26/2019
CA	LF LOS ANGELES CITY	City of Los Angeles Landfills	Engineering & Construction Division	01/01/2019	01/15/2019	03/07/2019
CA	LOS ANGELES AST	Active & Inactive AST Inventory	Los Angeles Fire Department	06/01/2019	06/25/2019	08/22/2019
CA	LOS ANGELES CO LF METHANE	Methane Producing Landfills	Los Angeles County Department of Public Works	04/30/2012	04/17/2019	05/29/2019
CA	LOS ANGELES HM	Active & Inactive Hazardous Materials Inventory	Los Angeles Fire Department	06/01/2019	06/25/2019	08/22/2019
CA	LOS ANGELES UST	Active & Inactive UST Inventory	Los Angeles Fire Department	06/01/2019	06/25/2019	08/22/2019
CA	SITE MIT LOS ANGELES	Site Mitigation List	Community Health Services	07/15/2019	07/17/2019	08/05/2019
CA	UST EL SEGUNDO	City of El Segundo Underground Storage Tank	City of El Segundo Fire Department	01/21/2017	04/19/2017	05/10/2017
CA	UST LONG BEACH	City of Long Beach Underground Storage Tank	City of Long Beach Fire Department	04/22/2019	04/23/2019	06/27/2019
CA	UST TORRANCE	City of Torrance Underground Storage Tank	City of Torrance Fire Department	06/27/2019	07/30/2019	10/02/2019
CA	CUPA MADERA	CUPA Facility List	Madera County Environmental Health	05/28/2019	05/30/2019	08/05/2019
CA	UST MARIN	Underground Storage Tank Sites	Public Works Department Waste Management	09/26/2018	10/04/2018	11/02/2018
CA	CUPA MERCED	CUPA Facility List	Merced County Environmental Health	05/29/2019	05/30/2019	07/22/2019
CA	CUPA MONO	CUPA Facility List	Mono County Health Department	05/23/2019	05/30/2019	07/22/2019
CA	CUPA MONTEREY	CUPA Facility Listing	Monterey County Health Department	07/25/2019	07/30/2019	09/30/2019
CA	LUST NAPA	Sites With Reported Contamination	Napa County Department of Environmental Manag	01/09/2017	01/11/2017	03/02/2017
CA	UST NAPA	Closed and Operating Underground Storage Tank Sites	Napa County Department of Environmental Manag	02/21/2019	02/22/2019	03/08/2019
CA	CUPA NEVADA	CUPA Facility List	Community Development Agency	07/23/2019	07/30/2019	10/02/2019
CA	IND_SITE ORANGE	List of Industrial Site Cleanups	Health Care Agency	07/10/2019	08/07/2019	10/09/2019
CA	LUST ORANGE	List of Underground Storage Tank Cleanups	Health Care Agency	07/10/2019	08/09/2019	10/09/2019
CA	UST ORANGE	List of Underground Storage Tank Facilities	Health Care Agency	07/10/2019	08/06/2019	10/09/2019
CA	MS PLACER	Master List of Facilities	Placer County Health and Human Services	06/03/2019	06/04/2019	08/12/2019
CA	CUPA PLUMAS	CUPA Facility List	Plumas County Environmental Health	03/31/2019	04/23/2019	06/26/2019
CA	LUST RIVERSIDE	Listing of Underground Tank Cleanup Sites	Department of Environmental Health	07/10/2019	07/11/2019	09/20/2019
CA	UST RIVERSIDE	Underground Storage Tank Tank List	Department of Environmental Health	07/10/2019	07/11/2019	09/23/2019

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

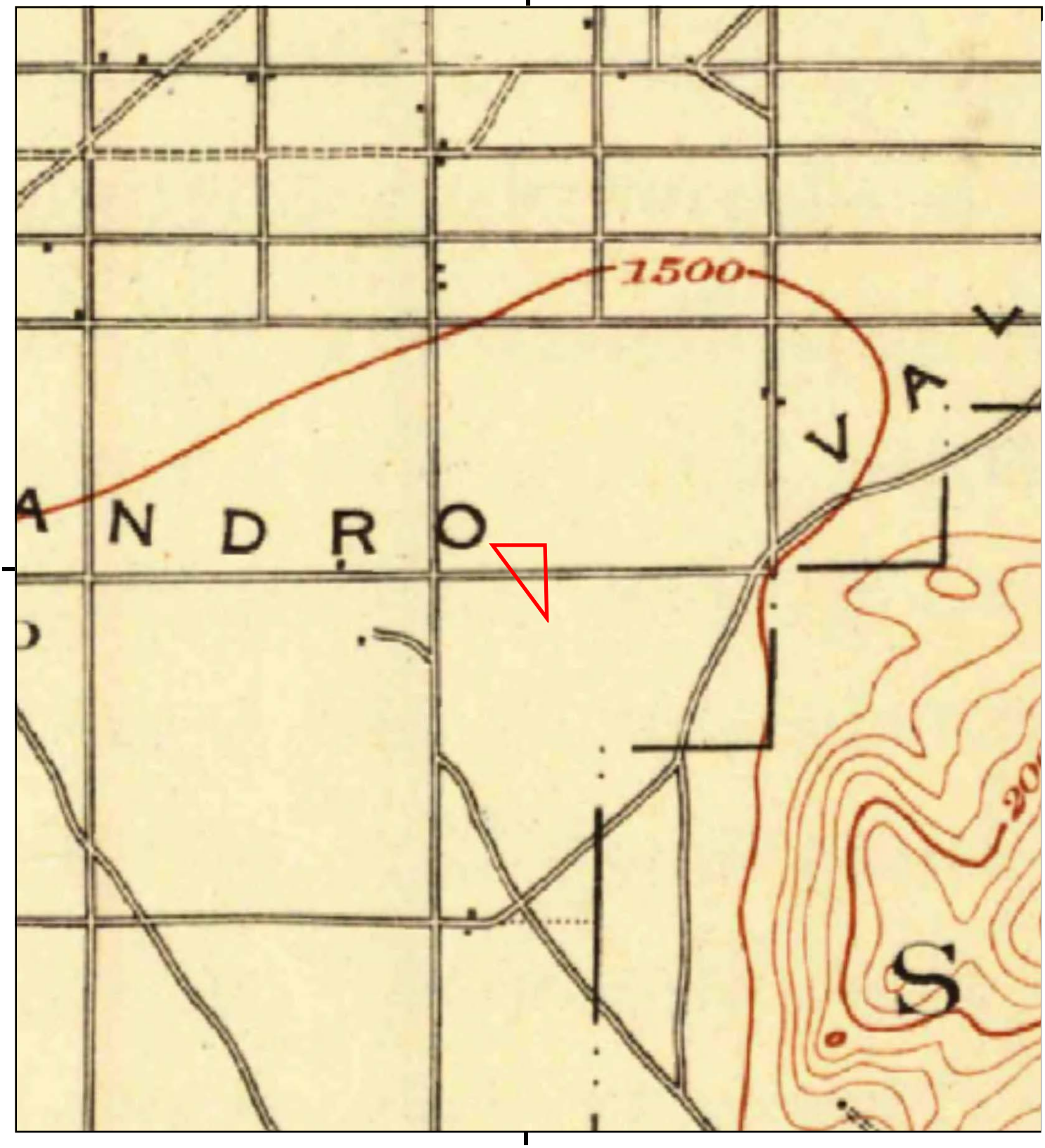
St	Acronym	Full Name	Government Agency	Gov Date	Arvl. Date	Active Dat
CA	CS SACRAMENTO	Toxic Site Clean-Up List	Sacramento County Environmental Management	05/06/2019	06/28/2019	08/22/2019
CA	ML SACRAMENTO	Master Hazardous Materials Facility List	Sacramento County Environmental Management	05/06/2019	06/28/2019	09/13/2019
CA	CUPA SAN BENITO	CUPA Facility List	San Benito County Environmental Health	07/16/2019	07/16/2019	09/24/2019
CA	PERMITS SAN BERNARDINO	Hazardous Material Permits	San Bernardino County Fire Department Hazardo	05/31/2019	05/31/2019	07/22/2019
CA	HMMD SAN DIEGO	Hazardous Materials Management Division Database	Hazardous Materials Management Division	06/04/2019	06/04/2019	08/08/2019
CA	LF SAN DIEGO	Solid Waste Facilities	Department of Health Services	04/18/2018	04/24/2018	06/19/2018
CA	SAN DIEGO CO LOP	Local Oversight Program Listing	Department of Environmental Health	07/16/2019	07/23/2019	09/30/2019
CA	SAN DIEGO CO SAM	Environmental Case Listing	San Diego County Department of Environmental	03/23/2010	06/15/2010	07/09/2010
CA	LUST SAN FRANCISCO	Local Oversite Facilities	Department Of Public Health San Francisco Cou	09/19/2008	09/19/2008	09/29/2008
CA	UST SAN FRANCISCO	Underground Storage Tank Information	Department of Public Health	08/01/2019	08/02/2019	10/08/2019
CA	UST SAN JOAQUIN	San Joaquin Co. UST	Environmental Health Department	06/22/2018	06/26/2018	07/11/2018
CA	CUPA SAN LUIS OBISPO	CUPA Facility List	San Luis Obispo County Public Health Departme	08/14/2019	08/20/2019	10/18/2019
CA	BI SAN MATEO	Business Inventory	San Mateo County Environmental Health Service	08/06/2019	08/14/2019	08/15/2019
CA	LUST SAN MATEO	Fuel Leak List	San Mateo County Environmental Health Service	03/29/2019	03/29/2019	05/29/2019
CA	CUPA SANTA BARBARA	CUPA Facility Listing	Santa Barbara County Public Health Department	09/08/2011	09/09/2011	10/07/2011
CA	CUPA SANTA CLARA	Cupa Facility List	Department of Environmental Health	08/14/2019	08/20/2019	10/18/2019
CA	HIST LUST SANTA CLARA	HIST LUST - Fuel Leak Site Activity Report	Santa Clara Valley Water District	03/29/2005	03/30/2005	04/21/2005
CA	LUST SANTA CLARA	LOP Listing	Department of Environmental Health	03/03/2014	03/05/2014	03/18/2014
CA	SAN JOSE HAZMAT	Hazardous Material Facilities	City of San Jose Fire Department	07/30/2019	08/02/2019	10/08/2019
CA	CUPA SANTA CRUZ	CUPA Facility List	Santa Cruz County Environmental Health	01/21/2017	02/22/2017	05/23/2017
CA	CUPA SHASTA	CUPA Facility List	Shasta County Department of Resource Manageme	06/15/2017	06/19/2017	08/09/2017
CA	LUST SOLANO	Leaking Underground Storage Tanks	Solano County Department of Environmental Man	06/04/2019	06/06/2019	08/13/2019
CA	UST SOLANO	Underground Storage Tanks	Solano County Department of Environmental Man	06/04/2019	06/06/2019	07/23/2019
CA	CUPA SONOMA	Cupa Facility List	County of Sonoma Fire & Emergency Services De	06/18/2019	06/25/2019	07/24/2019
CA	LUST SONOMA	Leaking Underground Storage Tank Sites	Department of Health Services	07/02/2019	07/02/2019	09/20/2019
CA	CUPA STANISLAUS	CUPA Facility List	Stanislaus County Department of Ennvironmenta	07/18/2019	07/18/2019	09/26/2019
CA	UST SUTTER	Underground Storage Tanks	Sutter County Environmental Health Services	06/03/2019	06/04/2019	07/23/2019
CA	CUPA TEHAMA	CUPA Facility List	Tehama County Department of Environmental Hea	05/20/2019	05/21/2019	07/18/2019
CA	CUPA TRINITY	CUPA Facility List	Department of Toxic Substances Control	07/19/2019	07/23/2019	09/26/2019
CA	CUPA TULARE	CUPA Facility List	Tulare County Environmental Health Services D	08/12/2019	08/14/2019	10/17/2019
CA	CUPA TUOLUMNE	CUPA Facility List	Divison of Environmental Health	04/23/2018	04/25/2018	06/25/2018
CA	BWT VENTURA	Business Plan, Hazardous Waste Producers, and Operating Unde	Ventura County Environmental Health Division	05/29/2019	07/29/2019	09/30/2019
CA	LF VENTURA	Inventory of Illegal Abandoned and Inactive Sites	Environmental Health Division	12/01/2011	12/01/2011	01/19/2012
CA	LUST VENTURA	Listing of Underground Tank Cleanup Sites	Environmental Health Division	05/29/2008	06/24/2008	07/31/2008
CA	MED WASTE VENTURA	Medical Waste Program List	Ventura County Resource Management Agency	05/29/2019	07/29/2019	09/30/2019
CA	UST VENTURA	Underground Tank Closed Sites List	Environmental Health Division	06/10/2019	06/12/2019	07/24/2019
CA	UST YOLO	Underground Storage Tank Comprehensive Facility Report	Yolo County Department of Health	06/26/2019	06/28/2019	07/31/2019
CA	CUPA YUBA	CUPA Facility List	Yuba County Environmental Health Department	07/26/2019	07/31/2019	10/08/2019

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

St	Acronym	Full Name	Government Agency	Gov Date	Arvl. Date	Active Dat

STREET AND ADDRESS INFORMATION

Historical Topo Map



This report includes information from the following map sheet(s).

0 Miles 0.25 0.5 1 1.5

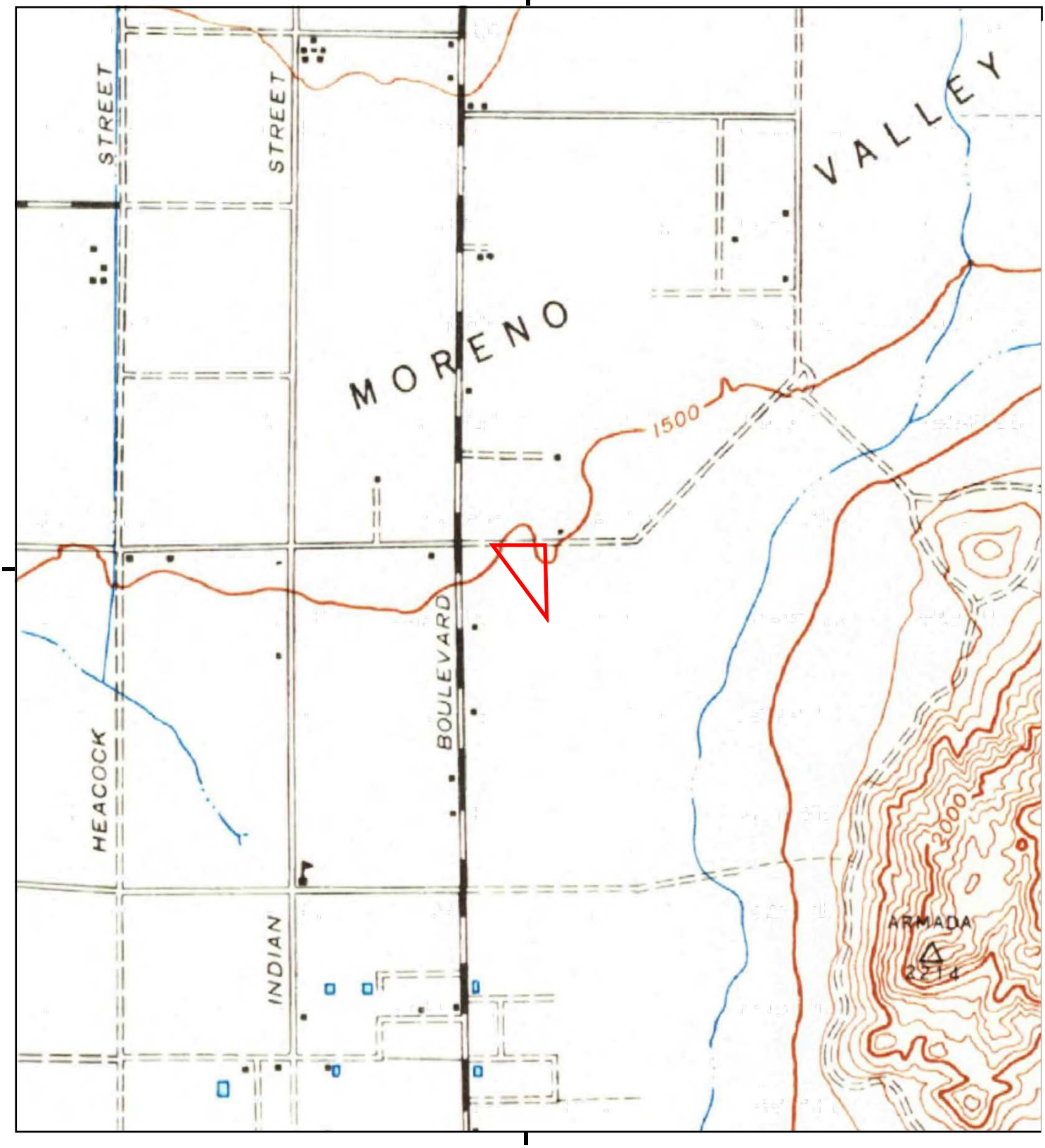
NW N NE
W E
SW S SE

TP, Elsinore, 1901, 30-minute

SITE NAME: Iris Park
ADDRESS: Iris Avenue & Perris Boulevard
Moreno Valley, CA 92551
CLIENT: AES Due Diligence, Inc

N

Historical Topo Map



This report includes information from the following map sheet(s).

0 Miles 0.25 0.5 1 1.5

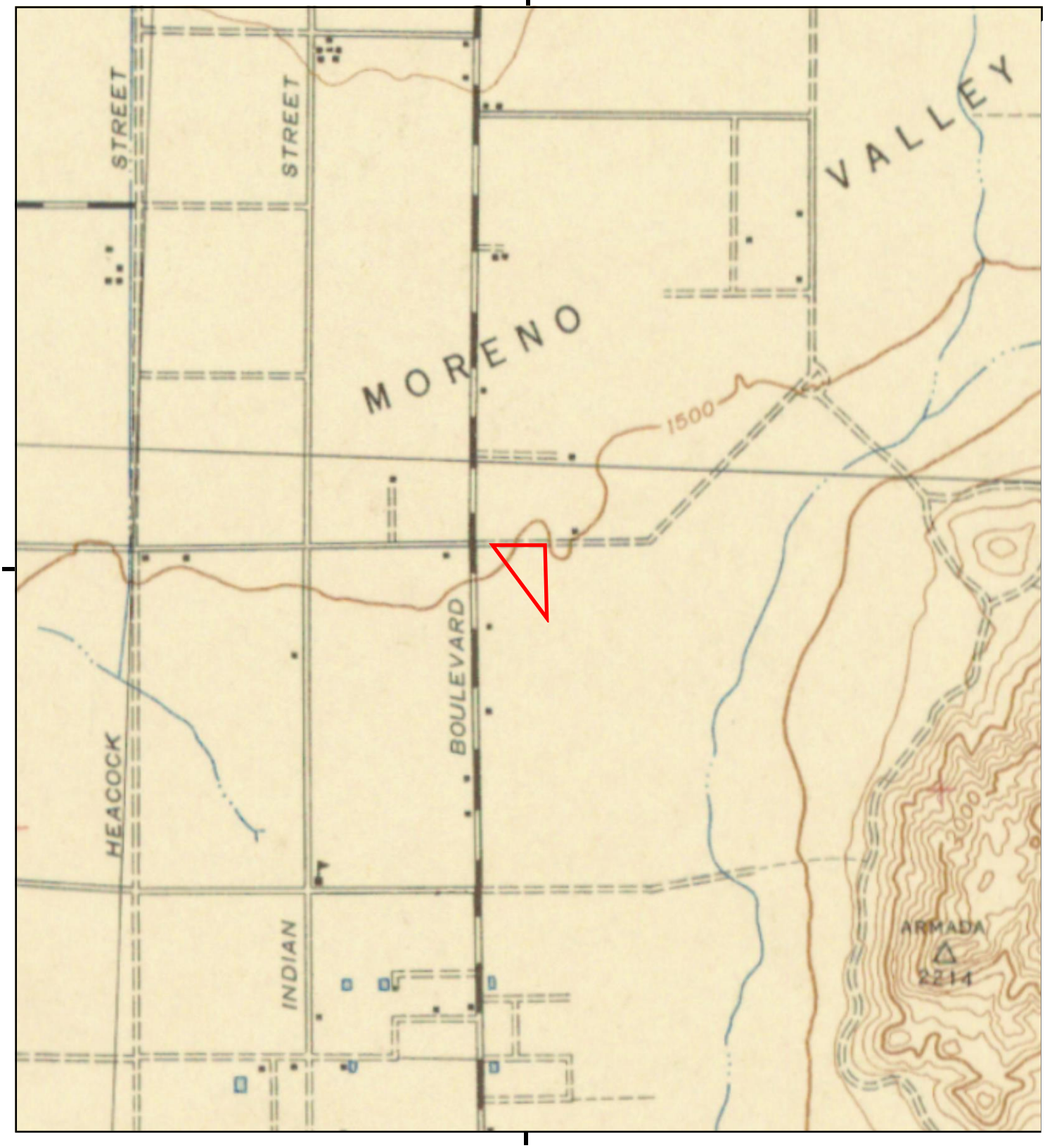
NW N NE
W E
SW S SE

TP, Perris, 1942, 15-minute

SITE NAME: Iris Park
ADDRESS: Iris Avenue & Perris Boulevard
Moreno Valley, CA 92551
CLIENT: AES Due Diligence, Inc

N

Historical Topo Map



This report includes information from the following map sheet(s).

0 Miles 0.25 0.5 1 1.5

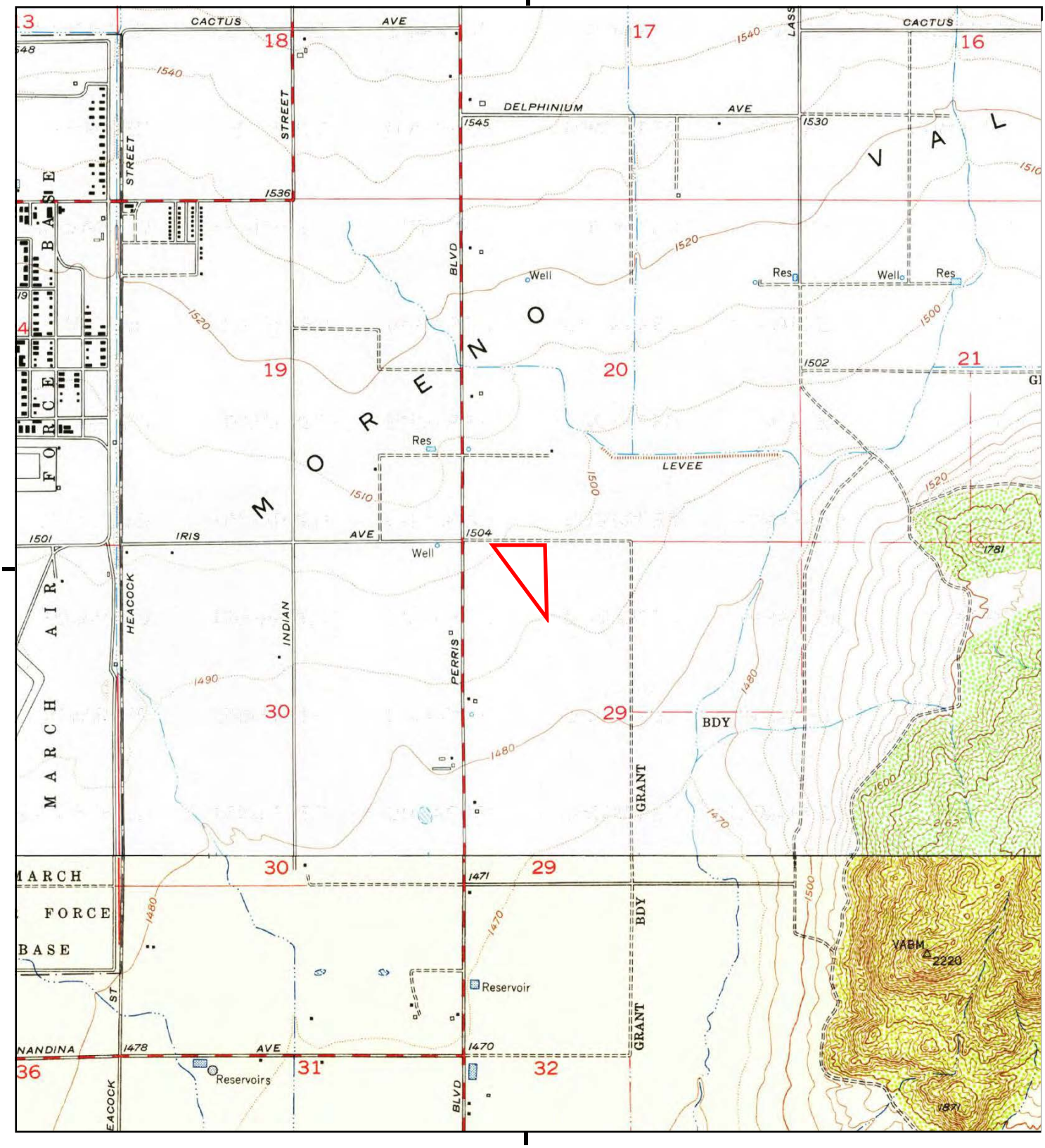
NW N NE
W E
SW S SE

TP, PERRIS, 1943, 15-minute

SITE NAME: Iris Park
ADDRESS: Iris Avenue & Perris Boulevard
Moreno Valley, CA 92551
CLIENT: AES Due Diligence, Inc

N

Historical Topo Map



This report includes information from the following map sheet(s).

0 Miles 0.25 0.5 1 1.5

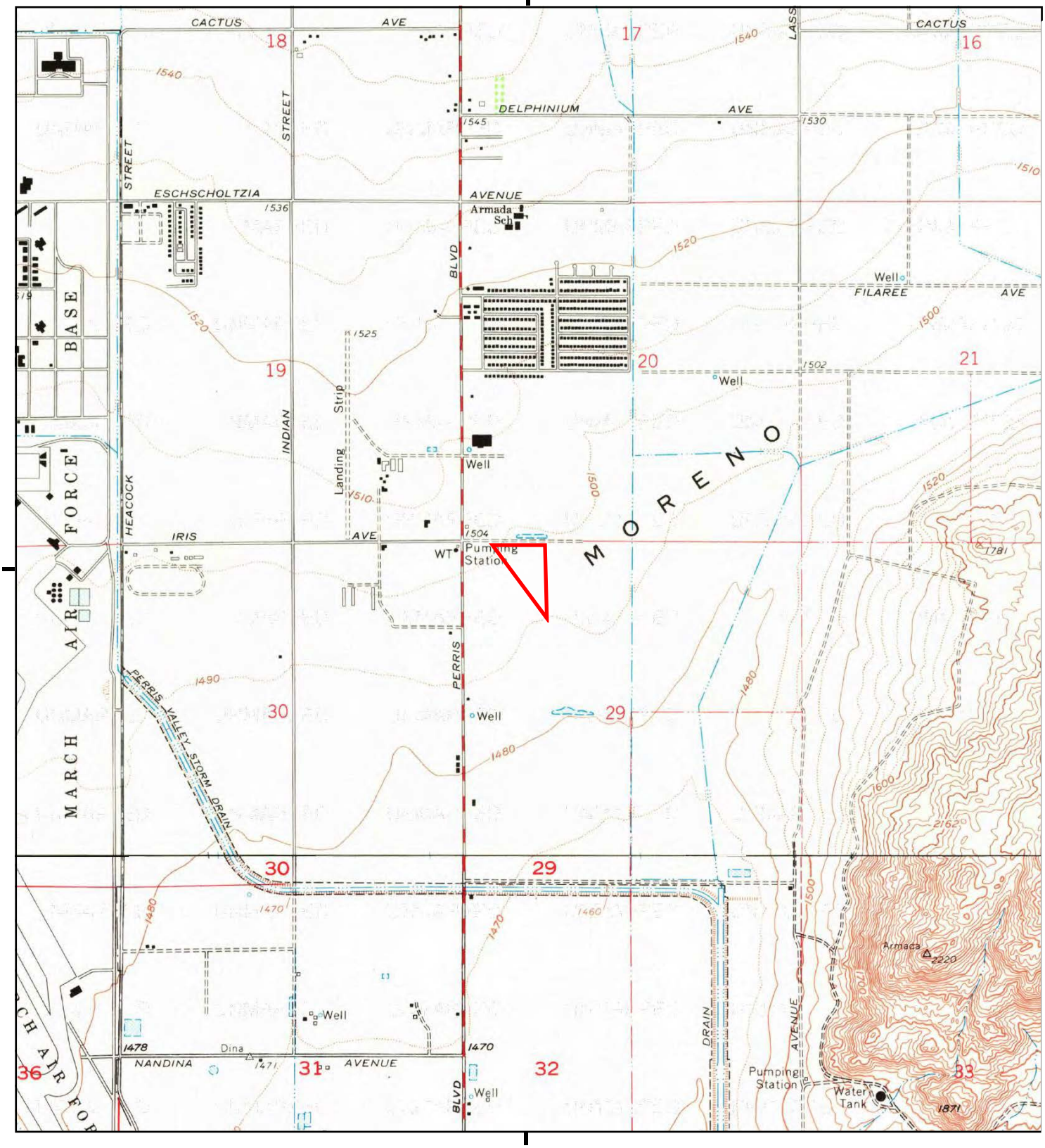
NW N NE
W E
SW S SE

TP, Sunnymead, 1953, 7.5-minute
S, Perris, 1953, 7.5-minute

SITE NAME: Iris Park
ADDRESS: Iris Avenue & Perris Boulevard
Moreno Valley, CA 92551
CLIENT: AES Due Diligence, Inc

N

Historical Topo Map



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0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

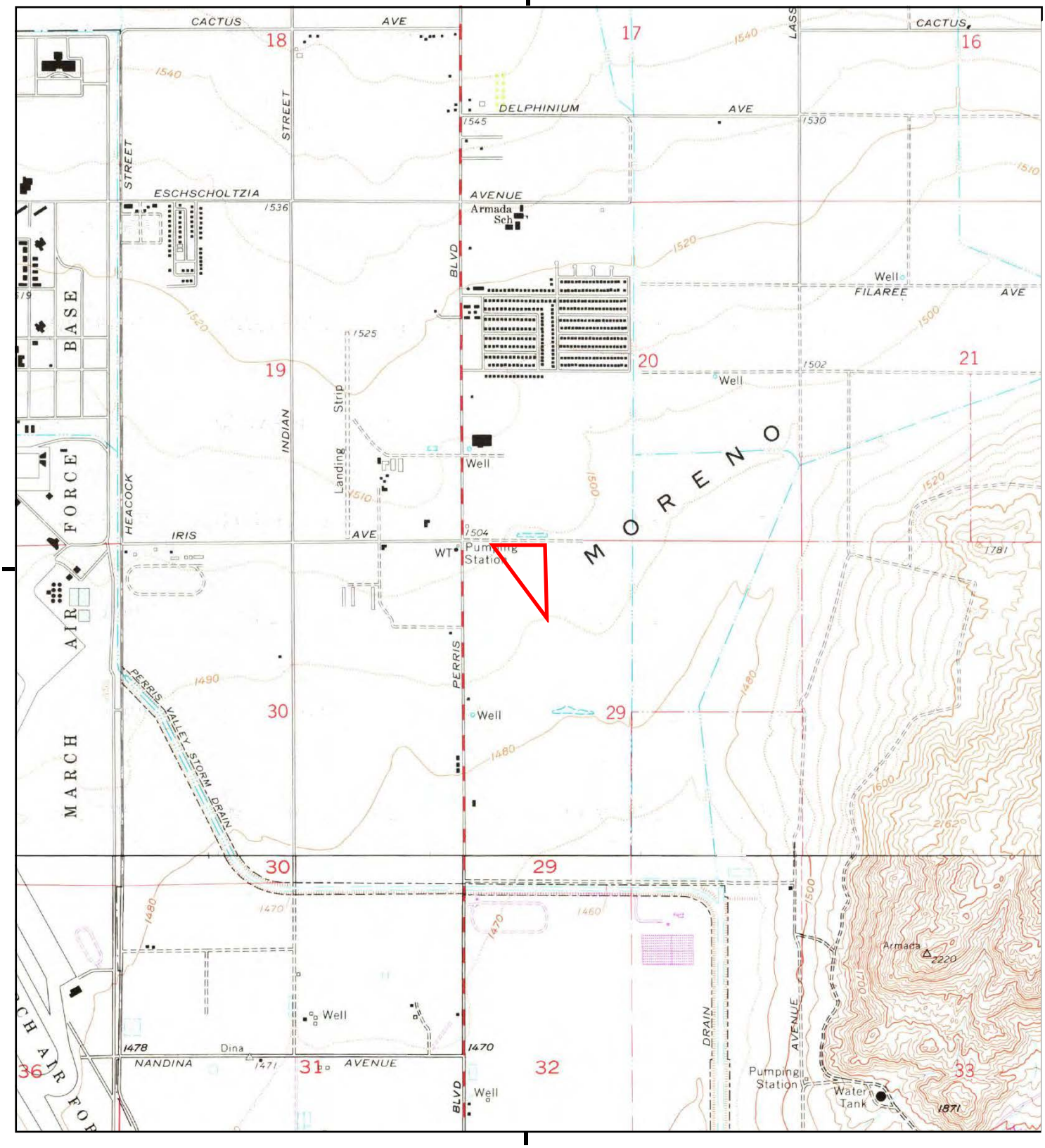
TP, Sunnymead, 1967, 7.5-minute
S, Perris, 1967, 7.5-minute

SITE NAME: Iris Park
ADDRESS: Iris Avenue & Perris Boulevard
Moreno Valley, CA 92551
CLIENT: AES Due Diligence, Inc

N

Attachment: Project 1_Appendix F to Initial Study Phase I Environmental Site Assessment Iris Park (4300 : IRIS PARK AND THE DISTRICT

Historical Topo Map



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0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

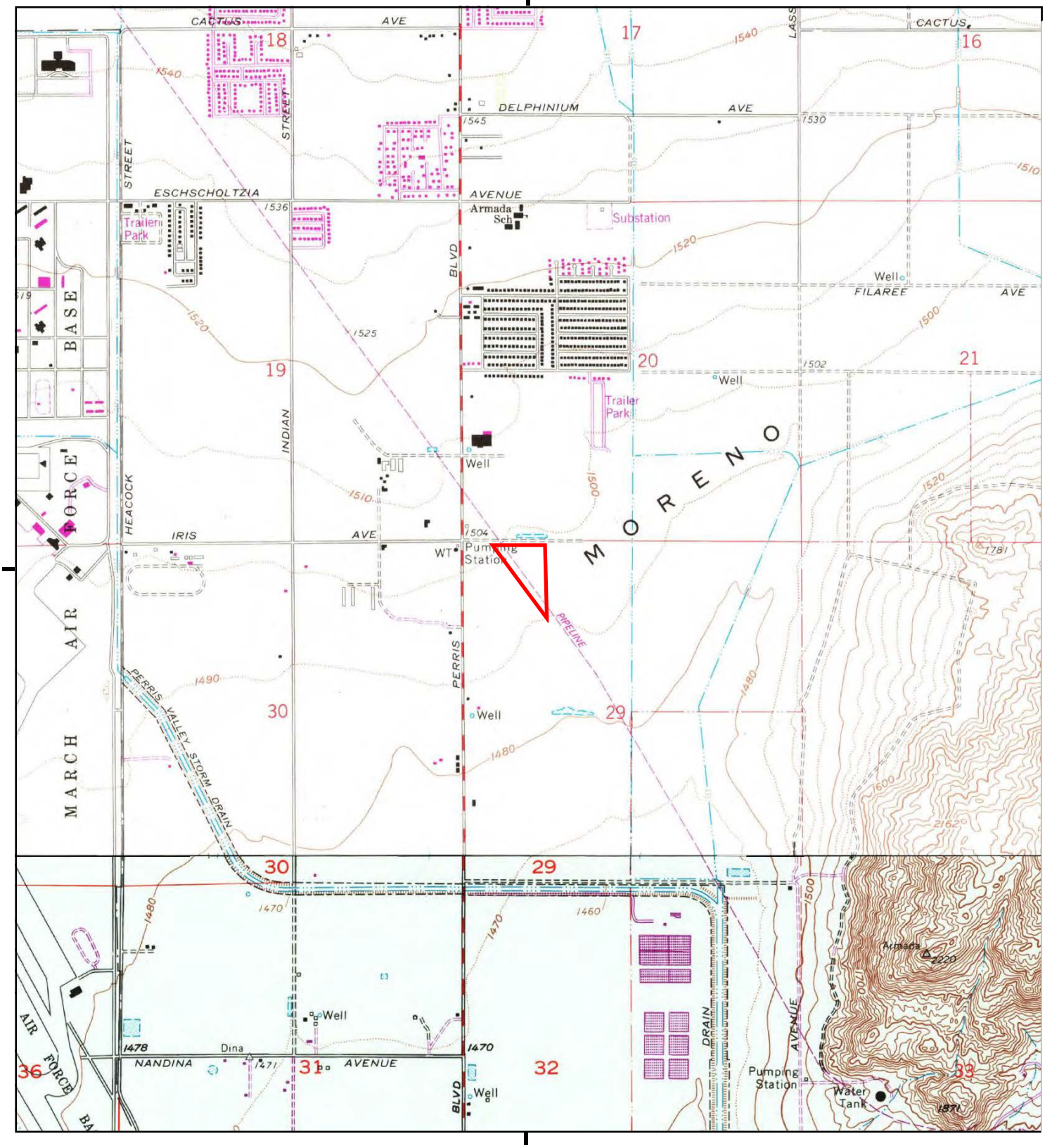
TP, Sunnymead, 1973, 7.5-minute
S, Perris, 1973, 7.5-minute

SITE NAME: Iris Park
ADDRESS: Iris Avenue & Perris Boulevard
Moreno Valley, CA 92551
CLIENT: AES Due Diligence, Inc

N

Historical Topo Map

1979, 1988



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0 Miles 0.25 0.5 1 1.5

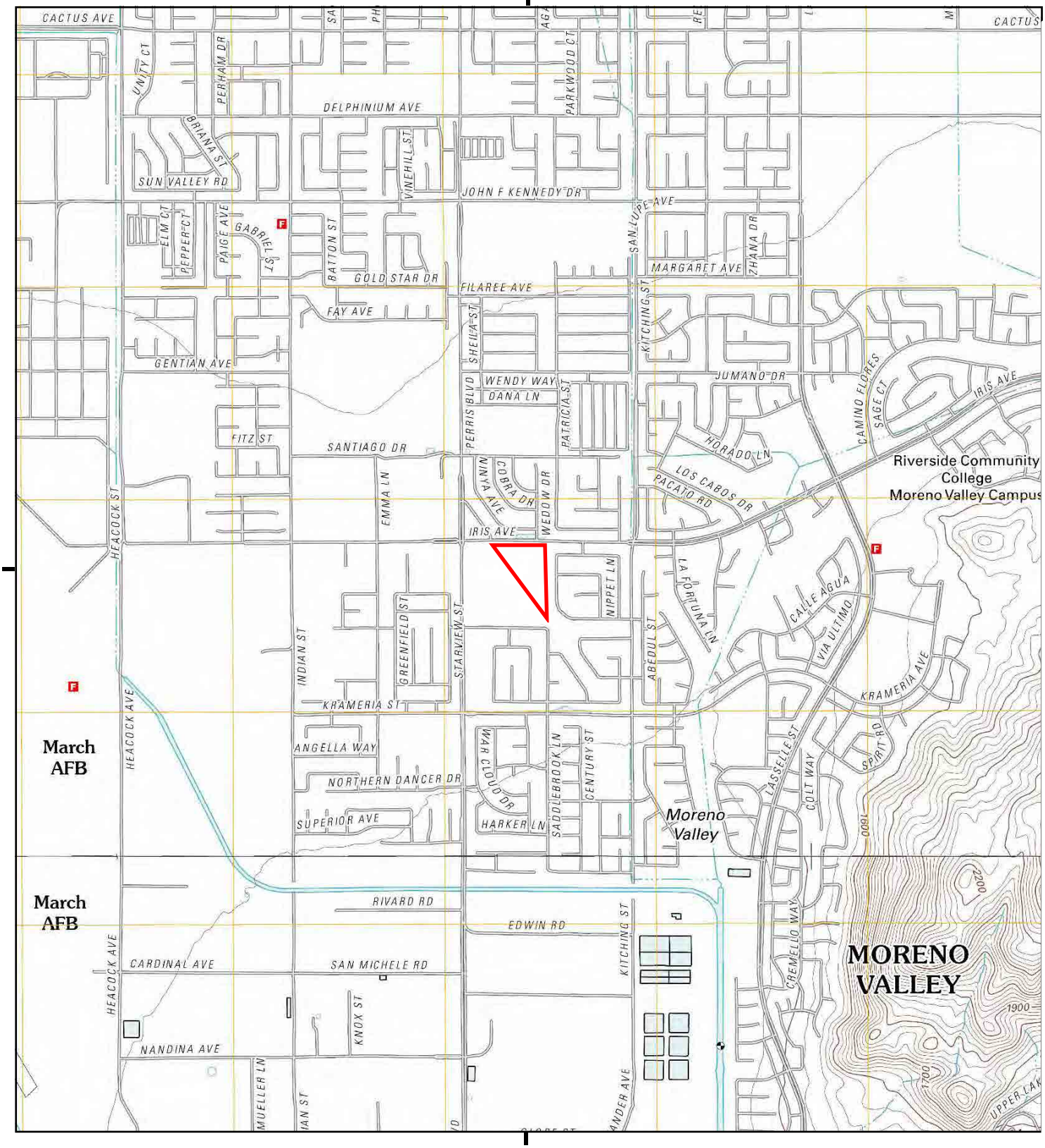
NW N NE
W E
SW S SE

TP, Sunnymead, 1980, 7.5-minute
S, Perris, 1979, 7.5-minute

SITE NAME: Iris Park
ADDRESS: Iris Avenue & Perris Boulevard
Moreno Valley, CA 92551
CLIENT: AES Due Diligence, Inc

N

Historical Topo Map



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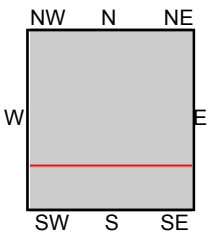

TP, Sunnymead, 2012, 7.5-minute
S, Perris, 2012, 7.5-minute

SITE NAME: Iris Park
ADDRESS: Iris Avenue & Perris Boulevard
Moreno Valley, CA 92551
CLIENT: AES Due Diligence, Inc

INQUIRY #: 5844302.8

YEAR: 1938

= 500'

N

EDR

INQUIRY #: 5844302.8

YEAR: 1949

= 500'

N

EDR

INQUIRY #: 5844302.8

YEAR: 1953

= 500'

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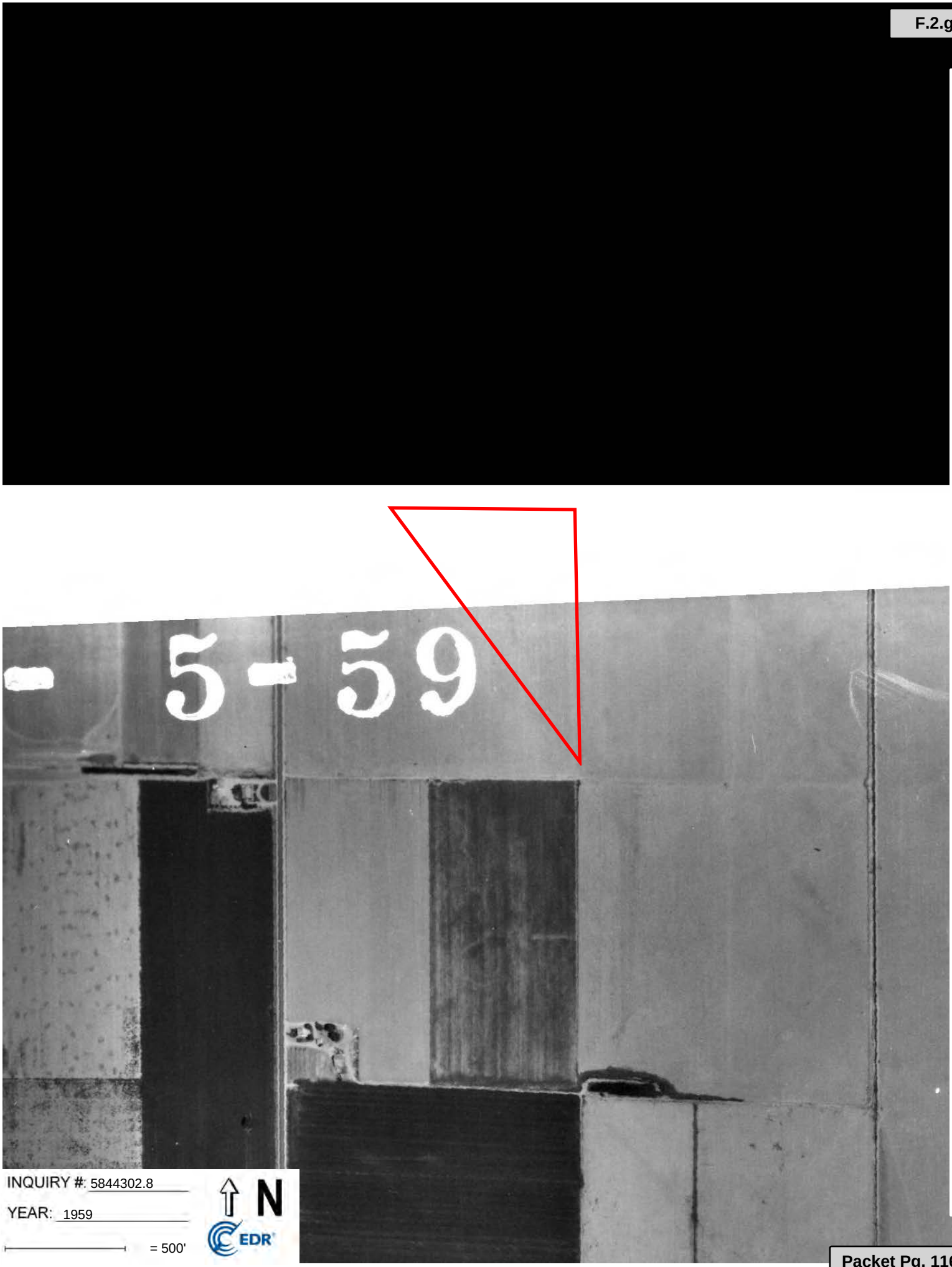
EDR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EDR

INQUIRY #: 5844302.8

YEAR: 1961

= 500'

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EDR

INQUIRY #: 5844302.8

YEAR: 1967

= 500'

N

EDR


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YEAR: 1985

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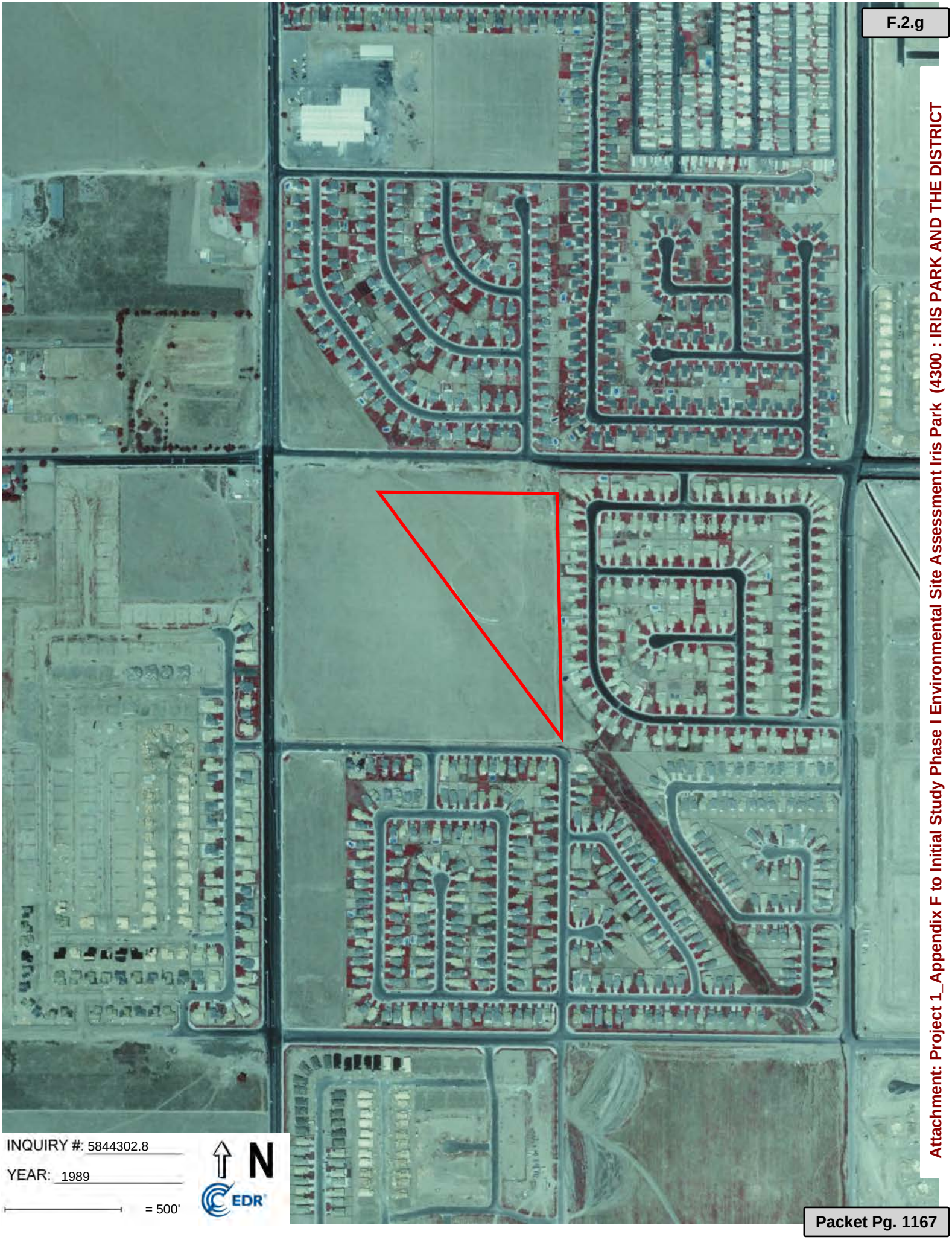

INQUIRY #: 5844302.8

YEAR: 1989

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EDR


INQUIRY #: 5844302.8
YEAR: 1997
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INQUIRY #: 5844302.8

YEAR: 2002

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INQUIRY #: 5844302.8

YEAR: 2006

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EDR


INQUIRY #: 5844302.8
YEAR: 2009
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INQUIRY #: 5844302.8

YEAR: 2012

= 500'

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EDR

INQUIRY #: 5844302.8

YEAR: 2016

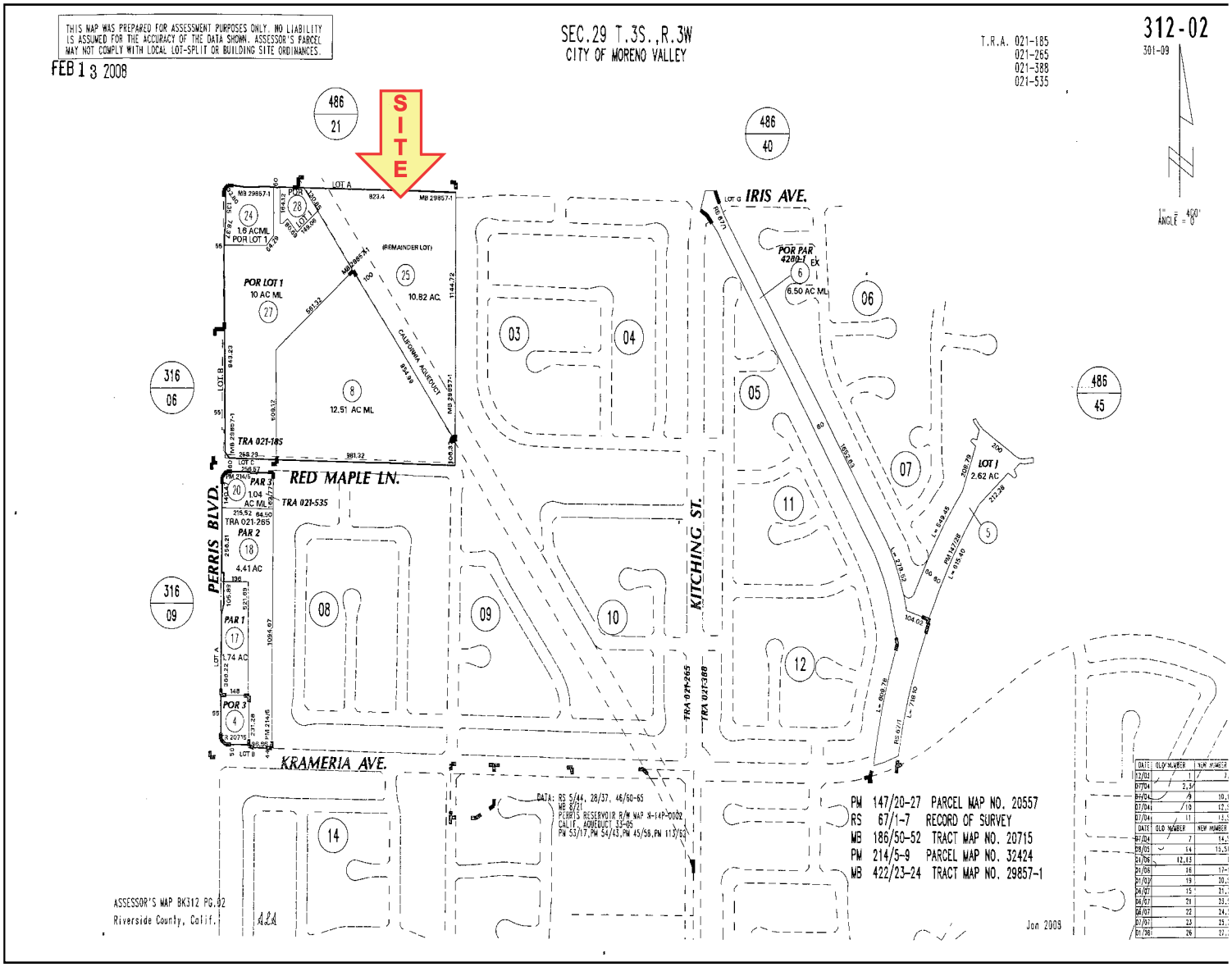
= 500'

N

EDR

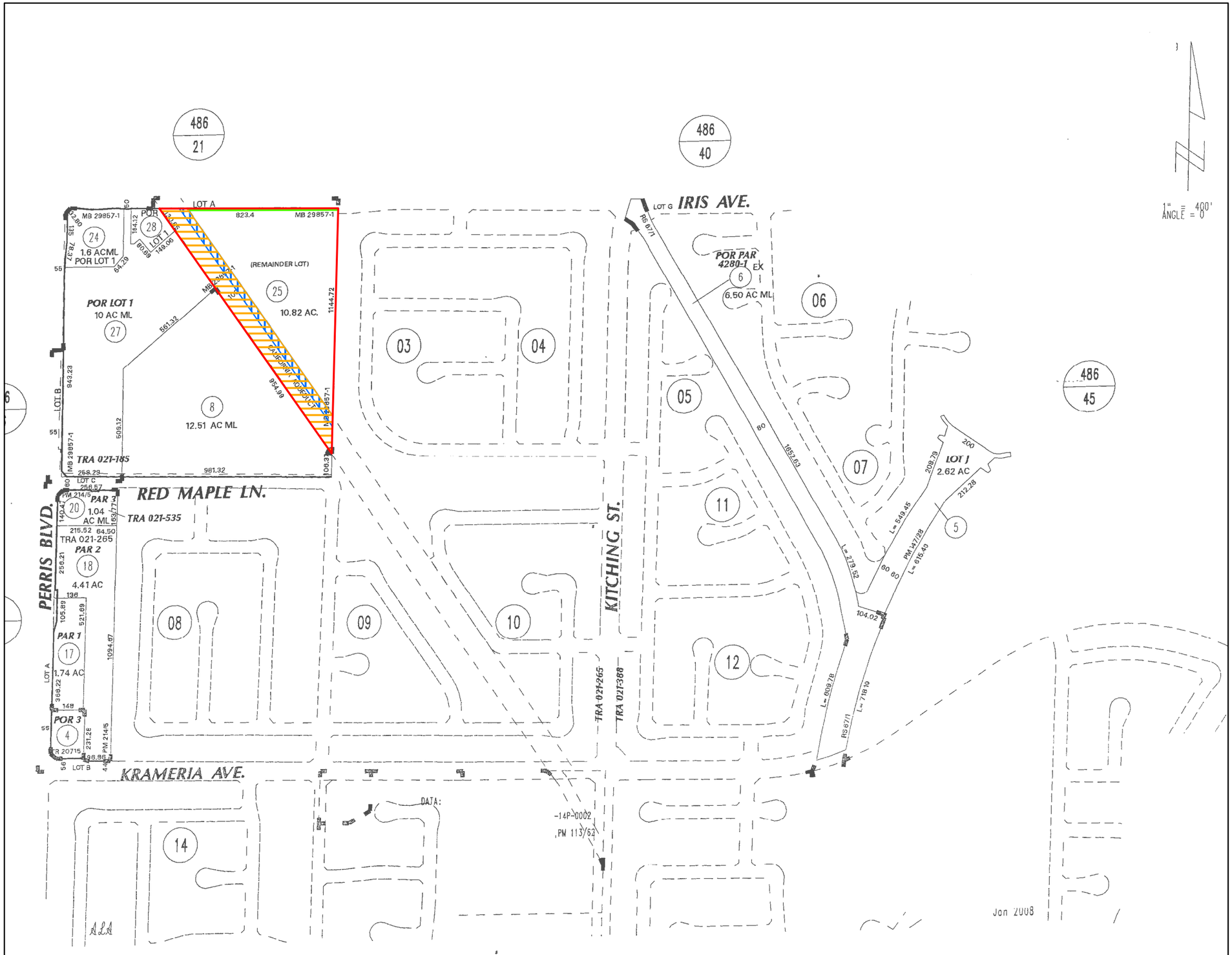
First American

myFirstAm® **Tax Map** , , C



Limitation of Liability for Informational Report

IMPORTANT – READ CAREFULLY: THIS REPORT IS NOT AN INSURED PRODUCT OR SERVICE OR A REPRESENTATION OF THE CONDITI OF TITLE TO REAL PROPERTY. IT IS NOT AN ABSTRACT, LEGAL OPINION, OPINION OF TITLE, TITLE INSURANCE COMMITMENT PRELIMINARY REPORT, OR ANY FORM OF TITLE INSURANCE OR GUARANTY. THIS REPORT IS ISSUED EXCLUSIVELY FOR THE BENE OF THE APPLICANT THEREFOR, AND MAY NOT BE USED OR RELIED UPON BY ANY OTHER PERSON. THIS REPORT MAY NOT REPRODUCED IN ANY MANNER WITHOUT FIRST AMERICAN'S PRIOR WRITTEN CONSENT. FIRST AMERICAN DOES NOT REPRESENT WARRANT THAT THE INFORMATION HEREIN IS COMPLETE OR FREE FROM ERROR, AND THE INFORMATION HEREIN IS PROVID WITHOUT ANY WARRANTIES OF ANY KIND, AS-IS, AND WITH ALL FAULTS. AS A MATERIAL PART OF THE CONSIDERATION GIVEN EXCHANGE FOR THE ISSUANCE OF THIS REPORT, RECIPIENT AGREES THAT FIRST AMERICAN'S SOLE LIABILITY FOR ANY LOSS DAMAGE CAUSED BY AN ERROR OR OMISSION DUE TO INACCURATE INFORMATION OR NEGLIGENCE IN PREPARING THIS REPO SHALL BE LIMITED TO THE FEE CHARGED FOR THE REPORT. RECIPIENT ACCEPTS THIS REPORT WITH THIS LIMITATION AND AGRE THAT FIRST AMERICAN WOULD NOT HAVE ISSUED THIS REPORT BUT FOR THE LIMITATION OF LIABILITY DESCRIBED ABOVE. FIR AMERICAN MAKES NO REPRESENTATION OR WARRANTY AS TO THE LEGALITY OR PROPRIETY OF RECIPIENT'S USE OF T INFORMATION HEREIN.



Chicago Title Company

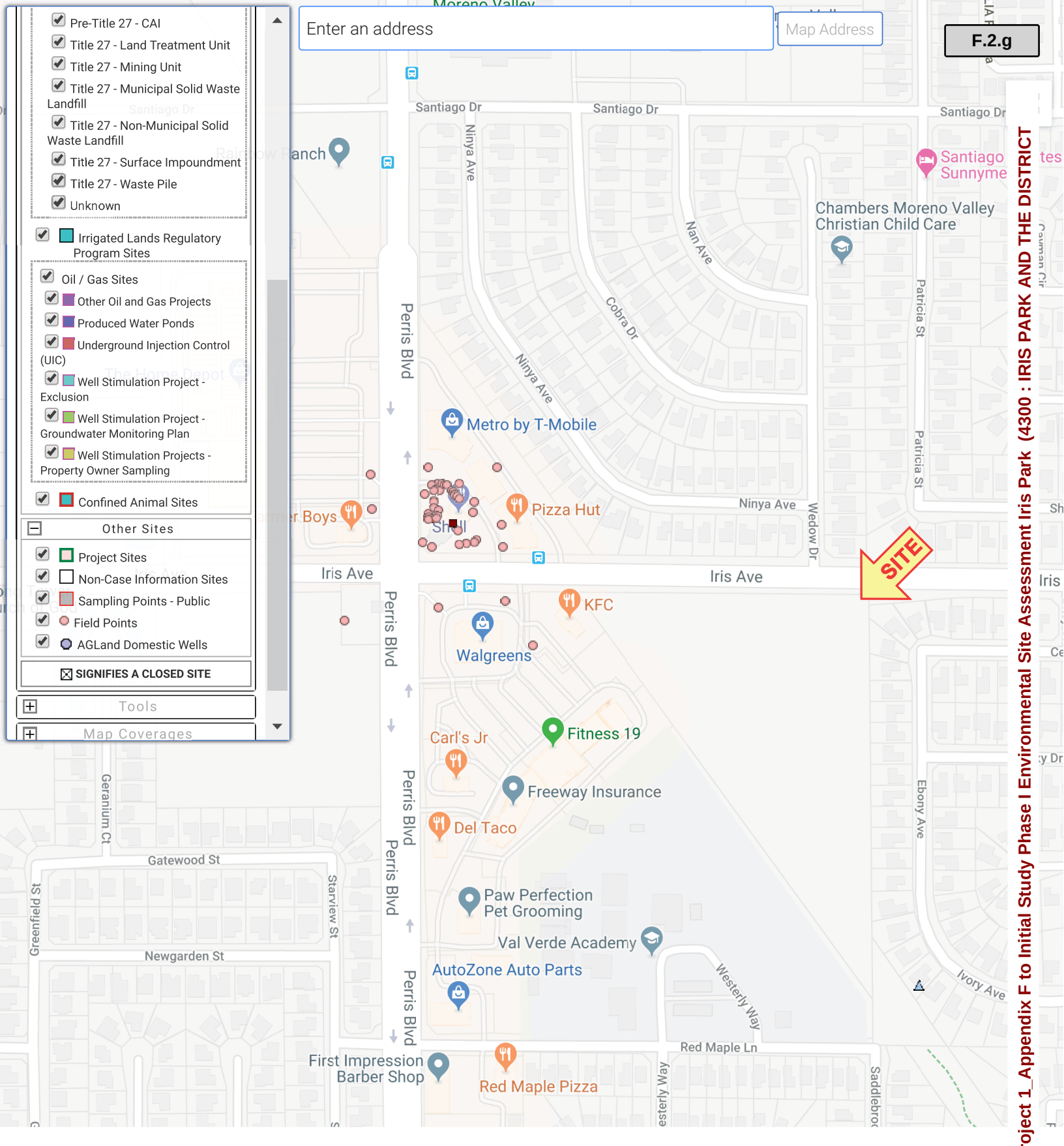
ORDER NO.
00111266-002

06/18/2019

APN
312-020-025-5

Legend

- PIQ
- Ease for Pipelines recorded 01/23/1967 # 5814 OR – Item 2
- Ease for Road recorded 02/16/1984 # 31787 OR – Item 3
- Ease for Landscape recorded Bk422 Pg23 Tract Map - Item 9
- Ease for Public Utilities recorded 12/07/2007 # 2007-0734119 OR- Item (Unlocatable)



Attachment: Project 1_Appendix F to Initial Study Phase I Environmental Site Assessment Iris Park (4300 : IRIS PARK AND THE DISTRICT

Chicago Title Company

4911 Birch Street, , Newport Beach, CA 92660
Phone: (949) 724-3117 ● Fax: (949) 258-5237

Issuing Policies of Chicago Title Insurance Company

ORDER NO.: **00111266-002-KAH-K27**

Chicago Title Company
4911 Birch Street
Newport Beach, CA 92660
ATTN: Kathleen Huntsman
Email: KHuntsman@ctt.com

Escrow/Customer Phone: **(949) 724-3100**

Title Officer: **John Balassi (OC/Comm)**
Title Officer Phone: **(949) 724-3117**
Title Officer Fax: **(949) 258-5237**
Title Officer Email:
CTCommercialTitleNewport@ctt.com

PROPERTY: **VACANT LAND APN 312-020-025, MORENO VALLEY, CA**

PRELIMINARY REPORT

In response to the application for a policy of title insurance referenced herein, ***Chicago Title Company*** *hereby reports that it is prepared to issue, or cause to be issued, as of the date hereof, a policy or policies of title insurance describing the land and the estate or interest therein hereinafter set forth, insuring against loss which may be sustained by reason of any defect, lien or encumbrance not shown or referred to as an exception herein or not excluded from coverage pursuant to the printed Schedules, Conditions and Stipulations or Conditions of said policy forms.*

The printed Exceptions and Exclusions from the coverage and Limitations on Covered Risks of said policy or policies are set forth in Attachment One. The policy to be issued may contain an arbitration clause. When the Amount of Insurance is less than that set forth in the arbitration clause, all arbitrable matters shall be arbitrated at the option of either the Company or the Insured as the exclusive remedy of the parties. Limitations on Covered Risks applicable to the CLTA and ALTA Homeowner's Policies of Title Insurance which establish a Deductible Amount and a Maximum Dollar Limit of Liability for certain coverages are also set forth in Attachment One. Copies of the policy forms should be read. They are available from the office which issued this report.

This report (and any supplements or amendments hereto) is issued solely for the purpose of facilitating the issuance of a policy of title insurance and no liability is assumed hereby. If it is desired that liability be assumed prior to the issuance of a policy of title insurance, a Binder or Commitment should be requested.

The policy(s) of title insurance to be issued hereunder will be policy(s) of Chicago Title Insurance Company, a Florida corporation.

Please read the exceptions shown or referred to herein and the exceptions and exclusions set forth in Attachment One of this report carefully. The exceptions and exclusions are meant to provide you with notice of matters which are not covered under the terms of the title insurance policy and should be carefully considered.

It is important to note that this preliminary report is not a written representation as to the condition of title and may not list all liens, defects and encumbrances affecting title to the land.

Chicago Title Company

By: _____
Authorized Signature

By
Randy Quirk, President
Attest
Michael Gravelle, Secretary

Chicago Title Company

4911 Birch Street, , Newport Beach, CA 92660
Phone: (949) 724-3117 ● Fax: (949) 258-5237

PRELIMINARY REPORT

EFFECTIVE DATE: **June 4, 2019 at 7:30 a.m.**

ORDER NO.: 00111266-002-KAH-K27

The form of policy or policies of title insurance contemplated by this report is:

CLTA Standard Coverage Owners Policy (04-08-14)

1. THE ESTATE OR INTEREST IN THE LAND HEREINAFTER DESCRIBED OR REFERRED TO COVERED BY THIS REPORT IS:

   A FEE

2. TITLE TO SAID ESTATE OR INTEREST AT THE DATE HEREOF IS VESTED IN:

   MAPLE LANE GROUP, LLC, a California limited liability company

3. THE LAND REFERRED TO IN THIS REPORT IS DESCRIBED AS FOLLOWS:

   See Exhibit A attached hereto and made a part hereof.

EXHIBIT "A"

LEGAL DESCRIPTION

THE LAND REFERRED TO HEREIN BELOW IS SITUATED IN THE CITY OF MORENO VALLEY, IN THE COUNTY OF RIVERSIDE, STATE OF CALIFORNIA, AND IS DESCRIBED AS FOLLOWS:

THE NORTHWEST QUARTER OF THE NORTHWEST QUARTER OF SECTION 29, TOWNSHIP 3 SOUTH, RANGE 3 WEST, SAN BERNARDINO MERIDIAN, IN THE CITY OF MORENO VALLEY, COUNTY OF RIVERSIDE, STATE OF CALIFORNIA, ACCORDING TO OFFICIAL PLAT THEREOF.

EXCEPTING THEREFROM THAT CONVEYED TO THE CITY OF MORENO VALLEY BY DEED RECORDED AUGUST 28, 1989 AS INSTRUMENT NO. 89-292505 OFFICIAL RECORDS.

ALSO EXCEPTING THEREFROM ALL OIL, WATER, GAS, HYDROCARBONS, PRECIOUS METALS AND MINERALS OF ANY KIND WHETHER DESCRIBED OR NOT, BELOW A DEPTH OF 500 FEET WITHOUT THE RIGHT OF SURFACE ENTRY AS RESERVED IN A DEED RECORDED JUNE 13, 1991 AS INSTRUMENT NO. 91-199908 OFFICIAL RECORDS.

ALSO EXCEPTING THEREFROM THAT PORTION SAID LAND CONVEYED TO VAL VERDE UNIFIED SCHOOL DISTRICT BY DEED RECORDED OCTOBER 10, 2002 AS INSTRUMENT NO. 02-566961 OFFICIAL RECORDS.

ALSO EXCEPTING THEREFROM LOT 1, LETTERED LOTS A THROUGH C OF TRACT NO. 29857-1, AS SHOWN ON FILE IN BOOK 422 PAGES 23 AND 24 OF MAPS, RECORDS OF RIVERSIDE COUNTY, CALIFORNIA.

NOTE: SAID PROPERTY IS SHOWN AT THE REMAINDER LOT OF TRACT NO. 29857-1, AS SHOWN ON FILE IN BOOK 422 PAGES 23 AND 24 OF MAPS, RECORDS OF RIVERSIDE COUNTY, CALIFORNIA.

APN: **312-020-025-5**

EXCEPTIONS

AT THE DATE HEREOF, ITEMS TO BE CONSIDERED AND EXCEPTIONS TO COVERAGE IN ADDITION TO THE PRINTED EXCEPTIONS AND EXCLUSIONS IN SAID POLICY FORM WOULD BE AS FOLLOWS:

A. Property taxes, which are a lien not yet due and payable, including any assessments collected with taxes to be levied for the fiscal year 2019-2020.

B. The lien of supplemental or escaped assessments of property taxes, if any, made pursuant to the provisions of Chapter 3.5 (commencing with Section 75) or Part 2, Chapter 3, Articles 3 and 4, respectively, of the Revenue and Taxation Code of the State of California as a result of the transfer of title to the vestee named in Schedule A or as a result of changes in ownership or new construction occurring prior to Date of Policy.

1. Water rights, claims or title to water, whether or not disclosed by the public records.

2. Easement(s) for the purpose(s) shown below and rights incidental thereto, as granted in a document:

Granted to:	State of California
Purpose:	Pipelines
Recording Date:	January 23, 1967
Recording No:	5814 Official Records
Affects:	remainder lot

3. Easement(s) for the purpose(s) shown below and rights incidental thereto, as granted in a document:

Granted to:	Eastern Municipal Water District, a Municipal Water District
Purpose:	Road
Recording Date:	February 16, 1984
Recording No:	31787 Official Records
Affects:	remainder lot

4. Covenants, conditions and restrictions but omitting any covenants or restrictions, if any, including but not limited to those based upon race, color, religion, sex, sexual orientation, familial status, marital status, disability, handicap, national origin, citizenship, immigration status, primary language, ancestry, source of income, gender, gender identity, gender expression, medical condition or genetic information, as set forth in applicable state or federal laws, except to the extent that said covenant or restriction is permitted by applicable law, as set forth in the document

Recording Date:	July 6, 2006
Recording No:	06-493287 Official Records

Said covenants, conditions and restrictions provide that a violation thereof shall not defeat the lien of any mortgage or deed of trust made in good faith and for value.

Modification(s) of said covenants, conditions and restrictions

Recording Date:	February 5, 2007
Recording No:	07-83514 Official Records

Modification(s) of said covenants, conditions and restrictions

Recording Date:	July 3, 2007
Recording No:	2007-0435192 Official Records

EXCEPTIONS
(Continued)

5. Matters contained in that certain document

Entitled:	Hold Harmless Agreement for Sewer
Recording Date:	September 15, 2006
Recording No:	2006-0684612 Official Records

Reference is hereby made to said document for full particulars.

6. Matters contained in that certain document

Entitled:	Hold Harmless Agreement for Water
Recording Date:	September 15, 2006
Recording No:	2006-0684616 Official Records

Reference is hereby made to said document for full particulars.

7. Matters contained in that certain document

Entitled:	Declaration of Covenant and Acknowledgment of Assessments
Recording Date:	November 15, 2006
Recording No:	06-844804 Official Records

Reference is hereby made to said document for full particulars.

8. Easement(s) for the purpose(s) shown below and rights incidental thereto as delineated or as offered for dedication, on the map of Tract No. 29857-1;

Purpose:	a non-exclusive easement for all common areas including the rights of ingress and egress for the purpose of operation, maintenance, repairs of its facilities and reading meters
Affects:	As shown on said map.
Recording No:	Book 422 Pages 23 and 24 of Maps

9. Easement(s) for the purpose(s) shown below and rights incidental thereto as delineated or as offered for dedication, on the map of Tract No. 29857-1;

Purpose:	landscape and incidental purposes
Affects:	As shown on said map.
Recording No:	Book 422 Pages 23 and 24 of Maps

10. Matters contained in that certain document

Entitled:	Agreement for Public Improvements For PA04-0192
Executed by:	City of Moreno Valley, State of California, and Evergreen Devco, Inc.
Recording Date:	August 10, 2007
Recording No:	2007-0519969 Official Records

Reference is hereby made to said document for full particulars.

Said instrument provides or establishes: This document is without a legal description.

EXCEPTIONS
(Continued)

11. Easement(s) for the purpose(s) shown below and rights incidental thereto, as granted in a document:

Granted to:	Southern California Gas Company, a California Corporation
Purpose:	Public utilities
Recording Date:	December 7, 2007
Recording No:	2007-0734119 Official Records
Affects:	Said land

12. A Notice of Substandard property as disclosed by a document

Recording Date:	October 8, 2010
Recording No:	2010-0484215 Official Records

Reference is hereby made to said document for full particulars.

13. Please be advised that our search did not disclose any open Deeds of Trust of record. If you should have knowledge of any outstanding obligation, please contact the Title Department immediately for further review prior to closing.

14. Any easements not disclosed by the public records as to matters affecting title to real property, whether or not said easements are visible and apparent.

15. Matters which may be disclosed by an inspection and/or by a correct ALTA/NSPS Land Title Survey of said Land that is satisfactory to the Company, and/or by inquiry of the parties in possession thereof.

16. Any rights of the parties in possession of a portion of, or all of, said Land, which rights are not disclosed by the public records.

The Company will require, for review, a full and complete copy of any unrecorded agreement, contract, license and/or lease, together with all supplements, assignments and amendments thereto, before issuing any policy of title insurance without excepting this item from coverage.

The Company reserves the right to except additional items and/or make additional requirements after reviewing said documents.

PLEASE REFER TO THE "INFORMATIONAL NOTES" AND "REQUIREMENTS" SECTIONS WHICH FOLLOW FOR INFORMATION NECESSARY TO COMPLETE THIS TRANSACTION.

END OF EXCEPTIONS

REQUIREMENTS SECTION

1. The Company will require the following documents for review prior to the issuance of any title insurance predicated upon a conveyance or encumbrance from the entity named below:

   Limited Liability Company: Maple Lane Group, LLC, a California limited liability company

   a) A copy of its operating agreement, if any, and all amendments, supplements and/or modifications thereto, certified by the appropriate manager or member.

   b) If a domestic Limited Liability Company, a copy of its Articles of Organization and all amendments thereto with the appropriate filing stamps.

   c) If the Limited Liability Company is member-managed, a full and complete current list of members certified by the appropriate manager or member.

   d) A current dated certificate of good standing from the proper governmental authority of the state in which the entity is currently domiciled.

   e) If less than all members, or managers, as appropriate, will be executing the closing documents, furnish evidence of the authority of those signing.

   f) If Limited Liability Company is a Single Member Entity, a Statement of Information for the Single Member will be required.

   g) Each member and manager of the LLC without an Operating Agreement must execute in the presence of a notary public the Certificate of California LLC (Without an Operating Agreement) Status and Authority form.

2. Unrecorded matters which may be disclosed by an Owner's Affidavit or Declaration. A form of the Owner's Affidavit/Declaration is attached to this Preliminary Report/Commitment. This Affidavit/Declaration is to be completed by the record owner of the land and submitted for review prior to the closing of this transaction. Your prompt attention to this requirement will help avoid delays in the closing of this transaction. Thank you.

   The Company reserves the right to add additional items or make further requirements after review of the requested Affidavit/Declaration.

3. Prior to the close of escrow, the Company requires a Statement of Information to be completed by the following party(s),

   Party(s): All Parties

   The Company reserves the right to add additional items or make further requirements after review of the requested Statement of Information.

END OF REQUIREMENTS

INFORMATIONAL NOTES SECTION

1. Note: Property taxes, including any personal property taxes and any assessments collected with taxes, are paid. For proration purposes the amounts were:

Tax Identification No.:	312-020-025-5
Fiscal Year:	2018-2019
1st Installment:	$1,379.49
2nd Installment:	$1,379.49
Exemption:	$0.00
Code Area:	021-185

2. Note: The policy of title insurance will include an arbitration provision. The Company or the insured may demand arbitration. Arbitrable matters may include, but are not limited to, any controversy or claim between the Company and the insured arising out of or relating to this policy, any service of the Company in connection with its issuance or the breach of a policy provision or other obligation. Please ask your escrow or title officer for a sample copy of the policy to be issued if you wish to review the arbitration provisions and any other provisions pertaining to your Title Insurance coverage.

3. Notice: Please be aware that due to the conflict between federal and state laws concerning the cultivation, distribution, manufacture or sale of marijuana, the Company is not able to close or insure any transaction involving Land that is associated with these activities.

4. Pursuant to Government Code Section 27388.1, as amended and effective as of 1-1-2018, a Documentary Transfer Tax (DTT) Affidavit may be required to be completed and submitted with each document when DTT is being paid or when an exemption is being claimed from paying the tax. If a governmental agency is a party to the document, the form will not be required. DTT Affidavits may be available at a Tax Assessor-County Clerk-Recorder.

5. Due to the special requirements of SB 50 (California Public Resources Code Section 8560 et seq.), any transaction that includes the conveyance of title by an agency of the United States must be approved in advance by the Company's State Counsel, Regional Counsel, or one of their designees.

6. Note: There are NO conveyances affecting said Land recorded within 24 months of the date of this report.

END OF INFORMATIONAL NOTES

John Balassi (OC/Comm)/aag

WIRESAFE™ | Inquire before you wire!

Wire Fraud Alert

This Notice is not intended to provide legal or professional advice. If you have any questions, please consult with a lawyer.

All parties to a real estate transaction are targets for wire fraud and many have lost hundreds of thousands of dollars because they simply relied on the wire instructions received via email, without further verification. **If funds are to be wired in conjunction with this real estate transaction, we strongly recommend verbal verification of wire instructions through a known, trusted phone number prior to sending funds.**

In addition, the following non-exclusive self-protection strategies are recommended to minimize exposure to possible wire fraud.

- **NEVER RELY** on emails purporting to change wire instructions. Parties to a transaction rarely change wire instructions in the course of a transaction.
- **ALWAYS VERIFY** wire instructions, specifically the ABA routing number and account number, by calling the party who sent the instructions to you. DO NOT use the phone number provided in the email containing the instructions, use phone numbers you have called before or can otherwise verify. **Obtain the phone number of relevant parties to the transaction as soon as an escrow account is opened**. DO NOT send an email to verify as the email address may be incorrect or the email may be intercepted by the fraudster.
- **USE COMPLEX EMAIL PASSWORDS** that employ a combination of mixed case, numbers, and symbols. Make your passwords greater than eight (8) characters. Also, change your password often and do NOT reuse the same password for other online accounts.
- **USE MULTI-FACTOR AUTHENTICATION** for email accounts. Your email provider or IT staff may have specific instructions on how to implement this feature.

For more information on wire-fraud scams or to report an incident, please refer to the following links:

Federal Bureau of Investigation:
http://www.fbi.gov

Internet Crime Complaint Center:
http://www.ic3.gov

FIDELITY NATIONAL FINANCIAL, INC.
PRIVACY NOTICE

Fidelity National Financial, Inc. and its majority-owned subsidiary companies (collectively, "FNF," "our," or "we") respect and are committed to protecting your privacy. This Privacy Notice explains how we collect, use, and protect personal information, when and to whom we disclose such information, and the choices you have about the use and disclosure of that information.

Types of Information Collected
We may collect two types of information from you: Personal Information and Browsing Information.

Personal Information. FNF may collect the following categories of Personal Information:
- contact information (*e.g.*, name, address, phone number, email address);
- demographic information (*e.g.*, date of birth, gender, marital status);
- identity information (*e.g.*, Social Security Number, driver's license, passport, or other government ID number);
- financial account information (*e.g.*, loan or bank account information); and
- other personal information necessary to provide products or services to you.

Browsing Information. FNF may automatically collect the following types of Browsing Information when you access an FNF website, online service, or application (each an "FNF Website") from your Internet browser, computer, and/or mobile device:
- Internet Protocol (IP) address and operating system;
- browser version, language, and type;
- domain name system requests; and
- browsing history on the FNF Website, such as date and time of your visit to the FNF Website and visits to the pages within the FNF Website

How Personal Information is Collected
We may collect Personal Information about you from:
- information we receive from you on applications or other forms;
- information about your transactions with FNF, our affiliates, or others; and
- information we receive from consumer reporting agencies and/or governmental entities, either directly from these entities or through others.

How Browsing Information is Collected
If you visit or use an FNF Website, Browsing Information may be collected during your visit. Like most websites, our servers automatically log each visitor to the FNF Website and may collect the Browsing Information described above. We use Browsing Information for system administration, troubleshooting, fraud investigation, and to improve our websites. Browsing Information generally does not reveal anything personal about you, though if you have created a user account for an FNF Website and are logged into that account, the FNF Website may be able to link certain browsing activity to your user account.

Other Online Specifics
Cookies. When you visit an FNF Website, a "cookie" may be sent to your computer. A cookie is a small piece of data that is sent to your Internet browser from a web server and stored on your computer's hard drive. Information gathered using cookies helps us improve your user experience. For example, a cookie can help the website load properly or can customize the display page based on your browser type and user preferences. You can choose whether or not to accept cookies by changing your Internet browser settings. Be aware that doing so may impair or limit some functionality of the FNF Website.

Web Beacons. We use web beacons to determine when and how many times a page has been viewed. This information is used to improve our websites.

Do Not Track. Currently our FNF Websites do not respond to "Do Not Track" features enabled through your browser.

Links to Other Sites. FNF Websites may contain links to other websites. FNF is not responsible for the privacy practices or the content of any of those other websites. We advise you to read the privacy policy of every website you visit.

Use of Personal Information
FNF uses Personal Information for three main purposes:
- To provide products and services to you or in connection with a transaction involving you.
- To improve our products and services.
- To communicate with you about our, our affiliates', and third parties' products and services, jointly or independently.

When Information Is Disclosed
We may make disclosures of your Personal Information and Browsing Information in the following circumstances:
- to enable us to detect or prevent criminal activity, fraud, material misrepresentation, or nondisclosure;
- to nonaffiliated service providers who provide or perform services or functions on our behalf and who agree to use the information only to provide such services or functions;
- to nonaffiliated third party service providers with whom we perform joint marketing, pursuant to an agreement with them to jointly market financial products or services to you;
- to law enforcement or authorities in connection with an investigation, or in response to a subpoena or court order; or

- in the good-faith belief that such disclosure is necessary to comply with legal process or applicable laws, or to protect the rights, property, or safety of FNF, its customers, or the public.

The law does not require your prior authorization and does not allow you to restrict the disclosures described above. Additionally, we may disclose your information to third parties for whom you have given us authorization or consent to make such disclosure. We do not otherwise share your Personal Information or Browsing Information with nonaffiliated third parties, except as required or permitted by law.

We reserve the right to transfer your Personal Information, Browsing Information, and any other information, in connection with the sale or other disposition of all or part of the FNF business and/or assets, or in the event of bankruptcy, reorganization, insolvency, receivership, or an assignment for the benefit of creditors. By submitting Personal Information and/or Browsing Information to FNF, you expressly agree and consent to the use and/or transfer of the foregoing information in connection with any of the above described proceedings.

Please see "**Choices With Your Information**" to learn the disclosures you can restrict.

Security of Your Information
We maintain physical, electronic, and procedural safeguards to guard your Personal Information. We limit access to nonpublic personal information about you to employees who need to know that information to do their job. When we provide Personal Information to others as discussed in this Privacy Notice, we expect that they process such information in compliance with our Privacy Notice and in compliance with applicable privacy laws.

Choices With Your Information
If you do not want FNF to share your information with our affiliates to directly market to you, you may send an "opt out" request by email, phone, or physical mail as directed at the end of this Privacy Notice. We do not share your Personal Information with nonaffiliates for their use to direct market to you.

Whether you submit Personal Information or Browsing Information to FNF is entirely up to you. If you decide not to submit Personal Information or Browsing Information, FNF may not be able to provide certain services or products to you.

For California Residents: We will not share your Personal Information and Browsing Information with nonaffiliated third parties, except as permitted by California law.

For Nevada Residents: You may be placed on our internal Do Not Call List by calling (888) 934-3354 or by contacting us via the information set forth at the end of this Privacy Notice. Nevada law requires that we also provide you with the following contact information: Bureau of Consumer Protection, Office of the Nevada Attorney General, 555 E. Washington St., Suite 3900, Las Vegas, NV 89101; Phone number: (702) 486-3132; email: BCPINFO@ag.state.nv.us.

For Oregon Residents: We will not share your Personal Information and Browsing Information with nonaffiliated third parties for marketing purposes, except after you have been informed by us of such sharing and had an opportunity to indicate that you do not want a disclosure made for marketing purposes.

For Vermont Residents: We will not share information about your creditworthiness to our affiliates and will not disclose your personal information, financial information, credit report, or health information to nonaffiliated third parties to market to you, other than as permitted by Vermont law, unless you authorize us to make those disclosures.

Information From Children
The FNF Websites are meant for adults and are not intended or designed to attract persons under the age of eighteen (18).We do not collect Personal Information from any person that we know to be under the age of thirteen (13) without permission from a parent or guardian.

International Users
FNF's headquarters is located within the United States. If you reside outside the United States and choose to provide Personal Information or Browsing Information to us, please note that we may transfer that information outside of your country of residence for any of the purposes described in this Privacy Notice. By providing FNF with your Personal Information and/or Browsing Information, you consent to our collection, transfer, and use of such information in accordance with this Privacy Notice.

FNF Website Services for Mortgage Loans
Certain FNF companies provide services to mortgage loan servicers, including hosting websites that collect customer information on behalf of mortgage loan servicers (the "Service Websites"). The Service Websites may contain links to both this Privacy Notice and the mortgage loan servicer or lender's privacy notice. The sections of this Privacy Notice titled When Information is Disclosed, Choices with Your Information, and Accessing and Correcting Information do not apply to the Service Websites. The mortgage loan servicer or lender's privacy notice governs use, disclosure, and access to your Personal Information. FNF does not share Personal Information collected through the Service Websites, except (1) as required or authorized by contract with the mortgage loan servicer or lender, or (2) as required by law or in the good-faith belief that such disclosure is necessary to comply with a legal process or applicable law, to enforce this Privacy Notice, or to protect the rights, property, or safety of FNF or the public.

Your Consent To This Privacy Notice; Notice Changes
By submitting Personal Information and/or Browsing Information to FNF, you consent to the collection and use of the information in accordance with this Privacy Notice. We may change this Privacy Notice at any time. The revised Privacy Notice, showing the new revision date, will be posted on the FNF Website. Each time you provide information to us following any amendment of this Privacy Notice, your provision of information to us will signify your assent to and acceptance of the terms of the revised Privacy Notice for all previously collected information and information

collected from you in the future. We may use comments, information or feedback that you submit to us in any manner that we may choose without notice or compensation to you.

Accessing and Correcting Information; Contact Us
If you have questions, would like to access or correct your Personal Information, or want to opt-out of information sharing for affiliate marketing, send your requests via email to privacy@fnf.com, by phone to (888) 934-3354, or by mail to:

Fidelity National Financial, Inc.
601 Riverside Avenue
Jacksonville, Florida 32204
Attn: Chief Privacy Officer

Notice of Available Discounts

Pursuant to Section 2355.3 in Title 10 of the California Code of Regulations Fidelity National Financial, Inc. and its subsidiaries ("FNF") must deliver a notice of each discount available under our current rate filing along with the delivery of escrow instructions, a preliminary report or commitment. Please be aware that the provision of this notice does not constitute a waiver of the consumer's right to be charged the field rate. As such, your transaction may not qualify for the below discounts.

You are encouraged to discuss the applicability of one or more of the below discounts with a Company representative. These discounts are generally described below; consult the rate manual for a full description of the terms, conditions and requirements for each discount. These discounts only apply to transaction involving services rendered by the FNF Family of Companies. This notice only applies to transactions involving property improved with a one-to-four family residential dwelling.

FNF Underwritten Title Company
CTC - Chicago Title Company

FNF Underwriter
CTIC - Chicago Title Insurance Company

Available Discounts

CREDIT FOR PRELIMINARY REPORTS AND/OR COMMITMENTS ON SUBSEQUENT POLICIES (CTIC)
Where no major change in the title has occurred since the issuance of the original report or commitment, the order may be reopened within 12 months and all or a portion of the charge previously paid for the report or commitment may be credited on a subsequent policy charge within the following time period from the date of the report.

DISASTER LOANS (CTIC)
The charge for a lender's Policy (Standard or Extended coverage) covering the financing or refinancing by an owner of record, within 24 months of the date of a declaration of a disaster area by the government of the United States or the State of California on any land located in said area, which was partially or totally destroyed in the disaster, will be 50% of the appropriate title insurance rate.

CHURCHES OR CHARITABLE NON-PROFIT ORGANIZATIONS (CTIC)
On properties used as a church or for charitable purposes within the scope of the normal activities of such entities, provided said charge is normally the church's obligation the charge for an owner's policy shall be 50% to 70% of the appropriate title insurance rate, depending on the type of coverage selected. The charge for a lender's policy shall be 40% to 50% of the appropriate title insurance rate, depending on the type of coverage selected.

EMPLOYEE RATE (CTC and CTIC)
No charge shall be made to employees (including employees on approved retirement) of the Company or its underwritten, subsidiary title companies for policies or escrow services in connection with financing, refinancing, sale or purchase of the employees' bona fide home property. Waiver of such charges is authorized only in connection with those costs which the employee would be obligated to pay, by established custom, as a party to the transaction.

ATTACHMENT ONE

CALIFORNIA LAND TITLE ASSOCIATION
STANDARD COVERAGE POLICY – 1990

EXCLUSIONS FROM COVERAGE

The following matters are expressly excluded from the coverage of this policy and the Company will not pay loss or damage, costs, attorneys' fees or expenses which arise by reason of:

1. (a) Any law, ordinance or governmental regulation (including but not limited to building or zoning laws, ordinances, or regulations) restricting, regulating, prohibiting or relating (i) the occupancy, use, or enjoyment of the land; (ii) the character, dimensions or location of any improvement now or hereafter erected on the land; (iii) a separation in ownership or a change in the dimensions or area of the land or any parcel of which the land is or was a part; or (iv) environmental protection, or the effect of any violation of these laws, ordinances or governmental regulations, except to the extent that a notice of the enforcement thereof or a notice of a defect, lien, or encumbrance resulting from a violation or alleged violation affecting the land has been recorded in the public records at Date of Policy.
   (b) Any governmental police power not excluded by (a) above, except to the extent that a notice of the exercise thereof or notice of a defect, lien or encumbrance resulting from a violation or alleged violation affecting the land has been recorded in the public records at Date of Policy.
2. Rights of eminent domain unless notice of the exercise thereof has been recorded in the public records at Date of Policy, but not excluding from coverage any taking which has occurred prior to Date of Policy which would be binding on the rights of a purchaser for value without knowledge.
3. Defects, liens, encumbrances, adverse claims or other matters:
   (a) whether or not recorded in the public records at Date of Policy, but created, suffered, assumed or agreed to by the insured claimant;
   (b) not known to the Company, not recorded in the public records at Date of Policy, but known to the insured claimant and not disclosed in writing to the Company by the insured claimant prior to the date the insured claimant became an insured under this policy;
   (c) resulting in no loss or damage to the insured claimant;
   (d) attaching or created subsequent to Date of Policy; or
   (e) resulting in loss or damage which would not have been sustained if the insured claimant had paid value for the insured mortgage or for the estate or interest insured by this policy.
4. Unenforceability of the lien of the insured mortgage because of the inability or failure of the insured at Date of Policy, or the inability or failure of any subsequent owner of the indebtedness, to comply with the applicable doing business laws of the state in which the land is situated.
5. Invalidity or unenforceability of the lien of the insured mortgage, or claim thereof, which arises out of the transaction evidenced by the insured mortgage and is based upon usury or any consumer credit protection or truth in lending law.
6. Any claim, which arises out of the transaction vesting in the insured the estate of interest insured by this policy or the transaction creating the interest of the insured lender, by reason of the operation of federal bankruptcy, state insolvency or similar creditors' rights laws.

EXCEPTIONS FROM COVERAGE - SCHEDULE B, PART I

This policy does not insure against loss or damage (and the Company will not pay costs, attorneys' fees or expenses) which arise by reason of:

1. Taxes or assessments which are not shown as existing liens by the records of any taxing authority that levies taxes or assessments on real property or by the public records.
   Proceedings by a public agency which may result in taxes or assessments, or notices of such proceedings, whether or not shown by the records of such agency or by the public records.
2. Any facts, rights, interests, or claims which are not shown by the public records but which could be ascertained by an inspection of the land or which may be asserted by persons in possession thereof.
3. Easements, liens or encumbrances, or claims thereof, not shown by the public records.
4. Discrepancies, conflicts in boundary lines, shortage in area, encroachments, or any other facts which a correct survey would disclose, and which are not shown by the public records.
5. (a) Unpatented mining claims; (b) reservations or exceptions in patents or in Acts authorizing the issuance thereof; (c) water rights, claims or title to water, whether or not the matters excepted under (a), (b) or (c) are shown by the public records.
6. Any lien or right to a lien for services, labor or material not shown by the public records.

CLTA HOMEOWNER'S POLICY OF TITLE INSURANCE (12-02-13)
ALTA HOMEOWNER'S POLICY OF TITLE INSURANCE

EXCLUSIONS

In addition to the Exceptions in Schedule B, You are not insured against loss, costs, attorneys' fees, and expenses resulting from:

1. Governmental police power, and the existence or violation of those portions of any law or government regulation concerning:
   a. building;
   b. zoning;
   c. land use;
   d. improvements on the Land;
   e. land division; and
   f. environmental protection.
   This Exclusion does not limit the coverage described in Covered Risk 8.a., 14, 15, 16, 18, 19, 20, 23 or 27.
2. The failure of Your existing structures, or any part of them, to be constructed in accordance with applicable building codes. This Exclusion does not limit the coverage described in Covered Risk 14 or 15.
3. The right to take the Land by condemning it. This Exclusion does not limit the coverage described in Covered Risk 17.
4. Risks:
   a. that are created, allowed, or agreed to by You, whether or not they are recorded in the Public Records;
   b. that are Known to You at the Policy Date, but not to Us, unless they are recorded in the Public Records at the Policy Date;

c. that result in no loss to You; or
d. that first occur after the Policy Date - this does not limit the coverage described in Covered Risk 7, 8.e., 25, 26, 27 or 28.

5. Failure to pay value for Your Title.
6. Lack of a right:
   a. to any land outside the area specifically described and referred to in paragraph 3 of Schedule A; and
   b. in streets, alleys, or waterways that touch the Land.
   This Exclusion does not limit the coverage described in Covered Risk 11 or 21.
7. The transfer of the Title to You is invalid as a preferential transfer or as a fraudulent transfer or conveyance under federal bankruptcy, state insolvency, or similar creditors' rights laws.
8. Contamination, explosion, fire, flooding, vibration, fracturing, earthquake, or subsidence.
9. Negligence by a person or an Entity exercising a right to extract or develop minerals, water, or any other substances.

LIMITATIONS ON COVERED RISKS

Your insurance for the following Covered Risks is limited on the Owner's Coverage Statement as follows:

- For Covered Risk 16, 18, 19, and 21 Your Deductible Amount and Our Maximum Dollar Limit of Liability shown in Schedule A.

The deductible amounts and maximum dollar limits shown on Schedule A are as follows:

	Your Deductible Amount	Our Maximum Dollar Limit of Liability
Covered Risk 16:	1.00% % of Policy Amount Shown in Schedule A or $2,500.00 (whichever is less)	$ 10,000.00
Covered Risk 18:	1.00% % of Policy Amount Shown in Schedule A or $5,000.00 (whichever is less)	$ 25,000.00
Covered Risk 19:	1.00% of Policy Amount Shown in Schedule A or $5,000.00 (whichever is less)	$ 25,000.00
Covered Risk 21:	1.00% of Policy Amount Shown in Schedule A or $2,500.00 (whichever is less)	$ 5,000.00

2006 ALTA LOAN POLICY (06-17-06)

EXCLUSIONS FROM COVERAGE

The following matters are expressly excluded from the coverage of this policy, and the Company will not pay loss or damage, costs, attorneys' fees, or expenses that arise by reason of:

1. (a) Any law, ordinance, permit, or governmental regulation (including those relating to building and zoning) restricting, regulating, prohibiting, or relating to
   (i) the occupancy, use, or enjoyment of the Land;
   (ii) the character, dimensions, or location of any improvement erected on the Land;
   (iii) the subdivision of land; or
   (iv) environmental protection;
   or the effect of any violation of these laws, ordinances, or governmental regulations. This Exclusion 1(a) does not modify or limit the coverage provided under Covered Risk 5.
   (b) Any governmental police power. This Exclusion 1(b) does not modify or limit the coverage provided under Covered Risk 6.
2. Rights of eminent domain. This Exclusion does not modify or limit the coverage provided under Covered Risk 7 or 8.
3. Defects, liens, encumbrances, adverse claims, or other matters
   (a) created, suffered, assumed, or agreed to by the Insured Claimant;
   (b) not Known to the Company, not recorded in the Public Records at Date of Policy, but Known to the Insured Claimant and not disclosed in writing to the Company by the Insured Claimant prior to the date the Insured Claimant became an Insured under this policy;
   (c) resulting in no loss or damage to the Insured Claimant;
   (d) attaching or created subsequent to Date of Policy (however, this does not modify or limit the coverage provided under Covered Risk 11, 13 or 14); or
   (e) resulting in loss or damage that would not have been sustained if the Insured Claimant had paid value for the Insured Mortgage.
4. Unenforceability of the lien of the Insured Mortgage because of the inability or failure of an Insured to comply with applicable doing-business laws of the state where the Land is situated.
5. Invalidity or unenforceability in whole or in part of the lien of the Insured Mortgage that arises out of the transaction evidenced by the Insured Mortgage and is based upon usury or any consumer credit protection or truth-in-lending law.
6. Any claim, by reason of the operation of federal bankruptcy, state insolvency, or similar creditors' rights laws, that the transaction creating the lien of the Insured Mortgage, is
   (a) a fraudulent conveyance or fraudulent transfer, or
   (b) a preferential transfer for any reason not stated in Covered Risk 13(b) of this policy.
7. Any lien on the Title for real estate taxes or assessments imposed by governmental authority and created or attaching between Date of Policy and the date of recording of the Insured Mortgage in the Public Records. This Exclusion does not modify or limit the coverage provided under Covered Risk 11(b).

The above policy form may be issued to afford either Standard Coverage or Extended Coverage. In addition to the above Exclusions from Coverage, the Exceptions from Coverage in a Standard Coverage policy will also include the following Exceptions from Coverage:

EXCEPTIONS FROM COVERAGE

(Except as provided in Schedule B - Part II,(t(or T)his policy does not insure against loss or damage, and the Company will not pay costs, attorneys' fees or expenses, that arise by reason of:

(PART I

(The above policy form may be issued to afford either Standard Coverage or Extended Coverage. In addition to the above Exclusions from Coverage, the Exceptions from Coverage in a Standard Coverage policy will also include the following Exceptions from Coverage:

1. (a) Taxes or assessments that are not shown as existing liens by the records of any taxing authority that levies taxes or assessments on real property or by the Public Records; (b) proceedings by a public agency that may result in taxes or assessments, or notices of such proceedings, whether or not shown by the records of such agency or by the Public Records.
2. Any facts, rights, interests, or claims that are not shown by the Public Records but that could be ascertained by an inspection of the Land or that may be asserted by persons in possession of the Land.
3. Easements, liens or encumbrances, or claims thereof, not shown by the Public Records.
4. Any encroachment, encumbrance, violation, variation, or adverse circumstance affecting the Title that would be disclosed by an accurate and complete land survey of the Land and not shown by the Public Records.
5. (a) Unpatented mining claims; (b) reservations or exceptions in patents or in Acts authorizing the issuance thereof; (c) water rights, claims or title to water, whether or not the matters excepted under (a), (b), or (c) are shown by the Public Records.
6. Any lien or right to a lien for services, labor or material not shown by the Public Records.

PART II

In addition to the matters set forth in Part I of this Schedule, the Title is subject to the following matters, and the Company insures against loss or damage sustained in the event that they are not subordinate to the lien of the Insured Mortgage:)

2006 ALTA OWNER'S POLICY (06-17-06)

EXCLUSIONS FROM COVERAGE

The following matters are expressly excluded from the coverage of this policy, and the Company will not pay loss or damage, costs, attorneys' fees, or expenses that arise by reason of:

1. (a) Any law, ordinance, permit, or governmental regulation (including those relating to building and zoning) restricting, regulating, prohibiting, or relating to
   (i) the occupancy, use, or enjoyment of the Land;
   (ii) the character, dimensions, or location of any improvement erected on the Land;
   (iii) the subdivision of land; or
   (iv) environmental protection;
   or the effect of any violation of these laws, ordinances, or governmental regulations. This Exclusion 1(a) does not modify or limit the coverage provided under Covered Risk 5.
   (b) Any governmental police power. This Exclusion 1(b) does not modify or limit the coverage provided under Covered Risk 6.
2. Rights of eminent domain. This Exclusion does not modify or limit the coverage provided under Covered Risk 7 or 8.
3. Defects, liens, encumbrances, adverse claims, or other matters
   (a) created, suffered, assumed, or agreed to by the Insured Claimant;
   (b) not Known to the Company, not recorded in the Public Records at Date of Policy, but Known to the Insured Claimant and not disclosed in writing to the Company by the Insured Claimant prior to the date the Insured Claimant became an Insured under this policy;
   (c) resulting in no loss or damage to the Insured Claimant;
   (d) attaching or created subsequent to Date of Policy (however, this does not modify or limit the coverage provided under Covered Risk 9 and 10); or
   (e) resulting in loss or damage that would not have been sustained if the Insured Claimant had paid value for the Title.
4. Any claim, by reason of the operation of federal bankruptcy, state insolvency, or similar creditors' rights laws, that the transaction vesting the Title as shown in Schedule A, is
   (a) a fraudulent conveyance or fraudulent transfer; or
   (b) a preferential transfer for any reason not stated in Covered Risk 9 of this policy.
5. Any lien on the Title for real estate taxes or assessments imposed by governmental authority and created or attaching between Date of Policy and the date of recording of the deed or other instrument of transfer in the Public Records that vests Title as shown in Schedule A.

The above policy form may be issued to afford either Standard Coverage or Extended Coverage. In addition to the above Exclusions from Coverage, the Exceptions from Coverage in a Standard Coverage policy will also include the following Exceptions from Coverage:

EXCEPTIONS FROM COVERAGE

This policy does not insure against loss or damage, and the Company will not pay costs, attorneys' fees or expenses, that arise by reason of:
(The above policy form may be issued to afford either Standard Coverage or Extended Coverage. In addition to the above Exclusions from Coverage, the Exceptions from Coverage in a Standard Coverage policy will also include the following Exceptions from Coverage:

1. (a) Taxes or assessments that are not shown as existing liens by the records of any taxing authority that levies taxes or assessments on real property or by the Public Records; (b) proceedings by a public agency that may result in taxes or assessments, or notices of such proceedings, whether or not shown by the records of such agency or by the Public Records.
2. Any facts, rights, interests, or claims that are not shown in the Public Records but that could be ascertained by an inspection of the Land or that may be asserted by persons in possession of the Land.
3. Easements, liens or encumbrances, or claims thereof, not shown by the Public Records.
4. Any encroachment, encumbrance, violation, variation, or adverse circumstance affecting the Title that would be disclosed by an accurate and complete land survey of the Land and that are not shown by the Public Records.
5. (a) Unpatented mining claims; (b) reservations or exceptions in patents or in Acts authorizing the issuance thereof; (c) water rights, claims or title to water, whether or not the matters excepted under (a), (b), or (c) are shown by the Public Records.
6. Any lien or right to a lien for services, labor or material not shown by the Public Records.
7. (Variable exceptions such as taxes, easements, CC&R's, etc. shown here.)

ALTA EXPANDED COVERAGE RESIDENTIAL LOAN POLICY (12-02-13)

EXCLUSIONS FROM COVERAGE

The following matters are expressly excluded from the coverage of this policy and the Company will not pay loss or damage, costs, attorneys' fees or expenses which arise by reason of:

1. (a) Any law, ordinance, permit, or governmental regulation (including those relating to building and zoning) restricting, regulating, prohibiting, or relating to
   (i) the occupancy, use, or enjoyment of the Land;
   (ii) the character, dimensions, or location of any improvement erected on the Land;
   (iii) the subdivision of land; or
   (iv) environmental protection;
   or the effect of any violation of these laws, ordinances, or governmental regulations. This Exclusion 1(a) does not modify or limit the coverage provided under Covered Risk 5, 6, 13(c), 13(d), 14 or 16.
   (b) Any governmental police power. This Exclusion 1(b) does not modify or limit the coverage provided under Covered Risk 5, 6, 13(c), 13(d), 14 or 16.
2. Rights of eminent domain. This Exclusion does not modify or limit the coverage provided under Covered Risk 7 or 8.
3. Defects, liens, encumbrances, adverse claims, or other matters
   (a) created, suffered, assumed, or agreed to by the Insured Claimant;
   (b) not Known to the Company, not recorded in the Public Records at Date of Policy, but Known to the Insured Claimant and not disclosed in writing to the Company by the Insured Claimant prior to the date the Insured Claimant became an Insured under this policy;
   (c) resulting in no loss or damage to the Insured Claimant;
   (d) attaching or created subsequent to Date of Policy (however, this does not modify or limit the coverage provided under Covered Risk 11, 16, 17, 18, 19, 20, 21, 22, 23, 24, 27 or 28); or
   (e) resulting in loss or damage that would not have been sustained if the Insured Claimant had paid value for the Insured Mortgage.
4. Unenforceability of the lien of the Insured Mortgage because of the inability or failure of an Insured to comply with applicable doing-business laws of the state where the Land is situated.
5. Invalidity or unenforceability in whole or in part of the lien of the Insured Mortgage that arises out of the transaction evidenced by the Insured Mortgage and is based upon usury, or any consumer credit protection or truth-in-lending law. This Exclusion does not modify or limit the coverage provided in Covered Risk 26.
6. Any claim of invalidity, unenforceability or lack of priority of the lien of the Insured Mortgage as to Advances or modifications made after the Insured has Knowledge that the vestee shown in Schedule A is no longer the owner of the estate or interest covered by this policy. This Exclusion does not modify or limit the coverage provided in Covered Risk 11.
7. Any lien on the Title for real estate taxes or assessments imposed by governmental authority and created or attaching subsequent to Date of Policy. This Exclusion does not modify or limit the coverage provided in Covered Risk 11(b) or 25.
8. The failure of the residential structure, or any portion of it, to have been constructed before, on or after Date of Policy in accordance with applicable building codes. This Exclusion does not modify or limit the coverage provided in Covered Risk 5 or 6.
9. Any claim, by reason of the operation of federal bankruptcy, state insolvency, or similar creditors' rights laws, that the transaction creating the lien of the Insured Mortgage, is
   (a) a fraudulent conveyance or fraudulent transfer, or
   (b) a preferential transfer for any reason not stated in Covered Risk 27(b) of this policy.
10. Contamination, explosion, fire, flooding, vibration, fracturing, earthquake, or subsidence.
11. Negligence by a person or an Entity exercising a right to extract or develop minerals, water, or any other substances.

OWNER'S DECLARATION

Escrow No.: 00111266-002-KAH-K27
Property Address: Vacant Land APN 312-020-025
Moreno Valley, CA

The undersigned hereby declares as follows:

1. (Fill in the applicable paragraph and strike the other)
   a. Declarant ("Owner") is the owner or lessee, as the case may be, of certain premises located at Vacant Land APN 312-020-025, Moreno Valley, CA, further described as follows: See Preliminary Report/Commitment No. for full legal description (the "Land").
   b. Declarant is the _____ of _____ ("Owner"), which is the owner or lessee, as the case may be, of certain premises located at Vacant Land APN 312-020-025, Moreno Valley, CA, further described as follows: See Preliminary Report/Commitment No. for full legal description (the "Land").
2. (Fill in the applicable paragraph and strike the other)
   a. During the period of six months immediately preceding the date of this declaration no work has been done, no surveys or architectural or engineering plans have been prepared, and no materials have been furnished in connection with the erection, equipment, repair, protection or removal of any building or other structure on the Land or in connection with the improvement of the Land in any manner whatsoever.
   b. During the period of six months immediately preceding the date of this declaration certain work has been done and materials furnished in connection with _____ upon the Land in the approximate total sum of $_____, but no work whatever remains to be done and no materials remain to be furnished to complete the construction in full compliance with the plans and specifications, nor are there any unpaid bills incurred for labor and materials used in making such improvements or repairs upon the Land, or for the services of architects, surveyors or engineers, except as follows: _____. Owner, by the undersigned Declarant, agrees to and does hereby indemnify and hold harmless Chicago Title Company against any and all claims arising therefrom.
3. Owner has not previously conveyed the Land; is not a debtor in bankruptcy (and if a partnership, the general partner thereof is not a debtor in bankruptcy); and has not received notice of any pending court action affecting the title to the Land.
4. Except as shown in the above-referenced Preliminary Report/Commitment, there are no unpaid or unsatisfied mortgages, deeds of trust, Uniform Commercial Code financing statements, regular assessments, special assessments, periodic assessments or any assessment from any source, claims of lien, special assessments, or taxes that constitute a lien against the Land or that affect the Land but have not been recorded in the public records. There are no violations of the covenants, conditions and restrictions as shown in the above-referenced Preliminary Report/Commitment.
5. The Land is currently in use as _____; _____ occupy/occupies the Land; and the following are all of the leases or other occupancy rights affecting the Land:

   _____
6. There are no other persons or entities that assert an ownership interest in the Land, nor are there unrecorded easements, claims of easement, or boundary disputes that affect the Land.
7. There are no outstanding options to purchase or rights of first refusal affecting the Land.
8. Between the most recent Effective Date of the above-referenced Preliminary Report/Commitment and the date of recording of the Insured Instrument(s), Owner has not taken or allowed, and will not take or allow, any action or inaction to encumber or otherwise affect title to the Land.

This declaration is made with the intention that Chicago Title Company (the "Company") and its policy issuing agents will rely upon it in issuing their title insurance policies and endorsements. Owner, by the undersigned Declarant, agrees to indemnify the Company against loss or damage (including attorneys fees, expenses, and costs) incurred by the Company as a result of any untrue statement made herein.

I declare under penalty of perjury that the foregoing is true and correct and that this declaration was executed on _____ at _____.

Signature: _____

JCP LGS HAZARD DISCLOSURES

JCP-LGS Commercial Resale Property Disclosure Reports

Map of Statutory Natural Hazards For RIVERSIDE County

Property Address: VACANT LAND
MORENO VALLEY, RIVERSIDE COUNTY, CA 92555
("Property")

APN: 312-020-025
Report Date: 10/01/2019
Report Number: 2555340

This map is provided for convenience only to show the approximate location of the Property and is not based on a field survey.

- Subject Property
- Special Flood Hazard Area
- Area of Potential Flooding, Dam Failure
- Very High Fire Hazard Severity Zone
- Wildland Area, Substantial Forest Fire Risk
- Earthquake Fault Zone
- Seismic Hazard Zone, Landslide
- Seismic Hazard Zone, Liquefaction

This COMMERCIAL PROPERTY DISCLOSURE REPORT contains

THIS REPORT PROVIDES THE STATUTORY DISCLOSURES MANDATED BY CALIFORNIA LAWS SPECIFIED HEREIN AND DELIVERY OF THIS REPORT AND THE EXECUTED STATUTORY FORM IS SUFFICIENT TO MEET THE SAFE HARBOR FOR THE SELLER AND SELLER'S AGENT. THIS REPORT ALSO CONTAINS OTHER IMPORTANT DISCLOSURES AND INFORMATION. SELLER AND SELLER'S AGENT MAY HAVE ADDITIONAL RESPONSIBLITIES FOR CERTAIN DISCLOSURES WITHIN THEIR ACTUAL KNOWLEDGE.

JCP LGS HAZARD DISCLOSURES

JCP-LGS Commercial Resale Property Disclosure Reports
The Natural Hazard Disclosure Report For RIVERSIDE County

Property Address: VACANT LAND
MORENO VALLEY, RIVERSIDE COUNTY, CA 92555
("Property")

APN: 312-020-025
Report Date: 10/01/2019
Report Number: 2555340

Natural Hazard Disclosure ("NHD") Statement and Acknowledgment of Receipt

The transferor and his or her agent(s) or a third-party consultant disclose the following information with the knowledge that even though this is not a warranty, prospective transferees may rely on this information in deciding whether and on what terms to purchase the Property. Transferor hereby authorizes any agent(s) representing any principal(s) in this action to provide a copy of this statement to any person or entity in connection with any actual or anticipated sale of the Property.

The following are representations made by the transferor and his or her agent(s) or a third-party consultant based on their knowledge and maps drawn by the State. This information is a disclosure and is not intended to be part of any contract between the transferee and the transferor. THIS REAL PROPERTY LIES WITHIN THE FOLLOWING HAZARDOUS AREA(S):

A SPECIAL FLOOD HAZARD AREA (Any type Zone "A" or "V") designated by the Federal Emergency Management Agency
Yes___ No X Do not know and information not available from local jurisdiction ___

AN AREA OF POTENTIAL FLOODING shown on a dam failure inundation map pursuant to Section 8589.5 of the Government Code.
Yes___ No X Do not know and information not available from local jurisdiction___

A VERY HIGH FIRE HAZARD SEVERITY ZONE pursuant to Section 51178 or 51179 of the Government Code. The owner of this Property is subject to the maintenance requirements of Section 51182 of the Government Code.
Yes___ No X

A WILDLAND AREA THAT MAY CONTAIN SUBSTANTIAL FOREST FIRE RISK AND HAZARDS pursuant to Section 4125 of the Public Resources Code. The owner of this Property is subject to the maintenance requirements of Section 4291 of the Public Resources Code. Additionally, it is not the state's responsibility to provide fire protection services to any building or structure located within the wildlands unless the Department of Forestry and Fire Protection has entered into a cooperative agreement with a local agency for those purposes pursuant to Section 4142 of the Public Resources Code.
Yes___ No X

AN EARTHQUAKE FAULT ZONE pursuant to Section 2622 of the Public Resources Code.
Yes___ No X

A SEISMIC HAZARD ZONE pursuant to Section 2696 of the Public Resources Code.
Yes (Landslide Zone)___ Yes (Liquefaction Zone)___

No___ Map not yet released by state X

THESE HAZARDS MAY LIMIT YOUR ABILITY TO DEVELOP THE REAL PROPERTY, TO OBTAIN INSURANCE, OR TO RECEIVE ASSISTANCE AFTER A DISASTER. THE MAPS ON WHICH THESE DISCLOSURES ARE BASED ESTIMATE WHERE NATURAL HAZARDS EXIST. THEY ARE NOT DEFINITIVE INDICATORS OF WHETHER OR NOT A PROPERTY WILL BE AFFECTED BY A NATURAL DISASTER. TRANSFEREE(S) AND TRANSFEROR(S) MAY WISH TO OBTAIN PROFESSIONAL ADVICE REGARDING THOSE HAZARDS AND OTHER HAZARDS THAT MAY AFFECT THE PROPERTY.

Signature of Transferor(s)	Date	Signature of Transferor(s)	Date
Signature of Agent	Date	Signature of Agent	Date

☐ Transferor(s) and their agent(s) represent that the information herein is true and correct to the best of their knowledge as of the date signed by the transferor(s) and agent(s).

☒ Transferor(s) and their agent(s) acknowledge that they have exercised good faith in the selection of a third-party report provider as required in Civil Code Section 1103.7, and that the representations made in this Natural Hazard Disclosure Statement are based upon information provided by the independent third-party disclosure provider as a substituted disclosure pursuant to Civil Code Section 1103.4. Neither transferor(s) nor their agent(s) (1) has independently verified the information contained in this statement and Report or (2) is personally aware of any errors or inaccuracies in the information contained on the statement. This statement was prepared by the provider below:

Third-Party Disclosure Provider(s) FIRST AMERICAN PROFESSIONAL REAL ESTATE SERVICES, INC. OPERATING THROUGH ITS JCP-LGS DIVISION.
Date 01 October 2019

Transferee represents that he or she has read and understands this document. Pursuant to Civil Code Section 1103.8, the representations in this Natural Hazard Disclosure Statement do not constitute all of the transferor's or agent's disclosure obligations in this transaction.

Signature of Transferee(s)	Date	Signature of Transferee(s)	Date

TRANSFEREE(S) REPRESENTS ABOVE HE/SHE HAS RECEIVED, READ AND UNDERSTANDS THE COMPLETE JCP-LGS DISCLOSURE REPORT DELIVERED WITH THIS SUMMARY:

A. Commercial Natural Hazard Disclosure Report.
B. Additional Property-specific Statutory Disclosures: Former Military Ordnance Site, Airport Influence Area, Airport Noise, San Francisco Bay Conservation and Development District Jurisdiction (in S.F. Bay counties only).
C. Additional County and City Regulatory Determinations as applicable: Airports, Avalanche, Blow Sand, Coastal Zone, Dam/Levee Failure Inundation, Debris Flow, Erosion, Flood, Fault Zone, Fire, Groundwater, Landslide, Liquefaction, Methane Gas, Mines, Naturally Occurring Asbestos, Redevelopment Area, Right to Farm, Runoff Area, Seiche, Seismic Shaking, Seismic Ground Failure, Slope Stability, Soil Stability, Subsidence, TRPA, Tsunami.
D. General advisories: Methamphetamine Contamination, Mold, Radon, Endangered Species Act, Abandoned Mines, Oil & Gas Wells, Tsunami Maps (coastal only), Non-residential Building Energy Use.
E. Government Guides in Combined Booklet with Report. Refer to Booklet: Commercial Property Owner's Guide to Earthquake Safety. Government Guides are also available on the Company's "Electronic Bookshelf" at http://wwww.disclosures.com/.

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("Property")

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JCP LGS HAZARD DISCLOSURES

JCP-LGS Commercial Resale Property Disclosure Reports

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PROPERTY DISCLOSURE SUMMARY - READ FULL REPORT

Statutory NHD Determinations	IN	NOT IN	Map N/A*	Property is:	NHD Report page:
Flood		X		NOT IN a Special Flood Hazard Area. The Property is IN a FEMA-designated Flood Zone(s) X.	5
Dam		X		NOT IN an area of potential dam inundation.	5
Very High Fire Hazard Severity		X		NOT IN a very high fire hazard severity zone.	6
Wildland Fire Area		X		Not in a wildland-state responsibility area.	6
Fault		X		NOT IN an earthquake fault zone designated pursuant to the Alquist-Priolo Act.	7
Landslide			X	Map Not Available	7
Liquefaction			X	Map Not Available	7

County-level NHD Determinations	IN	NOT IN	Map N/A*	Property is:	NHD Report page:
Fault		X		NOT IN a County-designated fault zone	9
Liquefaction	X			IN an area of moderate liquefaction susceptibility	9

Additional Statutory Disclosures	IN	NOT IN	Map N/A*	Property is:	NHD Report page:
Former Military Ordnance	X			WITHIN one mile of a formerly used ordnance site.: March AFB Poorman Range	11
Airport Influence Area	X			IN an airport influence area: MARCH AIR RESERVE BASE	12
Airport Noise Area for 65 Decibel		X		NOT IN a delineated 65 dB CNEL or greater aviation noise zone.	13

General Advisories	Description	NHD Report page:
Methamphetamine Contamination	Provides an advisory that a disclosure may be required pursuant to the "Methamphetamine Contaminated Property Cleanup Act of 2005".	14
Mold	Provides an advisory that all prospective purchasers of residential and commercial property should thoroughly inspect the subject property for mold and sources for additional information on the origins of and the damage caused by mold.	15
Radon	Provides an advisory on the risk associated with Radon gas concentrations.	16
Endangered Species	Provides an advisory on resources to educate the public on locales of endangered or threatened species.	16
Abandoned Mines	Provides an advisory on resources to educate the public on the hazards posed by, and some of the general locales of, abandoned mines.	17
Oil and Gas Wells	Provides an advisory on the potential existence of oil and gas wells and sources for additional general and/or specific information.	17

Determined by First American Professional Real Estate Services, Inc.

For more detailed information as to the foregoing determinations, please read this entire Report.

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Natural Hazard Disclosure Report

Part 1. State Defined Natural Hazard Zones

Statutory Natural Hazard Disclosures

Section 1103 of the California Civil Code mandates the disclosure of six (6) natural hazard zones if the Property is located within any such zone. Those six "statutory" hazard zones, disclosed on the **Natural Hazard Disclosure Statement** ("NHDS") on Page one of this Report, are explained below. Note that the NHDS does not provide for informing buyers if a property is only partially within any of the delineated zones or provide additional flood zone information which could be very important to the process. The following summary is intended to give buyers additional information they may need to help them in the decision-making process and to place the information in perspective.

SPECIAL FLOOD HAZARD AREA

DISCUSSION: Property in a Special Flood Hazard Area (any type of Zone "A" or "V" as designated by the Federal Emergency Management Agency ("FEMA") is subject to flooding in a "100-year rainstorm." Federally connected lenders require homeowners to maintain flood insurance for buildings in these zones. A 100-year flood occurs on average once every 100 years, but may not occur in 1,000 years or may occur in successive years. According to FEMA, a home located within a SFHA has a 26% chance of suffering flood damage during the term of a 30-year mortgage. Other types of flooding, such as dam failure, are not considered in developing these zones. Flood insurance for properties in Zones B, C, D, X, X500, and X500_Levee is available but is not required.

Zones A, AO, AE, AH, AR, A1-A30: Area of "100-year" flooding - a 1% or greater chance of annual flooding.
Zone A99: An “adequate progress” determination for flood control system construction projects that, once completed, may significantly limit the area of a community that will be included in the Special Flood Hazard Area (SFHA). Such projects reduce but do not eliminate, the risk of flooding to people and structures in “levee-impacted” areas, and allow mandatory flood insurance to be available at a lower cost.
Zones V, V1-V30: Area of "100-year" flooding in coastal (shore front) areas subject to wave action.
Zone B: Area of moderate flood risk. These are areas between the "100" and "500" year flood-risk levels.
Zones C, D: NOT IN an area of "100-year" flooding. Area of minimal (Zone C) or undetermined (Zone D) flood hazard.
Zones X: An area of minimal flood risk. These are areas outside the "500" year flood-risk level.
Zone X500: An area of moderate flood risk. These are areas between the "100" and "500" year flood-risk levels.
Zone X500_LEVEE: An area of moderate flood risk that is protected from "100-year flood" by levee and that is subject to revision to high risk (Zone A) if levee is decertified by FEMA.
Zone N: Area Not Included, no flood zone designation has been assigned or not participating in the National Flood Insurance Program.

Notice: The Company is not always able to determine if the Property is subject to a FEMA Letter of Map Revision ("LOMR") or other FEMA letters of map change. If Seller is aware that the Property is subject to a LOMR or other letters of map change, the Seller shall disclose the map change and attach a copy of the FEMA letter(s) to the Report. Contact FEMA at http://msc.fema.gov for additional information.

For more information about flood zones, visit:
https://efotg.sc.egov.usda.gov/references/public/NM/FEMA_FLD_HAZ_guide.pdf

PUBLIC RECORD: Official Flood Insurance Rate Maps ("FIRM") compiled and issued by the Federal Emergency Management Agency ("FEMA") pursuant to 42 United States Code §4001, et seq.

AREA OF POTENTIAL FLOODING (DAM FAILURE)

Since 1998 California law has required seller disclosure of areas of potential inundation due to sudden or total dam failure as delineated on inundation maps submitted by dam owners to the California Office of Emergency Services (“OES”) for review and approval; however, as of June 27, 2017, the date on which Senate Bill 92 (SB 92) became operative, the review and approval of inundation maps prepared by licensed civil engineers and submitted by dam owners became the statutory responsibility of the California Department of Water Resources (“DWR”) Division of Safety of Dams (“DSOD”) as required by California Water Code Section 6161. These inundation maps are a component of emergency action plans submitted by dam owners to comply with statutory requirements set forth under the California Water Code for extremely high, high, and significant hazard dams and their critical appurtenant structures. Inundation maps are not required by the California Water Code for low hazard dams. SB 92 further requires dam owners to update the emergency action plan, including an inundation map, no less frequently than every 10 years or sooner.

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To date DWR has yet to review, approve, and make publicly available inundation maps and data for many facilities with inundation areas that are subject to disclosure requirements. Inundation maps will continue to be posted and updated maps will replace outdated maps as they are approved by DSOD. In the absence of DSOD-approved data, inundation maps previously approved by the OES will be used by the Company to facilitate compliance with specified statutory real estate transfer disclosure requirements. These include inundation maps for federally owned dams over which DSOD has no jurisdictional authority and for which inundation maps are not available from DSOD. These dams include, among others, Folsom Dam, Isabella Dam, Hansen Dam, Prado Dam, and Seven Oaks Reservoir (owned by the U.S. Army Corps of Engineers) as well as Monticello Dam, New Melones Dam, and Shasta Dam (owned by the U.S. Bureau of Reclamation). The Company may also use OES-approved maps should the mapped inundation area for a given facility be greater than that depicted on a DSOD-approved map.

PUBLIC RECORD: (1) Official dam inundation maps made publicly available prior to June 27, 2017 by the State of California Office of Emergency Services ("OES") pursuant to California Government Code §8589.5; (2) Official inundation boundary digital data made publicly available since June 28, 2017 by the State of California Department of Water Resources (DWR) pursuant to California Water Code §6161. DWR states that its inundation boundary data typically includes flooding depths greater than one foot but some information may be redacted for security purposes.

VERY HIGH FIRE HAZARD SEVERITY ZONE (VHFHSZ)

DISCUSSION: VHFHSZs can be defined by the California Department of Forestry and Fire Protection ("Calfire") as well as by local fire authorities within "Local Responsibility Areas" where fire suppression is the responsibility of a local fire department. Properties located within VHFHS Zones may have a higher risk for fire damage and, therefore, may be subject to (i) additional construction requirements such as a "Class A" roof for new construction or replacement of existing roofs; and (ii) additional maintenance responsibilities such as adequate vegetation clearance near the structure, spark screens on chimneys and stovepipes, leaf removal from roofs, and other basic fire-safety practices. Contact the local fire department for a complete list of requirements and exceptions.

PUBLIC RECORD: Maps issued by Calfire pursuant to California Government Code § 51178 recommending VHFHSZs to be adopted by the local jurisdiction within its Local Responsibility Area, or VHFHSZs adopted by the local jurisdiction within the statutory 120-day period defined in California Government Code § 51179.

WILDLAND FIRE AREA (STATE RESPONSIBILITY AREA)

DISCUSSION: The State Board of Forestry classifies all lands within the State of California based on various factors such as ground cover, beneficial use of water from watersheds, probable damage from erosion, and fire risks. Fire prevention and suppression in all areas which are not within a Wildland - State Responsibility Area ("WSRA") is primarily the responsibility of the local or federal agencies, as applicable.

For property located within a WSRA, please note that (1) there may be substantial forest fire risks and hazards; (2) except for property located within a county which has assumed responsibility for prevention and suppression of all fires, it is NOT the state's responsibility to provide fire protection services to any building or structure located within a WSRA unless the Department has entered into a cooperative agreement with a local agency; and (3) the property owner may be is subject to (i) additional construction requirements such as a "Class A" roof for new construction or replacement of existing roofs; and (ii) additional maintenance responsibilities such as adequate vegetation clearance near the structure, spark screens on chimneys and stovepipes, leaf removal from roofs, and other basic fire-safety practices.

The existence of local agreements for fire service is not available in the Public Record and, therefore, is not included in this disclosure. For very isolated properties with no local fire services or only seasonal fire services there may be significant fire risk. If the Property is located within a WSRA, please contact the local fire department for more detailed information.

PUBLIC RECORD: Official maps issued by the California Department of Forestry and Fire Protection ("Calfire") pursuant to California Public Resources Code § 4125.

SRA Fire Prevention Benefit Fee Advisory

In 2011, the California Legislature and Governor enacted a "Fire Prevention Fee" on habitable structures in the State's wildland fire responsibility area. The yearly fee, levied on property owners, paid for various activities to prevent and suppress wildfires in the SRA, and was most recently at the rate of $152.33 per habitable structure on the property.

Effective July 1, 2017, as authorized by Assembly Bill 398 and signed by the Governor, that fire prevention fee is suspended until 2031.

For more information, please refer to "Part 6. State Responsibility Area Fire Prevention Fee" in the JCP-LGS Property Tax Report.

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EARTHQUAKE FAULT ZONE

DISCUSSION: Earthquake Fault Zones are delineated and adopted by California as part of the Alquist-Priolo Earthquake Fault Zone Act of 1972. Property in an Earthquake Fault Zone ("EF Zone") does not necessarily have a fault trace existing on the site. EF Zones are areas or bands delineated on both sides of known active earthquake faults. EF Zones vary in width but average one-quarter (1/4) mile in width with the "typical" zone boundaries set back approximately 660 feet on either side of the fault trace. The potential for "fault rupture" damage (ground cracking along the fault trace) is relatively high only if a structure is located directly on a fault trace. If a structure is not on a fault trace, shaking will be the primary effect of an earthquake. During a major earthquake, shaking will be strong in the vicinity of the fault and may be strong at some distance from the fault depending on soil and bedrock conditions. It is generally accepted that properly constructed wood-frame houses are resistant to shaking damage.

PUBLIC RECORD: Official earthquake fault zone or special study zone maps approved by the State Geologist and issued by the California Department of Conservation, California Geological Survey pursuant to California Public Resources Code §2622.

SEISMIC HAZARD MAPPING ACT ZONE

DISCUSSION: Official Seismic Hazard Zone ("SH Zone") maps delineate Areas of Potential Liquefaction and Areas of Earthquake-Induced Landsliding. A property that lies partially or entirely within a designated SH Zone may be subject to requirements for site-specific geologic studies and mitigation before any new or additional construction may take place.

Earthquake-Induced Landslide Hazard Zones are areas where the potential for earthquake-induced landslides is relatively high. Areas most susceptible to these landslides are steep slopes in poorly cemented or highly fractured rocks, areas underlain by loose, weak soils, and areas on or adjacent to existing landslide deposits. The CGS cautions these maps do not capture all potential earthquake-induced landslide hazards and that earthquake-induced ground failures are not addressed by these maps. Furthermore, no effort has been made to map potential run-out areas of triggered landslides. It is possible that such run-out areas may extend beyond the zone boundaries. An earthquake capable of causing liquefaction or triggering a landslide may not uniformly affect all areas within a SH Zone.

Liquefaction Hazard Zones are areas where there is a potential for, or an historic occurrence of liquefaction. Liquefaction is a soil phenomenon that can occur when loose, water saturated granular sediment within 40 feet of the ground surface, are shaken in a significant earthquake. The soil temporarily becomes liquid-like and structures may settle unevenly. The Public Record is intended to identify areas with a relatively high potential for liquefaction but not to predict the amount or direction of liquefaction-related ground displacement, nor the amount of damage caused by liquefaction. The many factors that control ground failure resulting from liquefaction must be evaluated on a site specific basis.

PUBLIC RECORD: Official seismic hazard maps or digital data thereof approved by the State Geologist and issued by the California Department of Conservation, California Geological Survey pursuant to California Public Resources Code §2696.

STATUTORY NATURAL HAZARD DISCLOSURE REPORTING STANDARD: "IN" shall be reported if any portion of the Property is located within any of the above zones as delineated in the Public Record. "NOT IN" shall be reported if no portion of the Property is located within any of the above zones as delineated in the Public Record. Map Not Available shall be reported in areas not yet evaluated by the governing agency according to the Public Record. Please note that "MAP NOT AVAILABLE" will be applicable to most portions of the state. Official Seismic Hazard Zone ("SH Zone") maps delineate Areas of Potential Liquefaction and Areas of Earthquake-Induced Landsliding.

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Part 2. County and City Defined Natural Hazard Zones

HAZARD MAPS IN THE LOCAL GENERAL PLAN

General Plan regulates property development. There are currently over 530 incorporated cities and counties in California. The state Government Code (Sections 65000 et seq.) requires each of those jurisdictions to adopt a comprehensive, long-term "General Plan" for its physical development. That General Plan regulates land uses within the local jurisdiction in order to protect the public from hazards in the environment and conserve local natural resources. The General Plan is the official city or county policy regarding the location of housing, business, industry, roads, parks, and other land uses.

Municipal hazard zones can affect the cost of ownership. Each county and city adopts its own distinct General Plan according to that jurisdiction's unique vegetation, landscape, terrain, and other geographic and geologic conditions. The "Safety Element" (or Seismic Safety Element) of that General Plan identifies the constraints of earthquake fault, landslide, flood, fire and other natural hazards on local land use, and it delineates hazard zones within which private property improvements may be regulated through the building-permit approval process, which can affect the future cost of ownership. Those locally regulated hazard zones are in addition to the federal and state defined hazard zones associated with statutory disclosures in the preceding section.

City and/or County natural hazard zones explained below. Unless otherwise specified, only those officially adopted Safety Element or Seismic Safety Element maps (or digital data thereof) which are publicly available, are of a scale, resolution, and quality that readily enable parcel-specific hazard determinations, and are consistent in character with those statutory federal or state disclosures will be considered for eligible for use as the basis for county- or city-level disclosures set forth in this Report. Please also note:

- If an officially adopted Safety Element or Seismic Safety Element map relies on data which is redundant of that used for state-level disclosures, this Report will indicate so and advise Report recipients to refer to the state-level hazard discussion section for more information.
- If an officially adopted Safety Element or Seismic Safety Element cites underlying maps created by another agency, those maps may be regarded as incorporated by reference and may be used as the basis for parcel-specific determinations if those maps meet the criteria set forth in this section.
- Because county- and city-level maps are developed independently and do not necessarily define or delineate a given hazard the same way, the boundaries for the "same" hazard may be different.

If one or more maps contained in the Safety Element and/or Seismic Safety Element of an officially adopted General Plan are used as the basis for local disclosure, those maps will appear under the "Public Record(s) Searched" for that county or city.

REPORTING STANDARDS

A good faith effort has been made to disclose all hazard features on pertinent Safety Element and Seismic Safety Element maps with well-defined boundaries; however, those hazards with boundaries that are not delineated will be deemed not suitable for parcel-specific hazard determinations. Some map features, such as lines drawn to represent the location of a fault trace, may be buffered to create a zone to facilitate disclosure. Those map features which can not be readily distinguished from those representing hazards may be included to prevent an omission of a hazard feature. If the width of a hazard zone boundary is in question, "IN" will be reported if that boundary impacts any portion of a property. Further explanations concerning specific map features peculiar to a given county or city will appear under the "Reporting Standards" for that jurisdiction.

PUBLIC RECORDS VS. ON-SITE EVALUATIONS

Mapped hazard zones represent evaluations of generalized hazard information. Any specific site within a mapped zone could be at less or more relative risk than is indicated by the zone designation. A site-specific evaluation conducted by a geotechnical consultant or other qualified professional may provide more detailed and definitive information about the Property and any conditions which may or do affect it.

PROPERTY USE AND PERMITTING

No maps beyond those identified as "Public Record(s)" have been consulted for the purpose of these local disclosures. These disclosures are intended solely to make Report recipient(s) aware of the presence of mapped hazards. For this reason -- and because local authorities may use on these or additional maps or data differently to determine property-specific land use and permitting approvals -- Report recipients are advised to contact the appropriate local agency, usually Community Development, Planning, and/or Building, prior to the transaction to ascertain if these or any other conditions or related regulations may impact the Property use or improvement.

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RIVERSIDE COUNTY GEOLOGIC DISCUSSION

PUBLIC RECORD(S) SEARCHED: The following Public Records, contained in the Safety Element of the General Plan as adopted by the County Board of Supervisors in 2003 and updated in December 2015, are utilized for those county-level disclosures below: County-produced digital data of "Earthquake Fault Study Zones" and "Generalized Liquefaction".

FAULT

Because there are numerous active faults throughout Riverside County, the Safety Element states that "all proposed structures for human occupancy should be required to investigate the potential for and setback from ground rupture". While the County regulates most development projects (including all land divisions and most structures for human occupancy) within earthquake fault zones, the Safety Element notes that the following projects are exempt: Single family, wood-frame and steel-frame dwellings that are one or two stories, are not part of a development of four units or more, and are not located within 50 feet of a fault. The Safety Element also notes that a geologic investigation must show that proposed buildings will not be built across active faults before a project can be permitted within an A-P Earthquake Fault Zone, County Fault Zone, or within 150 feet of any other potentially active or active fault mapped in published United States Geological Survey or California Geological Survey reports. A licensed geologist must prepare a site-specific evaluation and written report. "If an active fault is found, a structure for human occupancy must be set back 50 feet from the fault, unless adequate evidence, as determined and accepted by the County Engineering Geologist, is presented to support a different setback.".

Reporting Standards: "IN" shall be reported if any portion of the Property is within a fault zone as delineated in the Public Record. "NOT IN" shall be reported if no portion of the Property is located within a fault zone as delineated in the Public Record. Both vector and .pdf versions of the Public Record identify "Alquist-Priolo Zones" and "Existing County Zones".

LIQUEFACTION SUSCEPTIBILITY

According to the Safety Element, liquefaction occurs primarily in saturated, loose, fine- to medium grained soils in areas where the groundwater table is within approximately 50 feet of the surface. Shaking causes the soils to lose strength and behave as liquid. Excess water pressure is vented upward through fissures and soil cracks, and a water-soil slurry bubbles onto the ground surface. Liquefaction-related effects include loss of bearing strength, ground oscillations, lateral spreading, and flow failures or slumping. Site-specific geotechnical studies are the only practical and reliable way of determining the specific liquefaction potential of a site; however, a determination of general risk potential can be provided based on soil type and depth of groundwater. Please contact the County to determine if there is a site-specific requirement for a geological and geologic investigation.

Reporting Standards: "IN" shall be reported as will the more/most severe level of Generalized Liquefaction as designated in the Public Record (which, for the purposes of this Report, have been grouped as "Very High or High", "Moderate", and "Low or Very Low") affecting any portion of the Property. "NOT IN" shall be reported if no portion of the Property is located within an area of Generalized Liquefaction as designated in the Public Record.

OTHER HAZARDS

NOTE: Not all maps referenced in the Safety Element have been made publicly available in a format that enables reliable parcel-specific determinations. These include "Earthquake-Induced Slope Instability", "Regions Underlain by Steep Slopes", "Engineering Geologic Materials", "Documented Subsidence Areas", "Wind Erosion Susceptibility Areas", "Dam Failure Inundation Areas", and "Wildfire Susceptibility". These will be evaluated for inclusion into future reports should such data be made publicly available by Riverside County. For questions regarding geotechnical development regulations pertaining to these additional hazards, please contact the County of Riverside Planning Department.

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CITY-LEVEL GEOLOGIC AND SEISMIC ZONES DISCUSSION

This Report reviews the officially adopted geologic hazard maps in the Safety Element that each city in California is required to include in its General Plan. The city the subject Property is located in has either not officially adopted hazard zonation maps in its General Plan at an appropriate scale to delineate where hazards may exist on a single parcel basis or will not make such maps available outside city offices. However, all Parties should be California is "earthquake country." Faults that may exist in this city or in neighboring regions could cause earthquake shaking or other fault related-phenomena on the Property. Other geologic hazards such as, but not limited to liquefaction (a type of soil settling that can occur when loose, water-saturated sediments are shaken significantly in an earthquake) may occur in certain valley floor areas and landslides are a possibility in any hillside area. Such potential natural hazards may exist and be delineated on other sources used by the city in its Planning, Engineering, or Building Departments. Such potential sources are not reviewed in this Report.

END OF LOCAL AREA DISCLOSURES AND DISCUSSIONS SECTION

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Part 3. Additional Property Specific Disclosures

FORMER MILITARY ORDNANCE SITE DISCLOSURE

DISCUSSION: Former Military Ordnance (FUD) sites can include sites with common industrial waste (such as fuels), ordnance or other warfare materiel, unsafe structures to be demolished, or debris for removal. California Civil Code Section 1102 requires disclosure of those sites containing unexploded ordnance. "Military ordnance" is any kind of munitions, explosive device/material or chemical agent used in military weapons. Unexploded ordnance are munitions that did not detonate. NOTE: **MOST** FUD sites do not contain unexploded ordnance. Only those FUD sites that the U.S. Army Corps of Engineers (USACE) has identified to contain Military Ordnance or have mitigation projects planned for them are disclosed in this Report. Additional sites may be added as military installations are released under the Federal Base Realignment and Closure (BRAC) Act. Active military sites are NOT included on the FUD site list.

PUBLIC RECORD: Data contained in Inventory Project Reports, Archives Search Reports, and related materials produced for, and made publicly available in conjunction with, the Defense Environmental Restoration Program for Formerly Used Defense Sites by the U.S. Army Corps of Engineers. Sites for which no map has been made publicly available shall not be disclosed.

REPORTING STANDARD: If one or more facility identified in the Public Record is situated within a one (1) mile radius of the Property, "**WITHIN**" shall be reported. The name of that facility or facilities shall also be reported.

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AIRPORT INFLUENCE AREA DISCLOSURE

DISCUSSION:
If any portion of the Property is in either an officially designated "airport influence area" ("AIA") or a two mile radius of a qualifying facility for which an AIA has not yet been officially designated, the following Notice is required:

NOTICE OF AIRPORT IN VICINITY
If this property is presently located in the vicinity of an airport, as identified in the determination section of this Report, within what is known as an airport influence area…the property may be subject to some of the annoyances or inconveniences associated with proximity to airport operations (for example: noise, vibration, or odors). Individual sensitivities to those annoyances can vary from person to person. In that case, you may wish to consider what airport annoyances, if any, are associated with the property before you complete your purchase and determine whether they are acceptable (California Civil Code, Section 1103.4).

Certain airports are not disclosed in this Report. JCP-LGS has made a good faith effort to identify the airports covered under Section 1102.6a. Sources consulted include official land use maps and/or digital data made available by a governing Airport Land Use Commission (ALUC) or other designated government body. Most facilities for which an Airport Influence Area has been designated are included on the "California Airports List" maintained by the California Department of Transportation's Division of Aeronautics. Not disclosed in this Report are public use airports that are not in the "California Airports List", airports that are physically located outside California, heliports and seaplane bases that do not have regularly scheduled commercial service, and private airports or military air facilities unless specifically identified in the "California Airports List". **If the seller has actual knowledge of an airport in the vicinity of the subject property that is not disclosed in this Report, and that is material to the transaction, the seller should disclose this actual knowledge in writing to the buyer.**

Most facilities for which an Airport Influence Area has been designated are included on the "California Airports List" maintained by the California Department of Transportation's Division of Aeronautics. The inclusion of military and private airports varies by County, and heliports and seaplane bases are not included, therefore, airports in these categories may or may not be included in this disclosure.

NOTE: Proximity to an airport does not necessarily mean that the property is exposed to significant aviation noise levels. Alternatively, there may be properties exposed to aviation noise that are greater than two miles from an airport. Factors that affect the level of aviation noise include weather, aircraft type and size, frequency of aircraft operations, airport layout, flight patterns or nighttime operations. Buyer should be aware that aviation noise levels can vary seasonally or change if airport usage changes.

PUBLIC RECORD: Based on officially adopted land use maps and/or digital data made publicly available by the governing ALUC or other designated government body. If the ALUC or other designated government body has not made publicly available a current officially adopted airport influence area map, then California law states that "a written disclosure of an airport within two (2) statute miles shall be deemed to satisfy any city or county requirements for the disclosure of airports in connection with transfers of real property."

REPORTING STANDARD: "**IN**" shall be reported along with the facility name(s) and the "Notice of Airport in Vicinity" if any portion of the Property is situated within either (a) an Airport Influence Area as designated on officially adopted maps or digital data or (b) a two (2) mile radius of a qualifying facility for which an official Airport Influence Area map or digital data has not been made publicly available by the ALUC or other designated governing body. "**NOT IN**" shall be reported if no portion of the Property is within either area.

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AIRPORT NOISE DISCLOSURE

DISCUSSION: California Civil Code §1102.17 requires the seller(s) of residential real property who has/have actual knowledge that the property in the transaction is affected by airport use must give written notice of that knowledge, as soon as practicable, before transfer of title.

Under the Federal Aviation Administration's *Airport Noise Compatibility Planning Program Part 150*, certain 65 decibel (dB) Community Noise Equivalent Level (CNEL) contour maps have been produced for some airports. Not all airports have produced noise exposure maps. A property may be near or at some distance from an airport and not be within a delineated noise exposure area, but still experience aviation noise. Unless 65dB CNEL contour maps are published, helipads and military sites are not included in this section of the Report.

The *Airport Noise Compatibility Planning Program* is voluntary and not all airports have elected to participate. Furthermore, not all property in the vicinity of an airport is exposed to 65dB CNEL or greater average aviation noise levels. Conversely a property may be at some distance from an airport and still experience aviation noise. Buyer should be aware that aviation noise levels can vary seasonally or change if airport usage changes after a map is published or after the Report Date. JCP-LGS uses the most seasonally conservative noise exposures provided.

Federal funding may be available to help airports implement noise reduction programs. Such programs vary and may include purchasing properties, rezoning, and insulating homes for sound within 65dB areas delineated on CNEL maps. Airport owners have also cooperated by imposing airport use restrictions that include curfews, modifying flight paths, and aircraft limitations.

PUBLIC RECORD: Certain 65 decibel (dB) Community Noise Equivalent Level (CNEL) contour maps produced under the Federal Aviation Administration's *Airport Noise Compatibility Planning Program Part 150*.

REPORTING STANDARD: "**IN**" shall be reported if any portion of the Property is situated within a 65 decibel Community Noise Equivalent Level contour identified in the Public Record. "**NOT IN**" shall be reported if no portion of the Property is situated within a 65 decibel Community Noise Equivalent Level contour identified in the Public Record.

The Natural Hazard Disclosure Report For RIVERSIDE County

Property Address: VACANT LAND
MORENO VALLEY, RIVERSIDE COUNTY, CA 92555
("Property")

APN: 312-020-025
Report Date: 10/01/2019
Report Number: 2555340

Part 4. General Advisories

METHAMPHETAMINE CONTAMINATED PROPERTY DISCLOSURE ADVISORY

DISCUSSION: According to the "Methamphetamine Contaminated Property Cleanup Act of 2005" a property owner must disclose in writing to a prospective buyer if local health officials have issued an order prohibiting the use or occupancy of a property contaminated by meth lab activity. The owner must also give a copy of the pending order to the buyer to acknowledge receipt in writing. Failure to comply with these requirements may subject an owner to, among other things, a civil penalty up to $5,000. Aside from disclosure requirements, this new law also sets forth procedures for local authorities to deal with meth-contaminated properties, including the filing of a lien against a property until the owner cleans up the contamination or pays for the cleanup costs.

The Natural Hazard Disclosure Report For RIVERSIDE County

Property Address: VACANT LAND
MORENO VALLEY, RIVERSIDE COUNTY, CA 92555
("Property")

APN: 312-020-025
Report Date: 10/01/2019
Report Number: 2555340

MOLD ADVISORY

DISCUSSION: The Buyer is hereby advised that naturally occurring molds may exist both inside and outside of any home and may not be visible to casual inspection. Persons exposed to extensive mold levels can become sensitized and develop allergies to the mold or other health problems. Extensive mold growth can damage a structure and its contents. All prospective purchasers of residential and commercial property are advised to thoroughly inspect the Property for mold. Be sure to inspect the Property inside and out for sources of excess moisture, current water leaks and evidence of past water damage.

As part of a buyer's physical inspection of the condition of a property, the buyer should consider engaging an appropriate and qualified professional to inspect and test for the presence of harmful molds and to advise the buyer of any potential risk and options available. This advisory is not a disclosure of whether harmful mold conditions exist at a property or not. No testing or inspections of any kind have been performed by The Company. Any use of this form is acknowledgement and acceptance that The Company does not disclose, warrant or indemnify mold conditions at a property in any way and is not responsible in any way for mold conditions that may exist. Information is available from the California Department of Health Services Indoor Air Quality Section fact sheet entitled, "Mold in My Home: What Do I Do?" The fact sheet is available at https://archive.cdph.ca.gov/programs/IAQ/Pages/IndoorMold.aspx or by calling (510) 620-3620.

The Toxic Mold Protection Act of 2001 requires that information be developed regarding the potential issues surrounding naturally occurring molds within a home. Information was written by environmental authorities for inclusion in the *Residential Environmental Hazards: A Guide for Homeowners, Buyers, Landlords and Tenants* booklet developed by the California Environmental Protection Agency and the Department of Health Services. It is found in Chapter VII of that booklet, and includes references to sources for additional information.

For local assistance, contact your county or city Department of Health, Housing, or Environmental Health.

The Natural Hazard Disclosure Report For RIVERSIDE County

Property Address: VACANT LAND
MORENO VALLEY, RIVERSIDE COUNTY, CA 92555
("Property")

APN: 312-020-025
Report Date: 10/01/2019
Report Number: 2555340

RADON ADVISORY

DISCUSSION: For its Radon Advisory, JCP-LGS uses the updated assessment of radon exposure published in 1999 by the Lawrence Berkeley National Laboratory (LBNL) and Columbia University, under support from the U.S. Environmental Protection Agency (EPA), the National Science Foundation, and the US Department of Energy (published online at http://www2.lbl.gov/Science-Articles/Archive/radon-risk-website.html). Based on this recent assessment, JCP-LGS radon advisory is as follows:

All of California's 58 counties have a predicted median annual-average living-area concentration of radon below 2.0 pCi/L (picocuries per liter of indoor air) -- which is well below the EPA's guideline level of 4 pCi/L and equivalent to the lowest hazard zone (Zone 3) on the 1993 EPA Map of Radon Zones.

The "median concentration" means that half of the homes in a county are expected to be below this value and half to be above it. All houses contain some radon, and a few houses will contain much more than the median concentration. **The only way to accurately assess long-term exposure to radon in a specific house is through long-term testing (sampling the indoor air for a year or more). The EPA recommends that all homes be tested for radon.** Columbia University's "Radon Project" website offers help to homeowners in assessing the cost vs. benefit of testing a specific house for radon or modifying it for radon reduction (see http://www.stat.columbia.edu/~radon/).

NOTE: JCP-LGS does not use the EPA's 1993 map for advisory purposes because that map shows "short-term" radon exposure averaged by county. It was based on "screening measurements" that were intentionally designed to sample the worst-case conditions for indoor air in US homes--using spot checks (sampling for just a few days), in the poorest air quality (with sealed doors and windows), at the worst time of the year (winter), in the worst part of the house (the basement, if one was available). These short-term, winter, basement measurements are both biased and variable compared to long-term radon concentrations (averaged over a year) in the living area of a house. Long-term concentrations are a more accurate way to judge the long-term health risk from radon. For the above reasons, the EPA expressly disclaims the use of its 1993 map for determining whether any house should be tested for radon, and authorizes no other use of its map for property-specific purposes. For additional information about EPA guidelines and radon testing, see "Chapter VII--Radon", in the California Department of Real Estate's *Residential Environmental Hazards: A Guide for Homeowners, Homebuyers, Landlords and Tenants*.

ENDANGERED SPECIES ACT ADVISORY

DISCUSSION: The Federal Endangered Species Act of 1973 ("ESA"), as amended, requires that plant and animal species identified and classified ("listed") by the Federal government as "threatened" or "endangered" be protected under U.S. law. Areas of habitat considered essential to the conservation of a listed species may be designated as "critical habitat" and may require special management considerations or protection. All threatened and endangered species -- even if critical habitat is not designated for them -- are equally afforded the full range of protections available under the ESA.

In California alone, over 300 species of plants and animals have been designated under the ESA as threatened or endangered, and over 80 species have critical habitats designated for them. Most California counties are host to a dozen or more protected species and, in many cases, 10 or more species have designated critical habitats within a county.

ADVISORY: An awareness of threatened and endangered species and/or critical habitats is not reasonably expected to be within the actual knowledge of a seller.

No federal or state law or regulation requires a seller or seller's agent to disclose threatened or endangered species or critical habitats, or to otherwise investigate their possible existence on real property. Therefore, Buyer is advised that, prior to purchasing a vacant land parcel or other real property, Buyer should consider investigating the existence of threatened or endangered species, or designated critical habitats, on or in the vicinity of the Property which could affect the use of the Property or the success of any proposed (re)development.

FOR MORE INFORMATION: Complete and current information about the threatened and endangered species in California that are Federally listed in each county -- including all critical habitats designated there -- is available on the website of the U.S. Fish & Wildlife Service, the Federal authority which has enforcement responsibility for the ESA.

U.S. Fish & Wildlife Service Endangered Species Database (TESS)
http://ecos.fws.gov/tess_public/

The Natural Hazard Disclosure Report For RIVERSIDE County

Property Address: VACANT LAND
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("Property")

APN: 312-020-025
Report Date: 10/01/2019
Report Number: 2555340

ABANDONED MINES ADVISORY

DISCUSSION: According to the California Department of Conservation, Office of Mine Reclamation, since the Gold Rush of 1849, tens of thousands of mines have been dug in California. Many were abandoned when they became unproductive or unprofitable. The result is that California's landscape contains many thousands of abandoned mines, which can pose health, safety, or environmental hazards on and around the mine property. Mines can present serious physical safety hazards, such as open shafts or adits (mine tunnel), and they may create the potential to contaminate surface water, groundwater, or air quality. Some abandoned mines are such massive problems as to earn a spot on the Federal Superfund environmental hazard list.

No California law requires the disclosure of abandoned mines in a real estate transaction, unless the existence of an abandoned mine is within the actual knowledge of the Seller and is deemed to be a fact material to the transaction.

The Office of Mine Reclamation (OMR) and the U.S. Geological Survey maintain a database of abandoned mines -- however, it is known to be incomplete and based on maps that are often decades out of date. Many mines are not mapped because they are on private land. The OMR warns that, ***"Many old and abandoned mines are not recorded in electronic databases, and when they are, the information may not be detailed enough to accurately define, differentiate or locate the mine feature, such as a potentially hazardous vertical shaft or horizontal adit or mine waste." (See reference below.)***

Accordingly, this Report does not contain an abandoned mines disclosure from any government database or map or any other source, in order to protect the seller from liability for non-disclosure of unrecorded abandoned mines.

Parties concerned about the possible existence or impact of abandoned mines in the vicinity of the Property are advised to retain a State-licensed geotechnical consultant to study the site and issue a report. Other sources of information include, but are not limited to, the State Office of Mine Reclamation at (916) 323-9198 (website: http://www.conservation.ca.gov/OMR), and the Engineering, Planning or Building Departments in the subject City and County.

FOR MORE INFORMATION: For more information visit the State Office of Mine Reclamation's website at:
http://www.conservation.ca.gov/omr/abandoned_mine_lands/Pages/index.aspx

OIL & GAS WELL ADVISORY

California is currently ranked fourth in the nation among oil producing states. Surface oil production is concentrated mainly in the Los Angeles Basin and Kern County, and in districts elsewhere in the state. In recent decades, real estate development has rapidly encroached into areas where oil production has occurred. Because the state's oil production has been in decline since the 1980's, thousands of oil and gas wells have been shut down or abandoned, and many of those wells are in areas where residential neighborhoods now exist.

According to the California Department of Conservation ("DOC"), to date, about 230,000 oil and gas wells have been drilled in California and around 105,000 are still in use. The majority of remaining wells have been sealed ("capped") under the supervision of the DOC's Division of Oil, Gas and Geothermal Resources. A smaller number have been abandoned and have no known responsible operator -- these are called "orphan" wells. The state has a special fund that pays the cost of safely capping orphan wells, however, that program is limited in its scope and progress.

Buyer should be aware that, while the DOC database is the most comprehensive source available for California oil and gas well information, the DOC makes no warranties that the database is absolutely complete, or that reported well locations are known with absolute accuracy.

For More Information
For a search of the state's databases of oil and gas wells and sites of known environmental contamination on or near the Property, please obtain the JCP-LGS Residential Environmental Report. For general information, visit the California Department of Conservation, Division of Oil, Gas, and Geothermal Resources at http://www.consrv.ca.gov/dog.

END OF NATURAL HAZARD DISCLOSURE REPORT SECTION
See Terms and Conditions at end of this Report.

Property Address: VACANT LAND
MORENO VALLEY, RIVERSIDE COUNTY, CA 92555
("Property")

APN: 312-020-025
Report Date: 10/01/2019
Report Number: 2555340

TERMS and CONDITIONS

ACCEPTANCE OR USE OF THIS REPORT CONSTITUTES APPROVAL AND ACCEPTANCE OF THE TERMS, CONDITIONS, AND LIMITATIONS STATED HEREIN.

The Report ("Report") is subject to each of the following Terms and Conditions. Each Recipient (defined below) of the Report agrees that the Report is subject to the following Terms and Conditions, and each Recipient agrees to be bound by such. Use of this Report by any Recipient constitutes acceptance of the Terms and Conditions to the Report. The Terms and Conditions below are incorporated by this reference into the Report. **This Report is not an insurance policy.**

This Report is made for the real property specifically described in the Report (the "Property") and solely for the transaction for which it was originally purchased ("Transaction"). The Property shall not include any property beyond the boundaries of the real property described in the Report. The Property shall not include any structures (whether located on the Property, or not), easements, or any right, title, interest, estate, or easement in any abutting streets, roads, alleys, lanes, ways, or waterways.

IMPORTANT NOTICE: Transferor(s) and transferee(s) shall read the complete Report in its entirety before the close of escrow. A "Signature Page" or "Summary Pages" document may be included in the electronic delivery of this Report. Those documents do not replace the complete Report or remove the need to read the complete Report, and do not remove the requirement to disclose. The Signature Page and Summary Pages documents are subject to the Terms and Conditions of the complete Report.

A. **No Third Party Reliance on This Report.** Only the transferor(s) and transferee(s), and their agents/brokers, if any, involved in the Transaction (collectively, the "Recipients") may use and rely on this Report and only after they have paid in full for the Report. While disclosures made on the Natural Hazard Disclosure Statement in the Report may indicate certain risks to the Property, the disclosures are only "…between the transferor, the transferor's agents, and the transferee, and shall not be used by any other party, including, but not limited to, insurance companies, lenders, or governmental agencies, for any purpose." Cal. Civil Code section 1103.2, subdivision (g).

B. **Seller and Seller's Agent's Responsibility of Full Disclosure.** Recipients are obligated to make disclosures, and always disclose material facts, that are within their actual knowledge.

C. **Scope of Report.** This Report is limited to determining whether the Property is in those specified natural hazard zones and property tax districts, and in proximity to those specified environmental sites (depending on the report product ordered), as defined in the Report. The Report is not a geologic report or a land survey and no site inspection has been made in producing the Report. JCP-LGS makes no determination, expresses no opinion or view, and assumes no responsibility in this Report concerning the right, entitlement, or ability to develop or improve the Property. JCP-LGS has no information concerning whether the Property can be developed or improved. No determination is made and no opinion is expressed, or intended, by this Report concerning structures or soils on or outside of the Property, including, without limitation, habitability of structures or the Property, suitability of the Property for construction or improvement, potential for soil settlement, drainage, soil subsidence, or other soil or site conditions. The Recipient(s) is advised to consult the local Planning Department to determine whether factors beyond the scope of this Report may limit the transferee(s) ability to use or improve the Property.

   The Report is not a title report, and no determination is made and no opinion is expressed, or intended, by this Report as to title to the Property or liens against the Property, recorded or otherwise, or whether the Property is comprised of legal lots in conformance with the California Subdivision Map Act or local ordinances. The Report is not a property inspection report, and no determination is made and no opinion is expressed, or intended, by this Report concerning architectural, structural, mechanical, engineering, or legal matters, or the marketability or value of the Property. JCP-LGS has not conducted any testing or physical or visual examination or inspection of the Property, nor is this Report a substitute for any such testing, physical or visual examination, or inspection.

D. **Tax and Environmental Disclosures (if included in Report).** No determination is made and no opinion is expressed, or intended, by the Report concerning the existence of property tax liabilities, or the existence of hazardous or toxic materials or substances, or any other defects, on, under, or in proximity to the Property, unless specifically described in the Report. JCP-LGS's total liability for any error or omission in its disclosures relating to taxes and/or environmental matters shall be limited to actual proven damages not to exceed the price paid for this Report.

E. **JCP-LGS Database Updates.** Each database used in this Report is updated by the responsible agency at various intervals. Updates for a database are determined by the responsible agency and may be made at any time and without notice. JCP-LGS maintains an update schedule and makes reasonable efforts to use updated information. For these reasons, JCP-LGS reports information as of the date when the database was last updated by JCP-LGS. That date is specified as the "Database Date" for each database.

F. **Statutory and Additional Disclosures, Advisories, and Local Addenda (if included in Report).** No determination is made and no opinion is expressed, or intended, by this Report concerning the need to purchase earthquake or flood insurance for the Property. In preparing the Report, JCP-LGS accurately reported on information contained in Government Records. JCP-LGS reviewed and relied upon those Government Records specifically identified and described in the Report. JCP-LGS has not reviewed or relied upon any Government Records that are not specifically identified in the Report. JCP-LGS also has not reviewed any plat maps, survey maps, surveyor maps, assessor maps, assessor parcel maps, developer maps, or engineering maps, whether or not such maps have been recorded. No determination is made and no opinion is expressed, or intended, by the Report concerning any matters identified in Government Records that were not reviewed by JCP-LGS. Local Addenda, where applicable, are included "AS IS" as an accommodation to the local real estate board that provided the content; JCP-LGS assumes no responsibility for the accuracy of any information included in the Local Addenda.

G. **FEMA Flood Determination Certificate (if accompanying the Report).** No determination is made and no opinion is expressed, or intended, by the Report concerning the requirement for or cost of flood insurance on the Property. Recipient(s) understands that a lender may require flood insurance to secure its loan collateral independent of whether FEMA may require flood insurance under the National Flood Insurance Program on a federally backed mortgage. The FEMA Flood Determination Certificate ("Flood Certificate"), which may accompany the Report, is produced by a third-party expert certified by FEMA to provide Flood Certificates. JCP-LGS assumes no liability for errors in that third-party flood determination.

H. **Changes to Government Record after Report Date.** This Report is issued as of the Report Date identified in the Report. JCP-LGS shall have no obligation to advise any Recipient of any information learned or obtained after the Report Date even if such information would modify or otherwise affect the Report. Subsequent to JCP-LGS acquisition of Government Records, changes may be made to said Government Records and JCP-LGS is not responsible for advising the Recipients of any changes. JCP-LGS will update this Report upon request and at no charge during the transaction process for which this Report was issued, but not to exceed one year from the date of the Report. Likewise, JCP-LGS is not liable for any impact on the Property that any change to the Government Records may have.

Terms and Conditions

Property Address: VACANT LAND
MORENO VALLEY, RIVERSIDE COUNTY, CA 92555
("Property")

APN: 312-020-025
Report Date: 10/01/2019
Report Number: 2555340

I. **Government Record Sources.**JCP-LGS relies upon the Government Records specifically identified in the Report without conducting an independent investigation of their accuracy. JCP-LGS assumes no responsibility for the accuracy of the Government Records identified in the Report. JCP-LGS makes no warranty or representation of any kind, express or implied, with respect to the Report. JCP-LGS expressly disclaims and excludes any and all other express and implied warranties, including, without limitation, warranties of merchantability or fitness for a particular purpose. The JCP-LGS Report is "AS IS".

J. **Limitation of JCP-LGS's Liability**

1. JCP-LGS is not responsible for:
   - Any inaccuracies or incompleteness of the information in the Public Records.
   - Inaccurate address information provided for the Property.
   - Any other information not contained in the Public Records as of the Report Date.
   - Any information which would be disclosed by a physical inspection of the Property.
   - Any information known by one of the Parties.
   - The health or risk to humans or animals that may be associated with any of the disclosed hazards.
   - The costs of investigating or remediating any of the disclosed hazards.

2. JCP-LGS's total liability and responsibility to all Recipients collectively for any and all liabilities, causes of action, claim or claims, including but not limited to claims for breach of contract or negligence, shall be limited to the price paid for the Report. JCP-LGS expressly disclaims any liability for Recipients indirect, incidental and/or consequential damages, including without limitation lost profits even if such damages are foreseeable. In the event of any error, omission or inaccuracy in the JCP-LGS Report for which JCP-LGS is liable, JCP-LGS shall have no duty to defend or pay any attorneys' fees, costs or expenses incurred by the Recipients, or any of them. The Recipients, and each of them, expressly waive the benefits of California Civil Code Section 2778. JCP-LGS has not conducted an independent investigation of the accuracy of the information provided by the Recipient. JCP-LGS assumes no responsibility for the accuracy of information provided by the Recipient. JCP-LGS shall be subrogated to all rights of any claiming party against anyone including, but not limited to, another party who had actual knowledge of a matter and failed to disclose it to the Recipients in writing prior to the close of escrow.

K. **Reporting of Risk Elements for Condominium Projects, Planned Unit Developments, and Other Properties with Common or Undivided Interests ("Common Interests")** Unless otherwise noted, this report is based solely on the real Property referenced by the Property's Assessor's Parcel Number ("APN"). An APN whose boundary does not include all Common Interests associated with the parcel will generate a report which does not identify the natural hazards relating to the Common Interests that extend beyond the APN parcel boundary. Accordingly, it is imperative that you consult with the property's homeowners association(s) to determine those risks.

L. **Governing Law.** The Report shall be governed by, and construed in accordance with, the laws of the State of California.

M. **Small Claims or Arbitration.** This provision constitutes an agreement to arbitrate disputes on an individual basis. Any party may bring an individual action in small claims court instead of pursuing arbitration. All disputes and claims arising out of or relating to the Report must be resolved by binding arbitration. This Report to arbitrate includes, but is not limited to, all disputes and claims between JCP-LGS, transferor(s) and transferee(s) and claims that arose prior to purchase of the Report. This agreement to arbitrate applies to transferor(s) and transferee(s) successors in interest, assigns, heirs, spouses, and children. As noted above, a party may elect to bring an individual action in small claims court instead of arbitration, so long as the dispute falls within the jurisdictional requirements of small claims court.

Any arbitration must take place on an individual basis, JCP-LGS, transferor(s) and transferee(s) agree that they are waiving any right to a jury trial and to bring or participate in a class, representative, or private attorney general action, and further agree that the arbitrator lacks the power to consider claims for injunctive or declaratory relief, or to grant relief effecting anyone other than the individual claimant.

The arbitration is governed by the Commercial Arbitration Rules and the Supplementary Procedures for Consumer Related Disputes (the "AAA Rules") of the American Arbitration Association ("AAA"), as modified by this Agreement, and will be administered by the AAA. Company will pay all AAA filing, administration and arbitrator fees for any arbitration it initiates and for any arbitration initiated by another party for which the value of the claims is $75,000 or less, unless an arbitrator determines that the claims have been brought in bad faith or for an improper purpose, in which case the payment of AAA fees will be governed by the AAA Rules. **A COPY OF THESE RULES IS AVAILABLE FROM THE AAA'S WEB SITE AT WWW.ADR.ORG OR ON REQUEST FROM THE COMPANY. THE ARBITRATION AWARD MAY INCLUDE ATTORNEY'S FEES IF ALLOWED BY FEDERAL, STATE, OR OTHER APPLICABLE LAW AND MAY BE ENTERED AS A JUDGMENT IN ANY COURT OF PROPER JURISDICTION.**

The arbitration will take place in the same county in which the property covered by the Report is located. The Federal Arbitration Act will govern the interpretation, applicability and enforcement of this arbitration agreement. This arbitration agreement will survive the termination of this Report.

N. **Severability.** If any provision of the Terms and Conditions to this Report is determined to be invalid or unenforceable for any reason, then such provision shall be treated as severed from the remainder of the Terms and Conditions, and shall not affect the validity and enforceability of all of the other provisions of the Terms and Conditions.

O. **Other Agreements.** This Report constitutes the entire, integrated agreement between JCP-LGS and Recipients, and supersedes and replaces all prior statements, representations, negotiations, and agreements.

END OF REPORT

ACORD™ CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY) 1/31/2019

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must have ADDITIONAL INSURED provisions or be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer any rights to the certificate holder in lieu of such endorsement(s).

PRODUCER
BB&T-John Burnham Ins Services
750 B Street Suite 2400
San Diego, CA 92101
619 231-1010

CONTACT NAME: Fiona Gray
PHONE (A/C, No, Ext): 619 231-1010 **FAX (A/C, No):** 6192369134
E-MAIL ADDRESS:

INSURER(S) AFFORDING COVERAGE	NAIC #
INSURER A : Travelers Property Casualty Co of Amer	25674
INSURER B : Charter Oak Fire Insurance Company	25615
INSURER C : Phoenix Insurance Company	25623
INSURER D : Evanston Insurance Company	35378
INSURER E :	
INSURER F :	

INSURED
AES Due Diligence Inc.
4542 Ruffner Street, Suite 330
San Diego, CA 92111

COVERAGES **CERTIFICATE NUMBER:** **REVISION NUMBER:**

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL INSR	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS	
A	X COMMERCIAL GENERAL LIABILITY			6805H959585	01/01/2019	01/01/2020	EACH OCCURRENCE	$1,000,000
B	CLAIMS-MADE X OCCUR			6805H959500	01/01/2019	01/01/2020	DAMAGE TO RENTED PREMISES (Ea occurrence)	$1,000,000
C				6805K582245	01/01/2019	01/01/2020	MED EXP (Any one person)	$10,000
							PERSONAL & ADV INJURY	$1,000,000
	GEN'L AGGREGATE LIMIT APPLIES PER:						GENERAL AGGREGATE	$2,000,000
	POLICY X PRO-JECT LOC						PRODUCTS - COMP/OP AGG	$2,000,000
	OTHER:							$
A	AUTOMOBILE LIABILITY			6805H959585	01/01/2019	01/01/2020	COMBINED SINGLE LIMIT (Ea accident)	$1,000,000
	ANY AUTO						BODILY INJURY (Per person)	$
	OWNED AUTOS ONLY / SCHEDULED AUTOS						BODILY INJURY (Per accident)	$
	X HIRED AUTOS ONLY / X NON-OWNED AUTOS ONLY						PROPERTY DAMAGE (Per accident)	$
								$
A	X UMBRELLA LIAB X OCCUR			CUP7617Y771	01/01/2019	01/01/2020	EACH OCCURRENCE	$5,000,000
	EXCESS LIAB CLAIMS-MADE						AGGREGATE	$5,000,000
	DED X RETENTION $0							$
A	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY Y / N			UB9J126746	01/01/2019	01/01/2020	X PER STATUTE / OTH-ER	
	ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? N / A						E.L. EACH ACCIDENT	$1,000,000
	(Mandatory in NH) If yes, describe under DESCRIPTION OF OPERATIONS below						E.L. DISEASE - EA EMPLOYEE	$1,000,000
							E.L. DISEASE - POLICY LIMIT	$1,000,000
D	Prof. E&O Liab Claims Made Limt Incl Defense			MKLV7PL0003531	02/01/2019	02/01/2020	$2,000,000 Ea. Claim $2,000,000 Aggregate $25,000 Ded/Claim	

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)
Certificate is subject to policy limits, conditions, terms & exclusions.
This certificate has been issued as Evidence of Insurance. Coverage only and is not to be reproduced.

CERTIFICATE HOLDER
AES Due Diligence Inc.
4542 Ruffner Street, Suite 330
San Diego, CA 92111

CANCELLATION
SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.

AUTHORIZED REPRESENTATIVE
John S. Hill

Professional Profile

Robert Presta
LICENSED ARCHITECT
PRESIDENT

EDUCATION

Bachelor of Architecture
Magna Cum Laude, University of Houston

Master of Business Administration
Pepperdine University

REGISTRATION

Licensed Architect
State of California

Licensed Contractor
State of California

CONTINUING EDUCATION

Asbestos and Lead Control Hazard

Conduction Historical Research According ASTM Standards & AAI Standards

PROFESSIONAL SUMMARY

- Robert Presta brings over 25 years experience in architecture and real estate to AES Due Diligence.
- Former Regional Manager for a national architectural and engineering consulting firm.
- Due diligence physical surveys of existing properties to determine quality and condition of the structure, equipment, finishes and fixtures, identify items requiring repair or replacement, ADA compliance status; and estimate associated costs.
- Phase One Environmental Site Assessments following ASTM 1527-05 or client standards, including federal and state database searches, on-site observations and screening tests for hazardous materials.
- Review and analysis of construction documents, schedules and budgets for proposed projects.
- On-site monitoring of new construction, renovation and repair work for conformance to documents, quality of workmanship, acceptability of requisition requests and adequacy of remaining funds.
- Held rank of Captain in the U.S. Marine Corps, flew on board F-4B jet fighter aircraft as Radar Intercept Officer.

Professional Profile

TIMOTHY DAHLSTRAND, P.E., P.G.
Manager of Environmental and Engineering Services

Education
M.S., Civil Engineering
Northwestern University

B.S., Geology
Northwestern University

Registrations
Professional Engineer – Illinois, Wisconsin, Michigan, Indiana, Ohio, Kentucky, Virginia

Professional Geologist – Illinois, Wisconsin

Certified Professional Geologist – National

Professional Activities
American Institute of Professional Geologists

Professional Summary

- In over twenty-five years of work experience, Mr. Dahlstrand has performed environmental assessments throughout the United States and internationally, supervised other professionals, managed local officers and national environmental consulting operations, conducted training classes for professionals and clients, and authored technical papers.
- Environmental Services Manager for a national consulting firm performing approximately 1,500 Phase I Environmental Site Assessments annually in the United States.
- Project Manager for the engineering design of a portion of a municipal solid waste landfill which included leachate collection system and ground water gradient control system design. Developed a comprehensive data management system to allow rapid access to all QA/QC data and facilitate development of report-quality tables.
- Project Manager for the investigation of PCB contaminated sites at utility-owned substations to determine the extent and severity of contamination. Developed specialized subsurface investigation protocols to assure sample integrity, developed remediation alternatives and costs.
- Project Manager for a RCRA Treatment, Storage and Disposal site in northeastern Illinois.
- Subsurface explorations at three (3) abandon manufactured gas plant sites, which contained hazardous waste.

Professional Profile

STEPHEN J. BAKER
HYDROGEOLOGIST

EDUCATION

Bachelor of Art in Geology
Ohio State University

REGISTRATION

Registered Geologist
States of California and Washington

Certified Hydrogeologist
States of California and Washington

CONTINUING EDUCATION

Recycled Water as Drinking Water: Exploring Direct Potable Reuse, April 2017.

Sustainable Groundwater Act and Impacts to the Central Valley of California, February 2017

California Groundwater Law, December 2015

Fractured Rock Conference: State of the Science and Measuring Success in Remediation, September 2004

DNAPLs in Fractured Geologic Media: Monitoring, Remediation & Natural Attenuation, December 1999, National Groundwater Association

Professional Summary

- Founded HydroSolutions of California, Inc. in 1985 as a high tech environmental consulting company that focused on pollution liabilities impacting real estate.
- Developed HydroSolutions of California Baseline programs, copyrighted the Enhanced Pollution Awareness Survey utilized by corporate personnel.
- Contributed to developing the environmental policy for the Federal Home Loan Bank Board that included the tiered environmental phase I and II approach to establishing a base level of due diligence in the lending industry.
- Founding Advisory Board Member of the Cooperative Solution Program, Board of Director for the Institute of Environmental Solutions. Represented environmental consulting for the Program's pilot project assigned by California Governor Wilson during the early 1990s. Worked with four national laboratories, California Department of Toxic Substances, Regional Water Quality Control Board, the land development company and the lender. The property was located in Antioch, California.
- Mr. Baker managed approximately 400 projects of the firm. Potential responsible party investigations, groundwater monitoring programs, site characterization of petroleum, solvents and metals, vapor extraction and bioremediation of soils, well head protection programs, aquifer analysis were some projects performed by Mr. Baker.
- Mr. Baker also supported the company by presenting over three hundred presentations, workshops, classes and seminars for the banking, real estate, academia and land development industries.

Professional Profile

RICHARD DARWICKI
Vice President
LICENSED PROFESSIONAL MECHANICAL ENGINEER

EDUCATION

Santa Ana College
Mechanical Engineering
California State University at Fullerton

REGISTRATION
Licensed Professional Mechanical Engineer
State of California

CONTINUING EDUCATION

Carrier Air Conditioning Design
Trane Air Conditioning Design
Trace/Trane Training Course
Micropas and Calpas User Training
Asbestos and Lead Hazard Control
ASTM Environmental Site Assessments for Commercial Real Estate
Maintaining Asphalt Pavements – University of Wisconsin, Madison
Mold in Commercial Buildings – American Society of Civil Engineers

PROFESSIONAL AFFILIATIONS

A.S.H.A.R.E. –
National Society of Professional Engineers
National Fire Protection Associations

Professional Summary

- Richard Darwicki brings over 40 years experience in Engineering and Construction Consulting Services to AES Due Diligence, Inc. These service experience include military, mid- and high-rise structures, retail, industrial, single and multi-family residential, resort and hospitality, assisted living and congregate care, office and medical facilities.
- He has designed wastewater treatment systems, reverse water filtration systems, water chlorinating facilities, vapor recovery fuel islands, double containment fuel tank systems, and site utilities for commercial, industrial, retail, and residential projects.
- He has also participated in Department of Energy studies to establish new energy standards for building construction and to design and develop solar energy collection systems for NASA and Rockwell International.
- As Chief Engineer for several firms, his responsibilities included cost estimations, specification writing, contract administration, field construction monitoring and environmental assessments for public and private projects.
- Due Diligence physical surveys since 1988of existing properties to determine quality and condition of the structure, equipment, finishes and fixtures Identifiying items requiring repair or replacement, ADA Compliance status, and estimating associated costs.
- On-site monitoring of new construction, renovation and repair work.
- Phase I Environmental Site Assessments (ASTM 1527-05) including on-site observations.
- Previously a Registered Environmental Assessor, expired in 1996, with new registration pending.

Appendix G to Initial Study
Preliminary Hydrology Report

PRELIMINARY HYDROLOGY REPORT
FOR

TTM 37909

Moreno Valley, CA

Prepared for:

Passco Pacifica, LLC
333 City Boulevard West, 17th Floor
Orange, CA 92866

Initial Report: April 4, 2020

Prepared by:

Robert M. Beers
8175 Limonite Avenue
Suite E
Riverside, CA 92509
(951) 317-2041

Preliminary Drainage Report

Saturday, April 04, 2020

INTRODUCTION

The following report and calculations were prepared to analyze the 2, 10 & 100-year storm runoff from the development of the TTM 37909 at the east of Perris Boulevard on the south side of Iris Boulevard in the City of Moreno Valley, Ca. An infiltration basin is proposed for both mitigation of increased runoff from the site and for onsite BMPs for treatment of site runoff.

SITE BACKGROUND

The proposed project is located on the south side Iris Boulevard east of Perris Boulevard. The property is vacant and undeveloped and slopes from northwest to southeast.

There is no offsite areas draining onto the property.

The soil type for the area is Type B per Plate C-1.17 "Hydrologic Soils Group Map for Sunnymead" from the Riverside County Hydrology Manual.

METHODOLOGY

Subareas were determined based on the proposed grading of the site. A link-node model was created for each subarea, with flow path length and elevations shown for the upstream and downstream nodes for the subarea. Peak flowrates were determined for each subarea using the CivilDesign Corporation "RIV" rational method hydrology software. The results of those calculations are shown on the site hydrology map included with this report. Separate maps for the existing and developed condition are included with this report.

ANALYSES/DISCUSSION

Rational method hydrology calculations have been prepared for 2, 10 & 100-year existing and proposed condition for the project site. In the existing condition site drainage sheet flows across the property to southeast towards where it flows offsite across the existing MWD and EMWD easements.

In the proposed condition the site will be a several sub-areas where storm flows will flow to the internal street section and be conveyed to the southeast corner of the property where they will be directed into an infiltration basin system. The infiltration basin will be located in the proposed landscape area onsite adjacent to the WMD and EMWD easement areas along the westerly portion of the property and will discharge to the existing point of discharge.

The drainage areas and peak 2, 10 & 100-year discharges are summarized below:

Rational Method Calculations

Existing Condition

Description	Area (Ac.)	2-year discharge (cfs)	10-year discharge (cfs)	100-year discharge (cfs)	Tc mim.
Area 1	7.25	1.98	5.19	10.0	28.27
Area 2	2.32	0.57	1.56	3.09	34.25
Area 3	0.61	0.15	0.42	0.82	34.82
Area 4	0.64	0.14	0.39	0.77	36.40

Proposed Condition

Description	Area (Ac.)	2-year discharge (cfs)	10-year discharge (cfs)	100-year discharge (cfs)	Tc mim.
Area 1	3.04	2.56	4.11	6.40	14.58
Area 2	4.08	3.54	5.69	8.85	13.77
Area 3 – confluenced	7.70	6.36	10.25	15.97	14.07
Area 4	2.32	0.57	1.56	3.09	34.25
Area 5	0.61	0.15	0.42	0.82	34.82

PROPOSED PROJECT BMP's

Based on soil infiltration test results we have selected an infiltration basin onsite as the method for treatment of onsite flows. The details of the proposed infiltration basin system are described in detail in the Preliminary Water Quality Management Plan prepared for this project.

CONCLUSION

Based on the calculations and proposed improvements, onsite flows can be conveyed to suitable points of disposal, and the proposed site development will not impact offsite properties.

Appendix A
Existing Condition Rational Method Calculations

2-year
10-year
100-year

TTM37909ex2a

Riverside County Rational Hydrology Program

CIVILCADD/CIVILDESIGN Engineering Software,(c) 1989 - 2014 Version 9.0
Rational Hydrology Study Date: 04/04/20
File:TTM37909ex2a.out

TTM 37909 - Iris Avenue
Existing Condition - Area 1
2 year flow rates
RMBB

********* Hydrology Study Control Information **********

English (in-lb) Units used in input data file

Program License Serial Number 6288

Rational Method Hydrology Program based on
Riverside County Flood Control & Water Conservation District
1978 hydrology manual

Storm event (year) = 2.00 Antecedent Moisture Condition = 1

Standard intensity-duration curves data (Plate D-4.1)
For the [Sunnymead-Moreno] area used.
10 year storm 10 minute intensity = 2.010(In/Hr)
10 year storm 60 minute intensity = 0.820(In/Hr)
100 year storm 10 minute intensity = 2.940(In/Hr)
100 year storm 60 minute intensity = 1.200(In/Hr)

Storm event year = 2.0
Calculated rainfall intensity data:
1 hour intensity = 0.554(In/Hr)
Slope of intensity duration curve = 0.5000

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Process from Point/Station 100.000 to Point/Station 101.000
**** INITIAL AREA EVALUATION ****

TTM37909ex2a

```
Initial area flow distance =  1000.000(Ft.)
Top (of initial area) elevation =   501.200(Ft.)
Bottom (of initial area) elevation =   491.200(Ft.)
Difference in elevation =    10.000(Ft.)
Slope =    0.01000  s(percent)=       1.00
TC = k(0.710)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration =   28.266 min.
Rainfall intensity =      0.808(In/Hr) for a     2.0 year storm
UNDEVELOPED (fair cover) subarea
Runoff Coefficient = 0.338
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 1.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.000
RI index for soil(AMC 1)  =  49.80
Pervious area fraction =  1.000; Impervious fraction =  0.000
Initial subarea runoff =      1.978(CFS)
Total initial stream area =        7.250(Ac.)
Pervious area fraction = 1.000
End of computations, total study area =            7.25 (Ac.)
The following figures may
be used for a unit hydrograph study of the same area.

Area averaged pervious area fraction(Ap) = 1.000
Area averaged RI index number =  69.0
```

TTM37909ex2b

Riverside County Rational Hydrology Program

CIVILCADD/CIVILDESIGN Engineering Software,(c) 1989 - 2014 Version 9.0
Rational Hydrology Study Date: 04/04/20
File:TTM37909ex2b.out

TTM 37909 - Iris Avenue
Area 2 - undeveloped
2 year flow rates
RMB

********* Hydrology Study Control Information **********

English (in-lb) Units used in input data file

Program License Serial Number 6288

Rational Method Hydrology Program based on
Riverside County Flood Control & Water Conservation District
1978 hydrology manual

Storm event (year) = 2.00 Antecedent Moisture Condition = 1

Standard intensity-duration curves data (Plate D-4.1)
For the [Sunnymead-Moreno] area used.
10 year storm 10 minute intensity = 2.010(In/Hr)
10 year storm 60 minute intensity = 0.820(In/Hr)
100 year storm 10 minute intensity = 2.940(In/Hr)
100 year storm 60 minute intensity = 1.200(In/Hr)

Storm event year = 2.0
Calculated rainfall intensity data:
1 hour intensity = 0.554(In/Hr)
Slope of intensity duration curve = 0.5000

++

Process from Point/Station 200.000 to Point/Station 201.000
**** INITIAL AREA EVALUATION ****

```
Initial area flow distance =   564.000(Ft.)
Top (of initial area) elevation =    99.300(Ft.)
Bottom (of initial area) elevation =    96.000(Ft.)
Difference in elevation =     3.300(Ft.)
Slope =    0.00585  s(percent)=       0.59
TC = k(0.710)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration =   25.022 min.
Rainfall intensity =      0.858(In/Hr) for a     2.0 year storm
UNDEVELOPED (fair cover) subarea
Runoff Coefficient = 0.351
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 1.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.000
RI index for soil(AMC 1)  =  49.80
Pervious area fraction =  1.000; Impervious fraction =  0.000
Initial subarea runoff =      0.271(CFS)
Total initial stream area =        0.900(Ac.)
Pervious area fraction = 1.000


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      201.000 to Point/Station      202.000
**** IRREGULAR CHANNEL FLOW TRAVEL TIME ****
________________________________________________________________________
Estimated mean flow rate at midpoint of channel =      0.453(CFS)
Depth of flow =   0.184(Ft.), Average velocity =   0.893(Ft/s)
        ******* Irregular Channel Data ***********
------------------------------------------------------------------
Information entered for subchannel number 1 :
Point number      'X' coordinate     'Y' coordinate
        1              0.00              2.00
        2             10.00              1.00
        3             20.00              0.00
        4             40.00              1.00
        5             50.00              2.00
Manning's 'N' friction factor =   0.030
------------------------------------------------------------------
Sub-Channel flow  =      0.453(CFS)
  '     '        flow top width =      5.517(Ft.)
  '     '    velocity=    0.893(Ft/s)
  '     '        area =      0.507(Sq.Ft)
  '     '        Froude number =     0.519

Upstream point elevation =    96.000(Ft.)
Downstream point elevation =    90.200(Ft.)
Flow length =   738.000(Ft.)
Travel time  =   13.77 min.
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```
Time of concentration =   38.80 min.
Depth of flow =   0.184(Ft.)
Average velocity =   0.893(Ft/s)
Total irregular channel flow =     0.453(CFS)
Irregular channel normal depth above invert elev. =   0.184(Ft.)
Average velocity of channel(s) =   0.893(Ft/s)
 Adding area flow to channel
UNDEVELOPED (fair cover) subarea
Runoff Coefficient = 0.305
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 1.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.000
RI index for soil(AMC 1)  =  49.80
Pervious area fraction =  1.000; Impervious fraction =  0.000
Rainfall intensity =      0.689(In/Hr) for a     2.0 year storm
Subarea runoff =      0.299(CFS) for      1.420(Ac.)
Total runoff =      0.570(CFS)  Total area =       2.320(Ac.)
Depth of flow =   0.200(Ft.), Average velocity =   0.946(Ft/s)
End of computations, total study area =            2.32 (Ac.)
The following figures may
be used for a unit hydrograph study of the same area.

Area averaged pervious area fraction(Ap) = 1.000
Area averaged RI index number =  69.0
```

TTM37909ex2c

Riverside County Rational Hydrology Program

CIVILCADD/CIVILDESIGN Engineering Software,(c) 1989 - 2014 Version 9.0
Rational Hydrology Study Date: 04/04/20
File:TTM37909ex2c.out

TTM 37909 - Iris Avenue
Existing Condition - Area 3
2 year flow rates
RMB

********* Hydrology Study Control Information **********

English (in-lb) Units used in input data file

Program License Serial Number 6288

Rational Method Hydrology Program based on
Riverside County Flood Control & Water Conservation District
1978 hydrology manual

Storm event (year) = 2.00 Antecedent Moisture Condition = 1

Standard intensity-duration curves data (Plate D-4.1)
For the [Sunnymead-Moreno] area used.
10 year storm 10 minute intensity = 2.010(In/Hr)
10 year storm 60 minute intensity = 0.820(In/Hr)
100 year storm 10 minute intensity = 2.940(In/Hr)
100 year storm 60 minute intensity = 1.200(In/Hr)

Storm event year = 2.0
Calculated rainfall intensity data:
1 hour intensity = 0.554(In/Hr)
Slope of intensity duration curve = 0.5000

++

Process from Point/Station 200.000 to Point/Station 301.000
**** INITIAL AREA EVALUATION ****

```
Initial area flow distance =   559.000(Ft.)
Top (of initial area) elevation =    99.300(Ft.)
Bottom (of initial area) elevation =    96.000(Ft.)
Difference in elevation =     3.300(Ft.)
Slope =    0.00590  s(percent)=       0.59
TC = k(0.710)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration =   24.889 min.
Rainfall intensity =      0.861(In/Hr) for a     2.0 year storm
UNDEVELOPED (fair cover) subarea
Runoff Coefficient = 0.351
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 1.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.000
RI index for soil(AMC 1)  =  49.80
Pervious area fraction =  1.000; Impervious fraction =  0.000
Initial subarea runoff =      0.082(CFS)
Total initial stream area =        0.270(Ac.)
Pervious area fraction = 1.000


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      301.000 to Point/Station      302.000
**** IRREGULAR CHANNEL FLOW TRAVEL TIME ****
________________________________________________________________________
Estimated mean flow rate at midpoint of channel =      0.133(CFS)
Depth of flow =   0.185(Ft.), Average velocity =   0.774(Ft/s)
        ******* Irregular Channel Data ***********
------------------------------------------------------------------
Information entered for subchannel number 1 :
Point number      'X' coordinate     'Y' coordinate
        1              0.00              1.00
        2              2.50              0.50
        3              5.00              0.00
        4              7.50              0.50
        5             10.00              1.00
Manning's 'N' friction factor =   0.030
------------------------------------------------------------------
Sub-Channel flow  =      0.133(CFS)
  '     '        flow top width =      1.854(Ft.)
  '     '    velocity=    0.774(Ft/s)
  '     '        area =      0.172(Sq.Ft)
  '     '        Froude number =     0.448

Upstream point elevation =    96.000(Ft.)
Downstream point elevation =    91.900(Ft.)
Flow length =   686.000(Ft.)
Travel time  =   14.77 min.
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```
Time of concentration =   39.66 min.
Depth of flow =   0.185(Ft.)
Average velocity =   0.774(Ft/s)
Total irregular channel flow =     0.133(CFS)
Irregular channel normal depth above invert elev. =   0.185(Ft.)
Average velocity of channel(s) =   0.774(Ft/s)
 Adding area flow to channel
UNDEVELOPED (fair cover) subarea
Runoff Coefficient = 0.303
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 1.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.000
RI index for soil(AMC 1)  =  49.80
Pervious area fraction =  1.000; Impervious fraction =  0.000
Rainfall intensity =      0.682(In/Hr) for a     2.0 year storm
Subarea runoff =      0.070(CFS) for      0.340(Ac.)
Total runoff =      0.152(CFS)  Total area =       0.610(Ac.)
Depth of flow =   0.195(Ft.), Average velocity =   0.800(Ft/s)
End of computations, total study area =            0.61 (Ac.)
The following figures may
be used for a unit hydrograph study of the same area.

Area averaged pervious area fraction(Ap) = 1.000
Area averaged RI index number =  69.0
```

TTM37909ex2d

Riverside County Rational Hydrology Program

CIVILCADD/CIVILDESIGN Engineering Software,(c) 1989 - 2014 Version 9.0
Rational Hydrology Study Date: 04/04/20
File:TTM37909ex2d.out

TTM 37909 - Iris AVenue
Existing Condition - Area 4
2 year flow rates
RMB

********* Hydrology Study Control Information **********

English (in-lb) Units used in input data file

Program License Serial Number 6288

Rational Method Hydrology Program based on
Riverside County Flood Control & Water Conservation District
1978 hydrology manual

Storm event (year) = 2.00 Antecedent Moisture Condition = 1

Standard intensity-duration curves data (Plate D-4.1)
For the [Sunnymead-Moreno] area used.
10 year storm 10 minute intensity = 2.010(In/Hr)
10 year storm 60 minute intensity = 0.820(In/Hr)
100 year storm 10 minute intensity = 2.940(In/Hr)
100 year storm 60 minute intensity = 1.200(In/Hr)

Storm event year = 2.0
Calculated rainfall intensity data:
1 hour intensity = 0.554(In/Hr)
Slope of intensity duration curve = 0.5000

++

Process from Point/Station 200.000 to Point/Station 401.000
**** INITIAL AREA EVALUATION ****

TTM37909ex2d

```
Initial area flow distance =   772.000(Ft.)
Top (of initial area) elevation =    99.300(Ft.)
Bottom (of initial area) elevation =    98.000(Ft.)
Difference in elevation =     1.300(Ft.)
Slope =    0.00168  s(percent)=       0.17
TC = k(0.710)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration =   36.395 min.
Rainfall intensity =      0.712(In/Hr) for a     2.0 year storm
UNDEVELOPED (fair cover) subarea
Runoff Coefficient = 0.312
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 1.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.000
RI index for soil(AMC 1)  =  49.80
Pervious area fraction =  1.000; Impervious fraction =  0.000
Initial subarea runoff =      0.142(CFS)
Total initial stream area =        0.640(Ac.)
Pervious area fraction = 1.000
End of computations, total study area =            0.64 (Ac.)
The following figures may
be used for a unit hydrograph study of the same area.

Area averaged pervious area fraction(Ap) = 1.000
Area averaged RI index number =  69.0
```

TTM37909ex10a

Riverside County Rational Hydrology Program

CIVILCADD/CIVILDESIGN Engineering Software,(c) 1989 - 2014 Version 9.0
Rational Hydrology Study Date: 04/04/20
File:TTM37909ex10a.out

TTM 37909 - Iris Avenue
Existing Condition - Area 1
10 year flow rates
RMBB

********* Hydrology Study Control Information **********

English (in-lb) Units used in input data file

Program License Serial Number 6288

Rational Method Hydrology Program based on
Riverside County Flood Control & Water Conservation District
1978 hydrology manual

Storm event (year) = 10.00 Antecedent Moisture Condition = 2

Standard intensity-duration curves data (Plate D-4.1)
For the [Sunnymead-Moreno] area used.
10 year storm 10 minute intensity = 2.010(In/Hr)
10 year storm 60 minute intensity = 0.820(In/Hr)
100 year storm 10 minute intensity = 2.940(In/Hr)
100 year storm 60 minute intensity = 1.200(In/Hr)

Storm event year = 10.0
Calculated rainfall intensity data:
1 hour intensity = 0.820(In/Hr)
Slope of intensity duration curve = 0.5000

++

Process from Point/Station 100.000 to Point/Station 101.000
**** INITIAL AREA EVALUATION ****

TTM37909ex10a

```
Initial area flow distance =  1000.000(Ft.)
Top (of initial area) elevation =   501.200(Ft.)
Bottom (of initial area) elevation =   491.200(Ft.)
Difference in elevation =    10.000(Ft.)
Slope =    0.01000  s(percent)=       1.00
TC = k(0.710)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration =   28.266 min.
Rainfall intensity =      1.195(In/Hr) for a    10.0 year storm
UNDEVELOPED (fair cover) subarea
Runoff Coefficient = 0.599
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 1.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.000
RI index for soil(AMC 2)  =  69.00
Pervious area fraction =  1.000; Impervious fraction =  0.000
Initial subarea runoff =      5.192(CFS)
Total initial stream area =        7.250(Ac.)
Pervious area fraction = 1.000
End of computations, total study area =            7.25 (Ac.)
The following figures may
be used for a unit hydrograph study of the same area.

Area averaged pervious area fraction(Ap) = 1.000
Area averaged RI index number =  69.0
```

TTM37909ex10b

Riverside County Rational Hydrology Program

CIVILCADD/CIVILDESIGN Engineering Software,(c) 1989 - 2014 Version 9.0
Rational Hydrology Study Date: 04/04/20
File:TTM37909ex10b.out

TTM 37909 - Iris Avenue
Area 2 - undeveloped
10 year flow rates
RMB

********* Hydrology Study Control Information **********

English (in-lb) Units used in input data file

Program License Serial Number 6288

Rational Method Hydrology Program based on
Riverside County Flood Control & Water Conservation District
1978 hydrology manual

Storm event (year) = 10.00 Antecedent Moisture Condition = 2

Standard intensity-duration curves data (Plate D-4.1)
For the [Sunnymead-Moreno] area used.
10 year storm 10 minute intensity = 2.010(In/Hr)
10 year storm 60 minute intensity = 0.820(In/Hr)
100 year storm 10 minute intensity = 2.940(In/Hr)
100 year storm 60 minute intensity = 1.200(In/Hr)

Storm event year = 10.0
Calculated rainfall intensity data:
1 hour intensity = 0.820(In/Hr)
Slope of intensity duration curve = 0.5000

++

Process from Point/Station 200.000 to Point/Station 201.000
**** INITIAL AREA EVALUATION ****

```
Initial area flow distance =   564.000(Ft.)
Top (of initial area) elevation =    99.300(Ft.)
Bottom (of initial area) elevation =    96.000(Ft.)
Difference in elevation =     3.300(Ft.)
Slope =    0.00585  s(percent)=       0.59
TC = k(0.710)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration =   25.022 min.
Rainfall intensity =      1.270(In/Hr) for a    10.0 year storm
UNDEVELOPED (fair cover) subarea
Runoff Coefficient = 0.612
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 1.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.000
RI index for soil(AMC 2)  =  69.00
Pervious area fraction =  1.000; Impervious fraction =  0.000
Initial subarea runoff =      0.699(CFS)
Total initial stream area =        0.900(Ac.)
Pervious area fraction = 1.000


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      201.000 to Point/Station      202.000
**** IRREGULAR CHANNEL FLOW TRAVEL TIME ****
________________________________________________________________________
Estimated mean flow rate at midpoint of channel =      1.162(CFS)
Depth of flow =   0.262(Ft.), Average velocity =   1.130(Ft/s)
        ******* Irregular Channel Data ***********
------------------------------------------------------------------
Information entered for subchannel number 1 :
Point number      'X' coordinate     'Y' coordinate
        1              0.00              2.00
        2             10.00              1.00
        3             20.00              0.00
        4             40.00              1.00
        5             50.00              2.00
Manning's 'N' friction factor =   0.030
------------------------------------------------------------------
Sub-Channel flow  =      1.162(CFS)
  '     '        flow top width =      7.854(Ft.)
  '     '    velocity=    1.130(Ft/s)
  '     '        area =      1.028(Sq.Ft)
  '     '        Froude number =     0.551

Upstream point elevation =    96.000(Ft.)
Downstream point elevation =    90.200(Ft.)
Flow length =   738.000(Ft.)
Travel time  =   10.88 min.
```

```
Time of concentration =   35.91 min.
Depth of flow =   0.262(Ft.)
Average velocity =   1.130(Ft/s)
Total irregular channel flow =     1.162(CFS)
Irregular channel normal depth above invert elev. =   0.262(Ft.)
Average velocity of channel(s) =   1.130(Ft/s)
 Adding area flow to channel
UNDEVELOPED (fair cover) subarea
Runoff Coefficient = 0.575
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 1.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.000
RI index for soil(AMC 2)  =  69.00
Pervious area fraction =  1.000; Impervious fraction =  0.000
Rainfall intensity =      1.060(In/Hr) for a    10.0 year storm
Subarea runoff =      0.866(CFS) for      1.420(Ac.)
Total runoff =      1.564(CFS)  Total area =       2.320(Ac.)
Depth of flow =   0.293(Ft.), Average velocity =   1.217(Ft/s)
End of computations, total study area =            2.32 (Ac.)
The following figures may
be used for a unit hydrograph study of the same area.

Area averaged pervious area fraction(Ap) = 1.000
Area averaged RI index number =  69.0
```

TTM37909ex10c

Riverside County Rational Hydrology Program

CIVILCADD/CIVILDESIGN Engineering Software,(c) 1989 - 2014 Version 9.0
Rational Hydrology Study Date: 04/04/20
File:TTM37909ex10c.out

TTM 37909 - Iris Avenue
Existing Condition - Area 3
10 year flow rates
RMB

********* Hydrology Study Control Information **********

English (in-lb) Units used in input data file

Program License Serial Number 6288

Rational Method Hydrology Program based on
Riverside County Flood Control & Water Conservation District
1978 hydrology manual

Storm event (year) = 10.00 Antecedent Moisture Condition = 2

Standard intensity-duration curves data (Plate D-4.1)
For the [Sunnymead-Moreno] area used.
10 year storm 10 minute intensity = 2.010(In/Hr)
10 year storm 60 minute intensity = 0.820(In/Hr)
100 year storm 10 minute intensity = 2.940(In/Hr)
100 year storm 60 minute intensity = 1.200(In/Hr)

Storm event year = 10.0
Calculated rainfall intensity data:
1 hour intensity = 0.820(In/Hr)
Slope of intensity duration curve = 0.5000

++

Process from Point/Station 200.000 to Point/Station 301.000
**** INITIAL AREA EVALUATION ****

```
Initial area flow distance =   559.000(Ft.)
Top (of initial area) elevation =    99.300(Ft.)
Bottom (of initial area) elevation =    96.000(Ft.)
Difference in elevation =     3.300(Ft.)
Slope =    0.00590  s(percent)=       0.59
TC = k(0.710)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration =   24.889 min.
Rainfall intensity =      1.273(In/Hr) for a    10.0 year storm
UNDEVELOPED (fair cover) subarea
Runoff Coefficient = 0.612
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 1.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.000
RI index for soil(AMC 2)  =  69.00
Pervious area fraction =  1.000; Impervious fraction =  0.000
Initial subarea runoff =      0.210(CFS)
Total initial stream area =        0.270(Ac.)
Pervious area fraction = 1.000


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      301.000 to Point/Station      302.000
**** IRREGULAR CHANNEL FLOW TRAVEL TIME ****
________________________________________________________________________
Estimated mean flow rate at midpoint of channel =      0.343(CFS)
Depth of flow =   0.264(Ft.), Average velocity =   0.981(Ft/s)
        ******* Irregular Channel Data ***********
------------------------------------------------------------------
Information entered for subchannel number 1 :
Point number      'X' coordinate     'Y' coordinate
        1              0.00              1.00
        2              2.50              0.50
        3              5.00              0.00
        4              7.50              0.50
        5             10.00              1.00
Manning's 'N' friction factor =   0.030
------------------------------------------------------------------
Sub-Channel flow  =      0.343(CFS)
  '     '        flow top width =      2.644(Ft.)
  '     '    velocity=    0.981(Ft/s)
  '     '        area =      0.350(Sq.Ft)
  '     '        Froude number =     0.475

Upstream point elevation =    96.000(Ft.)
Downstream point elevation =    91.900(Ft.)
Flow length =   686.000(Ft.)
Travel time  =   11.66 min.
```

```
Time of concentration =   36.55 min.
Depth of flow =   0.264(Ft.)
Average velocity =   0.981(Ft/s)
Total irregular channel flow =     0.343(CFS)
Irregular channel normal depth above invert elev. =   0.264(Ft.)
Average velocity of channel(s) =   0.981(Ft/s)
 Adding area flow to channel
UNDEVELOPED (fair cover) subarea
Runoff Coefficient = 0.573
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 1.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.000
RI index for soil(AMC 2)  =  69.00
Pervious area fraction =  1.000; Impervious fraction =  0.000
Rainfall intensity =      1.051(In/Hr) for a    10.0 year storm
Subarea runoff =      0.205(CFS) for      0.340(Ac.)
Total runoff =      0.415(CFS)  Total area =       0.610(Ac.)
Depth of flow =   0.284(Ft.), Average velocity =   1.029(Ft/s)
End of computations, total study area =            0.61 (Ac.)
The following figures may
be used for a unit hydrograph study of the same area.

Area averaged pervious area fraction(Ap) = 1.000
Area averaged RI index number =  69.0
```

TTM37909ex10d

Riverside County Rational Hydrology Program

CIVILCADD/CIVILDESIGN Engineering Software,(c) 1989 - 2014 Version 9.0
Rational Hydrology Study Date: 04/04/20
File:TTM37909ex10d.out

TTM 37909 - Iris AVenue
Existing Condition - Area 4
10 year flow rates
RMB

********* Hydrology Study Control Information **********

English (in-lb) Units used in input data file

Program License Serial Number 6288

Rational Method Hydrology Program based on
Riverside County Flood Control & Water Conservation District
1978 hydrology manual

Storm event (year) = 10.00 Antecedent Moisture Condition = 2

Standard intensity-duration curves data (Plate D-4.1)
For the [Sunnymead-Moreno] area used.
10 year storm 10 minute intensity = 2.010(In/Hr)
10 year storm 60 minute intensity = 0.820(In/Hr)
100 year storm 10 minute intensity = 2.940(In/Hr)
100 year storm 60 minute intensity = 1.200(In/Hr)

Storm event year = 10.0
Calculated rainfall intensity data:
1 hour intensity = 0.820(In/Hr)
Slope of intensity duration curve = 0.5000

++

Process from Point/Station 200.000 to Point/Station 401.000
**** INITIAL AREA EVALUATION ****

TTM37909ex10d

```
Initial area flow distance =   772.000(Ft.)
Top (of initial area) elevation =    99.300(Ft.)
Bottom (of initial area) elevation =    98.000(Ft.)
Difference in elevation =     1.300(Ft.)
Slope =    0.00168  s(percent)=       0.17
TC = k(0.710)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration =   36.395 min.
Rainfall intensity =      1.053(In/Hr) for a    10.0 year storm
UNDEVELOPED (fair cover) subarea
Runoff Coefficient = 0.574
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 1.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.000
RI index for soil(AMC 2)  =  69.00
Pervious area fraction =  1.000; Impervious fraction =  0.000
Initial subarea runoff =      0.387(CFS)
Total initial stream area =        0.640(Ac.)
Pervious area fraction = 1.000
End of computations, total study area =            0.64 (Ac.)
The following figures may
be used for a unit hydrograph study of the same area.

Area averaged pervious area fraction(Ap) = 1.000
Area averaged RI index number =  69.0
```

TTM37909ex100a

Riverside County Rational Hydrology Program

CIVILCADD/CIVILDESIGN Engineering Software,(c) 1989 - 2014 Version 9.0
Rational Hydrology Study Date: 04/04/20
File:TTM37909ex100a.out

TTM 37909 - Iris Avenue
Existing Condition - Area 1
100 year flow rates
RMBB

********* Hydrology Study Control Information **********

English (in-lb) Units used in input data file

Program License Serial Number 6288

Rational Method Hydrology Program based on
Riverside County Flood Control & Water Conservation District
1978 hydrology manual

Storm event (year) = 100.00 Antecedent Moisture Condition = 3

Standard intensity-duration curves data (Plate D-4.1)
For the [Sunnymead-Moreno] area used.
10 year storm 10 minute intensity = 2.010(In/Hr)
10 year storm 60 minute intensity = 0.820(In/Hr)
100 year storm 10 minute intensity = 2.940(In/Hr)
100 year storm 60 minute intensity = 1.200(In/Hr)

Storm event year = 100.0
Calculated rainfall intensity data:
1 hour intensity = 1.200(In/Hr)
Slope of intensity duration curve = 0.5000

++

Process from Point/Station 100.000 to Point/Station 101.000
**** INITIAL AREA EVALUATION ****

TTM37909ex100a

```
Initial area flow distance =  1000.000(Ft.)
Top (of initial area) elevation =   501.200(Ft.)
Bottom (of initial area) elevation =   491.200(Ft.)
Difference in elevation =    10.000(Ft.)
Slope =    0.01000  s(percent)=       1.00
TC = k(0.710)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration =   28.266 min.
Rainfall intensity =      1.748(In/Hr) for a   100.0 year storm
UNDEVELOPED (fair cover) subarea
Runoff Coefficient = 0.789
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 1.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.000
RI index for soil(AMC 3)  =  84.40
Pervious area fraction =  1.000; Impervious fraction =  0.000
Initial subarea runoff =      9.999(CFS)
Total initial stream area =        7.250(Ac.)
Pervious area fraction = 1.000
End of computations, total study area =            7.25 (Ac.)
The following figures may
be used for a unit hydrograph study of the same area.

Area averaged pervious area fraction(Ap) = 1.000
Area averaged RI index number =  69.0
```

TTM37909ex100b

Riverside County Rational Hydrology Program

CIVILCADD/CIVILDESIGN Engineering Software,(c) 1989 - 2014 Version 9.0
Rational Hydrology Study Date: 04/04/20
File:TTM37909ex100b.out

TTM 37909 - Iris Avenue
Area 2 - undeveloped
100 year flow rates
RMB

********* Hydrology Study Control Information **********

English (in-lb) Units used in input data file

Program License Serial Number 6288

Rational Method Hydrology Program based on
Riverside County Flood Control & Water Conservation District
1978 hydrology manual

Storm event (year) = 100.00 Antecedent Moisture Condition = 3

Standard intensity-duration curves data (Plate D-4.1)
For the [Sunnymead-Moreno] area used.
10 year storm 10 minute intensity = 2.010(In/Hr)
10 year storm 60 minute intensity = 0.820(In/Hr)
100 year storm 10 minute intensity = 2.940(In/Hr)
100 year storm 60 minute intensity = 1.200(In/Hr)

Storm event year = 100.0
Calculated rainfall intensity data:
1 hour intensity = 1.200(In/Hr)
Slope of intensity duration curve = 0.5000

++

Process from Point/Station 200.000 to Point/Station 201.000
**** INITIAL AREA EVALUATION ****

```
Initial area flow distance =   564.000(Ft.)
Top (of initial area) elevation =    99.300(Ft.)
Bottom (of initial area) elevation =    96.000(Ft.)
Difference in elevation =     3.300(Ft.)
Slope =    0.00585  s(percent)=       0.59
TC = k(0.710)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration =   25.022 min.
Rainfall intensity =      1.858(In/Hr) for a   100.0 year storm
UNDEVELOPED (fair cover) subarea
Runoff Coefficient = 0.795
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 1.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.000
RI index for soil(AMC 3)  =  84.40
Pervious area fraction =  1.000; Impervious fraction =  0.000
Initial subarea runoff =      1.329(CFS)
Total initial stream area =        0.900(Ac.)
Pervious area fraction = 1.000


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      201.000 to Point/Station      202.000
**** IRREGULAR CHANNEL FLOW TRAVEL TIME ****
________________________________________________________________________
Estimated mean flow rate at midpoint of channel =      2.251(CFS)
Depth of flow =   0.335(Ft.), Average velocity =   1.333(Ft/s)
        ******* Irregular Channel Data ***********
------------------------------------------------------------------
Information entered for subchannel number 1 :
Point number      'X' coordinate     'Y' coordinate
        1              0.00              2.00
        2             10.00              1.00
        3             20.00              0.00
        4             40.00              1.00
        5             50.00              2.00
Manning's 'N' friction factor =   0.030
------------------------------------------------------------------
Sub-Channel flow  =      2.251(CFS)
  '     '        flow top width =     10.064(Ft.)
  '     '    velocity=    1.333(Ft/s)
  '     '        area =      1.688(Sq.Ft)
  '     '        Froude number =     0.574

Upstream point elevation =    96.000(Ft.)
Downstream point elevation =    90.200(Ft.)
Flow length =   738.000(Ft.)
Travel time  =    9.23 min.
```

TTM37909ex100b

```
Time of concentration =   34.25 min.
Depth of flow =   0.335(Ft.)
Average velocity =   1.333(Ft/s)
Total irregular channel flow =     2.251(CFS)
Irregular channel normal depth above invert elev. =   0.335(Ft.)
Average velocity of channel(s) =   1.333(Ft/s)
 Adding area flow to channel
UNDEVELOPED (fair cover) subarea
Runoff Coefficient = 0.779
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 1.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.000
RI index for soil(AMC 3)  =  84.40
Pervious area fraction =  1.000; Impervious fraction =  0.000
Rainfall intensity =      1.588(In/Hr) for a   100.0 year storm
Subarea runoff =      1.757(CFS) for      1.420(Ac.)
Total runoff =      3.086(CFS)  Total area =       2.320(Ac.)
Depth of flow =   0.378(Ft.), Average velocity =   1.443(Ft/s)
End of computations, total study area =            2.32 (Ac.)
The following figures may
be used for a unit hydrograph study of the same area.

Area averaged pervious area fraction(Ap) = 1.000
Area averaged RI index number =  69.0
```

TTM37909ex100c

Riverside County Rational Hydrology Program

CIVILCADD/CIVILDESIGN Engineering Software,(c) 1989 - 2014 Version 9.0
Rational Hydrology Study Date: 04/04/20
File:TTM37909ex100c.out

TTM 37909 - Iris Avenue
Existing Condition - Area 3
100 year flow rates
RMB

********* Hydrology Study Control Information **********

English (in-lb) Units used in input data file

Program License Serial Number 6288

Rational Method Hydrology Program based on
Riverside County Flood Control & Water Conservation District
1978 hydrology manual

Storm event (year) = 100.00 Antecedent Moisture Condition = 3

Standard intensity-duration curves data (Plate D-4.1)
For the [Sunnymead-Moreno] area used.
10 year storm 10 minute intensity = 2.010(In/Hr)
10 year storm 60 minute intensity = 0.820(In/Hr)
100 year storm 10 minute intensity = 2.940(In/Hr)
100 year storm 60 minute intensity = 1.200(In/Hr)

Storm event year = 100.0
Calculated rainfall intensity data:
1 hour intensity = 1.200(In/Hr)
Slope of intensity duration curve = 0.5000

++

Process from Point/Station 200.000 to Point/Station 301.000
**** INITIAL AREA EVALUATION ****

```
Initial area flow distance =   559.000(Ft.)
Top (of initial area) elevation =    99.300(Ft.)
Bottom (of initial area) elevation =    96.000(Ft.)
Difference in elevation =     3.300(Ft.)
Slope =    0.00590  s(percent)=       0.59
TC = k(0.710)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration =   24.889 min.
Rainfall intensity =      1.863(In/Hr) for a   100.0 year storm
UNDEVELOPED (fair cover) subarea
Runoff Coefficient = 0.795
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 1.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.000
RI index for soil(AMC 3)  =  84.40
Pervious area fraction =  1.000; Impervious fraction =  0.000
Initial subarea runoff =      0.400(CFS)
Total initial stream area =        0.270(Ac.)
Pervious area fraction = 1.000


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      301.000 to Point/Station      302.000
**** IRREGULAR CHANNEL FLOW TRAVEL TIME ****
________________________________________________________________________
Estimated mean flow rate at midpoint of channel =      0.652(CFS)
Depth of flow =   0.336(Ft.), Average velocity =   1.152(Ft/s)
        ******* Irregular Channel Data ***********
------------------------------------------------------------------
Information entered for subchannel number 1 :
Point number      'X' coordinate     'Y' coordinate
        1              0.00              1.00
        2              2.50              0.50
        3              5.00              0.00
        4              7.50              0.50
        5             10.00              1.00
Manning's 'N' friction factor =   0.030
------------------------------------------------------------------
Sub-Channel flow  =      0.652(CFS)
  '     '        flow top width =      3.364(Ft.)
  '     '    velocity=    1.152(Ft/s)
  '     '        area =      0.566(Sq.Ft)
  '     '        Froude number =     0.495

Upstream point elevation =    96.000(Ft.)
Downstream point elevation =    91.900(Ft.)
Flow length =   686.000(Ft.)
Travel time  =    9.93 min.
```

TTM37909ex100c

```
Time of concentration =   34.82 min.
Depth of flow =   0.336(Ft.)
Average velocity =   1.152(Ft/s)
Total irregular channel flow =     0.652(CFS)
Irregular channel normal depth above invert elev. =   0.336(Ft.)
Average velocity of channel(s) =   1.152(Ft/s)
 Adding area flow to channel
UNDEVELOPED (fair cover) subarea
Runoff Coefficient = 0.778
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 1.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.000
RI index for soil(AMC 3)  =  84.40
Pervious area fraction =  1.000; Impervious fraction =  0.000
Rainfall intensity =      1.575(In/Hr) for a   100.0 year storm
Subarea runoff =      0.417(CFS) for      0.340(Ac.)
Total runoff =      0.817(CFS)  Total area =       0.610(Ac.)
Depth of flow =   0.366(Ft.), Average velocity =   1.219(Ft/s)
End of computations, total study area =            0.61 (Ac.)
The following figures may
be used for a unit hydrograph study of the same area.

Area averaged pervious area fraction(Ap) = 1.000
Area averaged RI index number =  69.0
```

TTM37909ex100d

Riverside County Rational Hydrology Program

CIVILCADD/CIVILDESIGN Engineering Software,(c) 1989 - 2014 Version 9.0
Rational Hydrology Study Date: 04/04/20
File:TTM37909ex100d.out

TTM 37909 - Iris AVenue
Existing Condition - Area 4
100 year flow rates
RMB

********* Hydrology Study Control Information **********

English (in-lb) Units used in input data file

Program License Serial Number 6288

Rational Method Hydrology Program based on
Riverside County Flood Control & Water Conservation District
1978 hydrology manual

Storm event (year) = 100.00 Antecedent Moisture Condition = 3

Standard intensity-duration curves data (Plate D-4.1)
For the [Sunnymead-Moreno] area used.
10 year storm 10 minute intensity = 2.010(In/Hr)
10 year storm 60 minute intensity = 0.820(In/Hr)
100 year storm 10 minute intensity = 2.940(In/Hr)
100 year storm 60 minute intensity = 1.200(In/Hr)

Storm event year = 100.0
Calculated rainfall intensity data:
1 hour intensity = 1.200(In/Hr)
Slope of intensity duration curve = 0.5000

++

Process from Point/Station 200.000 to Point/Station 401.000
**** INITIAL AREA EVALUATION ****

TTM37909ex100d

```
Initial area flow distance =   772.000(Ft.)
Top (of initial area) elevation =    99.300(Ft.)
Bottom (of initial area) elevation =    98.000(Ft.)
Difference in elevation =     1.300(Ft.)
Slope =    0.00168  s(percent)=       0.17
TC = k(0.710)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration =   36.395 min.
Rainfall intensity =      1.541(In/Hr) for a   100.0 year storm
UNDEVELOPED (fair cover) subarea
Runoff Coefficient = 0.776
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 1.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.000
RI index for soil(AMC 3)  =  84.40
Pervious area fraction =  1.000; Impervious fraction =  0.000
Initial subarea runoff =      0.765(CFS)
Total initial stream area =        0.640(Ac.)
Pervious area fraction = 1.000
End of computations, total study area =            0.64 (Ac.)
The following figures may
be used for a unit hydrograph study of the same area.

Area averaged pervious area fraction(Ap) = 1.000
Area averaged RI index number =  69.0
```

Appendix B
Proposed Condition Rational Method Calculations

2-year
10-year
100-year

TTM37909dev2

Riverside County Rational Hydrology Program

CIVILCADD/CIVILDESIGN Engineering Software,(c) 1989 - 2014 Version 9.0
Rational Hydrology Study Date: 04/03/20
File:TTM37909dev2.out

TTM 37909 - Iris Avenue
Developed Condition
2 year flow rates
RMB

********* Hydrology Study Control Information **********

English (in-lb) Units used in input data file

Program License Serial Number 6288

Rational Method Hydrology Program based on
Riverside County Flood Control & Water Conservation District
1978 hydrology manual

Storm event (year) = 2.00 Antecedent Moisture Condition = 1

Standard intensity-duration curves data (Plate D-4.1)
For the [Sunnymead-Moreno] area used.
10 year storm 10 minute intensity = 2.010(In/Hr)
10 year storm 60 minute intensity = 0.820(In/Hr)
100 year storm 10 minute intensity = 2.940(In/Hr)
100 year storm 60 minute intensity = 1.200(In/Hr)

Storm event year = 2.0
Calculated rainfall intensity data:
1 hour intensity = 0.554(In/Hr)
Slope of intensity duration curve = 0.5000

++

Process from Point/Station 100.000 to Point/Station 101.000
**** INITIAL AREA EVALUATION ****

```
Initial area flow distance =   957.000(Ft.)
Top (of initial area) elevation =    99.300(Ft.)
Bottom (of initial area) elevation =    93.600(Ft.)
Difference in elevation =     5.700(Ft.)
Slope =    0.00596  s(percent)=       0.60
TC = k(0.336)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration =   14.578 min.
Rainfall intensity =      1.125(In/Hr) for a     2.0 year storm
MOBILE HOME PARK subarea type
Runoff Coefficient = 0.747
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 1.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.000
RI index for soil(AMC 1)  =  36.00
Pervious area fraction =  0.250; Impervious fraction =  0.750
Initial subarea runoff =      2.555(CFS)
Total initial stream area =        3.040(Ac.)
Pervious area fraction = 0.250


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      101.500 to Point/Station      201.500
**** PIPEFLOW TRAVEL TIME (User specified size) ****
________________________________________________________________________
Upstream point/station elevation =    89.600(Ft.)
Downstream point/station elevation =    88.800(Ft.)
Pipe length  =   129.00(Ft.)   Manning's N = 0.013
No. of pipes = 1  Required pipe flow  =     2.555(CFS)
Given pipe size =     24.00(In.)
Calculated individual pipe flow  =     2.555(CFS)
Normal flow depth in pipe =    6.14(In.)
Flow top width inside pipe =   20.94(In.)
Critical Depth =    6.68(In.)
Pipe flow velocity =      4.03(Ft/s)
Travel time through pipe =    0.53 min.
Time of concentration (TC) =    15.11 min.


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      101.500 to Point/Station      201.500
**** CONFLUENCE OF MINOR STREAMS ****
________________________________________________________________________
Along Main Stream number: 1 in normal stream number 1
Stream flow area =      3.040(Ac.)
Runoff from this stream =      2.555(CFS)
Time of concentration =   15.11 min.
Rainfall intensity =     1.105(In/Hr)
```

++
Process from Point/Station 200.000 to Point/Station 201.000
**** INITIAL AREA EVALUATION ****
_____
Initial area flow distance = 870.000(Ft.)
Top (of initial area) elevation = 98.500(Ft.)
Bottom (of initial area) elevation = 92.800(Ft.)
Difference in elevation = 5.700(Ft.)
Slope = 0.00655 s(percent)= 0.66
TC = k(0.336)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration = 13.768 min.
Rainfall intensity = 1.157(In/Hr) for a 2.0 year storm
MOBILE HOME PARK subarea type
Runoff Coefficient = 0.749
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 1.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.000
RI index for soil(AMC 1) = 36.00
Pervious area fraction = 0.250; Impervious fraction = 0.750
Initial subarea runoff = 3.536(CFS)
Total initial stream area = 4.080(Ac.)
Pervious area fraction = 0.250

++
Process from Point/Station 200.000 to Point/Station 201.000
**** CONFLUENCE OF MINOR STREAMS ****
_____
Along Main Stream number: 1 in normal stream number 2
Stream flow area = 4.080(Ac.)
Runoff from this stream = 3.536(CFS)
Time of concentration = 13.77 min.
Rainfall intensity = 1.157(In/Hr)
Summary of stream data:

Stream No.	Flow rate (CFS)	TC (min)	Rainfall Intensity (In/Hr)
1	2.555	15.11	1.105
2	3.536	13.77	1.157

Largest stream flow has longer or shorter time of concentration
Qp = 3.536 + sum of
Qa Tb/Ta
2.555 * 0.911 = 2.328

```
Qp =      5.864

Total of 2 streams to confluence:
Flow rates before confluence point:
       2.555       3.536
Area of streams before confluence:
        3.040        4.080
Results of confluence:
Total flow rate =      5.864(CFS)
Time of concentration =    13.768 min.
Effective stream area after confluence =      7.120(Ac.)


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      201.500 to Point/Station      202.000
**** PIPEFLOW TRAVEL TIME (User specified size) ****
________________________________________________________________________
Upstream point/station elevation =    88.800(Ft.)
Downstream point/station elevation =    85.000(Ft.)
Pipe length  =   182.00(Ft.)   Manning's N = 0.013
No. of pipes = 1  Required pipe flow  =     5.864(CFS)
Given pipe size =     24.00(In.)
Calculated individual pipe flow  =     5.864(CFS)
Normal flow depth in pipe =    6.88(In.)
Flow top width inside pipe =   21.70(In.)
Critical Depth =   10.26(In.)
Pipe flow velocity =      7.87(Ft/s)
Travel time through pipe =    0.39 min.
Time of concentration (TC) =    14.15 min.


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      201.500 to Point/Station      202.000
**** SUBAREA FLOW ADDITION ****
________________________________________________________________________
MOBILE HOME PARK subarea type
Runoff Coefficient = 0.748
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 1.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.000
RI index for soil(AMC 1)  =  36.00
Pervious area fraction =  0.250; Impervious fraction =  0.750
Time of concentration =    14.15 min.
Rainfall intensity =      1.141(In/Hr) for a     2.0 year storm
Subarea runoff =      0.495(CFS) for      0.580(Ac.)
Total runoff =      6.359(CFS)  Total area =       7.700(Ac.)
End of computations, total study area =            7.70 (Ac.)
```

The following figures may
be used for a unit hydrograph study of the same area.

Area averaged pervious area fraction(Ap) = 0.250
Area averaged RI index number = 56.0

TTM37909dev2b

Riverside County Rational Hydrology Program

CIVILCADD/CIVILDESIGN Engineering Software,(c) 1989 - 2014 Version 9.0
Rational Hydrology Study Date: 04/04/20
File:TTM37909dev2b.out

TTM 37909 - Iris Avenue
Area 4 - undeveloped
2 year flow rates
RMB

********* Hydrology Study Control Information **********

English (in-lb) Units used in input data file

Program License Serial Number 6288

Rational Method Hydrology Program based on
Riverside County Flood Control & Water Conservation District
1978 hydrology manual

Storm event (year) = 2.00 Antecedent Moisture Condition = 1

Standard intensity-duration curves data (Plate D-4.1)
For the [Sunnymead-Moreno] area used.
10 year storm 10 minute intensity = 2.010(In/Hr)
10 year storm 60 minute intensity = 0.820(In/Hr)
100 year storm 10 minute intensity = 2.940(In/Hr)
100 year storm 60 minute intensity = 1.200(In/Hr)

Storm event year = 2.0
Calculated rainfall intensity data:
1 hour intensity = 0.554(In/Hr)
Slope of intensity duration curve = 0.5000

++

Process from Point/Station 400.000 to Point/Station 401.000
**** INITIAL AREA EVALUATION ****

```
Initial area flow distance =   564.000(Ft.)
Top (of initial area) elevation =    99.300(Ft.)
Bottom (of initial area) elevation =    96.000(Ft.)
Difference in elevation =     3.300(Ft.)
Slope =    0.00585  s(percent)=       0.59
TC = k(0.710)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration =   25.022 min.
Rainfall intensity =      0.858(In/Hr) for a     2.0 year storm
UNDEVELOPED (fair cover) subarea
Runoff Coefficient = 0.351
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 1.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.000
RI index for soil(AMC 1)  =  49.80
Pervious area fraction =  1.000; Impervious fraction =  0.000
Initial subarea runoff =      0.271(CFS)
Total initial stream area =        0.900(Ac.)
Pervious area fraction = 1.000


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      401.000 to Point/Station      402.000
**** IRREGULAR CHANNEL FLOW TRAVEL TIME ****
________________________________________________________________________
Estimated mean flow rate at midpoint of channel =      0.453(CFS)
Depth of flow =   0.184(Ft.), Average velocity =   0.893(Ft/s)
        ******* Irregular Channel Data ***********
------------------------------------------------------------------
Information entered for subchannel number 1 :
Point number      'X' coordinate     'Y' coordinate
        1              0.00              2.00
        2             10.00              1.00
        3             20.00              0.00
        4             40.00              1.00
        5             50.00              2.00
Manning's 'N' friction factor =   0.030
------------------------------------------------------------------
Sub-Channel flow  =      0.453(CFS)
  '     '        flow top width =      5.517(Ft.)
  '     '    velocity=    0.893(Ft/s)
  '     '        area =      0.507(Sq.Ft)
  '     '        Froude number =     0.519

Upstream point elevation =    96.000(Ft.)
Downstream point elevation =    90.200(Ft.)
Flow length =   738.000(Ft.)
Travel time  =   13.77 min.
```

```
Time of concentration =   38.80 min.
Depth of flow =   0.184(Ft.)
Average velocity =   0.893(Ft/s)
Total irregular channel flow =     0.453(CFS)
Irregular channel normal depth above invert elev. =   0.184(Ft.)
Average velocity of channel(s) =   0.893(Ft/s)
 Adding area flow to channel
UNDEVELOPED (fair cover) subarea
Runoff Coefficient = 0.305
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 1.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.000
RI index for soil(AMC 1)  =  49.80
Pervious area fraction =  1.000; Impervious fraction =  0.000
Rainfall intensity =      0.689(In/Hr) for a     2.0 year storm
Subarea runoff =      0.299(CFS) for      1.420(Ac.)
Total runoff =      0.570(CFS)  Total area =       2.320(Ac.)
Depth of flow =   0.200(Ft.), Average velocity =   0.946(Ft/s)
End of computations, total study area =            2.32 (Ac.)
The following figures may
be used for a unit hydrograph study of the same area.

Area averaged pervious area fraction(Ap) = 1.000
Area averaged RI index number =  69.0
```

TTM37909dev2c

Riverside County Rational Hydrology Program

CIVILCADD/CIVILDESIGN Engineering Software,(c) 1989 - 2014 Version 9.0
Rational Hydrology Study Date: 04/04/20
File:TTM37909dev2c.out

TTM 37909 - Iris Avenue
Developed Condition - Area 5
2 year flow rates
RMB

********* Hydrology Study Control Information **********

English (in-lb) Units used in input data file

Program License Serial Number 6288

Rational Method Hydrology Program based on
Riverside County Flood Control & Water Conservation District
1978 hydrology manual

Storm event (year) = 2.00 Antecedent Moisture Condition = 1

Standard intensity-duration curves data (Plate D-4.1)
For the [Sunnymead-Moreno] area used.
10 year storm 10 minute intensity = 2.010(In/Hr)
10 year storm 60 minute intensity = 0.820(In/Hr)
100 year storm 10 minute intensity = 2.940(In/Hr)
100 year storm 60 minute intensity = 1.200(In/Hr)

Storm event year = 2.0
Calculated rainfall intensity data:
1 hour intensity = 0.554(In/Hr)
Slope of intensity duration curve = 0.5000

++

Process from Point/Station 400.000 to Point/Station 501.000
**** INITIAL AREA EVALUATION ****

```
Initial area flow distance =   559.000(Ft.)
Top (of initial area) elevation =    99.300(Ft.)
Bottom (of initial area) elevation =    96.000(Ft.)
Difference in elevation =     3.300(Ft.)
Slope =    0.00590  s(percent)=       0.59
TC = k(0.710)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration =   24.889 min.
Rainfall intensity =      0.861(In/Hr) for a     2.0 year storm
UNDEVELOPED (fair cover) subarea
Runoff Coefficient = 0.351
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 1.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.000
RI index for soil(AMC 1)  =  49.80
Pervious area fraction =  1.000; Impervious fraction =  0.000
Initial subarea runoff =      0.082(CFS)
Total initial stream area =        0.270(Ac.)
Pervious area fraction = 1.000


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      501.000 to Point/Station      502.000
**** IRREGULAR CHANNEL FLOW TRAVEL TIME ****
________________________________________________________________________
Estimated mean flow rate at midpoint of channel =      0.133(CFS)
Depth of flow =   0.185(Ft.), Average velocity =   0.774(Ft/s)
        ******* Irregular Channel Data ***********
------------------------------------------------------------------
Information entered for subchannel number 1 :
Point number      'X' coordinate     'Y' coordinate
        1              0.00              1.00
        2              2.50              0.50
        3              5.00              0.00
        4              7.50              0.50
        5             10.00              1.00
Manning's 'N' friction factor =   0.030
------------------------------------------------------------------
Sub-Channel flow  =      0.133(CFS)
  '     '        flow top width =      1.854(Ft.)
  '     '    velocity=    0.774(Ft/s)
  '     '        area =      0.172(Sq.Ft)
  '     '        Froude number =     0.448

Upstream point elevation =    96.000(Ft.)
Downstream point elevation =    91.900(Ft.)
Flow length =   686.000(Ft.)
Travel time  =   14.77 min.
```

```
Time of concentration =   39.66 min.
Depth of flow =   0.185(Ft.)
Average velocity =   0.774(Ft/s)
Total irregular channel flow =     0.133(CFS)
Irregular channel normal depth above invert elev. =   0.185(Ft.)
Average velocity of channel(s) =   0.774(Ft/s)
 Adding area flow to channel
UNDEVELOPED (fair cover) subarea
Runoff Coefficient = 0.303
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 1.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.000
RI index for soil(AMC 1)  =  49.80
Pervious area fraction =  1.000; Impervious fraction =  0.000
Rainfall intensity =      0.682(In/Hr) for a     2.0 year storm
Subarea runoff =      0.070(CFS) for      0.340(Ac.)
Total runoff =      0.152(CFS)  Total area =       0.610(Ac.)
Depth of flow =   0.195(Ft.), Average velocity =   0.800(Ft/s)
End of computations, total study area =            0.61 (Ac.)
The following figures may
be used for a unit hydrograph study of the same area.

Area averaged pervious area fraction(Ap) = 1.000
Area averaged RI index number =  69.0
```

TTM37909dev10

Riverside County Rational Hydrology Program

CIVILCADD/CIVILDESIGN Engineering Software,(c) 1989 - 2014 Version 9.0
Rational Hydrology Study Date: 04/03/20
File:TTM37909dev10.out

TTM 37909 - Iris Avenue
Developed Condition Areas 1 - 2 & 3
10 year flow rates
RMB

********* Hydrology Study Control Information **********

English (in-lb) Units used in input data file

Program License Serial Number 6288

Rational Method Hydrology Program based on
Riverside County Flood Control & Water Conservation District
1978 hydrology manual

Storm event (year) = 10.00 Antecedent Moisture Condition = 2

Standard intensity-duration curves data (Plate D-4.1)
For the [Sunnymead-Moreno] area used.
10 year storm 10 minute intensity = 2.010(In/Hr)
10 year storm 60 minute intensity = 0.820(In/Hr)
100 year storm 10 minute intensity = 2.940(In/Hr)
100 year storm 60 minute intensity = 1.200(In/Hr)

Storm event year = 10.0
Calculated rainfall intensity data:
1 hour intensity = 0.820(In/Hr)
Slope of intensity duration curve = 0.5000

++

Process from Point/Station 100.000 to Point/Station 101.000
**** INITIAL AREA EVALUATION ****

```
Initial area flow distance =   957.000(Ft.)
Top (of initial area) elevation =    99.300(Ft.)
Bottom (of initial area) elevation =    93.600(Ft.)
Difference in elevation =     5.700(Ft.)
Slope =    0.00596  s(percent)=       0.60
TC = k(0.336)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration =   14.578 min.
Rainfall intensity =      1.664(In/Hr) for a    10.0 year storm
MOBILE HOME PARK subarea type
Runoff Coefficient = 0.813
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 1.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.000
RI index for soil(AMC 2)  =  56.00
Pervious area fraction =  0.250; Impervious fraction =  0.750
Initial subarea runoff =      4.112(CFS)
Total initial stream area =        3.040(Ac.)
Pervious area fraction = 0.250


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      101.500 to Point/Station      201.500
**** PIPEFLOW TRAVEL TIME (User specified size) ****
------------------------------------------------------------------------
Upstream point/station elevation =    89.600(Ft.)
Downstream point/station elevation =    88.800(Ft.)
Pipe length  =   129.00(Ft.)   Manning's N = 0.013
No. of pipes = 1  Required pipe flow  =     4.112(CFS)
Given pipe size =     24.00(In.)
Calculated individual pipe flow  =     4.112(CFS)
Normal flow depth in pipe =    7.84(In.)
Flow top width inside pipe =   22.51(In.)
Critical Depth =    8.53(In.)
Pipe flow velocity =      4.61(Ft/s)
Travel time through pipe =    0.47 min.
Time of concentration (TC) =    15.04 min.


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      101.500 to Point/Station      201.500
**** CONFLUENCE OF MINOR STREAMS ****
------------------------------------------------------------------------
Along Main Stream number: 1 in normal stream number 1
Stream flow area =      3.040(Ac.)
Runoff from this stream =      4.112(CFS)
Time of concentration =   15.04 min.
Rainfall intensity =     1.638(In/Hr)
```

```
++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      200.000 to Point/Station      201.000
**** INITIAL AREA EVALUATION ****
_____________________________________________________________________________
Initial area flow distance =   870.000(Ft.)
Top (of initial area) elevation =    98.500(Ft.)
Bottom (of initial area) elevation =    92.800(Ft.)
Difference in elevation =     5.700(Ft.)
Slope =    0.00655  s(percent)=       0.66
TC = k(0.336)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration =   13.768 min.
Rainfall intensity =      1.712(In/Hr) for a    10.0 year storm
MOBILE HOME PARK subarea type
Runoff Coefficient = 0.815
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 1.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.000
RI index for soil(AMC 2)  =  56.00
Pervious area fraction =  0.250; Impervious fraction =  0.750
Initial subarea runoff =      5.689(CFS)
Total initial stream area =        4.080(Ac.)
Pervious area fraction = 0.250


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      200.000 to Point/Station      201.000
**** CONFLUENCE OF MINOR STREAMS ****
_____________________________________________________________________________
Along Main Stream number: 1 in normal stream number 2
Stream flow area =      4.080(Ac.)
Runoff from this stream =      5.689(CFS)
Time of concentration =   13.77 min.
Rainfall intensity =     1.712(In/Hr)
Summary of stream data:

Stream   Flow rate      TC            Rainfall Intensity
 No.       (CFS)       (min)                 (In/Hr)


1        4.112     15.04                1.638
2        5.689     13.77                1.712
Largest stream flow has longer or shorter time of concentration
Qp =      5.689 + sum of
          Qa          Tb/Ta
           4.112 *    0.915 =      3.763
```

```
Qp =      9.452

Total of 2 streams to confluence:
Flow rates before confluence point:
       4.112       5.689
Area of streams before confluence:
        3.040        4.080
Results of confluence:
Total flow rate =      9.452(CFS)
Time of concentration =    13.768 min.
Effective stream area after confluence =      7.120(Ac.)


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      201.500 to Point/Station      202.000
**** PIPEFLOW TRAVEL TIME (User specified size) ****
________________________________________________________________________
Upstream point/station elevation =    88.800(Ft.)
Downstream point/station elevation =    85.000(Ft.)
Pipe length  =   182.00(Ft.)   Manning's N = 0.013
No. of pipes = 1  Required pipe flow  =     9.452(CFS)
Given pipe size =     24.00(In.)
Calculated individual pipe flow  =     9.452(CFS)
Normal flow depth in pipe =    8.84(In.)
Flow top width inside pipe =   23.15(In.)
Critical Depth =   13.18(In.)
Pipe flow velocity =      9.00(Ft/s)
Travel time through pipe =    0.34 min.
Time of concentration (TC) =    14.11 min.


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      201.500 to Point/Station      202.000
**** SUBAREA FLOW ADDITION ****
________________________________________________________________________
MOBILE HOME PARK subarea type
Runoff Coefficient = 0.814
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 1.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.000
RI index for soil(AMC 2)  =  56.00
Pervious area fraction =  0.250; Impervious fraction =  0.750
Time of concentration =    14.11 min.
Rainfall intensity =      1.691(In/Hr) for a    10.0 year storm
Subarea runoff =      0.798(CFS) for      0.580(Ac.)
Total runoff =     10.250(CFS)  Total area =       7.700(Ac.)
End of computations, total study area =            7.70 (Ac.)
```

The following figures may
be used for a unit hydrograph study of the same area.

Area averaged pervious area fraction(Ap) = 0.250
Area averaged RI index number = 56.0

ttm37909dev10b

Riverside County Rational Hydrology Program

CIVILCADD/CIVILDESIGN Engineering Software,(c) 1989 - 2014 Version 9.0
Rational Hydrology Study Date: 04/04/20
File:ttm37909dev10b.out

TTM 37909 - Iris Avenue
Area 4 - undeveloped
10 year flow rates
RMB

********* Hydrology Study Control Information **********

English (in-lb) Units used in input data file

Program License Serial Number 6288

Rational Method Hydrology Program based on
Riverside County Flood Control & Water Conservation District
1978 hydrology manual

Storm event (year) = 10.00 Antecedent Moisture Condition = 2

Standard intensity-duration curves data (Plate D-4.1)
For the [Sunnymead-Moreno] area used.
10 year storm 10 minute intensity = 2.010(In/Hr)
10 year storm 60 minute intensity = 0.820(In/Hr)
100 year storm 10 minute intensity = 2.940(In/Hr)
100 year storm 60 minute intensity = 1.200(In/Hr)

Storm event year = 10.0
Calculated rainfall intensity data:
1 hour intensity = 0.820(In/Hr)
Slope of intensity duration curve = 0.5000

++

Process from Point/Station 400.000 to Point/Station 401.000
**** INITIAL AREA EVALUATION ****

```
Initial area flow distance =   564.000(Ft.)
Top (of initial area) elevation =    99.300(Ft.)
Bottom (of initial area) elevation =    96.000(Ft.)
Difference in elevation =     3.300(Ft.)
Slope =    0.00585  s(percent)=       0.59
TC = k(0.710)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration =   25.022 min.
Rainfall intensity =      1.270(In/Hr) for a    10.0 year storm
UNDEVELOPED (fair cover) subarea
Runoff Coefficient = 0.612
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 1.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.000
RI index for soil(AMC 2)  =  69.00
Pervious area fraction =  1.000; Impervious fraction =  0.000
Initial subarea runoff =      0.699(CFS)
Total initial stream area =        0.900(Ac.)
Pervious area fraction = 1.000


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      401.000 to Point/Station      402.000
**** IRREGULAR CHANNEL FLOW TRAVEL TIME ****
________________________________________________________________________
Estimated mean flow rate at midpoint of channel =      1.162(CFS)
Depth of flow =   0.262(Ft.), Average velocity =   1.130(Ft/s)
        ******* Irregular Channel Data ***********
------------------------------------------------------------------
Information entered for subchannel number 1 :
Point number      'X' coordinate     'Y' coordinate
        1              0.00              2.00
        2             10.00              1.00
        3             20.00              0.00
        4             40.00              1.00
        5             50.00              2.00
Manning's 'N' friction factor =   0.030
------------------------------------------------------------------
Sub-Channel flow  =      1.162(CFS)
  '     '        flow top width =      7.854(Ft.)
  '     '    velocity=    1.130(Ft/s)
  '     '        area =      1.028(Sq.Ft)
  '     '        Froude number =     0.551

Upstream point elevation =    96.000(Ft.)
Downstream point elevation =    90.200(Ft.)
Flow length =   738.000(Ft.)
Travel time  =   10.88 min.
```

```
Time of concentration =   35.91 min.
Depth of flow =   0.262(Ft.)
Average velocity =   1.130(Ft/s)
Total irregular channel flow =     1.162(CFS)
Irregular channel normal depth above invert elev. =   0.262(Ft.)
Average velocity of channel(s) =   1.130(Ft/s)
 Adding area flow to channel
UNDEVELOPED (fair cover) subarea
Runoff Coefficient = 0.575
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 1.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.000
RI index for soil(AMC 2)  =  69.00
Pervious area fraction =  1.000; Impervious fraction =  0.000
Rainfall intensity =      1.060(In/Hr) for a    10.0 year storm
Subarea runoff =      0.866(CFS) for      1.420(Ac.)
Total runoff =      1.564(CFS)  Total area =       2.320(Ac.)
Depth of flow =   0.293(Ft.), Average velocity =   1.217(Ft/s)
End of computations, total study area =            2.32 (Ac.)
The following figures may
be used for a unit hydrograph study of the same area.

Area averaged pervious area fraction(Ap) = 1.000
Area averaged RI index number =  69.0
```

ttm37909dev100c

Riverside County Rational Hydrology Program

CIVILCADD/CIVILDESIGN Engineering Software,(c) 1989 - 2014 Version 9.0
Rational Hydrology Study Date: 04/04/20
File:ttm37909dev100c.out

TTM 37909 - Iris Avenue
Developed Condition - Area 5
100 year flow rates
RMB

********* Hydrology Study Control Information **********

English (in-lb) Units used in input data file

Program License Serial Number 6288

Rational Method Hydrology Program based on
Riverside County Flood Control & Water Conservation District
1978 hydrology manual

Storm event (year) = 100.00 Antecedent Moisture Condition = 3

Standard intensity-duration curves data (Plate D-4.1)
For the [Sunnymead-Moreno] area used.
10 year storm 10 minute intensity = 2.010(In/Hr)
10 year storm 60 minute intensity = 0.820(In/Hr)
100 year storm 10 minute intensity = 2.940(In/Hr)
100 year storm 60 minute intensity = 1.200(In/Hr)

Storm event year = 100.0
Calculated rainfall intensity data:
1 hour intensity = 1.200(In/Hr)
Slope of intensity duration curve = 0.5000

++

Process from Point/Station 400.000 to Point/Station 501.000
**** INITIAL AREA EVALUATION ****

```
Initial area flow distance =   559.000(Ft.)
Top (of initial area) elevation =    99.300(Ft.)
Bottom (of initial area) elevation =    96.000(Ft.)
Difference in elevation =     3.300(Ft.)
Slope =    0.00590  s(percent)=       0.59
TC = k(0.710)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration =   24.889 min.
Rainfall intensity =      1.863(In/Hr) for a   100.0 year storm
UNDEVELOPED (fair cover) subarea
Runoff Coefficient = 0.795
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 1.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.000
RI index for soil(AMC 3)  =  84.40
Pervious area fraction =  1.000; Impervious fraction =  0.000
Initial subarea runoff =      0.400(CFS)
Total initial stream area =        0.270(Ac.)
Pervious area fraction = 1.000


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Process from Point/Station      501.000 to Point/Station      502.000
**** IRREGULAR CHANNEL FLOW TRAVEL TIME ****
________________________________________________________________________
Estimated mean flow rate at midpoint of channel =      0.652(CFS)
Depth of flow =   0.336(Ft.), Average velocity =   1.152(Ft/s)
        ******* Irregular Channel Data ***********
------------------------------------------------------------------
Information entered for subchannel number 1 :
Point number      'X' coordinate     'Y' coordinate
        1              0.00              1.00
        2              2.50              0.50
        3              5.00              0.00
        4              7.50              0.50
        5             10.00              1.00
Manning's 'N' friction factor =   0.030
------------------------------------------------------------------
Sub-Channel flow  =      0.652(CFS)
  '     '        flow top width =      3.364(Ft.)
  '     '    velocity=    1.152(Ft/s)
  '     '        area =      0.566(Sq.Ft)
  '     '        Froude number =     0.495

Upstream point elevation =    96.000(Ft.)
Downstream point elevation =    91.900(Ft.)
Flow length =   686.000(Ft.)
Travel time  =    9.93 min.
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ttm37909dev100c

```
Time of concentration =   34.82 min.
Depth of flow =   0.336(Ft.)
Average velocity =   1.152(Ft/s)
Total irregular channel flow =     0.652(CFS)
Irregular channel normal depth above invert elev. =   0.336(Ft.)
Average velocity of channel(s) =   1.152(Ft/s)
 Adding area flow to channel
UNDEVELOPED (fair cover) subarea
Runoff Coefficient = 0.778
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 1.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.000
RI index for soil(AMC 3)  =  84.40
Pervious area fraction =  1.000; Impervious fraction =  0.000
Rainfall intensity =      1.575(In/Hr) for a   100.0 year storm
Subarea runoff =      0.417(CFS) for      0.340(Ac.)
Total runoff =      0.817(CFS)  Total area =       0.610(Ac.)
Depth of flow =   0.366(Ft.), Average velocity =   1.219(Ft/s)
End of computations, total study area =            0.61 (Ac.)
The following figures may
be used for a unit hydrograph study of the same area.

Area averaged pervious area fraction(Ap) = 1.000
Area averaged RI index number =  69.0
```

TTM37909deva100

Riverside County Rational Hydrology Program

CIVILCADD/CIVILDESIGN Engineering Software,(c) 1989 - 2014 Version 9.0
Rational Hydrology Study Date: 04/03/20
File:TTM37909deva100.out

TTM 37909 - Iris Avenue
Developed Condition Areas 1 - 2 & 3
100 year flow rates
RMB

********* Hydrology Study Control Information **********

English (in-lb) Units used in input data file

Program License Serial Number 6288

Rational Method Hydrology Program based on
Riverside County Flood Control & Water Conservation District
1978 hydrology manual

Storm event (year) = 100.00 Antecedent Moisture Condition = 3

Standard intensity-duration curves data (Plate D-4.1)
For the [Sunnymead-Moreno] area used.
10 year storm 10 minute intensity = 2.010(In/Hr)
10 year storm 60 minute intensity = 0.820(In/Hr)
100 year storm 10 minute intensity = 2.940(In/Hr)
100 year storm 60 minute intensity = 1.200(In/Hr)

Storm event year = 100.0
Calculated rainfall intensity data:
1 hour intensity = 1.200(In/Hr)
Slope of intensity duration curve = 0.5000

++

Process from Point/Station 100.000 to Point/Station 101.000
**** INITIAL AREA EVALUATION ****

```
Initial area flow distance =   957.000(Ft.)
Top (of initial area) elevation =    99.300(Ft.)
Bottom (of initial area) elevation =    93.600(Ft.)
Difference in elevation =     5.700(Ft.)
Slope =    0.00596  s(percent)=       0.60
TC = k(0.336)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration =   14.578 min.
Rainfall intensity =      2.434(In/Hr) for a   100.0 year storm
MOBILE HOME PARK subarea type
Runoff Coefficient = 0.865
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 1.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.000
RI index for soil(AMC 3)  =  74.80
Pervious area fraction =  0.250; Impervious fraction =  0.750
Initial subarea runoff =      6.401(CFS)
Total initial stream area =        3.040(Ac.)
Pervious area fraction = 0.250


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      101.500 to Point/Station      201.500
**** PIPEFLOW TRAVEL TIME (User specified size) ****
________________________________________________________________________
Upstream point/station elevation =    89.600(Ft.)
Downstream point/station elevation =    88.800(Ft.)
Pipe length  =   129.00(Ft.)   Manning's N = 0.013
No. of pipes = 1  Required pipe flow  =     6.401(CFS)
Given pipe size =     24.00(In.)
Calculated individual pipe flow  =     6.401(CFS)
Normal flow depth in pipe =    9.95(In.)
Flow top width inside pipe =   23.65(In.)
Critical Depth =   10.74(In.)
Pipe flow velocity =      5.21(Ft/s)
Travel time through pipe =    0.41 min.
Time of concentration (TC) =    14.99 min.


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      101.500 to Point/Station      201.500
**** CONFLUENCE OF MINOR STREAMS ****
________________________________________________________________________
Along Main Stream number: 1 in normal stream number 1
Stream flow area =      3.040(Ac.)
Runoff from this stream =      6.401(CFS)
Time of concentration =   14.99 min.
Rainfall intensity =     2.401(In/Hr)
```

++
Process from Point/Station 200.000 to Point/Station 201.000
**** INITIAL AREA EVALUATION ****
_____
Initial area flow distance = 870.000(Ft.)
Top (of initial area) elevation = 98.500(Ft.)
Bottom (of initial area) elevation = 92.800(Ft.)
Difference in elevation = 5.700(Ft.)
Slope = 0.00655 s(percent)= 0.66
TC = k(0.336)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration = 13.768 min.
Rainfall intensity = 2.505(In/Hr) for a 100.0 year storm
MOBILE HOME PARK subarea type
Runoff Coefficient = 0.866
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 1.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.000
RI index for soil(AMC 3) = 74.80
Pervious area fraction = 0.250; Impervious fraction = 0.750
Initial subarea runoff = 8.849(CFS)
Total initial stream area = 4.080(Ac.)
Pervious area fraction = 0.250

++
Process from Point/Station 200.000 to Point/Station 201.000
**** CONFLUENCE OF MINOR STREAMS ****
_____
Along Main Stream number: 1 in normal stream number 2
Stream flow area = 4.080(Ac.)
Runoff from this stream = 8.849(CFS)
Time of concentration = 13.77 min.
Rainfall intensity = 2.505(In/Hr)
Summary of stream data:

Stream No.	Flow rate (CFS)	TC (min)	Rainfall Intensity (In/Hr)
1	6.401	14.99	2.401
2	8.849	13.77	2.505

Largest stream flow has longer or shorter time of concentration
Qp = 8.849 + sum of
Qa Tb/Ta
6.401 * 0.918 = 5.879

```
Qp =     14.728

Total of 2 streams to confluence:
Flow rates before confluence point:
       6.401       8.849
Area of streams before confluence:
        3.040        4.080
Results of confluence:
Total flow rate =     14.728(CFS)
Time of concentration =    13.768 min.
Effective stream area after confluence =      7.120(Ac.)


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      201.500 to Point/Station      202.000
**** PIPEFLOW TRAVEL TIME (User specified size) ****
________________________________________________________________________
Upstream point/station elevation =    88.800(Ft.)
Downstream point/station elevation =    85.000(Ft.)
Pipe length  =   182.00(Ft.)   Manning's N = 0.013
No. of pipes = 1  Required pipe flow  =    14.728(CFS)
Given pipe size =     24.00(In.)
Calculated individual pipe flow  =    14.728(CFS)
Normal flow depth in pipe =   11.30(In.)
Flow top width inside pipe =   23.96(In.)
Critical Depth =   16.59(In.)
Pipe flow velocity =     10.13(Ft/s)
Travel time through pipe =    0.30 min.
Time of concentration (TC) =    14.07 min.


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      201.500 to Point/Station      202.000
**** SUBAREA FLOW ADDITION ****
________________________________________________________________________
MOBILE HOME PARK subarea type
Runoff Coefficient = 0.865
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 1.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.000
RI index for soil(AMC 3)  =  74.80
Pervious area fraction =  0.250; Impervious fraction =  0.750
Time of concentration =    14.07 min.
Rainfall intensity =      2.478(In/Hr) for a   100.0 year storm
Subarea runoff =      1.244(CFS) for      0.580(Ac.)
Total runoff =     15.972(CFS)  Total area =       7.700(Ac.)
End of computations, total study area =            7.70 (Ac.)
```

The following figures may
be used for a unit hydrograph study of the same area.

Area averaged pervious area fraction(Ap) = 0.250
Area averaged RI index number = 56.0

ttm37909dev100b

Riverside County Rational Hydrology Program

CIVILCADD/CIVILDESIGN Engineering Software,(c) 1989 - 2014 Version 9.0
Rational Hydrology Study Date: 04/04/20
File:ttm37909dev100b.out

TTM 37909 - Iris Avenue
Area 4 - undeveloped
100 year flow rates
RMB

********* Hydrology Study Control Information **********

English (in-lb) Units used in input data file

Program License Serial Number 6288

Rational Method Hydrology Program based on
Riverside County Flood Control & Water Conservation District
1978 hydrology manual

Storm event (year) = 100.00 Antecedent Moisture Condition = 3

Standard intensity-duration curves data (Plate D-4.1)
For the [Sunnymead-Moreno] area used.
10 year storm 10 minute intensity = 2.010(In/Hr)
10 year storm 60 minute intensity = 0.820(In/Hr)
100 year storm 10 minute intensity = 2.940(In/Hr)
100 year storm 60 minute intensity = 1.200(In/Hr)

Storm event year = 100.0
Calculated rainfall intensity data:
1 hour intensity = 1.200(In/Hr)
Slope of intensity duration curve = 0.5000

++

Process from Point/Station 400.000 to Point/Station 401.000
**** INITIAL AREA EVALUATION ****

```
Initial area flow distance =   564.000(Ft.)
Top (of initial area) elevation =    99.300(Ft.)
Bottom (of initial area) elevation =    96.000(Ft.)
Difference in elevation =     3.300(Ft.)
Slope =    0.00585  s(percent)=       0.59
TC = k(0.710)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration =   25.022 min.
Rainfall intensity =      1.858(In/Hr) for a   100.0 year storm
UNDEVELOPED (fair cover) subarea
Runoff Coefficient = 0.795
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 1.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.000
RI index for soil(AMC 3)  =  84.40
Pervious area fraction =  1.000; Impervious fraction =  0.000
Initial subarea runoff =      1.329(CFS)
Total initial stream area =        0.900(Ac.)
Pervious area fraction = 1.000


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      401.000 to Point/Station      402.000
**** IRREGULAR CHANNEL FLOW TRAVEL TIME ****
________________________________________________________________________
Estimated mean flow rate at midpoint of channel =      2.251(CFS)
Depth of flow =   0.335(Ft.), Average velocity =   1.333(Ft/s)
        ******* Irregular Channel Data ***********
------------------------------------------------------------------
Information entered for subchannel number 1 :
Point number      'X' coordinate     'Y' coordinate
        1              0.00              2.00
        2             10.00              1.00
        3             20.00              0.00
        4             40.00              1.00
        5             50.00              2.00
Manning's 'N' friction factor =   0.030
------------------------------------------------------------------
Sub-Channel flow  =      2.251(CFS)
  '     '        flow top width =     10.064(Ft.)
  '     '    velocity=    1.333(Ft/s)
  '     '        area =      1.688(Sq.Ft)
  '     '        Froude number =     0.574

Upstream point elevation =    96.000(Ft.)
Downstream point elevation =    90.200(Ft.)
Flow length =   738.000(Ft.)
Travel time  =    9.23 min.
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```
Time of concentration =   34.25 min.
Depth of flow =   0.335(Ft.)
Average velocity =   1.333(Ft/s)
Total irregular channel flow =     2.251(CFS)
Irregular channel normal depth above invert elev. =   0.335(Ft.)
Average velocity of channel(s) =   1.333(Ft/s)
 Adding area flow to channel
UNDEVELOPED (fair cover) subarea
Runoff Coefficient = 0.779
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 1.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.000
RI index for soil(AMC 3)  =  84.40
Pervious area fraction =  1.000; Impervious fraction =  0.000
Rainfall intensity =      1.588(In/Hr) for a   100.0 year storm
Subarea runoff =      1.757(CFS) for      1.420(Ac.)
Total runoff =      3.086(CFS)  Total area =       2.320(Ac.)
Depth of flow =   0.378(Ft.), Average velocity =   1.443(Ft/s)
End of computations, total study area =            2.32 (Ac.)
The following figures may
be used for a unit hydrograph study of the same area.

Area averaged pervious area fraction(Ap) = 1.000
Area averaged RI index number =  69.0
```

ttm37909dev100c

Riverside County Rational Hydrology Program

CIVILCADD/CIVILDESIGN Engineering Software,(c) 1989 - 2014 Version 9.0
Rational Hydrology Study Date: 04/04/20
File:ttm37909dev100c.out

TTM 37909 - Iris Avenue
Developed Condition - Area 5
100 year flow rates
RMB

********* Hydrology Study Control Information **********

English (in-lb) Units used in input data file

Program License Serial Number 6288

Rational Method Hydrology Program based on
Riverside County Flood Control & Water Conservation District
1978 hydrology manual

Storm event (year) = 100.00 Antecedent Moisture Condition = 3

Standard intensity-duration curves data (Plate D-4.1)
For the [Sunnymead-Moreno] area used.
10 year storm 10 minute intensity = 2.010(In/Hr)
10 year storm 60 minute intensity = 0.820(In/Hr)
100 year storm 10 minute intensity = 2.940(In/Hr)
100 year storm 60 minute intensity = 1.200(In/Hr)

Storm event year = 100.0
Calculated rainfall intensity data:
1 hour intensity = 1.200(In/Hr)
Slope of intensity duration curve = 0.5000

++

Process from Point/Station 400.000 to Point/Station 501.000
**** INITIAL AREA EVALUATION ****

```
Initial area flow distance =   559.000(Ft.)
Top (of initial area) elevation =    99.300(Ft.)
Bottom (of initial area) elevation =    96.000(Ft.)
Difference in elevation =     3.300(Ft.)
Slope =    0.00590  s(percent)=       0.59
TC = k(0.710)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration =   24.889 min.
Rainfall intensity =      1.863(In/Hr) for a   100.0 year storm
UNDEVELOPED (fair cover) subarea
Runoff Coefficient = 0.795
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 1.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.000
RI index for soil(AMC 3)  =  84.40
Pervious area fraction =  1.000; Impervious fraction =  0.000
Initial subarea runoff =      0.400(CFS)
Total initial stream area =        0.270(Ac.)
Pervious area fraction = 1.000

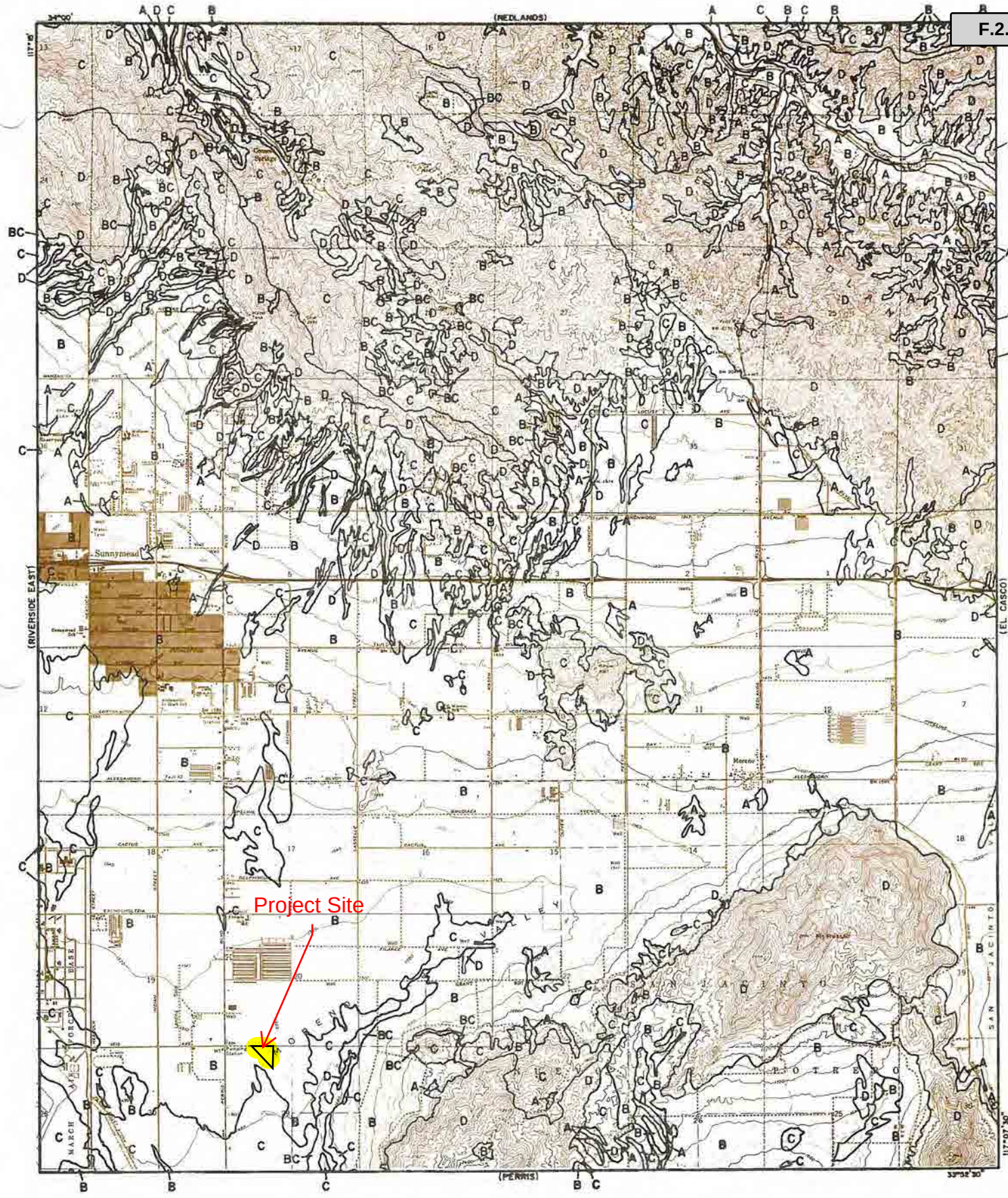

++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      501.000 to Point/Station      502.000
**** IRREGULAR CHANNEL FLOW TRAVEL TIME ****
________________________________________________________________________
Estimated mean flow rate at midpoint of channel =      0.652(CFS)
Depth of flow =   0.336(Ft.), Average velocity =   1.152(Ft/s)
        ******* Irregular Channel Data ***********
------------------------------------------------------------------
Information entered for subchannel number 1 :
Point number      'X' coordinate     'Y' coordinate
        1              0.00              1.00
        2              2.50              0.50
        3              5.00              0.00
        4              7.50              0.50
        5             10.00              1.00
Manning's 'N' friction factor =   0.030
------------------------------------------------------------------
Sub-Channel flow  =      0.652(CFS)
  '     '        flow top width =      3.364(Ft.)
  '     '    velocity=    1.152(Ft/s)
  '     '        area =      0.566(Sq.Ft)
  '     '        Froude number =     0.495

Upstream point elevation =    96.000(Ft.)
Downstream point elevation =    91.900(Ft.)
Flow length =   686.000(Ft.)
Travel time  =    9.93 min.
```

ttm37909dev100c

```
Time of concentration =   34.82 min.
Depth of flow =   0.336(Ft.)
Average velocity =   1.152(Ft/s)
Total irregular channel flow =     0.652(CFS)
Irregular channel normal depth above invert elev. =   0.336(Ft.)
Average velocity of channel(s) =   1.152(Ft/s)
 Adding area flow to channel
UNDEVELOPED (fair cover) subarea
Runoff Coefficient = 0.778
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 1.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.000
RI index for soil(AMC 3)  =  84.40
Pervious area fraction =  1.000; Impervious fraction =  0.000
Rainfall intensity =      1.575(In/Hr) for a   100.0 year storm
Subarea runoff =      0.417(CFS) for      0.340(Ac.)
Total runoff =      0.817(CFS)  Total area =       0.610(Ac.)
Depth of flow =   0.366(Ft.), Average velocity =   1.219(Ft/s)
End of computations, total study area =            0.61 (Ac.)
The following figures may
be used for a unit hydrograph study of the same area.

Area averaged pervious area fraction(Ap) = 1.000
Area averaged RI index number =  69.0
```



LEGEND

SOILS GROUP BOUNDARY

A SOILS GROUP DESIGNATION

RCFC & WCD

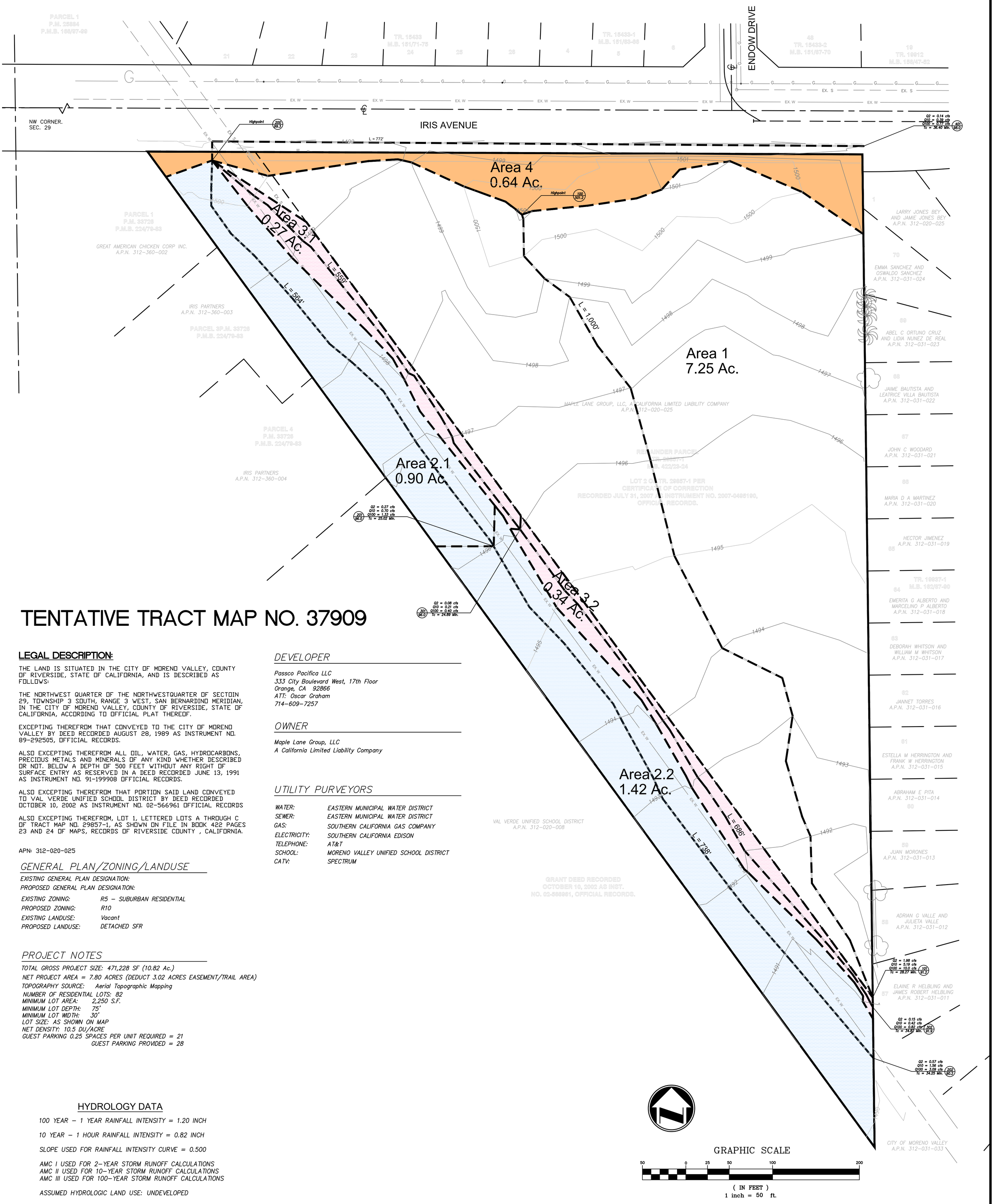
HYDROLOGY MANUAL

0 FEET 5000

HYDROLOGIC SOILS GROUP MAP FOR SUNNYMEAD

PLATE C-1.11

Tentative Tract Map No. 37909



TENTATIVE TRACT MAP NO. 37909

LEGAL DESCRIPTION:

THE LAND IS SITUATED IN THE CITY OF MORENO VALLEY, COUNTY OF RIVERSIDE, STATE OF CALIFORNIA, AND IS DESCRIBED AS FOLLOWS:

THE NORTHWEST QUARTER OF THE NORTHWESTQUARTER OF SECTOIN 29, TOWNSHIP 3 SOUTH, RANGE 3 WEST, SAN BERNARDINO MERIDIAN, IN THE CITY OF MORENO VALLEY, COUNTY OF RIVERSIDE, STATE OF CALIFORNIA, ACCORDING TO OFFICIAL PLAT THEREOF.

EXCEPTING THEREFROM THAT CONVEYED TO THE CITY OF MORENO VALLEY BY DEED RECORDED AUGUST 28, 1989 AS INSTRUMENT NO. 89-292505, OFFICIAL RECORDS.

ALSO EXCEPTING THEREFROM ALL OIL, WATER, GAS, HYDROCARBONS, PRECIOUS METALS AND MINERALS OF ANY KIND WHETHER DESCRIBED OR NOT. BELOW A DEPTH OF 500 FEET WITHOUT ANY RIGHT OF SURFACE ENTRY AS RESERVED IN A DEED RECORDED JUNE 13, 1991 AS INSTRUMENT NO. 91-199908 OFFICIAL RECORDS.

ALSO EXCEPTING THEREFROM THAT PORTION SAID LAND CONVEYED TO VAL VERDE UNIFIED SCHOOL DISTRICT BY DEED RECORDED OCTOBER 10, 2002 AS INSTRUMENT NO. 02-566961 OFFICIAL RECORDS

ALSO EXCEPTING THEREFROM, LOT 1, LETTERED LOTS A THROUGH C OF TRACT MAP NO. 29857-1, AS SHOWN ON FILE IN BOOK 422 PAGES 23 AND 24 OF MAPS, RECORDS OF RIVERSIDE COUNTY , CALIFORNIA.

APN: 312-020-025

GENERAL PLAN/ZONING/LANDUSE

EXISTING GENERAL PLAN DESIGNATION:
PROPOSED GENERAL PLAN DESIGNATION:

EXISTING ZONING:	*R5 – SUBURBAN RESIDENTIAL*
PROPOSED ZONING:	*R10*
EXISTING LANDUSE:	*Vacant*
PROPOSED LANDUSE:	*DETACHED SFR*

PROJECT NOTES

TOTAL GROSS PROJECT SIZE: 471,228 SF (10.82 Ac.)
NET PROJECT AREA = 7.80 ACRES (DEDUCT 3.02 ACRES EASEMENT/TRAIL AREA)
TOPOGRAPHY SOURCE: Aerial Topographic Mapping
NUMBER OF RESIDENTIAL LOTS: 82
MINIMUM LOT AREA: 2,250 S.F.
MINIMUM LOT DEPTH: 75'
MINIMUM LOT WIDTH: 30'
LOT SIZE: AS SHOWN ON MAP
NET DENSITY: 10.5 DU/ACRE
GUEST PARKING 0.25 SPACES PER UNIT REQUIRED = 21
GUEST PARKING PROVIDED = 28

DEVELOPER

Passco Pacifica LLC
333 City Boulevard West, 17th Floor
Orange, CA 92866
ATT: Oscar Graham
714-609-7257

OWNER

Maple Lane Group, LLC
A California Limited Liability Company

UTILITY PURVEYORS

WATER:	*EASTERN MUNICIPAL WATER DISTRICT*
SEWER:	*EASTERN MUNICIPAL WATER DISTRICT*
GAS:	*SOUTHERN CALIFORNIA GAS COMPANY*
ELECTRICITY:	*SOUTHERN CALIFORNIA EDISON*
TELEPHONE:	*AT&T*
SCHOOL:	*MORENO VALLEY UNIFIED SCHOOL DISTRICT*
CATV:	*SPECTRUM*

HYDROLOGY DATA

100 YEAR – 1 YEAR RAINFALL INTENSITY = 1.20 INCH

10 YEAR – 1 HOUR RAINFALL INTENSITY = 0.82 INCH

SLOPE USED FOR RAINFALL INTENSITY CURVE = 0.500

AMC I USED FOR 2-YEAR STORM RUNOFF CALCULATIONS
AMC II USED FOR 10-YEAR STORM RUNOFF CALCULATIONS
AMC III USED FOR 100-YEAR STORM RUNOFF CALCULATIONS

ASSUMED HYDROLOGIC LAND USE: UNDEVELOPED

SOIL TYPE B

HYDROLOGY LEGEND

Q100 = 100-YEAR FLOW RATE

Q10 = 10-YEAR FLOW RATE

Q2 = 2-YEAR FLOW RATE

Tc = TIME OF CONCENTRATION – MINUTES

L = FLOW PATH LENGTH IN FEET

101 / 54.8 — *NODE NUMBER / ELEVATION*

DRAINAGE AREA BOUNDARY

DRAINAGE FLOW PATH

- AREA 1 - 7.25 ACRES
- AREA 2 - 2.32 ACRES
- AREA 3 - 0.61 ACRES
- AREA 4 - 0.64 ACRES

GRAPHIC SCALE

50 0 25 50 100 200

(IN FEET)
1 inch = 50 ft.

REGISTERED PROFESSIONAL ENGINEER — ROBERT MARK BEERS — No. 39405 Exp. 12-31-21 — CIVIL — STATE OF CALIFORNIA

ROBERT BEERS
8175 Limonite Avenue, Suite E
Jurupa Valley, CA 92509
Ph. (951) 317-2041 Fax (909) 360-2070

Date — Robert M. Beers — R.C.E. 39405 Expires 12-31-21

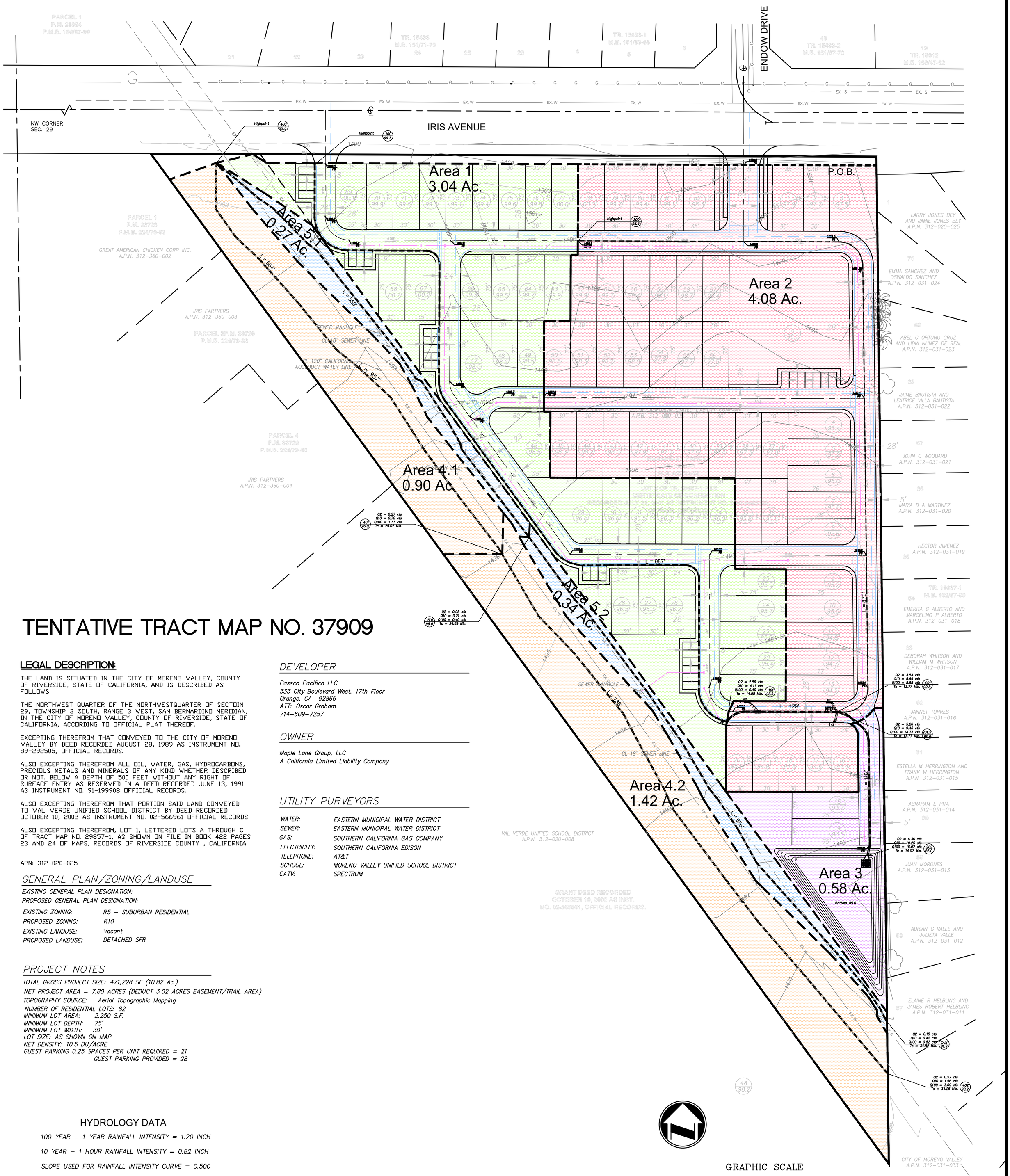
PREPARED FOR:

Passco Pacifica LLC
333 City Boulevard West
17th Floor
Orange, CA 92866
PHONE: (714) 609-7257

TTM 37909
Existing Condition
City of Moreno Valley
CALIFORNIA

DATE April 4, 2020
JOB NO.
DRAWN BY R.A.H.
CHECKED BY R.M.B.
SHEET 1 OF 1

Tentative Tract Map No. 37909



TENTATIVE TRACT MAP NO. 37909

LEGAL DESCRIPTION:

THE LAND IS SITUATED IN THE CITY OF MORENO VALLEY, COUNTY OF RIVERSIDE, STATE OF CALIFORNIA, AND IS DESCRIBED AS FOLLOWS:

THE NORTHWEST QUARTER OF THE NORTHWESTQUARTER OF SECTOIN 29, TOWNSHIP 3 SOUTH, RANGE 3 WEST, SAN BERNARDINO MERIDIAN, IN THE CITY OF MORENO VALLEY, COUNTY OF RIVERSIDE, STATE OF CALIFORNIA, ACCORDING TO OFFICIAL PLAT THEREOF.

EXCEPTING THEREFROM THAT CONVEYED TO THE CITY OF MORENO VALLEY BY DEED RECORDED AUGUST 28, 1989 AS INSTRUMENT NO. 89-292505, OFFICIAL RECORDS.

ALSO EXCEPTING THEREFROM ALL OIL, WATER, GAS, HYDROCARBONS, PRECIOUS METALS AND MINERALS OF ANY KIND WHETHER DESCRIBED OR NOT. BELOW A DEPTH OF 500 FEET WITHOUT ANY RIGHT OF SURFACE ENTRY AS RESERVED IN A DEED RECORDED JUNE 13, 1991 AS INSTRUMENT NO. 91-199908 OFFICIAL RECORDS.

ALSO EXCEPTING THEREFROM THAT PORTION SAID LAND CONVEYED TO VAL VERDE UNIFIED SCHOOL DISTRICT BY DEED RECORDED OCTOBER 10, 2002 AS INSTRUMENT NO. 02-566961 OFFICIAL RECORDS

ALSO EXCEPTING THEREFROM, LOT 1, LETTERED LOTS A THROUGH C OF TRACT MAP NO. 29857-1, AS SHOWN ON FILE IN BOOK 422 PAGES 23 AND 24 OF MAPS, RECORDS OF RIVERSIDE COUNTY , CALIFORNIA.

APN: 312-020-025

GENERAL PLAN/ZONING/LANDUSE

EXISTING GENERAL PLAN DESIGNATION:
PROPOSED GENERAL PLAN DESIGNATION:

EXISTING ZONING:	*R5 – SUBURBAN RESIDENTIAL*
PROPOSED ZONING:	*R10*
EXISTING LANDUSE:	*Vacant*
PROPOSED LANDUSE:	*DETACHED SFR*

PROJECT NOTES

TOTAL GROSS PROJECT SIZE: 471,228 SF (10.82 Ac.)
NET PROJECT AREA = 7.80 ACRES (DEDUCT 3.02 ACRES EASEMENT/TRAIL AREA)
TOPOGRAPHY SOURCE: Aerial Topographic Mapping
NUMBER OF RESIDENTIAL LOTS: 82
MINIMUM LOT AREA: 2,250 S.F.
MINIMUM LOT DEPTH: 75'
MINIMUM LOT WIDTH: 30'
LOT SIZE: AS SHOWN ON MAP
NET DENSITY: 10.5 DU/ACRE
GUEST PARKING 0.25 SPACES PER UNIT REQUIRED = 21
GUEST PARKING PROVIDED = 28

DEVELOPER

Passco Pacifica LLC
333 City Boulevard West, 17th Floor
Orange, CA 92866
ATT: Oscar Graham
714-609-7257

OWNER

Maple Lane Group, LLC
A California Limited Liability Company

UTILITY PURVEYORS

WATER:	*EASTERN MUNICIPAL WATER DISTRICT*
SEWER:	*EASTERN MUNICIPAL WATER DISTRICT*
GAS:	*SOUTHERN CALIFORNIA GAS COMPANY*
ELECTRICITY:	*SOUTHERN CALIFORNIA EDISON*
TELEPHONE:	*AT&T*
SCHOOL:	*MORENO VALLEY UNIFIED SCHOOL DISTRICT*
CATV:	*SPECTRUM*

HYDROLOGY DATA

100 YEAR – 1 YEAR RAINFALL INTENSITY = 1.20 INCH

10 YEAR – 1 HOUR RAINFALL INTENSITY = 0.82 INCH

SLOPE USED FOR RAINFALL INTENSITY CURVE = 0.500

AMC I USED FOR 2-YEAR STORM RUNOFF CALCULATIONS
AMC II USED FOR 10-YEAR STORM RUNOFF CALCULATIONS
AMC III USED FOR 100-YEAR STORM RUNOFF CALCULATIONS

ASSUMED HYDROLOGIC LAND USE: UNDEVELOPED AND MOBILE HOME PARK FOR SFR

SOIL TYPE B

HYDROLOGY LEGEND

Q100 = 100-YEAR FLOW RATE
Q10 = 10-YEAR FLOW RATE
Q2 = 2-YEAR FLOW RATE
Tc = TIME OF CONCENTRATION – MINUTES
L = FLOW PATH LENGTH IN FEET
101 / 54.8 — NODE NUMBER / ELEVATION
DRAINAGE AREA BOUNDARY
DRAINAGE FLOW PATH

- AREA 1 - 3.04 ACRES
- AREA 2 - 4.08 ACRES
- AREA 3 - 0.58 ACRES
- AREA 4 - 2.32 ACRES
- AREA 5 - 0.61 ACRES

GRAPHIC SCALE

50 0 25 50 100 200

(IN FEET)
1 inch = 50 ft.

REGISTERED PROFESSIONAL ENGINEER — ROBERT MARK BEERS — No. 39405 Exp. 12-31-21 — CIVIL — STATE OF CALIFORNIA

ROBERT BEERS
8175 Limonite Avenue, Suite E
Jurupa Valley, CA 92509
Ph. (951) 317-2041 Fax (909) 360-2070

Date _____ Robert M. Beers R.C.E. 39405 Expires 12-31-21

PREPARED FOR:
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SHEET 1 OF 1

Appendix H to Initial Study
Preliminary Project Specific Water Quality Management Plan

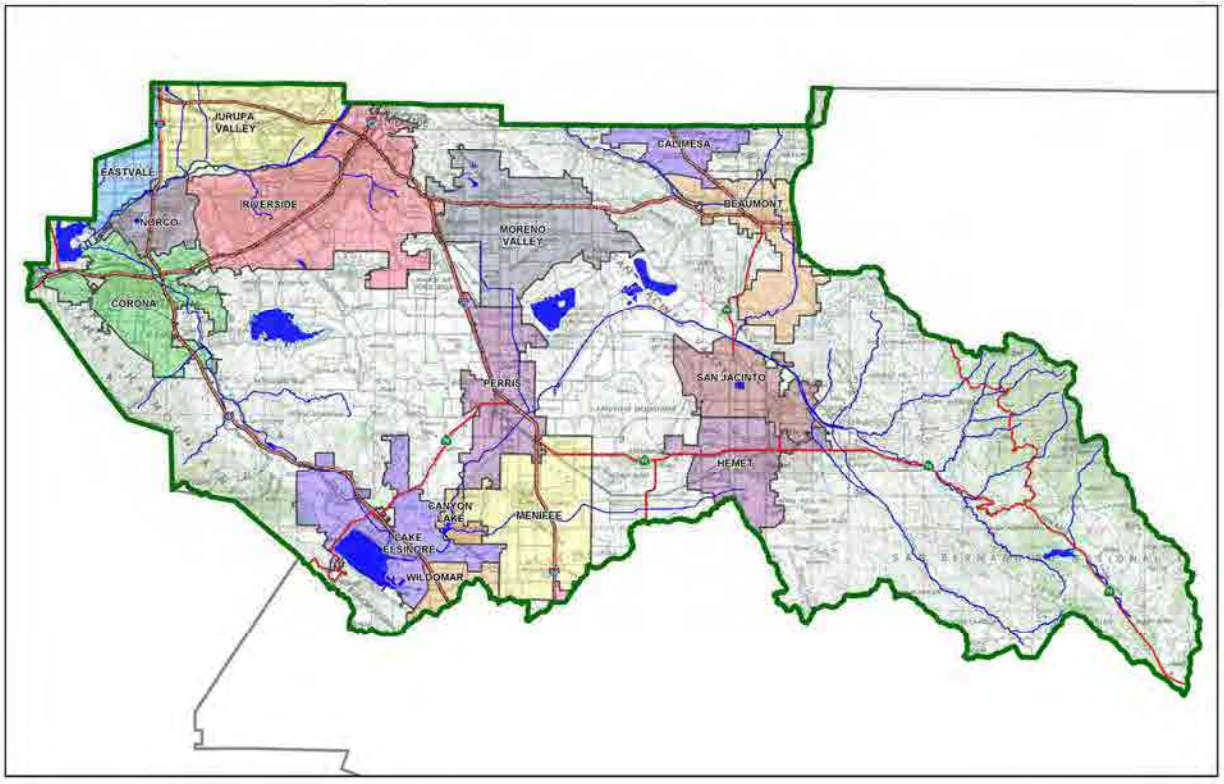
Project Specific Water Quality Management Plan

*A Template for Projects located within the **Santa Ana Watershed** Region of Riverside County*

Project Title: Iris Park TTM 37909

Development No: Iris Park TTM 37909

Design Review/Case No:



☒ **Preliminary**
☐ **Final**

Original Date Prepared: April 2020

Revision Date(s):

Prepared for Compliance with
Regional Board Order No. **R8-2010-0033**
Template revised June 30, 2016

Contact Information:
Prepared for:
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333 City Boulevard West 17th Floor
Orange, CA 92866
Tel: (714) 609-7257

Prepared by:
adkan ENGINEERS
6879 Airport Drive
Riverside, CA 92504
Tel: (951) 688-0241

OWNER'S CERTIFICATION

This Project-Specific Water Quality Management Plan (WQMP) has been prepared for Passco Pacifica, LLC by Adkan Engineers for Iris Park Tract 37909 project.

This WQMP is intended to comply with the requirements of City of Moreno Valley which includes the requirement for the preparation and implementation of a Project-Specific WQMP.

The undersigned, while owning the property/project described in the preceding paragraph, shall be responsible for the implementation and funding of this WQMP and will ensure that this WQMP is amended as appropriate to reflect up-to-date conditions on the site. In addition, the property owner accepts responsibility for interim operation and maintenance of Stormwater BMPs until such time as this responsibility is formally transferred to a subsequent owner. This WQMP will be reviewed with the facility operator, facility supervisors, employees, tenants, maintenance and service contractors, or any other party (or parties) having responsibility for implementing portions of this WQMP. At least one copy of this WQMP will be maintained at the project site or project office in perpetuity. The undersigned is authorized to certify and to approve implementation of this WQMP. The undersigned is aware that implementation of this WQMP is enforceable under City of Moreno Valley Water Quality Ordinance (Municipal Code Section 9.10.080).

"I, the undersigned, certify under penalty of law that the provisions of this WQMP have been reviewed and accepted and that the WQMP will be transferred to future successors in interest."

Owner's Signature	Date
Owner's Printed Name	Owner's Title/Position

PREPARER'S CERTIFICATION

"The selection, sizing and design of stormwater treatment and other stormwater quality and quantity control measures in this plan meet the requirements of Regional Water Quality Control Board Order No. **R8-2010-0033** and any subsequent amendments thereto."

Preparer's Signature	Date
Michael Brendecke Preparer's Printed Name	Project Manager Preparer's Title/Position

Preparer's Licensure:

Table of Contents

List of Tables

List of Appendices

Section A: Project and Site Information

PROJECT INFORMATION		
Type of Project:	Residential	
Planning Area:	Residential	
Community Name:	Moreno Valley	
Development Name:	Iris Park Tract 37909	
PROJECT LOCATION		
Latitude & Longitude (DMS): 33.887903, -117.222970		
Project Watershed and Sub-Watershed: Santa Ana River		
Gross Acres: 10.82		
APN(s): 312-020-025		
Map Book and Page No.: Parcel Map Book 224 Page 79-83		
PROJECT CHARACTERISTICS		
Proposed or Potential Land Use(s)	R5 Suburban Residential	
Proposed or Potential SIC Code(s)	1522	
Area of Impervious Project Footprint (SF)	332,910 SF	
Total Area of proposed Impervious Surfaces within the Project Footprint (SF)/or Replacement	332,910 SF	
Does the project consist of offsite road improvements?	☐ Y	☒ N
Does the project propose to construct unpaved roads?	☐ Y	☒ N
Is the project part of a larger common plan of development (phased project)?	☐ Y	☒ N
EXISTING SITE CHARACTERISTICS		
Total area of existing Impervious Surfaces within the Project limits Footprint (SF)	0 sf	
Is the project located within any MSHCP Criteria Cell?	☐ Y	☒ N
If so, identify the Cell number:	N/A	
Are there any natural hydrologic features on the project site?	☐ Y	☒ N
Is a Geotechnical Report attached?	☒ Y	☐ N
If no Geotech. Report, list the NRCS soils type(s) present on the site (A, B, C and/or D)	B	
What is the Water Quality Design Storm Depth for the project?	0.65	

The planned development will consist of 82 single-family residences, street improvements, onsite parking, community park and a stormwater treatment area (Bio-retention Basin) in the southeast corner of the site. All onsite runoff will flow to the south as per the existing drainage path.

A.1 Maps and Site Plans

When completing your Project-Specific WQMP, include a map of the local vicinity and existing site. In addition, include all grading, drainage, landscape/plant palette and other pertinent construction plans in Appendix 2. At a **minimum**, your WQMP Site Plan should include the following:

- Drainage Management Areas
- Proposed Structural BMPs
- Drainage Path
- Drainage Infrastructure, Inlets, Overflows
- Source Control BMPs
- Buildings, Roof Lines, Downspouts
- Impervious Surfaces
- Standard Labeling
- BMP Locations (Lat/Long)

Use your discretion on whether or not you may need to create multiple sheets or can appropriately accommodate these features on one or two sheets. Keep in mind that the Co-Permittee plan reviewer must be able to easily analyze your project utilizing this template and its associated site plans and maps.

A.1 Identify Receiving Waters

Using Table A.1 below, list in order of upstream to downstream, the receiving waters that the project site is tributary to. Continue to fill each row with the Receiving Water's 303(d) listed impairments (if any), designated beneficial uses, and proximity, if any, to a RARE beneficial use. Include a map of the receiving waters in Appendix 1.

Table A.1 Identification of Receiving Waters

Receiving Waters	EPA Approved 303(d) List Impairments	Designated Beneficial Uses	Proximity to RARE Beneficial Use
Perris Valley Channel	N/A	N/A	Not a RARE water body
Canyon Lake (Railroad Canyon Reservoir)	Pathogens, Nutrients	MUN, AGR, GWR, REC1, REC2, WARM, WILD	Not a RARE water body
Lake Elsinore	Nutrients, Organic Enrichment/Low Dissolved Oxygen	REC1, REC2, WARM, WILD	Not a RARE water body

A.2 Additional Permits/Approvals required for the Project:

Table A.2 Other Applicable Permits

Agency	Permit Required	
State Department of Fish and Game, 1602 Streambed Alteration Agreement	☐ Y	☒ N
State Water Resources Control Board, Clean Water Act (CWA) Section 401 Water Quality Cert.	☐ Y	☒ N
US Army Corps of Engineers, CWA Section 404 Permit	☐ Y	☒ N
US Fish and Wildlife, Endangered Species Act Section 7 Biological Opinion	☐ Y	☒ N
Statewide Construction General Permit Coverage	☒ Y	☐ N
Statewide Industrial General Permit Coverage	☐ Y	☒ N
Western Riverside MSHCP Consistency Approval (e.g., JPR, DBESP)	☐ Y	☒ N
Other *(please list in the space below as required)* City of Moreno Valley Grading permits, encroachment permits	☒ Y	☐ N

If yes is answered to any of the questions above, the Co-Permittee may require proof of approval/coverage from those agencies as applicable including documentation of any associated requirements that may affect this Project-Specific WQMP.

Section B: Optimize Site Utilization (LID Principles)

Review of the information collected in Section 'A' will aid in identifying the principal constraints on site design and selection of LID BMPs as well as opportunities to reduce imperviousness and incorporate LID Principles into the site and landscape design. For example, **constraints** might include impermeable soils, high groundwater, groundwater pollution or contaminated soils, steep slopes, geotechnical instability, high-intensity land use, heavy pedestrian or vehicular traffic, utility locations or safety concerns. **Opportunities** might include existing natural areas, low areas, oddly configured or otherwise unbuildable parcels, easements and landscape amenities including open space and buffers (which can double as locations for bioretention BMPs), and differences in elevation (which can provide hydraulic head). Prepare a brief narrative for each of the site optimization strategies described below. This narrative will help you as you proceed with your LID design and explain your design decisions to others.

The 2010 Santa Ana MS4 Permit further requires that LID Retention BMPs (Infiltration Only or Harvest and Use) be used unless it can be shown that those BMPs are infeasible. Therefore, it is important that your narrative identify and justify if there are any constraints that would prevent the use of those categories of LID BMPs. Similarly, you should also note opportunities that exist which will be utilized during project design. Upon completion of identifying Constraints and Opportunities, include these on your WQMP Site plan in Appendix 1.

Consideration of "highest and best use" of the discharge should also be considered. For example, Lake Elsinore is evaporating faster than runoff from natural precipitation can recharge it. Requiring infiltration of 85% of runoff events for projects tributary to Lake Elsinore would only exacerbate current water quality problems associated with Pollutant concentration due to lake water evaporation. In cases where rainfall events have low potential to recharge Lake Elsinore (i.e. no hydraulic connection between groundwater to Lake Elsinore, or other factors), requiring infiltration of Urban Runoff from projects is counterproductive to the overall watershed goals. Project proponents, in these cases, would be allowed to discharge Urban Runoff, provided they used equally effective filtration-based BMPs.

Site Optimization

The following questions are based upon Section 3.2 of the WQMP Guidance Document. Review of the WQMP Guidance Document will help you determine how best to optimize your site and subsequently identify opportunities and/or constraints, and document compliance.

Did you identify and preserve existing drainage patterns? If so, how? If not, why?

Yes, existing drainage patterns on site drain all water from the North to the Southeast corner of the site. The proposed design uses catch basins at the southeast area of the site that are ultimately collected at the bioretention basin at the southeast corner of the property and then will connect to a storm drain line at the intersection of Saddlebrook Lane and Red Maple Lane.

Did you identify and protect existing vegetation? If so, how? If not, why?

No, existing natural vegetation will not be protected. All vegetation will be removed.

Did you identify and preserve natural infiltration capacity? If so, how? If not, why?

No, natural infiltration will not be used due to low infiltration rates

Did you identify and minimize impervious area? If so, how? If not, why?

No site design will be typical for this type of development, but will have open spaces of landscape and a community park

Did you identify and disperse runoff to adjacent pervious areas? If so, how? If not, why?

Yes, roof runoff from proposed buildings will be directed to yard swales on site for the majority of the site. However, runoff from impervious areas will drain to a proposed storm drain on site, and then into the bioretention basin on site for water quality purposes.

Section C: Delineate Drainage Management Areas (DMAs)

Utilizing the procedure in Section 3.3 of the WQMP Guidance Document which discusses the methods of delineating and mapping your project site into individual DMAs, complete Table C.1 below to appropriately categorize the types of classification (e.g., Type A, Type B, etc.) per DMA for your project site. Upon completion of this table, this information will then be used to populate and tabulate the corresponding tables for their respective DMA classifications.

Table C.1 DMA Classifications

DMA Name or ID	Surface Type(s)[1][2]	Area (Sq. Ft.)	DMA Type
D.1.1	Roofs/Concrete	127,146.00	D
D.1.2	Streets	84,067.00	D
D.1.3	Pad Landscaping	68,466.00	D
D.1.4	Landscaping	53,231.00	D

[1]Reference Table 2-1 in the WQMP Guidance Document to populate this column
[2]If multi-surface provide back-up

Table C.2 Type 'A', Self-Treating Areas

DMA Name or ID	Area (Sq. Ft.)	Stabilization Type	Irrigation Type (if any)

Table C.3 Type 'B', Self-Retaining Areas

Self-Retaining Area				**Type 'C' DMAs that are draining to the Self-Retaining Area**		
DMA Name/ ID	Post-project surface type	Area (square feet) [A]	Storm Depth (inches) [B]	DMA Name / ID	[C] from Table C.4 = [C]	Required Retention Depth (inches) [D]

$$[D] = [B] + \frac{[B] \cdot [C]}{[A]}$$

Table C.4 Type 'C', Areas that Drain to Self-Retaining Areas

DMA					Receiving Self-Retaining DMA		
DMA Name/ ID	Area (square feet)	Post-project surface type	Impervious fraction	Product	DMA name /ID	Area (square feet)	Ratio
	[A]		[B]	[C] = [A] x [B]		[D]	[C]/[D]

Table C.5 Type 'D', Areas Draining to BMPs

DMA Name or ID	BMP Name or ID
D.1.1	Bio-Retention Basin
D.1.2	Bio-Retention Basin
D.1.3	Bio-Retention Basin
D.1.4	Bio-Retention Basin

Note: More than one drainage management area can drain to a single LID BMP, however, one drainage management area may not drain to more than one BMP.

Section D: Implement LID BMPs

D.1 Infiltration Applicability

Is there an approved downstream 'Highest and Best Use' for stormwater runoff (see discussion in Chapter 2.4.4 of the WQMP Guidance Document for further details)? ☐ Y ☒ N

If yes has been checked, Infiltration BMPs shall not be used for the site; proceed to section D.3

If no, continue working through this section to implement your LID BMPs. It is recommended that you contact your Co-Permittee to verify whether or not your project discharges to an approved downstream 'Highest and Best Use' feature.

Geotechnical Report

A Geotechnical Report or Phase I Environmental Site Assessment may be required by the Copermittee to confirm present and past site characteristics that may affect the use of Infiltration BMPs. In addition, the Co-Permittee, at their discretion, may not require a geotechnical report for small projects as described in Chapter 2 of the WQMP Guidance Document. If a geotechnical report has been prepared, include it in Appendix 3. In addition, if a Phase I Environmental Site Assessment has been prepared, include it in Appendix 4.

Is this project classified as a small project consistent with the requirements of Chapter 2 of the WQMP Guidance Document? ☐ Y ☒ N

Infiltration Feasibility

Table D.1 below is meant to provide a simple means of assessing which DMAs on your site support Infiltration BMPs and is discussed in the WQMP Guidance Document in Chapter 2.4.5. Check the appropriate box for each question and then list affected DMAs as applicable. If additional space is needed, add a row below the corresponding answer.

Table D.1 Infiltration Feasibility

Does the project site…	YES	NO
…have any DMAs with a seasonal high groundwater mark shallower than 10 feet?		X
If Yes, list affected DMAs:		
…have any DMAs located within 100 feet of a water supply well?		X
If Yes, list affected DMAs:		
…have any areas identified by the geotechnical report as posing a public safety risk where infiltration of stormwater could have a negative impact?		X
If Yes, list affected DMAs:		
…have measured in-situ infiltration rates of less than 1.6 inches / hour?	X	
If Yes, list affected DMAs:		
…have significant cut and/or fill conditions that would preclude in-situ testing of infiltration rates at the final infiltration surface?		X
If Yes, list affected DMAs:		
…geotechnical report identify other site-specific factors that would preclude effective and safe infiltration?		X
Describe here:		

If you answered "Yes" to any of the questions above for any DMA, Infiltration BMPs should not be used for those DMAs and you should proceed to the assessment for Harvest and Use below.

D.2 Harvest and Use Assessment

Please check what applies*:*

☐ Reclaimed water will be used for the non-potable water demands for the project.

☒Downstream water rights may be impacted by Harvest and Use as approved by the Regional Board (verify with the Copermittee).

☐The Design Capture Volume will be addressed using Infiltration Only BMPs. In such a case, Harvest and Use BMPs are still encouraged, but it would not be required if the Design Capture Volume will be infiltrated or evapotranspired.

☐None of the above

If any of the above boxes have been checked, Harvest and Use BMPs need not be assessed for the site. If none of the above criteria applies, follow the steps below to assess the feasibility of irrigation use, toilet use and other non-potable uses (e.g., industrial use).

Irrigation Use Feasibility

Complete the following steps to determine the feasibility of harvesting stormwater runoff for Irrigation Use BMPs on your site:

Step 1: Identify the total area of irrigated landscape on the site, and the type of landscaping used.

Total Area of Irrigated Landscape: **N/A**

Type of Landscaping (Conservation Design or Active Turf): **N/A**

Step 2: Identify the planned total of all impervious areas on the proposed project from which runoff might be feasibly captured and stored for irrigation use. Depending on the configuration of buildings and other impervious areas on the site, you may consider the site as a whole, or parts of the site, to evaluate reasonable scenarios for capturing and storing runoff and directing the stored runoff to the potential use(s) identified in Step 1 above.

Total Area of Impervious Surfaces: **N/A**

Step 3: Cross reference the Design Storm depth for the project site (see Exhibit A of the WQMP Guidance Document) with the left column of Table 2-3 in Chapter 2 to determine the minimum area of Effective Irrigated Area per Tributary Impervious Area (EIATIA).

Enter your EIATIA factor: **N/A**

Step 4: Multiply the unit value obtained from Step 3 by the total of impervious areas from Step 2 to develop the minimum irrigated area that would be required.

Minimum required irrigated area: **N/A**

Step 5: Determine if harvesting stormwater runoff for irrigation use is feasible for the project by comparing the total area of irrigated landscape (Step 1) to the minimum required irrigated area (Step 4).

Minimum required irrigated area (Step 4)	Available Irrigated Landscape (Step 1)
N/A	**N/A**

Toilet Use Feasibility

Complete the following steps to determine the feasibility of harvesting stormwater runoff for toilet flushing uses on your site:

Step 1: Identify the projected total number of daily toilet users during the wet season, and account for any periodic shut downs or other lapses in occupancy:

Projected Number of Daily Toilet Users: **N/A**

Project Type: **N/A**

Step 2: Identify the planned total of all impervious areas on the proposed project from which runoff might be feasibly captured and stored for toilet use. Depending on the configuration of buildings and other impervious areas on the site, you may consider the site as a whole, or parts of the site, to evaluate reasonable scenarios for capturing and storing runoff and directing the stored runoff to the potential use(s) identified in Step 1 above.

Total Area of Impervious Surfaces: **N/A**

Step 3: Enter the Design Storm depth for the project site (see Exhibit A) into the left column of Table 2-2 in Chapter 2 to determine the minimum number or toilet users per tributary impervious acre (TUTIA).

Enter your TUTIA factor: **N/A**

Step 4: Multiply the unit value obtained from Step 3 by the total of impervious areas from Step 2 to develop the minimum number of toilet users that would be required.

Minimum number of toilet users: **N/A**

Step 5: Determine if harvesting stormwater runoff for toilet flushing use is feasible for the project by comparing the Number of Daily Toilet Users (Step 1) to the minimum required number of toilet users (Step 4).

Minimum required Toilet Users (Step 4)	Projected number of toilet users (Step 1)
N/A	**N/A**

Other Non-Potable Use Feasibility

Are there other non-potable uses for stormwater runoff on the site (e.g. industrial use)? See Chapter 2 of the Guidance for further information. If yes, describe below. If no, write N/A.

N/A

Step 1: Identify the projected average daily non-potable demand, in gallons per day, during the wet season and accounting for any periodic shut downs or other lapses in occupancy or operation.

Average Daily Demand: **N/A**

Step 2: Identify the planned total of all impervious areas on the proposed project from which runoff might be feasibly captured and stored for the identified non-potable use. Depending on the configuration of buildings and other impervious areas on the site, you may consider the site as a whole, or parts of the site, to evaluate reasonable scenarios for capturing and storing runoff and directing the stored runoff to the potential use(s) identified in Step 1 above.

Total Area of Impervious Surfaces: **N/A**

Step 3: Enter the Design Storm depth for the project site (see Exhibit A) into the left column of Table 2-4 in Chapter 2 to determine the minimum demand for non-potable uses per tributary impervious acre.

Enter the factor from Table 2-4: **N/A**

Step 4: Multiply the unit value obtained from Step 3 by the total of impervious areas from Step 2 to develop the minimum number of gallons per day of non-potable use that would be required.

Minimum required use: **N/A**

Step 5: Determine if harvesting stormwater runoff for other non-potable use is feasible for the project by comparing the projected average daily use (Step 1) to the minimum required non-potable use (Step 4).

Minimum required non-potable use (Step 4)	Projected average daily use (Step 1)
N/A	**N/A**

If Irrigation, Toilet and Other Use feasibility anticipated demands are less than the applicable minimum values, Harvest and Use BMPs are not required and you should proceed to utilize LID Bioretention and Biotreatment per Section 3.4.2 of the WQMP Guidance Document.

D.3 Bioretention and Biotreatment Assessment

Other LID Bioretention and Biotreatment BMPs as described in Chapter 2.4.7 of the WQMP Guidance Document are feasible on nearly all development sites with sufficient advance planning.

Select one of the following:

☒ LID Bioretention/Biotreatment BMPs will be used for some or all DMAs of the project as noted below in Section D.4 (note the requirements of Section 3.4.2 in the WQMP Guidance Document).

☐ A site-specific analysis demonstrating the technical infeasibility of all LID BMPs has been performed and is included in Appendix 5. If you plan to submit an analysis demonstrating the technical infeasibility of LID BMPs, request a pre-submittal meeting with the Copermittee to discuss this option. Proceed to Section E to document your alternative compliance measures.

D.4 Feasibility Assessment Summaries

From the Infiltration, Harvest and Use, Bioretention and Biotreatment Sections above, complete Table D.2 below to summarize which LID BMPs are technically feasible, and which are not, based upon the established hierarchy.

Table D.2 LID Prioritization Summary Matrix

DMA Name/ID	LID BMP Hierarchy				No LID (Alternative Compliance)
	1. Infiltration	2. Harvest and use	3. Bioretention	4. Biotreatment	
D.1.1	☐	☐	☒	☐	☐
D.1.2	☐	☐	☒	☐	☐
D.1.3	☐	☐	☒	☐	☐
D.1.4	☐	☐	☒	☐	☐

For those DMAs where LID BMPs are not feasible, provide a brief narrative below summarizing why they are not feasible, include your technical infeasibility criteria in Appendix 5, and proceed to Section E below to document Alternative Compliance measures for those DMAs. Recall that each proposed DMA must pass through the LID BMP hierarchy before alternative compliance measures may be considered.

The site does not have proper infiltration rates at the location where the infiltration basin is being proposed.

D.5 LID BMP Sizing

Each LID BMP must be designed to ensure that the Design Capture Volume will be addressed by the selected BMPs. First, calculate the Design Capture Volume for each LID BMP using the V_{BMP} worksheet in Appendix F of the LID BMP Design Handbook. Second, design the LID BMP to meet the required V_{BMP} using a method approved by the Copermittee. Utilize the worksheets found in the LID BMP Design Handbook or consult with your Copermittee to assist you in correctly sizing your LID BMPs. Complete Table D.3 below to document the Design Capture Volume and the Proposed Volume for each LID BMP. Provide the completed design procedure sheets for each LID BMP in Appendix 6. You may add additional rows to the table below as needed.

Table D.3 DCV Calculations for LID BMPs

DMA Type/ID	DMA Area (square feet)	Post-Project Surface Type	Effective Impervious Fraction, I_f	DMA Runoff Factor	DMA Areas x Runoff Factor	*Enter BMP Name / Identifier Here*		
	[A]		[B]	[C]	[A] x [C]			
D.1.1	*127,146*	*Roofs*	*1.0*	*0.89*	*113,414.20*			
D.1.2	*84,067*	*Concrete/Asphalt*	*1.0*	*0.89*	*74,987.80*			
D.1.3	*68,466*	*Pad Landscaping*	*0.1*	*0.11*	*7,562.60*			
D.1.4	*53,231*	*Landscaping*	*0.1*	*0.11*	*5,879.80*			
						Design Storm Depth (in)	*Design Capture Volume, V_{BMP} (cubic feet)*	*Proposed Volume on Plans (cubic feet)*
	332,910				201,844.40	0.65	10,933.20	***10,933.20***

[B], [C] is obtained as described in Section 2.3.1 of the WQMP Guidance Document

[E] is obtained from Exhibit A in the WQMP Guidance Document

[G] is obtained from a design procedure sheet, such as in LID BMP Design Handbook and placed in Appendix 6

Section E: Alternative Compliance (LID Waiver Program)

LID BMPs are expected to be feasible on virtually all projects. Where LID BMPs have been demonstrated to be infeasible as documented in Section D, other Treatment Control BMPs must be used (subject to LID waiver approval by the Copermittee). Check one of the following Boxes:

☒ LID Principles and LID BMPs have been incorporated into the site design to fully address all Drainage Management Areas. No alternative compliance measures are required for this project and thus this Section is not required to be completed.

- *Or* -

☐ The following Drainage Management Areas are unable to be addressed using LID BMPs. A site-specific analysis demonstrating technical infeasibility of LID BMPs has been approved by the Co-Permittee and included in Appendix 5. Additionally, no downstream regional and/or sub-regional LID BMPs exist or are available for use by the project. The following alternative compliance measures on the following pages are being implemented to ensure that any pollutant loads expected to be discharged by not incorporating LID BMPs, are fully mitigated.

E.1 Identify Pollutants of Concern

Utilizing Table A.1 from Section A above which noted your project's receiving waters and their associated EPA approved 303(d) listed impairments, cross reference this information with that of your selected Priority Development Project Category in Table E.1 below. If the identified General Pollutant Categories are the same as those listed for your receiving waters, then these will be your Pollutants of Concern and the appropriate box or boxes will be checked on the last row. The purpose of this is to document compliance and to help you appropriately plan for mitigating your Pollutants of Concern in lieu of implementing LID BMPs.

Table E.1 Potential Pollutants by Land Use Type

Priority Development Project Categories and/or Project Features (check those that apply)	General Pollutant Categories							
	Bacterial Indicators	Metals	Nutrients	Pesticides	Toxic Organic Compounds	Sediments	Trash & Debris	Oil & Grease
☒ Detached Residential Development	P	N	P	P	N	P	P	P
☐ Attached Residential Development	P	N	P	P	N	P	P	P(2)
☐ Commercial/Industrial Development	P(3)	P	P(1)	P(1)	P(5)	P(1)	P	P
☐ Automotive Repair Shops	N	P	N	N	P(4, 5)	N	P	P
☐ Restaurants (>5,000 ft^2)	P	N	N	N	N	N	P	P
☐ Hillside Development (>5,000 ft^2)	P	N	P	P	N	P	P	P
☐ Parking Lots (>5,000 ft^2)	P(6)	P	P(1)	P(1)	P(4)	P(1)	P	P
☐ Retail Gasoline Outlets	N	P	N	N	P	N	P	P
Project Priority Pollutant(s) of Concern	☐	☐	☐	☐	☐	☐	☐	☐

P = Potential

N = Not Potential

(1) A potential Pollutant if non-native landscaping exists or is proposed onsite; otherwise not expected

(2) A potential Pollutant if the project includes uncovered parking areas; otherwise not expected

(3) A potential Pollutant is land use involving animal waste

(4) Specifically petroleum hydrocarbons

(5) Specifically solvents

(6) Bacterial indicators are routinely detected in pavement runoff

E.2 Stormwater Credits

Projects that cannot implement LID BMPs but nevertheless implement smart growth principles are potentially eligible for Stormwater Credits. Utilize Table 3-8 within the WQMP Guidance Document to identify your Project Category and its associated Water Quality Credit. If not applicable, write N/A.

Table E.2 Water Quality Credits

Qualifying Project Categories	Credit Percentage[2]
Total Credit Percentage[1]	

[1]Cannot Exceed 50%

[2]Obtain corresponding data from Table 3-8 in the WQMP Guidance Document

E.3 Sizing Criteria

After you appropriately considered Stormwater Credits for your project, utilize Table E.3 below to appropriately size them to the DCV, or Design Flow Rate, as applicable. Please reference Chapter 3.5.2 of the WQMP Guidance Document for further information.

Table E.3 Treatment Control BMP Sizing

DMA Type/ID	DMA Area (square feet)	Post-Project Surface Type	Effective Impervious Fraction, I_f	DMA Runoff Factor	DMA Area x Runoff Factor		*Enter BMP Name / Identifier Here*		
	[A]		[B]	[C]	[A] x [C]				
						Design Storm Depth (in)	*Minimum Design Capture Volume or Design Flow Rate (cubic feet or cfs)*	*Total Storm Water Credit % Reduction*	*Proposed Volume or Flow on Plans (cubic feet or cfs)*
	A_T = Σ[A]				Σ= [D]	[E]	$[F] = \frac{[D]x[E]}{[G]}$	[F] X (1-[H])	[I]

[B], [C] is obtained as described in Section 2.3.1 from the WQMP Guidance Document

[E] is for Flow-Based Treatment Control BMPs [E] = .2, for Volume-Based Control Treatment BMPs, [E] obtained from Exhibit A in the WQMP Guidance Document

[G] is for Flow-Based Treatment Control BMPs [G] = 43,560, for Volume-Based Control Treatment BMPs, [G] = 12

[H] is from the Total Credit Percentage as Calculated from Table E.2 above

[I] as obtained from a design procedure sheet from the BMP manufacturer and should be included in Appendix 6

E.4 Treatment Control BMP Selection

Treatment Control BMPs typically provide proprietary treatment mechanisms to treat potential pollutants in runoff, but do not sustain significant biological processes. Treatment Control BMPs must have a removal efficiency of a medium or high effectiveness as quantified below:

- **High**: equal to or greater than 80% removal efficiency
- **Medium**: between 40% and 80% removal efficiency

Such removal efficiency documentation (e.g., studies, reports, etc.) as further discussed in Chapter 3.5.2 of the WQMP Guidance Document, must be included in Appendix 6. In addition, ensure that proposed Treatment Control BMPs are properly identified on the WQMP Site Plan in Appendix 1.

Table E.4 Treatment Control BMP Selection

Selected Treatment Control BMP Name or ID[1]	Priority Pollutant(s) of Concern to Mitigate[2]	Removal Efficiency Percentage[3]

[1] Treatment Control BMPs must not be constructed within Receiving Waters. In addition, a proposed Treatment Control BMP may be listed more than once if they possess more than one qualifying pollutant removal efficiency.
[2] Cross Reference Table E.1 above to populate this column.
[3] As documented in a Co-Permittee Approved Study and provided in Appendix 6.

Section F: Hydromodification

F.1 Hydrologic Conditions of Concern (HCOC) Analysis

Once you have determined that the LID design is adequate to address water quality requirements, you will need to assess if the proposed LID Design may still create a HCOC. Review Chapters 2 and 3 (including Figure 3-7) of the WQMP Guidance Document to determine if your project must mitigate for Hydromodification impacts. If your project meets one of the following criteria which will be indicated by the check boxes below, you do not need to address Hydromodification at this time. However, if the project does not qualify for Exemptions 1, 2 or 3, then additional measures must be added to the design to comply with HCOC criteria. This is discussed in further detail below in Section F.2.

HCOC EXEMPTION 1: The Priority Development Project disturbs less than one acre. The Copermittee has the discretion to require a Project-Specific WQMP to address HCOCs on projects less than one acre on a case by case basis. The disturbed area calculation should include all disturbances associated with larger common plans of development.

Does the project qualify for this HCOC Exemption? ☐ Y ☒ N

If Yes, HCOC criteria do not apply.

HCOC EXEMPTION 2: The volume and time of concentration[1] of storm water runoff for the post-development condition is not significantly different from the pre-development condition for a 2-year return frequency storm (a difference of 5% or less is considered insignificant) using one of the following methods to calculate:

- Riverside County Hydrology Manual
- Technical Release 55 (TR-55): Urban Hydrology for Small Watersheds (NRCS 1986), or derivatives thereof, such as the Santa Barbara Urban Hydrograph Method
- Other methods acceptable to the Co-Permittee

Does the project qualify for this HCOC Exemption? ☐ Y ☒ N

If Yes, report results in Table F.1 below and provide your substantiated hydrologic analysis in Appendix 7.

Table F.1 Hydrologic Conditions of Concern Summary

	2 year – 24 hour		
	Pre-condition	**Post-condition**	**% Difference**
Flow (cubic feet per second)	0.159	1.047	658%
Volume (Cubic Feet)	4,210.70	27,727	658%

[1] Time of concentration is defined as the time after the beginning of the rainfall when all portions of the drainage basin are contributing to flow at the outlet.

HCOC EXEMPTION 3: All downstream conveyance channels to an adequate sump (for example, Prado Dam, Lake Elsinore, Canyon Lake, Santa Ana River, or other lake, reservoir or naturally erosion resistant feature) that will receive runoff from the project are engineered and regularly maintained to ensure design flow capacity; no sensitive stream habitat areas will be adversely affected; or are not identified on the Co-Permittees Hydromodification Susceptibility Maps.

Does the project qualify for this HCOC Exemption? ☒ Y ☐ N

If Yes, HCOC criteria do not apply and note below which adequate sump applies to this HCOC qualifier:

See receiving waters exhibit in Appendix 1 for downstream conveyance to Lake Elsinore.

See Appendix 7 for HCOC Exemption Map.

F.2 HCOC Mitigation

If none of the above HCOC Exemption Criteria are applicable, HCOC criteria is considered mitigated if they meet one of the following conditions:

☐ a. Additional LID BMPS are implemented onsite or offsite to mitigate potential erosion or habitat impacts as a result of HCOCs. This can be conducted by an evaluation of site-specific conditions utilizing accepted professional methodologies published by entities such as the California Stormwater Quality Association (CASQA), the Southern California Coastal Water Research Project (SCCRWP), or other Co-Permittee approved methodologies for site-specific HCOC analysis.

☒ b. The project is developed consistent with an approved Watershed Action Plan that addresses HCOC in Receiving Waters.

☐ c. Mimicking the pre-development hydrograph with the post-development hydrograph, for a 2-year return frequency storm. Generally, the hydrologic conditions of concern are not significant, if the post-development hydrograph is no more than 10% greater than pre-development hydrograph. In cases where excess volume cannot be infiltrated or captured and reused, discharge from the site must be limited to a flow rate no greater than 110% of the pre-development 2-year peak flow.

Be sure to include all pertinent documentation used in your analysis of the items a, b or c in Appendix 7.

Section G: Source Control BMPs

Source control BMPs include permanent, structural features that may be required in your project plans — such as roofs over and berms around trash and recycling areas — and Operational BMPs, such as regular sweeping and "housekeeping", that must be implemented by the site's occupant or user. The MEP standard typically requires both types of BMPs. In general, Operational BMPs cannot be substituted for a feasible and effective permanent BMP. Using the Pollutant Sources/Source Control Checklist in Appendix 8, review the following procedure to specify Source Control BMPs for your site:

1. ***Identify Pollutant Sources*:** Review Column 1 in the Pollutant Sources/Source Control Checklist. Check off the potential sources of Pollutants that apply to your site.

2. ***Note Locations on Project-Specific WQMP Exhibit*:** Note the corresponding requirements listed in Column 2 of the Pollutant Sources/Source Control Checklist. Show the location of each Pollutant source and each permanent Source Control BMP in your Project-Specific WQMP Exhibit located in Appendix 1.

3. ***Prepare a Table and Narrative*:** Check off the corresponding requirements listed in Column 3 in the Pollutant Sources/Source Control Checklist. In the left column of Table G.1 below, list each potential source of runoff Pollutants on your site (from those that you checked in the Pollutant Sources/Source Control Checklist). In the middle column, list the corresponding permanent, Structural Source Control BMPs (from Columns 2 and 3 of the Pollutant Sources/Source Control Checklist) used to prevent Pollutants from entering runoff. **Add additional narrative** in this column that explains any special features, materials or methods of construction that will be used to implement these permanent, Structural Source Control BMPs.

4. ***Identify Operational Source Control BMPs:*** To complete your table, refer once again to the Pollutant Sources/Source Control Checklist. List in the right column of your table the Operational BMPs that should be implemented as long as the anticipated activities continue at the site. Copermittee stormwater ordinances require that applicable Source Control BMPs be implemented; the same BMPs may also be required as a condition of a use permit or other revocable Discretionary Approval for use of the site.

Table G.1 Permanent and Operational Source Control Measures

Potential Sources of Runoff pollutants	Permanent Structural Source Control BMPs	Operational Source Control BMPs
On-site storm drain inlets	Mark all inlets with the words "Only Rain Down the Storm Drain" or similar. Catch Basin Markers may be available from the Riverside County Flood Control and Water Conservation District, call 951.955.1200 to verify.	Maintain and periodically repaint or replace inlet markings. Provide stormwater pollution prevention information to new site owners, lessees, or operators. See applicable operational BMPs in Fact Sheet SC-44, "Drainage System Maintenance,"
Landscape / Outdoor Pesticide Use	Design landscaping to minimize irrigation and runoff, to promote surface infiltration where appropriate, and to minimize the use of fertilizers and pesticides that can contribute to stormwater pollution. Where landscaped areas are used to retain or detain stormwater, specify plants that are tolerant of saturated soil conditions. Consider using pest-resistant plants, especially adjacent to hardscape. To ensure successful establishment, select plants appropriate to site soils, slopes, climate, sun, wind, rain, land use, air movement, ecological consistency, and plant interactions.	Maintain landscaping using minimum or no pesticides. See applicable operational BMPs in Appendix 10. Provide IPM information to new owners, lessees, and operators.
Fire Sprinkler Test Water	Provide a means to drain fire sprinkler test water to the sanitary sewer.	See the note in Fact Sheet SC-41, "Building and Grounds Maintenance," provided in Appendix 10.
Roofing, gutters, and trim	Avoid roofing, gutters, and trim made of copper or other unprotected metals that may leach into runoff.	
Plazas, sidewalks, and parking lots		Sweep plazas, sidewalks, and parking lots regularly to prevent accumulation of litter and debris. Collect debris from pressure washing to prevent entry into the storm drain system. Collect washwater containing any cleaning agent or degreaser and discharge to the sanitary sewer not to a storm drain.
Street Sweeping		See applicable operational BMPs in Appendix 10.

Section H: Construction Plan Checklist

Populate Table H.1 below to assist the plan checker in an expeditious review of your project. The first two columns will contain information that was prepared in previous steps, while the last column will be populated with the corresponding plan sheets. This table is to be completed with the submittal of your final Project-Specific WQMP.

Table H.1 Construction Plan Cross-reference

BMP No. or ID	BMP Identifier and Description	Corresponding Plan Sheet(s)	BMP Location (Lat/Long)
D.4	Bio-Retention Basin	Tentative Tract Map	33.886108, -117.222153

Note that the updated table — or Construction Plan WQMP Checklist — is **only a reference tool** to facilitate an easy comparison of the construction plans to your Project-Specific WQMP. Co-Permittee staff can advise you regarding the process required to propose changes to the approved Project-Specific WQMP.

Section I: Operation, Maintenance and Funding

The Copermittee will periodically verify that Stormwater BMPs on your site are maintained and continue to operate as designed. To make this possible, your Copermittee will require that you include in Appendix 9 of this Project-Specific WQMP:

1. A means to finance and implement facility maintenance in perpetuity, including replacement cost.
2. Acceptance of responsibility for maintenance from the time the BMPs are constructed until responsibility for operation and maintenance is legally transferred. A warranty covering a period following construction may also be required.
3. An outline of general maintenance requirements for the Stormwater BMPs you have selected.
4. Figures delineating and designating pervious and impervious areas, location, and type of Stormwater BMP, and tables of pervious and impervious areas served by each facility. Geo-locating the BMPs using a coordinate system of latitude and longitude is recommended to help facilitate a future statewide database system.
5. A separate list and location of self-retaining areas or areas addressed by LID Principles that do not require specialized O&M or inspections but will require typical landscape maintenance as noted in Chapter 5, pages 85-86, in the WQMP Guidance. Include a brief description of typical landscape maintenance for these areas.

Your local Co-Permittee will also require that you prepare and submit a detailed Stormwater BMP Operation and Maintenance Plan that sets forth a maintenance schedule for each of the Stormwater BMPs built on your site. An agreement assigning responsibility for maintenance and providing for inspections and certification may also be required.

Details of these requirements and instructions for preparing a Stormwater BMP Operation and Maintenance Plan are in Chapter 5 of the WQMP Guidance Document.

Maintenance Mechanism: HOA

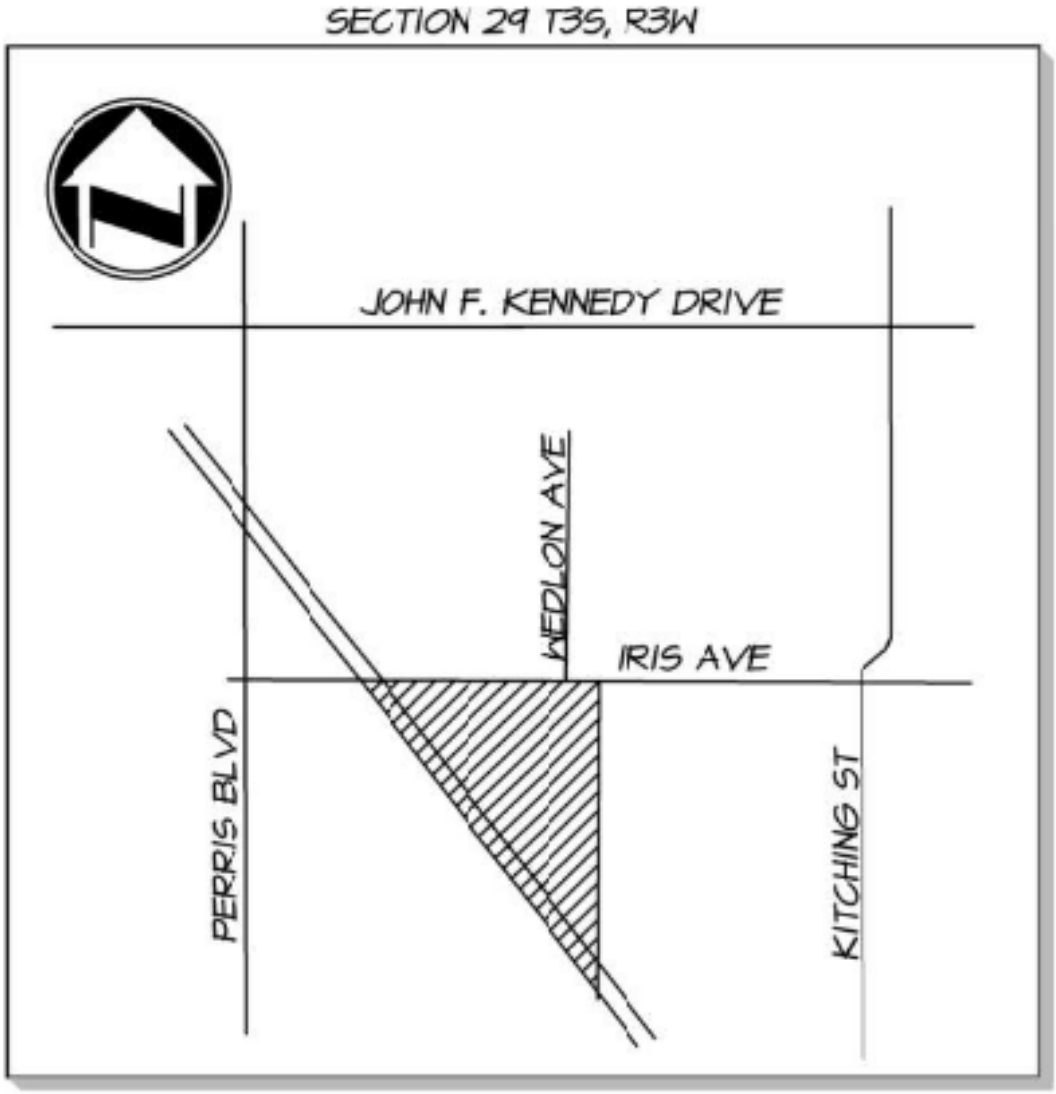
Will the proposed BMPs be maintained by a Home Owners' Association (HOA) or Property Owners Association (POA)?

☒ Y ☐ N

Include your Operation and Maintenance Plan and Maintenance Mechanism in Appendix 9. Additionally, include all pertinent forms of educational materials for those personnel that will be maintaining the proposed BMPs within this Project-Specific WQMP in Appendix 10.

Appendix 1: Maps and Site Plans

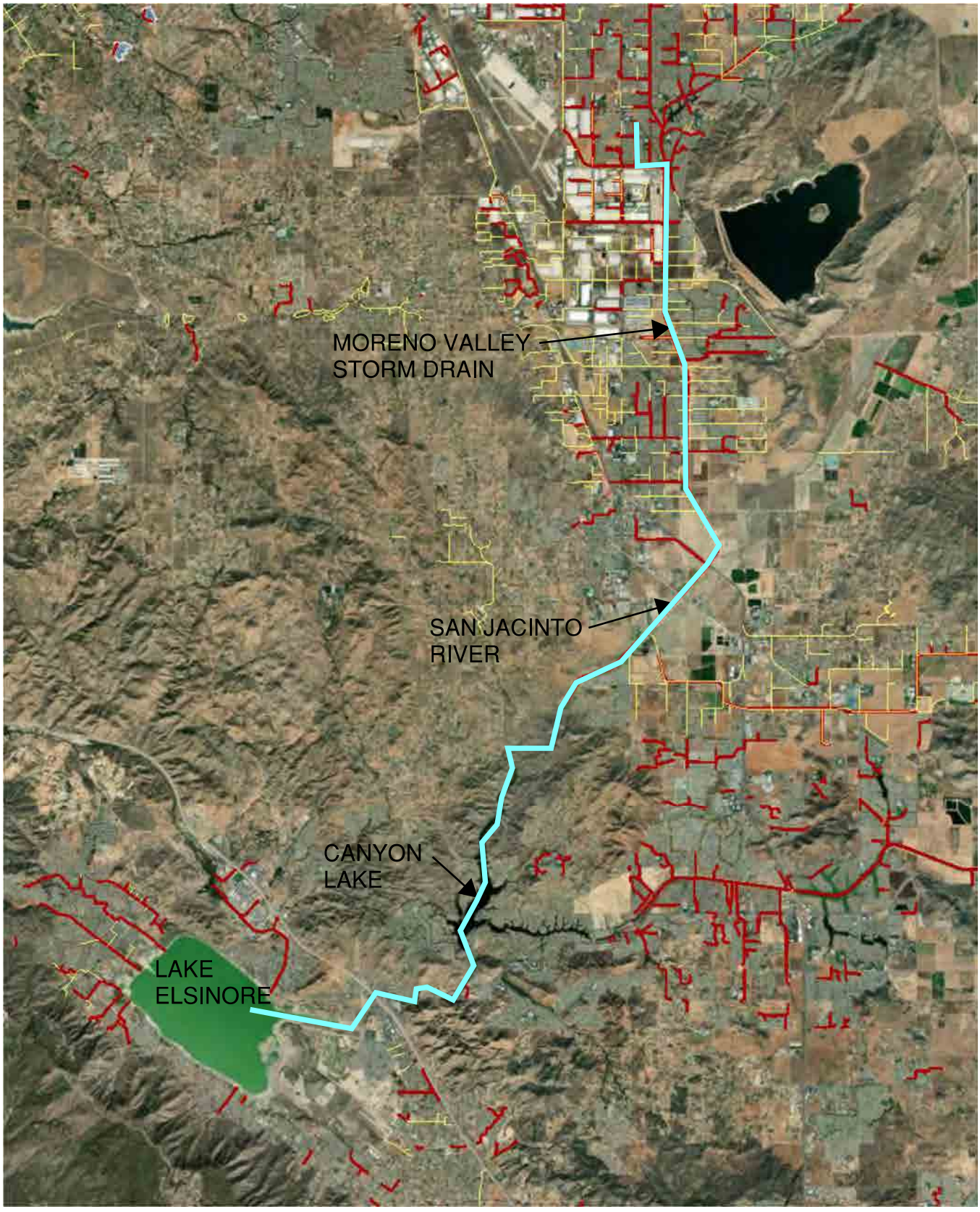
Location Map, WQMP Site Plan and Receiving Waters Map



VICINITY MAP

N.T.S.

Receiving Waters



R 07 W | R 06 W | R 05 W | R 04 W | R 03 W | R 02 W | R 01 W | R 01 E | R 02 E | R 03 E | R 04 E | R 05 E

T 01 S | T 02 S | T 03 S | T 04 S | T 05 S | T 06 S | T 07 S | T 08 S

Tr 37909- Project Site
D85=0.65

0.85 MiraLoma
0.61 RiversideNorth
0.54 RiversideSouth
0.68 PigeonPass
0.66 MorenoEast
0.85 Beaumont
0.88 PradoDam
0.51 Woodcrest
0.50 LakeMathews
0.68 PerrisReservoir
0.87 VistaGrandeGS
0.70 SanJacintoNWS
1.18 Idyllwild
0.58 SunCity
0.68 Winchester
0.70 ElsinoreNWS
1.11 ElCarisoStation
0.90 HurkeyCreek
0.77 WildomarLaCresta
0.52 SkinnerLake
0.65 Anza
0.77 SantaRosaPlateau
1.00 TemeculaNWS
0.64 AguangaValley

Santa Ana River Watershed
Santa Margarita Watershed

Rain Gage Locations

RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT

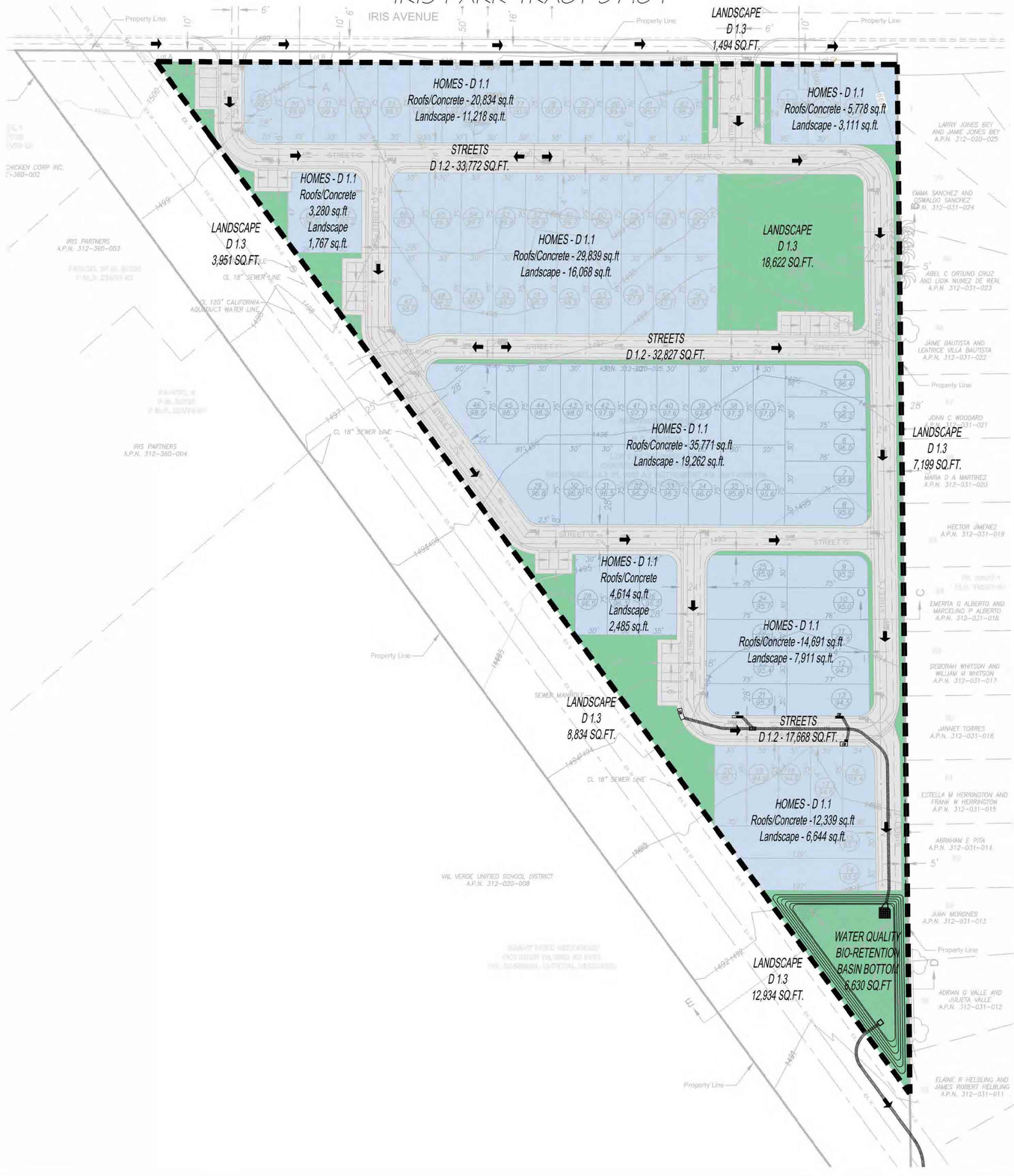
Isohyetal Map for the 85th Percentile 24 hour Storm Event

July 2011

N

Attachment: Project 1_Appendicies G through H to Initial Study Iris Park (4300 : IRIS PARK AND THE DISTRICT MORENO VALLEY GENERAL

BMP MAP
IRIS PARK TRACT 37909



OWNER
PASSCO PACIFICA, LLC
333 CITY BOULEVARD WEST, 17TH FLOOR
ORANGE, CA
(714) 609-7251

ENGINEER
adkan ENGINEERS
6879 AIRPORT DRIVE
RIVERSIDE, CA 92504
TEL: 951-688-0241
FAX: 951-688-0599

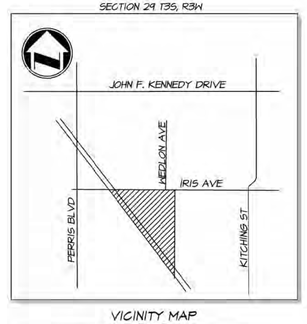
ASSESSORS PARCEL NUMBERS
312-020-025

BMP DATA DMA 1

DMA	DMA CLASSIFICATION	NAME	SURFACE TYPE	AREA (SF)
1.1	D	ROOFS	ROOF	127,146
1.2	D	STREETS	ASPHALT/CONCRETE	84,067
1.3	D	PAD LANDSCAPING	ORNAMENTAL LANDSCAPING	68,466
1.4	D	LANDSCAPING	ORNAMENTAL LANDSCAPING	53,231
TOTAL				332,910

LEGEND
- HOMES
- STREET
- LANDSCAPE/BIO-RETENTION BASIN
- DMA BOUNDARY
- PROP. STORM DRAIN
- DRAINAGE PATH

SECTION 29 T3S, R3W



VICINITY MAP
N.T.S.
SITE

0 50 150
25 100 200
SCALE: 1" = 50'

BMP MAP
IRIS PARK TRACT 37909
PREPARATION DATE: APRIL 2020

PLAN PREPARED BY:
adkan ENGINEERS
Civil Engineering · Surveying · Planning
6879 Airport Drive, Riverside, CA 92504
Tel:(951) 688-0241 Fax:(951) 688-0599

C:\USERS\JCONTRERAS\DESKTOP\9841 BMP MAP.DWG
PLOT DATE: 4/14/2020 1:54 PM

Appendix 2: Construction Plans

Grading and Drainage Plans

Tentative Tract Map No. 37909

LEGAL DESCRIPTION:

THE LAND IS SITUATED IN THE CITY OF MORENO VALLEY, COUNTY OF RIVERSIDE, STATE OF CALIFORNIA, AND IS DESCRIBED AS FOLLOWS:

THE NORTHWEST QUARTER OF THE NORTHWESTQUARTER OF SECTOIN 29, TOWNSHIP 3 SOUTH, RANGE 3 WEST, SAN BERNARDINO MERIDIAN, IN THE CITY OF MORENO VALLEY, COUNTY OF RIVERSIDE, STATE OF CALIFORNIA, ACCORDING TO OFFICIAL PLAT THEREOF.

EXCEPTING THEREFROM THAT CONVEYED TO THE CITY OF MORENO VALLEY BY DEED RECORDED AUGUST 28, 1989 AS INSTRUMENT NO. 89-292505, OFFICIAL RECORDS.

ALSO EXCEPTING THEREFROM ALL OIL, WATER, GAS, HYDROCARBONS, PRECIOUS METALS AND MINERALS OF ANY KIND WHETHER DESCRIBED OR NOT. BELOW A DEPTH OF 500 FEET WITHOUT ANY RIGHT OF SURFACE ENTRY AS RESERVED IN A DEED RECORDED JUNE 13, 1991 AS INSTRUMENT NO. 91-199908 OFFICIAL RECORDS.

ALSO EXCEPTING THEREFROM THAT PORTION SAID LAND CONVEYED TO VAL VERDE UNIFIED SCHOOL DISTRICT BY DEED RECORDED OCTOBER 10, 2002 AS INSTRUMENT NO. 02-566961 OFFICIAL RECORDS

ALSO EXCEPTING THEREFROM, LOT 1, LETTERED LOTS A THROUGH C OF TRACT MAP NO. 29857-1, AS SHOWN ON FILE IN BOOK 422 PAGES 23 AND 24 OF MAPS, RECORDS OF RIVERSIDE COUNTY , CALIFORNIA.

APN: 312-020-025

GENERAL PLAN/ZONING/LANDUSE

EXISTING GENERAL PLAN DESIGNATION:
PROPOSED GENERAL PLAN DESIGNATION:

EXISTING ZONING:	*R5 – SUBURBAN RESIDENTIAL*
PROPOSED ZONING:	*R10*
EXISTING LANDUSE:	*Vacant*
PROPOSED LANDUSE:	*DETACHED SFR*

PROJECT NOTES

TOTAL GROSS PROJECT SIZE: 471,228 SF (10.82 Ac.)
NET PROJECT AREA = 7.80 ACRES
DEDUCT 3.02 ACRES EASEMENT/TRAIL AREA
TOPOGRAPHY SOURCE: Aerial Topographic Mapping
NUMBER OF RESIDENTIAL LOTS: 82
MINIMUM LOT AREA: 2,250 S.F.
MINIMUM LOT DEPTH: 75'
MINIMUM LOT WIDTH: 30'
LOT SIZE: AS SHOWN ON MAP
NET DENSITY: 10.5 DU/ACRE
GUEST PARKING 0.25 SPACES PER UNIT REQUIRED = 21
GUEST PARKING PROVIDED = 28
ALL ONSITE STREETS ARE PRIVATE

DEVELOPER

Passco Pacifica LLC
333 City Boulevard West, 17th Floor
Orange, CA 92866
ATT: Oscar Graham
714-609-7257

OWNER

Maple Lane Group, LLC
A California Limited Liability Company

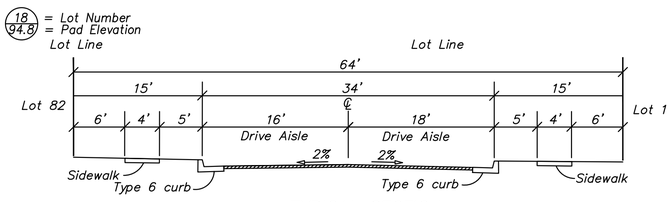
UTILITY PURVEYORS

WATER:	*EASTERN MUNICIPAL WATER DISTRICT*
SEWER:	*EASTERN MUNICIPAL WATER DISTRICT*
GAS:	*SOUTHERN CALIFORNIA GAS COMPANY*
ELECTRICITY:	*SOUTHERN CALIFORNIA EDISON*
TELEPHONE:	*AT&T*
SCHOOL:	*MORENO VALLEY UNIFIED SCHOOL DISTRICT*
CATV:	*SPECTRUM*

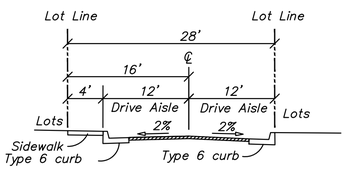
LEGEND

T.C.	*TOP OF CURB*
F.L.	*FLOWLINE*
F.S.	*FINISHED SURFACE*
P.E.	*PAD ELEVATION*
C.B.	*CATCH BASIN*
H.P.	*HIGH POINT*
(XX)	*EXIST. LAND USAGE*
X	*EXIST. ZONING*

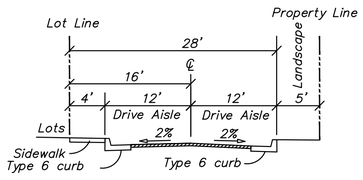
18 / 94.8 = Lot Number / Pad Elevation



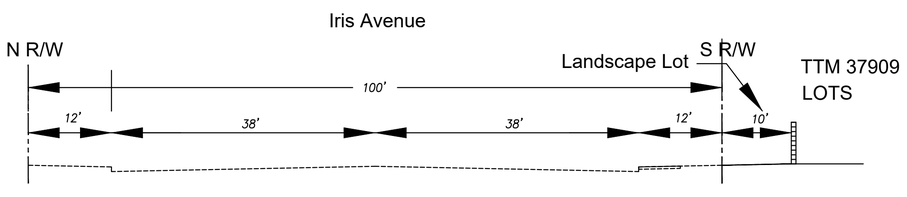
TYPICAL SECTION
Private Street 'A'
N.T.S.



TYPICAL SECTION
Private Streets 'B' – 'D' & 'F' – 'I'
N.T.S.



TYPICAL SECTION
Private Streets 'E' & 'J'
N.T.S.



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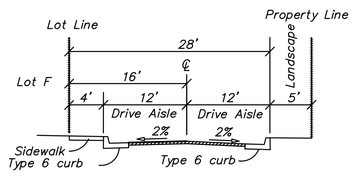

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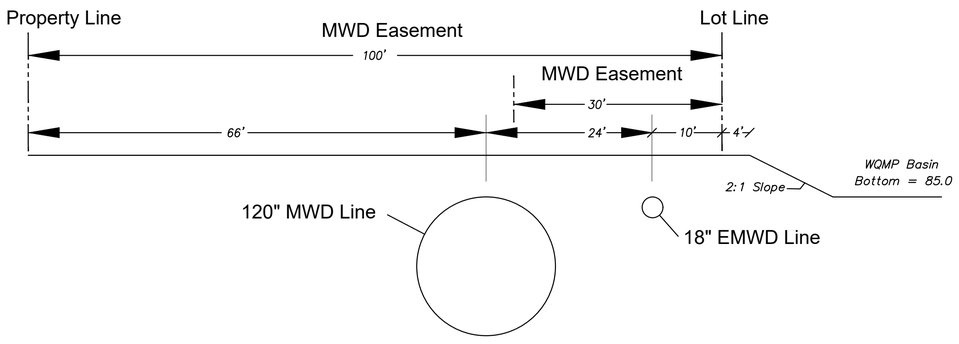
N.T.S.

Section C-C
N.T.S.

Section D-D
N.T.S.



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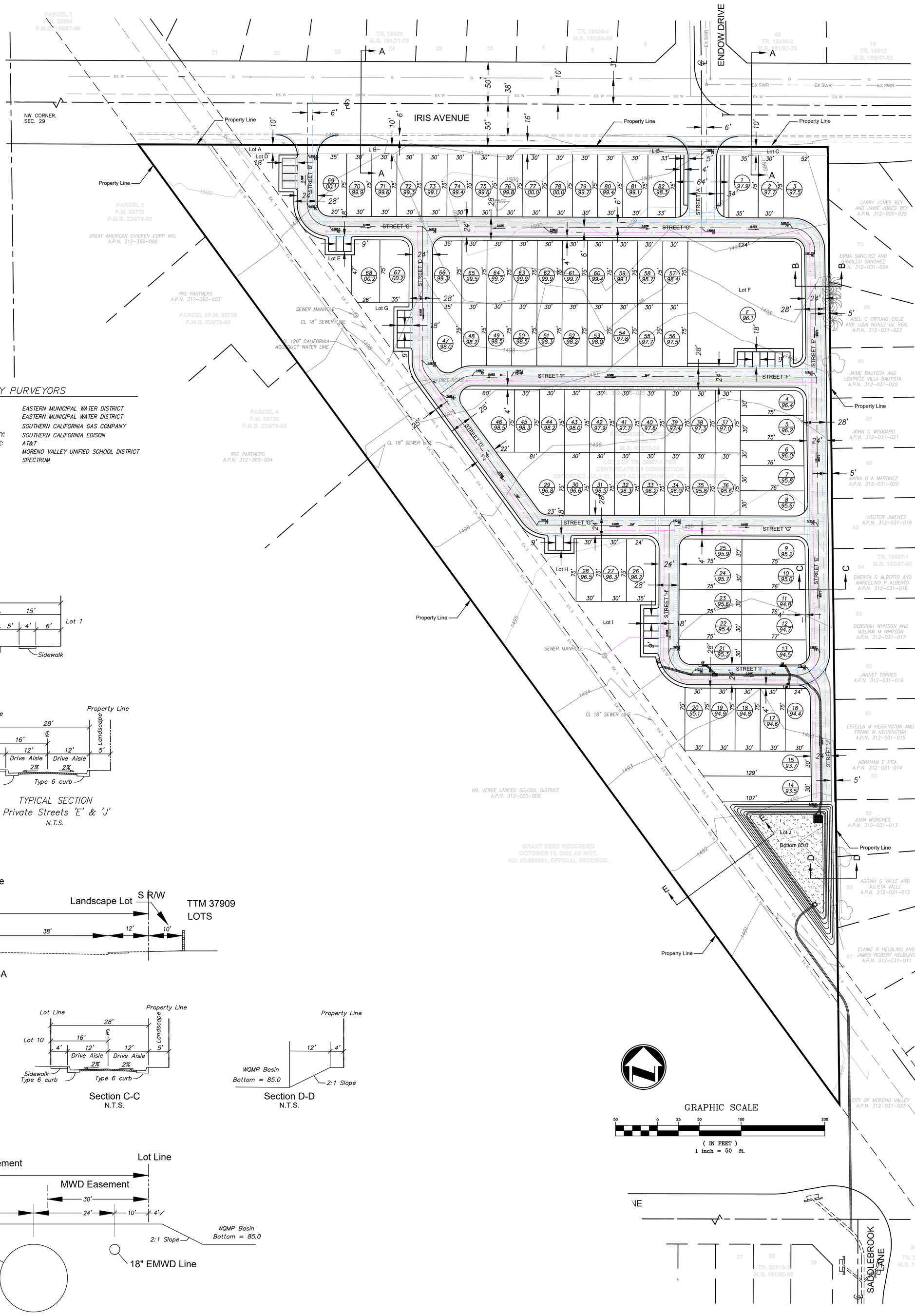


Lot Statistics Table

Residential Lots

Lot Number	Width (ft)	Depth (ft)	Area (sf)
1	35	75	2,625
2	30	75	2,250
3	52	75	4,293
4	30	75	2,227
5	30	75	2,266
6	30	76	2,280
7	30	76	2,295
8	30	76	2,292
9	30	75	2,237
10	30	76	2,277
11	30	76	2,291
12	30	77	2,306
13	30	77	2,303
14	30	107	3,547
15	30	129	4,188
16	30	75	2,237
17	30	75	2,250
18	30	75	2,250
19	30	75	2,250
20	30	75	2,250
21	30	75	2,201
22	30	75	2,250
23	30	75	2,250
24	30	75	2,250
25	30	75	2,233
26	35	75	2,599
27	30	75	2,250
subtotal Residential Lot Area			66,947

Residential Lots

Lot Number	Width (ft)	Depth (ft)	Area (sf)
28	30	75	2,250
29	81	75	4,068
30	30	75	2,250
31	30	75	2,250
32	30	75	2,250
33	30	75	2,250
34	30	75	2,250
35	30	75	2,250
36	30	75	2,250
37	30	75	2,250
38	30	75	2,250
39	30	75	2,250
40	30	75	2,250
41	30	75	2,250
42	30	75	2,250
43	30	75	2,250
44	30	75	2,250
45	30	75	2,250
46	60	75	3,606
47	35	77	2,788
48	30	75	2,258
49	30	75	2,250
50	30	75	2,250
51	30	75	2,250
52	30	75	2,250
53	30	75	2,250
54	30	75	2,250
subtotal Residential Lot Area			64,470

Residential Lots

Lot Number	Width (ft)	Depth (ft)	Area (sf)
55	30	107	2,250
56	30	129	2,250
57	30	75	2,250
58	30	75	2,250
59	30	75	2,250
60	30	75	2,250
61	30	75	2,250
62	30	75	2,250
63	30	75	2,250
64	30	75	2,250
65	30	75	2,250
66	35	75	2,606
67	35	75	2,600
68	34	75	2,447
69	35	75	2,576
70	30	75	2,250
71	30	75	2,250
72	30	75	2,250
73	30	75	2,250
74	30	75	2,250
75	30	75	2,250
76	30	75	2,250
77	30	75	2,250
78	30	75	2,250
79	30	75	2,250
80	30	75	2,250
81	30	75	2,250
82	33	75	2,474
subtotal Residential Lot Area			64,453
Total Residential Lot Area			195,870
Average Lot Size			2,389

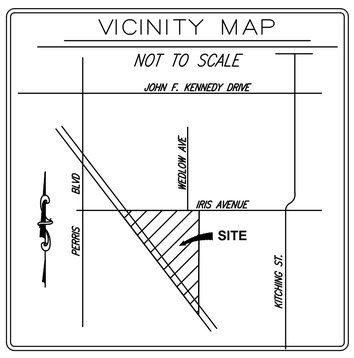
Lettered Lots

Lot Number	Area (sf)
A	619
B	4,399
C	1,313
D	1,216
E	1,057
F	18,623
G	1,701
H	1,502
I	7,238
J	12,934
subtotal	50,602

Streets

A	5,076
B	4,010
C	16,600
D	12,367
E	19,195
F	12,596
G	9,338
H	5,864
I	3,570
J	4,368
subtotal	92,984

VICINITY MAP
NOT TO SCALE



REGISTERED PROFESSIONAL ENGINEER
ROBERT MARK BEERS
No. 39405
Exp. 12-31-21
CIVIL
STATE OF CALIFORNIA

ROBERT BEERS
8175 Limonite Avenue, Suite E
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Date

Robert M. Beers R.C.E. 39405 Expires 12-31-21

PREPARED FOR:

Passco Pacifica LLC
333 City Boulevard West
17th Floor
Orange, CA 92866
PHONE: (714) 609-7257

TTM 37909

City of Moreno Valley
CALIFORNIA

DATE April 14, 2020
JOB NO.
DRAWN BY R.A.H.
CHECKED BY R.M.B.
SHEET 1 OF 1

Appendix 3: Soils Information

Geotechnical Study and Other Infiltration Testing Data

LOR GEOTECHNICAL GROUP, INC.
Soil Engineering ▲ Geology ▲ Environmental

PRELIMINARY GEOTECHNICAL AND INFILTRATION FEASIBILITY INVESTIGATION PROPOSED IRIS PARK RESIDENTIAL DEVELOPMENT MORENO VALLEY, CALIFORNIA

PROJECT NO. 33591.1
NOVEMBER 25, 2019

Prepared For:

Passco Pacifica, LLC
333 City Boulevard, Suite 1700
Orange, California 92868

Attention: Mr. Oscar Graham

LOR GEOTECHNICAL GROUP, INC.
Soil Engineering ▲ Geology ▲ Environmental

November 25, 2019

Passco Pacifica, LLC
333 City Boulevard, Suite 1700
Orange, California 92868

Project No. 33591.1

Attention: Mr. Oscar Graham

Subject: Preliminary Geotechnical and Infiltration Feasibility Investigation, Proposed Iris Park Residential Development, APN 312-020-025, Moreno Valley, California.

LOR Geotechnical Group, Inc., is pleased to present this report summarizing our geotechnical investigation for the above referenced project. In summary, it is our opinion that the proposed development is feasible from a geotechnical perspective, provided the recommendations presented in the attached report are incorporated into design and construction.

To provide adequate support for the proposed residential structures, we recommend that a compacted fill mat be constructed beneath footings and slabs. The compacted fill mat will provide a dense, high-strength soil layer to uniformly distribute the anticipated foundation loads over the underlying soils. All undocumented fill material and any loose alluvial materials should be removed from structural areas and areas to receive engineered compacted fill. The data developed during this investigation indicates that removals on the order of approximately 5 to 7 feet will be required within the currently planned development areas. The given removal depths are preliminary. The actual depths of the removals should be determined during the grading operation by observation and/or in-place density testing.

Very low expansion potential, fair R-value quality, poor infiltration characteristics, and a negligible soluble sulfate content generally characterize the onsite soil materials tested.

LOR Geotechnical Group, Inc.

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Passco Pacifica, LLC
November 25, 2019

Project No. 33591.1

INTRODUCTION

During November of 2019, a Preliminary Geotechnical and Infiltration Feasibility Investigation was performed by LOR Geotechnical Group, Inc., for proposed Iris Park residential development of APN 312-020-025 in the City of Moreno Valley, California. The purpose of this investigation was to conduct a technical evaluation of the geologic setting of the site and to provide geotechnical design recommendations for the proposed improvements. The scope of our services included:

- Review of available pertinent geotechnical literature, reports, maps, and agency information pertinent to the study area;
- Interpretation of aerial photographs of the site and surrounding regions dated 1966 through 2018;
- Geologic field reconnaissance mapping to verify the areal distribution of earth units and significance of surficial features as compiled from documents, literature, and reports reviewed;
- A subsurface field investigation to determine the physical soil conditions pertinent to the proposed development;
- Infiltration testing via the constant head test method at two locations within the approximate area proposed for the infiltration of onsite runoff waters;
- Laboratory testing of selected soil samples obtained during the field investigation;
- Development of geotechnical recommendations for site grading and foundation design; and
- Preparation of this report summarizing our findings, and providing conclusions and recommendations for site development.

The approximate location of the site is shown on the attached Index Map, Enclosure A-1, within Appendix A.

To orient our investigation at the site, you provided us with Site Plan, prepared by IDE Arc Architecture & Planning, undated, that showed the proposed development. As noted on that map, the site will be developed with 84 residential lots and the associated interior streets. An infiltration basin is also proposed. The Site Plan was utilized as a base map for our field investigation and is presented as Enclosure A-2, within Appendix A.

PROJECT CONSIDERATIONS

Information furnished to this firm indicates that the proposed project will consist of the construction of 84 single-family residences.

These will likely be one or two stories in height and are anticipated to be of wood frame construction with an exterior plaster veneer. Light to moderate foundation loads are anticipated with such structures. Cuts and fills on the order of a few feet are anticipated to create the planar building pads.

EXISTING SITE CONDITIONS

The subject site consists of a triangular shaped, relatively flat, vacant area of land that is approximately 10 acres in size. At the time of our investigation, vegetation on the site consisted of a light moderate growth of weeds. The topography of the site is planar, with a very gentle fall towards the southeast.

Iris Avenue, a fully improved roadway, bounds the site on the north followed by a tract of single family residences. A tract of single family residences bounds the site on the east. The California Aqueduct easement comprises the western 100 feet of the site with a shopping center and school beyond. South of the site is a tract of single family homes.

AERIAL PHOTOGRAPH ANALYSIS

The aerial photographs reviewed consisted of vertical aerial stereoscopic photographs of varying scales. We reviewed imagery available from Google Earth (2018) and from Historic Aerials (2019).

The site consisted of vacant land which appeared to be dry land farmed with surrounding properties from 1966, the earliest photograph available, to 1978. The 1997 photograph shows the site as vacant land with some stockpiles of fill material in the northeast corner. Numerous dirt paths are visible in this area. The 2006 photograph shows additional smoothed out fill to the west of the previously noted fill. An earthen berm is present on the north and west side of this area. A minor amount of additional end dumped fill is visible in the 2009 photograph.

Our review of the aerial photographs did not reveal any adverse geologic conditions, such as possible faults or landslides, as being present at or within close proximity to the site.

FIELD EXPLORATION PROGRAM

Our subsurface field exploration program was conducted on November 7, 2019 and consisted of drilling 5 exploratory borings with a truck-mounted Mobile B-61 drill rig equipped with 8-inch diameter hollow stem augers. The borings were drilled to depths of approximately 21 to 51.5 feet below the existing ground surface. The approximate locations of our exploratory borings are presented on the attached Site Plan, Enclosure A-2 within Appendix A.

The subsurface conditions encountered in the exploratory borings were logged by a geologist from this firm. Relatively undisturbed and bulk samples were obtained at a maximum depth interval of 5 feet and returned to our geotechnical laboratory in sealed containers for further testing and evaluation. A detailed description of the field exploration program and the boring logs are presented in Appendix B.

LABORATORY TESTING PROGRAM

Selected soil samples obtained during the field investigation were subjected to laboratory testing to evaluate their physical and engineering properties. Laboratory testing included in-place moisture content and dry density, laboratory compaction characteristics, direct shear, sieve analysis, sand equivalent, R-value, consolidation, expansion index, Atterberg limits, and soluble sulfate content. A detailed description of the laboratory testing program and the test results are presented in Appendix C.

GEOLOGIC CONDITIONS

Regional Geologic Setting

The site is located within the south-central portion of Moreno Valley which lies within the northern end of Perris Valley. This area is located on the Perris block, within the northern Peninsular Ranges geologic province of southern California. While the Perris block is considered to be a relatively stable structural block, it is bounded by active faults. The Perris block is underlain predominately by a very large mass of crystalline igneous rocks of Cretaceous age and older metasedimentary and metavolcanic rocks.

The Perris block has a series of erosional surfaces, marked by low topographic relief and capped with unconsolidated alluvial sediments stripped from the surrounding highlands, such as the Box Spring Mountains and the hills around Lake Perris located east of the site.

These were mapped by the California Division of Mines and Geology as being underlain by deposits of relatively unconsolidated, but weakly to moderately indurated younger to older alluvium (Morton and Matti, 2001 and Morton, 2003).

The nearest known active fault zone is the San Jacinto fault zone located approximately 9.8 kilometers (6.1 miles) to the northeast. Other major faults within the region include the Elsinore fault zone located approximately 26 kilometers (16.2 miles) to the southwest, and San Andreas fault zone located approximately 27 kilometers (17 miles) to the northeast. The site and the regional geologic setting are shown on Enclosure A-3 within Appendix A.

Site Geologic Conditions

Fill/Topsoil: As encountered within the majority of our exploratory borings, fill/topsoil materials on the order of 2 feet thick are present across much of the site. The fill materials were noted to be light brown, dry, and loose silty sand. These materials are most likely the result of weed abatement practices (discing).

Fill: As encountered within our exploratory boring placed in the northeast portion of the site, fill materials on the order of 5 feet are present. These materials consisted of dry, loose, silty sand with some debris and are believed to be end dumped fills noted in our review of aerial photographs.

Older Alluvium: Underlying the fill materials at the site, older alluvial materials were encountered within all of our exploratory borings to the maximum depths explored. These units were noted to consist of silty sand and sandy silt, and lessor amounts unit of well graded sand, clayey sand and lean clay with sand. The older alluvial materials were in a relatively loose to medium dense/stiff state upon first encounter, becoming medium dense/very stiff to dense/hard with depth based on our equivalent Standard Penetration Test (SPT) data and in-place density testing. Consolidation testing of the older alluvial materials indicate normal consolidation/hydro-consolidation characteristics at depths of 7 feet and greater.

A detailed description of the subsurface soil conditions as encountered within our exploratory borings is presented on the Boring Logs within Appendix B.

Groundwater Hydrology

Groundwater was encountered within our exploratory borings B-2 at a depth of approximately 33.5 feet below the existing ground surface.

Records for nearby wells which were readily available from the State of California Department of Water Resources online database (CDWR, 2019) and the Western Municipal Water District Cooperative Well Measurement Program (WMWD, 2019) were reviewed as a part of this investigation. In addition, historic groundwater level data was reviewed from a groundwater contour map prepared by the U.S.G.S. (Carson and Matti, 1985).

According to the State of California Department for Water resources online database, the nearest well with available data is State Well Number 03S03W32B001S located to the southeast, approximately 1.4 kilometers (0.9 miles). In this well, groundwater was last measured at a depth of 21 feet below the ground surface on April 26, 2019. The depth to groundwater in the past was noted to vary slightly over time. Data for this well was presented from 2011 to 2019 and the elevation was listed as 1,476 feet above mean sea level.

Groundwater well data from the Cooperative Well Measuring Program, Spring 2019, indicates that the nearest well is the well noted above and no additional relevant information is presented within this database.

As illustrated on Enclosure A-1, the elevation of the site is approximately 1,495 feet above mean sea level. Based on the information above, groundwater is anticipated to lie approximately 35 feet in the general site area.

Surface Runoff

Current surface runoff of precipitation waters across the site is generally as sheet flow to the south-southeast.

Mass Movement

Mass movement features such as landslides, rockfalls, or debris flows within the site vicinity are not known to exist and no evidence of mass movement was observed on the site or in the vicinity during our review of aerial photographs or reconnaissance.

Faulting

No active or potentially active faults are known to exist at the subject site. In addition, the subject site does not lie within a current State of California Earthquake Fault Zone (Hart and Bryant, 2003).

As previously mentioned, the closest known active fault is the San Jacinto Valley segment of the San Jacinto fault zone, located approximately 9.8 kilometers (6.1 miles) to the northeast. In addition, other relatively close active faults include the Glen Ivy segment of the Elsinore fault zone, located approximately 26 kilometers (16.2 miles) to the southwest, and the San Bernardino segment of the San Andreas fault zone located approximately 27 kilometers (17 miles) to the northeast.

The San Jacinto fault zone is a sub-parallel branch of the San Andreas fault zone, extending from the northwestern San Bernardino area, southward into the El Centro region. This fault has been active in recent times with several large magnitude events. It is believed that the San Jacinto fault is capable of producing an earthquake magnitude on the order of 6.5 or greater.

The Elsinore fault zone is one of the largest in southern California. At its northern end it splays into two segments and at its southern end it is cut by the Yuba Wells fault. The primary sense of slip along the Elsinore fault is right lateral strike-slip. It is believed that the Elsinore fault zone is capable of producing an earthquake magnitude on the order of 6.5 to 7.5.

The San Andreas fault is considered to be the major tectonic feature of California, separating the Pacific Plate and the North American Plate. While estimates vary, the San Andreas fault is generally thought to have an average slip rate on the order of 24mm/yr and capable of generating large magnitude events on the order of 7.5 or greater.

Current standards of practice often include a discussion of all potential earthquake sources within a 100 kilometer (62 mile) radius. However, while there are other large earthquake faults within a 100 kilometer (62 mile) radius of the site, none of these are considered as relevant to the site due to their greater distance and/or smaller anticipated magnitudes.

Historical Seismicity

In order to obtain a general perspective of the historical seismicity of the site and surrounding region a search was conducted for seismic events at and around the area within various radii. This search was conducted utilizing the historical seismic search website of the USGS. This website conducts a search of a user selected cataloged seismic events database, within a specified radius and selected magnitudes, and then plots the events onto a map. At the time of our search, the database contained data from January 1, 1932 through November 20, 2019.

In our first search, the general seismicity of the region was analyzed by selecting an epicenter map listing all events of magnitude 4.0 and greater, recorded since 1932, within a 100 kilometer (62 mile)radius of the site, in accordance with guidelines of the California Division of Mines and Geology. This map illustrates the regional seismic history of moderate to large events. As depicted on Enclosure A-4, within Appendix A, the site lies within a relatively active region associated with the San Andreas fault trending northwest and the northwest trending faulting of the Mojave Desert geomorphic province.

In the second search, the micro seismicity of the area lying within a 15 kilometer (9.3 mile) radius of the site was examined by selecting an epicenter map listing events on the order of 1.0 and greater since 1978. In addition, only the “A” events, or most accurate events were selected. Caltech indicates the accuracy of the “A” events to be approximately 1 km. The results of this search is a map that presents the seismic history around the area of the site with much greater detail, not permitted on the larger map. The reason for limiting the events to the last 40± years on the detail map is to enhance the accuracy of the map. Events recorded prior the mid 1970's are generally considered to be less accurate due to advancements in technology. As depicted on this map, Enclosure A-5, the San Jacinto fault zone appear to be the source of numerous events.

In summary, the historical seismicity of the site entails numerous small to medium magnitude earthquake events occurring around the subject site, predominately associated with the presence of the San Jacinto fault zone. Any future developments at the subject site should anticipate that moderate to large seismic events could occur very near the site.

Secondary Seismic Hazards

Other secondary seismic hazards generally associated with severe ground shaking during an earthquake include liquefaction, seiches and tsunamis, earthquake induced flooding, landsliding and rockfalls, and seismic-induced settlement.

Liquefaction: The potential for liquefaction generally occurs during strong ground shaking within granular, loose, sediments where the groundwater is usually less than 50 feet. The County of Riverside has mapped the overall site area as having low liquefaction potential (TLMA, 2019).

Liquefaction is a process in which strong ground shaking causes saturated soils to lose their strength and behave as a fluid (Matti and Carson, 1991). Ground failure associated with liquefaction can result in severe damage to structures. Soil types susceptible to liquefaction include sand, silty sand, sandy silt, and silt, as well as soils having a plasticity

index (PI) less than 7 (Boulanger and Idriss, 2004) and loose soils with a PI less than 12 and a moisture content greater than 85 percent of the liquid limit (Bray and Sancio, 2006). The geologic conditions for increased susceptibility to liquefaction are: 1) shallow groundwater (generally less than 50 feet in depth); 2) the presence of unconsolidated sandy alluvium, typically Holocene in age; and 3) strong ground shaking. All three of these conditions must be present for liquefaction to occur.

Severe seismic shaking may cause dry and non-saturated sands to densify, resulting in settlement expressed at the ground surface. Seismic settlement in dry soils generally occurs in loose sands and silty sands, with cohesive soils being less prone to significant settlement.

A quantitative method using an index called the liquefaction potential index (LPI) was developed and presented by Iwasaki et al. (1978, 1982). The LPI is defined as:

$$LPI = \int_0^{20} F_1 W(z) dz$$

where $W(z) = 10 - 0.5z$, $F_1 = 1 - FS$ for $FS < 1.0$, $F_1 = 0$ for $FS > 1.0$ and z is the depth below the ground surface in meters. The LPI presents the risk of liquefaction damage as a single value with the following indicators of liquefaction-induced damage:

LPI Range and Damage	
LPI Range	**Damage**
LPI = 0	Liquefaction risk is very low.
0 < LPI ≤ 5	Liquefaction risk is low.
5 < LPI ≤ 15	Liquefaction risk is high.
LPI > 15	Liquefaction risk is very high.

The most recent development for quantitative descriptions of liquefaction-induced surface damage, called "liquefaction vulnerability", was made by Tonkin & Taylor (2013) after the Christchurch earthquakes occurred between 2010 and 2011 and was based on field observations and analyses of approximately 7,500 CPT investigations. A new index, the liquefaction severity number (LSN), was proposed and defined as:

$$LSN = \int \frac{\varepsilon_v}{z} dz$$

where ε_v is the calculated volumetric densification strain in the subject layer from Zhang et al. (2002) and z is the depth to the layer of interest in meters below the ground surface. The typical behaviors of sites with a given LSN are summarized in following table.

LSN Ranges and Observed Land Effects

LSN Range	Predominant Performance
0-10	Little to no expression of liquefaction, minor effects
10-20	Minor expression of liquefaction, some sand boils
20-30	Moderate expression of liquefaction, with sand boils and some structural damage
30-40	Moderate to severe expression of liquefaction, settlement can cause structural damage
40-50	Major expression of liquefaction, undulations and damage to ground surface, severe total and differential settlement of structures
>50	Severe damage, extensive evidence of liquefaction at surface, severe total and differential settlements affecting structures, damage to services

Both LPI and LSN indices were calculated for the soil profiles of Exploratory Boring No. B-2. The results indicate that the liquefaction risk of the site is “very low” to "low" per the LPI index of 0. The site exhibits "little to no expression of liquefaction, minor effects" per the LSN index of 0.

The Idriss and Boulanger (2008) and Pradel (1998) methods were used to evaluate liquefaction-induced settlement and dry sand settlement. As input into our calculations a deaggregated modal moment magnitude of 6.5 and an acceleration of 0.553g were utilized for the representative soil profiles as provided in Boring B-2.

The results indicate that a maximum seismic settlement of less than one-half inch can be anticipated. Based on the relative uniformity of soil materials encountered, differential seismic settlement is anticipated to be approximately one-half of the total seismic settlement. The settlement calculated is accumulated from soil layers to a maximum depth of 50 feet and the result of our analysis is provided in Appendix E.

Seiches/Tsunamis: The potential for the site to be affected by a seiche or tsunami (earthquake generated wave) is considered nil due to the absence of any large bodies of water near the site.

Flooding (Water Storage Facility Failure): There are no large water storage facilities located on or upstream near the site which could possibly rupture during an earthquake and affect the site by flooding.

Seismically-Induced Landsliding: Our research, site reconnaissance and review of aerial imagery of the site and vicinity indicates that there are no known or suspected landslides at the site or in close proximity to the site and, therefore, the potential for seismically-induced landslides occurring at the site is considered very low.

Rockfalls: No large, exposed, loose or unrooted boulders that could affect the integrity of the site are present above the site.

Seismically-Induced Settlement: Settlement generally occurs within areas of loose, granular soils with relatively low density. Since the site is underlain by dense/stiff to dense/hard older alluvial materials, the potential for settlement is considered low. In addition, the earthwork operations recommended to be conducted during the development of the site will mitigate any near surface loose soil conditions.

SOILS AND SEISMIC DESIGN CRITERIA (California Building Code 2016)

Section 1613 of Chapter 16 of the 2016 California Building Code (CBC) contains the procedures and definitions for the calculations of the earthquake loads on structures and non structural components that are permanently attached to structures and their supports and attachments.

It should be noted that the classification of use and occupancy of all proposed structures at the site, and thus design requirements, shall be the responsibility of the structural engineer and the building official.

CBC Earthquake Design Summary

The following earthquake design criteria have been formulated for the site utilizing the source referenced above. However, these values should be reviewed and the final design should be performed by a qualified structural engineer familiar with the region.

CBC 2016 SEISMIC DESIGN SUMMARY* Site Location (WGS 84) 33.8872, -117.2226, Occupancy Category II	
Site Class Definition Chapter 20 ASCE 7	D
S_s Mapped Spectral Response Acceleration at 0.2s Period, (Figure 1613.3.1(1))	1.500
S_1 Mapped Spectral Response Acceleration at 1s Period, (Figure 1613.3.3(2))	0.605
F_a Short Period Site Coefficient at 0.2s Period, (Table 1613.3.3(1))	1.0
F_v Long Period Site Coefficient at 1s Period, (Table 1613.3.3(2))	1.5
S_{MS} Adjusted Spectral Response Acceleration at 0.2s Period, (eq .16-37)	1.500
S_{M1} Adjusted Spectral Response Acceleration at 1s Period, (eq .16-38)	0.907
S_{DS} Design Spectral Response Acceleration at 0.2s Period, (eq .16-39)	1.000
S_{D1} Design Spectral Response Acceleration at 1s Period, (eq .16-40)	0.605
Seismic Design Category - Short Period (Table 1613.3.5(1))	D
Seismic Design Category - Long Period (Table 1613.3.5(2))	D
*Values obtained from OSHPD online U.S. Seismic Design Maps tool	

INFILTRATION TESTING AND TEST RESULTS

Two constant head infiltration tests were conducted within the general area proposed for the infiltration of runoff waters. Testing consisted of two test holes which were excavated using a hollow stem auger drill rig to depths of approximately 5 feet below the existing ground surface. The holes were 8-inches in diameter. Two inches of gravel was placed in the bottom of the holes and perforated plastic liners were placed into each hole. A 2-inch PVC pipe with a preset water level of 0.5 feet was inserted into each liner. A 5-gallon glass bottle was then inverted over each pipe with a vacuum seal in order to maintain a constant 0.5 feet of water with each hole. The volume of water used in a given time period was recorded at various time intervals to establish the infiltration rates.

Infiltration test results are summarized in the following table:

Test No.	Depth (ft.)*	Infiltration Rate** in/hr
I-1	4	0.10
I-2	4	0.10

* depth measured below existing ground surface
** clear water rate

The results of our infiltration testing are attached as Enclosures D-1 and D-2. The test results indicate poor infiltration characteristics for the soils tested.

CONCLUSIONS

General

This investigation provides a broad overview of the geotechnical and geologic factors which are expected to influence future site planning and development. On the basis of our field investigation and testing program, it is the opinion of LOR Geotechnical Group, Inc., that the proposed development is feasible from a geotechnical standpoint, provided the recommendations presented in this report are incorporated into design and implemented during grading and construction.

The subsurface conditions encountered in our exploratory borings are indicative of the locations explored. The subsurface conditions presented here are not to be construed as being present the same everywhere on the site. If conditions are encountered during the construction of the project which differ significantly from those presented in this report, this firm should be notified immediately so we may assess the impact to the recommendations provided.

Foundation Support

Based upon the field investigation and test data, it is our opinion that the existing fill/topsoil and fill soils will not, in their present condition, provide uniform and/or adequate support for the proposed improvements. Left as is, this condition could cause unacceptable differential and/or overall settlements upon application of the anticipated foundation loads.

To provide adequate support for the proposed structural improvements, we recommend that a compacted fill mat be constructed beneath footings and slabs.

This compacted fill mat will provide a dense, high-strength soil layer to uniformly distribute the anticipated foundation loads over the underlying soils. In addition, the construction of this compacted fill mat will allow for the removal of any undocumented fill soils that are present within the proposed building areas. Conventional foundation systems, using either individual spread footings and/or continuous wall footings, will provide adequate support for the anticipated downward and lateral loads when utilized in conjunction with the recommended fill mat.

Soil Expansiveness

Our laboratory testing found the soils tested to have a very low expansion potential. For very low expansive soils, no specialized construction procedures to resist expansive soil activity are necessary.

Careful evaluation of on-site soils and any import fill for their expansion potential should be conducted during the grading operation.

Sulfate Protection

The results of the soluble sulfate tests conducted on selected subgrade soils expected to be encountered at foundation levels indicate that there is a negligible sulfate exposure to concrete elements in contact with the on site soils per the 2016 CBC. Therefore, no specific recommendations are given for concrete elements to be in contact with the onsite soils.

Infiltration

The results of our field investigation and test data indicates the site soils are not conducive to infiltration or percolation. Therefore, water quality storm water systems should not incorporate on-site infiltration/percolation when determining storm water treatment capacity.

Geologic Mitigations

No special geologic recommendation methods are deemed necessary at this time, other than the geotechnical recommendations provided in the following sections.

Seismicity

Seismic ground rupture is generally considered most likely to occur along pre-existing active faults. Since no known faults are known to exist at, or project into the site, the probability of ground surface rupture occurring at the site is considered nil.

Due to the site's close proximity to the faults described above, it is reasonable to expect a strong ground motion seismic event to occur during the lifetime of the proposed development on the site. Large earthquakes could occur on other faults in the general area, but because of their lesser anticipated magnitude and/or greater distance, they are considered less significant than the faults described above from a ground motion standpoint.

The effects of ground shaking anticipated at the subject site should be mitigated by the seismic design requirements and procedures outlined in Chapter 16 of the California Building Code. However, it should be noted that the current building code requires the minimum design to allow a structure to remain standing after a seismic event, in order to allow for safe evacuation. A structure built to code may still sustain damage which might ultimately result in the demolishing of the structure (Larson and Slosson, 1992).

RECOMMENDATIONS

Geologic Recommendations

No special geologic recommendation methods are deemed necessary at this time, other than the geotechnical recommendations provided in the following sections.

General Site Grading

It is imperative that no clearing and/or grading operations be performed without the presence of a qualified geotechnical engineer. An on-site, pre-job meeting with the owner, the developer, the contractor, and geotechnical engineer should occur prior to all grading related operations. Operations undertaken at the site without the geotechnical engineer present may result in exclusions of affected areas from the final compaction report for the project.

Grading of the subject site should be performed in accordance with the following recommendations as well as applicable portions of the California Building Code, and/or applicable local ordinances.

All areas to be graded should be stripped of significant vegetation and other deleterious materials.

It is our recommendation that any existing fills under any proposed flatwork and/or paved areas be removed and replaced with engineered compacted fill. If this is not done, premature structural distress (settlement) of the flatwork and pavement may occur. Any undocumented fills encountered during grading should be completely removed and cleaned of significant deleterious materials. These may then be reused as compacted fill.

Cavities created by removal of undocumented fill soils and/or subsurface obstructions should be thoroughly cleaned of loose soil, organic matter and other deleterious materials, shaped to provide access for construction equipment, and backfilled as recommended in the following Engineered Compacted Fill section of this report.

Initial Site Preparation

Any and all existing uncontrolled fills and any loose/soft native alluvial soils should be removed from structural areas and areas to receive structural fills. The data developed during this investigation indicates that removals on the order of 5 to 7 feet will be required to encounter competent older alluvium. However, deeper removals may be required locally. Removals should extend horizontally at a distance equal to the depth of the removals plus proposed fill and at least a minimum of 5 feet. The actual depths of removals should be determined during the grading operation by observation and/or by in-place density testing.

Preparation of Fill Areas

After completion of the removals described above and prior to placing fill, the surfaces of all areas to receive fill should be scarified to a depth of at least 6 inches. The scarified soil should be brought to near optimum moisture content and compacted to a relative compaction of at least 90 percent (ASTM D 1557).

Preparation of Foundation Areas

All footings should rest upon a minimum of 24 inches of properly compacted fill material placed over competent natural alluvial soils. In areas where the required fill thickness is not accomplished by the removal of unsuitable soils, the footing areas should be further subexcavated to a depth of at least 24 inches below the proposed footing base grade, with the subexcavation extending at least 5 feet beyond the footing lines. The bottom of this excavation should then be scarified to a depth of at least 6 inches, brought to near

optimum moisture content, and recompacted to at least 90 percent relative compaction (ASTM D 1557) prior to refilling the excavation to grade as properly compacted fill. Fill areas should not be constructed so as to place structures across any area where the maximum depth of fill to minimum depth of fill is greater than a 3:1 ratio.

To provide adequate support, concrete slabs-on-grade should bear on a minimum of 24 inches of compacted soil. The final pad surfaces should be rolled to provide smooth, dense surfaces upon which to place the concrete.

Engineered Compacted Fill

The on-site soils should provide adequate quality fill material, provided they are free from organic matter and other deleterious materials. Unless approved by the geotechnical engineer, rock or similar irreducible material with a maximum dimension greater than 6 inches should not be buried or placed in fills.

Import fill, if required, should be inorganic, non-expansive granular soils free from rocks or lumps greater than 6 inches in maximum dimension. Sources for import fill should be approved by the geotechnical engineer prior to their use.

Fill should be spread in maximum 8-inch uniform, loose lifts, with each lift brought to near optimum moisture content prior to, during and/or after placement, and compacted to a relative compaction of at least 90 percent in accordance with ASTM D 1557.

Based upon the relative compaction of the near surface soils determined during this investigation and the relative compaction anticipated for compacted fill soil, we estimate a compaction shrinkage factor of approximately 10 to 15 percent. Therefore, 1.10 to 1.15 cubic yards of in-place materials would be necessary to yield one cubic yard of properly compacted fill material. Subsidence is anticipated to be 0.10 feet. These values are for estimating purposes only, and are exclusive of losses due to stripping or the removal of subsurface obstructions.

These values may vary due to differing conditions within the project boundaries and the limitations of this investigation. Shrinkage should be monitored during construction. If percentages vary, provisions should be made to revise final grades or adjust quantities of borrow or export.

Short-Term Excavations

Following the California Occupational and Safety Health Act (CAL-OSHA) requirements, excavations 5 feet deep and greater should be sloped or shored. All excavations and shoring should conform to CAL-OSHA requirements.

Short-term excavations 5-feet deep and greater shall conform to Title 8 of the California Code of Regulations, Construction Safety Orders, Section 1504 and 1539 through 1547. Based on our exploratory borings, it appears that Type C soil is the predominant type of soil on the project and all short-term excavations should be based on this type of soil. Deviation from the standard short-term slopes are permitted using Option 4, Design by a Registered Professional Engineer (Section 1541.1).

Short-term slope construction and maintenance are the responsibility of the contractor, and should be a consideration of his methods of operation and the actual soil conditions encountered.

Slope Construction

Preliminary data indicates that cut and fill slopes should be constructed no steeper than two horizontal to one vertical. Fill slopes should be overfilled during construction and then cut back to expose fully compacted soil. A suitable alternative would be to compact the slopes during construction, then roll the final slopes to provide dense, erosion-resistant surfaces.

Slope Protection

Since the site soils are susceptible to erosion by running water, measures should be provided to prevent surface water from flowing over slope faces. Slopes at the project should be planted with a deep rooted ground cover as soon as possible after completion. The use of succulent ground covers such as iceplant or sedum is not recommended. If watering is necessary to sustain plant growth on slopes, the watering system should be monitored to assure proper operation and to prevent over watering.

Foundation Design

If the site is prepared as recommended, the proposed structures may be safely founded on conventional shallow foundations, either individual spread footings and/or continuous wall footings, bearing on a minimum of 24 inches of engineered compacted fill.

All foundations should have a minimum width of 12 inches and should be established a minimum of 12 inches below lowest adjacent grade.

For the minimum width and depth, spread foundations may be designed using an allowable bearing pressure of 1,800 psf. This bearing pressure may be increased by 400 psf for each additional foot of width, and by 400 psf for each additional foot of depth, up to a maximum of 4,000 psf. For example, a footing 3 feet wide and embedded 2 feet will have an allowable bearing pressure of 3,000 psf.

The above values are net pressures; therefore, the weight of the foundations and the backfill over the foundations may be neglected when computing dead loads. The values apply to the maximum edge pressure for foundations subjected to eccentric loads or overturning. The recommended pressures apply for the total of dead plus frequently applied live loads, and incorporate a factor of safety of at least 3.0. The allowable bearing pressures may be increased by one-third for temporary wind or seismic loading. The resultant of the combined vertical and lateral seismic loads should act within the middle one-third of the footing width. The maximum calculated edge pressure under the toe of foundations subjected to eccentric loads or overturning should not exceed the increased allowable pressure. Buildings should be setback from slopes in accordance with the California Building Code.

Resistance to lateral loads will be provided by passive earth pressure and base friction. For footings bearing against compacted fill, passive earth pressure may be considered to be developed at a rate of 400 pounds per square foot per foot of depth. Base friction may be computed at 0.30 times the normal load. Base friction and passive earth pressure may be combined without reduction. These values are for dead load plus live load and may be increased by one-third for wind or seismic loading.

Settlement

Total settlement of individual foundations will vary depending on the width of the foundation and the actual load supported. Maximum settlement of shallow foundations designed and constructed in accordance with the preceding recommendations are estimated to be on the order of 0.5 inch. Differential settlements between adjacent footings should be about one-half of the total settlement. Settlement of all foundations is expected to occur rapidly, primarily as a result of elastic compression of supporting soils as the loads are applied, and should be essentially completed shortly after initial application of the loads.

Building Area Slab-On-Grade

Concrete floor slabs should bear on a minimum of 24 inches of engineered compacted fill placed over competent native materials. The final pad surfaces should be rolled to provide smooth, dense surfaces upon which to place the concrete.

Slabs to receive moisture-sensitive coverings should be provided with a moisture vapor barrier. This barrier may consist of an impermeable membrane. Two inches of sand over the membrane will reduce punctures and aid in obtaining a satisfactory concrete cure. The sand should be moistened just prior to placing of concrete. The slabs should be protected from rapid and excessive moisture loss which could result in slab curling. Careful attention should be given to slab curing procedures, as the site area is subject to large temperature extremes, humidity, and strong winds.

Exterior Flatwork

To provide adequate support, exterior flatwork improvements should rest on a minimum of 12 inches of soil compacted to at least 90 percent (ASTM D 1557).

Flatwork surface should be sloped a minimum of 1 percent away from buildings and slopes, to approved drainage structures.

Wall Pressures

The design of footings for retaining structures should be performed in accordance with the recommendations described earlier under Preparation of Foundation Areas and Foundation Design. For design of retaining wall footings, the resultant of the applied loads should act in the middle one-third of the footing, and the maximum edge pressure should not exceed the basic allowable value without increase.

For design of retaining walls unrestrained against movement at the top, we recommend an equivalent fluid density of 48 pounds per cubic foot (pcf) be used. This assumes level backfill consisting of recompacted, non-expansive, native soils placed against the structures and with the backcut slope extending upward from the base of the stem at 35 degrees from the vertical or flatter.

To avoid overstressing or excessive tilting during placement of backfill behind walls, heavy compaction equipment should not be allowed within the zone delineated by a 45 degree line extending from the base of the wall to the fill surface.

The backfill directly behind the walls should be compacted using light equipment such as hand operated vibrating plates and rollers. No material larger than 3-inches in diameter should be placed in direct contact with the wall.

Wall pressures should be verified prior to construction, when the actual backfill materials and conditions have been determined. Recommended pressures are applicable only to level, non-expansive, properly drained backfill (with no additional surcharge loadings).

If inclined backfills are proposed, this firm should be contacted to develop appropriate active earth pressure parameters. Toe bearing pressure for non-structural walls on soils, not prepared as described earlier under Preparation of Foundation Areas, should not exceed California Building Code values.

Sulfate Protection

The results of the soluble sulfate tests conducted on selected subgrade soils expected to be encountered at foundation levels are presented on Enclosure C.

Based on the test results it appears that there is a negligible sulfate exposure to concrete elements in contact with on site soils. The CBC, therefore, does not recommend special design criteria for concrete elements in conduct with such materials.

Preliminary Pavement Design

Testing and design for preliminary on-site pavement was conducted in accordance with the California Highway Design Manual. Based upon our preliminary sampling and testing, and upon Traffic Index indicated by the City of Moreno Valley Standard Plans (2018), it appears that the structural section tabulated below should provide satisfactory pavement for the subject pavement improvements:

AREA	T.I.	DESIGN R-VALUE	PRELIMINARY SECTION
Local Street	6.0	30	0.35' AC*/0.70' CAB
AC - Asphalt Concrete CAB - Crushed Aggregate Base * City of Moreno Valley minimum			

The above structural section is predicated upon 90 percent relative compaction (ASTM D 1557) of all utility trench backfills and 95 percent relative compaction (ASTM D 1557) of the upper 12 inches of pavement subgrade soils and of any aggregate base utilized.

In addition, the aggregate base should meet specifications for Crushed Aggregate Base.

In areas of the pavement which will receive high abrasion loads due to start-ups and stops, or where trucks will move on a tight turning radius, consideration should be given to installing concrete pads. Such pads should be a minimum of 0.5-foot thick concrete, with a 0.35-foot thick aggregate base. Concrete pads are also recommended in areas adjacent to trash storage areas where heavier loads will occur due to operation of trucks lifting trash dumpsters.

It should be noted that all of the above pavement design was based upon the results of preliminary sampling and testing, and should be verified by additional sampling and testing during construction when the actual subgrade soils are exposed.

Infiltration

Based upon our field investigation and infiltration test data, the site soils are not considered suitable for infiltration or percolation. Therefore water quality storm water systems should not incorporate on-site infiltration/percolation when determining storm water treatment capacity.

Construction Monitoring

Post investigative services are an important and necessary continuation of this investigation. Project plans and specifications should be reviewed by the project geotechnical consultant prior to construction to confirm that the intent of the

recommendations presented herein have been incorporated into the design. Additional expansion index, R-value, and soluble sulfate testing may be required during site rough grading.

During construction, sufficient and timely geotechnical observation and testing should be provided to correlate the findings of this investigation with the actual subsurface conditions exposed during construction. Items requiring observation and testing include, but are not necessarily limited to, the following:

1. Site preparation-stripping and removals.

2. Excavations, including approval of the bottom of excavation prior to filling.

3. Scarifying and recompacting prior to fill placement.

4. Subgrade preparation for pavements and slabs-on-grade.

5. Placement of engineered compacted fill and backfill, including approval of fill materials and the performance of sufficient density tests to evaluate the degree of compaction being achieved.

6. Foundation excavations.

LIMITATIONS

This report contains geotechnical conclusions and recommendations developed solely for use by Passco Pacifica, LLC, and their design consultants, for the purposes described earlier. It may not contain sufficient information for other uses or the purposes of other parties. The contents should not be extrapolated to other areas or used for other facilities without consulting LOR Geotechnical Group, Inc.

The recommendations are based on interpretations of the subsurface conditions concluded from information gained from subsurface explorations and a surficial site reconnaissance. The interpretations may differ from actual subsurface conditions, which can vary horizontally and vertically across the site. If conditions are encountered during the construction of the project which differ significantly from those presented in this report, this firm should be notified immediately in order that we may assess the impact to the recommendations provided.

Due to possible subsurface variations, all aspects of field construction addressed in this report should be observed and tested by the project geotechnical consultant.

If parties other than LOR Geotechnical Group, Inc., provide construction monitoring services, they must be notified that they will be required to assume responsibility for the geotechnical phase of the project being completed by concurring with the recommendations provided in this report or by providing alternative recommendations.

The report was prepared using generally accepted geotechnical engineering practices under the direction of a state licensed geotechnical engineer. No warranty, expressed or implied, is made as to conclusions and professional advice included in this report. Any persons using this report for bidding or construction purposes should perform such independent investigations as deemed necessary to satisfy themselves as to the surface and subsurface conditions to be encountered and the procedures to be used in the performance of work on this project.

TIME LIMITATIONS

The findings of this report are valid as of this date. Changes in the condition of a property can, however, occur with the passage of time, whether they be due to natural processes or the work of man on this or adjacent properties. In addition, changes in the Standards-of-Practice and/or Governmental Codes may occur. Due to such changes, the findings of this report may be invalidated wholly or in part by changes beyond our control. Therefore, this report should not be relied upon after a significant amount of time without a review by LOR Geotechnical Group, Inc. verifying the suitability of the conclusions and recommendations.

Passco Pacifica, LLC
November 25, 2019

Project No. 33591.1

CLOSURE

It has been a pleasure to assist you with this project. We look forward to being of further assistance to you as construction begins. Should conditions be encountered during construction that appear to be different than as indicated by this report, please contact this office immediately in order that we might evaluate these conditions.

Should you have any questions regarding this report, please do not hesitate to contact our office at your convenience.

Respectfully submitted,
LOR Geotechnical Group, Inc.

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REFERENCES

American Society of Civil Engineers, 2010, Minimum Design Load for Buildings and other Structures, ASCE 7-10.

Bray, J.D., and Sancio, R.B., 2006, Assessment of the Liquefaction Susceptibility of Fine-Grained Soils: American Society of Civil Engineers, Journal of Geotechnical and Geoenvironmental Engineering, v. 132, n. 9, p. 1165-1177.

California Building Standards Commission, 2016 California Building Code.

California Department of Water Resources, 2019, http://www.water.ca.gov/waterdatalibrary/.

County of Riverside, Transportation and Land Management Agency, 2019, Geographic Information System, http://www3.tlma.co.riverside.ca.us.

Google Earth, 2019, Imagery from various years, www.google.com/earth.

Hart, E.W. and W.A. Bryant, 1997, revised 2003, Fault-Rupture Hazard Zones in California, Alquist-Priolo Earthquake Fault Zoning Act with Index to Earthquake Fault Zones Maps: California Dept. of Conservation Division of Mines and Geology Special Publication 42, Revised Edition with Supplements 1, 2 and 3.

Historic Aerials, 2019, Imagery from various years, www.historicaerials.com.

Idriss, I.M., and Boulanger, R.W. (2004). "Semi-empirical procedures for evaluating liquefaction potential during earthquakes." Proc., 11th Int. Conference on Soil Dynamics and Earthquake Engineering, and 3rd Int. Conference on Earthquake Geotechnical Engineering, D. Doolin et al., eds., Stallion Press, Vol. 1, 32-56.

Idriss, I.M., and Boulanger, R.W. (2008). "Soil Liquefaction During Earthquake", Earthquake Engineering Research Institute, EERI Publication MNO-12.

Iwasaki, T., Tatsuoka, F., and Takagi, Y., 1978, Shear Modulus of Sands Under Cyclic Torsional Shear Loading, Soils and Foundations, (18(1), 39-50).

Larson, R., and Slosson, J., 1992, The Role of Seismic Hazard Evaluation in Engineering Reports, in Engineering Geology Practice in Southern California, AEG Special Publication Number 4, pp 191-194.

Morton, D.M., 2003, Geologic Map of the Perris 7.5' Quadrangle, California, Open-File Report 03-270.

Morton, D.M. and Matti, J.C., 2001, Geologic Map of the Sunnymead 7.5' Quadrangle, California, Open-File Report 01-450.

OSPHD, 2019 ,US Seismic Design Maps, https://seismicmaps.org.

Pradel, D. (1998), "Procedure to Evaluate Earthquake-Induced Settlement in Dry Sand Soils", Journal of Geotechnical and Geoenvironmental Engineering, Vol 124, No. 4.

Riverside County Flood Control and Water Conservation District, 2011, Design Handbook for Low Impact Development Best Management Practices, dated September 2011.

Tonkin & Taylor Ltd, 2013, Liquefaction Vulnerability Study, Report prepared for Earthquake Commission, New Zealand.

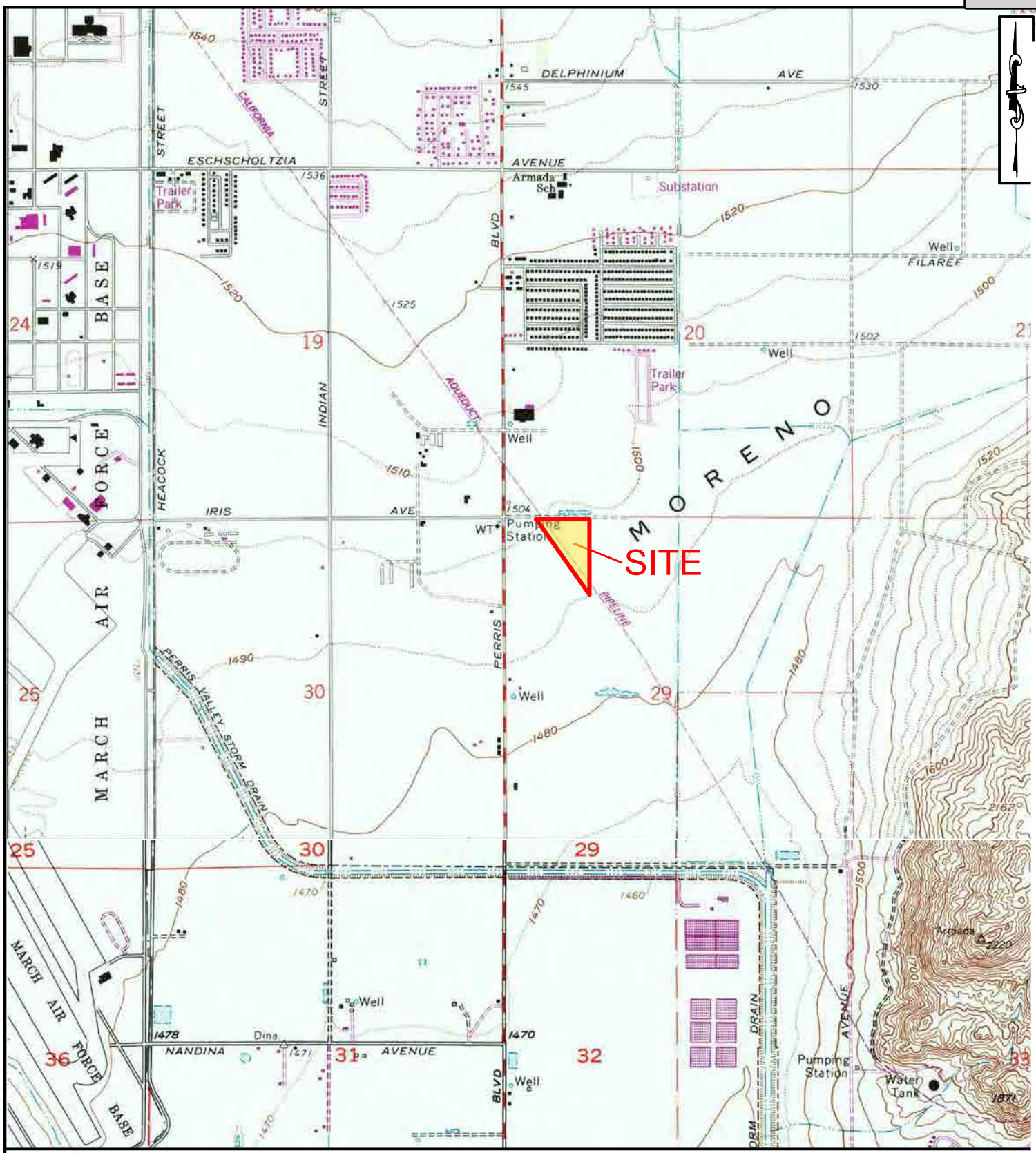
U.S.G.S., 2019, U.S. Seismic Design Maps, earthquake.usgs.gov/designmaps/us/application.php

Western Municipal Water District, 2019, Cooperative Well Measuring Program Spring 2019, Final.

Zhang, G., Robertson, P. K., and Brachman, R. W. I. (2002) "Estimating liquefaction-induced ground settlements from CPT for level ground" Canadian Geotechnical Journal, Ottawa, 39: 1168-1180.

APPENDIX A

Index Map, Site Plan, Regional Geologic Map and Historical Seismicity Maps



INDEX MAP

PROJECT:	IRIS PARK, MORENO VALLEY, CALIFORNIA	**PROJECT NO:**	33591.
CLIENT:	PASSCO PACIFICA, LLC	**ENCLOSURE:**	A-
LOR Geotechnical Group, Inc.		**DATE:**	NOVEMBER 201
		SCALE:	1" = 2,000'

IDEArc

IRIS Park
Illustrative Concept Plan

Legend

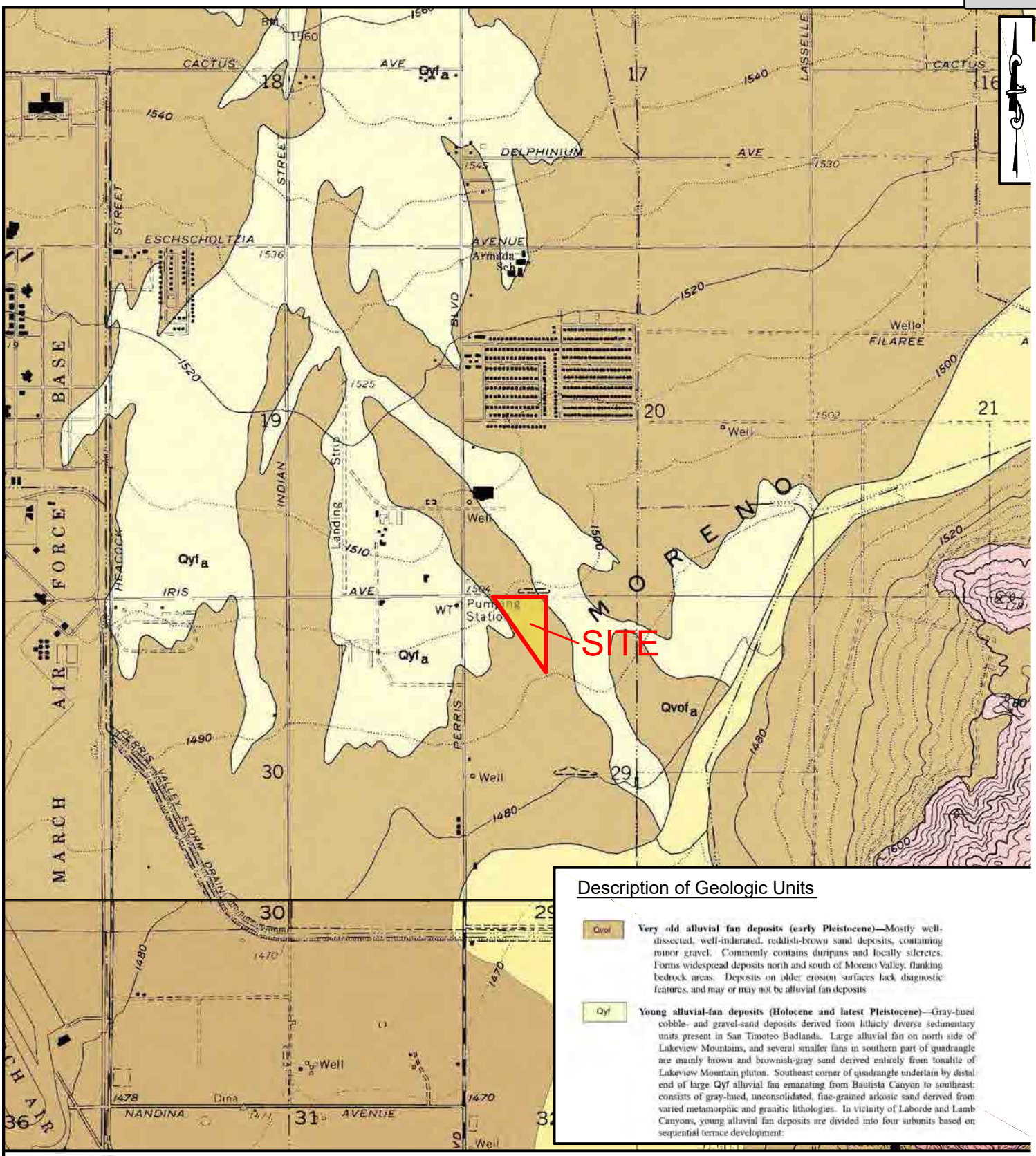
(Locations Approximate)

Map Symbols

- **B-5** - Exploratory Boring
- **I-2** - Infiltration Test

SITE PLAN

PROJECT:	IRIS PARK, MORENO VALLEY, CALIFORNIA	**PROJECT NO:**	33591.
CLIENT:	PASSCO PACIFICA, LLC	**ENCLOSURE:**	A-:
LOR Geotechnical Group, Inc.		**DATE:**	NOVEMBER 201
		SCALE:	1" ≈ 200'



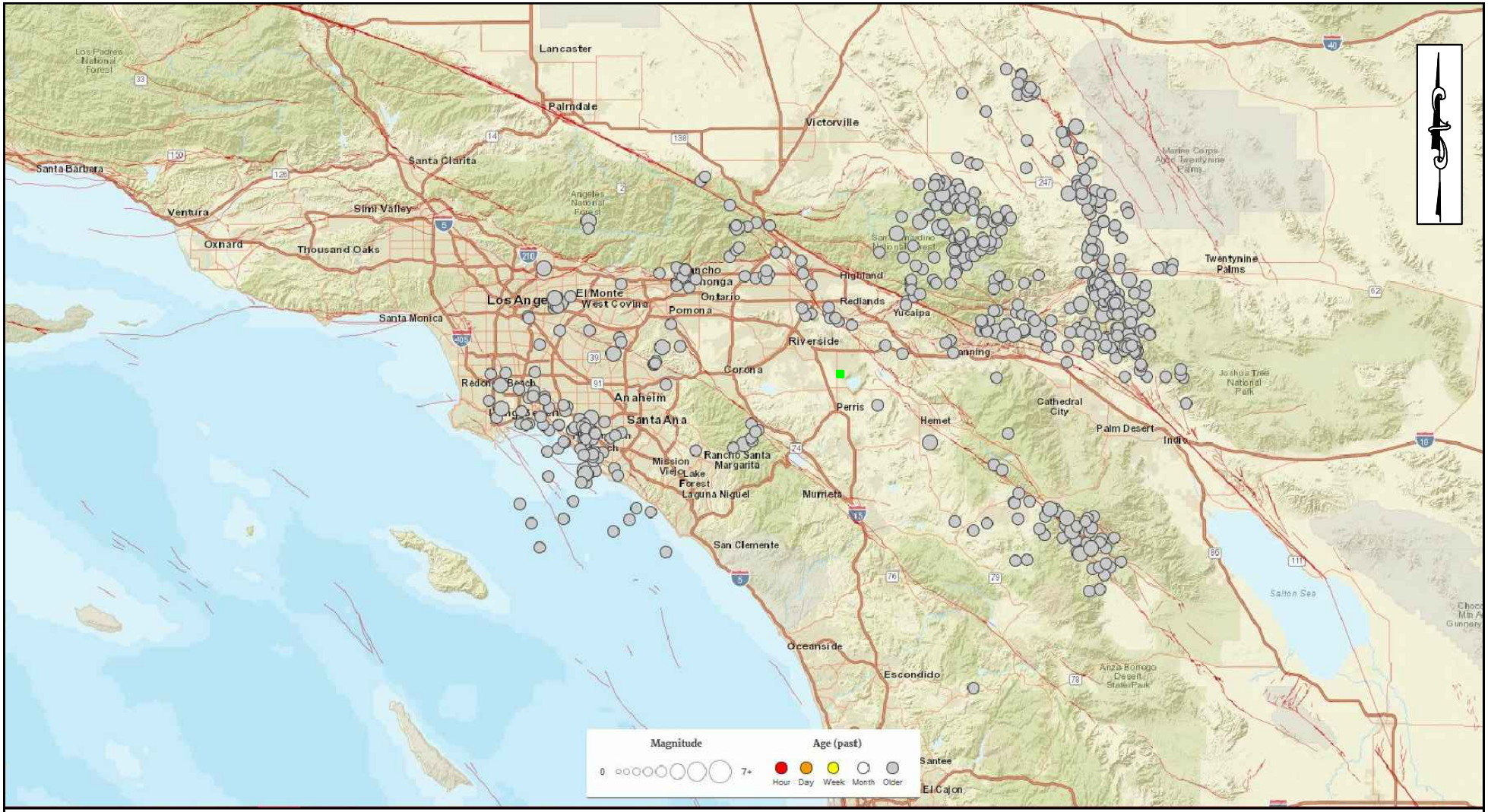
Description of Geologic Units

Qvof — **Very old alluvial fan deposits (early Pleistocene)**—Mostly well-dissected, well-indurated, reddish-brown sand deposits, containing minor gravel. Commonly contains duripans and locally silcretes. Forms widespread deposits north and south of Moreno Valley, flanking bedrock areas. Deposits on older erosion surfaces lack diagnostic features, and may or may not be alluvial fan deposits

Qyf — **Young alluvial-fan deposits (Holocene and latest Pleistocene)**—Gray-hued cobble- and gravel-sand deposits derived from lithicly diverse sedimentary units present in San Timoteo Badlands. Large alluvial fan on north side of Lakeview Mountains, and several smaller fans in southern part of quadrangle are mainly brown and brownish-gray sand derived entirely from tonalite of Lakeview Mountain pluton. Southeast corner of quadrangle underlain by distal end of large Qyf alluvial fan emanating from Bautista Canyon to southeast; consists of gray-hued, unconsolidated, fine-grained arkosic sand derived from varied metamorphic and granitic lithologies. In vicinity of Laborde and Lamb Canyons, young alluvial fan deposits are divided into four subunits based on sequential terrace development:

REGIONAL GEOLOGIC MAP (Morton, 2003 & Morton & Matti, 200

PROJECT:	IRIS PARK, MORENO VALLEY, CALIFORNIA	**PROJECT NO:**	33591.
CLIENT:	PASSCO PACIFICA, LLC	**ENCLOSURE:**	A-
LOR Geotechnical Group, Inc.		**DATE:**	NOVEMBER 201
		SCALE:	1" = 2,000'

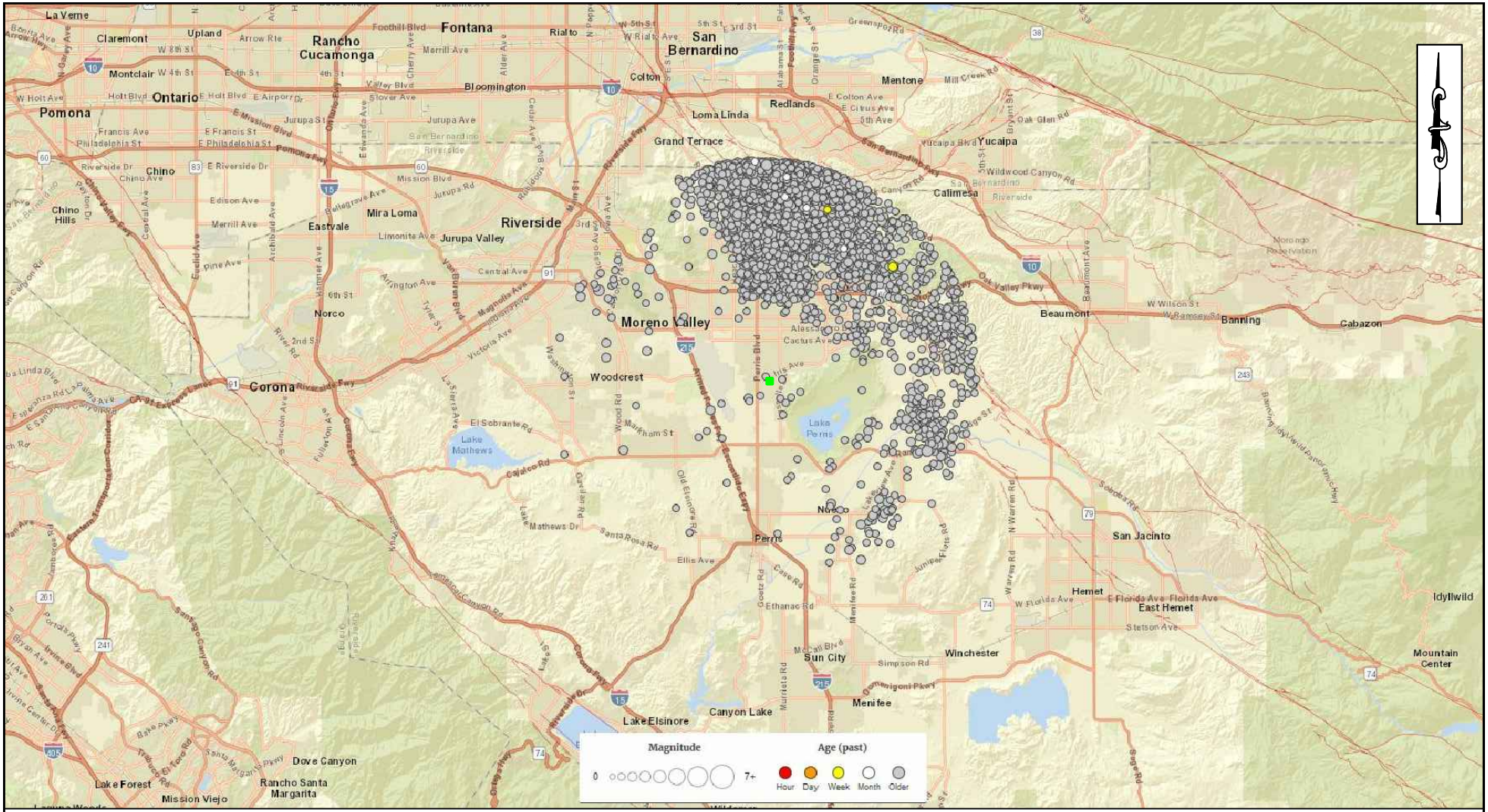


U.S. Geologic Survey (2017a) real-time earthquake epicenter map. Plotted are 544 epicenters of instrument-recorded events from 1978 to present (11/20/19) of local magnitude M4.0 or greater within a radius of ~62 miles (100 kilometers) of the site. Location accuracy varies. The site is indicated by the green square. The selected magnitude corresponds to a threshold intensity value where very light damage potential begins. These evens are also generally widely felt by persons. Red lines mark the surface traces of known Quaternary-age faults.

HISTORICAL SEISMICITY MAP - 100km Radius

PROJECT:	IRIS PARK, MORENO VALLEY, CALIFORNIA	**PROJECT NO:**	33591.1
CLIENT:	PASSCO PACIFICA, LLC	**FIGURE:**	A-4
		DATE:	NOVEMBER 2019
		SCALE:	1" ≈ 40km

LOR Geotechnical Group, Inc.



U.S. Geologic Survey (2017a) real-time earthquake epicenter map. Plotted are 4,945 epicenters of instrument-recorded events from 1932 to present (11/20/19) of local magnitude M1.0 or greater within a radius of ~9.3 miles (15 kilometers) of the site. Location accuracy varies. The site is indicated by the green square. Red lines mark the surface traces of known Quaternary-age faults.

HISTORICAL SEISMICITY MAP - 15km Radius

PROJECT:	IRIS PARK, MORENO VALLEY, CALIFORNIA	**PROJECT NO:**	33591.1
CLIENT:	PASSCO PACIFICA, LLC	**FIGURE:**	A-5
		DATE:	NOVEMBER 2019
		SCALE:	1" ≈ 10km

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APPENDIX B

Field Investigation Program and Boring Logs

APPENDIX B
FIELD INVESTIGATION

Subsurface Exploration

The site was investigated on November 7, 2019 and consisted of advancing 5 exploratory borings to depths between 21.5 feet and 51.5 feet below the existing ground surface. The approximate locations of the borings are shown on Enclosure A-2, within Appendix A.

The drilling exploration was conducted using a truck-mounted Mobile B-61 drill rig equipped with 8-inch diameter hollow stem augers. The soils were continuously logged by our geologist who inspected the site, created detailed logs of the borings, obtained undisturbed, as well as disturbed, soil samples for evaluation and testing, and classified the soils by visual examination in accordance with the Unified Soil Classification System.

Relatively undisturbed samples of the subsoils were obtained at a maximum interval of 5 feet. The samples were recovered by using a California split barrel sampler of 2.50 inch inside diameter and 3.25 inch outside diameter or a Standard Penetration Sampler (SPT) from the ground surface to the total depth explored. The samplers were driven by a 140 pound automatic trip hammer dropped from a height of 30 inches. The number of hammer blows required to drive the sampler into the ground the final 12 inches were recorded and further converted to an equivalent SPT N-value. Factors such as efficiency of the automatic trip hammer used during this investigation (80%), borehole diameter (8"), and rod length at the test depth were considered for further computing of equivalent SPT N-values corrected for field procedures (N60) which are included in the boring logs, Enclosures B-1 through B-5.

The undisturbed soil samples were retained in brass sample rings of 2.42 inches in diameter and 1.00 inch in height, and placed in sealed containers. Disturbed soil samples were obtained at selected levels within the borings and placed in sealed containers for transport to the laboratory.

All samples obtained were taken to our geotechnical laboratory for storage and testing. Detailed logs of the borings are presented on the enclosed Boring Logs, Enclosures B-1 through B-5. A Boring Log Legend and Soil Classification Chart are presented on Enclosures B-i and B-ii, respectively.

CONSISTENCY OF SOIL

SANDS

SPT BLOWS	CONSISTENCY
0-4	Very Loose
4-10	Loose
10-30	Medium Dense
30-50	Dense
Over 50	Very Dense

COHESIVE SOILS

SPT BLOWS	CONSISTENCY
0-2	Very Soft
2-4	Soft
4-8	Medium
8-15	Stiff
15-30	Very Stiff
30-60	Hard
Over 60	Very Hard

SAMPLE KEY

Symbol	Description
	INDICATES CALIFORNIA SPLIT SPOON SOIL SAMPLE
	INDICATES BULK SAMPLE
	INDICATES SAND CONE OR NUCLEAR DENSITY TEST
	INDICATES STANDARD PENETRATION TEST (SPT) SOIL SAMPLE

TYPES OF LABORATORY TESTS

1	Atterberg Limits
2	Consolidation
3	Direct Shear (undisturbed or remolded)
4	Expansion Index
5	Hydrometer
6	Organic Content
7	Proctor (4", 6", or Cal216)
8	R-value
9	Sand Equivalent
10	Sieve Analysis
11	Soluble Sulfate Content
12	Swell
13	Wash 200 Sieve

BORING LOG LEGEND

PROJECT: PROPOSED IRIS PARK RESIDENTIAL DEVELOPMENT, MORENO VALLEY, CALIFORNIA	PROJECT NO.: 33591.1
CLIENT: PASSCO PACIFICA, LLC	ENCLOSURE: B-
LOR Geotechnical Group, Inc.	DATE: NOVEMBER 2019

SOIL CLASSIFICATION CHART

MAJOR DIVISIONS			SYMBOLS GRAPH	SYMBOLS LETTER	TYPICAL DESCRIPTIONS
COARSE GRAINED SOILS	GRAVEL AND GRAVELLY SOILS	CLEAN GRAVELS (LITTLE OR NO FINES)		GW	WELL-GRADED GRAVELS, GRAVEL - SAND MIXTURES, LITTLE OR NO FINES
				GP	POORLY-GRADED GRAVELS, GRAVEL - SAND MIXTURES, LITTLE OR NO FINES
	MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	GRAVELS WITH FINES (APPRECIABLE AMOUNT OF FINES)		GM	SILTY GRAVELS, GRAVEL - SAND - SILT MIXTURES
				GC	CLAYEY GRAVELS, GRAVEL - SAND - CLAY MIXTURES
MORE THAN 50% OF MATERIAL IS LARGER THAN NO. 200 SIEVE SIZE	SAND AND SANDY SOILS	CLEAN SANDS (LITTLE OR NO FINES)		SW	WELL-GRADED SANDS, GRAVELLY SANDS, LITTLE OR NO FINES
				SP	POORLY-GRADED SANDS, GRAVELLY SAND, LITTLE OR NO FINES
	MORE THAN 50% OF COARSE FRACTION PASSING ON NO. 4 SIEVE	SANDS WITH FINES (APPRECIABLE AMOUNT OF FINES)		SM	SILTY SANDS, SAND - SILT MIXTURES
				SC	CLAYEY SANDS, SAND - CLAY MIXTURES
FINE GRAINED SOILS	SILTS AND CLAYS	LIQUID LIMIT LESS THAN 50		ML	INORGANIC SILTS AND VERY FINE SANDS, ROCK FLOUR, SILTY OR CLAYEY FINE SANDS OR CLAYEY SILTS WITH SLIGHT PLASTICITY
				CL	INORGANIC CLAYS OF LOW TO MEDIUM PLASTICITY, GRAVELLY CLAYS, SANDY CLAYS, SILTY CLAYS, LEAN CLAYS
				OL	ORGANIC SILTS AND ORGANIC SILTY CLAYS OF LOW PLASTICITY
MORE THAN 50% OF MATERIAL IS SMALLER THAN NO. 200 SIEVE SIZE	SILTS AND CLAYS	LIQUID LIMIT GREATER THAN 50		MH	INORGANIC SILTS, MICACEOUS OR DIATOMACEOUS FINE SAND OR SILTY SOILS
				CH	INORGANIC CLAYS OF HIGH PLASTICITY
				OH	ORGANIC CLAYS OF MEDIUM TO HIGH PLASTICITY, ORGANIC SILTS
HIGHLY ORGANIC SOILS				PT	PEAT, HUMUS, SWAMP SOILS WITH HIGH ORGANIC CONTENTS

NOTE: DUAL SYMBOLS ARE USED TO INDICATE BORDERLINE SOIL CLASSIFICATIONS

PARTICLE SIZE LIMITS

BOULDERS	COBBLES	GRAVEL		SAND			SILT OR CLAY
		COARSE	FINE	COARSE	MEDIUM	FINE	
12"	3"	3/4"	No. 4	No. 10	No. 40	200	

(U.S. STANDARD SIEVE SIZE)

SOIL CLASSIFICATION CHART

PROJECT PROPOSED IRIS PARK RESIDENTIAL DEVELOPMENT, MORENO VALLEY, CALIFORNIA	PROJECT NO. 33591.1
CLIENT: PASSCO PACIFICA, LLC	ENCLOSURE: B-ii
LOR Geotechnical Group, Inc.	DATE: NOVEMBER 2019

LOG OF BORING B-1

DEPTH IN FEET	SPT BLOW COUNTS	LABORATORY TESTS	MOISTURE CONTENT (%)		DRY DENSITY (PCF)	SAMPLE TYPE	LITHOLOGY	U.S.C.S.	DESCRIPTION
	TEST DATA								
0		3, 4, 7, 9, 10, 11						SM	@ 0 feet, FILL/TOPSOIL: SILTY SAND, approximately 10% coarse grained sand, 20% medium grained sand, 30% fine grained sand, 40% silty fines, light brown, dry, loose.
	14		6.0		120.0			ML	@ 2 feet, ALLUVIUM: SANDY SILT, approximately 5% coarse grained sand, 15% medium grained sand, 20% fine grained sand, 60% silty fines, brown, damp, trace pinhole porosity.
5	7		1.8		105.5			SW SM	@ 5 feet, WELL GRADED SAND with SILT, approximately 25% coarse grained sand, 35% medium grained sand, 30% fine grained sand, 10% silty fines, light brown, dry.
	21		9.5		101.2				@ 7 feet, some sandy silt layers approximately 1 to 2" thick, damp.
10	26		9.1		113.8			ML	@ 10 feet, SANDY SILT, approximately 5% coarse grained sand, 10% medium grained sand, 10% fine grained sand, 75% silty fines with trace clay, brown, damp, trace pinhole porosity.
15	32		10.6		117.5				@ 15 feet, increase in clay, strong brown.
20	40		10.9		112.3				@ 20 feet, contains some secondary calcite.
25	37		17.9		109.5			SM	@ 25 feet, SILTY SAND, trace medium grained sand, approximately 80% fine grained sand, 20% silty fines, light brown, damp.
									END OF BORING @ 26.5'
30									Fill/topsoil to 2' No groundwater No bedrock
35									

PROJECT: **Proposed Iris Park Residential Development**	PROJECT NUMBER: **33591.1**
CLIENT: **Passco Pacifica, LLC**	ELEVATION:
LOR GEOTECHNICAL GROUP INC.	DATE DRILLED: **November 7, 2019**
	EQUIPMENT: **Mobile B-61**
	HOLE DIA.: **8"** ENCLOSURE: **B-1**

LOG OF BORING B-2

DEPTH IN FEET	SPT BLOW COUNTS	LABORATORY TESTS	MOISTURE CONTENT (%)		DRY DENSITY (PCF)	SAMPLE TYPE	LITHOLOGY	U.S.C.S.	DESCRIPTION
0								SM	@ 0 feet, FILL/TOPSOIL: SILTY SAND, approximately 15% coarse grained sand, 20% medium grained sand, 20% fine grained sand, 45% silty fines, light brown, dry, loose.
	9	2	3.7		112.4				@ 2 feet, ALLUVIUM: SILTY SAND, approximately 15% coarse grained sand, 25% medium grained sand, 25% fine grained sand, 35% silty fines, brown, damp.
5	8		3.5		100.8				
	21		4.2		113.5				@ 5 feet, SILTY SAND, approximately 10% coarse grained sand, 20% medium grained sand, 50% fine grained sand, 20% silty fines, light brown, dry, trace thin calcite stringers.
10	36		4.0		112.4			SP SM	@ 7 feet, becomes coarser grained, approximately 25% coarse grained sand, 30% medium grained sand, 35% fine grained sand, 15% silty fines, brown, dry.
15	66		13.0		120.6			CL	@ 10 feet, POORLY GRADED SAND with SILT, approximately 5% coarse grained sand, 25% medium grained sand, 60% fine grained sand, 10% silty fines, light brown, dry, micaceous.
									@ 15 feet, LEAN CLAY with SAND, approximately 20% fine grained sand, 80% clayey fines of low plasticity, strong brown, damp.
20	27		7.7		113.5			SM	@ 20 feet, SILTY SAND, approximately 20% coarse grained sand, 20% medium grained sand, 30% fine grained sand, 30% silty fines, brown, damp, some secondary calcite.
25	48		7.6		115.2				
30	31		12.2						
						▽			@ 33.5 feet, groundwater.
35	48		12.8					SW	@ 35 feet, WELL GRADED SAND, approximately 35% coarse grained sand, 35% medium grained sand, 35% fine grained sand, 5% silty fines, speckled red-brown, wet.
40	29		17.7					CL	@ 40 feet, LEAN CLAY with SAND, approximately 10% medium grained sand, 20% fine grained sand, 70% clayey fines of low plasticity, brown, moist.
45	17	1	14.9						
50	32		17.3						
55									END OF BORING @ 51.5'
									Fill/topsoil to 2'
									Groundwater @ 33.5'
									No bedrock

PROJECT: **Proposed Iris Park Residential Development**		PROJECT NUMBER:	**33591.1**
CLIENT:	**Passco Pacifica, LLC**	ELEVATION:	
LOR GEOTECHNICAL GROUP INC.		DATE DRILLED:	**November 7, 2019**
		EQUIPMENT:	**Mobile B-61**
		HOLE DIA.: **8"**	ENCLOSURE: **B-2**

LOG OF BORING B-3

DEPTH IN FEET	SPT BLOW COUNTS	LABORATORY TESTS	MOISTURE CONTENT (%)		DRY DENSITY (PCF)	SAMPLE TYPE	LITHOLOGY	U.S.C.S.	DESCRIPTION
	TEST DATA								
0								SM	@ 0 feet, FILL/TOPSOIL: SILTY SAND, approximately 10% coarse grained sand, 25% medium grained sand, 25% fine grained sand, 40% silty fines, light brown, dry, loose.
	9		6.7		106.3			ML	@ 2 feet, ALLUVIUM: SANDY SILT, approximately 5% coarse grained sand, 15% medium grained sand, 20% fine grained sand, 60% silty fines, brown, damp, trace pinhole porosity.
5	6		3.5		106.1			SM	@ 5 feet, SILTY SAND, approximately 15% coarse grained sand, 25% medium grained sand, 35% fine grained sand, 20% silty fines, light brown, dry.
	15		0.6		109.5			SP	@ 7 feet, POORLY GRADED SAND, approximately 5% coarse grained sand, 35% medium grained sand, 45% fine grained sand, 5% silty fines, red-brown, dry.
10	25		11.8		116.9			CL	@ 10 feet, LEAN CLAY with SAND, approximately 5% coarse grained sand, 10% medium grained sand, 20% fine grained sand, 65% clayey fines of low plasticity, strong brown, damp, trace thin calcite stringers, trace pinhole porosity, some roothairs.
15	22		10.6		117.0			SC	@ 15 feet, CLAYEY SAND, approximately 15% coarse grained sand, 25% medium grained sand, 30% fine grained sand, 30% clayey fines of low plasticity, brown, damp.
20	60		8.4		124.8				END OF BORING @ 21.5' Fill/topsoil to 2' No groundwater No bedrock
25									

PROJECT: **Proposed Iris Park Residential Development**		PROJECT NUMBER:	**33591.1**
CLIENT:	**Passco Pacifica, LLC**	ELEVATION:	
LOR GEOTECHNICAL GROUP INC.		DATE DRILLED:	**November 7, 2019**
		EQUIPMENT:	**Mobile B-61**
		HOLE DIA.: **8"**	ENCLOSURE: **B-3**

LOG OF BORING B-4

DEPTH IN FEET	SPT BLOW COUNTS	LABORATORY TESTS	MOISTURE CONTENT (%)		DRY DENSITY (PCF)	SAMPLE TYPE	LITHOLOGY	U.S.C.S.	DESCRIPTION
	TEST DATA								
0	19	8, 9, 10, 11	5.8		106.8			SM	@ 0 feet, FILL/TOPSOIL: SILTY SAND, approximately 10% coarse grained sand, 15% medium grained sand, 30% fine grained sand, 45% silty fines, brown, dry, loose. @ 2 feet, ALLUVIUM: SILTY SAND, approximately 15% coarse grained sand, 25% medium grained sand, 25% fine grained sand, 35% silty fines, brown, dry, trace pinhole porosity.
5	19		4.9		101.1			ML	@ 5 feet, SANDY SILT, approximately 15% medium grained sand, 25% fine grained sand, 60% silty fines, light brown, dry, some roothairs, trace pinhole porosity.
	21	2	2.6		109.8			SM	@ 7 feet, SILTY SAND, approximately 10% coarse grained sand, 35% medium grained sand, 35% fine grained sand, 20% silty fines, light brown, dry.
10	21		3.5		107.9				
15	38		8.1		128.2			SC	@ 15 feet, CLAYEY SAND, approximately 20% coarse grained sand, 25% medium grained sand, 25% fine grained sand, 30% clayey fines of low plasticity, brown, damp.
20	55		8.8		121.3			ML	@ 20 feet, SANDY SILT, approximately 5% coarse grained sand, 15% medium grained sand, 15% fine grained sand, 65% silty fines with trace clay, brown, damp.
									END OF BORING @ 21.5' Fill/topsoil to 2' No groundwater No bedrock
25									

PROJECT:	Proposed Iris Park Residential Development	PROJECT NUMBER:	33591.1
CLIENT:	Passco Pacifica, LLC	ELEVATION:	
LOR GEOTECHNICAL GROUP INC.		DATE DRILLED:	November 7, 2019
		EQUIPMENT:	Mobile B-61
		HOLE DIA.: 8"	ENCLOSURE: B-4

LOG OF BORING B-5

DEPTH IN FEET	SPT BLOW COUNTS	LABORATORY TESTS	MOISTURE CONTENT (%)		DRY DENSITY (PCF)	SAMPLE TYPE	LITHOLOGY	U.S.C.S.	DESCRIPTION
			TEST DATA						
0		9, 10, 11						SM	@ 0 feet, FILL: SILTY SAND, approximately 10% coarse grained sand, 25% medium grained sand, 25% fine grained sand, 40% silty fines, dry, loose.
	43		7.7		104.4				@ 2 feet, some rope debris.
5	19		5.5		103.1			ML	@ 5 feet, ALLUVIUM: SANDY SILT, approximately 10% medium grained sand, 30% fine grained sand, 60% silty fines, light brown, dry, some pinhole porosity.
	16	2	7.4		105.4				
10	18	2	8.9		107.0				
15	25		11.6					SC	@ 15 feet, CLAYEY SAND, approximately 20% coarse grained sand, 25% medium grained sand, 30% fine grained sand, 25% clayey fines of low plasticity, brown, damp.
20	28		13.9						END OF BORING @ 21.5'
									Fill to 5'
									No groundwater
									No bedrock
25									

PROJECT: **Proposed Iris Park Residential Development**		PROJECT NUMBER:	**33591.1**
CLIENT: **Passco Pacifica, LLC**		ELEVATION:	
LOR GEOTECHNICAL GROUP INC.		DATE DRILLED:	**November 7, 2019**
		EQUIPMENT:	**Mobile B-61**
	HOLE DIA.: **8"**	ENCLOSURE:	**B-5**

APPENDIX C

Laboratory Testing Program and Test Results

APPENDIX C
LABORATORY TESTING

General

Selected soil samples obtained from our borings were tested in our geotechnical laboratory to evaluate the physical properties of the soils affecting foundation design and construction procedures. The laboratory testing program performed in conjunction with our investigation included in-place moisture content and dry density, laboratory compaction characteristics, direct shear, sieve analysis, sand equivalent, R-value, consolidation, expansion index, Atterberg limits, and soluble sulfate content. Descriptions of the laboratory tests are presented in the following paragraphs:

Moisture Density Tests

The moisture content and dry density information provides an indirect measure of soil consistency for each stratum, and can also provide a correlation between soils on this site. The dry unit weight and field moisture content were determined for selected undisturbed samples, in accordance with ASTM D 2922 and ASTM D 2216, respectively, and the results are shown on the Boring Logs, Enclosures B-1 through B-5 for convenient correlation with the soil profile.

Laboratory Compaction

Selected soil samples were tested in the laboratory to determine compaction characteristics using the ASTM D 1557 compaction test method. The results are presented in the following table:

LABORATORY COMPACTION				
Boring Number	**Sample Depth (feet)**	**Soil Description (U.S.G.S.)**	**Maximum Dry Density (pcf)**	**Optimum Moisture Content (percent)**
B-1	0-3	(SM) Silty Sand	134.0	8.5

Direct Shear Tests

Shear tests are performed with a direct shear machine in general accordance with ASTM D 3080 at a constant rate-of-strain (usually 0.04 inches/minute). The machine is designed to test a sample partially extruded from a sample ring in single shear. Samples are tested at varying normal loads in order to evaluate the shear strength parameters, angle of internal friction and cohesion. Samples are tested in a remolded condition (90 percent relative compaction per ASTM D 1557) and soaked, to represent the worst case conditions expected in the field.

The results of the shear tests are presented in the following table:

DIRECT SHEAR TESTS				
Boring Number	**Sample Depth (feet)**	**Soil Description (U.S.G.S.)**	**Angle of Internal Friction (degrees)**	**Apparent Cohesion (psf)**
B-1	0-3	(SM) Silty Sand	28	200

Sieve Analysis

A quantitative determination of the grain size distribution was performed for selected samples in accordance with the ASTM D 422 laboratory test procedure. The determination is performed by passing the soil through a series of sieves, and recording the weights of retained particles on each screen. The results of the sieve analyses are presented graphically on Enclosure C-1.

Sand Equivalent

The sand equivalent of selected soils were evaluated using the California Sand Equivalent Test Method, Caltrans Number 217. The results of the sand equivalent tests are presented with the grain size distribution analyses on Enclosure C-1.

R-Value Test

Soil samples were obtained at probable pavement subgrade level and was tested to determine its R-value using the California R-Value Test Method, Caltrans Number 301. The results of the R-value test is presented on Enclosure C-1.

Consolidation Tests

The apparatus used for the consolidation tests (odometer) is designed to test a one-inch high portion of the undisturbed soil sample as contained in a sample ring. Porous stones and filler paper are placed in contact with the top and bottom of the specimen to permit the addition or release of water. Loads are applied to the test specimen in specified increments, and the resulting axial deformations are recorded. The results are plotted as log of axial pressure versus consolidation or compression, expressed as strain or sample height.

Samples are tested at field and greater-than field moisture contents. The results are shown on Enclosures C-2 through C-5.

Expansion Index Tests

Remolded samples are tested to determine their expansion potential in accordance with the Expansion Index (EI) test. The test is performed in accordance with the Uniform Building Code Standard 18-2. The test results are presented in the following table:

EXPANSION INDEX TESTS				
Boring Number	**Sample Depth (feet)**	**Soil Description (U.S.C.S.)**	**Expansion Index (EI)**	**Expansion Potential**
B-1	0-3	(SM) Silty Sand	11	Very Low

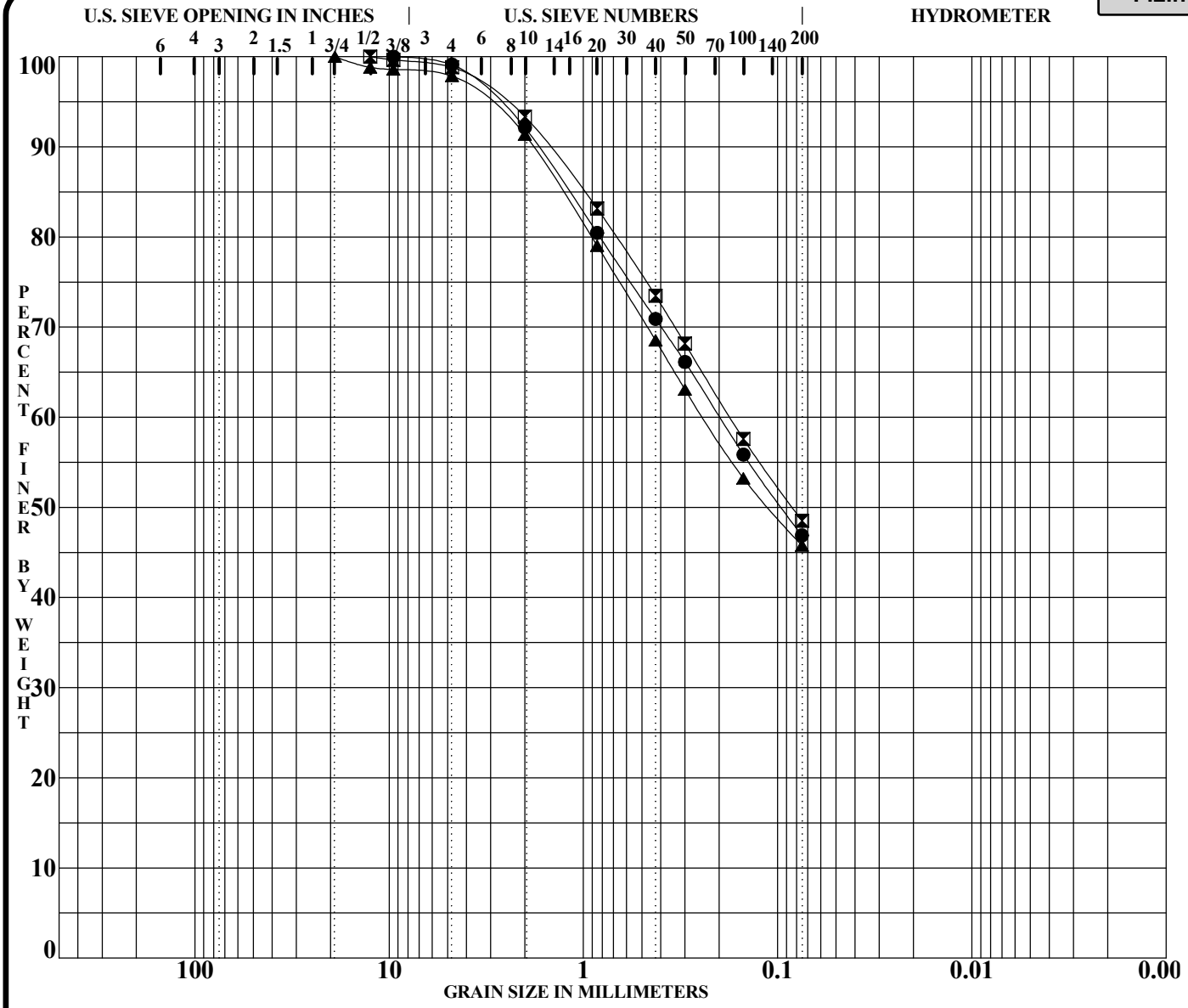
Atterberg Limits

Selected samples of the fine-grained soil units encountered at the site are tested for their Atterberg limits in accordance with ASTM D 4318. The results of these tests are presented on Enclosure C-6.

Soluble Sulfate Content Tests

The soluble sulfate content of selected subgrade soils was evaluated and the concentration of soluble sulfates in the soils was determined by measuring the optical density of a barium sulfate precipitate. The precipitate results from a reaction of barium chloride with water extractions from the soil samples. The measured optical density is correlated with readings on precipitates of known sulfate concentrations. The test results are presented on the following table:

SOLUBLE SULFATE CONTENT TESTS			
Boring Number	**Sample Depth (feet)**	**Soil Description (U.S.G.S.)**	**Sulfate Content (percent by weight)**
B-1	0-3	(SM) Silty Sand	< 0.0085
B-4	0-3	(SM) Silty Sand	< 0.0075
B-5	0-3	(SM) Silty Sand	< 0.0055



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	Specimen Identification		Soil Classification	SE	RV	PL	PI	Cc	Cu
●	B-1	@ 0-3 ft	(SM) Silty Sand	13	--				
⊠	B-4	@ 0-3 ft	(SM) Silty Sand	13	28				
▲	B-5	@ 0-3 ft	(SM) Silty Sand	16	--				

	Specimen Identification		D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	B-1	@ 0-3 ft	9.50	0.20			0.9	52.2	46.9	
⊠	B-4	@ 0-3 ft	12.50	0.18			1.2	50.3	48.5	
▲	B-5	@ 0-3 ft	19.00	0.24			2.1	52.1	45.8	

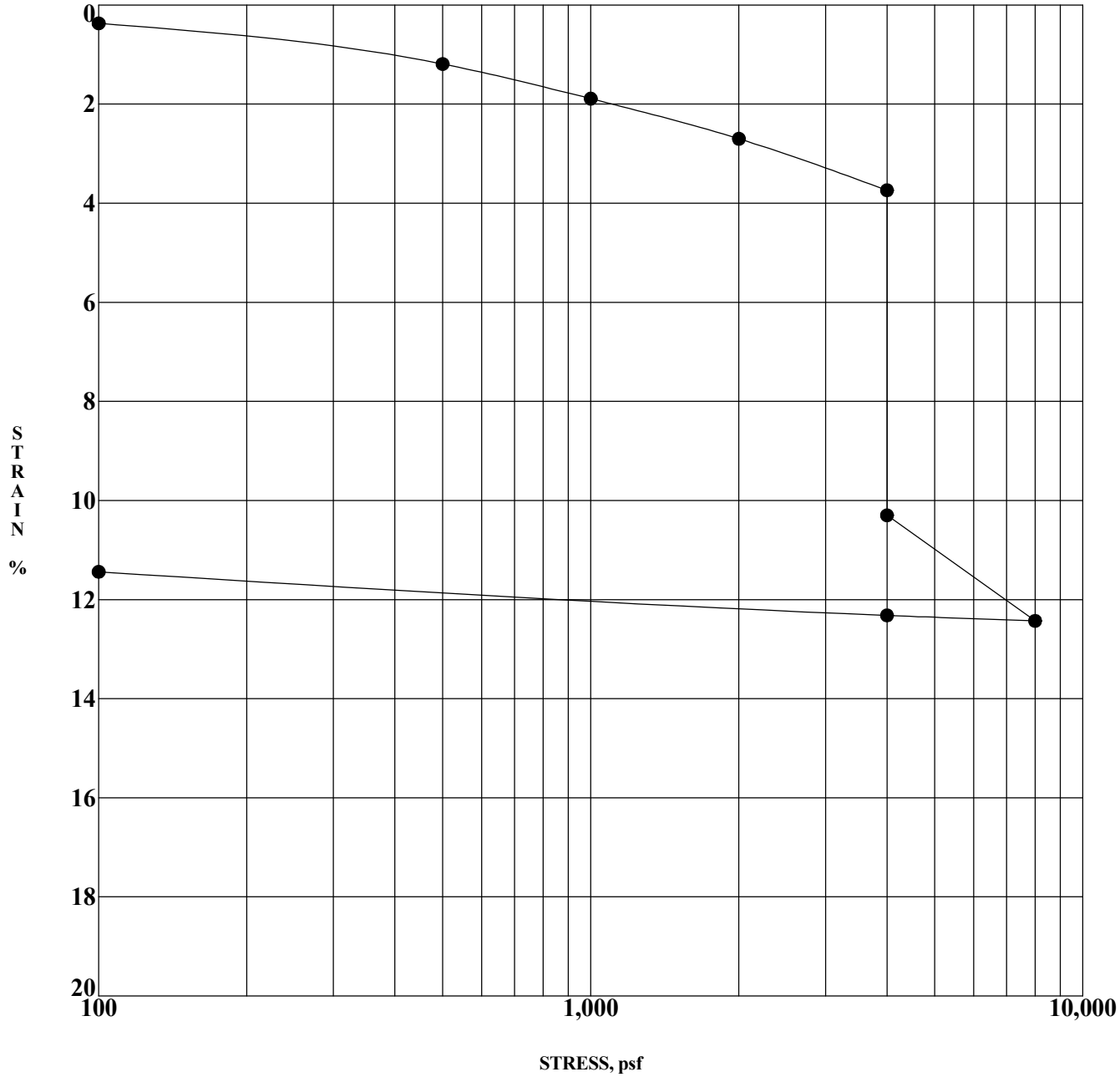
PROJECT *Proposed Iris Park Residential Development*

PROJECT NO. *33591.1*

DATE *11/19/19*

GRADATION CURVES
LOR Geotechnical Group, Inc.

ENCLOSURE C-1



	Specimen I.D.		Classification	DD	MC%
●	B-2	@ 2 ft	**(SM) Silty Sand**	*107*	*4*

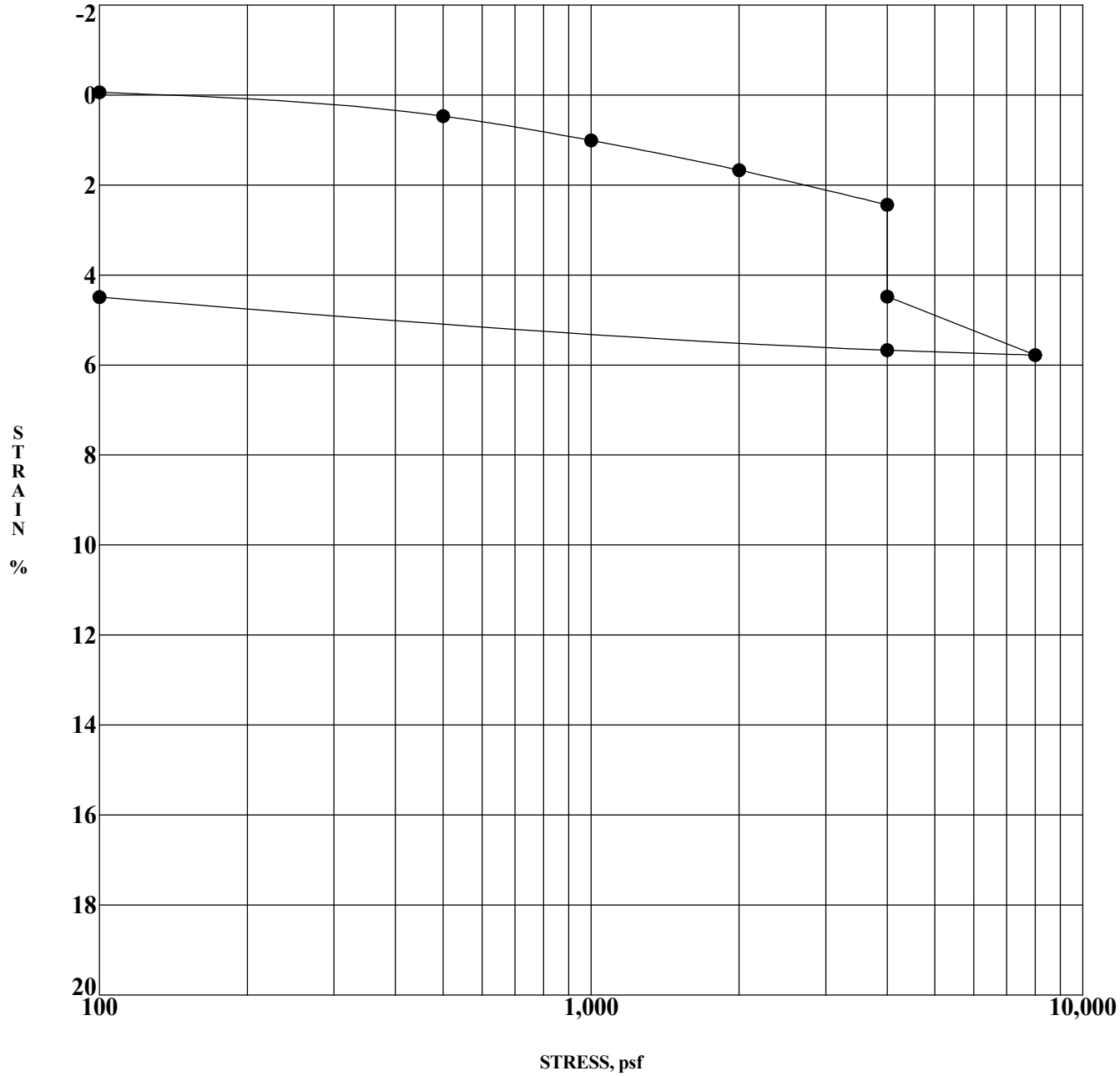
PROJECT *Proposed Iris Park Residential Development*

PROJECT NO. *33591.1*

DATE *11/19/19*

CONSOLIDATION TEST
LOR Geotechnical Group, Inc.

ENCLOSURE C-2



	Specimen I.D.		Classification	DD	MC%
●	B-4	@ 7 ft	**(SM) Silty Sand**	*103*	*3*

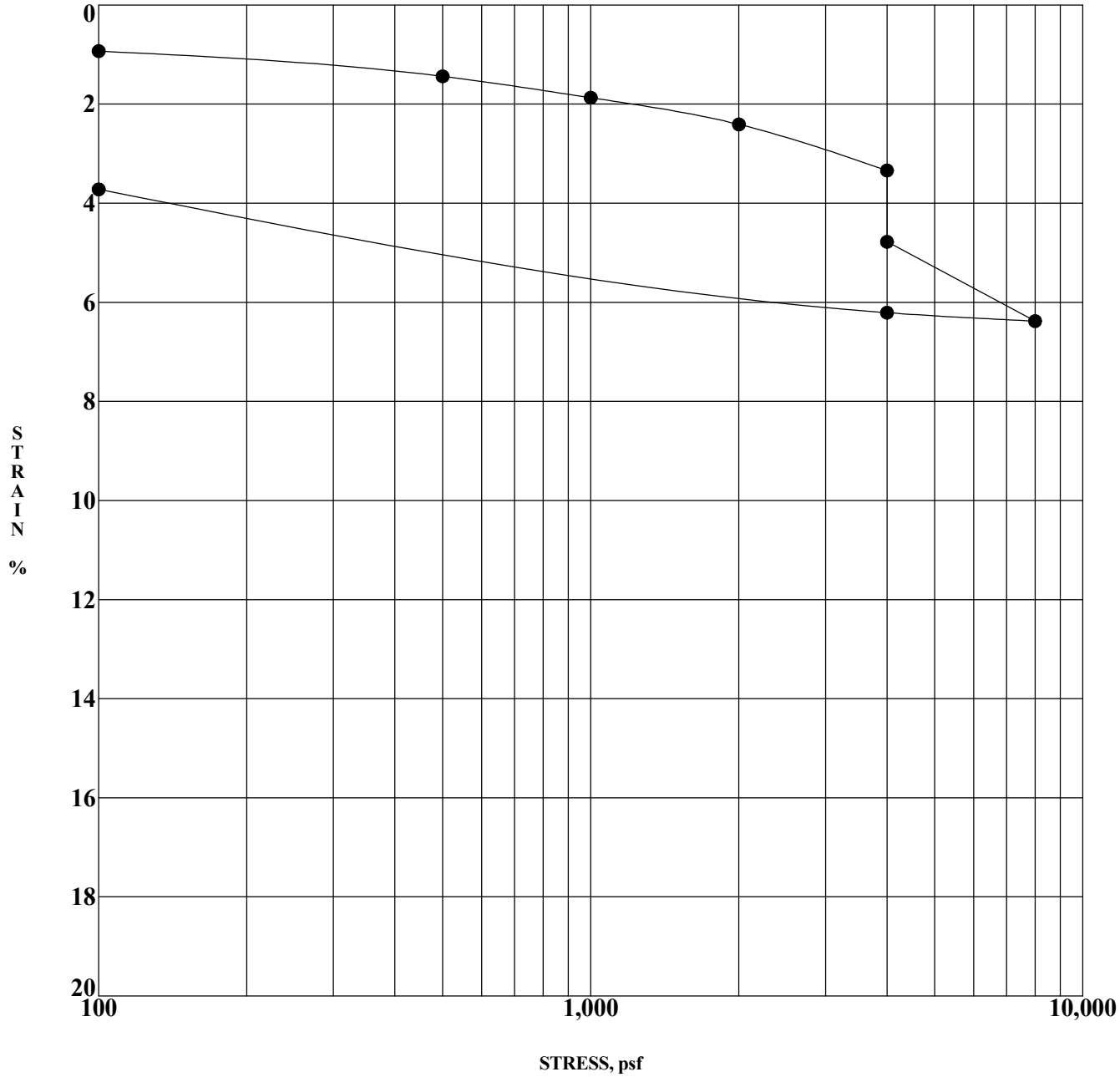
PROJECT *Proposed Iris Park Residential Development*

PROJECT NO. *33591.1*

DATE *11/19/19*

CONSOLIDATION TEST
LOR Geotechnical Group, Inc.

ENCLOSURE C-3



	Specimen I.D.		Classification	DD	MC%
●	B-5	@ 7 ft	**(ML) Sandy Silt**	*103*	*7*

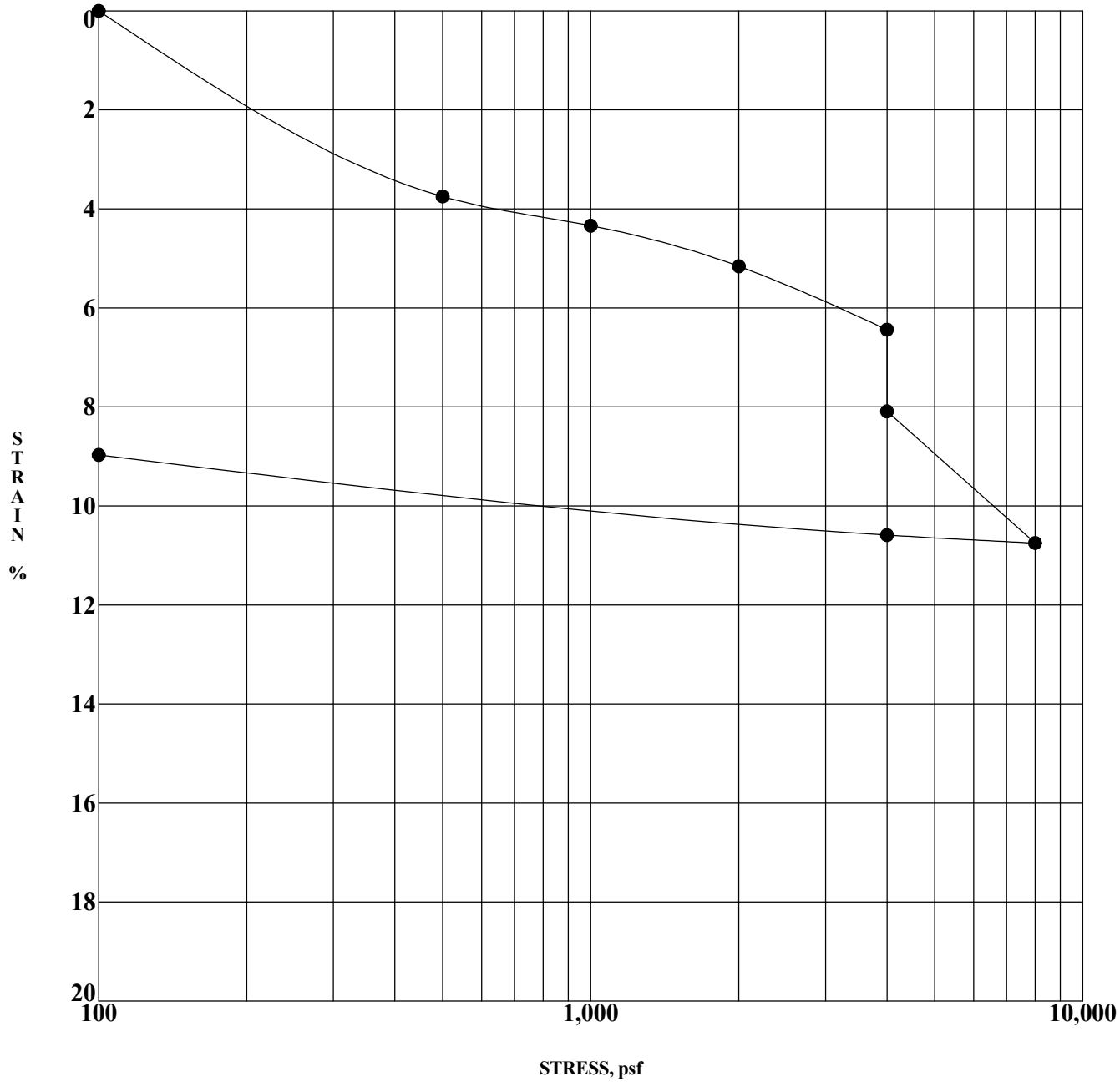
PROJECT *Proposed Iris Park Residential Development*

PROJECT NO. *33591.1*

DATE *11/19/19*

CONSOLIDATION TEST
LOR Geotechnical Group, Inc.

ENCLOSURE C-4



	Specimen I.D.		Classification	DD	MC%
●	B-5	@ 10 ft	**(ML) Sandy Silt**	*106*	*9*

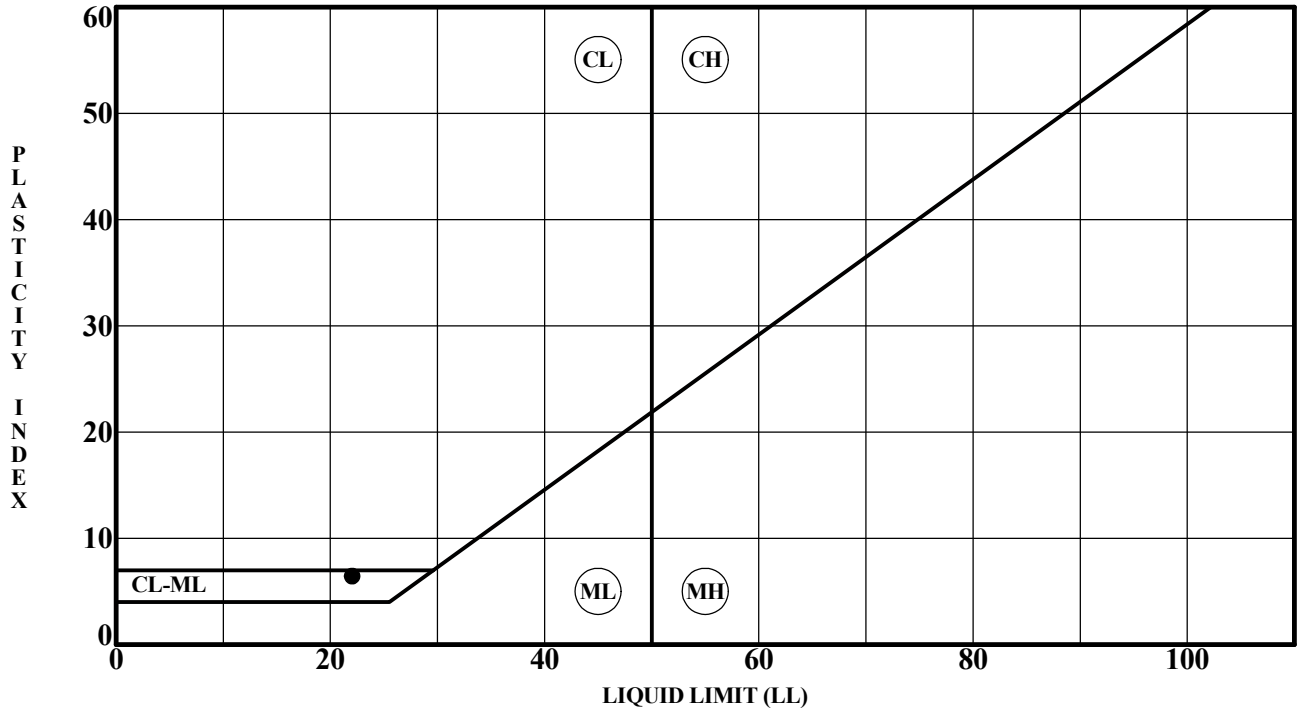
PROJECT *Proposed Iris Park Residential Development*

PROJECT NO. *33591.1*

DATE *11/19/19*

CONSOLIDATION TEST
LOR Geotechnical Group, Inc.

ENCLOSURE C-5



Specimen Identification	LL	PL	PI	Fines	Soil Classification
● B-2 @ 45 ft	22	16	6		(CL) Lean Clay with Sand

PROJECT *Proposed Iris Park Residential Development*

PROJECT NO. *33591.1*

DATE *11/19/19*

ATTERBERG LIMITS RESULTS
LOR Geotechnical Group, Inc.

ENCLOSURE C-6

APPENDIX D

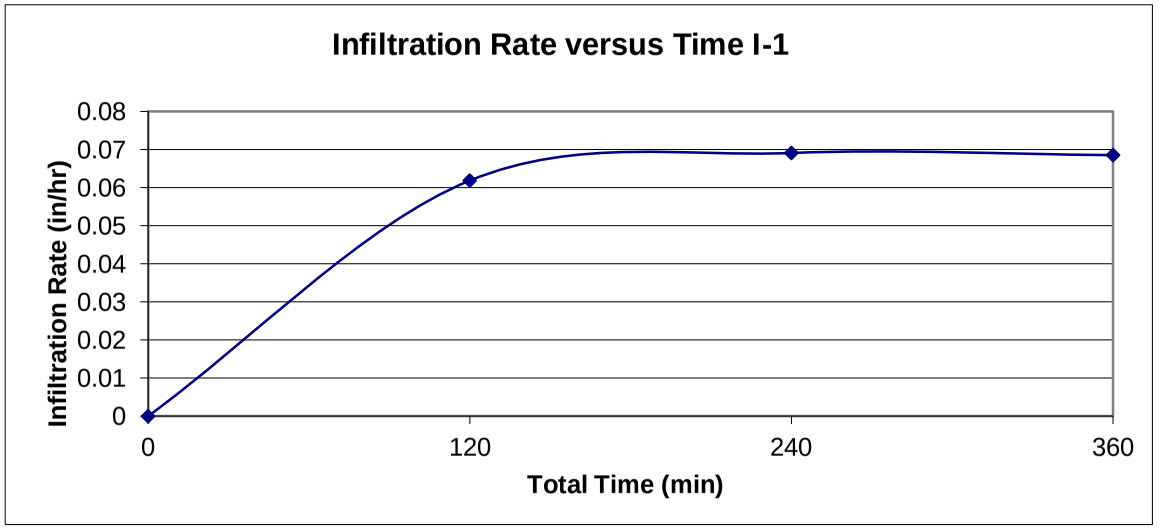
Infiltration Test Results

CONSTANT HEAD INFILTROMETER TEST DATA

Project:	Iris Park	Test Date:	November 7, 2019
Project No.:	33591.1	Test Hole No.:	I-1
Soil Classification:	(ML) Sandy Silt	Test Hole Size:	8" x 8"
Depth of Test Hole:	4 ft.	Date Excavated:	November 7, 2019
Tested By:	A.L.		

TEST PERIOD

TRIAL NO.	TIME		TIME INTERVAL (minutes)	TOTAL ELASPE TIME (minutes)	WATER USED (lbs.)	WATER USED (gal.)	INFILTRATION RATE (gal/sf/day)	INFILTRATION RATE (in/hr)	REMARKS
1	S	8:26	120	120	1.11	0.13	0.9	0.1	
	E	10:26							
2	S	10:26	120	240	1.24	0.15	1.0	0.1	
	E	12:26							
3	S	12:26	120	360	1.23	0.15	1.0	0.1	
	E	14:26							



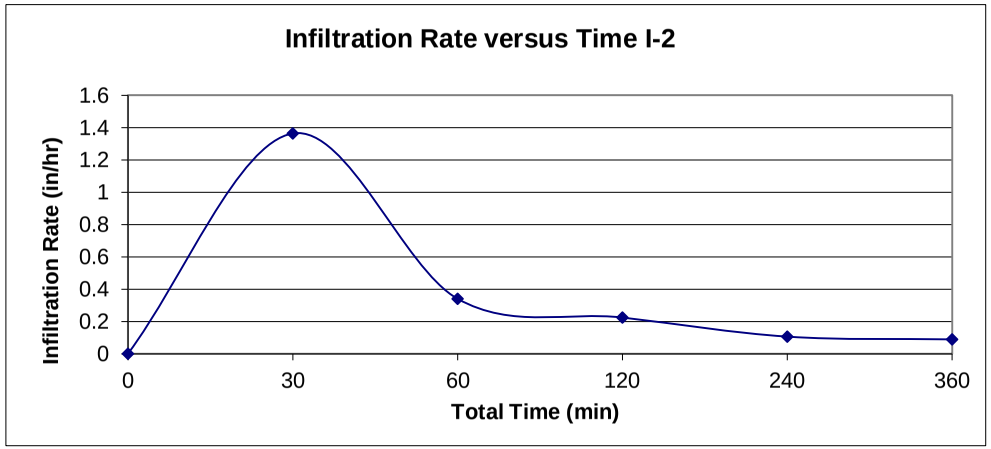
Enclosure D-1

CONSTANT HEAD INFILTROMETER TEST DATA

Project:	Iris Park	Test Date:	November 7, 2019
Project No.:	33591.1	Test Hole No.:	I-2
Soil Classification:	(ML) Sandy Silt	Test Hole Size:	6" x 8"
Depth of Test Hole:	4 ft.	Date Excavated:	November 7, 2019
Tested By:	A.L.		

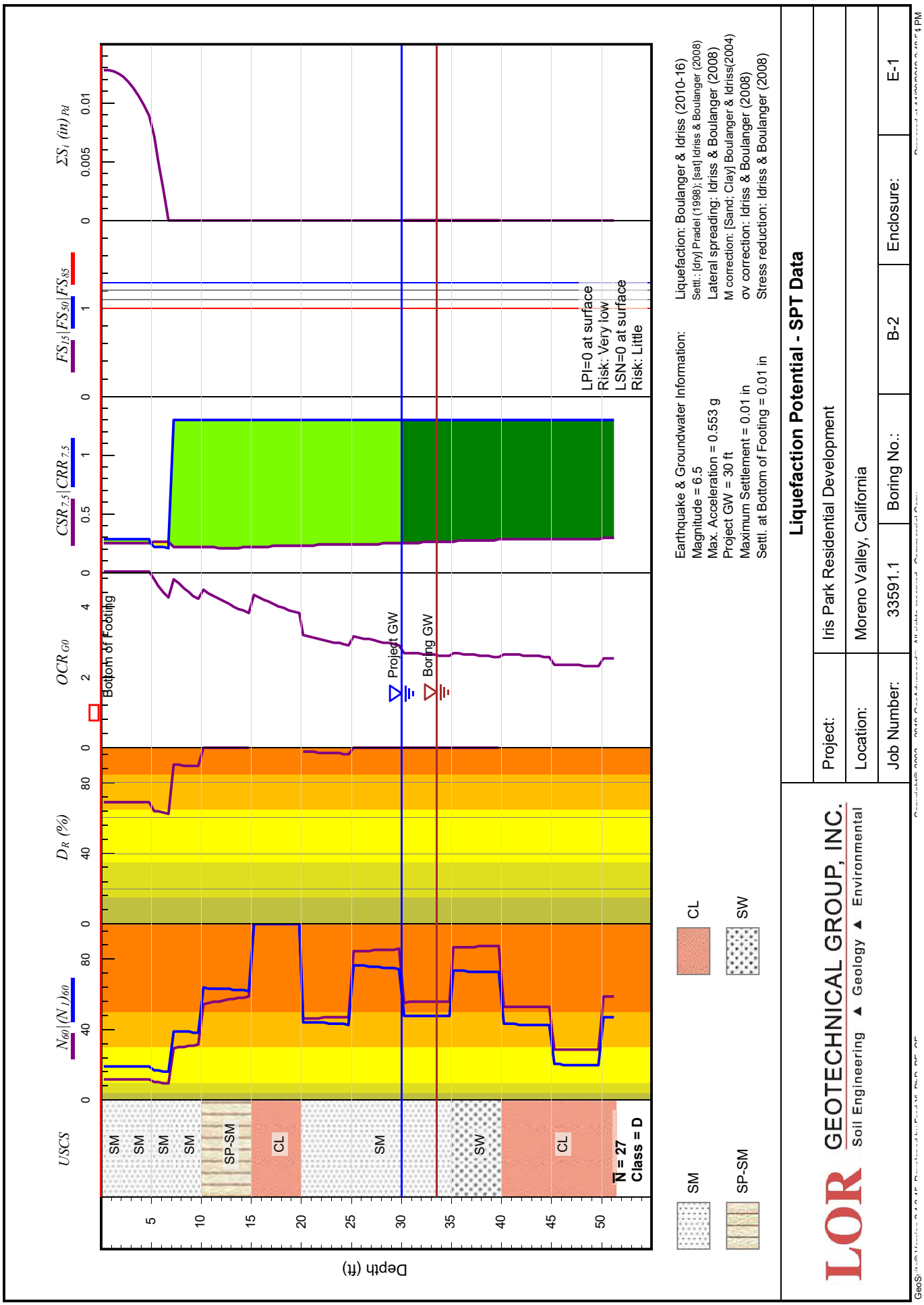
TEST PERIOD

TRIAL NO.	TIME		TIME INTERVAL (minutes)	TOTAL ELASPE TIME (minutes)	WATER USED (lbs.)	WATER USED (gal.)	INFILTRATION RATE (gal/sf/day)	INFILTRATION RATE (in/hr)	REMARKS
1	S	8:20	30	30	4.41	0.53	20.3	1.4	
	E	8:50							
2	S	8:50	30	60	1.10	0.13	5.1	0.3	
	E	9:20							
3	S	9:20	60	120	1.45	0.17	3.3	0.2	
	E	10:20							
4	S	10:20	120	240	1.37	0.16	1.6	0.1	
	E	12:20							
5	S	12:20	120	360	1.15	0.14	1.3	0.1	
	E	14:20							



APPENDIX E

Liquefaction Analysis


Liquefaction Potential - SPT Data
Project: Iris Park Residential Development
Location: Moreno Valley, California
Job Number: 33591.1 Boring No.: B-2 Enclosure: E-1
LOR GEOTECHNICAL GROUP, INC.
Soil Engineering ▲ Geology ▲ Environmental
Earthquake & Groundwater Information:
Magnitude = 6.5
Max. Acceleration = 0.553 g
Project GW = 30 ft
Maximum Settlement = 0.01 in
Settl. at Bottom of Footing = 0.01 in
Liquefaction: Boulanger & Idriss (2010-16)
Settl.: [dry] Pradel (1998); [sat] Idriss & Boulanger (2008)
Lateral spreading: Idriss & Boulanger (2008)
M correction: [Sand; Clay] Boulanger & Idriss(2004)
σv correction: Idriss & Boulanger (2008)
Stress reduction: Idriss & Boulanger (2008)
LPI=0 at surface
Risk: Very low
LSN=0 at surface
Risk: Little
Bottom of Footing
Project GW
Boring GW
N = 27
Class = D
USCS
Depth (ft)
SM
SP-SM
CL
SW

Appendix 4: Historical Site Conditions

Phase I Environmental Site Assessment or Other Information on Past Site Use

“Not Applicable”

Appendix 5: LID Infeasibility

LID Technical Infeasibility Analysis

“Not Applicable”

Appendix 6: BMP Design Details

BMP Sizing, Design Details and other Supporting Documentation

Santa Ana Watershed - BMP Design Volume, V_{BMP}

(Rev. 10-2011)

Legend: Required Entries / Calculated Cells

*(Note this worksheet shall **only** be used in conjunction with BMP designs from the **LID BMP Design Handbook**)*

Company Name	ADKAN ENGINEERS	Date	4/14/2020
Designed by	Jose Contreras	Case No	
Company Project Number/Name	Tract 37909		

BMP Identification

BMP NAME / ID: Bioretention Basin

Must match Name/ID used on BMP Design Calculation Sheet

Design Rainfall Depth

85th Percentile, 24-hour Rainfall Depth, from the Isohyetal Map in Handbook Appendix E

D_{85}= 0.65 inches

Drainage Management Area Tabulation

Insert additional rows if needed to accommodate all DMAs draining to the BMP

DMA Type/ID	DMA Area (square feet)	Post-Project Surface Type	Effective Imperivous Fraction, I_f	DMA Runoff Factor	DMA Areas x Runoff Factor	Design Storm Depth (in)	Design Capture Volume, V_{BMP} (cubic feet)	Proposed Volume on Plans (cubic feet)
D.1.1	127,146.00	Roofs	1	0.89	113414.2			
D.1.2	84,067.00	Concrete or Asphalt	1	0.89	74987.8			
D.1.3	68466	Ornamental Landscaping	0.1	0.11	7562.6			
D.1.4	53231	Ornamental Landscaping	0.1	0.11	5879.8			
	332910	Total			201844.4	0.65	10933.2	10933.2

Notes:

Bioretention Facility - Design Procedure	BMP ID	Legend:	Required Entries / Calculated Cells

Company Name: Adkan Engineers | Date: 4/14/2020

Designed by: Jose Contreras | County/City Case No.:

Design Volume

Enter the area tributary to this feature — A_T = 7.64 acres

Enter V_{BMP} determined from Section 2.1 of this Handbook — V_{BMP} = 10,933 ft^3

Type of Bioretention Facility Design

(●) Side slopes required (parallel to parking spaces or adjacent to walkways)

( ) No side slopes required (perpendicular to parking space or Planter Boxes)

Bioretention Facility Surface Area

Depth of Soil Filter Media Layer — d_S = 3.0 ft

Top Width of Bioretention Facility, excluding curb — w_T = 20.0 ft

Total Effective Depth, d_E

$d_E = (0.3) \times d_S + (0.4) \times 1 - (0.7/w_T) + 0.5$ — d_E = 1.77 ft

Minimum Surface Area, A_m

$$A_M\,(ft^2) = \frac{V_{BMP}\,(ft^3)}{d_E\,(ft)}$$

A_M = 6,195 ft^2

Proposed Surface Area — A= 6,500 ft^2

Bioretention Facility Properties

Side Slopes in Bioretention Facility — z = 4 :1

Diameter of Underdrain — 6 inches

Longitudinal Slope of Site (3% maximum) — 1 %

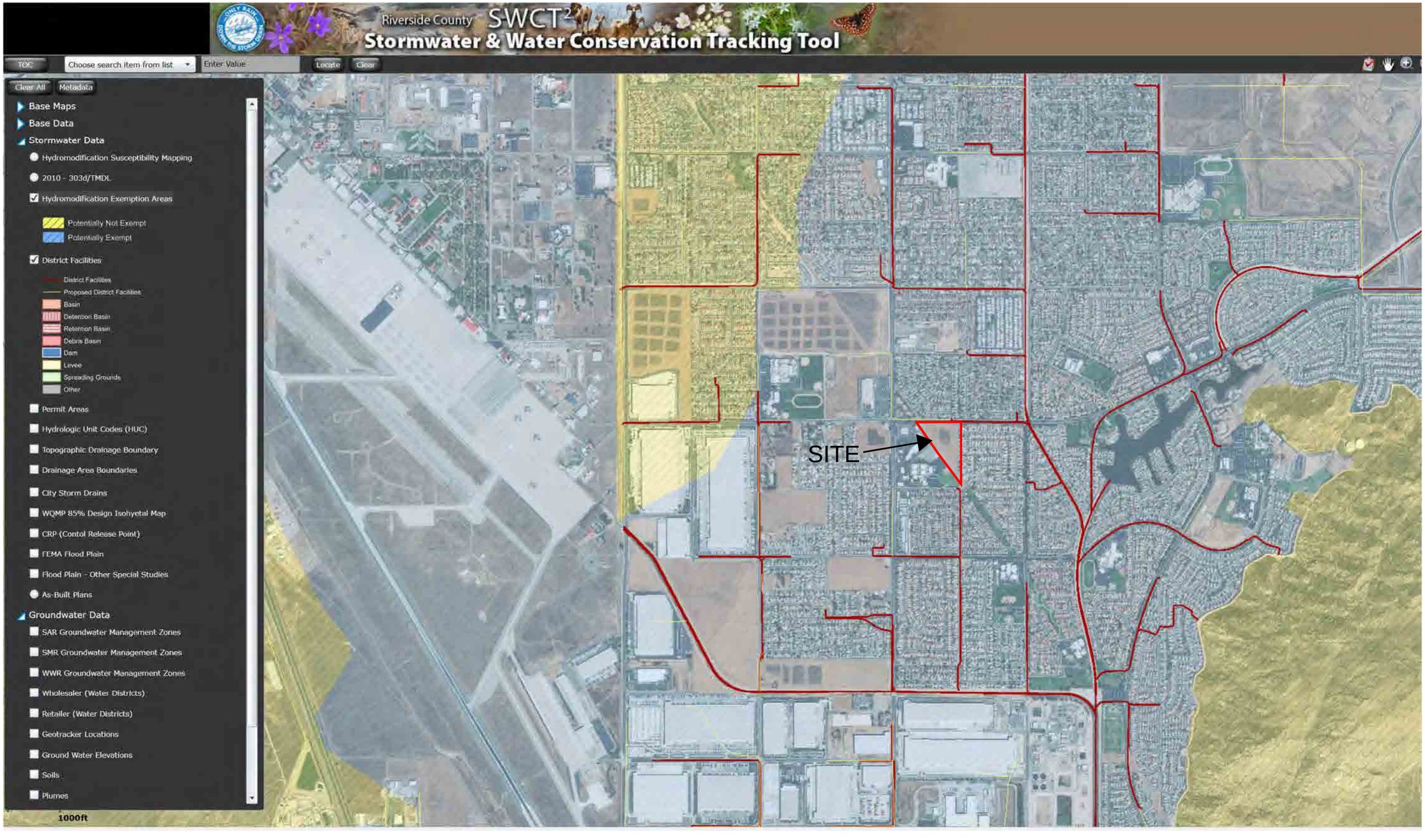
6" Check Dam Spacing — 25 feet

Describe Vegetation:

Notes:

Appendix 7: Hydromodification

Supporting Detail Relating to Hydrologic Conditions of Concern


Riverside County
S-WCT²
Stormwater & Water Conservation Tracking Tool
TOC
Choose search item from list
Enter Value
Locate
Clear
Clear All
Metadata
Base Maps
Base Data
Stormwater Data
Hydromodification Susceptibility Mapping
2010 - 303d/TMDL
Hydromodification Exemption Areas
Potentially Not Exempt
Potentially Exempt
District Facilities
District Facilities
Proposed District Facilities
Basin
Detention Basin
Retention Basin
Debris Basin
Dam
Levee
Spreading Grounds
Other
Permit Areas
Hydrologic Unit Codes (HUC)
Topographic Drainage Boundary
Drainage Area Boundaries
City Storm Drains
WQMP 85% Design Isohyetal Map
CRP (Contol Release Point)
FEMA Flood Plain
Flood Plain - Other Special Studies
As-Built Plans
Groundwater Data
SAR Groundwater Management Zones
SMR Groundwater Management Zones
WWR Groundwater Management Zones
Wholesaler (Water Districts)
Retailer (Water Districts)
Geotracker Locations
Ground Water Elevations
Soils
Plumes
1000ft
SITE

```
                U n i t   H y d r o g r a p h   A n a l y s i s

                Copyright (c) CIVILCADD/CIVILDESIGN, 1989 - 2008, Version 8.1
                       Study date  04/10/20 File: ex2yr242.out


        ++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
        ----------------------------------------------------------------------

        Riverside County Synthetic Unit Hydrology Method
        RCFC & WCD Manual date - April 1978
        Program License Serial Number 5006
        ----------------------------------------------------------------------
         English (in-lb) Input Units Used
         English Rainfall Data (Inches) Input Values Used
         English Units used in output format
        ----------------------------------------------------------------------
        ----------------------------------------------------------------------
        Drainage Area =       7.25(Ac.)  =      0.011 Sq. Mi.
        Drainage Area for Depth-Area Areal Adjustment =       7.25(Ac.)  =      0.011 Sq. Mi.
        Length along longest watercourse =    1000.00(Ft.)
        Length along longest watercourse measured to centroid =     500.00(Ft.)
        Length along longest watercourse =      0.189 Mi.
        Length along longest watercourse measured to centroid =      0.095 Mi.
        Difference in elevation =      10.00(Ft.)
        Slope along watercourse =     52.8000 Ft./Mi.
        Average Manning's 'N' = 0.030
        Lag time =    0.074 Hr.
        Lag time =     4.41 Min.
        25% of lag time =     1.10 Min.
        40% of lag time =     1.76 Min.
        Unit time =     5.00 Min.
        Duration of storm = 24 Hour(s)
        User Entered Base Flow =     0.00(CFS)
        2 YEAR Area rainfall data:
        Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
              7.25           1.60                 11.60
        100 YEAR Area rainfall data:
        Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
              7.25           4.00                 29.00
        STORM EVENT (YEAR) =    2.00
        Area Averaged 2-Year Rainfall =    1.600(In)
        Area Averaged 100-Year Rainfall =    4.000(In)
        Point rain (area averaged) =    1.600(In)
        Areal adjustment factor =  100.00 %
        Adjusted average point rain =    1.600(In)
        Sub-Area Data:
        Area(Ac.)         Runoff Index   Impervious %
             7.250           78.00          0.000
         Total Area Entered =      7.25(Ac.)
        RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
        AMC2 AMC-1     (In/Hr)    (Dec.%)     (In/Hr)      (Dec.)    (In/Hr)
        78.0  60.6      0.464     0.000        0.464        1.000      0.464
                                                          Sum (F) =    0.464
        Area averaged mean soil loss (F) (In/Hr) =  0.464
        Minimum soil loss rate ((In/Hr)) =  0.232
        (for 24 hour storm duration)
        Soil low loss rate (decimal) =   0.900
        ----------------------------------------------------------------------
                       U n i t  H y d r o g r a p h
                              VALLEY S-Curve
        ----------------------------------------------------------------------
                       Unit Hydrograph Data
        ----------------------------------------------------------------------
        Unit time period   Time % of lag   Distribution   Unit Hydrograph
            (hrs)                          Graph %           (CFS)
        ----------------------------------------------------------------------
            1   0.083        113.339         23.238             1.698
            2   0.167        226.678         48.846             3.569
            3   0.250        340.017         13.938             1.018
            4   0.333        453.357          6.374             0.466
            5   0.417        566.696          3.542             0.259
            6   0.500        680.035          2.153             0.157
            7   0.583        793.374          1.275             0.093
            8   0.667        906.713          0.633             0.046
                                       Sum = 100.000    Sum=       7.307
    ----------------------------------------------------------------------
     The following loss rate calculations reflect use of the minimum calculated loss
     rate subtracted from the Storm Rain to produce the maximum Effective Rain value
      Unit Time   Pattern   Storm Rain     Loss rate(In./Hr)     Effective
           (Hr.)  Percent   (In/Hr)         Max    |   Low        (In/Hr)
        1   0.08     0.07      0.013       (  0.822)       0.012        0.001
        2   0.17     0.07      0.013       (  0.819)       0.012        0.001
        3   0.25     0.07      0.013       (  0.815)       0.012        0.001
        4   0.33     0.10      0.019       (  0.812)       0.017        0.002
```

5	0.42	0.10	0.019	(0.809)	0.017	0.002
6	0.50	0.10	0.019	(0.806)	0.017	0.002
7	0.58	0.10	0.019	(0.803)	0.017	0.002
8	0.67	0.10	0.019	(0.800)	0.017	0.002
9	0.75	0.10	0.019	(0.796)	0.017	0.002
10	0.83	0.13	0.026	(0.793)	0.023	0.003
11	0.92	0.13	0.026	(0.790)	0.023	0.003
12	1.00	0.13	0.026	(0.787)	0.023	0.003
13	1.08	0.10	0.019	(0.784)	0.017	0.002
14	1.17	0.10	0.019	(0.781)	0.017	0.002
15	1.25	0.10	0.019	(0.778)	0.017	0.002
16	1.33	0.10	0.019	(0.775)	0.017	0.002
17	1.42	0.10	0.019	(0.772)	0.017	0.002
18	1.50	0.10	0.019	(0.769)	0.017	0.002
19	1.58	0.10	0.019	(0.765)	0.017	0.002
20	1.67	0.10	0.019	(0.762)	0.017	0.002
21	1.75	0.10	0.019	(0.759)	0.017	0.002
22	1.83	0.13	0.026	(0.756)	0.023	0.003
23	1.92	0.13	0.026	(0.753)	0.023	0.003
24	2.00	0.13	0.026	(0.750)	0.023	0.003
25	2.08	0.13	0.026	(0.747)	0.023	0.003
26	2.17	0.13	0.026	(0.744)	0.023	0.003
27	2.25	0.13	0.026	(0.741)	0.023	0.003
28	2.33	0.13	0.026	(0.738)	0.023	0.003
29	2.42	0.13	0.026	(0.735)	0.023	0.003
30	2.50	0.13	0.026	(0.732)	0.023	0.003
31	2.58	0.17	0.032	(0.729)	0.029	0.003
32	2.67	0.17	0.032	(0.726)	0.029	0.003
33	2.75	0.17	0.032	(0.723)	0.029	0.003
34	2.83	0.17	0.032	(0.720)	0.029	0.003
35	2.92	0.17	0.032	(0.717)	0.029	0.003
36	3.00	0.17	0.032	(0.714)	0.029	0.003
37	3.08	0.17	0.032	(0.711)	0.029	0.003
38	3.17	0.17	0.032	(0.708)	0.029	0.003
39	3.25	0.17	0.032	(0.705)	0.029	0.003
40	3.33	0.17	0.032	(0.702)	0.029	0.003
41	3.42	0.17	0.032	(0.699)	0.029	0.003
42	3.50	0.17	0.032	(0.697)	0.029	0.003
43	3.58	0.17	0.032	(0.694)	0.029	0.003
44	3.67	0.17	0.032	(0.691)	0.029	0.003
45	3.75	0.17	0.032	(0.688)	0.029	0.003
46	3.83	0.20	0.038	(0.685)	0.035	0.004
47	3.92	0.20	0.038	(0.682)	0.035	0.004
48	4.00	0.20	0.038	(0.679)	0.035	0.004
49	4.08	0.20	0.038	(0.676)	0.035	0.004
50	4.17	0.20	0.038	(0.673)	0.035	0.004
51	4.25	0.20	0.038	(0.670)	0.035	0.004
52	4.33	0.23	0.045	(0.668)	0.040	0.004
53	4.42	0.23	0.045	(0.665)	0.040	0.004
54	4.50	0.23	0.045	(0.662)	0.040	0.004
55	4.58	0.23	0.045	(0.659)	0.040	0.004
56	4.67	0.23	0.045	(0.656)	0.040	0.004
57	4.75	0.23	0.045	(0.653)	0.040	0.004
58	4.83	0.27	0.051	(0.651)	0.046	0.005
59	4.92	0.27	0.051	(0.648)	0.046	0.005
60	5.00	0.27	0.051	(0.645)	0.046	0.005
61	5.08	0.20	0.038	(0.642)	0.035	0.004
62	5.17	0.20	0.038	(0.639)	0.035	0.004
63	5.25	0.20	0.038	(0.637)	0.035	0.004
64	5.33	0.23	0.045	(0.634)	0.040	0.004
65	5.42	0.23	0.045	(0.631)	0.040	0.004
66	5.50	0.23	0.045	(0.628)	0.040	0.004
67	5.58	0.27	0.051	(0.626)	0.046	0.005
68	5.67	0.27	0.051	(0.623)	0.046	0.005
69	5.75	0.27	0.051	(0.620)	0.046	0.005
70	5.83	0.27	0.051	(0.617)	0.046	0.005
71	5.92	0.27	0.051	(0.615)	0.046	0.005
72	6.00	0.27	0.051	(0.612)	0.046	0.005
73	6.08	0.30	0.058	(0.609)	0.052	0.006
74	6.17	0.30	0.058	(0.606)	0.052	0.006
75	6.25	0.30	0.058	(0.604)	0.052	0.006
76	6.33	0.30	0.058	(0.601)	0.052	0.006
77	6.42	0.30	0.058	(0.598)	0.052	0.006
78	6.50	0.30	0.058	(0.596)	0.052	0.006
79	6.58	0.33	0.064	(0.593)	0.058	0.006
80	6.67	0.33	0.064	(0.590)	0.058	0.006
81	6.75	0.33	0.064	(0.588)	0.058	0.006
82	6.83	0.33	0.064	(0.585)	0.058	0.006
83	6.92	0.33	0.064	(0.582)	0.058	0.006
84	7.00	0.33	0.064	(0.580)	0.058	0.006
85	7.08	0.33	0.064	(0.577)	0.058	0.006
86	7.17	0.33	0.064	(0.574)	0.058	0.006
87	7.25	0.33	0.064	(0.572)	0.058	0.006
88	7.33	0.37	0.070	(0.569)	0.063	0.007
89	7.42	0.37	0.070	(0.567)	0.063	0.007
90	7.50	0.37	0.070	(0.564)	0.063	0.007

91	7.58	0.40	0.077	(0.561)	0.069	0.008
92	7.67	0.40	0.077	(0.559)	0.069	0.008
93	7.75	0.40	0.077	(0.556)	0.069	0.008
94	7.83	0.43	0.083	(0.554)	0.075	0.008
95	7.92	0.43	0.083	(0.551)	0.075	0.008
96	8.00	0.43	0.083	(0.549)	0.075	0.008
97	8.08	0.50	0.096	(0.546)	0.086	0.010
98	8.17	0.50	0.096	(0.543)	0.086	0.010
99	8.25	0.50	0.096	(0.541)	0.086	0.010
100	8.33	0.50	0.096	(0.538)	0.086	0.010
101	8.42	0.50	0.096	(0.536)	0.086	0.010
102	8.50	0.50	0.096	(0.533)	0.086	0.010
103	8.58	0.53	0.102	(0.531)	0.092	0.010
104	8.67	0.53	0.102	(0.528)	0.092	0.010
105	8.75	0.53	0.102	(0.526)	0.092	0.010
106	8.83	0.57	0.109	(0.523)	0.098	0.011
107	8.92	0.57	0.109	(0.521)	0.098	0.011
108	9.00	0.57	0.109	(0.518)	0.098	0.011
109	9.08	0.63	0.122	(0.516)	0.109	0.012
110	9.17	0.63	0.122	(0.514)	0.109	0.012
111	9.25	0.63	0.122	(0.511)	0.109	0.012
112	9.33	0.67	0.128	(0.509)	0.115	0.013
113	9.42	0.67	0.128	(0.506)	0.115	0.013
114	9.50	0.67	0.128	(0.504)	0.115	0.013
115	9.58	0.70	0.134	(0.501)	0.121	0.013
116	9.67	0.70	0.134	(0.499)	0.121	0.013
117	9.75	0.70	0.134	(0.497)	0.121	0.013
118	9.83	0.73	0.141	(0.494)	0.127	0.014
119	9.92	0.73	0.141	(0.492)	0.127	0.014
120	10.00	0.73	0.141	(0.489)	0.127	0.014
121	10.08	0.50	0.096	(0.487)	0.086	0.010
122	10.17	0.50	0.096	(0.485)	0.086	0.010
123	10.25	0.50	0.096	(0.482)	0.086	0.010
124	10.33	0.50	0.096	(0.480)	0.086	0.010
125	10.42	0.50	0.096	(0.478)	0.086	0.010
126	10.50	0.50	0.096	(0.475)	0.086	0.010
127	10.58	0.67	0.128	(0.473)	0.115	0.013
128	10.67	0.67	0.128	(0.471)	0.115	0.013
129	10.75	0.67	0.128	(0.468)	0.115	0.013
130	10.83	0.67	0.128	(0.466)	0.115	0.013
131	10.92	0.67	0.128	(0.464)	0.115	0.013
132	11.00	0.67	0.128	(0.462)	0.115	0.013
133	11.08	0.63	0.122	(0.459)	0.109	0.012
134	11.17	0.63	0.122	(0.457)	0.109	0.012
135	11.25	0.63	0.122	(0.455)	0.109	0.012
136	11.33	0.63	0.122	(0.453)	0.109	0.012
137	11.42	0.63	0.122	(0.450)	0.109	0.012
138	11.50	0.63	0.122	(0.448)	0.109	0.012
139	11.58	0.57	0.109	(0.446)	0.098	0.011
140	11.67	0.57	0.109	(0.444)	0.098	0.011
141	11.75	0.57	0.109	(0.441)	0.098	0.011
142	11.83	0.60	0.115	(0.439)	0.104	0.012
143	11.92	0.60	0.115	(0.437)	0.104	0.012
144	12.00	0.60	0.115	(0.435)	0.104	0.012
145	12.08	0.83	0.160	(0.433)	0.144	0.016
146	12.17	0.83	0.160	(0.431)	0.144	0.016
147	12.25	0.83	0.160	(0.428)	0.144	0.016
148	12.33	0.87	0.166	(0.426)	0.150	0.017
149	12.42	0.87	0.166	(0.424)	0.150	0.017
150	12.50	0.87	0.166	(0.422)	0.150	0.017
151	12.58	0.93	0.179	(0.420)	0.161	0.018
152	12.67	0.93	0.179	(0.418)	0.161	0.018
153	12.75	0.93	0.179	(0.416)	0.161	0.018
154	12.83	0.97	0.186	(0.413)	0.167	0.019
155	12.92	0.97	0.186	(0.411)	0.167	0.019
156	13.00	0.97	0.186	(0.409)	0.167	0.019
157	13.08	1.13	0.218	(0.407)	0.196	0.022
158	13.17	1.13	0.218	(0.405)	0.196	0.022
159	13.25	1.13	0.218	(0.403)	0.196	0.022
160	13.33	1.13	0.218	(0.401)	0.196	0.022
161	13.42	1.13	0.218	(0.399)	0.196	0.022
162	13.50	1.13	0.218	(0.397)	0.196	0.022
163	13.58	0.77	0.147	(0.395)	0.132	0.015
164	13.67	0.77	0.147	(0.393)	0.132	0.015
165	13.75	0.77	0.147	(0.391)	0.132	0.015
166	13.83	0.77	0.147	(0.389)	0.132	0.015
167	13.92	0.77	0.147	(0.387)	0.132	0.015
168	14.00	0.77	0.147	(0.385)	0.132	0.015
169	14.08	0.90	0.173	(0.383)	0.156	0.017
170	14.17	0.90	0.173	(0.381)	0.156	0.017
171	14.25	0.90	0.173	(0.379)	0.156	0.017
172	14.33	0.87	0.166	(0.377)	0.150	0.017
173	14.42	0.87	0.166	(0.375)	0.150	0.017
174	14.50	0.87	0.166	(0.373)	0.150	0.017
175	14.58	0.87	0.166	(0.371)	0.150	0.017
176	14.67	0.87	0.166	(0.370)	0.150	0.017

177	14.75	0.87	0.166	(0.368)	0.150	0.017
178	14.83	0.83	0.160	(0.366)	0.144	0.016
179	14.92	0.83	0.160	(0.364)	0.144	0.016
180	15.00	0.83	0.160	(0.362)	0.144	0.016
181	15.08	0.80	0.154	(0.360)	0.138	0.015
182	15.17	0.80	0.154	(0.358)	0.138	0.015
183	15.25	0.80	0.154	(0.356)	0.138	0.015
184	15.33	0.77	0.147	(0.355)	0.132	0.015
185	15.42	0.77	0.147	(0.353)	0.132	0.015
186	15.50	0.77	0.147	(0.351)	0.132	0.015
187	15.58	0.63	0.122	(0.349)	0.109	0.012
188	15.67	0.63	0.122	(0.347)	0.109	0.012
189	15.75	0.63	0.122	(0.346)	0.109	0.012
190	15.83	0.63	0.122	(0.344)	0.109	0.012
191	15.92	0.63	0.122	(0.342)	0.109	0.012
192	16.00	0.63	0.122	(0.340)	0.109	0.012
193	16.08	0.13	0.026	(0.339)	0.023	0.003
194	16.17	0.13	0.026	(0.337)	0.023	0.003
195	16.25	0.13	0.026	(0.335)	0.023	0.003
196	16.33	0.13	0.026	(0.333)	0.023	0.003
197	16.42	0.13	0.026	(0.332)	0.023	0.003
198	16.50	0.13	0.026	(0.330)	0.023	0.003
199	16.58	0.10	0.019	(0.328)	0.017	0.002
200	16.67	0.10	0.019	(0.327)	0.017	0.002
201	16.75	0.10	0.019	(0.325)	0.017	0.002
202	16.83	0.10	0.019	(0.323)	0.017	0.002
203	16.92	0.10	0.019	(0.322)	0.017	0.002
204	17.00	0.10	0.019	(0.320)	0.017	0.002
205	17.08	0.17	0.032	(0.319)	0.029	0.003
206	17.17	0.17	0.032	(0.317)	0.029	0.003
207	17.25	0.17	0.032	(0.315)	0.029	0.003
208	17.33	0.17	0.032	(0.314)	0.029	0.003
209	17.42	0.17	0.032	(0.312)	0.029	0.003
210	17.50	0.17	0.032	(0.311)	0.029	0.003
211	17.58	0.17	0.032	(0.309)	0.029	0.003
212	17.67	0.17	0.032	(0.308)	0.029	0.003
213	17.75	0.17	0.032	(0.306)	0.029	0.003
214	17.83	0.13	0.026	(0.304)	0.023	0.003
215	17.92	0.13	0.026	(0.303)	0.023	0.003
216	18.00	0.13	0.026	(0.301)	0.023	0.003
217	18.08	0.13	0.026	(0.300)	0.023	0.003
218	18.17	0.13	0.026	(0.299)	0.023	0.003
219	18.25	0.13	0.026	(0.297)	0.023	0.003
220	18.33	0.13	0.026	(0.296)	0.023	0.003
221	18.42	0.13	0.026	(0.294)	0.023	0.003
222	18.50	0.13	0.026	(0.293)	0.023	0.003
223	18.58	0.10	0.019	(0.291)	0.017	0.002
224	18.67	0.10	0.019	(0.290)	0.017	0.002
225	18.75	0.10	0.019	(0.289)	0.017	0.002
226	18.83	0.07	0.013	(0.287)	0.012	0.001
227	18.92	0.07	0.013	(0.286)	0.012	0.001
228	19.00	0.07	0.013	(0.284)	0.012	0.001
229	19.08	0.10	0.019	(0.283)	0.017	0.002
230	19.17	0.10	0.019	(0.282)	0.017	0.002
231	19.25	0.10	0.019	(0.280)	0.017	0.002
232	19.33	0.13	0.026	(0.279)	0.023	0.003
233	19.42	0.13	0.026	(0.278)	0.023	0.003
234	19.50	0.13	0.026	(0.277)	0.023	0.003
235	19.58	0.10	0.019	(0.275)	0.017	0.002
236	19.67	0.10	0.019	(0.274)	0.017	0.002
237	19.75	0.10	0.019	(0.273)	0.017	0.002
238	19.83	0.07	0.013	(0.272)	0.012	0.001
239	19.92	0.07	0.013	(0.270)	0.012	0.001
240	20.00	0.07	0.013	(0.269)	0.012	0.001
241	20.08	0.10	0.019	(0.268)	0.017	0.002
242	20.17	0.10	0.019	(0.267)	0.017	0.002
243	20.25	0.10	0.019	(0.266)	0.017	0.002
244	20.33	0.10	0.019	(0.264)	0.017	0.002
245	20.42	0.10	0.019	(0.263)	0.017	0.002
246	20.50	0.10	0.019	(0.262)	0.017	0.002
247	20.58	0.10	0.019	(0.261)	0.017	0.002
248	20.67	0.10	0.019	(0.260)	0.017	0.002
249	20.75	0.10	0.019	(0.259)	0.017	0.002
250	20.83	0.07	0.013	(0.258)	0.012	0.001
251	20.92	0.07	0.013	(0.257)	0.012	0.001
252	21.00	0.07	0.013	(0.256)	0.012	0.001
253	21.08	0.10	0.019	(0.255)	0.017	0.002
254	21.17	0.10	0.019	(0.254)	0.017	0.002
255	21.25	0.10	0.019	(0.253)	0.017	0.002
256	21.33	0.07	0.013	(0.252)	0.012	0.001
257	21.42	0.07	0.013	(0.251)	0.012	0.001
258	21.50	0.07	0.013	(0.250)	0.012	0.001
259	21.58	0.10	0.019	(0.249)	0.017	0.002
260	21.67	0.10	0.019	(0.248)	0.017	0.002
261	21.75	0.10	0.019	(0.247)	0.017	0.002
262	21.83	0.07	0.013	(0.246)	0.012	0.001

263	21.92	0.07	0.013	(	0.246)	0.012	0.001
264	22.00	0.07	0.013	(	0.245)	0.012	0.001
265	22.08	0.10	0.019	(	0.244)	0.017	0.002
266	22.17	0.10	0.019	(	0.243)	0.017	0.002
267	22.25	0.10	0.019	(	0.242)	0.017	0.002
268	22.33	0.07	0.013	(	0.242)	0.012	0.001
269	22.42	0.07	0.013	(	0.241)	0.012	0.001
270	22.50	0.07	0.013	(	0.240)	0.012	0.001
271	22.58	0.07	0.013	(	0.239)	0.012	0.001
272	22.67	0.07	0.013	(	0.239)	0.012	0.001
273	22.75	0.07	0.013	(	0.238)	0.012	0.001
274	22.83	0.07	0.013	(	0.238)	0.012	0.001
275	22.92	0.07	0.013	(	0.237)	0.012	0.001
276	23.00	0.07	0.013	(	0.236)	0.012	0.001
277	23.08	0.07	0.013	(	0.236)	0.012	0.001
278	23.17	0.07	0.013	(	0.235)	0.012	0.001
279	23.25	0.07	0.013	(	0.235)	0.012	0.001
280	23.33	0.07	0.013	(	0.234)	0.012	0.001
281	23.42	0.07	0.013	(	0.234)	0.012	0.001
282	23.50	0.07	0.013	(	0.233)	0.012	0.001
283	23.58	0.07	0.013	(	0.233)	0.012	0.001
284	23.67	0.07	0.013	(	0.233)	0.012	0.001
285	23.75	0.07	0.013	(	0.232)	0.012	0.001
286	23.83	0.07	0.013	(	0.232)	0.012	0.001
287	23.92	0.07	0.013	(	0.232)	0.012	0.001
288	24.00	0.07	0.013	(	0.232)	0.012	0.001

(Loss Rate Not Used)

Sum = 100.0 Sum = 1.9

Flood volume = Effective rainfall 0.16(In)
times area 7.3(Ac.)/[(In)/(Ft.)] = 0.1(Ac.Ft)
Total soil loss = 1.44(In)
Total soil loss = 0.870(Ac.Ft)
Total rainfall = 1.60(In)
Flood volume = 4210.7 Cubic Feet
Total soil loss = 37896.7 Cubic Feet

Peak flow rate of this hydrograph = 0.159(CFS)

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24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	2.5	5.0	7.5	10.0
0+ 5	0.0000	0.00	Q				
0+10	0.0001	0.01	Q				
0+15	0.0001	0.01	Q				
0+20	0.0002	0.01	Q				
0+25	0.0003	0.01	Q				
0+30	0.0004	0.01	Q				
0+35	0.0005	0.01	Q				
0+40	0.0005	0.01	Q				
0+45	0.0006	0.01	Q				
0+50	0.0007	0.02	Q				
0+55	0.0009	0.02	Q				
1+ 0	0.0010	0.02	Q				
1+ 5	0.0011	0.02	Q				
1+10	0.0012	0.02	Q				
1+15	0.0013	0.01	Q				
1+20	0.0014	0.01	Q				
1+25	0.0015	0.01	Q				
1+30	0.0016	0.01	Q				
1+35	0.0017	0.01	Q				
1+40	0.0018	0.01	Q				
1+45	0.0019	0.01	Q				
1+50	0.0020	0.02	Q				
1+55	0.0021	0.02	Q				
2+ 0	0.0022	0.02	Q				
2+ 5	0.0024	0.02	Q				
2+10	0.0025	0.02	QV				
2+15	0.0026	0.02	QV				
2+20	0.0028	0.02	QV				
2+25	0.0029	0.02	QV				
2+30	0.0030	0.02	QV				
2+35	0.0032	0.02	QV				
2+40	0.0033	0.02	QV				
2+45	0.0035	0.02	QV				
2+50	0.0036	0.02	QV				
2+55	0.0038	0.02	QV				
3+ 0	0.0039	0.02	QV				
3+ 5	0.0041	0.02	QV				
3+10	0.0043	0.02	QV				
3+15	0.0044	0.02	QV				
3+20	0.0046	0.02	QV				

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 3+25      0.0047      0.02  QV        |         |         |         |
 3+30      0.0049      0.02  Q V       |         |         |         |
 3+35      0.0051      0.02  Q V       |         |         |         |
 3+40      0.0052      0.02  Q V       |         |         |         |
 3+45      0.0054      0.02  Q V       |         |         |         |
 3+50      0.0056      0.02  Q V       |         |         |         |
 3+55      0.0057      0.03  Q V       |         |         |         |
 4+ 0      0.0059      0.03  Q V       |         |         |         |
 4+ 5      0.0061      0.03  Q V       |         |         |         |
 4+10      0.0063      0.03  Q V       |         |         |         |
 4+15      0.0065      0.03  Q V       |         |         |         |
 4+20      0.0067      0.03  Q V       |         |         |         |
 4+25      0.0069      0.03  Q V       |         |         |         |
 4+30      0.0071      0.03  Q V       |         |         |         |
 4+35      0.0074      0.03  Q  V      |         |         |         |
 4+40      0.0076      0.03  Q  V      |         |         |         |
 4+45      0.0078      0.03  Q  V      |         |         |         |
 4+50      0.0081      0.03  Q  V      |         |         |         |
 4+55      0.0083      0.04  Q  V      |         |         |         |
 5+ 0      0.0086      0.04  Q  V      |         |         |         |
 5+ 5      0.0088      0.03  Q  V      |         |         |         |
 5+10      0.0090      0.03  Q  V      |         |         |         |
 5+15      0.0092      0.03  Q  V      |         |         |         |
 5+20      0.0094      0.03  Q  V      |         |         |         |
 5+25      0.0096      0.03  Q  V      |         |         |         |
 5+30      0.0099      0.03  Q   V     |         |         |         |
 5+35      0.0101      0.03  Q   V     |         |         |         |
 5+40      0.0103      0.04  Q   V     |         |         |         |
 5+45      0.0106      0.04  Q   V     |         |         |         |
 5+50      0.0108      0.04  Q   V     |         |         |         |
 5+55      0.0111      0.04  Q   V     |         |         |         |
 6+ 0      0.0114      0.04  Q   V     |         |         |         |
 6+ 5      0.0116      0.04  Q   V     |         |         |         |
 6+10      0.0119      0.04  Q   V     |         |         |         |
 6+15      0.0122      0.04  Q    V    |         |         |         |
 6+20      0.0125      0.04  Q    V    |         |         |         |
 6+25      0.0128      0.04  Q    V    |         |         |         |
 6+30      0.0131      0.04  Q    V    |         |         |         |
 6+35      0.0133      0.04  Q    V    |         |         |         |
 6+40      0.0137      0.05  Q    V    |         |         |         |
 6+45      0.0140      0.05  Q    V    |         |         |         |
 6+50      0.0143      0.05  Q    V    |         |         |         |
 6+55      0.0146      0.05  Q     V   |         |         |         |
 7+ 0      0.0149      0.05  Q     V   |         |         |         |
 7+ 5      0.0153      0.05  Q     V   |         |         |         |
 7+10      0.0156      0.05  Q     V   |         |         |         |
 7+15      0.0159      0.05  Q     V   |         |         |         |
 7+20      0.0162      0.05  Q     V   |         |         |         |
 7+25      0.0166      0.05  Q     V   |         |         |         |
 7+30      0.0169      0.05  Q      V  |         |         |         |
 7+35      0.0173      0.05  Q      V  |         |         |         |
 7+40      0.0177      0.05  Q      V  |         |         |         |
 7+45      0.0181      0.06  Q      V  |         |         |         |
 7+50      0.0184      0.06  Q      V  |         |         |         |
 7+55      0.0189      0.06  Q      V  |         |         |         |
 8+ 0      0.0193      0.06  Q      V  |         |         |         |
 8+ 5      0.0197      0.06  Q       V |         |         |         |
 8+10      0.0202      0.07  Q       V |         |         |         |
 8+15      0.0206      0.07  Q       V |         |         |         |
 8+20      0.0211      0.07  Q       V |         |         |         |
 8+25      0.0216      0.07  Q       V |         |         |         |
 8+30      0.0221      0.07  Q        V|         |         |         |
 8+35      0.0226      0.07  Q        V|         |         |         |
 8+40      0.0231      0.07  Q        V|         |         |         |
 8+45      0.0236      0.07  Q        V|         |         |         |
 8+50      0.0241      0.08  Q        V|         |         |         |
 8+55      0.0246      0.08  Q         V         |         |         |
 9+ 0      0.0252      0.08  Q         V         |         |         |
 9+ 5      0.0257      0.08  Q         V         |         |         |
 9+10      0.0263      0.09  Q         V         |         |         |
 9+15      0.0269      0.09  Q         |V        |         |         |
 9+20      0.0276      0.09  Q         |V        |         |         |
 9+25      0.0282      0.09  Q         |V        |         |         |
 9+30      0.0288      0.09  Q         |V        |         |         |
 9+35      0.0295      0.09  Q         | V       |         |         |
 9+40      0.0301      0.10  Q         | V       |         |         |
 9+45      0.0308      0.10  Q         | V       |         |         |
 9+50      0.0315      0.10  Q         |  V      |         |         |
 9+55      0.0322      0.10  Q         |  V      |         |         |
10+ 0      0.0329      0.10  Q         |  V      |         |         |
10+ 5      0.0335      0.09  Q         |  V      |         |         |
10+10      0.0341      0.08  Q         |   V     |         |         |
10+15      0.0346      0.07  Q         |   V     |         |         |
10+20      0.0351      0.07  Q         |   V     |         |         |
10+25      0.0356      0.07  Q         |   V     |         |         |
10+30      0.0361      0.07  Q         |   V     |         |         |
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10+35      0.0366      0.08  Q          |    V    |         |         |
10+40      0.0372      0.09  Q          |    V    |         |         |
10+45      0.0378      0.09  Q          |    V    |         |         |
10+50      0.0385      0.09  Q          |    V    |         |         |
10+55      0.0391      0.09  Q          |     V   |         |         |
11+ 0      0.0397      0.09  Q          |     V   |         |         |
11+ 5      0.0404      0.09  Q          |     V   |         |         |
11+10      0.0410      0.09  Q          |     V   |         |         |
11+15      0.0416      0.09  Q          |      V  |         |         |
11+20      0.0422      0.09  Q          |      V  |         |         |
11+25      0.0428      0.09  Q          |      V  |         |         |
11+30      0.0435      0.09  Q          |      V  |         |         |
11+35      0.0441      0.09  Q          |       V |         |         |
11+40      0.0446      0.08  Q          |       V |         |         |
11+45      0.0452      0.08  Q          |       V |         |         |
11+50      0.0457      0.08  Q          |       V |         |         |
11+55      0.0463      0.08  Q          |        V|         |         |
12+ 0      0.0469      0.08  Q          |        V|         |         |
12+ 5      0.0475      0.09  Q          |        V|         |         |
12+10      0.0483      0.11  Q          |        V|         |         |
12+15      0.0490      0.11  Q          |         V         |         |
12+20      0.0498      0.12  Q          |         V         |         |
12+25      0.0506      0.12  Q          |         V         |         |
12+30      0.0515      0.12  Q          |          V        |         |
12+35      0.0523      0.12  Q          |          V        |         |
12+40      0.0532      0.13  Q          |           V       |         |
12+45      0.0541      0.13  Q          |           V       |         |
12+50      0.0550      0.13  Q          |           V       |         |
12+55      0.0559      0.13  Q          |            V      |         |
13+ 0      0.0569      0.13  Q          |            V      |         |
13+ 5      0.0578      0.14  Q          |            V      |         |
13+10      0.0589      0.15  Q          |             V     |         |
13+15      0.0600      0.16  Q          |             V     |         |
13+20      0.0610      0.16  Q          |              V    |         |
13+25      0.0621      0.16  Q          |              V    |         |
13+30      0.0632      0.16  Q          |               V   |         |
13+35      0.0642      0.15  Q          |               V   |         |
13+40      0.0651      0.12  Q          |               V   |         |
13+45      0.0659      0.11  Q          |                V  |         |
13+50      0.0666      0.11  Q          |                V  |         |
13+55      0.0674      0.11  Q          |                V  |         |
14+ 0      0.0681      0.11  Q          |                 V |         |
14+ 5      0.0689      0.11  Q          |                 V |         |
14+10      0.0697      0.12  Q          |                 V |         |
14+15      0.0706      0.12  Q          |                  V|         |
14+20      0.0714      0.12  Q          |                  V|         |
14+25      0.0723      0.12  Q          |                  V|         |
14+30      0.0731      0.12  Q          |                   V         |
14+35      0.0740      0.12  Q          |                   V         |
14+40      0.0748      0.12  Q          |                   V         |
14+45      0.0756      0.12  Q          |                   |V        |
14+50      0.0765      0.12  Q          |                   |V        |
14+55      0.0773      0.12  Q          |                   |V        |
15+ 0      0.0781      0.12  Q          |                   | V       |
15+ 5      0.0789      0.12  Q          |                   | V       |
15+10      0.0797      0.11  Q          |                   | V       |
15+15      0.0805      0.11  Q          |                   |  V      |
15+20      0.0812      0.11  Q          |                   |  V      |
15+25      0.0820      0.11  Q          |                   |  V      |
15+30      0.0827      0.11  Q          |                   |   V     |
15+35      0.0834      0.10  Q          |                   |   V     |
15+40      0.0841      0.09  Q          |                   |   V     |
15+45      0.0847      0.09  Q          |                   |    V    |
15+50      0.0853      0.09  Q          |                   |    V    |
15+55      0.0860      0.09  Q          |                   |    V    |
16+ 0      0.0866      0.09  Q          |                   |    V    |
16+ 5      0.0871      0.07  Q          |                   |     V   |
16+10      0.0873      0.04  Q          |                   |     V   |
16+15      0.0875      0.03  Q          |                   |     V   |
16+20      0.0877      0.02  Q          |                   |     V   |
16+25      0.0878      0.02  Q          |                   |     V   |
16+30      0.0880      0.02  Q          |                   |     V   |
16+35      0.0881      0.02  Q          |                   |     V   |
16+40      0.0882      0.02  Q          |                   |     V   |
16+45      0.0883      0.01  Q          |                   |     V   |
16+50      0.0884      0.01  Q          |                   |     V   |
16+55      0.0885      0.01  Q          |                   |     V   |
17+ 0      0.0886      0.01  Q          |                   |     V   |
17+ 5      0.0887      0.02  Q          |                   |     V   |
17+10      0.0889      0.02  Q          |                   |     V   |
17+15      0.0890      0.02  Q          |                   |     V   |
17+20      0.0892      0.02  Q          |                   |     V   |
17+25      0.0893      0.02  Q          |                   |     V   |
17+30      0.0895      0.02  Q          |                   |      V  |
17+35      0.0897      0.02  Q          |                   |      V  |
17+40      0.0898      0.02  Q          |                   |      V  |
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  17+45       0.0900      0.02  Q        |          |          |       V  |
  17+50       0.0901      0.02  Q        |          |          |       V  |
  17+55       0.0903      0.02  Q        |          |          |       V  |
  18+ 0       0.0904      0.02  Q        |          |          |       V  |
  18+ 5       0.0905      0.02  Q        |          |          |       V  |
  18+10       0.0907      0.02  Q        |          |          |       V  |
  18+15       0.0908      0.02  Q        |          |          |       V  |
  18+20       0.0909      0.02  Q        |          |          |       V  |
  18+25       0.0910      0.02  Q        |          |          |       V  |
  18+30       0.0912      0.02  Q        |          |          |       V  |
  18+35       0.0913      0.02  Q        |          |          |       V  |
  18+40       0.0914      0.02  Q        |          |          |       V  |
  18+45       0.0915      0.01  Q        |          |          |       V  |
  18+50       0.0916      0.01  Q        |          |          |       V  |
  18+55       0.0917      0.01  Q        |          |          |       V  |
  19+ 0       0.0917      0.01  Q        |          |          |       V  |
  19+ 5       0.0918      0.01  Q        |          |          |       V  |
  19+10       0.0919      0.01  Q        |          |          |        V |
  19+15       0.0920      0.01  Q        |          |          |        V |
  19+20       0.0921      0.01  Q        |          |          |        V |
  19+25       0.0922      0.02  Q        |          |          |        V |
  19+30       0.0923      0.02  Q        |          |          |        V |
  19+35       0.0925      0.02  Q        |          |          |        V |
  19+40       0.0926      0.02  Q        |          |          |        V |
  19+45       0.0927      0.01  Q        |          |          |        V |
  19+50       0.0928      0.01  Q        |          |          |        V |
  19+55       0.0928      0.01  Q        |          |          |        V |
  20+ 0       0.0929      0.01  Q        |          |          |        V |
  20+ 5       0.0930      0.01  Q        |          |          |        V |
  20+10       0.0931      0.01  Q        |          |          |        V |
  20+15       0.0932      0.01  Q        |          |          |        V |
  20+20       0.0933      0.01  Q        |          |          |        V |
  20+25       0.0933      0.01  Q        |          |          |        V |
  20+30       0.0934      0.01  Q        |          |          |        V |
  20+35       0.0935      0.01  Q        |          |          |        V |
  20+40       0.0936      0.01  Q        |          |          |        V |
  20+45       0.0937      0.01  Q        |          |          |        V |
  20+50       0.0938      0.01  Q        |          |          |        V |
  20+55       0.0939      0.01  Q        |          |          |        V |
  21+ 0       0.0940      0.01  Q        |          |          |        V |
  21+ 5       0.0940      0.01  Q        |          |          |        V |
  21+10       0.0941      0.01  Q        |          |          |        V |
  21+15       0.0942      0.01  Q        |          |          |        V |
  21+20       0.0943      0.01  Q        |          |          |         V|
  21+25       0.0944      0.01  Q        |          |          |         V|
  21+30       0.0944      0.01  Q        |          |          |         V|
  21+35       0.0945      0.01  Q        |          |          |         V|
  21+40       0.0946      0.01  Q        |          |          |         V|
  21+45       0.0947      0.01  Q        |          |          |         V|
  21+50       0.0948      0.01  Q        |          |          |         V|
  21+55       0.0949      0.01  Q        |          |          |         V|
  22+ 0       0.0949      0.01  Q        |          |          |         V|
  22+ 5       0.0950      0.01  Q        |          |          |         V|
  22+10       0.0951      0.01  Q        |          |          |         V|
  22+15       0.0952      0.01  Q        |          |          |         V|
  22+20       0.0953      0.01  Q        |          |          |         V|
  22+25       0.0953      0.01  Q        |          |          |         V|
  22+30       0.0954      0.01  Q        |          |          |         V|
  22+35       0.0955      0.01  Q        |          |          |         V|
  22+40       0.0955      0.01  Q        |          |          |         V|
  22+45       0.0956      0.01  Q        |          |          |         V|
  22+50       0.0957      0.01  Q        |          |          |         V|
  22+55       0.0957      0.01  Q        |          |          |         V|
  23+ 0       0.0958      0.01  Q        |          |          |         V|
  23+ 5       0.0959      0.01  Q        |          |          |         V|
  23+10       0.0959      0.01  Q        |          |          |         V|
  23+15       0.0960      0.01  Q        |          |          |         V|
  23+20       0.0961      0.01  Q        |          |          |         V|
  23+25       0.0961      0.01  Q        |          |          |         V|
  23+30       0.0962      0.01  Q        |          |          |         V|
  23+35       0.0963      0.01  Q        |          |          |         V|
  23+40       0.0963      0.01  Q        |          |          |         V|
  23+45       0.0964      0.01  Q        |          |          |         V|
  23+50       0.0965      0.01  Q        |          |          |         V|
  23+55       0.0965      0.01  Q        |          |          |         V|
  24+ 0       0.0966      0.01  Q        |          |          |         V|
  24+ 5       0.0966      0.01  Q        |          |          |         V|
  24+10       0.0966      0.00  Q        |          |          |         V|
  24+15       0.0967      0.00  Q        |          |          |         V|
  24+20       0.0967      0.00  Q        |          |          |         V|
  24+25       0.0967      0.00  Q        |          |          |         V|
  24+30       0.0967      0.00  Q        |          |          |         V|
  24+35       0.0967      0.00  Q        |          |          |          V
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                U n i t   H y d r o g r a p h   A n a l y s i s

                Copyright (c) CIVILCADD/CIVILDESIGN, 1989 - 2008, Version 8.1
                       Study date  04/10/20 File: pro2yr242.out


        ++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
        ------------------------------------------------------------------------
        Riverside County Synthetic Unit Hydrology Method
        RCFC & WCD Manual date - April 1978
        Program License Serial Number 5006
        ------------------------------------------------------------------------
         English (in-lb) Input Units Used
         English Rainfall Data (Inches) Input Values Used
         English Units used in output format
        ------------------------------------------------------------------------
        ------------------------------------------------------------------------
        Drainage Area =       7.70(Ac.)  =      0.012 Sq. Mi.
        Drainage Area for Depth-Area Areal Adjustment =       7.70(Ac.)  =      0.012 Sq. Mi.
        Length along longest watercourse =    1268.00(Ft.)
        Length along longest watercourse measured to centroid =     634.00(Ft.)
        Length along longest watercourse =      0.240 Mi.
        Length along longest watercourse measured to centroid =      0.120 Mi.
        Difference in elevation =      14.30(Ft.)
        Slope along watercourse =     59.5457 Ft./Mi.
        Average Manning's 'N' = 0.015
        Lag time =    0.043 Hr.
        Lag time =     2.58 Min.
        25% of lag time =     0.65 Min.
        40% of lag time =     1.03 Min.
        Unit time =     5.00 Min.
        Duration of storm = 24 Hour(s)
        User Entered Base Flow =     0.00(CFS)
        2 YEAR Area rainfall data:
        Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
               7.70           1.60                 12.32
        100 YEAR Area rainfall data:
        Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
               7.70           4.00                 30.80
        STORM EVENT (YEAR) =    2.00
        Area Averaged 2-Year Rainfall =    1.600(In)
        Area Averaged 100-Year Rainfall =    4.000(In)
        Point rain (area averaged) =    1.600(In)
        Areal adjustment factor =  100.00 %
        Adjusted average point rain =    1.600(In)
        Sub-Area Data:
        Area(Ac.)         Runoff Index   Impervious %
             7.700           56.00          0.650
         Total Area Entered =      7.70(Ac.)
        RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
        AMC2 AMC-1     (In/Hr)    (Dec.%)     (In/Hr)      (Dec.)    (In/Hr)
        56.0  36.0      0.706     0.650        0.293       1.000      0.293
                                                          Sum (F) =   0.293
        Area averaged mean soil loss (F) (In/Hr) =  0.293
        Minimum soil loss rate ((In/Hr)) =  0.146
        (for 24 hour storm duration)
        Soil low loss rate (decimal) =   0.380
        ------------------------------------------------------------------------
                       U n i t  H y d r o g r a p h
                             VALLEY S-Curve
        ------------------------------------------------------------------------
                       Unit Hydrograph Data
        ------------------------------------------------------------------------
        Unit time period   Time % of lag   Distribution   Unit Hydrograph
            (hrs)                          Graph %           (CFS)
        ------------------------------------------------------------------------
            1   0.083        193.625         42.278             3.281
            2   0.167        387.249         43.815             3.400
            3   0.250        580.874          9.059             0.703
            4   0.333        774.498          3.572             0.277
            5   0.417        968.123          1.276             0.099
                                      Sum = 100.000   Sum=       7.760
    ------------------------------------------------------------------------
     The following loss rate calculations reflect use of the minimum calculated loss
     rate subtracted from the Storm Rain to produce the maximum Effective Rain value
      Unit Time   Pattern   Storm Rain     Loss rate(In./Hr)     Effective
           (Hr.)  Percent   (In/Hr)         Max    |   Low        (In/Hr)
        1   0.08     0.07      0.013       (  0.519)       0.005        0.008
        2   0.17     0.07      0.013       (  0.517)       0.005        0.008
        3   0.25     0.07      0.013       (  0.515)       0.005        0.008
        4   0.33     0.10      0.019       (  0.513)       0.007        0.012
        5   0.42     0.10      0.019       (  0.511)       0.007        0.012
        6   0.50     0.10      0.019       (  0.509)       0.007        0.012
        7   0.58     0.10      0.019       (  0.507)       0.007        0.012
        8   0.67     0.10      0.019       (  0.505)       0.007        0.012
```

9	0.75	0.10	0.019	(0.503)	0.007	0.012
10	0.83	0.13	0.026	(0.501)	0.010	0.016
11	0.92	0.13	0.026	(0.499)	0.010	0.016
12	1.00	0.13	0.026	(0.498)	0.010	0.016
13	1.08	0.10	0.019	(0.496)	0.007	0.012
14	1.17	0.10	0.019	(0.494)	0.007	0.012
15	1.25	0.10	0.019	(0.492)	0.007	0.012
16	1.33	0.10	0.019	(0.490)	0.007	0.012
17	1.42	0.10	0.019	(0.488)	0.007	0.012
18	1.50	0.10	0.019	(0.486)	0.007	0.012
19	1.58	0.10	0.019	(0.484)	0.007	0.012
20	1.67	0.10	0.019	(0.482)	0.007	0.012
21	1.75	0.10	0.019	(0.480)	0.007	0.012
22	1.83	0.13	0.026	(0.478)	0.010	0.016
23	1.92	0.13	0.026	(0.476)	0.010	0.016
24	2.00	0.13	0.026	(0.474)	0.010	0.016
25	2.08	0.13	0.026	(0.472)	0.010	0.016
26	2.17	0.13	0.026	(0.470)	0.010	0.016
27	2.25	0.13	0.026	(0.468)	0.010	0.016
28	2.33	0.13	0.026	(0.467)	0.010	0.016
29	2.42	0.13	0.026	(0.465)	0.010	0.016
30	2.50	0.13	0.026	(0.463)	0.010	0.016
31	2.58	0.17	0.032	(0.461)	0.012	0.020
32	2.67	0.17	0.032	(0.459)	0.012	0.020
33	2.75	0.17	0.032	(0.457)	0.012	0.020
34	2.83	0.17	0.032	(0.455)	0.012	0.020
35	2.92	0.17	0.032	(0.453)	0.012	0.020
36	3.00	0.17	0.032	(0.451)	0.012	0.020
37	3.08	0.17	0.032	(0.450)	0.012	0.020
38	3.17	0.17	0.032	(0.448)	0.012	0.020
39	3.25	0.17	0.032	(0.446)	0.012	0.020
40	3.33	0.17	0.032	(0.444)	0.012	0.020
41	3.42	0.17	0.032	(0.442)	0.012	0.020
42	3.50	0.17	0.032	(0.440)	0.012	0.020
43	3.58	0.17	0.032	(0.438)	0.012	0.020
44	3.67	0.17	0.032	(0.437)	0.012	0.020
45	3.75	0.17	0.032	(0.435)	0.012	0.020
46	3.83	0.20	0.038	(0.433)	0.015	0.024
47	3.92	0.20	0.038	(0.431)	0.015	0.024
48	4.00	0.20	0.038	(0.429)	0.015	0.024
49	4.08	0.20	0.038	(0.427)	0.015	0.024
50	4.17	0.20	0.038	(0.426)	0.015	0.024
51	4.25	0.20	0.038	(0.424)	0.015	0.024
52	4.33	0.23	0.045	(0.422)	0.017	0.028
53	4.42	0.23	0.045	(0.420)	0.017	0.028
54	4.50	0.23	0.045	(0.418)	0.017	0.028
55	4.58	0.23	0.045	(0.417)	0.017	0.028
56	4.67	0.23	0.045	(0.415)	0.017	0.028
57	4.75	0.23	0.045	(0.413)	0.017	0.028
58	4.83	0.27	0.051	(0.411)	0.019	0.032
59	4.92	0.27	0.051	(0.409)	0.019	0.032
60	5.00	0.27	0.051	(0.408)	0.019	0.032
61	5.08	0.20	0.038	(0.406)	0.015	0.024
62	5.17	0.20	0.038	(0.404)	0.015	0.024
63	5.25	0.20	0.038	(0.402)	0.015	0.024
64	5.33	0.23	0.045	(0.401)	0.017	0.028
65	5.42	0.23	0.045	(0.399)	0.017	0.028
66	5.50	0.23	0.045	(0.397)	0.017	0.028
67	5.58	0.27	0.051	(0.395)	0.019	0.032
68	5.67	0.27	0.051	(0.394)	0.019	0.032
69	5.75	0.27	0.051	(0.392)	0.019	0.032
70	5.83	0.27	0.051	(0.390)	0.019	0.032
71	5.92	0.27	0.051	(0.388)	0.019	0.032
72	6.00	0.27	0.051	(0.387)	0.019	0.032
73	6.08	0.30	0.058	(0.385)	0.022	0.036
74	6.17	0.30	0.058	(0.383)	0.022	0.036
75	6.25	0.30	0.058	(0.382)	0.022	0.036
76	6.33	0.30	0.058	(0.380)	0.022	0.036
77	6.42	0.30	0.058	(0.378)	0.022	0.036
78	6.50	0.30	0.058	(0.377)	0.022	0.036
79	6.58	0.33	0.064	(0.375)	0.024	0.040
80	6.67	0.33	0.064	(0.373)	0.024	0.040
81	6.75	0.33	0.064	(0.371)	0.024	0.040
82	6.83	0.33	0.064	(0.370)	0.024	0.040
83	6.92	0.33	0.064	(0.368)	0.024	0.040
84	7.00	0.33	0.064	(0.366)	0.024	0.040
85	7.08	0.33	0.064	(0.365)	0.024	0.040
86	7.17	0.33	0.064	(0.363)	0.024	0.040
87	7.25	0.33	0.064	(0.361)	0.024	0.040
88	7.33	0.37	0.070	(0.360)	0.027	0.044
89	7.42	0.37	0.070	(0.358)	0.027	0.044
90	7.50	0.37	0.070	(0.356)	0.027	0.044
91	7.58	0.40	0.077	(0.355)	0.029	0.048
92	7.67	0.40	0.077	(0.353)	0.029	0.048
93	7.75	0.40	0.077	(0.352)	0.029	0.048
94	7.83	0.43	0.083	(0.350)	0.032	0.052

95	7.92	0.43	0.083	(0.348)	0.032	0.052
96	8.00	0.43	0.083	(0.347)	0.032	0.052
97	8.08	0.50	0.096	(0.345)	0.036	0.060
98	8.17	0.50	0.096	(0.344)	0.036	0.060
99	8.25	0.50	0.096	(0.342)	0.036	0.060
100	8.33	0.50	0.096	(0.340)	0.036	0.060
101	8.42	0.50	0.096	(0.339)	0.036	0.060
102	8.50	0.50	0.096	(0.337)	0.036	0.060
103	8.58	0.53	0.102	(0.336)	0.039	0.063
104	8.67	0.53	0.102	(0.334)	0.039	0.063
105	8.75	0.53	0.102	(0.332)	0.039	0.063
106	8.83	0.57	0.109	(0.331)	0.041	0.067
107	8.92	0.57	0.109	(0.329)	0.041	0.067
108	9.00	0.57	0.109	(0.328)	0.041	0.067
109	9.08	0.63	0.122	(0.326)	0.046	0.075
110	9.17	0.63	0.122	(0.325)	0.046	0.075
111	9.25	0.63	0.122	(0.323)	0.046	0.075
112	9.33	0.67	0.128	(0.322)	0.049	0.079
113	9.42	0.67	0.128	(0.320)	0.049	0.079
114	9.50	0.67	0.128	(0.318)	0.049	0.079
115	9.58	0.70	0.134	(0.317)	0.051	0.083
116	9.67	0.70	0.134	(0.315)	0.051	0.083
117	9.75	0.70	0.134	(0.314)	0.051	0.083
118	9.83	0.73	0.141	(0.312)	0.054	0.087
119	9.92	0.73	0.141	(0.311)	0.054	0.087
120	10.00	0.73	0.141	(0.309)	0.054	0.087
121	10.08	0.50	0.096	(0.308)	0.036	0.060
122	10.17	0.50	0.096	(0.306)	0.036	0.060
123	10.25	0.50	0.096	(0.305)	0.036	0.060
124	10.33	0.50	0.096	(0.303)	0.036	0.060
125	10.42	0.50	0.096	(0.302)	0.036	0.060
126	10.50	0.50	0.096	(0.300)	0.036	0.060
127	10.58	0.67	0.128	(0.299)	0.049	0.079
128	10.67	0.67	0.128	(0.298)	0.049	0.079
129	10.75	0.67	0.128	(0.296)	0.049	0.079
130	10.83	0.67	0.128	(0.295)	0.049	0.079
131	10.92	0.67	0.128	(0.293)	0.049	0.079
132	11.00	0.67	0.128	(0.292)	0.049	0.079
133	11.08	0.63	0.122	(0.290)	0.046	0.075
134	11.17	0.63	0.122	(0.289)	0.046	0.075
135	11.25	0.63	0.122	(0.287)	0.046	0.075
136	11.33	0.63	0.122	(0.286)	0.046	0.075
137	11.42	0.63	0.122	(0.285)	0.046	0.075
138	11.50	0.63	0.122	(0.283)	0.046	0.075
139	11.58	0.57	0.109	(0.282)	0.041	0.067
140	11.67	0.57	0.109	(0.280)	0.041	0.067
141	11.75	0.57	0.109	(0.279)	0.041	0.067
142	11.83	0.60	0.115	(0.278)	0.044	0.071
143	11.92	0.60	0.115	(0.276)	0.044	0.071
144	12.00	0.60	0.115	(0.275)	0.044	0.071
145	12.08	0.83	0.160	(0.273)	0.061	0.099
146	12.17	0.83	0.160	(0.272)	0.061	0.099
147	12.25	0.83	0.160	(0.271)	0.061	0.099
148	12.33	0.87	0.166	(0.269)	0.063	0.103
149	12.42	0.87	0.166	(0.268)	0.063	0.103
150	12.50	0.87	0.166	(0.267)	0.063	0.103
151	12.58	0.93	0.179	(0.265)	0.068	0.111
152	12.67	0.93	0.179	(0.264)	0.068	0.111
153	12.75	0.93	0.179	(0.263)	0.068	0.111
154	12.83	0.97	0.186	(0.261)	0.071	0.115
155	12.92	0.97	0.186	(0.260)	0.071	0.115
156	13.00	0.97	0.186	(0.259)	0.071	0.115
157	13.08	1.13	0.218	(0.257)	0.083	0.135
158	13.17	1.13	0.218	(0.256)	0.083	0.135
159	13.25	1.13	0.218	(0.255)	0.083	0.135
160	13.33	1.13	0.218	(0.254)	0.083	0.135
161	13.42	1.13	0.218	(0.252)	0.083	0.135
162	13.50	1.13	0.218	(0.251)	0.083	0.135
163	13.58	0.77	0.147	(0.250)	0.056	0.091
164	13.67	0.77	0.147	(0.248)	0.056	0.091
165	13.75	0.77	0.147	(0.247)	0.056	0.091
166	13.83	0.77	0.147	(0.246)	0.056	0.091
167	13.92	0.77	0.147	(0.245)	0.056	0.091
168	14.00	0.77	0.147	(0.243)	0.056	0.091
169	14.08	0.90	0.173	(0.242)	0.066	0.107
170	14.17	0.90	0.173	(0.241)	0.066	0.107
171	14.25	0.90	0.173	(0.240)	0.066	0.107
172	14.33	0.87	0.166	(0.238)	0.063	0.103
173	14.42	0.87	0.166	(0.237)	0.063	0.103
174	14.50	0.87	0.166	(0.236)	0.063	0.103
175	14.58	0.87	0.166	(0.235)	0.063	0.103
176	14.67	0.87	0.166	(0.234)	0.063	0.103
177	14.75	0.87	0.166	(0.232)	0.063	0.103
178	14.83	0.83	0.160	(0.231)	0.061	0.099
179	14.92	0.83	0.160	(0.230)	0.061	0.099
180	15.00	0.83	0.160	(0.229)	0.061	0.099

181	15.08	0.80	0.154	(0.228)	0.058	0.095
182	15.17	0.80	0.154	(0.226)	0.058	0.095
183	15.25	0.80	0.154	(0.225)	0.058	0.095
184	15.33	0.77	0.147	(0.224)	0.056	0.091
185	15.42	0.77	0.147	(0.223)	0.056	0.091
186	15.50	0.77	0.147	(0.222)	0.056	0.091
187	15.58	0.63	0.122	(0.221)	0.046	0.075
188	15.67	0.63	0.122	(0.220)	0.046	0.075
189	15.75	0.63	0.122	(0.218)	0.046	0.075
190	15.83	0.63	0.122	(0.217)	0.046	0.075
191	15.92	0.63	0.122	(0.216)	0.046	0.075
192	16.00	0.63	0.122	(0.215)	0.046	0.075
193	16.08	0.13	0.026	(0.214)	0.010	0.016
194	16.17	0.13	0.026	(0.213)	0.010	0.016
195	16.25	0.13	0.026	(0.212)	0.010	0.016
196	16.33	0.13	0.026	(0.211)	0.010	0.016
197	16.42	0.13	0.026	(0.210)	0.010	0.016
198	16.50	0.13	0.026	(0.209)	0.010	0.016
199	16.58	0.10	0.019	(0.208)	0.007	0.012
200	16.67	0.10	0.019	(0.207)	0.007	0.012
201	16.75	0.10	0.019	(0.205)	0.007	0.012
202	16.83	0.10	0.019	(0.204)	0.007	0.012
203	16.92	0.10	0.019	(0.203)	0.007	0.012
204	17.00	0.10	0.019	(0.202)	0.007	0.012
205	17.08	0.17	0.032	(0.201)	0.012	0.020
206	17.17	0.17	0.032	(0.200)	0.012	0.020
207	17.25	0.17	0.032	(0.199)	0.012	0.020
208	17.33	0.17	0.032	(0.198)	0.012	0.020
209	17.42	0.17	0.032	(0.197)	0.012	0.020
210	17.50	0.17	0.032	(0.196)	0.012	0.020
211	17.58	0.17	0.032	(0.195)	0.012	0.020
212	17.67	0.17	0.032	(0.194)	0.012	0.020
213	17.75	0.17	0.032	(0.193)	0.012	0.020
214	17.83	0.13	0.026	(0.192)	0.010	0.016
215	17.92	0.13	0.026	(0.192)	0.010	0.016
216	18.00	0.13	0.026	(0.191)	0.010	0.016
217	18.08	0.13	0.026	(0.190)	0.010	0.016
218	18.17	0.13	0.026	(0.189)	0.010	0.016
219	18.25	0.13	0.026	(0.188)	0.010	0.016
220	18.33	0.13	0.026	(0.187)	0.010	0.016
221	18.42	0.13	0.026	(0.186)	0.010	0.016
222	18.50	0.13	0.026	(0.185)	0.010	0.016
223	18.58	0.10	0.019	(0.184)	0.007	0.012
224	18.67	0.10	0.019	(0.183)	0.007	0.012
225	18.75	0.10	0.019	(0.182)	0.007	0.012
226	18.83	0.07	0.013	(0.182)	0.005	0.008
227	18.92	0.07	0.013	(0.181)	0.005	0.008
228	19.00	0.07	0.013	(0.180)	0.005	0.008
229	19.08	0.10	0.019	(0.179)	0.007	0.012
230	19.17	0.10	0.019	(0.178)	0.007	0.012
231	19.25	0.10	0.019	(0.177)	0.007	0.012
232	19.33	0.13	0.026	(0.176)	0.010	0.016
233	19.42	0.13	0.026	(0.176)	0.010	0.016
234	19.50	0.13	0.026	(0.175)	0.010	0.016
235	19.58	0.10	0.019	(0.174)	0.007	0.012
236	19.67	0.10	0.019	(0.173)	0.007	0.012
237	19.75	0.10	0.019	(0.172)	0.007	0.012
238	19.83	0.07	0.013	(0.172)	0.005	0.008
239	19.92	0.07	0.013	(0.171)	0.005	0.008
240	20.00	0.07	0.013	(0.170)	0.005	0.008
241	20.08	0.10	0.019	(0.169)	0.007	0.012
242	20.17	0.10	0.019	(0.169)	0.007	0.012
243	20.25	0.10	0.019	(0.168)	0.007	0.012
244	20.33	0.10	0.019	(0.167)	0.007	0.012
245	20.42	0.10	0.019	(0.166)	0.007	0.012
246	20.50	0.10	0.019	(0.166)	0.007	0.012
247	20.58	0.10	0.019	(0.165)	0.007	0.012
248	20.67	0.10	0.019	(0.164)	0.007	0.012
249	20.75	0.10	0.019	(0.164)	0.007	0.012
250	20.83	0.07	0.013	(0.163)	0.005	0.008
251	20.92	0.07	0.013	(0.162)	0.005	0.008
252	21.00	0.07	0.013	(0.162)	0.005	0.008
253	21.08	0.10	0.019	(0.161)	0.007	0.012
254	21.17	0.10	0.019	(0.160)	0.007	0.012
255	21.25	0.10	0.019	(0.160)	0.007	0.012
256	21.33	0.07	0.013	(0.159)	0.005	0.008
257	21.42	0.07	0.013	(0.159)	0.005	0.008
258	21.50	0.07	0.013	(0.158)	0.005	0.008
259	21.58	0.10	0.019	(0.157)	0.007	0.012
260	21.67	0.10	0.019	(0.157)	0.007	0.012
261	21.75	0.10	0.019	(0.156)	0.007	0.012
262	21.83	0.07	0.013	(0.156)	0.005	0.008
263	21.92	0.07	0.013	(0.155)	0.005	0.008
264	22.00	0.07	0.013	(0.155)	0.005	0.008
265	22.08	0.10	0.019	(0.154)	0.007	0.012
266	22.17	0.10	0.019	(0.154)	0.007	0.012

267	22.25	0.10	0.019	(	0.153)	0.007	0.012
268	22.33	0.07	0.013	(	0.153)	0.005	0.008
269	22.42	0.07	0.013	(	0.152)	0.005	0.008
270	22.50	0.07	0.013	(	0.152)	0.005	0.008
271	22.58	0.07	0.013	(	0.151)	0.005	0.008
272	22.67	0.07	0.013	(	0.151)	0.005	0.008
273	22.75	0.07	0.013	(	0.151)	0.005	0.008
274	22.83	0.07	0.013	(	0.150)	0.005	0.008
275	22.92	0.07	0.013	(	0.150)	0.005	0.008
276	23.00	0.07	0.013	(	0.149)	0.005	0.008
277	23.08	0.07	0.013	(	0.149)	0.005	0.008
278	23.17	0.07	0.013	(	0.149)	0.005	0.008
279	23.25	0.07	0.013	(	0.148)	0.005	0.008
280	23.33	0.07	0.013	(	0.148)	0.005	0.008
281	23.42	0.07	0.013	(	0.148)	0.005	0.008
282	23.50	0.07	0.013	(	0.148)	0.005	0.008
283	23.58	0.07	0.013	(	0.147)	0.005	0.008
284	23.67	0.07	0.013	(	0.147)	0.005	0.008
285	23.75	0.07	0.013	(	0.147)	0.005	0.008
286	23.83	0.07	0.013	(	0.147)	0.005	0.008
287	23.92	0.07	0.013	(	0.147)	0.005	0.008
288	24.00	0.07	0.013	(	0.147)	0.005	0.008

(Loss Rate Not Used)

Sum = 100.0 Sum = 11.9

Flood volume = Effective rainfall 0.99(In)
times area 7.7(Ac.)/[(In)/(Ft.)] = 0.6(Ac.Ft)
Total soil loss = 0.61(In)
Total soil loss = 0.390(Ac.Ft)
Total rainfall = 1.60(In)
Flood volume = 27727.0 Cubic Feet
Total soil loss = 16994.0 Cubic Feet

Peak flow rate of this hydrograph = 1.047(CFS)

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24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	2.5	5.0	7.5	10.0
0+ 5	0.0002	0.03	Q				
0+10	0.0005	0.05	Q				
0+15	0.0009	0.06	Q				
0+20	0.0015	0.07	Q				
0+25	0.0021	0.09	Q				
0+30	0.0027	0.09	Q				
0+35	0.0033	0.09	Q				
0+40	0.0040	0.09	Q				
0+45	0.0046	0.09	Q				
0+50	0.0053	0.11	Q				
0+55	0.0061	0.12	Q				
1+ 0	0.0070	0.12	Q				
1+ 5	0.0077	0.11	Q				
1+10	0.0084	0.10	Q				
1+15	0.0091	0.09	Q				
1+20	0.0097	0.09	Q				
1+25	0.0103	0.09	Q				
1+30	0.0110	0.09	Q				
1+35	0.0116	0.09	Q				
1+40	0.0122	0.09	Q				
1+45	0.0129	0.09	Q				
1+50	0.0136	0.11	Q				
1+55	0.0144	0.12	Q				
2+ 0	0.0153	0.12	Q				
2+ 5	0.0161	0.12	QV				
2+10	0.0170	0.12	QV				
2+15	0.0178	0.12	QV				
2+20	0.0186	0.12	QV				
2+25	0.0195	0.12	QV				
2+30	0.0203	0.12	QV				
2+35	0.0213	0.14	QV				
2+40	0.0223	0.15	QV				
2+45	0.0234	0.15	QV				
2+50	0.0244	0.15	QV				
2+55	0.0255	0.15	QV				
3+ 0	0.0265	0.15	QV				
3+ 5	0.0276	0.15	QV				
3+10	0.0287	0.15	QV				
3+15	0.0297	0.15	QV				
3+20	0.0308	0.15	QV				
3+25	0.0319	0.15	Q V				
3+30	0.0329	0.15	Q V				
3+35	0.0340	0.15	Q V				
3+40	0.0350	0.15	Q V				

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 3+45      0.0361      0.15  Q V       |         |         |         |
 3+50      0.0372      0.17  Q V       |         |         |         |
 3+55      0.0385      0.18  Q V       |         |         |         |
 4+ 0      0.0398      0.18  Q V       |         |         |         |
 4+ 5      0.0410      0.18  Q V       |         |         |         |
 4+10      0.0423      0.18  Q V       |         |         |         |
 4+15      0.0436      0.18  Q V       |         |         |         |
 4+20      0.0449      0.20  Q V       |         |         |         |
 4+25      0.0464      0.21  Q V       |         |         |         |
 4+30      0.0479      0.21  Q  V      |         |         |         |
 4+35      0.0493      0.22  Q  V      |         |         |         |
 4+40      0.0508      0.22  Q  V      |         |         |         |
 4+45      0.0523      0.22  Q  V      |         |         |         |
 4+50      0.0539      0.23  Q  V      |         |         |         |
 4+55      0.0556      0.24  Q  V      |         |         |         |
 5+ 0      0.0572      0.24  Q  V      |         |         |         |
 5+ 5      0.0588      0.22  Q  V      |         |         |         |
 5+10      0.0601      0.19  Q  V      |         |         |         |
 5+15      0.0614      0.19  Q  V      |         |         |         |
 5+20      0.0628      0.20  Q  V      |         |         |         |
 5+25      0.0642      0.21  Q   V     |         |         |         |
 5+30      0.0657      0.21  Q   V     |         |         |         |
 5+35      0.0673      0.23  Q   V     |         |         |         |
 5+40      0.0689      0.24  Q   V     |         |         |         |
 5+45      0.0706      0.24  Q   V     |         |         |         |
 5+50      0.0723      0.25  Q   V     |         |         |         |
 5+55      0.0740      0.25  Q   V     |         |         |         |
 6+ 0      0.0757      0.25  Q   V     |         |         |         |
 6+ 5      0.0775      0.26  |Q  V     |         |         |         |
 6+10      0.0794      0.27  |Q  V     |         |         |         |
 6+15      0.0813      0.28  |Q   V    |         |         |         |
 6+20      0.0832      0.28  |Q   V    |         |         |         |
 6+25      0.0851      0.28  |Q   V    |         |         |         |
 6+30      0.0870      0.28  |Q   V    |         |         |         |
 6+35      0.0890      0.29  |Q   V    |         |         |         |
 6+40      0.0911      0.30  |Q   V    |         |         |         |
 6+45      0.0932      0.31  |Q   V    |         |         |         |
 6+50      0.0953      0.31  |Q   V    |         |         |         |
 6+55      0.0974      0.31  |Q    V   |         |         |         |
 7+ 0      0.0996      0.31  |Q    V   |         |         |         |
 7+ 5      0.1017      0.31  |Q    V   |         |         |         |
 7+10      0.1038      0.31  |Q    V   |         |         |         |
 7+15      0.1059      0.31  |Q    V   |         |         |         |
 7+20      0.1081      0.32  |Q    V   |         |         |         |
 7+25      0.1104      0.33  |Q    V   |         |         |         |
 7+30      0.1128      0.34  |Q     V  |         |         |         |
 7+35      0.1152      0.35  |Q     V  |         |         |         |
 7+40      0.1177      0.37  |Q     V  |         |         |         |
 7+45      0.1202      0.37  |Q     V  |         |         |         |
 7+50      0.1229      0.38  |Q     V  |         |         |         |
 7+55      0.1256      0.40  |Q     V  |         |         |         |
 8+ 0      0.1283      0.40  |Q      V |         |         |         |
 8+ 5      0.1313      0.43  |Q      V |         |         |         |
 8+10      0.1344      0.45  |Q      V |         |         |         |
 8+15      0.1376      0.46  |Q      V |         |         |         |
 8+20      0.1407      0.46  |Q      V |         |         |         |
 8+25      0.1439      0.46  |Q       V|         |         |         |
 8+30      0.1471      0.46  |Q       V|         |         |         |
 8+35      0.1504      0.48  |Q       V|         |         |         |
 8+40      0.1537      0.49  |Q       V|         |         |         |
 8+45      0.1571      0.49  |Q       V|         |         |         |
 8+50      0.1606      0.51  | Q       V         |         |         |
 8+55      0.1642      0.52  | Q       V         |         |         |
 9+ 0      0.1678      0.52  | Q       V         |         |         |
 9+ 5      0.1716      0.55  | Q       V         |         |         |
 9+10      0.1755      0.58  | Q       |V        |         |         |
 9+15      0.1796      0.58  | Q       |V        |         |         |
 9+20      0.1837      0.60  | Q       |V        |         |         |
 9+25      0.1879      0.61  | Q       |V        |         |         |
 9+30      0.1921      0.61  | Q       | V       |         |         |
 9+35      0.1964      0.63  | Q       | V       |         |         |
 9+40      0.2009      0.64  | Q       | V       |         |         |
 9+45      0.2053      0.65  | Q       | V       |         |         |
 9+50      0.2099      0.66  | Q       |  V      |         |         |
 9+55      0.2145      0.67  | Q       |  V      |         |         |
10+ 0      0.2192      0.68  | Q       |  V      |         |         |
10+ 5      0.2232      0.59  | Q       |   V     |         |         |
10+10      0.2266      0.49  |Q        |   V     |         |         |
10+15      0.2298      0.47  |Q        |   V     |         |         |
10+20      0.2330      0.46  |Q        |   V     |         |         |
10+25      0.2362      0.46  |Q        |   V     |         |         |
10+30      0.2394      0.46  |Q        |    V    |         |         |
10+35      0.2430      0.53  | Q       |    V    |         |         |
10+40      0.2471      0.59  | Q       |    V    |         |         |
10+45      0.2513      0.61  | Q       |    V    |         |         |
10+50      0.2556      0.61  | Q       |     V   |         |         |
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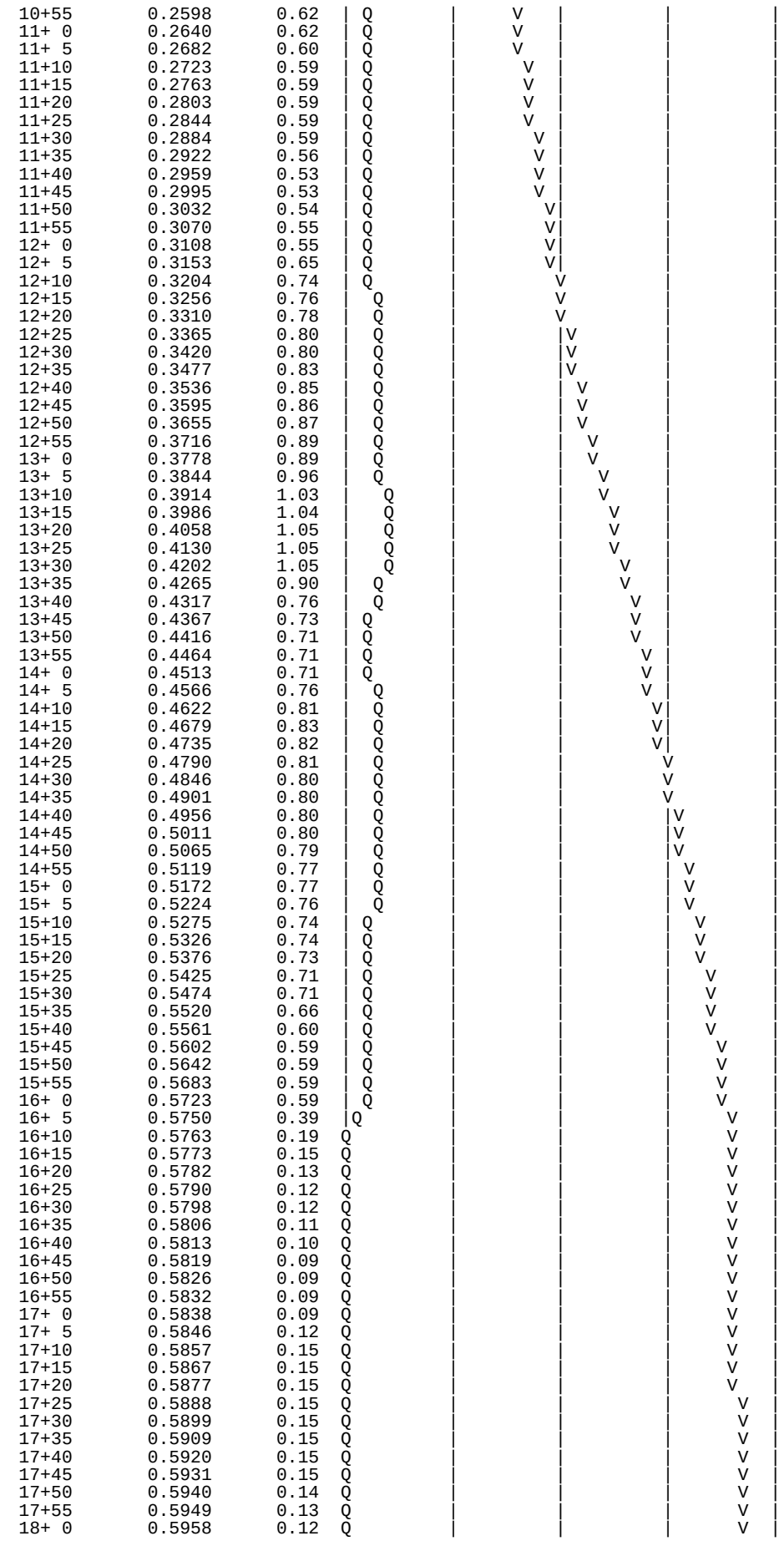

10+55	0.2598	0.62	Q	V				
11+ 0	0.2640	0.62	Q	V				
11+ 5	0.2682	0.60	Q	V				
11+10	0.2723	0.59	Q	V				
11+15	0.2763	0.59	Q	V				
11+20	0.2803	0.59	Q	V				
11+25	0.2844	0.59	Q	V				
11+30	0.2884	0.59	Q	V				
11+35	0.2922	0.56	Q	V				
11+40	0.2959	0.53	Q	V				
11+45	0.2995	0.53	Q	V				
11+50	0.3032	0.54	Q	V				
11+55	0.3070	0.55	Q	V				
12+ 0	0.3108	0.55	Q	V				
12+ 5	0.3153	0.65	Q	V				
12+10	0.3204	0.74	Q	V				
12+15	0.3256	0.76	Q	V				
12+20	0.3310	0.78	Q	V				
12+25	0.3365	0.80	Q	V				
12+30	0.3420	0.80	Q	V				
12+35	0.3477	0.83	Q	V				
12+40	0.3536	0.85	Q	V				
12+45	0.3595	0.86	Q	V				
12+50	0.3655	0.87	Q	V				
12+55	0.3716	0.89	Q	V				
13+ 0	0.3778	0.89	Q	V				
13+ 5	0.3844	0.96	Q	V				
13+10	0.3914	1.03	Q	V				
13+15	0.3986	1.04	Q	V				
13+20	0.4058	1.05	Q	V				
13+25	0.4130	1.05	Q	V				
13+30	0.4202	1.05	Q	V				
13+35	0.4265	0.90	Q	V				
13+40	0.4317	0.76	Q	V				
13+45	0.4367	0.73	Q	V				
13+50	0.4416	0.71	Q	V				
13+55	0.4464	0.71	Q	V				
14+ 0	0.4513	0.71	Q	V				
14+ 5	0.4566	0.76	Q	V				
14+10	0.4622	0.81	Q	V				
14+15	0.4679	0.83	Q	V				
14+20	0.4735	0.82	Q	V				
14+25	0.4790	0.81	Q	V				
14+30	0.4846	0.80	Q	V				
14+35	0.4901	0.80	Q	V				
14+40	0.4956	0.80	Q	V				
14+45	0.5011	0.80	Q	V				
14+50	0.5065	0.79	Q	V				
14+55	0.5119	0.77	Q	V				
15+ 0	0.5172	0.77	Q	V				
15+ 5	0.5224	0.76	Q	V				
15+10	0.5275	0.74	Q	V				
15+15	0.5326	0.74	Q	V				
15+20	0.5376	0.73	Q	V				
15+25	0.5425	0.71	Q	V				
15+30	0.5474	0.71	Q	V				
15+35	0.5520	0.66	Q	V				
15+40	0.5561	0.60	Q	V				
15+45	0.5602	0.59	Q	V				
15+50	0.5642	0.59	Q	V				
15+55	0.5683	0.59	Q	V				
16+ 0	0.5723	0.59	Q	V				
16+ 5	0.5750	0.39	Q	V				
16+10	0.5763	0.19	Q	V				
16+15	0.5773	0.15	Q	V				
16+20	0.5782	0.13	Q	V				
16+25	0.5790	0.12	Q	V				
16+30	0.5798	0.12	Q	V				
16+35	0.5806	0.11	Q	V				
16+40	0.5813	0.10	Q	V				
16+45	0.5819	0.09	Q	V				
16+50	0.5826	0.09	Q	V				
16+55	0.5832	0.09	Q	V				
17+ 0	0.5838	0.09	Q	V				
17+ 5	0.5846	0.12	Q	V				
17+10	0.5857	0.15	Q	V				
17+15	0.5867	0.15	Q	V				
17+20	0.5877	0.15	Q	V				
17+25	0.5888	0.15	Q	V				
17+30	0.5899	0.15	Q	V				
17+35	0.5909	0.15	Q	V				
17+40	0.5920	0.15	Q	V				
17+45	0.5931	0.15	Q	V				
17+50	0.5940	0.14	Q	V				
17+55	0.5949	0.13	Q	V				
18+ 0	0.5958	0.12	Q	V				

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  18+ 5       0.5966      0.12  Q          |          |          |       V  |
  18+10       0.5975      0.12  Q          |          |          |       V  |
  18+15       0.5983      0.12  Q          |          |          |       V  |
  18+20       0.5992      0.12  Q          |          |          |       V  |
  18+25       0.6000      0.12  Q          |          |          |       V  |
  18+30       0.6009      0.12  Q          |          |          |       V  |
  18+35       0.6016      0.11  Q          |          |          |       V  |
  18+40       0.6023      0.10  Q          |          |          |       V  |
  18+45       0.6029      0.09  Q          |          |          |       V  |
  18+50       0.6035      0.08  Q          |          |          |       V  |
  18+55       0.6039      0.07  Q          |          |          |       V  |
  19+ 0       0.6044      0.06  Q          |          |          |       V  |
  19+ 5       0.6049      0.08  Q          |          |          |        V |
  19+10       0.6055      0.09  Q          |          |          |        V |
  19+15       0.6061      0.09  Q          |          |          |        V |
  19+20       0.6068      0.11  Q          |          |          |        V |
  19+25       0.6077      0.12  Q          |          |          |        V |
  19+30       0.6085      0.12  Q          |          |          |        V |
  19+35       0.6093      0.11  Q          |          |          |        V |
  19+40       0.6099      0.10  Q          |          |          |        V |
  19+45       0.6106      0.09  Q          |          |          |        V |
  19+50       0.6111      0.08  Q          |          |          |        V |
  19+55       0.6116      0.07  Q          |          |          |        V |
  20+ 0       0.6120      0.06  Q          |          |          |        V |
  20+ 5       0.6125      0.08  Q          |          |          |        V |
  20+10       0.6131      0.09  Q          |          |          |        V |
  20+15       0.6138      0.09  Q          |          |          |        V |
  20+20       0.6144      0.09  Q          |          |          |        V |
  20+25       0.6150      0.09  Q          |          |          |        V |
  20+30       0.6157      0.09  Q          |          |          |        V |
  20+35       0.6163      0.09  Q          |          |          |        V |
  20+40       0.6169      0.09  Q          |          |          |        V |
  20+45       0.6176      0.09  Q          |          |          |        V |
  20+50       0.6181      0.08  Q          |          |          |        V |
  20+55       0.6186      0.07  Q          |          |          |        V |
  21+ 0       0.6190      0.06  Q          |          |          |        V |
  21+ 5       0.6195      0.08  Q          |          |          |        V |
  21+10       0.6201      0.09  Q          |          |          |        V |
  21+15       0.6208      0.09  Q          |          |          |         V|
  21+20       0.6213      0.08  Q          |          |          |         V|
  21+25       0.6218      0.07  Q          |          |          |         V|
  21+30       0.6222      0.06  Q          |          |          |         V|
  21+35       0.6227      0.08  Q          |          |          |         V|
  21+40       0.6233      0.09  Q          |          |          |         V|
  21+45       0.6239      0.09  Q          |          |          |         V|
  21+50       0.6245      0.08  Q          |          |          |         V|
  21+55       0.6249      0.07  Q          |          |          |         V|
  22+ 0       0.6254      0.06  Q          |          |          |         V|
  22+ 5       0.6259      0.08  Q          |          |          |         V|
  22+10       0.6265      0.09  Q          |          |          |         V|
  22+15       0.6271      0.09  Q          |          |          |         V|
  22+20       0.6277      0.08  Q          |          |          |         V|
  22+25       0.6281      0.07  Q          |          |          |         V|
  22+30       0.6286      0.06  Q          |          |          |         V|
  22+35       0.6290      0.06  Q          |          |          |         V|
  22+40       0.6294      0.06  Q          |          |          |         V|
  22+45       0.6298      0.06  Q          |          |          |         V|
  22+50       0.6303      0.06  Q          |          |          |         V|
  22+55       0.6307      0.06  Q          |          |          |         V|
  23+ 0       0.6311      0.06  Q          |          |          |         V|
  23+ 5       0.6315      0.06  Q          |          |          |         V|
  23+10       0.6320      0.06  Q          |          |          |         V|
  23+15       0.6324      0.06  Q          |          |          |         V|
  23+20       0.6328      0.06  Q          |          |          |         V|
  23+25       0.6332      0.06  Q          |          |          |         V|
  23+30       0.6336      0.06  Q          |          |          |         V|
  23+35       0.6341      0.06  Q          |          |          |         V|
  23+40       0.6345      0.06  Q          |          |          |         V|
  23+45       0.6349      0.06  Q          |          |          |         V|
  23+50       0.6353      0.06  Q          |          |          |         V|
  23+55       0.6358      0.06  Q          |          |          |         V|
  24+ 0       0.6362      0.06  Q          |          |          |         V|
  24+ 5       0.6364      0.04  Q          |          |          |         V|
  24+10       0.6365      0.01  Q          |          |          |         V|
  24+15       0.6365      0.00  Q          |          |          |         V|
  24+20       0.6365      0.00  Q          |          |          |          V
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Appendix 8: Source Control

Pollutant Sources/Source Control Checklist

STORMWATER POLLUTANT SOURCES/SOURCE CONTROL CHECKLIST

How to use this worksheet (also see instructions in Section G of the WQMP Template):

1. Review Column 1 and identify which of these potential sources of stormwater pollutants apply to your site. Check each box that applies.
2. Review Column 2 and incorporate all of the corresponding applicable BMPs in your WQMP Exhibit.
3. Review Columns 3 and 4 and incorporate all of the corresponding applicable permanent controls and operational BMPs in your WQMP. Use the format shown in Table G.1on page 23 of this WQMP Template. Describe your specific BMPs in an accompanying narrative, and explain any special conditions or situations that required omitting BMPs or substituting alternative BMPs for those shown here.

IF THESE SOURCES WILL BE ON THE PROJECT SITE ...	... THEN YOUR WQMP SHOULD INCLUDE THESE SOURCE CONTROL BMPs, AS APPLICABLE		
1 Potential Sources of Runoff Pollutants	2 Permanent Controls—Show on WQMP Drawings	3 Permanent Controls—List in WQMP Table and Narrative	4 Operational BMPs—Include in WQMP Table and Narrative
☒ A. **On-site storm drain inlets**	☒ **Locations of inlets.**	☒ **Mark all inlets with the words "Only Rain Down the Storm Drain" or similar. Catch Basin Markers may be available from the Riverside County Flood Control and Water Conservation District, call 951.955.1200 to verify.**	☒ **Maintain and periodically repaint or replace inlet markings.** ☒ **Provide stormwater pollution prevention information to new site owners, lessees, or operators.** ☒ **See applicable operational BMPs in Fact Sheet SC-44, "Drainage System Maintenance," in the CASQA Stormwater Quality Handbooks at www.cabmphandbooks.com** ☒ **Include the following in lease agreements: "Tenant shall not allow anyone to discharge anything to storm drains or to store or deposit materials so as to create a potential discharge to storm drains."**
☐ B. **Interior floor drains and elevator shaft sump pumps**		☐ **State that interior floor drains and elevator shaft sump pumps will be plumbed to sanitary sewer.**	☐ **Inspect and maintain drains to prevent blockages and overflow.**
☐ C. **Interior parking garages**		☐ **State that parking garage floor drains will be plumbed to the sanitary sewer.**	☐ **Inspect and maintain drains to prevent blockages and overflow.**

IF THESE SOURCES WILL BE ON THE PROJECT SITE ...	... THEN YOUR WQMP SHOULD INCLUDE THESE SOURCE CONTROL BMPs, AS APPLICABLE		
1 Potential Sources of Runoff Pollutants	2 Permanent Controls—Show on WQMP Drawings	3 Permanent Controls—List in WQMP Table and Narrative	4 Operational BMPs—Include in WQMP Table and Narrative
☐ D1. **Need for future indoor & structural pest control**		☐ **Note building design features that discourage entry of pests.**	☐ **Provide Integrated Pest Management information to owners, lessees, and operators.**
☒ D2. **Landscape/ Outdoor Pesticide Use**	☐ **Show locations of native trees or areas of shrubs and ground cover to be undisturbed and retained.** ☒ **Show self-retaining landscape areas, if any.** ☒ **Show stormwater treatment and hydrograph modification management BMPs. (See instructions in Chapter 3, Step 5 and guidance in Chapter 5.)**	**State that final landscape plans will accomplish all of the following.** ☐ **Preserve existing native trees, shrubs, and ground cover to the maximum extent possible.** ☒ **Design landscaping to minimize irrigation and runoff, to promote surface infiltration where appropriate, and to minimize the use of fertilizers and pesticides that can contribute to stormwater pollution.** ☒ **Where landscaped areas are used to retain or detain stormwater, specify plants that are tolerant of saturated soil conditions.** ☒ **Consider using pest-resistant plants, especially adjacent to hardscape.** **To insure successful establishment, select plants appropriate to site soils, slopes, climate, sun, wind, rain, land use, air movement, ecological consistency, and plant interactions.**	☒ **Maintain landscaping using minimum or no pesticides.** ☒ **See applicable operational BMPs in "What you should know for…..Landscape and Gardening"** at http://rcflood.org/stormwater/**Error! Hyperlink reference not valid.** ☒ **Provide IPM information to new owners, lessees and operators.**

IF THESE SOURCES WILL BE ON THE PROJECT SITE ...	... THEN YOUR WQMP SHOULD INCLUDE THESE SOURCE CONTROL BMPs, AS APPLICABLE		
1 Potential Sources of Runoff Pollutants	2 Permanent Controls—Show on WQMP Drawings	3 Permanent Controls—List in WQMP Table and Narrative	4 Operational BMPs—Include in WQMP Table and Narrative
☒ E. **Pools, spas, ponds, decorative fountains, and other water features.**	☒ **Show location of water feature and a sanitary sewer cleanout in an accessible area within 10 feet. (Exception: Public pools must be plumbed according to County Department of Environmental Health Guidelines.)**	**If the Co-Permittee requires pools to be plumbed to the sanitary sewer, place a note on the plans and state in the narrative that this connection will be made according to local requirements.**	☒ **See applicable operational BMPs in** "Guidelines for Maintaining Your Swimming Pool, Jacuzzi and Garden Fountain" at http://rcflood.org/stormwater/
☐ F. **Food service**	☐ **For restaurants, grocery stores, and other food service operations, show location (indoors or in a covered area outdoors) of a floor sink or other area for cleaning floor mats, containers, and equipment.** ☐ **On the drawing, show a note that this drain will be connected to a grease interceptor before discharging to the sanitary sewer.**	☐ **Describe the location and features of the designated cleaning area.** ☐ **Describe the items to be cleaned in this facility and how it has been sized to insure that the largest items can be accommodated.**	☐ **See the brochure, "**The Food Service Industry Best Management Practices for: Restaurants, Grocery Stores, Delicatessens and Bakeries" at http://rcflood.org/stormwater/ **Provide this brochure to new site owners, lessees, and operators.**
☐ G. **Refuse areas**	☐ **Show where site refuse and recycled materials will be handled and stored for pickup. See local municipal requirements for sizes and other details of refuse areas.** ☐ **If dumpsters or other receptacles are outdoors, show how the designated area will be covered, graded, and paved to prevent run-on and show locations of berms to prevent runoff from the area.** ☐ **Any drains from dumpsters, compactors, and tallow bin areas shall be connected to a grease removal device before discharge to sanitary sewer.**	☐ **State how site refuse will be handled and provide supporting detail to what is shown on plans.** ☐ **State that signs will be posted on or near dumpsters with the words "Do not dump hazardous materials here" or similar.**	☐ **State how the following will be implemented:** **Provide adequate number of receptacles. Inspect receptacles regularly; repair or replace leaky receptacles. Keep receptacles covered. Prohibit/prevent dumping of liquid or hazardous wastes. Post "no hazardous materials" signs. Inspect and pick up litter daily and clean up spills immediately. Keep spill control materials available on-site. See Fact Sheet SC-34, "Waste Handling and Disposal" in the CASQA Stormwater Quality Handbooks at** www.cabmphandbooks.com

IF THESE SOURCES WILL BE ON THE PROJECT SITE ...	... THEN YOUR WQMP SHOULD INCLUDE THESE SOURCE CONTROL BMPs, AS APPLICABLE		
1 Potential Sources of Runoff Pollutants	2 Permanent Controls—Show on WQMP Drawings	3 Permanent Controls—List in WQMP Table and Narrative	4 Operational BMPs—Include in WQMP Table and Narrative
❑ H. **Industrial processes.**	❑ **Show process area.**	❑ **If industrial processes are to be located on site, state: "All process activities to be performed indoors. No processes to drain to exterior or to storm drain system."**	❑ **See Fact Sheet SC-10, "Non-Stormwater Discharges" in the CASQA Stormwater Quality Handbooks at www.cabmphandbooks.com** See the brochure "Industrial & Commercial Facilities Best Management Practices for: Industrial, Commercial Facilities" at http://rcflood.org/stormwater/

IF THESE SOURCES WILL BE ON THE PROJECT SITE ...	... THEN YOUR WQMP SHOULD INCLUDE THESE SOURCE CONTROL BMPs, AS APPLICABLE		
1 Potential Sources of Runoff Pollutants	2 Permanent Controls—Show on WQMP Drawings	3 Permanent Controls—List in WQMP Table and Narrative	4 Operational BMPs—Include in WQMP Table and Narrative
❑ I. Outdoor storage of equipment or materials. (See rows J and K for source control measures for vehicle cleaning, repair, and maintenance.)	❑ Show any outdoor storage areas, including how materials will be covered. Show how areas will be graded and bermed to prevent run-on or run-off from area. ❑ Storage of non-hazardous liquids shall be covered by a roof and/or drain to the sanitary sewer system, and be contained by berms, dikes, liners, or vaults. ❑ Storage of hazardous materials and wastes must be in compliance with the local hazardous materials ordinance and a Hazardous Materials Management Plan for the site.	Include a detailed description of materials to be stored, storage areas, and structural features to prevent pollutants from entering storm drains. Where appropriate, reference documentation of compliance with the requirements of Hazardous Materials Programs for: ▪ Hazardous Waste Generation ▪ Hazardous Materials Release Response and Inventory ▪ California Accidental Release (CalARP) ▪ Aboveground Storage Tank ▪ Uniform Fire Code Article 80 Section 103(b) & (c) 1991 ▪ Underground Storage Tank www.cchealth.org/groups/hazmat/	❑ See the Fact Sheets SC-31, "Outdoor Liquid Container Storage" and SC-33, "Outdoor Storage of Raw Materials " in the CASQA Stormwater Quality Handbooks at www.cabmphandbooks.com

IF THESE SOURCES WILL BE ON THE PROJECT SITE ...	... THEN YOUR WQMP SHOULD INCLUDE THESE SOURCE CONTROL BMPs, AS APPLICABLE		
1 Potential Sources of Runoff Pollutants	2 Permanent Controls—Show on WQMP Drawings	3 Permanent Controls—List in WQMP Table and Narrative	4 Operational BMPs—Include in WQMP Table and Narrative
❑ J. **Vehicle and Equipment Cleaning**	❑ **Show on drawings as appropriate:** **(1) Commercial/industrial facilities having vehicle/equipment cleaning needs shall either provide a covered, bermed area for washing activities or discourage vehicle/equipment washing by removing hose bibs and installing signs prohibiting such uses.** **(2) Multi-dwelling complexes shall have a paved, bermed, and covered car wash area (unless car washing is prohibited on-site and hoses are provided with an automatic shut-off to discourage such use).** **(3) Washing areas for cars, vehicles, and equipment shall be paved, designed to prevent run-on to or runoff from the area, and plumbed to drain to the sanitary sewer.** **(4) Commercial car wash facilities shall be designed such that no runoff from the facility is discharged to the storm drain system. Wastewater from the facility shall discharge to the sanitary sewer, or a wastewater reclamation system shall be installed.**	❑ **If a car wash area is not provided, describe any measures taken to discourage on-site car washing and explain how these will be enforced.**	**Describe operational measures to implement the following (if applicable):** ❑ **Washwater from vehicle and equipment washing operations shall not be discharged to the storm drain system.** Refer to "Outdoor Cleaning Activities and Professional Mobile Service Providers" for many of the Potential Sources of Runoff Pollutants categories below. Brochure can be found at http://rcflood.org/stormwater/ ❑**Car dealerships and similar may rinse cars with water only.**

IF THESE SOURCES WILL BE ON THE PROJECT SITE ...	... THEN YOUR WQMP SHOULD INCLUDE THESE SOURCE CONTROL BMPs, AS APPLICABLE		
1 Potential Sources of Runoff Pollutants	2 Permanent Controls—Show on WQMP Drawings	3 Permanent Controls—List in WQMP Table and Narrative	4 Operational BMPs—Include in WQMP Table and Narrative
❑ K. **Vehicle/Equipment Repair and Maintenance**	❑ **Accommodate all vehicle equipment repair and maintenance indoors. Or designate an outdoor work area and design the area to prevent run-on and runoff of stormwater.** ❑ **Show secondary containment for exterior work areas where motor oil, brake fluid, gasoline, diesel fuel, radiator fluid, acid-containing batteries or other hazardous materials or hazardous wastes are used or stored. Drains shall not be installed within the secondary containment areas.** ❑ **Add a note on the plans that states either (1) there are no floor drains, or (2) floor drains are connected to wastewater pretreatment systems prior to discharge to the sanitary sewer and an industrial waste discharge permit will be obtained.**	❑ **State that no vehicle repair or maintenance will be done outdoors, or else describe the required features of the outdoor work area.** ❑ **State that there are no floor drains or if there are floor drains, note the agency from which an industrial waste discharge permit will be obtained and that the design meets that agency's requirements.** ❑ **State that there are no tanks, containers or sinks to be used for parts cleaning or rinsing or, if there are, note the agency from which an industrial waste discharge permit will be obtained and that the design meets that agency's requirements.**	**In the Stormwater Control Plan, note that all of the following restrictions apply to use the site:** ❑ **No person shall dispose of, nor permit the disposal, directly or indirectly of vehicle fluids, hazardous materials, or rinsewater from parts cleaning into storm drains.** ❑ **No vehicle fluid removal shall be performed outside a building, nor on asphalt or ground surfaces, whether inside or outside a building, except in such a manner as to ensure that any spilled fluid will be in an area of secondary containment. Leaking vehicle fluids shall be contained or drained from the vehicle immediately.** ❑ **No person shall leave unattended drip parts or other open containers containing vehicle fluid, unless such containers are in use or in an area of secondary containment.** Refer to "Automotive Maintenance & Car Care Best Management Practices for Auto Body Shops, Auto Repair Shops, Car Dealerships, Gas Stations and Fleet Service Operations". Brochure can be found at http://rcflood.org/stormwater/ Refer to Outdoor Cleaning Activities and Professional Mobile Service Providers for many of the Potential Sources of Runoff Pollutants categories below. Brochure can be found at http://rcflood.org/stormwater/

IF THESE SOURCES WILL BE ON THE PROJECT SITE ...	... THEN YOUR WQMP SHOULD INCLUDE THESE SOURCE CONTROL BMPs, AS APPLICABLE		
1 Potential Sources of Runoff Pollutants	2 Permanent Controls—Show on WQMP Drawings	3 Permanent Controls—List in WQMP Table and Narrative	4 Operational BMPs—Include in WQMP Table and Narrative
❑ L. **Fuel Dispensing Areas**	❑ **Fueling areas[6] shall have impermeable floors (i.e., portland cement concrete or equivalent smooth impervious surface) that are: a) graded at the minimum slope necessary to prevent ponding; and b) separated from the rest of the site by a grade break that prevents run-on of stormwater to the maximum extent practicable.** ❑ **Fueling areas shall be covered by a canopy that extends a minimum of ten feet in each direction from each pump. [Alternative: The fueling area must be covered and the cover's minimum dimensions must be equal to or greater than the area within the grade break or fuel dispensing area[1].] The canopy [or cover] shall not drain onto the fueling area.**		❑ **The property owner shall dry sweep the fueling area routinely.** ❑ **See the Fact Sheet SD-30 , "Fueling Areas" in the CASQA Stormwater Quality Handbooks at www.cabmphandbooks.com**

[6] The fueling area shall be defined as the area extending a minimum of 6.5 feet from the corner of each fuel dispenser or the length at which the hose and nozzle assembly may be operated plus a minimum of one foot, whichever is greater.

IF THESE SOURCES WILL BE ON THE PROJECT SITE ...	... THEN YOUR WQMP SHOULD INCLUDE THESE SOURCE CONTROL BMPs, AS APPLICABLE		
1 Potential Sources of Runoff Pollutants	2 Permanent Controls—Show on WQMP Drawings	3 Permanent Controls—List in WQMP Table and Narrative	4 Operational BMPs—Include in WQMP Table and Narrative
❑ M. Loading Docks	❑ Show a preliminary design for the loading dock area, including roofing and drainage. Loading docks shall be covered and/or graded to minimize run-on to and runoff from the loading area. Roof downspouts shall be positioned to direct stormwater away from the loading area. Water from loading dock areas shall be drained to the sanitary sewer, or diverted and collected for ultimate discharge to the sanitary sewer. ❑ Loading dock areas draining directly to the sanitary sewer shall be equipped with a spill control valve or equivalent device, which shall be kept closed during periods of operation. ❑ Provide a roof overhang over the loading area or install door skirts (cowling) at each bay that enclose the end of the trailer.		❑ Move loaded and unloaded items indoors as soon as possible. ❑ See Fact Sheet SC-30, "Outdoor Loading and Unloading," in the CASQA Stormwater Quality Handbooks at www.cabmphandbooks.com

IF THESE SOURCES WILL BE ON THE PROJECT SITE ...	... THEN YOUR WQMP SHOULD INCLUDE THESE SOURCE CONTROL BMPs, AS APPLICABLE		
1 Potential Sources of Runoff Pollutants	2 Permanent Controls—Show on WQMP Drawings	3 Permanent Controls—List in WQMP Table and Narrative	4 Operational BMPs—Include in WQMP Table and Narrative
☒ N. Fire Sprinkler Test Water		☒ Provide a means to drain fire sprinkler test water to the sanitary sewer.	☒ See the note in Fact Sheet SC-41, "Building and Grounds Maintenance," in the CASQA Stormwater Quality Handbooks at www.cabmphandbooks.com
O. Miscellaneous Drain or Wash Water or Other Sources ☐ Boiler drain lines ☒ Condensate drain lines ☐ Rooftop equipment ☐ Drainage sumps ☒ Roofing, gutters, and trim. ☐ Other sources		☐ Boiler drain lines shall be directly or indirectly connected to the sanitary sewer system and may not discharge to the storm drain system. ☒ Condensate drain lines may discharge to landscaped areas if the flow is small enough that runoff will not occur. Condensate drain lines may not discharge to the storm drain system. ☒ Rooftop equipment with potential to produce pollutants shall be roofed and/or have secondary containment. ☐ Any drainage sumps on-site shall feature a sediment sump to reduce the quantity of sediment in pumped water. ☒ Avoid roofing, gutters, and trim made of copper or other unprotected metals that may leach into runoff. ☐ Include controls for other sources as specified by local reviewer.	

IF THESE SOURCES WILL BE ON THE PROJECT SITE ...	... THEN YOUR WQMP SHOULD INCLUDE THESE SOURCE CONTROL BMPs, AS APPLICABLE		
1 Potential Sources of Runoff Pollutants	2 Permanent Controls—Show on WQMP Drawings	3 Permanent Controls—List in WQMP Table and Narrative	4 Operational BMPs—Include in WQMP Table and Narrative
☒ P. **Plazas, sidewalks, and parking lots.**			☒ **Sweep plazas, sidewalks, and parking lots regularly to prevent accumulation of litter and debris. Collect debris from pressure washing to prevent entry into the storm drain system. Collect washwater containing any cleaning agent or degreaser and discharge to the sanitary sewer not to a storm drain.**

Appendix 9: O&M

Operation and Maintenance Plan and Documentation of Finance, Maintenance and Recording Mechanisms

"Will be provided in Final WQMP"

Appendix 10: Educational Materials

BMP Fact Sheets, Maintenance Guidelines and Other End-User BMP Information

Site Design & Landscape Planning SD-10

Design Objectives

- ☑ Maximize Infiltration
- ☑ Provide Retention
- ☑ Slow Runoff
- ☑ Minimize Impervious Land Coverage
- Prohibit Dumping of Improper Materials
- Contain Pollutants
- Collect and Convey

Description

Each project site possesses unique topographic, hydrologic, and vegetative features, some of which are more suitable for development than others. Integrating and incorporating appropriate landscape planning methodologies into the project design is the most effective action that can be done to minimize surface and groundwater contamination from stormwater.

Approach

Landscape planning should couple consideration of land suitability for urban uses with consideration of community goals and projected growth. Project plan designs should conserve natural areas to the extent possible, maximize natural water storage and infiltration opportunities, and protect slopes and channels.

Suitable Applications

Appropriate applications include residential, commercial and industrial areas planned for development or redevelopment.

Design Considerations

Design requirements for site design and landscapes planning should conform to applicable standards and specifications of agencies with jurisdiction and be consistent with applicable General Plan and Local Area Plan policies.

SD-10 Site Design & Landscape Planning

Designing New Installations

Begin the development of a plan for the landscape unit with attention to the following general principles:

- Formulate the plan on the basis of clearly articulated community goals. Carefully identify conflicts and choices between retaining and protecting desired resources and community growth.
- Map and assess land suitability for urban uses. Include the following landscape features in the assessment: wooded land, open unwooded land, steep slopes, erosion-prone soils, foundation suitability, soil suitability for waste disposal, aquifers, aquifer recharge areas, wetlands, floodplains, surface waters, agricultural lands, and various categories of urban land use. When appropriate, the assessment can highlight outstanding local or regional resources that the community determines should be protected (e.g., a scenic area, recreational area, threatened species habitat, farmland, fish run). Mapping and assessment should recognize not only these resources but also additional areas needed for their sustenance.

Project plan designs should conserve natural areas to the extent possible, maximize natural water storage and infiltration opportunities, and protect slopes and channels.

Conserve Natural Areas during Landscape Planning

If applicable, the following items are required and must be implemented in the site layout during the subdivision design and approval process, consistent with applicable General Plan and Local Area Plan policies:

- Cluster development on least-sensitive portions of a site while leaving the remaining land in a natural undisturbed condition.
- Limit clearing and grading of native vegetation at a site to the minimum amount needed to build lots, allow access, and provide fire protection.
- Maximize trees and other vegetation at each site by planting additional vegetation, clustering tree areas, and promoting the use of native and/or drought tolerant plants.
- Promote natural vegetation by using parking lot islands and other landscaped areas.
- Preserve riparian areas and wetlands.

Maximize Natural Water Storage and Infiltration Opportunities Within the Landscape Unit

- Promote the conservation of forest cover. Building on land that is already deforested affects basin hydrology to a lesser extent than converting forested land. Loss of forest cover reduces interception storage, detention in the organic forest floor layer, and water losses by evapotranspiration, resulting in large peak runoff increases and either their negative effects or the expense of countering them with structural solutions.
- Maintain natural storage reservoirs and drainage corridors, including depressions, areas of permeable soils, swales, and intermittent streams. Develop and implement policies and

regulations to discourage the clearing, filling, and channelization of these features. Utilize them in drainage networks in preference to pipes, culverts, and engineered ditches.

- Evaluating infiltration opportunities by referring to the stormwater management manual for the jurisdiction and pay particular attention to the selection criteria for avoiding groundwater contamination, poor soils, and hydrogeological conditions that cause these facilities to fail. If necessary, locate developments with large amounts of impervious surfaces or a potential to produce relatively contaminated runoff away from groundwater recharge areas.

Protection of Slopes and Channels during Landscape Design

- Convey runoff safely from the tops of slopes.
- Avoid disturbing steep or unstable slopes.
- Avoid disturbing natural channels.
- Stabilize disturbed slopes as quickly as possible.
- Vegetate slopes with native or drought tolerant vegetation.
- Control and treat flows in landscaping and/or other controls prior to reaching existing natural drainage systems.
- Stabilize temporary and permanent channel crossings as quickly as possible, and ensure that increases in run-off velocity and frequency caused by the project do not erode the channel.
- Install energy dissipaters, such as riprap, at the outlets of new storm drains, culverts, conduits, or channels that enter unlined channels in accordance with applicable specifications to minimize erosion. Energy dissipaters shall be installed in such a way as to minimize impacts to receiving waters.
- Line on-site conveyance channels where appropriate, to reduce erosion caused by increased flow velocity due to increases in tributary impervious area. The first choice for linings should be grass or some other vegetative surface, since these materials not only reduce runoff velocities, but also provide water quality benefits from filtration and infiltration. If velocities in the channel are high enough to erode grass or other vegetative linings, riprap, concrete, soil cement, or geo-grid stabilization are other alternatives.
- Consider other design principles that are comparable and equally effective.

Redeveloping Existing Installations

Various jurisdictional stormwater management and mitigation plans (SUSMP, WQMP, etc.) define “redevelopment” in terms of amounts of additional impervious area, increases in gross floor area and/or exterior construction, and land disturbing activities with structural or impervious surfaces. The definition of “ redevelopment” must be consulted to determine whether or not the requirements for new development apply to areas intended for redevelopment. If the definition applies, the steps outlined under “designing new installations” above should be followed.

SD-10 Site Design & Landscape Planning

Redevelopment may present significant opportunity to add features which had not previously been implemented. Examples include incorporation of depressions, areas of permeable soils, and swales in newly redeveloped areas. While some site constraints may exist due to the status of already existing infrastructure, opportunities should not be missed to maximize infiltration, slow runoff, reduce impervious areas, disconnect directly connected impervious areas.

Other Resources

A Manual for the Standard Urban Stormwater Mitigation Plan (SUSMP), Los Angeles County Department of Public Works, May 2002.

Stormwater Management Manual for Western Washington, Washington State Department of Ecology, August 2001.

Model Standard Urban Storm Water Mitigation Plan (SUSMP) for San Diego County, Port of San Diego, and Cities in San Diego County, February 14, 2002.

Model Water Quality Management Plan (WQMP) for County of Orange, Orange County Flood Control District, and the Incorporated Cities of Orange County, Draft February 2003.

Ventura Countywide Technical Guidance Manual for Stormwater Quality Control Measures, July 2002.

Roof Runoff Controls SD-11

Rain Garden

Design Objectives

- ☑ Maximize Infiltration
- ☑ Provide Retention
- ☑ Slow Runoff
- Minimize Impervious Land Coverage
- Prohibit Dumping of Improper Materials
- ☑ Contain Pollutants
- Collect and Convey

Description

Various roof runoff controls are available to address stormwater that drains off rooftops. The objective is to reduce the total volume and rate of runoff from individual lots, and retain the pollutants on site that may be picked up from roofing materials and atmospheric deposition. Roof runoff controls consist of directing the roof runoff away from paved areas and mitigating flow to the storm drain system through one of several general approaches: cisterns or rain barrels; dry wells or infiltration trenches; pop-up emitters, and foundation planting. The first three approaches require the roof runoff to be contained in a gutter and downspout system. Foundation planting provides a vegetated strip under the drip line of the roof.

Approach

Design of individual lots for single-family homes as well as lots for higher density residential and commercial structures should consider site design provisions for containing and infiltrating roof runoff or directing roof runoff to vegetative swales or buffer areas. Retained water can be reused for watering gardens, lawns, and trees. Benefits to the environment include reduced demand for potable water used for irrigation, improved stormwater quality, increased groundwater recharge, decreased runoff volume and peak flows, and decreased flooding potential.

Suitable Applications

Appropriate applications include residential, commercial and industrial areas planned for development or redevelopment.

Design Considerations

Designing New Installations

Cisterns or Rain Barrels

One method of addressing roof runoff is to direct roof downspouts to cisterns or rain barrels. A cistern is an above ground storage vessel with either a manually operated valve or a permanently open outlet. Roof runoff is temporarily stored and then released for irrigation or infiltration between storms. The number of rain

barrels needed is a function of the rooftop area. Some low impact developers recommend that every house have at least 2 rain barrels, with a minimum storage capacity of 1000 liters. Roof barrels serve several purposes including mitigating the first flush from the roof which has a high volume, amount of contaminants, and thermal load. Several types of rain barrels are commercially available. Consideration must be given to selecting rain barrels that are vector proof and childproof. In addition, some barrels are designed with a bypass valve that filters out grit and other contaminants and routes overflow to a soak-away pit or rain garden.

If the cistern has an operable valve, the valve can be closed to store stormwater for irrigation or infiltration between storms. This system requires continual monitoring by the resident or grounds crews, but provides greater flexibility in water storage and metering. If a cistern is provided with an operable valve and water is stored inside for long periods, the cistern must be covered to prevent mosquitoes from breeding.

A cistern system with a permanently open outlet can also provide for metering stormwater runoff. If the cistern outlet is significantly smaller than the size of the downspout inlet (say ¼ to ½ inch diameter), runoff will build up inside the cistern during storms, and will empty out slowly after peak intensities subside. This is a feasible way to mitigate the peak flow increases caused by rooftop impervious land coverage, especially for the frequent, small storms.

Dry wells and Infiltration Trenches

Roof downspouts can be directed to dry wells or infiltration trenches. A dry well is constructed by excavating a hole in the ground and filling it with an open graded aggregate, and allowing the water to fill the dry well and infiltrate after the storm event. An underground connection from the downspout conveys water into the dry well, allowing it to be stored in the voids. To minimize sedimentation from lateral soil movement, the sides and top of the stone storage matrix can be wrapped in a permeable filter fabric, though the bottom may remain open. A perforated observation pipe can be inserted vertically into the dry well to allow for inspection and maintenance.

In practice, dry wells receiving runoff from single roof downspouts have been successful over long periods because they contain very little sediment. They must be sized according to the amount of rooftop runoff received, but are typically 4 to 5 feet square, and 2 to 3 feet deep, with a minimum of 1-foot soil cover over the top (maximum depth of 10 feet).

To protect the foundation, dry wells must be set away from the building at least 10 feet. They must be installed in solids that accommodate infiltration. In poorly drained soils, dry wells have very limited feasibility.

Infiltration trenches function in a similar manner and would be particularly effective for larger roof areas. An infiltration trench is a long, narrow, rock-filled trench with no outlet that receives stormwater runoff. These are described under Treatment Controls.

Pop-up Drainage Emitter

Roof downspouts can be directed to an underground pipe that daylights some distance from the building foundation, releasing the roof runoff through a pop-up emitter. Similar to a pop-up irrigation head, the emitter only opens when there is flow from the roof. The emitter remains flush to the ground during dry periods, for ease of lawn or landscape maintenance.

Roof Runoff Controls SD-11

Foundation Planting

Landscape planting can be provided around the base to allow increased opportunities for stormwater infiltration and protect the soil from erosion caused by concentrated sheet flow coming off the roof. Foundation plantings can reduce the physical impact of water on the soil and provide a subsurface matrix of roots that encourage infiltration. These plantings must be sturdy enough to tolerate the heavy runoff sheet flows, and periodic soil saturation.

Redeveloping Existing Installations

Various jurisdictional stormwater management and mitigation plans (SUSMP, WQMP, etc.) define "redevelopment" in terms of amounts of additional impervious area, increases in gross floor area and/or exterior construction, and land disturbing activities with structural or impervious surfaces. The definition of " redevelopment" must be consulted to determine whether or not the requirements for new development apply to areas intended for redevelopment. If the definition applies, the steps outlined under "designing new installations" above should be followed.

Supplemental Information

Examples

- City of Ottawa's Water Links Surface –Water Quality Protection Program
- City of Toronto Downspout Disconnection Program
- City of Boston, MA, Rain Barrel Demonstration Program

Other Resources

Hager, Marty Catherine, Stormwater, "Low-Impact Development", January/February 2003. www.stormh2o.com

Low Impact Urban Design Tools, Low Impact Development Design Center, Beltsville, MD. www.lid-stormwater.net

Start at the Source, Bay Area Stormwater Management Agencies Association, 1999 Edition

Efficient Irrigation SD-12

Design Objectives

- ☑ Maximize Infiltration
- ☑ Provide Retention
- ☑ Slow Runoff
- Minimize Impervious Land Coverage
- Prohibit Dumping of Improper Materials
- Contain Pollutants
- Collect and Convey

Description

Irrigation water provided to landscaped areas may result in excess irrigation water being conveyed into stormwater drainage systems.

Approach

Project plan designs for development and redevelopment should include application methods of irrigation water that minimize runoff of excess irrigation water into the stormwater conveyance system.

Suitable Applications

Appropriate applications include residential, commercial and industrial areas planned for development or redevelopment. (Detached residential single-family homes are typically excluded from this requirement.)

Design Considerations

Designing New Installations

The following methods to reduce excessive irrigation runoff should be considered, and incorporated and implemented where determined applicable and feasible by the Permittee:

- Employ rain-triggered shutoff devices to prevent irrigation after precipitation.
- Design irrigation systems to each landscape area's specific water requirements.
- Include design featuring flow reducers or shutoff valves triggered by a pressure drop to control water loss in the event of broken sprinkler heads or lines.
- Implement landscape plans consistent with County or City water conservation resolutions, which may include provision of water sensors, programmable irrigation times (for short cycles), etc.

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SD-12 Efficient Irrigation

- Design timing and application methods of irrigation water to minimize the runoff of excess irrigation water into the storm water drainage system.
- Group plants with similar water requirements in order to reduce excess irrigation runoff and promote surface filtration. Choose plants with low irrigation requirements (for example, native or drought tolerant species). Consider design features such as:
  - Using mulches (such as wood chips or bar) in planter areas without ground cover to minimize sediment in runoff
  - Installing appropriate plant materials for the location, in accordance with amount of sunlight and climate, and use native plant materials where possible and/or as recommended by the landscape architect
  - Leaving a vegetative barrier along the property boundary and interior watercourses, to act as a pollutant filter, where appropriate and feasible
  - Choosing plants that minimize or eliminate the use of fertilizer or pesticides to sustain growth
- Employ other comparable, equally effective methods to reduce irrigation water runoff.

Redeveloping Existing Installations

Various jurisdictional stormwater management and mitigation plans (SUSMP, WQMP, etc.) define "redevelopment" in terms of amounts of additional impervious area, increases in gross floor area and/or exterior construction, and land disturbing activities with structural or impervious surfaces. The definition of " redevelopment" must be consulted to determine whether or not the requirements for new development apply to areas intended for redevelopment. If the definition applies, the steps outlined under "designing new installations" above should be followed.

Other Resources

A Manual for the Standard Urban Stormwater Mitigation Plan (SUSMP), Los Angeles County Department of Public Works, May 2002.

Model Standard Urban Storm Water Mitigation Plan (SUSMP) for San Diego County, Port of San Diego, and Cities in San Diego County, February 14, 2002.

Model Water Quality Management Plan (WQMP) for County of Orange, Orange County Flood Control District, and the Incorporated Cities of Orange County, Draft February 2003.

Ventura Countywide Technical Guidance Manual for Stormwater Quality Control Measures, July 2002.

Storm Drain Signage SD-13

Design Objectives

- Maximize Infiltration
- Provide Retention
- Slow Runoff
- Minimize Impervious Land Coverage
- ☑ Prohibit Dumping of Improper Materials
- Contain Pollutants
- Collect and Convey

Description

Waste materials dumped into storm drain inlets can have severe impacts on receiving and ground waters. Posting notices regarding discharge prohibitions at storm drain inlets can prevent waste dumping. Storm drain signs and stencils are highly visible source controls that are typically placed directly adjacent to storm drain inlets.

Approach

The stencil or affixed sign contains a brief statement that prohibits dumping of improper materials into the urban runoff conveyance system. Storm drain messages have become a popular method of alerting the public about the effects of and the prohibitions against waste disposal.

Suitable Applications

Stencils and signs alert the public to the destination of pollutants discharged to the storm drain. Signs are appropriate in residential, commercial, and industrial areas, as well as any other area where contributions or dumping to storm drains is likely.

Design Considerations

Storm drain message markers or placards are recommended at all storm drain inlets within the boundary of a development project. The marker should be placed in clear sight facing toward anyone approaching the inlet from either side. All storm drain inlet locations should be identified on the development site map.

Designing New Installations

The following methods should be considered for inclusion in the project design and show on project plans:

- Provide stenciling or labeling of all storm drain inlets and catch basins, constructed or modified, within the project area with prohibitive language. Examples include “NO DUMPING

SD-13 Storm Drain Signage

– DRAINS TO OCEAN" and/or other graphical icons to discourage illegal dumping.

- Post signs with prohibitive language and/or graphical icons, which prohibit illegal dumping at public access points along channels and creeks within the project area.

Note - Some local agencies have approved specific signage and/or storm drain message placards for use. Consult local agency stormwater staff to determine specific requirements for placard types and methods of application.

Redeveloping Existing Installations

Various jurisdictional stormwater management and mitigation plans (SUSMP, WQMP, etc.) define "redevelopment" in terms of amounts of additional impervious area, increases in gross floor area and/or exterior construction, and land disturbing activities with structural or impervious surfaces. If the project meets the definition of "redevelopment", then the requirements stated under " designing new installations" above should be included in all project design plans.

Additional Information

Maintenance Considerations

- Legibility of markers and signs should be maintained. If required by the agency with jurisdiction over the project, the owner/operator or homeowner's association should enter into a maintenance agreement with the agency or record a deed restriction upon the property title to maintain the legibility of placards or signs.

Placement

- Signage on top of curbs tends to weather and fade.

- Signage on face of curbs tends to be worn by contact with vehicle tires and sweeper brooms.

Supplemental Information

Examples

- Most MS4 programs have storm drain signage programs. Some MS4 programs will provide stencils, or arrange for volunteers to stencil storm drains as part of their outreach program.

Other Resources

A Manual for the Standard Urban Stormwater Mitigation Plan (SUSMP), Los Angeles County Department of Public Works, May 2002.

Model Standard Urban Storm Water Mitigation Plan (SUSMP) for San Diego County, Port of San Diego, and Cities in San Diego County, February 14, 2002.

Model Water Quality Management Plan (WQMP) for County of Orange, Orange County Flood Control District, and the Incorporated Cities of Orange County, Draft February 2003.

Ventura Countywide Technical Guidance Manual for Stormwater Quality Control Measures, July 2002.

Bioretention TC-32

Design Considerations

- Soil for Infiltration
- Tributary Area
- Slope
- Aesthetics
- Environmental Side-effects

Description

The bioretention best management practice (BMP) functions as a soil and plant-based filtration device that removes pollutants through a variety of physical, biological, and chemical treatment processes. These facilities normally consist of a grass buffer strip, sand bed, ponding area, organic layer or mulch layer, planting soil, and plants. The runoff's velocity is reduced by passing over or through buffer strip and subsequently distributed evenly along a ponding area. Exfiltration of the stored water in the bioretention area planting soil into the underlying soils occurs over a period of days.

Targeted Constituents

☑	Sediment	■
☑	Nutrients	▲
☑	Trash	■
☑	Metals	■
☑	Bacteria	■
☑	Oil and Grease	■
☑	Organics	■

Legend *(Removal Effectiveness)*

- ● Low
- ▲ Medium
- ■ High

California Experience

None documented. Bioretention has been used as a stormwater BMP since 1992. In addition to Prince George's County, MD and Alexandria, VA, bioretention has been used successfully at urban and suburban areas in Montgomery County, MD; Baltimore County, MD; Chesterfield County, VA; Prince William County, VA; Smith Mountain Lake State Park, VA; and Cary, NC.

Advantages

- Bioretention provides stormwater treatment that enhances the quality of downstream water bodies by temporarily storing runoff in the BMP and releasing it over a period of four days to the receiving water (EPA, 1999).
- The vegetation provides shade and wind breaks, absorbs noise, and improves an area's landscape.

Limitations

- The bioretention BMP is not recommended for areas with slopes greater than 20% or where mature tree removal would

be required since clogging may result, particularly if the BMP receives runoff with high sediment loads (EPA, 1999).

- Bioretention is not a suitable BMP at locations where the water table is within 6 feet of the ground surface and where the surrounding soil stratum is unstable.
- By design, bioretention BMPs have the potential to create very attractive habitats for mosquitoes and other vectors because of highly organic, often heavily vegetated areas mixed with shallow water.
- In cold climates the soil may freeze, preventing runoff from infiltrating into the planting soil.

Design and Sizing Guidelines

- The bioretention area should be sized to capture the design storm runoff.
- In areas where the native soil permeability is less than 0.5 in/hr an underdrain should be provided.
- Recommended minimum dimensions are 15 feet by 40 feet, although the preferred width is 25 feet. Excavated depth should be 4 feet.
- Area should drain completely within 72 hours.
- Approximately 1 tree or shrub per 50 ft^2 of bioretention area should be included.
- Cover area with about 3 inches of mulch.

Construction/Inspection Considerations

Bioretention area should not be established until contributing watershed is stabilized.

Performance

Bioretention removes stormwater pollutants through physical and biological processes, including adsorption, filtration, plant uptake, microbial activity, decomposition, sedimentation and volatilization (EPA, 1999). Adsorption is the process whereby particulate pollutants attach to soil (e.g., clay) or vegetation surfaces. Adequate contact time between the surface and pollutant must be provided for in the design of the system for this removal process to occur. Thus, the infiltration rate of the soils must not exceed those specified in the design criteria or pollutant removal may decrease. Pollutants removed by adsorption include metals, phosphorus, and hydrocarbons. Filtration occurs as runoff passes through the bioretention area media, such as the sand bed, ground cover, and planting soil.

Common particulates removed from stormwater include particulate organic matter, phosphorus, and suspended solids. Biological processes that occur in wetlands result in pollutant uptake by plants and microorganisms in the soil. Plant growth is sustained by the uptake of nutrients from the soils, with woody plants locking up these nutrients through the seasons. Microbial activity within the soil also contributes to the removal of nitrogen and organic matter. Nitrogen is removed by nitrifying and denitrifying bacteria, while aerobic bacteria are responsible for the decomposition of the organic matter. Microbial processes require oxygen and can result in depleted oxygen levels if the bioretention area is not adequately

aerated. Sedimentation occurs in the swale or ponding area as the velocity slows and solids fall out of suspension.

The removal effectiveness of bioretention has been studied during field and laboratory studies conducted by the University of Maryland (Davis et al, 1998). During these experiments, synthetic stormwater runoff was pumped through several laboratory and field bioretention areas to simulate typical storm events in Prince George's County, MD. Removal rates for heavy metals and nutrients are shown in Table 1.

Table 1 Laboratory and Estimated Bioretention Davis et al. (1998); PGDER (1993)

Pollutant	Removal Rate
Total Phosphorus	70-83%
Metals (Cu, Zn, Pb)	93-98%
TKN	68-80%
Total Suspended Solids	90%
Organics	90%
Bacteria	90%

Results for both the laboratory and field experiments were similar for each of the pollutants analyzed. Doubling or halving the influent pollutant levels had little effect on the effluent pollutants concentrations (Davis et al, 1998).

The microbial activity and plant uptake occurring in the bioretention area will likely result in higher removal rates than those determined for infiltration BMPs.

Siting Criteria

Bioretention BMPs are generally used to treat stormwater from impervious surfaces at commercial, residential, and industrial areas (EPA, 1999). Implementation of bioretention for stormwater management is ideal for median strips, parking lot islands, and swales. Moreover, the runoff in these areas can be designed to either divert directly into the bioretention area or convey into the bioretention area by a curb and gutter collection system.

The best location for bioretention areas is upland from inlets that receive sheet flow from graded areas and at areas that will be excavated (EPA, 1999). In order to maximize treatment effectiveness, the site must be graded in such a way that minimizes erosive conditions as sheet flow is conveyed to the treatment area. Locations where a bioretention area can be readily incorporated into the site plan without further environmental damage are preferred. Furthermore, to effectively minimize sediment loading in the treatment area, bioretention only should be used in stabilized drainage areas.

Additional Design Guidelines

The layout of the bioretention area is determined after site constraints such as location of utilities, underlying soils, existing vegetation, and drainage are considered (EPA, 1999). Sites with loamy sand soils are especially appropriate for bioretention because the excavated soil can be backfilled and used as the planting soil, thus eliminating the cost of importing planting soil.

The use of bioretention may not be feasible given an unstable surrounding soil stratum, soils with clay content greater than 25 percent, a site with slopes greater than 20 percent, and/or a site with mature trees that would be removed during construction of the BMP.

Bioretention can be designed to be off-line or on-line of the existing drainage system (EPA, 1999). The drainage area for a bioretention area should be between 0.1 and 0.4 hectares (0.25 and 1.0 acres). Larger drainage areas may require multiple bioretention areas. Furthermore, the maximum drainage area for a bioretention area is determined by the expected rainfall intensity and runoff rate. Stabilized areas may erode when velocities are greater than 5 feet per second (1.5 meter per second). The designer should determine the potential for erosive conditions at the site.

The size of the bioretention area, which is a function of the drainage area and the runoff generated from the area is sized to capture the water quality volume.

The recommended minimum dimensions of the bioretention area are 15 feet (4.6 meters) wide by 40 feet (12.2 meters) long, where the minimum width allows enough space for a dense, randomly-distributed area of trees and shrubs to become established. Thus replicating a natural forest and creating a microclimate, thereby enabling the bioretention area to tolerate the effects of heat stress, acid rain, runoff pollutants, and insect and disease infestations which landscaped areas in urban settings typically are unable to tolerate. The preferred width is 25 feet (7.6 meters), with a length of twice the width. Essentially, any facilities wider than 20 feet (6.1 meters) should be twice as long as they are wide, which promotes the distribution of flow and decreases the chances of concentrated flow.

In order to provide adequate storage and prevent water from standing for excessive periods of time the ponding depth of the bioretention area should not exceed 6 inches (15 centimeters). Water should not be left to stand for more than 72 hours. A restriction on the type of plants that can be used may be necessary due to some plants' water intolerance. Furthermore, if water is left standing for longer than 72 hours mosquitoes and other insects may start to breed.

The appropriate planting soil should be backfilled into the excavated bioretention area. Planting soils should be sandy loam, loamy sand, or loam texture with a clay content ranging from 10 to 25 percent.

Generally the soil should have infiltration rates greater than 0.5 inches (1.25 centimeters) per hour, which is typical of sandy loams, loamy sands, or loams. The pH of the soil should range between 5.5 and 6.5, where pollutants such as organic nitrogen and phosphorus can be adsorbed by the soil and microbial activity can flourish. Additional requirements for the planting soil include a 1.5 to 3 percent organic content and a maximum 500 ppm concentration of soluble salts.

Soil tests should be performed for every 500 cubic yards (382 cubic meters) of planting soil, with the exception of pH and organic content tests, which are required only once per bioretention area (EPA, 1999). Planting soil should be 4 inches (10.1 centimeters) deeper than the bottom of the largest root ball and 4 feet (1.2 meters) altogether. This depth will provide adequate soil for the plants' root systems to become established, prevent plant damage due to severe wind, and provide adequate moisture capacity. Most sites will require excavation in order to obtain the recommended depth.

Planting soil depths of greater than 4 feet (1.2 meters) may require additional construction practices such as shoring measures (EPA, 1999). Planting soil should be placed in 18 inches or greater lifts and lightly compacted until the desired depth is reached. Since high canopy trees may be destroyed during maintenance the bioretention area should be vegetated to resemble a terrestrial forest community ecosystem that is dominated by understory trees. Three species each of both trees and shrubs are recommended to be planted at a rate of 2500 trees and shrubs per hectare (1000 per acre). For instance, a 15 foot (4.6 meter) by 40 foot (12.2 meter) bioretention area (600 square feet or 55.75 square meters) would require 14 trees and shrubs. The shrub-to-tree ratio should be 2:1 to 3:1.

Trees and shrubs should be planted when conditions are favorable. Vegetation should be watered at the end of each day for fourteen days following its planting. Plant species tolerant of pollutant loads and varying wet and dry conditions should be used in the bioretention area.

The designer should assess aesthetics, site layout, and maintenance requirements when selecting plant species. Adjacent non-native invasive species should be identified and the designer should take measures, such as providing a soil breach to eliminate the threat of these species invading the bioretention area. Regional landscaping manuals should be consulted to ensure that the planting of the bioretention area meets the landscaping requirements established by the local authorities. The designers should evaluate the best placement of vegetation within the bioretention area. Plants should be placed at irregular intervals to replicate a natural forest. Trees should be placed on the perimeter of the area to provide shade and shelter from the wind. Trees and shrubs can be sheltered from damaging flows if they are placed away from the path of the incoming runoff. In cold climates, species that are more tolerant to cold winds, such as evergreens, should be placed in windier areas of the site.

Following placement of the trees and shrubs, the ground cover and/or mulch should be established. Ground cover such as grasses or legumes can be planted at the beginning of the growing season. Mulch should be placed immediately after trees and shrubs are planted. Two to 3 inches (5 to 7.6 cm) of commercially-available fine shredded hardwood mulch or shredded hardwood chips should be applied to the bioretention area to protect from erosion.

Maintenance

The primary maintenance requirement for bioretention areas is that of inspection and repair or replacement of the treatment area's components. Generally, this involves nothing more than the routine periodic maintenance that is required of any landscaped area. Plants that are appropriate for the site, climatic, and watering conditions should be selected for use in the bioretention cell. Appropriately selected plants will aide in reducing fertilizer, pesticide, water, and overall maintenance requirements. Bioretention system components should blend over time through plant and root growth, organic decomposition, and the development of a natural

soil horizon. These biologic and physical processes over time will lengthen the facility's life span and reduce the need for extensive maintenance.

Routine maintenance should include a biannual health evaluation of the trees and shrubs and subsequent removal of any dead or diseased vegetation (EPA, 1999). Diseased vegetation should be treated as needed using preventative and low-toxic measures to the extent possible. BMPs have the potential to create very attractive habitats for mosquitoes and other vectors because of highly organic, often heavily vegetated areas mixed with shallow water. Routine inspections for areas of standing water within the BMP and corrective measures to restore proper infiltration rates are necessary to prevent creating mosquito and other vector habitat. In addition, bioretention BMPs are susceptible to invasion by aggressive plant species such as cattails, which increase the chances of water standing and subsequent vector production if not routinely maintained.

In order to maintain the treatment area's appearance it may be necessary to prune and weed. Furthermore, mulch replacement is suggested when erosion is evident or when the site begins to look unattractive. Specifically, the entire area may require mulch replacement every two to three years, although spot mulching may be sufficient when there are random void areas. Mulch replacement should be done prior to the start of the wet season.

New Jersey's Department of Environmental Protection states in their bioretention systems standards that accumulated sediment and debris removal (especially at the inflow point) will normally be the primary maintenance function. Other potential tasks include replacement of dead vegetation, soil pH regulation, erosion repair at inflow points, mulch replenishment, unclogging the underdrain, and repairing overflow structures. There is also the possibility that the cation exchange capacity of the soils in the cell will be significantly reduced over time. Depending on pollutant loads, soils may need to be replaced within 5-10 years of construction (LID, 2000).

Cost

Construction Cost

Construction cost estimates for a bioretention area are slightly greater than those for the required landscaping for a new development (EPA, 1999). A general rule of thumb (Coffman, 1999) is that residential bioretention areas average about $3 to $4 per square foot, depending on soil conditions and the density and types of plants used. Commercial, industrial and institutional site costs can range between $10 to $40 per square foot, based on the need for control structures, curbing, storm drains and underdrains.

Retrofitting a site typically costs more, averaging $6,500 per bioretention area. The higher costs are attributed to the demolition of existing concrete, asphalt, and existing structures and the replacement of fill material with planting soil. The costs of retrofitting a commercial site in Maryland, Kettering Development, with 15 bioretention areas were estimated at $111,600.

In any bioretention area design, the cost of plants varies substantially and can account for a significant portion of the expenditures. While these cost estimates are slightly greater than those of typical landscaping treatment (due to the increased number of plantings, additional soil excavation, backfill material, use of underdrains etc.), those landscaping expenses that would be required regardless of the bioretention installation should be subtracted when determining the net cost.

Perhaps of most importance, however, the cost savings compared to the use of traditional structural stormwater conveyance systems makes bioretention areas quite attractive financially. For example, the use of bioretention can decrease the cost required for constructing stormwater conveyance systems at a site. A medical office building in Maryland was able to reduce the amount of storm drain pipe that was needed from 800 to 230 feet - a cost savings of $24,000 (PGDER, 1993). And a new residential development spent a total of approximately $100,000 using bioretention cells on each lot instead of nearly $400,000 for the traditional stormwater ponds that were originally planned (Rappahanock,). Also, in residential areas, stormwater management controls become a part of each property owner's landscape, reducing the public burden to maintain large centralized facilities.

Maintenance Cost

The operation and maintenance costs for a bioretention facility will be comparable to those of typical landscaping required for a site. Costs beyond the normal landscaping fees will include the cost for testing the soils and may include costs for a sand bed and planting soil.

References and Sources of Additional Information

Coffman, L.S., R. Goo and R. Frederick, 1999: Low impact development: an innovative alternative approach to stormwater management. Proceedings of the 26th Annual Water Resources Planning and Management Conference ASCE, June 6-9, Tempe, Arizona.

Davis, A.P., Shokouhian, M., Sharma, H. and Minami, C., "Laboratory Study of Biological Retention (Bioretention) for Urban Stormwater Management," *Water Environ. Res.*, 73(1), 5-14 (2001).

Davis, A.P., Shokouhian, M., Sharma, H., Minami, C., and Winogradoff, D. "Water Quality Improvement through Bioretention: Lead, Copper, and Zinc," *Water Environ. Res.*, accepted for publication, August 2002.

Kim, H., Seagren, E.A., and Davis, A.P., "Engineered Bioretention for Removal of Nitrate from Stormwater Runoff," *WEFTEC 2000 Conference Proceedings on CDROM Research Symposium, Nitrogen Removal*, Session 19, Anaheim CA, October 2000.

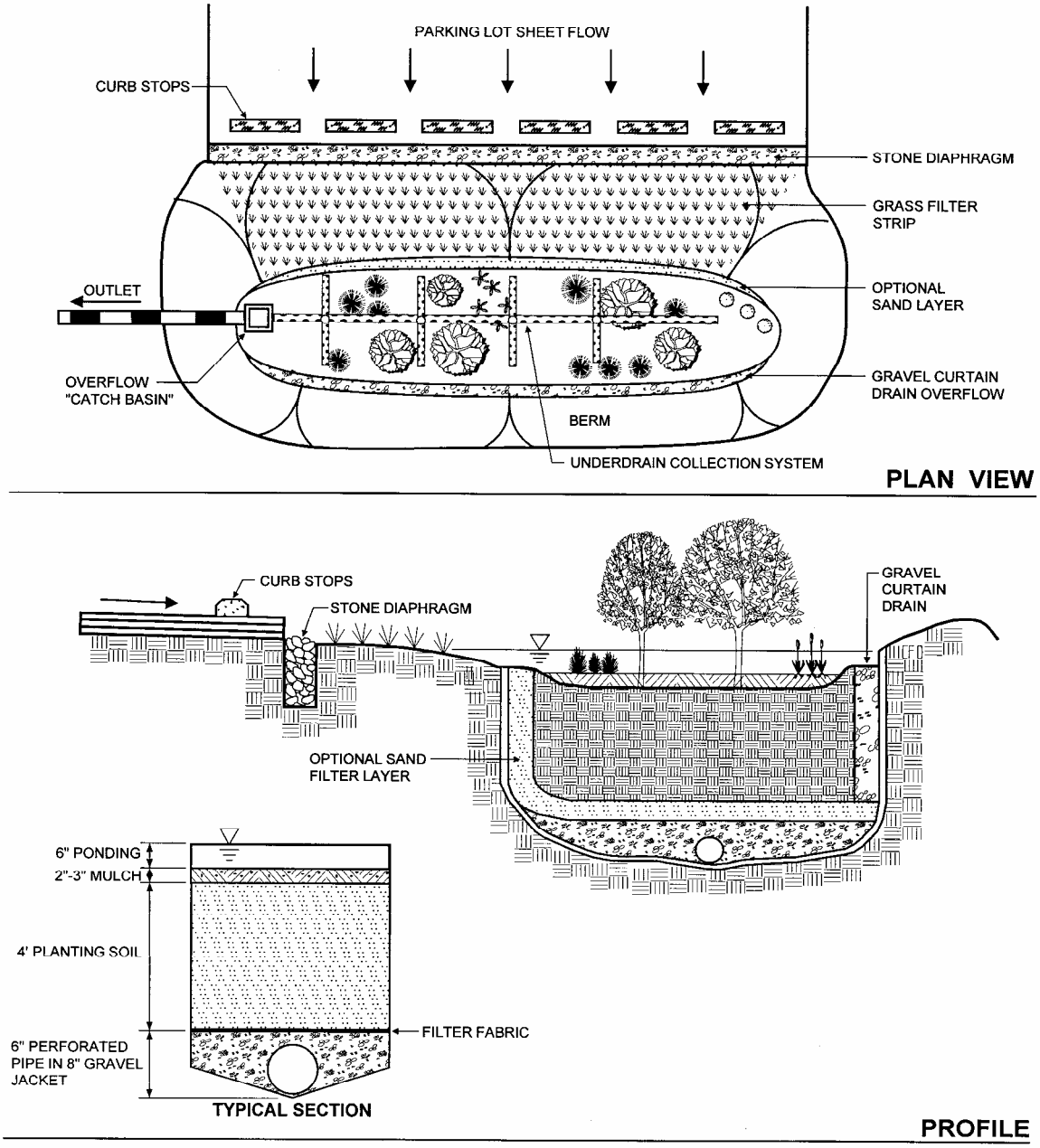
Hsieh, C.-h. and Davis, A.P. "Engineering Bioretention for Treatment of Urban Stormwater Runoff," *Watersheds 2002, Proceedings on CDROM Research Symposium*, Session 15, Ft. Lauderdale, FL, Feb. 2002.

Prince George's County Department of Environmental Resources (PGDER), 1993. Design Manual for Use of *Bioretention in Stormwater Management*. Division of Environmental Management, Watershed Protection Branch. Landover, MD.

U.S. EPA Office of Water, 1999. Stormwater Technology Fact Sheet: Bioretention. EPA 832-F-99-012.

Weinstein, N. Davis, A.P. and Veeramachaneni, R. "Low Impact Development (LID) Stormwater Management Approach for the Control of Diffuse Pollution from Urban Roadways," *5th International Conference Diffuse/Nonpoint Pollution and Watershed Management Proceedings*, C.S. Melching and Emre Alp, Eds. 2001 International Water Association

TC-32 Bioretention



Schematic of a Bioretention Facility (MDE, 2000)

ORDINANCE NO. 2021-XX

AN ORDINANCE OF THE CITY COUNCIL OF THE CITY OF MORENO VALLEY, CALIFORNIA, APPROVING CHANGE OF ZONE PEN20-0067 TO AMEND THE CITY ZONING ATLAS FROM RESIDENTIAL 5 (R5) DISTRICT TO RESIDENTIAL SINGLE-FAMILY 10 (RS10) DISTRICT FOR THE PROPERTY LOCATED ON THE SOUTH SIDE OF IRIS AVENUE EAST OF PERRIS BOULEVARD (APN 312-020-025)

The City Council of the City of Moreno Valley does ordain as follows:

SECTION 1 GENERAL:

1.1 Passco Pacifica LLC., ("Developer") has filed an application for the approval of Change of Zone PEN20-0067 ("Application") requesting a Change of Zone changing the City's Zoning Atlas from Residential 5 (R5) District to Residential Single-Family 10 (RS10) District for the property located on the south side of Iris Avenue east of Perris Boulevard (APN 312-020-025) ("Site)"; and

1.2 At its December 10, 2020 meeting, the Planning Commission considered the Change of Zone for the Iris Park residential project and recommended approval to the City Council; and

1.3 Pursuant to the provisions of the law, a public hearing was held before the City Council on February 2, 2021, for deliberations and decision.

1.4 The matter was fully discussed, and the public and other agencies were given opportunity to present testimony and documentation.

1.5 An Initial Study has been prepared for the Project for the purpose of compliance with the California Environmental Quality Act (CEQA). Based on the Initial Study including all supporting technical evidence, determined that the project impacts are expected to be less than significant with mitigation, and approval of a Mitigated Negative Declaration is an appropriate environmental determination for the Project.

SECTION 2 FINDINGS:

That based on the content of the foregoing Recitals and the Evidence contained in the Administrative Record as set forth above, the City Council makes the following findings:

(a) The proposed amendment is consistent with the existing goals, objectives, policies and programs of the general plan.
(b) The proposed amendment will not adversely affect the public health, safety or general welfare.

(c) The proposed amendment is consistent with the purposes and intent of this title.

SECTION 3 AMENDMENT OF THE OFFICIAL ZONING ATLAS:

3.1 The City of Moreno Valley Official Zoning Atlas, as adopted by Ordinance No. 359, on April 14, 1992, of the City of Moreno Valley, and as amended thereafter from time to time by the City Council of the City of Moreno Valley, is further amended by placing in effect the zone or zone classification to Page 141 and 155 of the Official Zoning Atlas as shown on the attached map marked "Exhibit A" and included herein by reference and on file in the office of the City Clerk.

SECTION 4 EFFECT OF ENACTMENT:

4.1 Except as specifically provided herein, nothing contained in this ordinance shall be deemed to modify or supersede any prior enactment of the City Council which addresses the same subject addressed herein.

SECTION 5. NOTICE OF ADOPTION:

5.1 Within fifteen days after the date of adoption hereof, the City Clerk shall certify to the adoption of this ordinance and cause it to be posted in three public places within the city.

SECTION 6. EFFECTIVE DATE:

6.1 This ordinance shall take effect thirty days after the date of its adoption.

APPROVED AND ADOPTED this _____ day of _____, _____.

CITY OF MORENO VALLEY
CITY COUNCIL

_____
Mayor of the City of Moreno Valley

ATTEST:

_____
City Clerk

APPROVED AS TO FORM:

_____
Steven B. Quintanilla, Interim City Attorney

ORDINANCE JURAT

STATE OF CALIFORNIA)

COUNTY OF RIVERSIDE) ss.

CITY OF MORENO VALLEY)

I, Pat Jacquez-Nares, City Clerk of the City of Moreno Valley, California, do hereby certify that Ordinance No. YYYY-___ was duly and regularly adopted by the City Council of the City of Moreno Valley at a regular meeting thereof held on the _____ day of February, 2021, by the following vote:

AYES:

NOES:

ABSENT:

ABSTAIN:

(Council Members, Mayor Pro Tem and Mayor)

_____

CITY CLERK

(SEAL)

EXHIBIT A
Atlas Page

PEN20-0067 – Change of Zone

Residential 5 (R5) to Residential Single-Family 10 (RS10)

RESOLUTION NUMBER 2021-XX

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF MORENO VALLEY, CALIFORNIA, APPROVING CONDITIONAL USE PERMIT PEN20-0065 FOR THE IRIS PARK COMMUNITY, A PLANNED UNIT DEVELOPMENT ASSOCIATED WITH TENTATIVE TRACT MAP 37909, PEN20-0063 LOCATED ON THE SOUTH SIDE OF IRIS AVENUE EAST OF PERRIS BOULEVARD (APN 312-020-025)

WHEREAS, the City of Moreno Valley ("City") is a general law city and a municipal corporation of the State of California; and

WHEREAS, Passco Pacifica LLC., ("Developer") has filed an application for the approval of Conditional Use Permit PEN20-0065 ("Application") for a Planned Unit development associated with Tentative Tract Map 37909, PEN20-0063 ("Project") located on the south side of Iris Avenue east of Perris Boulevard ("Site"); and

WHEREAS, Section 9.02.060 (Conditional Use Permits) of the Moreno Valley Municipal Code acknowledges that the purpose of conditional use permits is to allow the establishment of uses that may have special impacts or uniqueness such that their effect on the surrounding environment cannot be determined in advance of the use being proposed for a particular location and that the conditional use permit application process involves the review of location, design and configuration of improvements related to the project, and the potential impact of the project on the surrounding area based on fixed and established standards; and

WHEREAS, the Application has been evaluated in accordance with Section 9.02.060 (Conditional Use Permits) of the Municipal Code with consideration given to the City's General Plan, Zoning Ordinance, and other applicable laws and regulations; and

WHEREAS, Section 9.02.060 of the Municipal Code imposes conditions of approval upon projects for which a CUP is required, which conditions may be imposed by the Planning Commission to address on-site improvements, off-site improvements, the manner in which the site is used and any other conditions as may be deemed necessary to protect public health, safety and welfare and ensure that the proposed Project will be developed in accordance with the purpose and intent of Title 9 (Planning and Zoning) of the Municipal Code; and

WHEREAS, Staff has presented for the City Council's consideration Conditions of Approval to be imposed upon Conditional Use Permit PEN20-0065 ("CUP"), which conditions have been deemed necessary to protect public health, safety and welfare and ensure that the proposed Project will be developed in accordance with the purpose and intent of Title 9 (Planning and Zoning) of the Municipal Code; and

WHEREAS, pursuant to the provisions of Section 9.02.200 (Public Hearing and Notification Procedures) of the Municipal Code and Government Code section 65905, a public hearing before the Planning Commission was scheduled for November 12, 2020

and notice thereof was duly published and posted, and mailed to all property owners of record within 600 feet of the Site; and

WHEREAS, on November 12, 2020 a duly noticed public hearing was conducted by the Planning Commission where the item was continued to the December 10, 2020 Planning Commission meeting; and

WHEREAS, on December 10, 2020 a public hearing was conducted by the Planning Commission to consider a recommendation that the City Council approve the Conditional Use Permit and after the public hearing the Planning Commission approved Planning Commission Resolution 2020-53, a recommendation that the City Council approve the Conditional Use Permit; and

WHEREAS, on February 2, 2021, a public hearing to consider the Application was duly conducted by the City Council at which time all interested persons were provided with an opportunity to testify and to present evidence; and

WHEREAS, consistent with the requirements of Section 9.02.060 (Conditional Use Permits) of the Municipal Code, at the public hearing the City Council considered Conditions of Approval to be imposed upon Conditional Use Permit PEN20-0065 (CUP), which were prepared by Planning Division staff who deemed said conditions to be necessary to protect public health, safety and welfare and to ensure the proposed Project will be developed in accordance with the purpose and intent of Title 9 (Planning and Zoning) of the Municipal Code; and

WHEREAS, at the public hearing, the City Council considered whether each of the requisite findings specified in Section 9.02.060 of the Municipal Code and set forth herein could be made with respect to the proposed Project as conditioned by the Conditions of Approval; and

WHEREAS, on February 2, 2021 a hearing was conducted by the City Council whereby the City Council approved the Conditional Use Permit and approved the proposed Project.

NOW, THEREFORE, THE CITY COUNCIL OF THE CITY OF MORENO VALLEY, CALIFORNIA, DOES HEREBY RESOLVE AS FOLLOWS:

Section 1. **Recitals and Exhibits**

That the foregoing Recitals and attached Exhibits are true and correct and are hereby incorporated by this reference.

Section 2. **Notice**

That pursuant to Government Code section 66020(d)(1), notice is hereby given that the proposed project is subject to certain fees, dedications, reservations and other exactions as provided herein.

Section 3. **Evidence**

That the City Council has considered all of the evidence submitted into the administrative record for the proposed Conditional Use Permit, including, but not limited to, the following:

(a) Moreno Valley General Plan and all relevant provisions contained therein;
(b) Title 9 (Planning and Zoning) of the Moreno Valley Municipal Code and all relevant provisions referenced therein;
(c) Application for the approval of Conditional Use Permit (CUP) PEN20-0065 and all documents, records and contained therein;
(d) Conditions of Approval for CUP PEN20-0065, attached hereto as Exhibit A;
(e) Staff Report prepared for the City Council's consideration and all documents, records and references related thereto, and Staff's presentation at the public hearing;
(f) Testimony and/or comments from Applicant and its representatives during the public hearing; and
(g) Testimony, comments and/or correspondence from all persons that were provided in written format or correspondence, at, or prior to, the public hearing.

Section 4. **Findings**

That based on the foregoing Recitals and the Evidence contained in the Administrative Record as set forth above, the City Council makes the following findings in approving CUP PEN20-0065.

(a) The proposed Project is consistent with the goals, objectives, policies and programs of the General Plan;
(b) The proposed Project complies with all applicable zoning and other regulations;
(c) The proposed Project will not be detrimental to the public health, safety or welfare or materially injurious to properties or improvements in the vicinity; and
(d) The location, design and operation of the proposed Project will be compatible with existing and planned land uses in the vicinity.

Section 5. **Approval**

That based on the foregoing Recitals, Evidence contained in the Administrative Record and Findings set forth above, the City Council hereby approves Conditional Use Permit PEN20-0065 subject to the Conditions of Approval of Conditional Use Permit PEN20-0065, attached hereto as Exhibit A.

Section 6. **Repeal of Conflicting Provisions**

That all the provisions as heretofore adopted by the City Council that are in conflict with the provisions of this Resolution are hereby repealed.

Section 7. **Severability**

That the City Council declares that, should any provision, section, paragraph, sentence or word of this Resolution be rendered or declared invalid by any final court action in a court of competent jurisdiction or by reason of any preemptive legislation, the remaining provisions, sections, paragraphs, sentences or words of this Resolution as hereby adopted shall remain in full force and effect.

Section 8. **Effective Date**

That this Resolution shall take effect immediately upon the date of adoption.

Section 9. **Certification**

That the City Clerk for the City Council shall certify to the passage of this Resolution.

PASSED AND ADOPTED THIS _____ day of _____, 2021.

CITY OF MORENO VALLEY
CITY COUNCIL

_____
Dr. Yxstian A. Gutierrez
Mayor of the City of Moreno Valley

ATTEST:

_____
Pat Jacquez-Nares, City Clerk

APPROVED AS TO FORM:

_____
Steven B. Quintanilla, Interim City Attorney

Exhibits:
Exhibit A: Conditions of Approval PEN20-0065

Exhibit A

CONDITIONS OF APPROVAL

CITY OF MORENO VALLEY
CONDITIONS OF APPROVAL
Tentative Tract Map (PEN20-0063)
Conditional Use Permit (PEN-0065)

EFFECTIVE DATE:
EXPIRATION DATE:

COMMUNITY DEVELOPMENT DEPARTMENT

Planning Division

1. A change or modification to the land use or the approved site plans may require a separate approval. Prior to any change or modification, the property owner shall contact the City of Moreno Valley Community Development Department to determine if a separate approval is required.

2. Any expansion to this use or exterior alterations will require the submittal of a separate application(s) and shall be reviewed and approved under separate permit(s). (MC 9.02.080)

3. The developer, or the developer's successor-in-interest, shall be responsible for maintaining any undeveloped portion of the site in a manner that provides for the control of weeds, erosion and dust. (MC 9.02.030)

4. All landscaped areas shall be maintained in a healthy and thriving condition, free from weeds, trash and debris. (MC 9.02.030)

5. The site shall be developed in accordance with the approved plans on file in the Community Development Department - Planning Division, the Municipal Code regulations, General Plan, and the conditions contained herein. Prior to any use of the project site or business activity being commenced thereon, all Conditions of Approval shall be completed to the satisfaction of the Planning Official. (MC 9.14.020)

6. Any signs indicated on the submitted plans are not included with this approval. Any signs, whether permanent (e.g. wall, monument) or temporary (e.g. banner, flag), require separate application and approval by the Planning Division. No signs are permitted in the public right of way. (MC 9.12)

7. All site plans, grading plans, landscape and irrigation plans, fence/wall plans, lighting plans and street improvement plans shall be coordinated for consistency with this approval.

Special Conditions

8. Prior to grading plan approval, Basin fencing shall include wrought iron fencing with pilasters.

9. Prior to building final, a basin maintained by an HOA or other private entity, landscape (trees, shrubs and groundcover) and irrigation shall be installed, and maintained by the HOA or other private entity with documentation provided to the Planning Division.

10. Prior to issuance of building permits, final front and street side yard landscape and irrigation plans, and slope landscape plans and basin landscape plans, shall be approved.

11. This approval shall comply with all applicable requirements of the City of Moreno Valley Municipal Code.

12. The grading plans shall show all easements including an easement for trail purposes for the Juan Bautista de Anza trail per the Tentative Tract Map.

13. The site shall be developed in accordance with the approved tentative map on file in the Community Development Department -Planning Division, the Municipal Code regulations, General Plan, and the conditions contained herein. (MC 9.14.020)

14. Prior to building final, the developer/owner or developer's/owner's successor-in-interest shall pay all applicable impact fees, including but not limited to Transportation Uniform Mitigation fees (TUMF), and the City's adopted Development Impact Fees. (Ord)

15. A drought tolerant landscape palette shall be utilized throughout the tract in compliance with the City's Landscape Requirements. (9.17)

16. This tentative map and Conditional Use Permit for the Planned Unit Development shall expire three years after the approval date of this tentative map and conditional use permit unless extended as provided by the City of Moreno Valley Municipal Code; otherwise it shall become null and void and of no effect whatsoever in the event the applicant or any successor in interest fails to properly file a final map before the date of expiration. (MC 9.02.230, 9.14.050, 080)

17. Prior to the issuance of grading permits, mitigation measures contained in the Mitigation Monitoring Program approved with this project shall be implemented as provided therein.

18. Prior to any site disturbance and/or grading plan submittal, and or final map

recordation, a mitigation monitoring fee, as provided by City ordinance, shall be paid by the applicant/owner. No City permit or approval shall be issued until such fee is paid. (CEQA)

19. Prior to issuance of a building permit, the developer/property owner or developer's successor-in-interest shall pay all applicable impact fees due at permit issuance, including but not limited to Multi-species Habitat Conservation Plan (MSHCP) mitigation fees. (Ord.)

20. Prior to approval of any grading plan, local and master-planned multi-use trail easements shall be shown on the rough and precise grading plans in accordance with the City's Master Trail Plan.

21. All undeveloped portions of the site in perpetuity shall be maintained in a manner that provides for the control of weeds, erosion and dust. (MC 9.02.030)

22. Prior to the issuance of building permits, the developer shall provide documentation that contact was made to the U.S. Postal Service to determine the appropriate type and location of mailboxes. Mailboxes shall be clustered and include security lighting per U. S. Postal standards.

23. All site plans, grading plans, landscape and irrigation plans, and street improvement plans shall be coordinated for consistency with this approval.

24. Prior to the start of any construction, temporary security fencing shall be erected. The fencing shall be a minimum of six (6) feet high with locking, gated access and shall remain through the duration of construction. Security shall remain in place until the project is completed or the above conditions no longer exist. (Security fencing is required if there is: construction, unsecured structures, unenclosed storage of materials and/or equipment, and/or the condition of the site constitutes a public hazard).

25. The site has been approved for Tentative Tract Map 37909 (PEN20-0063) to subdivide approximately 10.82 acres into eighty-one single family residential lots including the approval of a Conditional Use Permit (PEN20-0065) for a Planned Unit Development to design and implement the residential community as designed per the approved plans for the Tentative Tract Map 37909 and the Planned Unit Development. The Tentative Tract Map 37909 and the Conditional Use Permit for the Planned Unit Development must be developed in conjunction with each other as approved. A change or modification shall require separate approval.

26. Prior to recordation of the final subdivision map, the following documents shall be submitted to and approved by the Planning Division which shall demonstrate that the project will be developed and maintained in accordance with the intent and purpose of the approval:

a. The document to convey title

b. Deed restrictions, easements, or Covenants, Conditions and Restrictions to be recorded

The approved documents shall be recorded at the same time that the subdivision map is recorded. The documents shall contain provisions for general maintenance of the site, joint access to proposed parcels, open space use restrictions, conservation easements, guest parking, feeder trails, water quality basins, lighting, landscaping and common area use items such as tot lot/public seating areas and other recreation facilities or buildings. The approved documents shall also contain a provision, which provides that they may not be terminated and/or substantially amended without the consent of the City and the developer's successor-in-interest. (MC 9.14.090)

In addition, the following deed restrictions and disclosures shall be included within the document and grant deed of the properties:

a. The developer and homeowners association shall promote the use of native plants and trees and drought tolerant species.

b. All lots designated for open space and or detention basins, shall be included as an easement to, and maintained by a Homeowners Association (HOA) or other private maintenance entity. All reverse frontage landscape areas shall also be maintained by the onsite HOA. Language to this effect shall be included and reviewed within the required Covenant Conditions and Restrictions (CC&Rs) prior to the approval of the final map.

c. Maintenance of any and all common facilities.

d. A conservation easement for lettered lots shall be recorded on the deed of the property and shown on the final map. Said easement shall include access restrictions prohibiting motorized vehicles from these areas.

e. Oleander plants or trees shall be prohibited on open space lots adjacent to multi-use trails.

27. Separate Administrative Plot Plans, including, Design Review (product approval) and Model Home Complex and/or temporary sales trailers, are required for approval of the design of the future single-family homes for Tentative Tract Map 37909.

28. Prior to building final, slope landscape and irrigation shall be installed, certified by the Landscape Architect with documentation provided to the Planning Division with an inspection performed and approved by the Planning Division. Landscaping on lots not yet having dwelling units shall be maintained by the developer weed and disease free. (MC 9.03.040)

Prior to Grading Permit

29. Prior to issuance of any grading permit, all Conditions of Approval and Mitigation Measures shall be printed on the grading plans.

30. Prior to the issuance of grading permits, decorative (e.g. colored/scored concrete or as approve by the Planning Official) pedestrian pathways across circulation aisles/paths shall be provided throughout the development to connect dwellings with open spaces and/or recreational uses with open space and/or parking. and/or the public right-of-way. The pathways shall be shown on the precise grading plan. (GP Objective 46.8, DG)

31. Prior to issuance of grading permits, the developer shall pay the applicable Stephens' Kangaroo Rat (SKR) Habitat Conservation Plan mitigation fee. (Ord)

32. If potential historic, archaeological, Native American cultural resources or paleontological resources are uncovered during excavation or construction activities at the project site, work in the affected area must cease immediately and a qualified person (meeting the Secretary of the Interior's standards (36CFR61)) shall be consulted by the applicant to evaluate the find, and as appropriate recommend alternative measures to avoid, minimize or mitigate negative effects on the historic, prehistoric, or paleontological resource. Determinations and recommendations by the consultant shall be immediately submitted to the Planning Division for consideration, and implemented as deemed appropriate by the Community Development Director, in consultation with the State Historic Preservation Officer (SHPO) and any and all affected Native American Tribes before any further work commences in the affected area.

    If human remains are discovered during grading and other construction excavation, no further disturbance shall occur until the County Coroner has made necessary findings as to origin. If the County Coroner determines that the remains are potentially Native American, the California Native American Heritage Commission shall be notified within 5-days of the published finding to be given a reasonable opportunity to identify the "most likely descendant." The "most likely descendant" shall then make recommendations, and engage in consultations concerning the treatment of the remains (California Public Resources Code 5097.98). (GP Objective 23.3, CEQA).

33. Within thirty (30) days prior to any grading or other land disturbance, a pre-construction survey for Burrowing Owls shall be conducted pursuant to the established guidelines of Multiple Species Habitat Conservation Plan. The pre-construction survey shall be submitted to the Planning Division prior to any disturbance of the site and/or grading permit issuance.

34. Prior to approval of any grading permits, plans for any security gate system shall be submitted to and approved by to the Planning Division.

35. Prior to the issuance of grading permits, the site plan and grading plans shall show decorative hardscape (e.g. colored concrete, stamped concrete, pavers or as approved by the Planning Official) consistent and compatible with the design, color and materials of the proposed development for all driveway ingress/egress locations of the project.

36. Prior to issuance of grading permits, the developer shall submit wall/fence plans to be included in the Building and Safety submittal for review and approval consistent with the approved plans, including a six foot fence on the east boundary , the PUD Development Guidelines, the Landscape Requirements and the Municipal Code.

37. Prior to the issuance of grading permits, a temporary project identification sign shall be erected on the site in a secure and visible manner. The sign shall be conspicuously posted at the site and remain in place until occupancy of the project. The sign shall include the following:

    a. The name (if applicable) and address of the development.
    b. The developer's name, address, and a 24-hour emergency telephone number.

38. Prior to issuance of any building permit, all Conditions of Approval and Mitigation Measures shall be printed on the building plans.

39. Prior to the issuance of building permits, the developer shall provide documentation that contact was made to the U.S. Postal Service to determine the appropriate type and location of mailboxes.

40. 41. Prior to the issuance of building permits, final landscape and irrigation plans shall be submitted for review and approved by the Planning Division for the following:
    a. Areas maintained by the Homeowner's Association including parks, site entry driveways, and other on-site landscaping;
    b. Areas along Iris Avenue;
    c. Trail Easement (per Parks and Community Services design standards); and
    d. Front yards.

    Landscaping is required for the sides and or slopes of all water quality basin and drainage areas, while a hydroseed mix with irrigation is acceptable for the bottom of the basin areas. All detention basins shall include trees, shrubs and groundcover up to the concreted portion of the basin. A solid decorative wall with pilasters, tubular steel fence with pilasters or other fence or wall approved by the Planning Official is required to secure all water quality and detention basins.
    The plans shall be prepared in accordance with the City's Landscape Development

Guidelines and the Planned Unit Development Guidelines.
A detailed, on-site, computer generated, point-by-point comparison lighting plan shall be proved with and integrated into the landscape plan. The plan shall include all project lighting within the community to include street lights, exterior building lights, parking area lighting and park lights. The plan shall indicate the manufacturer's specifications for light fixtures used, shall include style, illumination, location, height and method of shielding per the City's Municipal Code requirements.

41. Prior to issuance of building permits, the Planning Division shall review and approve the location and method of enclosure or screening of transformer cabinets, commercial gas meters and back flow preventers as shown on the final working drawings. Location and screening shall comply with the following criteria: transformer cabinets and commercial gas meters shall not be located within required setbacks and shall be screened from public view either by architectural treatment or landscaping; multiple electrical meters shall be fully enclosed and incorporated into the overall architectural design of the building(s); back-flow preventers shall be screened by landscaping. (GP Objective 43.30)

42. Prior to issuance of a building permit, the developer/property owner or developer's successor-in-interest shall pay all applicable impact fees due at permit issuance, including but not limited to Multi-species Habitat Conservation Plan (MSHCP) mitigation fees. (Ord)

43. Prior to building final, the developer/owner or developer's/owner's successor-in-interest shall pay all applicable impact fees, including but not limited to Transportation Uniform Mitigation fees (TUMF), and the City's adopted Development Impact Fees. (Ord)

44. Prior to issuance of building permits, for projects that will be phased, a phasing plan shall be submitted to and approved by the Planning Division if occupancy is proposed to be phased.

45. Photometric Plans shall be submitted to the Building and Safety Division for review and approval as part of the lighting and electrical building plan submittal.

46. Prior to issuance of any grading permits, mitigation measures contained in the Mitigation Monitoring Program approved with this project shall be implemented as provided therein. A mitigation monitoring fee, as provided by City ordinance, shall be paid by the applicant within 30 days of project approval. No City permit or approval shall be issued until such fee is paid. (CEQA)

Prior to Building Final or Occupancy

47. Prior to building final, all required landscaping and irrigation shall be installed per plan, certified by the Landscape Architect and inspected by the Planning Division. (MC 9.03.040, MC 9.17).

48. Prior to building final, Planning approved/stamped landscape plans shall be provided to the Community Development Department – Planning Division on a CD disk.

49. Prior to building final, all required and proposed fences and walls shall be constructed according to the approved plans on file in the Planning Division. (MC 9.080.070).

Building Division

50. Prior to submittal, all new development, including residential second units, are required to obtain a valid property address prior to permit application. Addresses can be obtained by contacting the Building Safety Division at 951.413.3350.

51. Contact the Building Safety Division for permit application submittal requirements.

52. Any construction within the city shall only be as follows: Monday through Friday seven a.m. to seven p.m(except for holidays which occur on weekdays), eight a.m. to four p.m.; weekends and holidays (as observed by the city and described in the Moreno Valley Municipal Code Chapter 2.55), unless written approval is first obtained from the Building Official or City Engineer.

53. Building plans submitted shall be signed and sealed by a California licensed design professional as required by the State Business and Professions Code.

54. The proposed development shall be subject to the payment of required development fees as required by the City's current Fee Ordinance at the time a building application is submitted or prior to the issuance of permits as determined by the City.

55. The proposed project will be subject to approval by the Eastern Municipal Water District and all applicable fees and charges shall be paid prior to permit issuance. Contact the water district at 951.928.3777 for specific details.

56. All new structures shall be designed in conformance to the latest design standards adopted by the State of California in the California Building Code, (CBC) Part 2, Title 24, California Code of Regulations including requirements for allowable area, occupancy separations, fire suppression systems, accessibility, etc. The current code edition is the 2019 CBC.

57. The proposed project's occupancy shall be classified by the Building Official and must comply with exiting, occupancy separation(s) and minimum plumbing fixture requirements. Minimum plumbing fixtures shall be provided per the 2019 California Plumbing Code, Table 422.1. The occupant load and occupancy classification shall be determined in accordance with the California Building Code.

58. The proposed residential project shall comply with The 2019 California Green Building Standards Code, Section 4.106.4, mandatory requirements for Electric Vehicle Charging Station (EVCS).

59. Prior to permit issuance, every applicant shall submit a properly completed Waste Management Plan (WMP), as a portion of the building or demolition permit process. (MC 8.80.030)

FIRE DEPARTMENT

Fire Prevention Bureau

60. All Fire Department access roads or driveways shall not exceed 12 percent grade. (CFC 503.2.7 and MVMC 8.36.060[G])

61. The Fire Department emergency vehicular access road shall be (all weather surface) capable of sustaining an imposed load of 80,000 lbs. GVW, based on street standards approved by the Public Works Director and the Fire Prevention Bureau. The approved fire access road shall be in place during the time of construction. Temporary fire access roads shall be approved by the Fire Prevention Bureau. (CFC 501.4, and MV City Standard Engineering Plan 108d)

62. The angle of approach and departure for any means of Fire Department access shall not exceed 1 ft drop in 20 ft (0.3 m drop in 6 m), and the design limitations of the fire apparatus of the Fire Department shall be subject to approval by the AHJ. (CFC 503 and MVMC 8.36.060)

63. Prior to issuance of Building Permits, the applicant/developer shall provide the Fire Prevention Bureau with an approved site plan for Fire Lanes and signage. (CFC 501.3)

64. Prior to issuance of Certificate of Occupancy or Building Final, "Blue Reflective Markers" shall be installed to identify fire hydrant locations in accordance with City specifications. (CFC 509.1 and MVLT 440A-0 through MVLT 440C-0)

65. Existing fire hydrants on public streets are allowed to be considered available. Existing fire hydrants on adjacent properties shall not be considered available unless fire apparatus access roads extend between properties and easements are

established to prevent obstruction of such roads. (CFC 507, 501.3) a - After the local water company signs the plans, the originals shall be presented to the Fire Prevention Bureau for signatures. The required water system, including fire hydrants, shall be installed, made serviceable, and be accepted by the Moreno Valley Fire Department prior to beginning construction. They shall be maintained accessible.

66. Final fire and life safety conditions will be addressed when the Fire Prevention Bureau reviews building plans. These conditions will be based on occupancy, use, California Building Code (CBC), California Fire Code (CFC), and related codes, which are in effect at the time of building plan submittal.

67. The Fire Code Official is authorized to enforce the fire safety during construction requirements of Chapter 33. (CFC Chapter 33 & CBC Chapter 33)

68. Fire lanes and fire apparatus access roads shall have an unobstructed width of not less than twenty–four (24) feet and an unobstructed vertical clearance of not less the thirteen (13) feet six (6) inches. (CFC 503.2.1 and MVMC 8.36.060[E])

69. Prior to issuance of Certificate of Occupancy or Building Final, the applicant/developer shall install a fire sprinkler system based on square footage and type of construction, occupancy or use. Fire sprinkler plans shall be submitted to the Fire Prevention Bureau for approval prior to installation. (CFC Chapter 9, MVMC 8.36.100[D])

70. Prior to issuance of the building permit for development, independent paved access to the nearest paved road, maintained by the City shall be designed and constructed by the developer within the public right of way in accordance with City Standards. (MVMC 8.36.060, CFC 501.4)

71. The minimum number of fire hydrants required, as well as the location and spacing of fire hydrants, shall comply with the C.F.C., MVMC, and NFPA 24. Fire hydrants shall be located no closer than 40 feet to a building. The size and number of outlets required for the approved fire hydrants are (6" x 4" x 2 ½") (CFC 507.5.1, 507.5.7, Appendix C, NFPA 24-7.2.3, MVMC 912.2.1)

72. During phased construction, dead end roadways and streets which have not been completed shall have a turn-around capable of accommodating fire apparatus. (CFC 503.1 and 503.2.5)

73. If construction is phased, each phase shall provide an approved emergency vehicular access way for fire protection prior to any building construction. (CFC 501.4)

74. Plans for private water mains supplying fire sprinkler systems and/or private fire

hydrants shall be submitted to the Fire Prevention Bureau for approval. (CFC 105 and CFC 3312.1)

75. Prior to issuance of Certificate of Occupancy or Building Final, all residential dwellings shall display street numbers in a prominent location on the street side of the residence in such a position that the numbers are easily visible to approaching emergency vehicles. The numbers shall be located consistently on each dwelling throughout the development. The numerals shall be no less than four (4) inches in height and shall be low voltage lighted fixtures. (CFC 505.1, MVMC 8.36.060[I])

76. Single Family Dwellings. Schedule "A" fire prevention approved standard fire hydrants (6" x 4" x 2 ½") shall be located at each intersection of all residential streets. Hydrants shall be spaced no more than 500 feet apart in any direction so that no point on the street is more than 250 feet from a hydrant. Minimum fire flow shall be 1000 GPM for 1 hour duration of 20 PSI. Where new water mains are extended along streets where hydrants are not needed for protection of structures or similar fire problems, serving one and two-family residential developments, standard fire hydrants shall be provided at spacing not to exceed 1000 feet along the tract boundary for transportation hazards. (CFC 507.3, Appendix B, MVMC 8.36.060).

77. Prior to construction, all traffic calming designs/devices must be approved by the Fire Marshal and City Engineer.

78. Prior to issuance of Building Permits, the applicant/developer shall furnish one copy of the water system plans to the Fire Prevention Bureau for review. Plans shall: a. Be signed by a registered civil engineer or a certified fire protection engineer; b. Contain a Fire Prevention Bureau approval signature block; and c. Conform to hydrant type, location, spacing of new and existing hydrants and minimum fire flow required as determined by the Fire Prevention Bureau. The required water system, including fire hydrants, shall be installed, made serviceable, and be accepted by the Moreno Valley Fire Department prior to beginning construction. They shall be maintained accessible.

79. Prior to construction, all locations where structures are to be built shall have an approved Fire Department access based on street standards approved by the Public Works Director and the Fire Prevention Bureau. (CFC 501.4)

80. Prior to issuance of building permits, plans specifying the required structural materials for building construction in high fire hazard severity zones shall be submitted to the Fire Prevention Bureau for approval. (CFC, 4905)

81. Prior to issuance of Building Permits, plans for structural protection from vegetation fires shall be submitted to the Fire Prevention Bureau for review and approval. Measures shall include, but are not limited to: noncombustible barriers (cement or

block walls), fuel modification zones, etc. (CFC Chapter 49)

PUBLIC WORKS DEPARTMENT

Land Development

82. Aggregate slurry, as defined in Section 203-5 of Standard Specifications for Public Works Construction, shall be required prior to 90% security reduction or the end of the one-year warranty period of the public streets as approved by the City Engineer. If slurry is required, a slurry mix design shall be submitted for review and approved by the City Engineer. The latex additive shall be Ultra Pave 70 (for anionic) or Ultra Pave 65 K (for cationic) or an approved equal per the geotechnical report. The latex shall be added at the emulsion plant after weighing the asphalt and before the addition of mixing water. The latex shall be added at a rate of two to two-and-one-half (2 to 2½) parts to one-hundred (100) parts of emulsion by volume. Any existing striping shall be removed prior to slurry application and replaced per City standards.

83. The developer shall comply with all applicable City ordinances and resolutions including the City's Municipal Code (MC) and if subdividing land, the Government Code (GC) of the State of California, specifically Sections 66410 through 66499.58, said sections also referred to as the Subdivision Map Act (SMA). [MC 9.14.010]

84. The final approved conditions of approval (COAs) issued and any applicable Mitigation Measures by the Planning Division shall be photographically or electronically placed on mylar sheets and included in the Grading and Street Improvement plans.

85. The developer shall monitor, supervise and control all construction related activities, so as to prevent these activities from causing a public nuisance, including but not limited to, insuring strict adherence to the following:
(a) Removal of dirt, debris, or other construction material deposited on any public street no later than the end of each working day.
(b) Observance of working hours as stipulated on permits issued by the Land Development Division.
(c) The construction site shall accommodate the parking of all motor vehicles used by persons working at or providing deliveries to the site.
(d) All dust control measures per South Coast Air Quality Management District (SCAQMD) requirements during the grading operations.
Violation of any condition, restriction or prohibition set forth in these conditions shall subject the owner, applicant, developer or contractor(s) to remedy as noted in City Municipal Code 8.14.090. In addition, the City Engineer or Building Official may suspend all construction related activities for violation of any condition, restriction or

prohibition set forth in these conditions until such time as it has been determined that all operations and activities are in conformance with these conditions.

86. Drainage facilities (e.g., catch basins, water quality basins, etc.) with sump conditions shall be designed to convey the tributary 100-year storm flows. Secondary emergency escape shall also be provided.

87. In the event right-of-way or offsite easements are required to construct offsite improvements necessary for the orderly development of the surrounding area to meet the public health and safety needs, the developer shall make a good faith effort to acquire the needed right-of-way in accordance with the Land Development Division's administrative policy. If unsuccessful, the Developer shall enter into an agreement with the City to acquire the necessary right-of-way or offsite easements and complete the improvements at such time the City acquires the right-of-way or offsite easements which will permit the improvements to be made. The developer shall be responsible for all costs associated with the right-of-way or easement acquisition. [GC 66462.5]

88. The developer shall protect downstream properties from damage caused by alteration of drainage patterns (i.e. concentration or diversion of flow, etc). Protection shall be provided by constructing adequate drainage facilities, including, but not limited to, modifying existing facilities or by securing a drainage easement. [MC 9.14.110]

89. The maintenance responsibility of the proposed storm drain line shall be clearly identified. Storm drain lines within private property will be privately maintained and those within public streets will be publicly maintained.

90. A storm drain manhole shall be placed at the right-of-way line to mark the beginning of the publicly maintained portion of any private storm drain.

91. For single family residential subdivisions, all lots shall drain to the street at a minimum surface grade of 2.0% and on-site drainage shall be conveyed onto the street with subsurface drains at a minimum grade of 0.5% per current City Standards MVSI-152 and MVSI-153A. No cross-lot or over the public sidewalk drainage shall be allowed.

92. This project shall submit civil engineering design plans, reports and/or documents (prepared by a registered/licensed civil engineer) for review and approval by the City Engineer per the current submittal requirements, prior to the indicated threshold or as required by the City Engineer. The submittal consists of, but is not limited to, the following:
    a. Final (Tract) Map (recordation prior to building permit issuance);
    b. Rough grading w/ erosion control plan (prior to grading permit issuance);
    c. Precise grading w/ erosion control plan (prior to grading permit issuance);

d. Public improvement plan (e.g., street/storm drain w/ striping, RCFC storm drain, sewer/water, etc.) (prior to map approval);

e. Final drainage study (prior to map approval);

f. Final WQMP (prior to grading plan approval);

g. Legal documents (e.g., easement(s), dedication(s), etc.) (prior to Building Permit issuance);

h. As-Built revision for all plans (prior to Occupancy release);

93. Water quality best management practices (BMPs) designed to meet Water Quality Management Plan (WQMP) requirements for single-family residential development shall not be used as a construction BMP. Water quality BMPs shall be maintained for the entire duration of the project construction and be used to treat runoff from those developed portions of the project. Water quality BMPs shall be protected from upstream construction related runoff by having proper best management practices in place and maintained. Water quality BMPs shall be graded per the approved design plans and once landscaping and irrigation has been installed, it and its maintenance shall be turned over to an established Homeowner's Association (HOA). The Homeowner's Association shall enter into an agreement with the City for basin maintenance.

94. If improvements associated with this project are not initiated within two (2) years of the date of approval of the Public Improvement Agreement (PIA), the City Engineer may require that the engineer's estimate for improvements associated with the project be modified to reflect current City construction costs in effect at the time of request for an extension of time for the PIA or issuance of a permit. [MC 9.14.210(B)(C)]

Prior to Grading Plan Approval

95. Resolution of all drainage issues shall be as approved by the City Engineer.

96. A final detailed drainage study (prepared by a registered/licensed civil engineer) shall be submitted for review and approved by the City Engineer. The study shall include, but not be limited to: existing and proposed hydrologic conditions as well as hydraulic calculations for all drainage control devices and storm drain lines. The study shall analyze 1, 3, 6 and 24-hour duration events for the 2, 5, 10 and 100-year storm events [MC 9.14.110(A.1)]. A digital (pdf) copy of the approved drainage study shall be submitted to the Land Development Division.

97. The developer shall ensure compliance with the City Grading ordinance, these Conditions of Approval and the following criteria:

a. The project street and lot grading shall be designed in a manner that perpetuates the existing natural drainage patterns with respect to tributary drainage area and outlet points. Unless otherwise approved by the City Engineer, lot lines

shall be located at the top of slopes.

b. Any grading that creates cut or fill slopes adjacent to the street shall provide erosion control, sight distance control, and slope easements as approved by the City Engineer.

c. All improvement plans are substantially complete and appropriate clearance letters are provided to the City.

d. A soils/geotechnical report (addressing the soil's stability and geological conditions of the site) shall be submitted to the Land Development Division for review. A digital (pdf) copy of the soils/geotechnical report shall be submitted to the Land Development Division.

98. Grading plans (prepared by a registered/licensed civil engineer) shall be submitted for review and approved by the City Engineer per the current submittal requirements.

99. For any offsite grading, the developer shall submit written permission from adjacent property owners. If applicable, all areas outside of the project boundaries where grading results in slopes, the developer shall submit recorded slope easements.

100. The developer shall pay all remaining plan check fees.

101. Landscape & Irrigation plans (prepared by a registered/licensed landscape architect) for water quality BMPs shall be submitted for review and approved by the City Engineer per the current submittal requirements, if applicable.

102. A Storm Water Pollution Prevention Plan (SWPPP) shall be prepared in conformance with the State's current Construction Activities Storm Water General Permit. A copy of the current SWPPP shall be kept at the project site and be available for review upon request.

103. For projects that will result in discharges of storm water associated with construction with a soil disturbance of one or more acres of land, the developer shall submit a Notice of Intent (NOI) and obtain a Waste Discharger's Identification number (WDID#) from the State Water Quality Control Board (SWQCB) which shall be noted on the grading plans.

104. The final project-specific Water Quality Management Plan (WQMP) shall be consistent with the conditionally approved P-WQMP, as well as in full conformance with the document: "Water Quality Management Plan - A Guidance Document for the Santa Ana Region of Riverside County" dated October 22, 2012. The F-WQMP shall be submitted and approved prior to application for and issuance of grading permits. At a minimum, the F-WQMP shall include the following: Site Design BMPs; Source Control BMPs, Treatment Control BMPs, Operation and Maintenance requirements for BMPs and sources of funding for BMP implementation.

a. The Applicant has proposed to incorporate the use of Bioretention. Final

design and sizing details of all BMPs must be provided in the first submittal of the F-WQMP. The Applicant acknowledges that more area than currently shown on the plans may be required to treat site runoff as required by the WQMP guidance document and may result in the lost of lot(s).

b. The Applicant shall substantiate the applicable Hydrologic Condition of Concerns (HCOC) in Section F of the F-WQMP. <The HCOC designates that the project will be exempt from mitigation requirements based on Exemption 3>.

c. All proposed LID BMP's shall be designed in accordance with the RCFC&WCD's Design Handbook for Low Impact Development Best Management Practices, dated September 2011.

d. The proposed LID BMP's as identified in the project-specific P-WQMP shall be incorporated into the Final WQMP.

e. The NPDES notes per City Standard Drawing No. MVFE-350-0 shall be included in the grading plans.

f. Post-construction treatment control BMPs, once placed into operation for post-construction water quality control, shall not be used to treat runoff from construction sites or unstabilized areas of the site.

g. Prior to precise grading plan approval, the grading plan shall show any proposed trash enclosure to include a cover (roof) and sufficient size for dual bin (1 for trash and 1 for recyclables). The architecture shall be approved by the Planning Division and any structural approvals shall be made by the Building and Safety Division.

Prior to Grading Permit

105. A receipt showing payment of the Area Drainage Plan (ADP) fee to Riverside County Flood Control and Water Conservation District shall be submitted. [MC 9.14.100(O)]

106. If the developer chooses to construct the project in phases, a Construction Phasing Plan for the construction of on-site public or private improvements shall be submitted for review and approved by the City Engineer.

107. A digital (pdf) copy of all approved grading plans shall be submitted to the Land Development Division.

108. Security, in the form of a cash deposit (preferable), bond or letter of credit shall be submitted as a guarantee of the implementation and maintenance of erosion control measures. At least twenty-five (25) percent of the required security shall be in the form of a cash deposit with the City. [MC 8.21.160(H)]

109. Security, in the form of a cash deposit (preferable), bond or letter of credit shall be submitted as a guarantee of the completion of the grading operations for the project. [MC 8.21.070]

110. The developer shall pay all applicable inspection fees.

111. All necessary permits from Department of Water Resources for grading, storm drain construction, etc. shall be obtained, ifapplicable.

Prior to Map Approval

112. All proposed street names shall be submitted for review and approved by the City Engineer, if applicable. [MC 9.14.090(E.2.k)]

113. A copy of the Covenants, Conditions and Restrictions (CC&R's) shall be submitted for review and approved by the City Engineer. The CC&R's shall include, but not be limited to, access easements, reciprocal access, private and/or public utility easements as may be relevant to the project. In addition, for single-family residential development, bylaws and articles of incorporation shall also be included as part of the maintenance agreement for any water quality BMPs.

114. The developer shall enter into a Cooperative Agreement with the City and Riverside County Flood Control and Water Conservation District establishing the terms and conditions covering the inspection, operation and maintenance of Master Drainage Plan facilities required to be constructed as part of the project.

115. After recordation, a digital (pdf) copy of the recorded map shall be submitted to the Land Development Division.

116. Resolution of all drainage issues shall be as approved by the City Engineer.

117. If the project involves the subdivision of land, maps may be developed in phases with the approval of the City Engineer. Financial security shall be provided for all public improvements associated with each phase of the map. The boundaries of any multiple map increment shall be subject to the approval of the City Engineer. If the project does not involve the subdivision of land and it is necessary to dedicate right-of-way/easements, the developer shall make the appropriate offer of dedication by separate instrument. In either case, the City Engineer may require the dedication and construction of necessary utility, street or other improvements beyond the project boundary, if the improvements are needed for circulation, parking, access, or for the welfare or safety of the public. This approval must be obtained prior to the Developer submitting a Phasing Plan to the California Bureau of Real Estate. [MC 9.14.080(B)(C), GC 66412 & 66462.5]

118. Maps (prepared by a registered civil engineer and/or licensed surveyor) shall be submitted for review and approved by the City Engineer per the current submittal requirements.

119. Under the current permit for storm water activities required as part of the National Pollutant Discharge Elimination System (NPDES) as mandated by the Federal Clean Water Act, this project is subject to the following requirements:

a. Establish a Home Owners Association (HOA) to finance the maintenance of the "Water Quality BMPs". Any lots which are identified as "Water Quality BMPs" shall be owned in fee by the HOA.

b. Dedicate a maintenance easement to the City of Moreno Valley.

c. Execute a maintenance agreement between the City of Moreno Valley and the HOA, which shall be approved by City Council.

d. Provide a certificate of insurance per the terms of the maintenance agreement.

e. Select one of the following options to meet the financial responsibility to provide storm water utilities services for the required continuous operation, maintenance, monitoring system evaluations and enhancements, remediation and/or replacement, all in accordance with Resolution No. 2002-46.

i. Participate in the mail ballot proceeding in compliance with Proposition 218, for the Residential NPDES Regulatory Rate Schedule and pay all associated costs with the ballot process, or

ii. Establish an endowment to cover future maintenance costs for the Residential NPDES Regulatory Rate Schedule.

f. Notify the Special Districts Division of the intent to record the final map 90 days prior to City Council action authorizing recordation of the final map and the financial option selected. The final option selected shall be in place prior to the issuance of certificate of occupancy. [California Government Code & Municipal Code]

120. The developer shall guarantee the completion of all related improvements required for this project by executing a Public Improvement Agreement (PIA) with the City and posting the required security. [MC 9.14.220]

121. All public improvement plans required for this project shall be approved by the City Engineer in order to execute the Public Improvement Agreement (PIA).

122. The developer shall comply with the requirements of the City Engineer based on recommendations of the Riverside County Flood Control District regarding the construction of County Master Plan Facilities.

Prior to Improvement Plan Approval

123. The developer is required to bring any existing access ramps adjacent to and fronting the project to current ADA (Americans with Disabilities Act) requirements. However, when work is required in an intersection that involves or impacts existing access ramps, all access ramps in that intersection shall be retrofitted to comply

with current ADA requirements, unless otherwise approved by the City Engineer.

124. The developer shall submit clearances from all applicable agencies, and pay all applicable plan check fees.

125. The street improvement plans shall comply with current City policies, plans and applicable City standards (i.e. MVSI-160 series, etc.) throughout this project.

126. Any missing or deficient existing improvements along the project frontage within shall be constructed or secured for construction. The City Engineer may require the ultimate structural section for pavement to half-street width plus 18 feet or provide core test results confirming that existing pavement section is per current City Standards; additional signing & striping to accommodate increased traffic imposed by the development, etc.

127. The plans shall indicate any restrictions on trench repair pavement cuts to reflect the City's moratorium on disturbing newly-constructed pavement less than three (3) years old and recently slurry sealed streets less than one (1) year old. Pavement cuts may be allowed for emergency repairs or as specifically approved in writing by the City Engineer. Special requirements shall be imposed for repaving, limits to be determined by the City Engineer.

128. All dry and wet utilities shall be shown on the plans and any crossings shall be potholed to determine actual location and elevation. Any conflicts shall be identified and addressed on the plans. The pothole survey data shall be submitted to Land Development with the public improvement plans for reference purposes only. The developer is responsible to coordinate with all affected utility companies and bear all costs of any utility relocation.

129. Drainage facilities (i.e. catch basins, etc.) with sump conditions shall be designed to convey the tributary 100-year storm flows. Secondary emergency escape shall also be provided.

130. All public improvement plans (prepared by a licensed/registered civil engineer) shall be submitted for review and approved by the City Engineer per the current submittal requirements.

Prior to Encroachment Permit

131. A digital (pdf) copy of all approved improvement plans shall be submitted to the Land Development Division.

132. All applicable inspection fees shall be paid.

133. The plans shall indicate any restrictions on trench repair pavement cuts to reflect the City's moratorium on disturbing newly-constructed pavement less than three (3) years old and recently slurry sealed streets less than one (1) year old. Pavement cuts may be allowed for emergency repairs or as specifically approved in writing by the City Engineer. Special requirements shall be imposed for repaving, limits to be determined by the City Engineer.

134. Any work performed within public right-of-way requires an encroachment permit.

Prior to Building Permit

135. An engineered-fill certification, rough grade certification and compaction report shall be submitted for review and approved by the City Engineer. A digital (pdf) copy of the approved compaction report shall be submitted to the Land Development Division. All pads shall meet pad elevations per approved grading plans as noted by the setting of "blue-top" markers installed by a registered land surveyor or licensed civil engineer.

136. For all subdivision projects, the map shall be recorded (excluding model homes). [MC 9.14.190]

137. A walk through with a Land Development Inspector shall be scheduled to inspect existing improvements within public right of way along project frontage. Any missing, damaged or substandard improvements including ADA access ramps that do not meet current City standards shall be required to be installed, replaced and/or repaired. The applicant shall post security to cover the cost of the repairs and complete the repairs within the time allowed in the public improvement agreement used to secure the improvements.

138. Certification to the line, grade, flow test and system invert elevations for the water quality control BMPs shall be submitted for review and approved by the City Engineer (excluding models homes).

Prior to Occupancy

139. All outstanding fees shall be paid.

140. All required as-built plans (prepared by a registered/licensed civil engineer) shall be submitted for review and approved by the City Engineer per the current submittal requirements.

141. The final/precise grade certification shall be submitted for review and approved by the City Engineer.

142. The developer shall complete all public improvements in conformance with current City standards, except as noted in the Special Conditions, including but not limited to the following:

a. Street improvements including, but not limited to: pavement, base, curb and/or gutter, cross gutters, spandrel, sidewalks, drive approaches, pedestrian ramps, street lights (SL-2), signing, striping, under sidewalk drains, landscaping and irrigation, medians, pavement tapers/transitions and traffic control devices as appropriate.

b. Grind and overlay full street width along the project's frontage shall be required.

c. Storm drain facilities including, but not limited to: storm drain pipe, storm drain laterals, open channels, catch basins and local depressions.

d. City-owned utilities.

e. Sewer and water systems including, but not limited to: sanitary sewer, potable water and recycled water.

f. Under grounding of all existing and proposed utilities adjacent to and on-site. [MC 9.14.130]

g. Relocation of overhead electrical utility lines including, but not limited to: electrical, cable and telephone.

143. For residential subdivisions, punch list work for improvements and capping of streets in that phase shall be completed and approved for acceptance by the City Engineer, prior to the last 20% or last 5% (whichever is greater, unless as otherwise determined by the City Engineer).

144. The applicant shall ensure the following, pursuant to Section XII. I. of the 2010 NPDES Permit:

a. Field verification that structural Site Design, Source Control and Treatment Control BMPs are designed, constructed and functional in accordance with the approved Final Water Quality Management Plan (WQMP).

b. Certification of best management practices (BMPs) from a state licensed civil engineer. An original WQMP BMP Certification shall be submitted for review and approved by the City Engineer.

145. The Developer shall comply with the following water quality related items:

a. Notify the Land Development Division prior to construction and installation of all structural BMPs so that an inspection can be performed.

b. Demonstrate that all structural BMPs described in the approved final project-specific WQMP have been constructed and installed in conformance with the approved plans and specifications;

c. Demonstrate that Developer is prepared to implement all non-structural BMPs described in the approved final project-specific WQMP; and

d. Demonstrate that an adequate number of copies of the approved final project-specific WQMP are available for future owners/occupants.

e. Clean and repair the water quality BMP's, including re-grading to approved civil drawing if necessary.

f. Obtain approval and complete installation of the irrigation and landscaping.

146. Prior to the first occupancy, the developer shall be required to construct Riverside County Flood Control and Water Conservation District's Sunnymead MDP Line M-2 from its current terminus to the project's westerly boundary.

Special Districts Division

147. The ongoing maintenance of any landscaping required to be installed behind the curb shall be the responsibility of the property owner.

148. MAJOR INFRASTRUCTURE FINANCING DISTRICT. This project has been identified to potentially be included in the formation of a special financing district for the construction and maintenance of major infrastructure improvements which may include but are not limited to thoroughfares, bridges, and certain flood control improvements. The property owner(s) shall participate in such district and pay any special tax, assessment, or fee levied upon the project property for such district. At the time of the public hearing to consider formation of or annexation into the district, the qualified elector(s) will not protest the formation or annexation, but will retain the right to object to any eventual tax/assessment/fee that is not equitable should the financial burden of the tax/assessment/fee not be reasonably proportionate to the benefit the affected property obtains from the improvements to be installed and/or maintained. The Developer must notify the Special Districts Division at 951.413.3480 or at specialdistricts@moval.org when submitting an application for the first building permit to determine whether the development will be subjected to this condition. If subject to the condition, the special election requires a minimum 90-day process in compliance with the provisions of Article 13C of the California Constitution.

149. The parcel(s) associated with this project have been incorporated into the Moreno Valley Community Services District Zone A (Parks & Community Services) and Zone C (Arterial Street Lighting). All assessable parcels therein shall be subject to annual parcel taxes for Zone A and Zone C for operations and capital improvements.

150. This project is conditioned to provide a funding source for the operation and maintenance of public improvements and/or services associated with new development in that territory. The Developer shall satisfy this condition with one of the options below.

a. Participate in a special election for maintenance/services and pay all associated costs of the election process and formation, if any. Financing may be

structured through a Community Facilities District, Landscape and Lighting Maintenance District, or other financing structure as determined by the City; or

b. Establish an endowment fund to cover the future maintenance and/or service costs.

The Developer must notify the Special Districts Division at 951.413.3480 or at specialdistricts@moval.org of its selected financial option prior to City Council action authorizing recordation of the final map for the development. A minimum of 90 days is needed to complete the special election process. This allows adequate time to be in compliance with the provisions of Article 13C of the California Constitution for conducting a special election.

The financial option selected shall be in place prior to the issuance of the first building permit for the project.

151. This project has been conditioned to provide a funding source for the continued maintenance, enhancement, and/or retrofit of parks, open spaces, linear parks, and/or trail systems. The Developer shall satisfy this condition with one of the options below.

a. Participate in a special election for annexation into Community Facilities District No. 1 or other district and pay all associated costs of the special election process and formation, if any; or

b. Establish an endowment fund to cover future maintenance costs for new neighborhood parks.

The Developer must notify the Special Districts Division at 951.413.3480 or at specialdistricts@moval.org of its selected financial option prior to City Council action authorizing recordation of the final map for the development. A minimum of 90 days is needed to complete the special election process. This allows adequate time to be in compliance with the provisions of Article 13C of the California Constitution for conducting a special election.

Annexation to CFD No. 1 shall be completed or proof of payment to establish the endowment fund shall be provided prior to the issuance of the first building permit for this project.

152. This project has been identified to be included in the formation of a Community Facilities District for Public Safety services including but not limited to Police, Fire Protection, Paramedic Services, Park Rangers, and Animal Control services. The property owner(s) shall not protest the formation; however, they retain the right to object to the rate and method of maximum special tax. In compliance with

Proposition 218, the property owner shall agree to approve the mail ballot proceeding (special election) for either formation of the CFD or annexation into an existing district that may already be established. The Developer must notify the Special Districts Division at 951.413.3480 or specialdistricts@moval.org of its intent to record the final map for the development 90 days prior to City Council action authorizing recordation of the map. This allows adequate time to be in compliance with the provisions of Article 13C of the California Constitution. (California Government Code Section 53313 et. seq.)

153. Residential (R) If Land Development, a Division of the Public Works Department, requires this project to supply a funding source necessary to provide for, but not limited to, stormwater utilities services for the required continuous operation, maintenance, monitoring, systems evaluation and enhancements of on-site facilities and performing annual inspections of the affected areas to ensure compliance with state mandated storm water regulations, a funding source needs to be established. The Developer must notify the Special Districts Division at 951.413.3480 or at specialdistricts@moval.org of its selected financial option for the National Pollution Discharge Elimination System (NPDES) program (see Land Development's related condition). Participating in a special election the process requires a 90 day period prior to City Council action authorizing recordation of the final map for the development and to participate in a special election process. This allows adequate time to be in compliance with the provisions of Article 13D of the California Constitution. California Health and Safety Code Sections 5473 through 5473.8 (Ord. 708 Section 3.1, 2006) & City of Moreno Valley Municipal Code Title 3, Section 3.50.050.)

Transportation Engineering Division

154. Private streets' road width shall be a minimum of 24-feet with no parking allowed on either side. Applicant shall provide signage (NO PARKING) along the streets per current MUTCD standards.

155. The design and proposed location of the project driveways shall conform to City of Moreno Valley Standard No. MVSI-112C-0 for Commercial Driveway Approaches and Section 9.11.080, and Table 9.11.080-14 of the City's Municipal Code - Design Guidelines or as approved by the City Engineer. Applicant needs to show driveways per City Standard, including additional dedications for public improvements.

156. Right-of-way at driveway(s) entrances shall accommodate all public improvements (i.e. curb ramps, utility controllers, etc.); applicant shall provide dedication as required and appropriate. Show driveways per City standards (curb radii, ramps, grades, so for.)

157. Any proposed driveway gate shall be set back at a minimum of 60 feet from the

property line or as determined by the traffic study to provide sufficient storage length in front of the gate for entering traffic. Gate doors shall be rolling type or swing away from Iris Avenue.

1. Shown gate for westerly driveway needs to swing away from Iris Avenue.

2. Main entrance storage length for visitors is not adequate, location of visitor call box needs to be relocated in order to provide at least two (2) cars on the visitor lane.

158. Applicant shall plan to accommodate gates at entrances and provide road width and improvements accordingly.
For main access point, easterly driveway at proposed Street A, the entrance design shall provide the following:

a. Gate shall be set back a minimum of 60 feet from the property line.

b. A turnaround area - Applicant needs to provide vehicle turning template to show adequacy of provided turnaround area.

c. A storage lane with a minimum of 60 feet queuing length for entering traffic.

d. A second storage lane for visitors to stop and use a call box (or other service) for permission to enter the community. Visitor storage lane seems insufficient due to location of call box, relocate call box or propose design with adequate vehicle storage.

e. No Parking signs posted in the turnaround area.

f. A separate pedestrian entry.

g. Presence loop detectors (or another device) within 1 to 2 feet of the gate that ensures that the gate remain open while any vehicle in in the queue.

h. Slide doors or gate doors that swing away from incoming traffic.

i. A median will be required as traffic calming measure into residential development. Median shall be kept within private property and shall not encroach onto public right-of-way.

159. Conditions of approval may be modified or added if a phasing plan is submitted for this development.

160. All project driveways to public streets shall conform to Section 9.11.080, and Table 9.11.080-14 of the City's Development Code – Design Guidelines and City of Moreno Valley Standard Plans No. MVSI-112A~D-0 for commercial driveway approaches.

161. The gated entrance shall be provided with the following, or as approved by the City Traffic Engineer: A- A storage lane with a minimum of 60' provided for queuing. B - A second storage lane for visitors to stop in prior to the gate to utilize a call box (or other device) to receive permission to enter the site. C - Signing and striping for A. and B. D - A turnaround outside the gates of 38' radius. E - No Parking Signs shall be posted in the turnaround areas. F - A separate pedestrian entry. G - Presence loop detectors (or another device) within 1 or 2 feet of the gates that

ensures that the gates remain open while any vehicle is in the queue. All of these items shall be kept in working order.

162. Sight distance at the proposed roadways and driveways shall conform to City of Moreno Valley Standard No. MVSI-164A,B,C-0 at the time of preparation of final grading, landscape, and street improvement plans.

163. During construction activity, developer is responsible for regularly scheduled street sweeping per approved street sweeping schedule.

164. Prior to issuance of a construction permit, construction traffic control plans prepared by a qualified, registered Civil or Traffic engineer may be required for plan approval or as required by the City Traffic Engineer.

165. Prior to final approval of any landscaping or monument sign plans, the project plans shall demonstrate that sight distance at the project driveways conforms to City Standard Plan No. MVSI-164A, B, C-0.

166. Prior to the final approval of the street improvement plans, a signing and striping plan shall be prepared per City of Moreno Valley Standard Plans - Section 4 for all streets within the project area.

167. Prior to issuance of a Building Final or Certificate of Occupancy, all approved street improvements shall be installed to the satisfaction of the City Engineer.

168. Prior to issuance of a Building Final or Certificate of Occupancy, all approved signing and striping shall be installed per current City Standards

PARKS & COMMUNITY SERVICES DEPARTMENT

169. This project is subject to current Quimby Fees.

170. Bikeways shall not be shared with any above ground utilities, blocking total width access.

171. According to the General Plan and City's Juan Bautista de Anza trail plan, project improvements include a Class I Bikeway, walkway, and landscaped area. City shall construct paved Class I bike trail only. Developer shall design and construct landscape and irrigation improvements for the Juan Bautista de Anza trail greenbelt, including lighting along the trail. Landscaping and irrigation shall be maintained by City following acceptance of the public improvements into the City's Community Services District. The greenbelt shall conform to City of Moreno Valley standard plans and specifications, "CalTrans Design Manual," and Department of Water Resources (DWR) requirements. The developer shall comply with the following conditions:

a. Concurrent with the recordation of the final map, an easement for trail purposes shall be dedicated to the City of Moreno Valley Community Services District.

b. Bonds for construction of the landscaping within the project and these COA's shall be provided (per Parks and Community Services criteria) concurrent with the Subdivision Improvements Agreement process.

d. Plans for improvements at the greenbelt shall be submitted and approved by the Director of Parks and Community Services or designee prior to the approval of Precise Grading Plans.

e. Prior to the issuance of any building permits, detailed final plans for the greenbelt, street improvement, and fence or wall shall be reviewed and approved by the Director of the Parks and Community Services Department or his/her designee.

g. Where feasible, walkways from the project may connect to the bikeway/walkway.

f. Landscape improvements shall be surveyed and staked by the developer's Civil Engineer. The landscape improvements shall be inspected and approved by the Director of Parks and Community Services or designee prior to the issuance of any building permits.

g. Eight sets of complete park and/or trail plans shall be submitted to Parks and Community Services for routing. Adjacent landscaping and walls shall be shown on the plans. Final construction plans and details require wet stamped and signed mylars, two sets of bond copies from the City signed mylars, and AutoCAD.dwf and PDF files on CD.

h. Construction of landscape improvements shall begin no later than issuance of 30% building permits and be completed no later than issuance of 70% building permits.

172. All street crossings for Class-I Bikeways shall be signed with approved signage.

173. In order to prevent the delay of building permit issuance, any deviation from materials shall be submitted to Parks and Community Services and approved in writing (at the Department's discretion) 60-days prior to the commencement of construction. Any unauthorized deviation from the approved plan and/or the City's specifications and/or Conditions of Approval may result in the holding of building permits and/or building finals.

174. All inspections shall be requested two (2) working days' in advance from the Parks and Community Services Department at the time of rough and precise grading, fence/wall installation, curb and drainage, flatwork, mulch installation, graffiti coating, soil preparation, irrigation placement, site electrical, weed abatement, planting, and final inspection. Failure to schedule inspections may result in cessation of work and/or re-inspection fees/penalties.

175. This project is subject to current Development Impact Fees. Section 3.38.150 of the City's Municipal Code allows for the developer to receive credits for qualifying public improvements. For consideration of a DIF credit, the developer shall provide an Architect's Cost Estimate. The developer's maximum credit amount is based on the lower of the DIF Study Costs, the Architect's Estimate and the DIF Fee Obligation. Allowance of DIF credits is subject to City review and approval, and is not guaranteed by these Conditions of Approval.

Standard Conditions

176. Detailed final plans (mylars, PDF, and AutoCAD file on a DVD-R) for parks, trails/bikeways, fencing, and adjoining landscaped areas shall be submitted to and approved by the Director of Parks and Community Services, or his/her designee, prior to the issuance of any building permits. All plans are to include a profile showing grade changes.

177. Within the improvements for PCS, the applicant shall show all existing and planned easements on all maps and plans. Easements on City/CSD owned or maintained parks, trails, bikeways, and landscape shall be identified on each of these plans with the instrument number of the recorded easement.

178. Prior to recordation of the Final Map, the applicant shall post security to guarantee construction or modification of parks, trails and/or bikeways for the City/CSD. Copies of said documentation shall be provided to PCS, prior to the approval of the Final Map.

179. Applicable plan check and inspection fees shall be paid, per the approved City fee schedule.

180. A restriction shall be placed on lots that back up to City/CSD owned or maintained parks, trails, bikeways, and landscaped areas, preventing openings or gates accessing the City/CSD owned or maintained property. This shall be documented through Covenants, Conditions, and Restrictions (CC&R's). A copy of the CC&R's with this restriction noted shall be submitted and approved by the Director of Parks and Community Services or his/her designee, prior to the recordation of the Final Map.

181. The following plans require PCS written approval: Tentative tract/parcel maps; rough grading plans (including all Delta changes); Final Map; precise grading plans; street improvement plans; traffic signal plans; fence and wall plans; landscape plans for areas adjacent to bikeways; trail improvement plans. PCS will not approve any permits without review and approval of the above items.

RESOLUTION NUMBER 2021-XX

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF MORENO VALLEY, CALIFORNIA, APPROVING TENTATIVE TRACT MAP 37909 (PEN20-0063) FOR THE IRIS PARK COMMUNITY LOCATED ON THE SOUTH SIDE OF IRIS AVENUE EAST OF PERRIS BOULEVARD (APN 312-020-025)

WHEREAS, the City of Moreno Valley ("City") is a general law city and a municipal corporation of the State of California; and

WHEREAS, Passco Pacifica LLC., ("Developer") has filed an application for the approval of Tentative Tract Map 37909, PEN20-0063 ("Application") for a Planned Unit development associated with ("Project") located on the south side of Iris Avenue east of Perris Boulevard ("Site"); and

WHEREAS, the Application has been evaluated in accordance with Chapter 9.14 (Land Divisions) of the Municipal Code with consideration given to the City's General Plan, Zoning Ordinance, and other applicable laws and regulations; and

WHEREAS, Chapter 9.14 of the Municipal Code imposes conditions of approval upon projects for which a Tentative Tract Map is required, which conditions may be imposed by the City Council to address on-site improvements, off-site improvements, the manner in which the site is used and any other conditions as may be deemed necessary to protect public health, safety and welfare and ensure that the proposed Project will be developed in accordance with the purpose and intent of Title 9 ("Planning and Zoning") of the Municipal Code; and

WHEREAS, Staff has presented for the City Council's consideration Conditions of Approval to be imposed upon Tentative Tract Map 37909 PEN20-0063 (TTM), which conditions have been deemed necessary to protect the public health, safety and welfare and ensure that the proposed Project will be developed in accordance with the purpose and intent of Title 9 ("Planning and Zoning") of the Municipal Code; and

WHEREAS, pursuant to the provisions of Section 9.02.200 (Public Hearing and Notification Procedures) of the Municipal Code and Government Code section 65905, a public hearing was scheduled for November 12, 2020 and notice thereof was duly published and posted, and mailed to all property owners of record within 600 feet of the Site; and

WHEREAS, on November 12, 2020 a duly noticed public hearing was conducted by the Planning Commission where the item was continued to the December 10, 2020 Planning Commission meeting; and

WHEREAS, on December 10, 2020, the public hearing to consider the Application was duly conducted by the Planning Commission at which time all interested persons were provided with an opportunity to testify and to present evidence; and

WHEREAS, on December 10, 2020 a hearing was conducted by the Planning Commission to consider a recommendation that the City Council approve the Mitigated Negative Declaration and the Mitigation Monitoring Plan and approve the proposed Project; and

WHEREAS, on December 10, 2020 a hearing was conducted by the Planning Commission whereby the Planning Commission approved Planning Commission Resolution 2020-52, a recommendation that the City Council approve the Tentative Tract Map 37909; and

WHEREAS, on February 2, 2021, the public hearing to consider the Application was duly conducted by the City Council at which time all interested persons were provided with an opportunity to testify and to present evidence; and

WHEREAS, consistent with the requirements of Chapter 9.14 (Land Divisions) of the Municipal Code, at the public hearing the City Council considered Conditions of Approval to be imposed upon Tentative Tract Map 37909 PEN20-0063 (TTM), which conditions were prepared by Planning Division staff who deemed said conditions to be necessary to protect public health, safety and welfare and to ensure the proposed Project will be developed in accordance with the purpose and intent of Title 9 (Planning and Zoning) of the Municipal Code; and

WHEREAS, at the public hearing, the City Council considered whether each of the requisite findings specified in Section 9.14.070 of the Municipal Code as set forth herein could be made with respect to the proposed Project as conditioned by the proposed Conditions of Approval; and

WHEREAS, on February 2, 2021 a hearing was conducted by the City Council whereby the City Council approved the Tentative Tract Map 37909.

NOW, THEREFORE, THE CITY COUNCIL OF THE CITY OF MORENO VALLEY, CALIFORNIA, DOES HEREBY RESOLVE AS FOLLOWS:

Section 1. **Recitals and Exhibits**

That the foregoing Recitals and attached Exhibits are true and correct and are hereby incorporated by this reference.

Section 2. **Notice**

That pursuant to Government Code section 66020(d)(1), notice is hereby given that the proposed project is subject to certain fees, dedications, reservations and other exactions as provided herein.

Section 3. **Evidence**

That the City Council has considered all of the evidence submitted into the administrative record for the proposed TTM, including, but not limited to, the following:

(a) Moreno Valley General Plan and all relevant provisions contained therein;
(b) Title 9 (Planning and Zoning) of the Moreno Valley Municipal Code and all relevant provisions referenced therein;
(c) Application for the approval of Tentative Tract Map 37909 (TTM) PEN20-0063 and all documents, records and references contained therein;
(d) Conditions of Approval for CUP PEN20-0063, attached hereto as Exhibit A:
(e) Staff Report prepared for the City Council's consideration and all documents, records and references related thereto, and Staff's presentation at the public hearing;
(f) Testimony and/or comments from Applicant and its representatives during the public hearing; and
(g) Testimony comments and/or correspondence from all persons that were submitted at, or prior to, the public hearing.

Section 4. **Findings**

That based on the foregoing Recitals and the Evidence contained in the Administrative Record as set forth above, the City Council makes the following findings in approving TTM 37909 PEN20-0063.

(a) That the proposed map is consistent with applicable general and specific plans and the zoning ordinance;
(b) That the design or improvement of the proposed subdivision is consistent with applicable general and specific plans;
(c) That the site is physically suitable for the type of development;
(d) That the site of the proposed land division is physically suitable for the proposed density of the development;
(e) That the design of the subdivision or the proposed improvements are not likely to cause substantial environmental damage or substantially and avoidably injure fish or wildlife or their habitat;
(f) That the design of the subdivision or type of improvements is not likely to cause serious public health problems;
(g) That the design of the subdivision or the type of improvements will not conflict with easements, acquired by the public at large, for access through or use of, property within the proposed subdivision;
(h) That the proposed land division is not subject the Williamson Act pursuant to the California Land Conservation Act of 1965;
(i) That the proposed land division and the associated design and improvements are not consistent with applicable ordinances of the City.
(j) That the design of the land division provides, to the extent feasible, for future passive or natural heating and cooling opportunities in the subdivision; and
(k) That the effect of the proposed land division on the housing needs of the region were considered and balanced against the public service needs of the residents of Moreno Valley and available fiscal and environmental resources.

Section 5. **Approval**

That based on the foregoing Recitals, Evidence contained in the Administrative Record and Findings set forth above, the City Council hereby approves TTM PEN20-0063 subject to the Conditions of Approval for TTM PEN20-0063 attached hereto as Exhibit A.

Section 6. **Repeal of Conflicting Provisions**

That all the provisions as heretofore adopted by the City Council that are in conflict with the provisions of this Resolution are hereby repealed.

Section 7. **Severability**

That the City Council declares that, should any provision, section, paragraph, sentence or word of this Resolution be rendered or declared invalid by any final court action in a court of competent jurisdiction or by reason of any preemptive legislation, the remaining provisions, sections, paragraphs, sentences or words of this Resolution as hereby adopted shall remain in full force and effect.

Section 8. **Effective Date**

That this Resolution shall take effect immediately upon the date of adoption.

Section 9. **Certification**

That the City Clerk for the City Council shall certify to the passage of this Resolution.

PASSED AND ADOPTED THIS _____ day of _____, 2021.

CITY OF MORENO VALLEY
CITY COUNCIL

_____
Dr. Yxstian A. Gutierrez
Mayor of the City of Moreno Valley

ATTEST:

_____
Pat Jacquez-Nares, City Clerk

APPROVED AS TO FORM:

_____
Steven B. Quintanilla, Interim City Attorney

Exhibits:
Exhibit A: Conditions of Approval PEN20-0063
Exhibit B: Tentative Tract Map 37909

Exhibit A

CONDITIONS OF APPROVAL

Exhibit B

TENTATIVE TRACT MAP 37909

CITY OF MORENO VALLEY
CONDITIONS OF APPROVAL
Tentative Tract Map (PEN20-0063)
Conditional Use Permit (PEN-0065)

EFFECTIVE DATE:
EXPIRATION DATE:

COMMUNITY DEVELOPMENT DEPARTMENT

Planning Division

1. A change or modification to the land use or the approved site plans may require a separate approval. Prior to any change or modification, the property owner shall contact the City of Moreno Valley Community Development Department to determine if a separate approval is required.

2. Any expansion to this use or exterior alterations will require the submittal of a separate application(s) and shall be reviewed and approved under separate permit(s). (MC 9.02.080)

3. The developer, or the developer's successor-in-interest, shall be responsible for maintaining any undeveloped portion of the site in a manner that provides for the control of weeds, erosion and dust. (MC 9.02.030)

4. All landscaped areas shall be maintained in a healthy and thriving condition, free from weeds, trash and debris. (MC 9.02.030)

5. The site shall be developed in accordance with the approved plans on file in the Community Development Department - Planning Division, the Municipal Code regulations, General Plan, and the conditions contained herein. Prior to any use of the project site or business activity being commenced thereon, all Conditions of Approval shall be completed to the satisfaction of the Planning Official. (MC 9.14.020)

6. Any signs indicated on the submitted plans are not included with this approval. Any signs, whether permanent (e.g. wall, monument) or temporary (e.g. banner, flag), require separate application and approval by the Planning Division. No signs are permitted in the public right of way. (MC 9.12)

7. All site plans, grading plans, landscape and irrigation plans, fence/wall plans, lighting plans and street improvement plans shall be coordinated for consistency with this approval.

Special Conditions

8. Prior to grading plan approval, Basin fencing shall include wrought iron fencing with pilasters.

9. Prior to building final, a basin maintained by an HOA or other private entity, landscape (trees, shrubs and groundcover) and irrigation shall be installed, and maintained by the HOA or other private entity with documentation provided to the Planning Division.

10. Prior to issuance of building permits, final front and street side yard landscape and irrigation plans, and slope landscape plans and basin landscape plans, shall be approved.

11. This approval shall comply with all applicable requirements of the City of Moreno Valley Municipal Code.

12. The grading plans shall show all easements including an easement for trail purposes for the Juan Bautista de Anza trail per the Tentative Tract Map.

13. The site shall be developed in accordance with the approved tentative map on file in the Community Development Department -Planning Division, the Municipal Code regulations, General Plan, and the conditions contained herein. (MC 9.14.020)

14. Prior to building final, the developer/owner or developer's/owner's successor-in-interest shall pay all applicable impact fees, including but not limited to Transportation Uniform Mitigation fees (TUMF), and the City's adopted Development Impact Fees. (Ord)

15. A drought tolerant landscape palette shall be utilized throughout the tract in compliance with the City's Landscape Requirements. (9.17)

16. This tentative map and Conditional Use Permit for the Planned Unit Development shall expire three years after the approval date of this tentative map and conditional use permit unless extended as provided by the City of Moreno Valley Municipal Code; otherwise it shall become null and void and of no effect whatsoever in the event the applicant or any successor in interest fails to properly file a final map before the date of expiration. (MC 9.02.230, 9.14.050, 080)

17. Prior to the issuance of grading permits, mitigation measures contained in the Mitigation Monitoring Program approved with this project shall be implemented as provided therein.

18. Prior to any site disturbance and/or grading plan submittal, and or final map

recordation, a mitigation monitoring fee, as provided by City ordinance, shall be paid by the applicant/owner. No City permit or approval shall be issued until such fee is paid. (CEQA)

19. Prior to issuance of a building permit, the developer/property owner or developer's successor-in-interest shall pay all applicable impact fees due at permit issuance, including but not limited to Multi-species Habitat Conservation Plan (MSHCP) mitigation fees. (Ord.)

20. Prior to approval of any grading plan, local and master-planned multi-use trail easements shall be shown on the rough and precise grading plans in accordance with the City's Master Trail Plan.

21. All undeveloped portions of the site in perpetuity shall be maintained in a manner that provides for the control of weeds, erosion and dust. (MC 9.02.030)

22. Prior to the issuance of building permits, the developer shall provide documentation that contact was made to the U.S. Postal Service to determine the appropriate type and location of mailboxes. Mailboxes shall be clustered and include security lighting per U. S. Postal standards.

23. All site plans, grading plans, landscape and irrigation plans, and street improvement plans shall be coordinated for consistency with this approval.

24. Prior to the start of any construction, temporary security fencing shall be erected. The fencing shall be a minimum of six (6) feet high with locking, gated access and shall remain through the duration of construction. Security shall remain in place until the project is completed or the above conditions no longer exist. (Security fencing is required if there is: construction, unsecured structures, unenclosed storage of materials and/or equipment, and/or the condition of the site constitutes a public hazard).

25. The site has been approved for Tentative Tract Map 37909 (PEN20-0063) to subdivide approximately 10.82 acres into eighty-one single family residential lots including the approval of a Conditional Use Permit (PEN20-0065) for a Planned Unit Development to design and implement the residential community as designed per the approved plans for the Tentative Tract Map 37909 and the Planned Unit Development. The Tentative Tract Map 37909 and the Conditional Use Permit for the Planned Unit Development must be developed in conjunction with each other as approved. A change or modification shall require separate approval.

26. Prior to recordation of the final subdivision map, the following documents shall be submitted to and approved by the Planning Division which shall demonstrate that the project will be developed and maintained in accordance with the intent and purpose of the approval:

a. The document to convey title

b. Deed restrictions, easements, or Covenants, Conditions and Restrictions to be recorded

The approved documents shall be recorded at the same time that the subdivision map is recorded. The documents shall contain provisions for general maintenance of the site, joint access to proposed parcels, open space use restrictions, conservation easements, guest parking, feeder trails, water quality basins, lighting, landscaping and common area use items such as tot lot/public seating areas and other recreation facilities or buildings. The approved documents shall also contain a provision, which provides that they may not be terminated and/or substantially amended without the consent of the City and the developer's successor-in-interest. (MC 9.14.090)

In addition, the following deed restrictions and disclosures shall be included within the document and grant deed of the properties:

a. The developer and homeowners association shall promote the use of native plants and trees and drought tolerant species.

b. All lots designated for open space and or detention basins, shall be included as an easement to, and maintained by a Homeowners Association (HOA) or other private maintenance entity. All reverse frontage landscape areas shall also be maintained by the onsite HOA. Language to this effect shall be included and reviewed within the required Covenant Conditions and Restrictions (CC&Rs) prior to the approval of the final map.

c. Maintenance of any and all common facilities.

d. A conservation easement for lettered lots shall be recorded on the deed of the property and shown on the final map. Said easement shall include access restrictions prohibiting motorized vehicles from these areas.

e. Oleander plants or trees shall be prohibited on open space lots adjacent to multi-use trails.

27. Separate Administrative Plot Plans, including, Design Review (product approval) and Model Home Complex and/or temporary sales trailers, are required for approval of the design of the future single-family homes for Tentative Tract Map 37909.

28. Prior to building final, slope landscape and irrigation shall be installed, certified by the Landscape Architect with documentation provided to the Planning Division with an inspection performed and approved by the Planning Division. Landscaping on lots not yet having dwelling units shall be maintained by the developer weed and disease free. (MC 9.03.040)

Prior to Grading Permit

29. Prior to issuance of any grading permit, all Conditions of Approval and Mitigation Measures shall be printed on the grading plans.

30. Prior to the issuance of grading permits, decorative (e.g. colored/scored concrete or as approve by the Planning Official) pedestrian pathways across circulation aisles/paths shall be provided throughout the development to connect dwellings with open spaces and/or recreational uses with open space and/or parking. and/or the public right-of-way. The pathways shall be shown on the precise grading plan. (GP Objective 46.8, DG)

31. Prior to issuance of grading permits, the developer shall pay the applicable Stephens' Kangaroo Rat (SKR) Habitat Conservation Plan mitigation fee. (Ord)

32. If potential historic, archaeological, Native American cultural resources or paleontological resources are uncovered during excavation or construction activities at the project site, work in the affected area must cease immediately and a qualified person (meeting the Secretary of the Interior's standards (36CFR61)) shall be consulted by the applicant to evaluate the find, and as appropriate recommend alternative measures to avoid, minimize or mitigate negative effects on the historic, prehistoric, or paleontological resource. Determinations and recommendations by the consultant shall be immediately submitted to the Planning Division for consideration, and implemented as deemed appropriate by the Community Development Director, in consultation with the State Historic Preservation Officer (SHPO) and any and all affected Native American Tribes before any further work commences in the affected area.

    If human remains are discovered during grading and other construction excavation, no further disturbance shall occur until the County Coroner has made necessary findings as to origin. If the County Coroner determines that the remains are potentially Native American, the California Native American Heritage Commission shall be notified within 5-days of the published finding to be given a reasonable opportunity to identify the "most likely descendant." The "most likely descendant" shall then make recommendations, and engage in consultations concerning the treatment of the remains (California Public Resources Code 5097.98). (GP Objective 23.3, CEQA).

33. Within thirty (30) days prior to any grading or other land disturbance, a pre-construction survey for Burrowing Owls shall be conducted pursuant to the established guidelines of Multiple Species Habitat Conservation Plan. The pre-construction survey shall be submitted to the Planning Division prior to any disturbance of the site and/or grading permit issuance.

34. Prior to approval of any grading permits, plans for any security gate system shall be submitted to and approved by to the Planning Division.

35. Prior to the issuance of grading permits, the site plan and grading plans shall show decorative hardscape (e.g. colored concrete, stamped concrete, pavers or as approved by the Planning Official) consistent and compatible with the design, color and materials of the proposed development for all driveway ingress/egress locations of the project.

36. Prior to issuance of grading permits, the developer shall submit wall/fence plans to be included in the Building and Safety submittal for review and approval consistent with the approved plans, the Planned Unit Development Guidelines, the Landscape Requirements and the Municipal Code.

37. Prior to the issuance of grading permits, a temporary project identification sign shall be erected on the site in a secure and visible manner. The sign shall be conspicuously posted at the site and remain in place until occupancy of the project. The sign shall include the following:

    a. The name (if applicable) and address of the development.
    b. The developer's name, address, and a 24-hour emergency telephone number.

38. Prior to issuance of any building permit, all Conditions of Approval and Mitigation Measures shall be printed on the building plans.

39. Prior to the issuance of building permits, the developer shall provide documentation that contact was made to the U.S. Postal Service to determine the appropriate type and location of mailboxes.

40. 41. Prior to the issuance of building permits, final landscape and irrigation plans shall be submitted for review and approved by the Planning Division for the following:
    a. Areas maintained by the Homeowner's Association including parks, site entry driveways, and other on-site landscaping;
    b. Areas along Iris Avenue;
    c. Trail Easement (per Parks and Community Services design standards); and
    d. Front yards.

    Landscaping is required for the sides and or slopes of all water quality basin and drainage areas, while a hydroseed mix with irrigation is acceptable for the bottom of the basin areas. All detention basins shall include trees, shrubs and groundcover up to the concreted portion of the basin. A solid decorative wall with pilasters, tubular steel fence with pilasters or other fence or wall approved by the Planning Official is required to secure all water quality and detention basins.
    The plans shall be prepared in accordance with the City's Landscape Development

Guidelines and the Planned Unit Development Guidelines.
A detailed, on-site, computer generated, point-by-point comparison lighting plan shall be proved with and integrated into the landscape plan. The plan shall include all project lighting within the community to include street lights, exterior building lights, parking area lighting and park lights. The plan shall indicate the manufacturer's specifications for light fixtures used, shall include style, illumination, location, height and method of shielding per the City's Municipal Code requirements.

41. Prior to issuance of building permits, the Planning Division shall review and approve the location and method of enclosure or screening of transformer cabinets, commercial gas meters and back flow preventers as shown on the final working drawings. Location and screening shall comply with the following criteria: transformer cabinets and commercial gas meters shall not be located within required setbacks and shall be screened from public view either by architectural treatment or landscaping; multiple electrical meters shall be fully enclosed and incorporated into the overall architectural design of the building(s); back-flow preventers shall be screened by landscaping. (GP Objective 43.30)

42. Prior to issuance of a building permit, the developer/property owner or developer's successor-in-interest shall pay all applicable impact fees due at permit issuance, including but not limited to Multi-species Habitat Conservation Plan (MSHCP) mitigation fees. (Ord)

43. Prior to building final, the developer/owner or developer's/owner's successor-in-interest shall pay all applicable impact fees, including but not limited to Transportation Uniform Mitigation fees (TUMF), and the City's adopted Development Impact Fees. (Ord)

44. Prior to issuance of building permits, for projects that will be phased, a phasing plan shall be submitted to and approved by the Planning Division if occupancy is proposed to be phased.

45. Photometric Plans shall be submitted to the Building and Safety Division for review and approval as part of the lighting and electrical building plan submittal.

46. Prior to issuance of any grading permits, mitigation measures contained in the Mitigation Monitoring Program approved with this project shall be implemented as provided therein. A mitigation monitoring fee, as provided by City ordinance, shall be paid by the applicant within 30 days of project approval. No City permit or approval shall be issued until such fee is paid. (CEQA)

Prior to Building Final or Occupancy

47. Prior to building final, all required landscaping and irrigation shall be installed per plan, certified by the Landscape Architect and inspected by the Planning Division. (MC 9.03.040, MC 9.17).

48. Prior to building final, Planning approved/stamped landscape plans shall be provided to the Community Development Department – Planning Division on a CD disk.

49. Prior to building final, all required and proposed fences and walls shall be constructed according to the approved plans on file in the Planning Division. (MC 9.080.070).

Building Division

50. Prior to submittal, all new development, including residential second units, are required to obtain a valid property address prior to permit application. Addresses can be obtained by contacting the Building Safety Division at 951.413.3350.

51. Contact the Building Safety Division for permit application submittal requirements.

52. Any construction within the city shall only be as follows: Monday through Friday seven a.m. to seven p.m(except for holidays which occur on weekdays), eight a.m. to four p.m.; weekends and holidays (as observed by the city and described in the Moreno Valley Municipal Code Chapter 2.55), unless written approval is first obtained from the Building Official or City Engineer.

53. Building plans submitted shall be signed and sealed by a California licensed design professional as required by the State Business and Professions Code.

54. The proposed development shall be subject to the payment of required development fees as required by the City's current Fee Ordinance at the time a building application is submitted or prior to the issuance of permits as determined by the City.

55. The proposed project will be subject to approval by the Eastern Municipal Water District and all applicable fees and charges shall be paid prior to permit issuance. Contact the water district at 951.928.3777 for specific details.

56. All new structures shall be designed in conformance to the latest design standards adopted by the State of California in the California Building Code, (CBC) Part 2, Title 24, California Code of Regulations including requirements for allowable area, occupancy separations, fire suppression systems, accessibility, etc. The current code edition is the 2019 CBC.

57. The proposed project's occupancy shall be classified by the Building Official and must comply with exiting, occupancy separation(s) and minimum plumbing fixture requirements. Minimum plumbing fixtures shall be provided per the 2019 California Plumbing Code, Table 422.1. The occupant load and occupancy classification shall be determined in accordance with the California Building Code.

58. The proposed residential project shall comply with The 2019 California Green Building Standards Code, Section 4.106.4, mandatory requirements for Electric Vehicle Charging Station (EVCS).

59. Prior to permit issuance, every applicant shall submit a properly completed Waste Management Plan (WMP), as a portion of the building or demolition permit process. (MC 8.80.030)

FIRE DEPARTMENT

Fire Prevention Bureau

60. All Fire Department access roads or driveways shall not exceed 12 percent grade. (CFC 503.2.7 and MVMC 8.36.060[G])

61. The Fire Department emergency vehicular access road shall be (all weather surface) capable of sustaining an imposed load of 80,000 lbs. GVW, based on street standards approved by the Public Works Director and the Fire Prevention Bureau. The approved fire access road shall be in place during the time of construction. Temporary fire access roads shall be approved by the Fire Prevention Bureau. (CFC 501.4, and MV City Standard Engineering Plan 108d)

62. The angle of approach and departure for any means of Fire Department access shall not exceed 1 ft drop in 20 ft (0.3 m drop in 6 m), and the design limitations of the fire apparatus of the Fire Department shall be subject to approval by the AHJ. (CFC 503 and MVMC 8.36.060)

63. Prior to issuance of Building Permits, the applicant/developer shall provide the Fire Prevention Bureau with an approved site plan for Fire Lanes and signage. (CFC 501.3)

64. Prior to issuance of Certificate of Occupancy or Building Final, "Blue Reflective Markers" shall be installed to identify fire hydrant locations in accordance with City specifications. (CFC 509.1 and MVLT 440A-0 through MVLT 440C-0)

65. Existing fire hydrants on public streets are allowed to be considered available. Existing fire hydrants on adjacent properties shall not be considered available unless fire apparatus access roads extend between properties and easements are

established to prevent obstruction of such roads. (CFC 507, 501.3) a - After the local water company signs the plans, the originals shall be presented to the Fire Prevention Bureau for signatures. The required water system, including fire hydrants, shall be installed, made serviceable, and be accepted by the Moreno Valley Fire Department prior to beginning construction. They shall be maintained accessible.

66. Final fire and life safety conditions will be addressed when the Fire Prevention Bureau reviews building plans. These conditions will be based on occupancy, use, California Building Code (CBC), California Fire Code (CFC), and related codes, which are in effect at the time of building plan submittal.

67. The Fire Code Official is authorized to enforce the fire safety during construction requirements of Chapter 33. (CFC Chapter 33 & CBC Chapter 33)

68. Fire lanes and fire apparatus access roads shall have an unobstructed width of not less than twenty–four (24) feet and an unobstructed vertical clearance of not less the thirteen (13) feet six (6) inches. (CFC 503.2.1 and MVMC 8.36.060[E])

69. Prior to issuance of Certificate of Occupancy or Building Final, the applicant/developer shall install a fire sprinkler system based on square footage and type of construction, occupancy or use. Fire sprinkler plans shall be submitted to the Fire Prevention Bureau for approval prior to installation. (CFC Chapter 9, MVMC 8.36.100[D])

70. Prior to issuance of the building permit for development, independent paved access to the nearest paved road, maintained by the City shall be designed and constructed by the developer within the public right of way in accordance with City Standards. (MVMC 8.36.060, CFC 501.4)

71. The minimum number of fire hydrants required, as well as the location and spacing of fire hydrants, shall comply with the C.F.C., MVMC, and NFPA 24. Fire hydrants shall be located no closer than 40 feet to a building. The size and number of outlets required for the approved fire hydrants are (6" x 4" x 2 ½") (CFC 507.5.1, 507.5.7, Appendix C, NFPA 24-7.2.3, MVMC 912.2.1)

72. During phased construction, dead end roadways and streets which have not been completed shall have a turn-around capable of accommodating fire apparatus. (CFC 503.1 and 503.2.5)

73. If construction is phased, each phase shall provide an approved emergency vehicular access way for fire protection prior to any building construction. (CFC 501.4)

74. Plans for private water mains supplying fire sprinkler systems and/or private fire

hydrants shall be submitted to the Fire Prevention Bureau for approval. (CFC 105 and CFC 3312.1)

75. Prior to issuance of Certificate of Occupancy or Building Final, all residential dwellings shall display street numbers in a prominent location on the street side of the residence in such a position that the numbers are easily visible to approaching emergency vehicles. The numbers shall be located consistently on each dwelling throughout the development. The numerals shall be no less than four (4) inches in height and shall be low voltage lighted fixtures. (CFC 505.1, MVMC 8.36.060[I])

76. Single Family Dwellings. Schedule "A" fire prevention approved standard fire hydrants (6" x 4" x 2 ½") shall be located at each intersection of all residential streets. Hydrants shall be spaced no more than 500 feet apart in any direction so that no point on the street is more than 250 feet from a hydrant. Minimum fire flow shall be 1000 GPM for 1 hour duration of 20 PSI. Where new water mains are extended along streets where hydrants are not needed for protection of structures or similar fire problems, serving one and two-family residential developments, standard fire hydrants shall be provided at spacing not to exceed 1000 feet along the tract boundary for transportation hazards. (CFC 507.3, Appendix B, MVMC 8.36.060).

77. Prior to construction, all traffic calming designs/devices must be approved by the Fire Marshal and City Engineer.

78. Prior to issuance of Building Permits, the applicant/developer shall furnish one copy of the water system plans to the Fire Prevention Bureau for review. Plans shall: a. Be signed by a registered civil engineer or a certified fire protection engineer; b. Contain a Fire Prevention Bureau approval signature block; and c. Conform to hydrant type, location, spacing of new and existing hydrants and minimum fire flow required as determined by the Fire Prevention Bureau. The required water system, including fire hydrants, shall be installed, made serviceable, and be accepted by the Moreno Valley Fire Department prior to beginning construction. They shall be maintained accessible.

79. Prior to construction, all locations where structures are to be built shall have an approved Fire Department access based on street standards approved by the Public Works Director and the Fire Prevention Bureau. (CFC 501.4)

80. Prior to issuance of building permits, plans specifying the required structural materials for building construction in high fire hazard severity zones shall be submitted to the Fire Prevention Bureau for approval. (CFC, 4905)

81. Prior to issuance of Building Permits, plans for structural protection from vegetation fires shall be submitted to the Fire Prevention Bureau for review and approval. Measures shall include, but are not limited to: noncombustible barriers (cement or

block walls), fuel modification zones, etc. (CFC Chapter 49)

PUBLIC WORKS DEPARTMENT

Land Development

82. Aggregate slurry, as defined in Section 203-5 of Standard Specifications for Public Works Construction, shall be required prior to 90% security reduction or the end of the one-year warranty period of the public streets as approved by the City Engineer. If slurry is required, a slurry mix design shall be submitted for review and approved by the City Engineer. The latex additive shall be Ultra Pave 70 (for anionic) or Ultra Pave 65 K (for cationic) or an approved equal per the geotechnical report. The latex shall be added at the emulsion plant after weighing the asphalt and before the addition of mixing water. The latex shall be added at a rate of two to two-and-one-half (2 to 2½) parts to one-hundred (100) parts of emulsion by volume. Any existing striping shall be removed prior to slurry application and replaced per City standards.

83. The developer shall comply with all applicable City ordinances and resolutions including the City's Municipal Code (MC) and if subdividing land, the Government Code (GC) of the State of California, specifically Sections 66410 through 66499.58, said sections also referred to as the Subdivision Map Act (SMA). [MC 9.14.010]

84. The final approved conditions of approval (COAs) issued and any applicable Mitigation Measures by the Planning Division shall be photographically or electronically placed on mylar sheets and included in the Grading and Street Improvement plans.

85. The developer shall monitor, supervise and control all construction related activities, so as to prevent these activities from causing a public nuisance, including but not limited to, insuring strict adherence to the following:
(a) Removal of dirt, debris, or other construction material deposited on any public street no later than the end of each working day.
(b) Observance of working hours as stipulated on permits issued by the Land Development Division.
(c) The construction site shall accommodate the parking of all motor vehicles used by persons working at or providing deliveries to the site.
(d) All dust control measures per South Coast Air Quality Management District (SCAQMD) requirements during the grading operations.
Violation of any condition, restriction or prohibition set forth in these conditions shall subject the owner, applicant, developer or contractor(s) to remedy as noted in City Municipal Code 8.14.090. In addition, the City Engineer or Building Official may suspend all construction related activities for violation of any condition, restriction or

prohibition set forth in these conditions until such time as it has been determined that all operations and activities are in conformance with these conditions.

86. Drainage facilities (e.g., catch basins, water quality basins, etc.) with sump conditions shall be designed to convey the tributary 100-year storm flows. Secondary emergency escape shall also be provided.

87. In the event right-of-way or offsite easements are required to construct offsite improvements necessary for the orderly development of the surrounding area to meet the public health and safety needs, the developer shall make a good faith effort to acquire the needed right-of-way in accordance with the Land Development Division's administrative policy. If unsuccessful, the Developer shall enter into an agreement with the City to acquire the necessary right-of-way or offsite easements and complete the improvements at such time the City acquires the right-of-way or offsite easements which will permit the improvements to be made. The developer shall be responsible for all costs associated with the right-of-way or easement acquisition. [GC 66462.5]

88. The developer shall protect downstream properties from damage caused by alteration of drainage patterns (i.e. concentration or diversion of flow, etc). Protection shall be provided by constructing adequate drainage facilities, including, but not limited to, modifying existing facilities or by securing a drainage easement. [MC 9.14.110]

89. The maintenance responsibility of the proposed storm drain line shall be clearly identified. Storm drain lines within private property will be privately maintained and those within public streets will be publicly maintained.

90. A storm drain manhole shall be placed at the right-of-way line to mark the beginning of the publicly maintained portion of any private storm drain.

91. For single family residential subdivisions, all lots shall drain to the street at a minimum surface grade of 2.0% and on-site drainage shall be conveyed onto the street with subsurface drains at a minimum grade of 0.5% per current City Standards MVSI-152 and MVSI-153A. No cross-lot or over the public sidewalk drainage shall be allowed.

92. This project shall submit civil engineering design plans, reports and/or documents (prepared by a registered/licensed civil engineer) for review and approval by the City Engineer per the current submittal requirements, prior to the indicated threshold or as required by the City Engineer. The submittal consists of, but is not limited to, the following:
    a. Final (Tract) Map (recordation prior to building permit issuance);
    b. Rough grading w/ erosion control plan (prior to grading permit issuance);
    c. Precise grading w/ erosion control plan (prior to grading permit issuance);

d. Public improvement plan (e.g., street/storm drain w/ striping, RCFC storm drain, sewer/water, etc.) (prior to map approval);

e. Final drainage study (prior to map approval);

f. Final WQMP (prior to grading plan approval);

g. Legal documents (e.g., easement(s), dedication(s), etc.) (prior to Building Permit issuance);

h. As-Built revision for all plans (prior to Occupancy release);

93. Water quality best management practices (BMPs) designed to meet Water Quality Management Plan (WQMP) requirements for single-family residential development shall not be used as a construction BMP. Water quality BMPs shall be maintained for the entire duration of the project construction and be used to treat runoff from those developed portions of the project. Water quality BMPs shall be protected from upstream construction related runoff by having proper best management practices in place and maintained. Water quality BMPs shall be graded per the approved design plans and once landscaping and irrigation has been installed, it and its maintenance shall be turned over to an established Homeowner's Association (HOA). The Homeowner's Association shall enter into an agreement with the City for basin maintenance.

94. If improvements associated with this project are not initiated within two (2) years of the date of approval of the Public Improvement Agreement (PIA), the City Engineer may require that the engineer's estimate for improvements associated with the project be modified to reflect current City construction costs in effect at the time of request for an extension of time for the PIA or issuance of a permit. [MC 9.14.210(B)(C)]

Prior to Grading Plan Approval

95. Resolution of all drainage issues shall be as approved by the City Engineer.

96. A final detailed drainage study (prepared by a registered/licensed civil engineer) shall be submitted for review and approved by the City Engineer. The study shall include, but not be limited to: existing and proposed hydrologic conditions as well as hydraulic calculations for all drainage control devices and storm drain lines. The study shall analyze 1, 3, 6 and 24-hour duration events for the 2, 5, 10 and 100-year storm events [MC 9.14.110(A.1)]. A digital (pdf) copy of the approved drainage study shall be submitted to the Land Development Division.

97. The developer shall ensure compliance with the City Grading ordinance, these Conditions of Approval and the following criteria:

a. The project street and lot grading shall be designed in a manner that perpetuates the existing natural drainage patterns with respect to tributary drainage area and outlet points. Unless otherwise approved by the City Engineer, lot lines

shall be located at the top of slopes.

b. Any grading that creates cut or fill slopes adjacent to the street shall provide erosion control, sight distance control, and slope easements as approved by the City Engineer.

c. All improvement plans are substantially complete and appropriate clearance letters are provided to the City.

d. A soils/geotechnical report (addressing the soil's stability and geological conditions of the site) shall be submitted to the Land Development Division for review. A digital (pdf) copy of the soils/geotechnical report shall be submitted to the Land Development Division.

98. Grading plans (prepared by a registered/licensed civil engineer) shall be submitted for review and approved by the City Engineer per the current submittal requirements.

99. For any offsite grading, the developer shall submit written permission from adjacent property owners. If applicable, all areas outside of the project boundaries where grading results in slopes, the developer shall submit recorded slope easements.

100. The developer shall pay all remaining plan check fees.

101. Landscape & Irrigation plans (prepared by a registered/licensed landscape architect) for water quality BMPs shall be submitted for review and approved by the City Engineer per the current submittal requirements, if applicable.

102. A Storm Water Pollution Prevention Plan (SWPPP) shall be prepared in conformance with the State's current Construction Activities Storm Water General Permit. A copy of the current SWPPP shall be kept at the project site and be available for review upon request.

103. For projects that will result in discharges of storm water associated with construction with a soil disturbance of one or more acres of land, the developer shall submit a Notice of Intent (NOI) and obtain a Waste Discharger's Identification number (WDID#) from the State Water Quality Control Board (SWQCB) which shall be noted on the grading plans.

104. The final project-specific Water Quality Management Plan (WQMP) shall be consistent with the conditionally approved P-WQMP, as well as in full conformance with the document: "Water Quality Management Plan - A Guidance Document for the Santa Ana Region of Riverside County" dated October 22, 2012. The F-WQMP shall be submitted and approved prior to application for and issuance of grading permits. At a minimum, the F-WQMP shall include the following: Site Design BMPs; Source Control BMPs, Treatment Control BMPs, Operation and Maintenance requirements for BMPs and sources of funding for BMP implementation.

a. The Applicant has proposed to incorporate the use of Bioretention. Final

design and sizing details of all BMPs must be provided in the first submittal of the F-WQMP. The Applicant acknowledges that more area than currently shown on the plans may be required to treat site runoff as required by the WQMP guidance document and may result in the lost of lot(s).

b. The Applicant shall substantiate the applicable Hydrologic Condition of Concerns (HCOC) in Section F of the F-WQMP. <The HCOC designates that the project will be exempt from mitigation requirements based on Exemption 3>.

c. All proposed LID BMP's shall be designed in accordance with the RCFC&WCD's Design Handbook for Low Impact Development Best Management Practices, dated September 2011.

d. The proposed LID BMP's as identified in the project-specific P-WQMP shall be incorporated into the Final WQMP.

e. The NPDES notes per City Standard Drawing No. MVFE-350-0 shall be included in the grading plans.

f. Post-construction treatment control BMPs, once placed into operation for post-construction water quality control, shall not be used to treat runoff from construction sites or unstabilized areas of the site.

g. Prior to precise grading plan approval, the grading plan shall show any proposed trash enclosure to include a cover (roof) and sufficient size for dual bin (1 for trash and 1 for recyclables). The architecture shall be approved by the Planning Division and any structural approvals shall be made by the Building and Safety Division.

Prior to Grading Permit

105. A receipt showing payment of the Area Drainage Plan (ADP) fee to Riverside County Flood Control and Water Conservation District shall be submitted. [MC 9.14.100(O)]

106. If the developer chooses to construct the project in phases, a Construction Phasing Plan for the construction of on-site public or private improvements shall be submitted for review and approved by the City Engineer.

107. A digital (pdf) copy of all approved grading plans shall be submitted to the Land Development Division.

108. Security, in the form of a cash deposit (preferable), bond or letter of credit shall be submitted as a guarantee of the implementation and maintenance of erosion control measures. At least twenty-five (25) percent of the required security shall be in the form of a cash deposit with the City. [MC 8.21.160(H)]

109. Security, in the form of a cash deposit (preferable), bond or letter of credit shall be submitted as a guarantee of the completion of the grading operations for the project. [MC 8.21.070]

110. The developer shall pay all applicable inspection fees.

111. All necessary permits from Department of Water Resources for grading, storm drain construction, etc. shall be obtained, ifapplicable.

Prior to Map Approval

112. All proposed street names shall be submitted for review and approved by the City Engineer, if applicable. [MC 9.14.090(E.2.k)]

113. A copy of the Covenants, Conditions and Restrictions (CC&R's) shall be submitted for review and approved by the City Engineer. The CC&R's shall include, but not be limited to, access easements, reciprocal access, private and/or public utility easements as may be relevant to the project. In addition, for single-family residential development, bylaws and articles of incorporation shall also be included as part of the maintenance agreement for any water quality BMPs.

114. The developer shall enter into a Cooperative Agreement with the City and Riverside County Flood Control and Water Conservation District establishing the terms and conditions covering the inspection, operation and maintenance of Master Drainage Plan facilities required to be constructed as part of the project.

115. After recordation, a digital (pdf) copy of the recorded map shall be submitted to the Land Development Division.

116. Resolution of all drainage issues shall be as approved by the City Engineer.

117. If the project involves the subdivision of land, maps may be developed in phases with the approval of the City Engineer. Financial security shall be provided for all public improvements associated with each phase of the map. The boundaries of any multiple map increment shall be subject to the approval of the City Engineer. If the project does not involve the subdivision of land and it is necessary to dedicate right-of-way/easements, the developer shall make the appropriate offer of dedication by separate instrument. In either case, the City Engineer may require the dedication and construction of necessary utility, street or other improvements beyond the project boundary, if the improvements are needed for circulation, parking, access, or for the welfare or safety of the public. This approval must be obtained prior to the Developer submitting a Phasing Plan to the California Bureau of Real Estate. [MC 9.14.080(B)(C), GC 66412 & 66462.5]

118. Maps (prepared by a registered civil engineer and/or licensed surveyor) shall be submitted for review and approved by the City Engineer per the current submittal requirements.

119. Under the current permit for storm water activities required as part of the National Pollutant Discharge Elimination System (NPDES) as mandated by the Federal Clean Water Act, this project is subject to the following requirements:

a. Establish a Home Owners Association (HOA) to finance the maintenance of the "Water Quality BMPs". Any lots which are identified as "Water Quality BMPs" shall be owned in fee by the HOA.

b. Dedicate a maintenance easement to the City of Moreno Valley.

c. Execute a maintenance agreement between the City of Moreno Valley and the HOA, which shall be approved by City Council.

d. Provide a certificate of insurance per the terms of the maintenance agreement.

e. Select one of the following options to meet the financial responsibility to provide storm water utilities services for the required continuous operation, maintenance, monitoring system evaluations and enhancements, remediation and/or replacement, all in accordance with Resolution No. 2002-46.

i. Participate in the mail ballot proceeding in compliance with Proposition 218, for the Residential NPDES Regulatory Rate Schedule and pay all associated costs with the ballot process, or

ii. Establish an endowment to cover future maintenance costs for the Residential NPDES Regulatory Rate Schedule.

f. Notify the Special Districts Division of the intent to record the final map 90 days prior to City Council action authorizing recordation of the final map and the financial option selected. The final option selected shall be in place prior to the issuance of certificate of occupancy. [California Government Code & Municipal Code]

120. The developer shall guarantee the completion of all related improvements required for this project by executing a Public Improvement Agreement (PIA) with the City and posting the required security. [MC 9.14.220]

121. All public improvement plans required for this project shall be approved by the City Engineer in order to execute the Public Improvement Agreement (PIA).

122. The developer shall comply with the requirements of the City Engineer based on recommendations of the Riverside County Flood Control District regarding the construction of County Master Plan Facilities.

Prior to Improvement Plan Approval

123. The developer is required to bring any existing access ramps adjacent to and fronting the project to current ADA (Americans with Disabilities Act) requirements. However, when work is required in an intersection that involves or impacts existing access ramps, all access ramps in that intersection shall be retrofitted to comply

with current ADA requirements, unless otherwise approved by the City Engineer.

124. The developer shall submit clearances from all applicable agencies, and pay all applicable plan check fees.

125. The street improvement plans shall comply with current City policies, plans and applicable City standards (i.e. MVSI-160 series, etc.) throughout this project.

126. Any missing or deficient existing improvements along the project frontage within shall be constructed or secured for construction. The City Engineer may require the ultimate structural section for pavement to half-street width plus 18 feet or provide core test results confirming that existing pavement section is per current City Standards; additional signing & striping to accommodate increased traffic imposed by the development, etc.

127. The plans shall indicate any restrictions on trench repair pavement cuts to reflect the City's moratorium on disturbing newly-constructed pavement less than three (3) years old and recently slurry sealed streets less than one (1) year old. Pavement cuts may be allowed for emergency repairs or as specifically approved in writing by the City Engineer. Special requirements shall be imposed for repaving, limits to be determined by the City Engineer.

128. All dry and wet utilities shall be shown on the plans and any crossings shall be potholed to determine actual location and elevation. Any conflicts shall be identified and addressed on the plans. The pothole survey data shall be submitted to Land Development with the public improvement plans for reference purposes only. The developer is responsible to coordinate with all affected utility companies and bear all costs of any utility relocation.

129. Drainage facilities (i.e. catch basins, etc.) with sump conditions shall be designed to convey the tributary 100-year storm flows. Secondary emergency escape shall also be provided.

130. All public improvement plans (prepared by a licensed/registered civil engineer) shall be submitted for review and approved by the City Engineer per the current submittal requirements.

Prior to Encroachment Permit

131. A digital (pdf) copy of all approved improvement plans shall be submitted to the Land Development Division.

132. All applicable inspection fees shall be paid.

133. The plans shall indicate any restrictions on trench repair pavement cuts to reflect the City's moratorium on disturbing newly-constructed pavement less than three (3) years old and recently slurry sealed streets less than one (1) year old. Pavement cuts may be allowed for emergency repairs or as specifically approved in writing by the City Engineer. Special requirements shall be imposed for repaving, limits to be determined by the City Engineer.

134. Any work performed within public right-of-way requires an encroachment permit.

Prior to Building Permit

135. An engineered-fill certification, rough grade certification and compaction report shall be submitted for review and approved by the City Engineer. A digital (pdf) copy of the approved compaction report shall be submitted to the Land Development Division. All pads shall meet pad elevations per approved grading plans as noted by the setting of "blue-top" markers installed by a registered land surveyor or licensed civil engineer.

136. For all subdivision projects, the map shall be recorded (excluding model homes). [MC 9.14.190]

137. A walk through with a Land Development Inspector shall be scheduled to inspect existing improvements within public right of way along project frontage. Any missing, damaged or substandard improvements including ADA access ramps that do not meet current City standards shall be required to be installed, replaced and/or repaired. The applicant shall post security to cover the cost of the repairs and complete the repairs within the time allowed in the public improvement agreement used to secure the improvements.

138. Certification to the line, grade, flow test and system invert elevations for the water quality control BMPs shall be submitted for review and approved by the City Engineer (excluding models homes).

Prior to Occupancy

139. All outstanding fees shall be paid.

140. All required as-built plans (prepared by a registered/licensed civil engineer) shall be submitted for review and approved by the City Engineer per the current submittal requirements.

141. The final/precise grade certification shall be submitted for review and approved by the City Engineer.

142. The developer shall complete all public improvements in conformance with current City standards, except as noted in the Special Conditions, including but not limited to the following:

a. Street improvements including, but not limited to: pavement, base, curb and/or gutter, cross gutters, spandrel, sidewalks, drive approaches, pedestrian ramps, street lights (SL-2), signing, striping, under sidewalk drains, landscaping and irrigation, medians, pavement tapers/transitions and traffic control devices as appropriate.

b. Grind and overlay full street width along the project's frontage shall be required.

c. Storm drain facilities including, but not limited to: storm drain pipe, storm drain laterals, open channels, catch basins and local depressions.

d. City-owned utilities.

e. Sewer and water systems including, but not limited to: sanitary sewer, potable water and recycled water.

f. Under grounding of all existing and proposed utilities adjacent to and on-site. [MC 9.14.130]

g. Relocation of overhead electrical utility lines including, but not limited to: electrical, cable and telephone.

143. For residential subdivisions, punch list work for improvements and capping of streets in that phase shall be completed and approved for acceptance by the City Engineer, prior to the last 20% or last 5% (whichever is greater, unless as otherwise determined by the City Engineer).

144. The applicant shall ensure the following, pursuant to Section XII. I. of the 2010 NPDES Permit:

a. Field verification that structural Site Design, Source Control and Treatment Control BMPs are designed, constructed and functional in accordance with the approved Final Water Quality Management Plan (WQMP).

b. Certification of best management practices (BMPs) from a state licensed civil engineer. An original WQMP BMP Certification shall be submitted for review and approved by the City Engineer.

145. The Developer shall comply with the following water quality related items:

a. Notify the Land Development Division prior to construction and installation of all structural BMPs so that an inspection can be performed.

b. Demonstrate that all structural BMPs described in the approved final project-specific WQMP have been constructed and installed in conformance with the approved plans and specifications;

c. Demonstrate that Developer is prepared to implement all non-structural BMPs described in the approved final project-specific WQMP; and

d. Demonstrate that an adequate number of copies of the approved final project-specific WQMP are available for future owners/occupants.

e. Clean and repair the water quality BMP's, including re-grading to approved civil drawing if necessary.

f. Obtain approval and complete installation of the irrigation and landscaping.

146. Prior to the first occupancy, the developer shall be required to construct Riverside County Flood Control and Water Conservation District's Sunnymead MDP Line M-2 from its current terminus to the project's westerly boundary.

Special Districts Division

147. The ongoing maintenance of any landscaping required to be installed behind the curb shall be the responsibility of the property owner.

148. MAJOR INFRASTRUCTURE FINANCING DISTRICT. This project has been identified to potentially be included in the formation of a special financing district for the construction and maintenance of major infrastructure improvements which may include but are not limited to thoroughfares, bridges, and certain flood control improvements. The property owner(s) shall participate in such district and pay any special tax, assessment, or fee levied upon the project property for such district. At the time of the public hearing to consider formation of or annexation into the district, the qualified elector(s) will not protest the formation or annexation, but will retain the right to object to any eventual tax/assessment/fee that is not equitable should the financial burden of the tax/assessment/fee not be reasonably proportionate to the benefit the affected property obtains from the improvements to be installed and/or maintained. The Developer must notify the Special Districts Division at 951.413.3480 or at specialdistricts@moval.org when submitting an application for the first building permit to determine whether the development will be subjected to this condition. If subject to the condition, the special election requires a minimum 90-day process in compliance with the provisions of Article 13C of the California Constitution.

149. The parcel(s) associated with this project have been incorporated into the Moreno Valley Community Services District Zone A (Parks & Community Services) and Zone C (Arterial Street Lighting). All assessable parcels therein shall be subject to annual parcel taxes for Zone A and Zone C for operations and capital improvements.

150. This project is conditioned to provide a funding source for the operation and maintenance of public improvements and/or services associated with new development in that territory. The Developer shall satisfy this condition with one of the options below.

a. Participate in a special election for maintenance/services and pay all associated costs of the election process and formation, if any. Financing may be

structured through a Community Facilities District, Landscape and Lighting Maintenance District, or other financing structure as determined by the City; or

b. Establish an endowment fund to cover the future maintenance and/or service costs.

The Developer must notify the Special Districts Division at 951.413.3480 or at specialdistricts@moval.org of its selected financial option prior to City Council action authorizing recordation of the final map for the development. A minimum of 90 days is needed to complete the special election process. This allows adequate time to be in compliance with the provisions of Article 13C of the California Constitution for conducting a special election.

The financial option selected shall be in place prior to the issuance of the first building permit for the project.

151. This project has been conditioned to provide a funding source for the continued maintenance, enhancement, and/or retrofit of parks, open spaces, linear parks, and/or trail systems. The Developer shall satisfy this condition with one of the options below.

a. Participate in a special election for annexation into Community Facilities District No. 1 or other district and pay all associated costs of the special election process and formation, if any; or

b. Establish an endowment fund to cover future maintenance costs for new neighborhood parks.

The Developer must notify the Special Districts Division at 951.413.3480 or at specialdistricts@moval.org of its selected financial option prior to City Council action authorizing recordation of the final map for the development. A minimum of 90 days is needed to complete the special election process. This allows adequate time to be in compliance with the provisions of Article 13C of the California Constitution for conducting a special election.

Annexation to CFD No. 1 shall be completed or proof of payment to establish the endowment fund shall be provided prior to the issuance of the first building permit for this project.

152. This project has been identified to be included in the formation of a Community Facilities District for Public Safety services including but not limited to Police, Fire Protection, Paramedic Services, Park Rangers, and Animal Control services. The property owner(s) shall not protest the formation; however, they retain the right to object to the rate and method of maximum special tax. In compliance with

Proposition 218, the property owner shall agree to approve the mail ballot proceeding (special election) for either formation of the CFD or annexation into an existing district that may already be established. The Developer must notify the Special Districts Division at 951.413.3480 or specialdistricts@moval.org of its intent to record the final map for the development 90 days prior to City Council action authorizing recordation of the map. This allows adequate time to be in compliance with the provisions of Article 13C of the California Constitution. (California Government Code Section 53313 et. seq.)

153. Residential (R) If Land Development, a Division of the Public Works Department, requires this project to supply a funding source necessary to provide for, but not limited to, stormwater utilities services for the required continuous operation, maintenance, monitoring, systems evaluation and enhancements of on-site facilities and performing annual inspections of the affected areas to ensure compliance with state mandated storm water regulations, a funding source needs to be established. The Developer must notify the Special Districts Division at 951.413.3480 or at specialdistricts@moval.org of its selected financial option for the National Pollution Discharge Elimination System (NPDES) program (see Land Development's related condition). Participating in a special election the process requires a 90 day period prior to City Council action authorizing recordation of the final map for the development and to participate in a special election process. This allows adequate time to be in compliance with the provisions of Article 13D of the California Constitution. California Health and Safety Code Sections 5473 through 5473.8 (Ord. 708 Section 3.1, 2006) & City of Moreno Valley Municipal Code Title 3, Section 3.50.050.)

Transportation Engineering Division

154. Private streets' road width shall be a minimum of 24-feet with no parking allowed on either side. Applicant shall provide signage (NO PARKING) along the streets per current MUTCD standards.

155. The design and proposed location of the project driveways shall conform to City of Moreno Valley Standard No. MVSI-112C-0 for Commercial Driveway Approaches and Section 9.11.080, and Table 9.11.080-14 of the City's Municipal Code - Design Guidelines or as approved by the City Engineer. Applicant needs to show driveways per City Standard, including additional dedications for public improvements.

156. Right-of-way at driveway(s) entrances shall accommodate all public improvements (i.e. curb ramps, utility controllers, etc.); applicant shall provide dedication as required and appropriate. Show driveways per City standards (curb radii, ramps, grades, so for.)

157. Any proposed driveway gate shall be set back at a minimum of 60 feet from the

property line or as determined by the traffic study to provide sufficient storage length in front of the gate for entering traffic. Gate doors shall be rolling type or swing away from Iris Avenue.

1. Shown gate for westerly driveway needs to swing away from Iris Avenue.

2. Main entrance storage length for visitors is not adequate, location of visitor call box needs to be relocated in order to provide at least two (2) cars on the visitor lane.

158. Applicant shall plan to accommodate gates at entrances and provide road width and improvements accordingly.
For main access point, easterly driveway at proposed Street A, the entrance design shall provide the following:

a. Gate shall be set back a minimum of 60 feet from the property line.

b. A turnaround area - Applicant needs to provide vehicle turning template to show adequacy of provided turnaround area.

c. A storage lane with a minimum of 60 feet queuing length for entering traffic.

d. A second storage lane for visitors to stop and use a call box (or other service) for permission to enter the community. Visitor storage lane seems insufficient due to location of call box, relocate call box or propose design with adequate vehicle storage.

e. No Parking signs posted in the turnaround area.

f. A separate pedestrian entry.

g. Presence loop detectors (or another device) within 1 to 2 feet of the gate that ensures that the gate remain open while any vehicle in in the queue.

h. Slide doors or gate doors that swing away from incoming traffic.

i. A median will be required as traffic calming measure into residential development. Median shall be kept within private property and shall not encroach onto public right-of-way.

159. Conditions of approval may be modified or added if a phasing plan is submitted for this development.

160. All project driveways to public streets shall conform to Section 9.11.080, and Table 9.11.080-14 of the City's Development Code – Design Guidelines and City of Moreno Valley Standard Plans No. MVSI-112A~D-0 for commercial driveway approaches.

161. The gated entrance shall be provided with the following, or as approved by the City Traffic Engineer: A- A storage lane with a minimum of 60' provided for queuing. B - A second storage lane for visitors to stop in prior to the gate to utilize a call box (or other device) to receive permission to enter the site. C - Signing and striping for A. and B. D - A turnaround outside the gates of 38' radius. E - No Parking Signs shall be posted in the turnaround areas. F - A separate pedestrian entry. G - Presence loop detectors (or another device) within 1 or 2 feet of the gates that

ensures that the gates remain open while any vehicle is in the queue. All of these items shall be kept in working order.

162. Sight distance at the proposed roadways and driveways shall conform to City of Moreno Valley Standard No. MVSI-164A,B,C-0 at the time of preparation of final grading, landscape, and street improvement plans.

163. During construction activity, developer is responsible for regularly scheduled street sweeping per approved street sweeping schedule.

164. Prior to issuance of a construction permit, construction traffic control plans prepared by a qualified, registered Civil or Traffic engineer may be required for plan approval or as required by the City Traffic Engineer.

165. Prior to final approval of any landscaping or monument sign plans, the project plans shall demonstrate that sight distance at the project driveways conforms to City Standard Plan No. MVSI-164A, B, C-0.

166. Prior to the final approval of the street improvement plans, a signing and striping plan shall be prepared per City of Moreno Valley Standard Plans - Section 4 for all streets within the project area.

167. Prior to issuance of a Building Final or Certificate of Occupancy, all approved street improvements shall be installed to the satisfaction of the City Engineer.

168. Prior to issuance of a Building Final or Certificate of Occupancy, all approved signing and striping shall be installed per current City Standards

PARKS & COMMUNITY SERVICES DEPARTMENT

169. This project is subject to current Quimby Fees.

170. Bikeways shall not be shared with any above ground utilities, blocking total width access.

171. According to the General Plan and City's Juan Bautista de Anza trail plan, project improvements include a Class I Bikeway, walkway, and landscaped area. City shall construct paved Class I bike trail only. Developer shall design and construct landscape and irrigation improvements for the Juan Bautista de Anza trail greenbelt, including lighting along the trail. Landscaping and irrigation shall be maintained by City following acceptance of the public improvements into the City's Community Services District. The greenbelt shall conform to City of Moreno Valley standard plans and specifications, "CalTrans Design Manual," and Department of Water Resources (DWR) requirements. The developer shall comply with the following conditions:

a. Concurrent with the recordation of the final map, an easement for trail purposes shall be dedicated to the City of Moreno Valley Community Services District.

b. Bonds for construction of the landscaping within the project and these COA's shall be provided (per Parks and Community Services criteria) concurrent with the Subdivision Improvements Agreement process.

d. Plans for improvements at the greenbelt shall be submitted and approved by the Director of Parks and Community Services or designee prior to the approval of Precise Grading Plans.

e. Prior to the issuance of any building permits, detailed final plans for the greenbelt, street improvement, and fence or wall shall be reviewed and approved by the Director of the Parks and Community Services Department or his/her designee.

g. Where feasible, walkways from the project may connect to the bikeway/walkway.

f. Landscape improvements shall be surveyed and staked by the developer's Civil Engineer. The landscape improvements shall be inspected and approved by the Director of Parks and Community Services or designee prior to the issuance of any building permits.

g. Eight sets of complete park and/or trail plans shall be submitted to Parks and Community Services for routing. Adjacent landscaping and walls shall be shown on the plans. Final construction plans and details require wet stamped and signed mylars, two sets of bond copies from the City signed mylars, and AutoCAD.dwf and PDF files on CD.

h. Construction of landscape improvements shall begin no later than issuance of 30% building permits and be completed no later than issuance of 70% building permits.

172. All street crossings for Class-I Bikeways shall be signed with approved signage.

173. In order to prevent the delay of building permit issuance, any deviation from materials shall be submitted to Parks and Community Services and approved in writing (at the Department's discretion) 60-days prior to the commencement of construction. Any unauthorized deviation from the approved plan and/or the City's specifications and/or Conditions of Approval may result in the holding of building permits and/or building finals.

174. All inspections shall be requested two (2) working days' in advance from the Parks and Community Services Department at the time of rough and precise grading, fence/wall installation, curb and drainage, flatwork, mulch installation, graffiti coating, soil preparation, irrigation placement, site electrical, weed abatement, planting, and final inspection. Failure to schedule inspections may result in cessation of work and/or re-inspection fees/penalties.

175. This project is subject to current Development Impact Fees. Section 3.38.150 of the City's Municipal Code allows for the developer to receive credits for qualifying public improvements. For consideration of a DIF credit, the developer shall provide an Architect's Cost Estimate. The developer's maximum credit amount is based on the lower of the DIF Study Costs, the Architect's Estimate and the DIF Fee Obligation. Allowance of DIF credits is subject to City review and approval, and is not guaranteed by these Conditions of Approval.

Standard Conditions

176. Detailed final plans (mylars, PDF, and AutoCAD file on a DVD-R) for parks, trails/bikeways, fencing, and adjoining landscaped areas shall be submitted to and approved by the Director of Parks and Community Services, or his/her designee, prior to the issuance of any building permits. All plans are to include a profile showing grade changes.

177. Within the improvements for PCS, the applicant shall show all existing and planned easements on all maps and plans. Easements on City/CSD owned or maintained parks, trails, bikeways, and landscape shall be identified on each of these plans with the instrument number of the recorded easement.

178. Prior to recordation of the Final Map, the applicant shall post security to guarantee construction or modification of parks, trails and/or bikeways for the City/CSD. Copies of said documentation shall be provided to PCS, prior to the approval of the Final Map.

179. Applicable plan check and inspection fees shall be paid, per the approved City fee schedule.

180. A restriction shall be placed on lots that back up to City/CSD owned or maintained parks, trails, bikeways, and landscaped areas, preventing openings or gates accessing the City/CSD owned or maintained property. This shall be documented through Covenants, Conditions, and Restrictions (CC&R's). A copy of the CC&R's with this restriction noted shall be submitted and approved by the Director of Parks and Community Services or his/her designee, prior to the recordation of the Final Map.

181. The following plans require PCS written approval: Tentative tract/parcel maps; rough grading plans (including all Delta changes); Final Map; precise grading plans; street improvement plans; traffic signal plans; fence and wall plans; landscape plans for areas adjacent to bikeways; trail improvement plans. PCS will not approve any permits without review and approval of the above items.

Tentative Tract Map No. 37909

LEGAL DESCRIPTION:

THE LAND IS SITUATED IN THE CITY OF MORENO VALLEY, COUNTY OF RIVERSIDE, STATE OF CALIFORNIA, AND IS DESCRIBED AS FOLLOWS:

THE NORTHWEST QUARTER OF THE NORTHWESTQUARTER OF SECTOIN 29, TOWNSHIP 3 SOUTH, RANGE 3 WEST, SAN BERNARDINO MERIDIAN, IN THE CITY OF MORENO VALLEY, COUNTY OF RIVERSIDE, STATE OF CALIFORNIA, ACCORDING TO OFFICIAL PLAT THEREOF.

EXCEPTING THEREFROM THAT CONVEYED TO THE CITY OF MORENO VALLEY BY DEED RECORDED AUGUST 28, 1989 AS INSTRUMENT NO. 89-292505, OFFICIAL RECORDS.

ALSO EXCEPTING THEREFROM ALL OIL, WATER, GAS, HYDROCARBONS, PRECIOUS METALS AND MINERALS OF ANY KIND WHETHER DESCRIBED OR NOT. BELOW A DEPTH OF 500 FEET WITHOUT ANY RIGHT OF SURFACE ENTRY AS RESERVED IN A DEED RECORDED JUNE 13, 1991 AS INSTRUMENT NO. 91-199908 OFFICIAL RECORDS.

ALSO EXCEPTING THEREFROM THAT PORTION SAID LAND CONVEYED TO VAL VERDE UNIFIED SCHOOL DISTRICT BY DEED RECORDED OCTOBER 10, 2002 AS INSTRUMENT NO. 02-566961 OFFICIAL RECORDS

ALSO EXCEPTING THEREFROM, LOT 1, LETTERED LOTS A THROUGH C OF TRACT MAP NO. 29857-1, AS SHOWN ON FILE IN BOOK 422 PAGES 23 AND 24 OF MAPS, RECORDS OF RIVERSIDE COUNTY , CALIFORNIA.

APN: 312-020-025

GENERAL PLAN/ZONING/LANDUSE

EXISTING GENERAL PLAN DESIGNATION:
PROPOSED GENERAL PLAN DESIGNATION:

EXISTING ZONING:	*R5 – SUBURBAN RESIDENTIAL*
PROPOSED ZONING:	*R10*
EXISTING LANDUSE:	*Vacant*
PROPOSED LANDUSE:	*DETACHED SFR*

PROJECT NOTES

TOTAL GROSS PROJECT SIZE: 471,228 SF (10.82 Ac.)
DENSITY: 7.58 DU/ACRE
NUMBER OF RESIDENTIAL LOTS: 81

MINIMUM LOT AREA: As Shown on the map
MINIMUM LOT DEPTH: 73'
MINIMUM LOT WIDTH: 30'
LOT SIZE: AS SHOWN ON MAP

GUEST PARKING 0.50 SPACES PER UNIT REQUIRED = 41
GUEST PARKING PROVIDED = 55
ALL ONSITE STREETS ARE PRIVATE
TOPOGRAPHY SOURCE: Aerial Topographic Mapping
PROJECT IS GATED – Gate At Wedwow Dr. shall be 60' minimum from Iris Ave ROW

DEVELOPER

Passco Pacifica LLC
333 City Boulevard West, 17th Floor
Orange, CA 92866
ATT: Oscar Graham
714-609-7257

OWNER

Maple Lane Group, LLC
A California Limited Liability Company

UTILITY PURVEYORS

WATER:	*EASTERN MUNICIPAL WATER DISTRICT*
SEWER:	*EASTERN MUNICIPAL WATER DISTRICT*
GAS:	*SOUTHERN CALIFORNIA GAS COMPANY*
ELECTRICITY:	*SOUTHERN CALIFORNIA EDISON*
TELEPHONE:	*AT&T*
SCHOOL:	*MORENO VALLEY UNIFIED SCHOOL DISTRICT*
CATV:	*SPECTRUM*

LEGEND

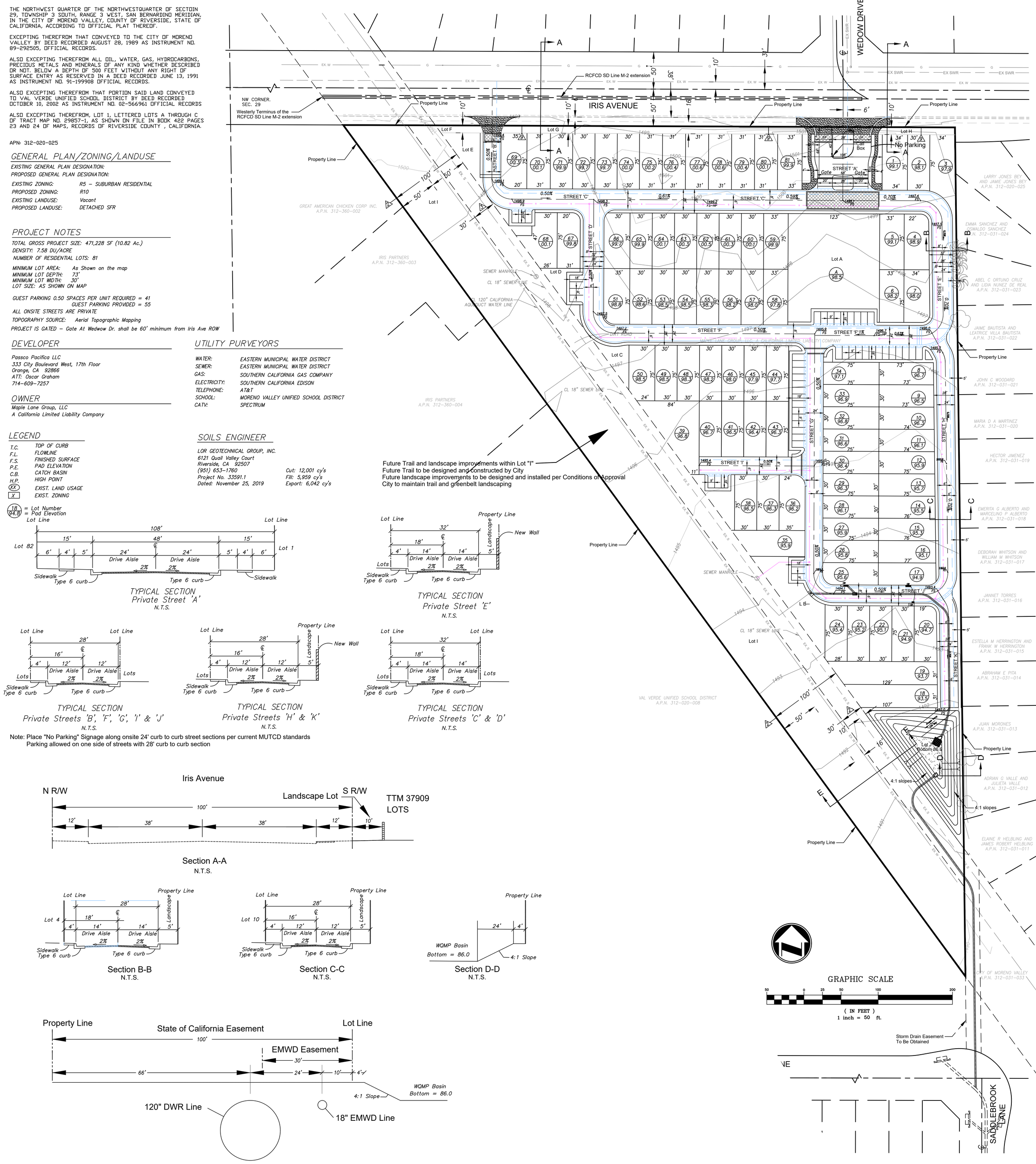
T.C.	*TOP OF CURB*
F.L.	*FLOWLINE*
F.S.	*FINISHED SURFACE*
P.E.	*PAD ELEVATION*
C.B.	*CATCH BASIN*
H.P.	*HIGH POINT*
(XX)	*EXIST. LAND USAGE*
[X]	*EXIST. ZONING*

(18) / (94.8) = Lot Number / Pad Elevation

SOILS ENGINEER

LOR GEOTECHNICAL GROUP, INC.
6121 Quail Valley Court
Riverside, CA 92507
(951) 653-1760
Project No. 33591.1
Dated: November 25, 2019

Cut: 12,001 cy's
Fill: 5,959 cy's
Export: 6,042 cy's



EASEMENT NOTES

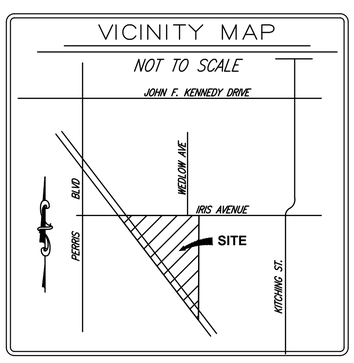
(2) *A 100 FOOT WIDE EASEMENT IN FAVOR OF THE STATE OF CALIFORNIA FOR THE PIPELINE PURPOSES PER DOCUMENT RECORDED JANUARY 23, 1967 AS INSTRUMENT NO. 5814, OFFICIAL RECORDS.*

(3) *A 30 FOOT WIDE EASEMENT IN FAVOR OF THE EASTERN MUNICIPAL WATER DISTRICT FOR ROAD AND UTILITY PURPOSES RECORD FEBRUARY 16, 1984 AS INSTRUMENT NO. 31787, OFFICIAL RECORDS.*

(9) *A 10 FOOT WIDE EASEMENT IN FAVOR OF THE CITY OF MORENO VALLEY FOR LANDSCAPE AND INCIDENTAL PURPOSES AS DEDICATED ON TRACT NO. 29857-1, FILED IN BOOK 422, PAGES 23 AND 24 OF MAPS, RECORDS OF RIVERSIDE COUNTY*

FLOOD ZONE

ZONE X, AREA OF MINIMAL FLOOD HAZARD PER FIRM MAP 06065C078G, EFFECTIVE DATE 8-27-2008, CITY OF MORENO VALLEY, COMMUNITY NO. 065074.



Lot Statistics Table

Residential Lots				Residential Lots				Residential Lots			
Lot Number	Width (ft)	Depth (ft)	Area (sf)	Lot Number	Width (ft)	Depth (ft)	Area (sf)	Lot Number	Width (ft)	Depth (ft)	Area (sf)
1	34	75	2,551	28	30	75	2,250	55	30	107	2,250
2	30	75	2,253	29	30	75	2,250	56	30	129	2,250
3	34	75	2,872	30	30	75	2,250	57	30	75	2,250
4	34	75	2,479	31	30	75	2,250	58	33	75	2,475
5	33	75	2,474	32	30	75	2,250	59	33	75	2,475
6	33	75	2,342	33	30	75	2,250	60	30	75	2,250
7	34	75	2,428	34	30	75	2,250	61	30	75	2,250
8	30	73	2,197	35	30	75	3,021	62	30	75	2,250
9	30	73	2,211	36	35	75	2,599	63	30	75	2,250
10	30	73	2,226	27	30	75	2,250	64	30	75	2,250
11	30	74	2,241	38	30	75	2,250	65	30	75	2,250
12	30	74	2,255	39	30	75	4,741	66	35	75	2,602
13	30	75	2,270	40	30	75	2,250	67	31	75	2,299
14	30	75	2,284	41	30	75	2,250	68	30	75	2,717
15	30	76	2,302	42	30	75	2,250	69	35	75	2,576
16	30	76	2,311	43	30	75	2,250	70	31	75	2,369
17	30	77	2,311	44	30	75	2,250	71	30	75	2,250
18	31	107	3,409	45	30	75	2,250	72	30	75	2,250
19	31	129	4,308	46	30	75	3,606	73	30	75	2,250
20	30	75	2,250	47	30	77	2,788	74	30	75	2,250
21	30	75	2,201	48	30	75	2,258	75	30	75	2,250
22	30	75	2,250	49	30	75	2,250	76	30	75	2,250
23	30	75	2,250	50	30	75	2,547	77	30	75	2,250
24	30	75	2,250	51	35	75	2,576	78	30	75	2,250
25	30	75	2,201	52	30	75	2,250	79	31	75	2,324
26	30	75	2,250	53	30	75	2,250	80	31	75	2,323
27	30	75	2,250	54	30	75	2,250	81	33	75	2,432
subtotal Residential Lot Area			65,626	subtotal Residential Lot Area			66,886	subtotal Residential Lot Area			62,842
								Total Residential Lot Area			195,354
								Average Lot Size			2,382

Lettered Lots		
Lot Number	Use	Area (sf)
A	OS - Park	17,996
B	OS - Park	4,619
C	OS - Park	1,365
D	OS - Park	1,224
E	OS - Park	2,568
F	Landscape	591
G	Landscape	1,003
H	Landscape	1,112
I	OS - Trail	131,357
J	WQMP Basin	12,934
subtotal		174,769

Streets		
A	Street	8,088
B	Street	2,854
C	Street	18,835
D	Street	6,224
E	Street	8,108
F	Street	15,921
G	Street	12,718
H	Street	11,448
I	Street	5,457
J	Street	4,992
subtotal		94,645

ROBERT BEERS
8175 Limonite Avenue, Suite E
Jurupa Valley, CA 92509
Ph. (951) 317-2041 Fax (909) 360-2070

REGISTERED PROFESSIONAL ENGINEER — ROBERT MARK BEERS — No. 39405 Exp. 12-31-21 — CIVIL — STATE OF CALIFORNIA

Date

Robert M. Beers R.C.E. 39405 Expires 12-31-21

PREPARED FOR:
Passco Pacifica LLC
333 City Boulevard West
17th Floor
Orange, CA 92866
PHONE: (714) 609-7257

TTM 37909
City of Moreno Valley
California

DATE Oct. 14, 2020
JOB NO.
DRAWN BY R.A.H.
CHECKED BY R.M.B.
SHEET C-1

Tentative Tract Map No. 37909

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EXCEPTING THEREFROM THAT CONVEYED TO THE CITY OF MORENO VALLEY BY DEED RECORDED AUGUST 28, 1989 AS INSTRUMENT NO. 89-292505, OFFICIAL RECORDS.

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APN: 312-020-025

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PROPOSED GENERAL PLAN DESIGNATION:

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PROPOSED ZONING:	*R10*
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GUEST PARKING PROVIDED = 55
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DEVELOPER

Passco Pacifica LLC
333 City Boulevard West, 17th Floor
Orange, CA 92866
ATT: Oscar Graham
714-609-7257

OWNER

Maple Lane Group, LLC
A California Limited Liability Company

UTILITY PURVEYORS

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SEWER:	*EASTERN MUNICIPAL WATER DISTRICT*
GAS:	*SOUTHERN CALIFORNIA GAS COMPANY*
ELECTRICITY:	*SOUTHERN CALIFORNIA EDISON*
TELEPHONE:	*AT&T*
SCHOOL:	*MORENO VALLEY UNIFIED SCHOOL DISTRICT*
CATV:	*SPECTRUM*

LEGEND

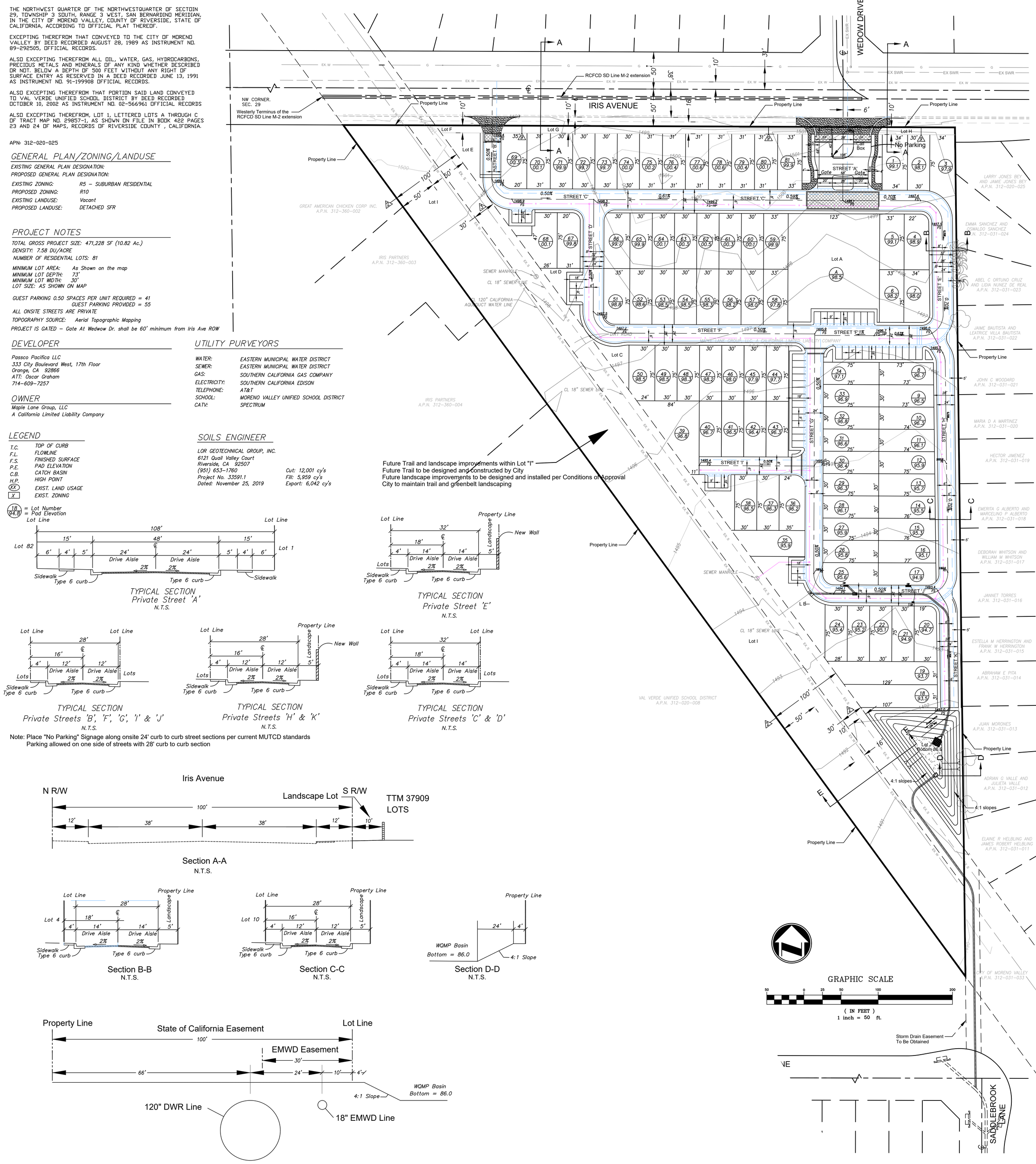
T.C.	*TOP OF CURB*
F.L.	*FLOWLINE*
F.S.	*FINISHED SURFACE*
P.E.	*PAD ELEVATION*
C.B.	*CATCH BASIN*
H.P.	*HIGH POINT*
(XX)	*EXIST. LAND USAGE*
X	*EXIST. ZONING*

(18) = Lot Number
(94.8) = Pad Elevation

SOILS ENGINEER

LOR GEOTECHNICAL GROUP, INC.
6121 Quail Valley Court
Riverside, CA 92507
(951) 653-1760
Project No. 33591.1
Dated: November 25, 2019

Cut: 12,001 cy's
Fill: 5,959 cy's
Export: 6,042 cy's



TYPICAL SECTION
Private Street 'A'
N.T.S.

TYPICAL SECTION
Private Street 'E'
N.T.S.

TYPICAL SECTION
Private Streets 'B', 'F', 'G', 'I' & 'J'
N.T.S.

TYPICAL SECTION
Private Streets 'H' & 'K'
N.T.S.

TYPICAL SECTION
Private Streets 'C' & 'D'
N.T.S.

Note: Place "No Parking" Signage along onsite 24' curb to curb street sections per current MUTCD standards
Parking allowed on one side of streets with 28' curb to curb section

Section A-A
N.T.S.

Section B-B
N.T.S.

Section C-C
N.T.S.

Section D-D
N.T.S.

Section E-E
N.T.S.

FLOOD ZONE

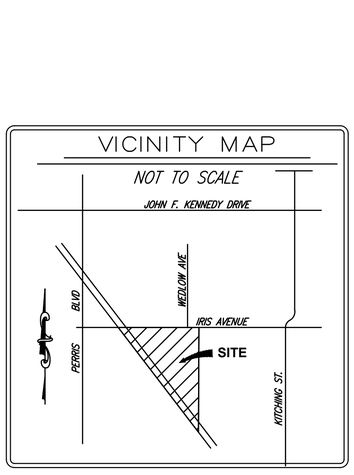
ZONE X, AREA OF MINIMAL FLOOD HAZARD PER FIRM MAP 06065C078G, EFFECTIVE DATE 8-27-2008, CITY OF MORENO VALLEY, COMMUNITY NO. 065074.

EASEMENT NOTES

(2) A 100 FOOT WIDE EASEMENT IN FAVOR OF THE STATE OF CALIFORNIA FOR THE PIPELINE PURPOSES PER DOCUMENT RECORDED JANUARY 23, 1967 AS INSTRUMENT NO. 5814, OFFICIAL RECORDS.

(3) A 30 FOOT WIDE EASEMENT IN FAVOR OF THE EASTERN MUNICIPAL WATER DISTRICT FOR ROAD AND UTILITY PURPOSES RECORD FEBRUARY 16, 1984 AS INSTRUMENT NO. 31787, OFFICIAL RECORDS.

(9) A 10 FOOT WIDE EASEMENT IN FAVOR OF THE CITY OF MORENO VALLEY FOR LANDSCAPE AND INCIDENTAL PURPOSES AS DEDICATED ON TRACT NO. 29857-1, FILED IN BOOK 422, PAGES 23 AND 24 OF MAPS, RECORDS OF RIVERSIDE COUNTY



Lot Statistics Table

Residential Lots				Residential Lots				Residential Lots			
Lot Number	Width (ft)	Depth (ft)	Area (sf)	Lot Number	Width (ft)	Depth (ft)	Area (sf)	Lot Number	Width (ft)	Depth (ft)	Area (sf)
1	34	75	2,551	28	30	75	2,250	55	30	107	2,250
2	30	75	2,253	29	30	75	2,250	56	30	129	2,250
3	34	75	2,872	30	30	75	2,250	57	30	75	2,250
4	34	75	2,479	31	30	75	2,250	58	33	75	2,475
5	33	75	2,474	32	30	75	2,250	59	33	75	2,475
6	33	75	2,342	33	30	75	2,250	60	30	75	2,250
7	34	75	2,428	34	30	75	2,250	61	30	75	2,250
8	30	73	2,197	35	30	75	3,021	62	30	75	2,250
9	30	73	2,211	36	35	75	2,599	63	30	75	2,250
10	30	73	2,226	27	30	75	2,250	64	30	75	2,250
11	30	74	2,241	38	30	75	2,250	65	30	75	2,250
12	30	74	2,255	39	30	75	4,741	66	35	75	2,602
13	30	75	2,270	40	30	75	2,250	67	31	75	2,299
14	30	75	2,284	41	30	75	2,250	68	30	75	2,717
15	30	76	2,302	42	30	75	2,250	69	35	75	2,576
16	30	76	2,311	43	30	75	2,250	70	31	75	2,369
17	30	77	2,311	44	30	75	2,250	71	30	75	2,250
18	31	107	3,409	45	30	75	2,250	72	30	75	2,250
19	31	129	4,308	46	30	75	3,606	73	30	75	2,250
20	30	75	2,250	47	30	77	2,788	74	30	75	2,250
21	30	75	2,201	48	30	75	2,258	75	30	75	2,250
22	30	75	2,250	49	30	75	2,250	76	30	75	2,250
23	30	75	2,250	50	30	75	2,547	77	30	75	2,250
24	30	75	2,250	51	35	75	2,576	78	30	75	2,250
25	30	75	2,201	52	30	75	2,250	79	31	75	2,324
26	30	75	2,250	53	30	75	2,250	80	31	75	2,323
27	30	75	2,250	54	30	75	2,250	81	33	75	2,432
subtotal Residential Lot Area			65,626	subtotal Residential Lot Area			66,886	subtotal Residential Lot Area			62,842
								Total Residential Lot Area			195,354
								Average Lot Size			2,382

Lettered Lots		
Lot Number	Use	Area (sf)
A	OS - Park	17,996
B	OS - Park	4,619
C	OS - Park	1,365
D	OS - Park	1,224
E	OS - Park	2,568
F	Landscape	591
G	Landscape	1,003
H	Landscape	1,112
I	OS - Trail	131,357
J	WQMP Basin	12,934
subtotal		174,769

Streets		
A	Street	8,088
B	Street	2,854
C	Street	18,835
D	Street	6,224
E	Street	8,108
F	Street	15,921
G	Street	12,718
H	Street	11,448
I	Street	5,457
J	Street	4,992
subtotal		94,645

GRAPHIC SCALE
50 0 25 50 100 200
(IN FEET)
1 inch = 50 ft.

ROBERT BEERS
8175 Limonite Avenue, Suite E
Jurupa Valley, CA 92509
Ph. (951) 317-2041 Fax (909) 360-2070

REGISTERED PROFESSIONAL ENGINEER ROBERT MARK BEERS No. 39405 Exp. 12-31-21 CIVIL STATE OF CALIFORNIA

Date

Robert M. Beers R.C.E. 39405 Expires 12-31-21

PREPARED FOR:
Passco Pacifica LLC
333 City Boulevard West
17th Floor
Orange, CA 92866
PHONE: (714) 609-7257

TTM 37909
City of Moreno Valley
California

DATE Oct. 14, 2020
JOB NO.
DRAWN BY R.A.H.
CHECKED BY R.M.B.
SHEET C-1

Tentative Tract Map No. 37909
Preliminary Grading Plan

LEGAL DESCRIPTION:

THE LAND IS SITUATED IN THE CITY OF MORENO VALLEY, COUNTY OF RIVERSIDE, STATE OF CALIFORNIA, AND IS DESCRIBED AS FOLLOWS:

THE NORTHWEST QUARTER OF THE NORTHWESTQUARTER OF SECTOIN 29, TOWNSHIP 3 SOUTH, RANGE 3 WEST, SAN BERNARDINO MERIDIAN, IN THE CITY OF MORENO VALLEY, COUNTY OF RIVERSIDE, STATE OF CALIFORNIA, ACCORDING TO OFFICIAL PLAT THEREOF.

EXCEPTING THEREFROM THAT CONVEYED TO THE CITY OF MORENO VALLEY BY DEED RECORDED AUGUST 28, 1989 AS INSTRUMENT NO. 89-292505, OFFICIAL RECORDS.

ALSO EXCEPTING THEREFROM ALL OIL, WATER, GAS, HYDROCARBONS, PRECIOUS METALS AND MINERALS OF ANY KIND WHETHER DESCRIBED OR NOT. BELOW A DEPTH OF 500 FEET WITHOUT ANY RIGHT OF SURFACE ENTRY AS RESERVED IN A DEED RECORDED JUNE 13, 1991 AS INSTRUMENT NO. 91-199908 OFFICIAL RECORDS.

ALSO EXCEPTING THEREFROM THAT PORTION SAID LAND CONVEYED TO VAL VERDE UNIFIED SCHOOL DISTRICT BY DEED RECORDED OCTOBER 10, 2002 AS INSTRUMENT NO. 02-566961 OFFICIAL RECORDS

ALSO EXCEPTING THEREFROM, LOT 1, LETTERED LOTS A THROUGH C OF TRACT MAP NO. 29857-1, AS SHOWN ON FILE IN BOOK 422 PAGES 23 AND 24 OF MAPS, RECORDS OF RIVERSIDE COUNTY , CALIFORNIA.

APN: 312-020-025

GENERAL PLAN/ZONING/LANDUSE

EXISTING GENERAL PLAN DESIGNATION:
PROPOSED GENERAL PLAN DESIGNATION:

EXISTING ZONING:	*R5 – SUBURBAN RESIDENTIAL*
PROPOSED ZONING:	*R10*
EXISTING LANDUSE:	*Vacant*
PROPOSED LANDUSE:	*DETACHED SFR*

PROJECT NOTES

TOTAL GROSS PROJECT SIZE: 471,228 SF (10.82 Ac.)
DENSITY: 7.58 DU/ACRE
NUMBER OF RESIDENTIAL LOTS: 81

MINIMUM LOT AREA: As Shown on the map
MINIMUM LOT DEPTH: 73'
MINIMUM LOT WIDTH: 30'
LOT SIZE: AS SHOWN ON MAP

GUEST PARKING 0.50 SPACES PER UNIT REQUIRED = 41
GUEST PARKING PROVIDED = 55
ALL ONSITE STREETS ARE PRIVATE
TOPOGRAPHY SOURCE: Aerial Topographic Mapping
PROJECT IS GATED

DEVELOPER

Passco Pacifica LLC
333 City Boulevard West, 17th Floor
Orange, CA 92866
ATT: Oscar Graham
714-609-7257

OWNER

Maple Lane Group, LLC
A California Limited Liability Company

UTILITY PURVEYORS

WATER:	*EASTERN MUNICIPAL WATER DISTRICT*
SEWER:	*EASTERN MUNICIPAL WATER DISTRICT*
GAS:	*SOUTHERN CALIFORNIA GAS COMPANY*
ELECTRICITY:	*SOUTHERN CALIFORNIA EDISON*
TELEPHONE:	*AT&T*
SCHOOL:	*MORENO VALLEY UNIFIED SCHOOL DISTRICT*
CATV:	*SPECTRUM*

LEGEND

T.C.	*TOP OF CURB*
F.L.	*FLOWLINE*
F.S.	*FINISHED SURFACE*
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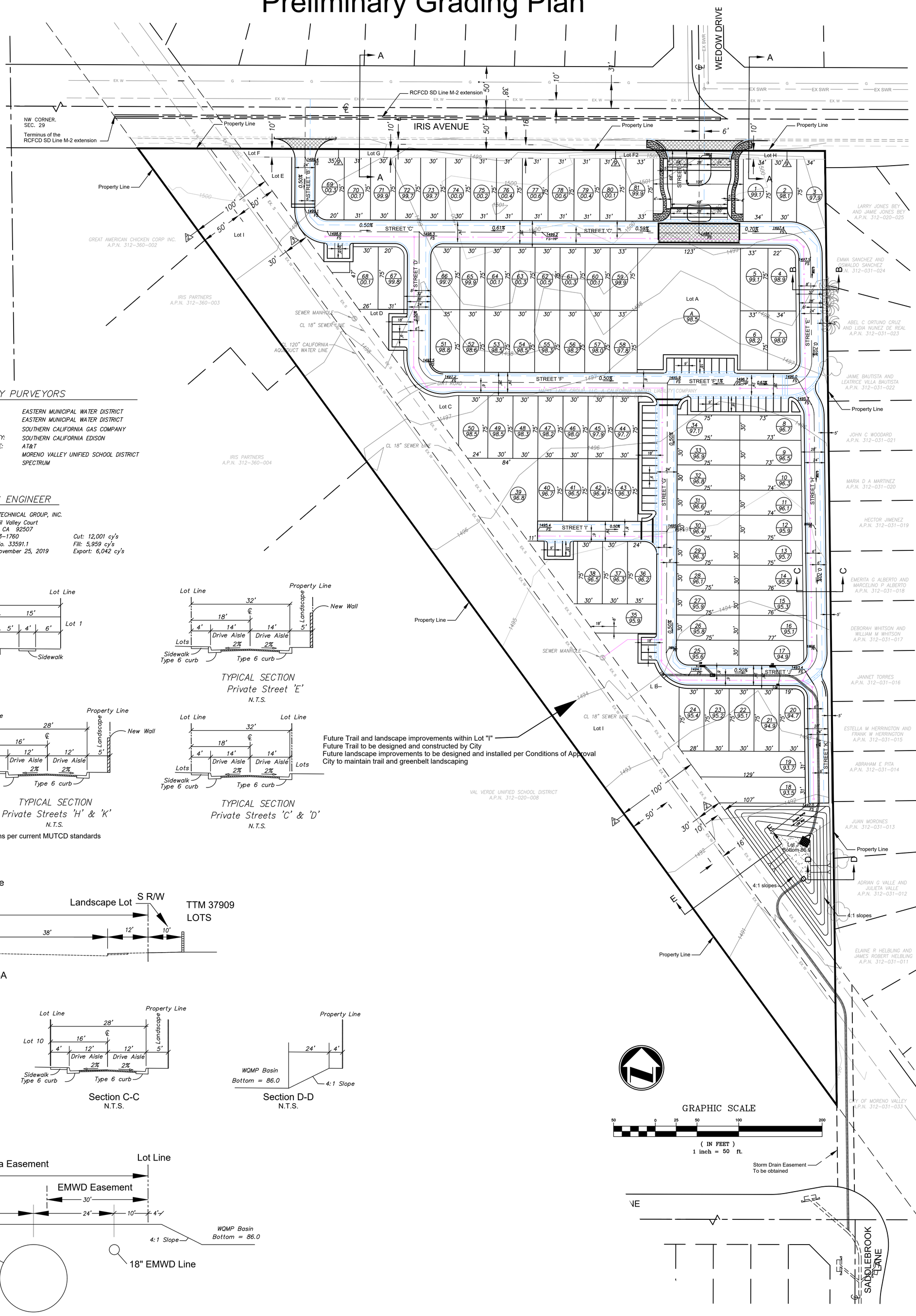

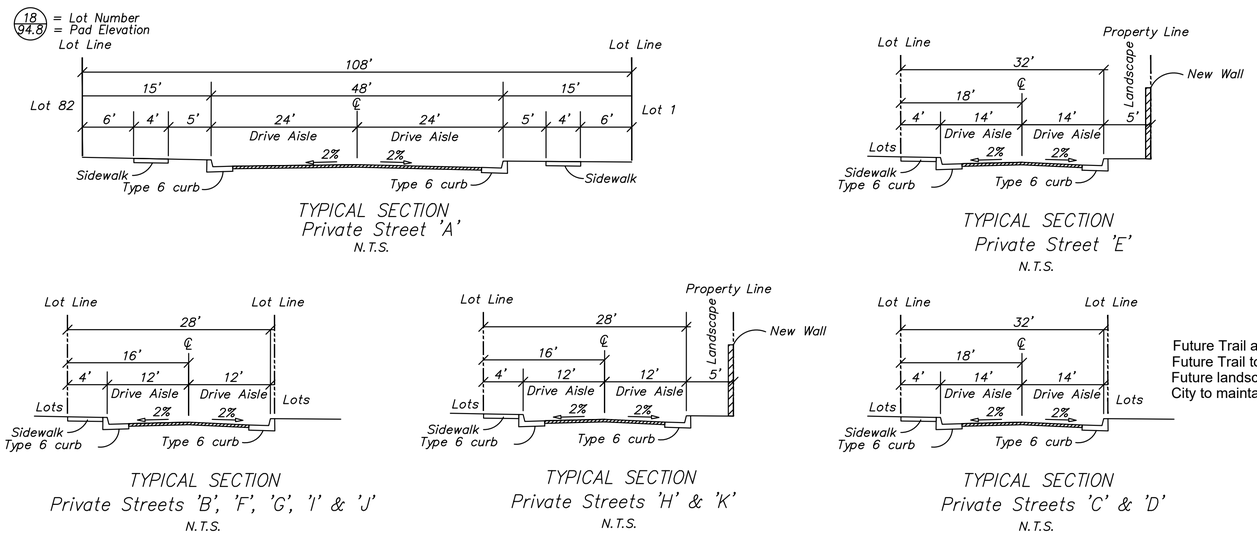

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N.T.S.

TYPICAL SECTION
Private Street 'E'
N.T.S.

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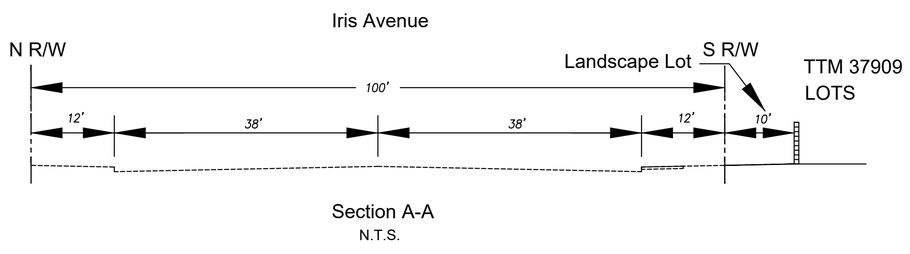
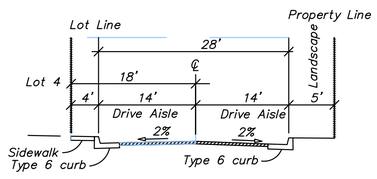


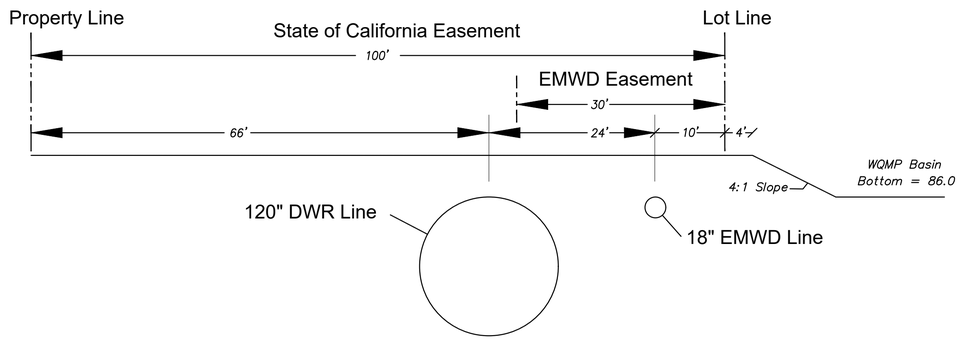
Section A-A
N.T.S.



Section B-B
N.T.S.

Section C-C
N.T.S.

Section D-D
N.T.S.



Section E-E
N.T.S.

FLOOD ZONE
ZONE X, AREA OF MINIMAL FLOOD HAZARD PER FIRM MAP 06065C078G, EFFECTIVE DATE 8-27-2008, CITY OF MORENO VALLEY, COMMUNITY NO. 065074.

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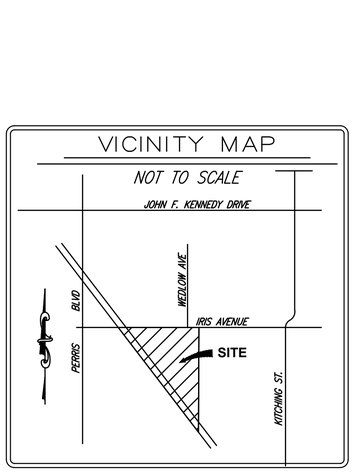

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REGISTERED PROFESSIONAL ENGINEER ROBERT MARK BEERS No. 39405 Exp. 12-31-21 CIVIL STATE OF CALIFORNIA

ROBERT BEERS
8175 Limonite Avenue, Suite E
Jurupa Valley, CA 92509
Ph. (951) 317-2041 Fax (909) 360-2070

Date

Robert M. Beers R.C.E. 39405 Expires 12-31-21

PREPARED FOR:
Passco Pacifica LLC
333 City Boulevard West
17th Floor
Orange, CA 92866
PHONE: (714) 609-7257

TTM 37909
Preliminary Grading Plan
City of Moreno Valley
California

DATE Oct. 15, 2020
JOB NO.
DRAWN BY R.A.H.
CHECKED BY R.M.B.
SHEET C-2

IRIS PARK

SINGLE FAMILY HOME COMMUNITY

DEVELOPMENT TEAM:

PACIFICA INVESTMENTS AND DEVELOPMENT
333 CITY BLVD WEST, SUITE 1700, ORANGE, CA
CONTACT: OSCAR GRAHAM
714.609.7257

PASSCO COMPANIES DEVELOPMENT
2050 MAIN STREET, SUITE 650, IRVINE, CA
CONTACT: SCOTT ALLEN
949.263.7908

PROJECT TEAM:

IDEArc ARCHITECTURE AND PLANNING
17848 SKY PARK CIRCLE, SUITE D, IRVINE, CA
CONTACT: VANCE GRAHAM
949.336.6056

MJS LANDSCAPE ARCHITECTURE
507 30TH STREET, NEWPORT BEACH, CA
CONTACT: PAUL MAKSY
949.675.9964

RMB ENGINEERING
5172 QUEEN STREET, RIVERSIDE, CA
CONTACT: BOB BEERS
951.317.2041

EPD SOLUTIONS
2030 MAIN STREET, SUITE 200, IRVINE, CA
CONTACT: RAFIK ALBERT
949.794.1180

SHEET INDEX:

PROPOSED TREE LIST

	BOTANICAL NAME	COMMON NAME	SIZE	WUCOLS
STREET TREE				
	CINNAMOMUM CAMPHORA	CAMPHOR TREE	36" BOX	Moderate
IRIS AVENUE:				
	CERCIS CANADENSIS 'FOREST PANSY'	FOREST PANSY REDBUD	24" BOX	Moderate
	LAGERSTROEMIA X 'NATCHEZ'	CRAPE MYRTLE	24" BOX	Moderate
	RHUS LANCEA	AFRICAN SUMAC	36" BOX	Low
ENTRY DRIVE:				
	CERCIS CANADENSIS 'FOREST PANSY'	FOREST PANSY REDBUD	24" BOX	Moderate
	PHOENIX DACTYLIFERA 'MEDJOOL'	DATE PALM	18' BTH	Low
PROJECT PERIMETER - SCREENING:				
	PINUS ELDARICA	AFGHAN PINE	36" BOX	Low
	PODOCARPUS GRACILIOR	FERN PINE - COLUMNS	24" BOX	Moderate
	PRUNUS CAROLINIANA 'BRIGHT 'N TIGHT'	BRIGHT 'N TIGHT CAROLINA LAUREL	24" BOX	Moderate
	TRISTANIA CONFERTA	BRISBANE BOX	36" BOX	Moderate
SIDE STREET AND STREET TERMINUS:				
	LAGERSTROEMIA X 'TUSCARORA'	CRAPE MYRTLE	24" BOX	Moderate
	PINUS ELDARICA	AFGHAN PINE	36" BOX	Low
	MAGNOLIA GRANDIFLORA ST. MARY'	SOUTHERN MAGNOLIA	36" BOX	Moderate
FITNESS PARK:				
	ARBUTUS X MARINA	HYBRID STRAWBERRY TREE	36" BOX	Moderate
	OLEA EUROPAEA 'SWAN HILL'	SWAN HILL OLIVE	48" BOX	Low
	ROBINIA PSEUDOACACIA 'PURPLE ROBE'	PURPLE ROBE LOCUST	24" BOX	Low
	ULMUS PARVIFOLIA 'TRUE GREEN'	TRUE GREEN CHINESE ELM	36" BOX	Low
COMMUNITY PARK:				
	LAGERSTROEMIA X 'TUSCARORA'	CRAPE MYRTLE	24" BOX	Moderate
	OLEA EUROPAEA 'SWAN HILL'	FRUITLESS OLIVE -MULTI-TRUNK	48" BOX	Low
	PHOENIX DACTYLIFERA 'MEDJOOL'	DATE PALM	18' BTH	Low
	PODOCARPUS ELONGATUS 'ICEE BLUE'	ICEE BLUE YELLOW-WOOD	24" BOX	Moderate
	QUERCUS VIRGINIANA	SOUTHERN LIVE OAK	36" BOX	Moderate
	ROBINIA PSEUDOACACIA 'PURPLE ROBE'	PURPLE ROBE LOCUST	24" BOX	Low

PROPOSED SHRUB LIST

ALL PROPOSED SHRUBS WILL BE COMPLIANT WITH CAL GREEN REQUIREMENTS FOR WATER CONSERVING AND NON-INVASIVE AS DEFINED BY IPC.

	BOTANICAL NAME	COMMON NAME	SIZE	WUCOLS
SHRUBS & GROUNDCOVER				
	AGAVE ATTENUATA 'NOVA'	FOXTAIL AGAVE	15 GAL	Very Low
	ARCTOSTAPHYLOW 'WOODS CARPET'	COMPACT MANZANITA	1 GAL	Low
	BOUGAINVILLEA	BOUGAINVILLEA	5 GAL	Low
	CALLISTEMON 'LITTLE JOHN'	DWARF WEEPING BOTTLE BRUSH	5 GAL	Low
	CISTUS PSRUPUREUS	ORCHID ROCKROSE	5 GAL	Low
	DIANELLA TASMANICA	GOLDEN FLAX LILY	1 GAL	Moderate
	KNIPHOFIA UVARIA	RED HOT POKER	5 GAL	Low
	LANTANA X 'NEW GOLD'	NEW GOLD LANTANA	5 GAL	Low
	LEUCOPHYLLUM FRUTESCENS	TEXAS SAGE	5 GAL	Low
	LIGUSTRUM LUCIDIUM	GLOSSY PRIVET	5 GAL	Moderate
	MUHLENBERGIA RIGENS	DEER GRASS	5 GAL	Moderate
	MYOPORUM PARVIFOLIUM	MYOPORUM	1 GAL	Low
	NANDINA DOMESTICA 'COMPACTA'	DWARF HEAVENLY BAMBOO	5 GAL	Moderate
	OLEA 'LITTLE OLLIE'	DWARF OLIVE	5 GAL	Low
	PENNISETUM SETACEUM 'RUBRUM'	PURPLE FOUNTAIN GRASS	5 GAL	Low
	RHAPHIOLEPIS INDICA	INDIA HAWTHORN	5 GAL	Moderate
	ROSA CALIFORNICA	CALIFORNIA WILD ROSE	1 GAL	Low
	SANTOLINA CHAMAECYPARISSUS	LAVENDER COTTON	1 GAL	Low
	SALVIA LAVANDULIFOLIA	SPANISH SAGE	1 GAL	Low
	SENECIO SERPENS	BLUE CHALKSTICKS	1 GAL	Low
	STRELITZIA REGINAE	BIRDS OF PARADISE	5 GAL	Moderate
SHRUBS in WATER QUALITY DETENTION BASIN				
	CAREX PANSA	DUNE SEDGE	1 gal. at 12" O.C.	Moderate
	CHONDROPETALUM TECTORUM	CAPE RUSH	1 gal. at 16" O.C.	Moderate
	LOMANDRA 'PLATINUM BEAUTY'	PLATINUM BEAUTY RUSH	1 gal. at 24" O.C.	Moderate
	MUHLENBERGIA RIGENS	DEER GRASS	1 gal. at 24" O.C.	Moderate
PUBLIC RIGHT-OF-WAY CURB ADJACENT				
	ALOE STRIATA	CORAL ALOE	5 gal. at 24" O.C.	Low
	FESTUCA OVINA GLAUCA	BLUE FESCUE	1 gal. at 12" O.C.	Moderate
	FESTUCA MAIREI	ATLAS FESTUCA	1 gal. at 16" O.C.	Moderate
	LANTANA 'NEW GOLD'	NEW GOLD LANTANA	1 gal. at 24" O.C.	Low
	RAPHIOLEPIS I. 'CLARA'	INDIAN HAWTHORN	5 gal. at 24" O.C.	Moderate
SCREENING OF ABOVE-GROUND UTILITES				
	LIGUSTRUM J. 'TEXANUM	WAX-LEAF PRIVET - COLUMN	15 gal. at 36" O.C.	Moderate
	PRUNUS C. 'BRIGHT & TIGHT'	CAROLINA LAUREL CHERRY	15 gal. at 36" O.C.	Moderate
TURF at COMMUNITY PARK				
	HYBRID BURMUDA 'TIFGREEN'	TURF GRASS	SOD	Low

GENERAL PLANTING NOTES

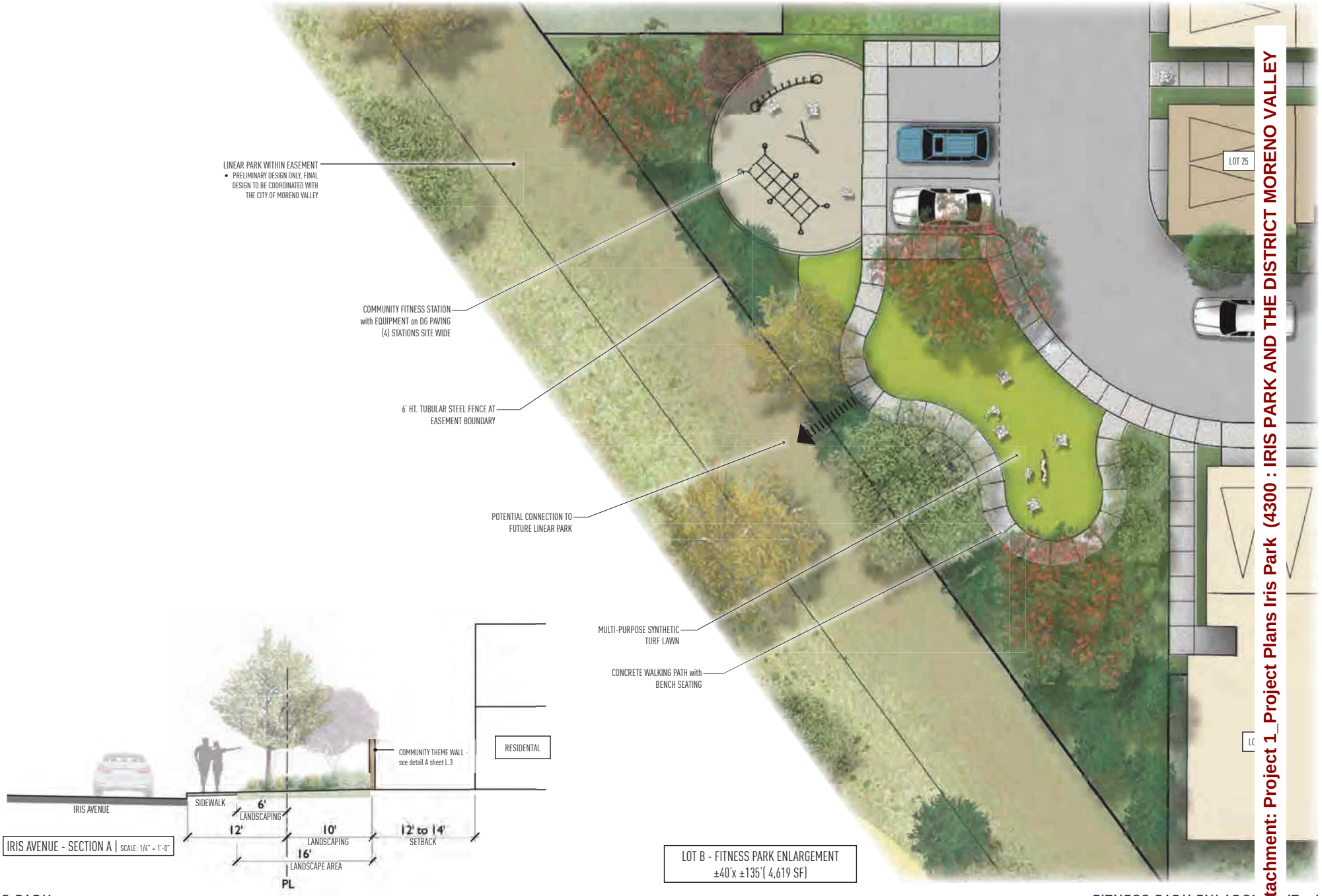
1. ALL SHRUB AREAS SHALL RECEIVE A 3" MINIMUM LAYER OF BARK MULCH.
2. SCREENING NOTE: SCREENING SHALL BE PROVIDED FOR ALL UTILITIES, INCLUDING TRANSFORMERS AND TELEPHONE BI NO UTILITIES SHALL CONFLICT WITH PLANTING.
3. IRRIGATION DESIGN SHALL COMPLY WITH AB1881 AND ESTIMATED ANNUAL WATER USE (EAWU) WILL NOT EXCEED MAX ANNUAL WATER USE (MAWA) CALCULATIONS.
4. LANDSCAPE WORK SHALL BE IN ACCORDANCE WITH CITY OF MORENO VALLEY DEVELOPMENT STANDARDS AND CODES LANDSCAPE IMPROVEMENTS.
5. TREES WITHIN 6 FEET OF LANDSCAPE SHALL BE INSTALLED WITH APPROVED ROOT CONTROL BARRIER (16 FEET LENGTH EACH TREE)
6. PLANTER AREAS WILL BE ON A DRIP IRRIGATION. TREES WILL BE IRRIGATED BY A DEEP ROOT WATERING BUBBLER.
7. PROVIDE ROOT BARRIER ALONG IRIS AVENUE ADJACENT HARDSCAPES.

IRIS PARK - MORENO VALLEY, CA

PACIFICA INVESTMENTS

AUGUST 21, 2020

CONCEPTUAL LANDSCAPE PLAN - L.1

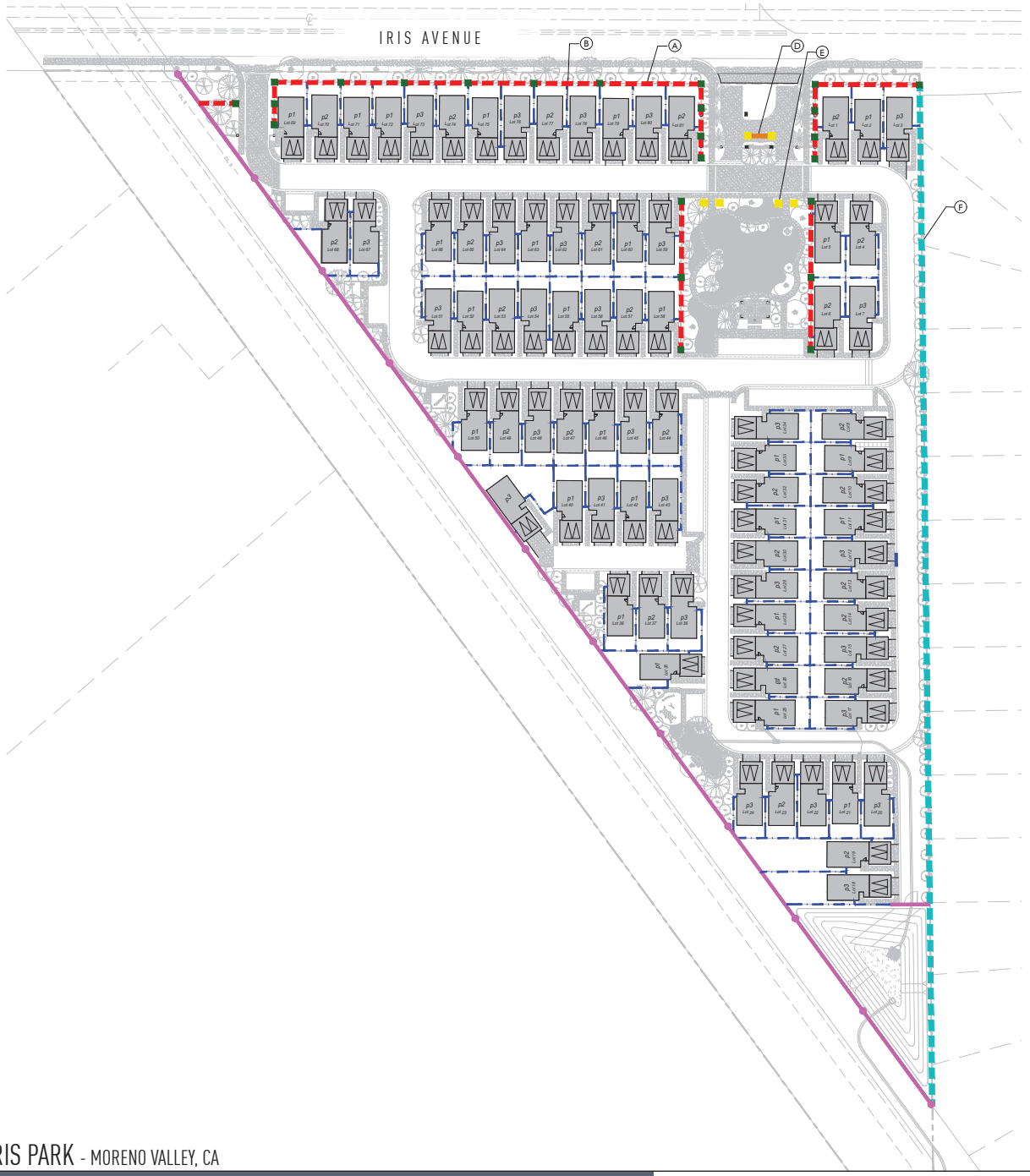


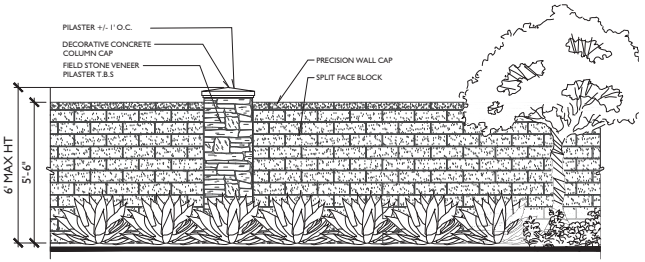
IRIS PARK - MORENO VALLEY, CA

FITNESS PARK ENLARGE NT - L.3

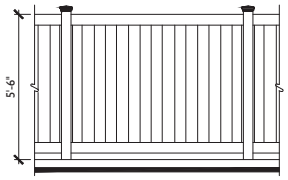
PACIFICA INVESTMENTS

AUGUST 21, 2020

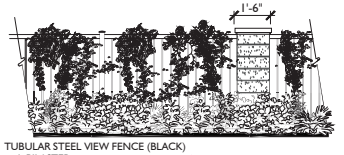




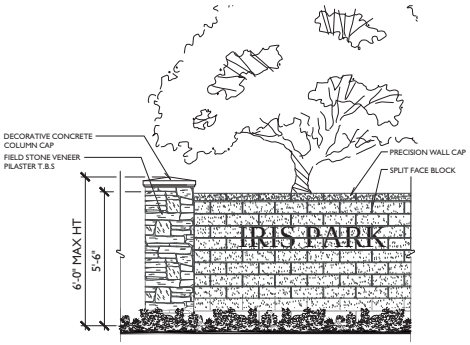
A COMMUNITY THEME WALL and PILASTER
5'-6" HIGH



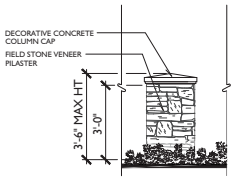
B HOMEOWNER VINYL PRIVACY FENCE (TAN COLOR)
5'-6" HIGH



TUBULAR STEEL VIEW FENCE (BLACK)
with PILASTER
C 6'-0" HIGH



D ENTRY MONUMENT WALL and PILASTER
5'-6" HIGH



E LOW PILASTER at COMMUNITY PARK
3'-6" HIGH
- PILASTER AS INDICATED ON PLAN

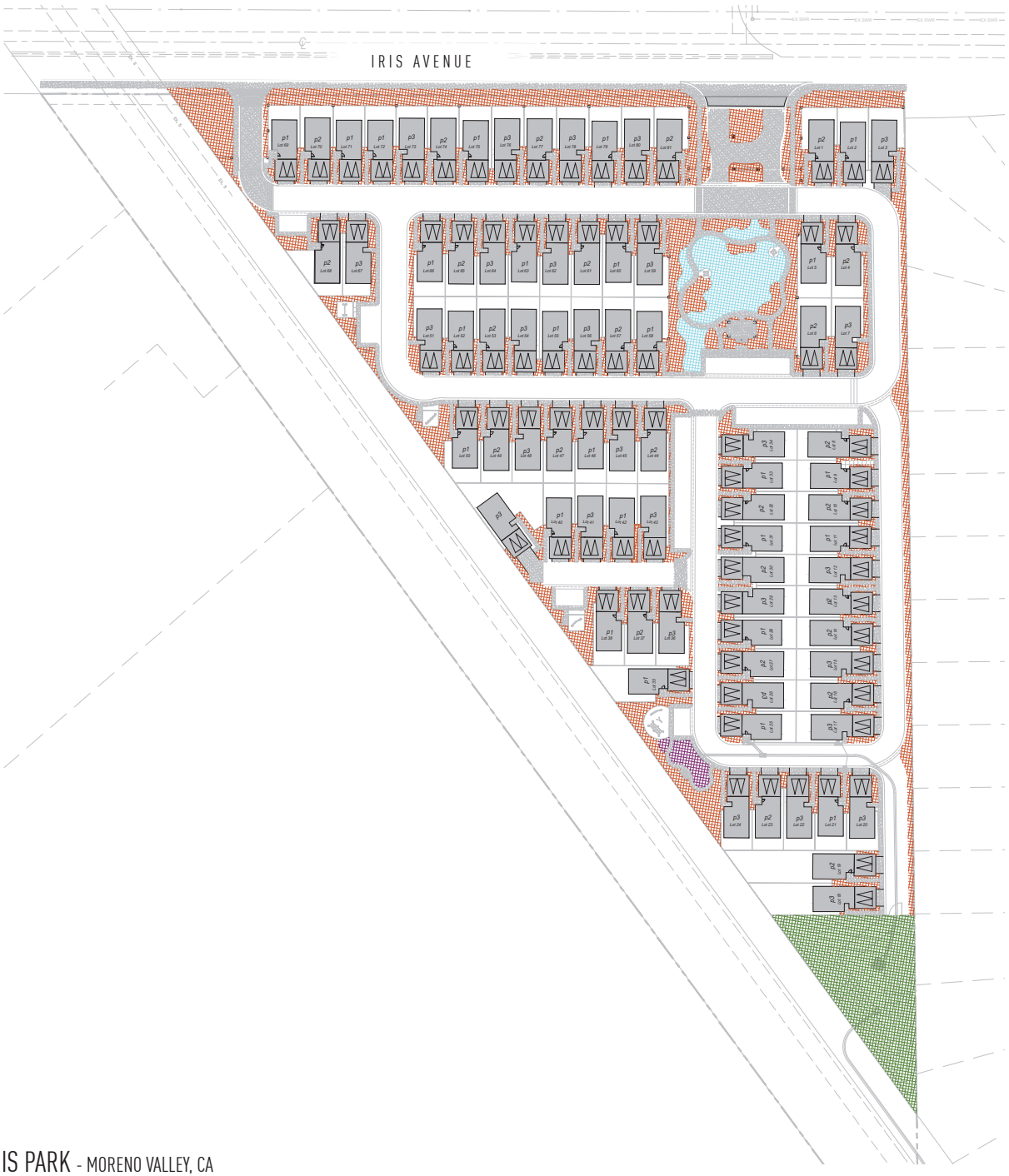
F EXISTING PERIMETER WALL TO REMAIN

IRIS PARK - MORENO VALLEY, CA

PACIFICA INVESTMENTS

AUGUST 21, 2020

WALL AND FENCE PLAN - L.4



IRRIGATION HYDROZONES:

- HYDRO-ZONE 1 - Common Landscape Areas - Enhanced Plant Palette - Sub Surface Irrigation - 48,251 s.f.
- HYDRO-ZONE 2 - Water Quality Planting in Basin - Water Conserving Plant Palette - Overhead Spray - 12,932 s.f.
- HYDRO-ZONE 3 - Synthetic Turf - 1,021 s.f.
- SPECIAL LANDSCAPE AREA - Active Turf Area at Community Park- 6,463 s.f.

TOTAL LANDSCAPE AREA: 68,667 s.f.

WATER CONSERVATION FEATURES

THE FOLLOWING MEASURES WILL BE INCORPORATED INTO THE PROJECT TO CONSERVE WATER:

1. Installation of automatic 'smart' irrigation controller with rain-sensor.
2. The use of low precipitation/low angle irrigation spray heads.
3. The use of low water consuming plants.
4. Soil amendment to achieve good soil moisture retention.
5. Mulching to reduce evapotranspiration from the root zone.
6. Installation of automatic irrigation system to provide deep-root watering to trees is required.

WATER CONSERVATION STATEMENT

PURPOSE: To provide the maintenance staff a mechanical device to distr and ensure plant survival in the most efficient manner and within a time frame erferes with the activities of the community.

The Irrigation system for each hydrozone will be automatic and incorpor emitters, bubblers and high efficiency low angle spray heads at turf only. ne drip may be employed where considered to be effective and feasible. Irrigatic n systems separated to allow for the systems operation in response to orientation a be

Planting will be designed to enhance the visual character of the site and th al elements. Plants shall be grouped with similar water, climatic and soil rec conserve water and create a drought responsive landscape.

Each hydrozone consists of moderate to low water consuming plants. In erate water consuming plants they shall be properly amended to retain moistur growth and to conserve water.

Plant Material within each hydrozone shall be specified in consideration o , east and west exposures.

Soil shall be prepared and emended to provide for maximum moisture re percolation. Planted beds shall be mulched to retain soil moisture and re evapotranspiration.

To avoid wasted water, the controls will be overseen by a flow monitor t t any broken sprinkler heads to stop that station's operation, advancing to the r e station. In the event of pressure supply line breakage, it will completely stop the c he system. All material will be nonferrous, with the exception of the brass p l out of the backflow units. All work will be in the best acceptable manner in acc applicable codes and standards prevailing in the industry.

WATER USE CLASSIFICATION of LAND (WUCOLS):

ECIES

WUCOLS, Water Use Classification of Landscape University of California Cooperative Extension Publication and the water needs of landscape plants.

CROP FACTOR	PERCE
H - HIGH	70% -
M - MEDIUM	40% -
L - LOW	10% -
VL - VERY LOW	< 10%

WATER EFFICIENT LANDSCAPE WORKSHEET

Reference Evapotranspiration (ETo) 56.40 ETAF for MAWA 0.55

Hydrozone # /Planting Description[a]	Plant Factor (PF)	Irrigation Method[b]	Irrigation Efficiency (IE)[c]	ETAF (PF/IE)	Landscape Area (sq. ft.)	ETAF x Area	Es
Regular Landscape Areas							
1 Common Areas -Low	0.30	drip	0.81	0.37	48,251	17,871	
2 Water Quality Basin -Medium	0.50	spray	0.75	0.67	12,932	8,621	
3 Synthetic Turf				-	1,021	-	
				Totals	61,183	26,492	
Special Landscape Areas							
Active Turf Area				1.00	6,463	6,463	
				Totals	6,463	6,463	
						ETWU Total	
				Maximum Allowed Water Allowance (MAWA)[e]			

[a] *Hydrozone #/Planting Description*
E.g.
1.) front lawn
2.) low water use plantings
3.) medium water use planting

[b] *Irrigation Method*
overhead spray
or drip

[c] *Irrigation Efficiency*
0.75 for spray head
0.81 for drip

[d] *ETWU (Annual Gallo*
= Eto x 0.62 x ETAF x
where 0.62 i
factor that co
inches per a
gallons per s
year.

[e] *MAWA (Annual Gallons Allowed)* = (Eto) (0.62) [(ETAF x LA) + ((1-ETAF) x SLA)]
where 0.62 is a conversion factor that converts acre-inches per acre per year to gallons per square foot per year.
LA is the total landscape area in square feet, SLA is the total special landscape area in square feet,
and ETAF is .55 for residential areas and 0.45 for non-residential areas.

ETAF Calculations

Regular Landscape Areas

Total ETAF x Area	26,492
Total Area	61,183
Average ETAF	**0.43**

All Landscape Areas

Total ETAF x Area	32,955
Total Area	67,646
Sitewide ETAF	**0.49**

Average ETAF for Regular Landscape Ar be 0.55 or below for residential areas, an below for non-residential areas.

Eto data for city of Moreno Valley
from MWELO Appendix A

IRIS PARK - MORENO VALLEY, CA

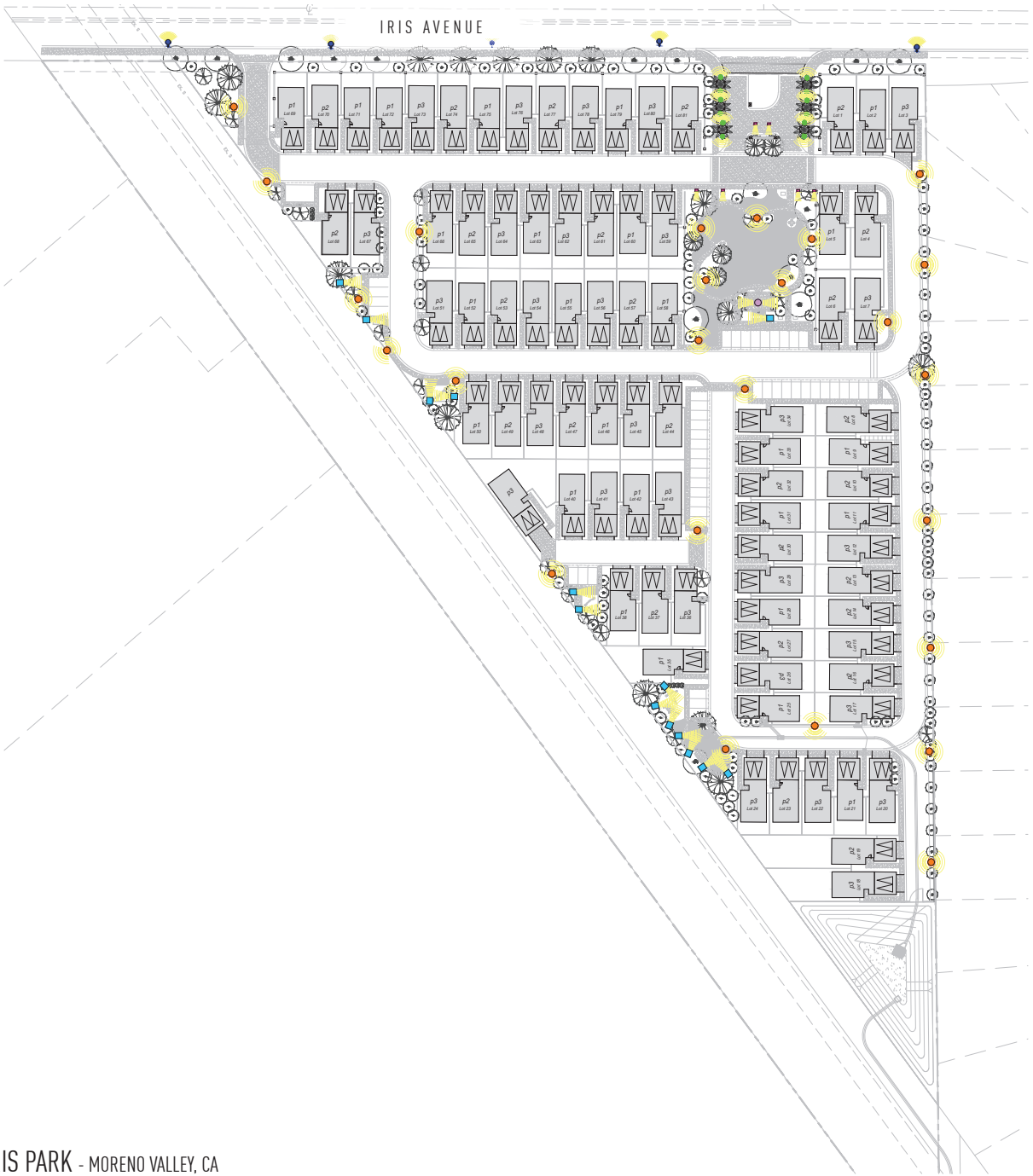
PACIFICA INVESTMENTS

AUGUST 21, 2020

HYDROZONE PLAN and WATER-USE CALCUL NS- L.5

0 20 40 80

MJS LANDSCAPE ARCHITECTURE



EXTERIOR LIGHTING LEGEND		
SYMBOL	TYPE/TECHNIQUE:	LOCATION:
	BOLLARD	COMMON AREA WALKWAYS
	POLE LIGHT	PRIVATE STREETS
	DOWN LIGHT	MOUNTED ON OVERHEAD PAVILLION AT COMMUNITY PARK
	PALM TREE UPLIGHT	ENTRY DRIVE
	EXISTING LIGHT	IRIS AVENUE
	UPLIGHT	ENTRY DRIVE AND PARK ENTRY

LIGHTING CONCEPT:

THE OUTDOOR LIGHTING CONCEPT IS TO PROVIDE LEVELS OF LIGHTING SUFFICIENT TO MEET SAFETY AND ORIENTATION NEEDS.

WITHIN PUBLIC AREAS LIGHTING WILL BE WARM COLORED AND UNOBTRUSIVE. LIGHT SOURCES WILL BE LED 4000K - 6000K.

LIGHTING SOURCES FOR THE LANDSCAPE AND PAVED AREAS WILL BE CONCEALED AND THE LIGHTING INDIRECT NOT VISIBLE FROM A PUBLIC VIEWPOINT. LIGHT SOURCES SHOULD BE DIRECTED SO THAT IT DOES NOT FALL OUTSIDE THE AREA TO BE LIGHTED.

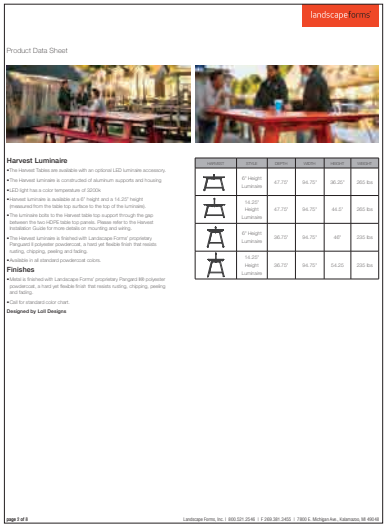
ALL EXTERIOR SURFACE AND ABOVE-GROUND MOUNTED FIXTURES WILL BE SYMPATHETIC AND COMPLIMENTARY TO THE ARCHITECTURAL THEME.

IRIS PARK - MORENO VALLEY, CA

PACIFICA INVESTMENTS

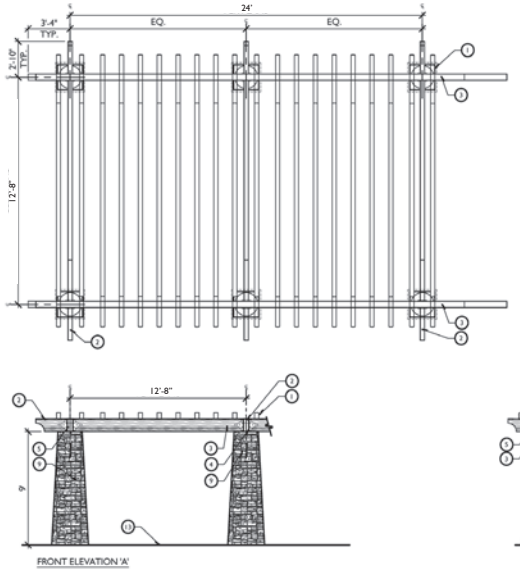
AUGUST 21, 2020

LANDSCAPE LIGHTIN AN- L.6



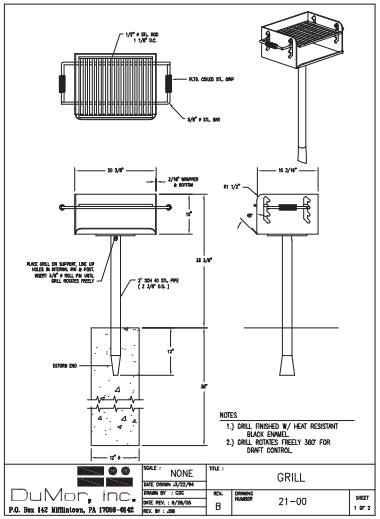
PICNIC TABLE (TOTAL : 2)

TRASH RECEPTACLE & BENCH (TRASH RECEPTACLE TOTAL : 2) (BENCH TOTAL : 2)



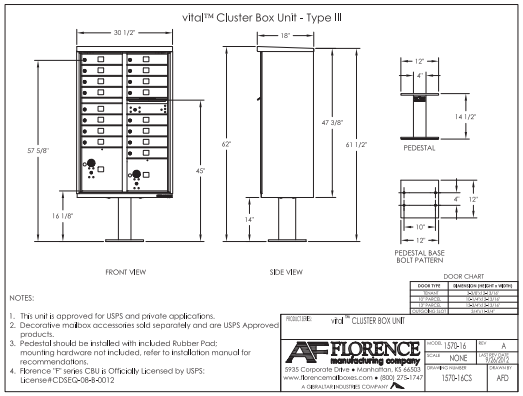
PARK PAVILION

PARK TABLES (TOTAL : 2)

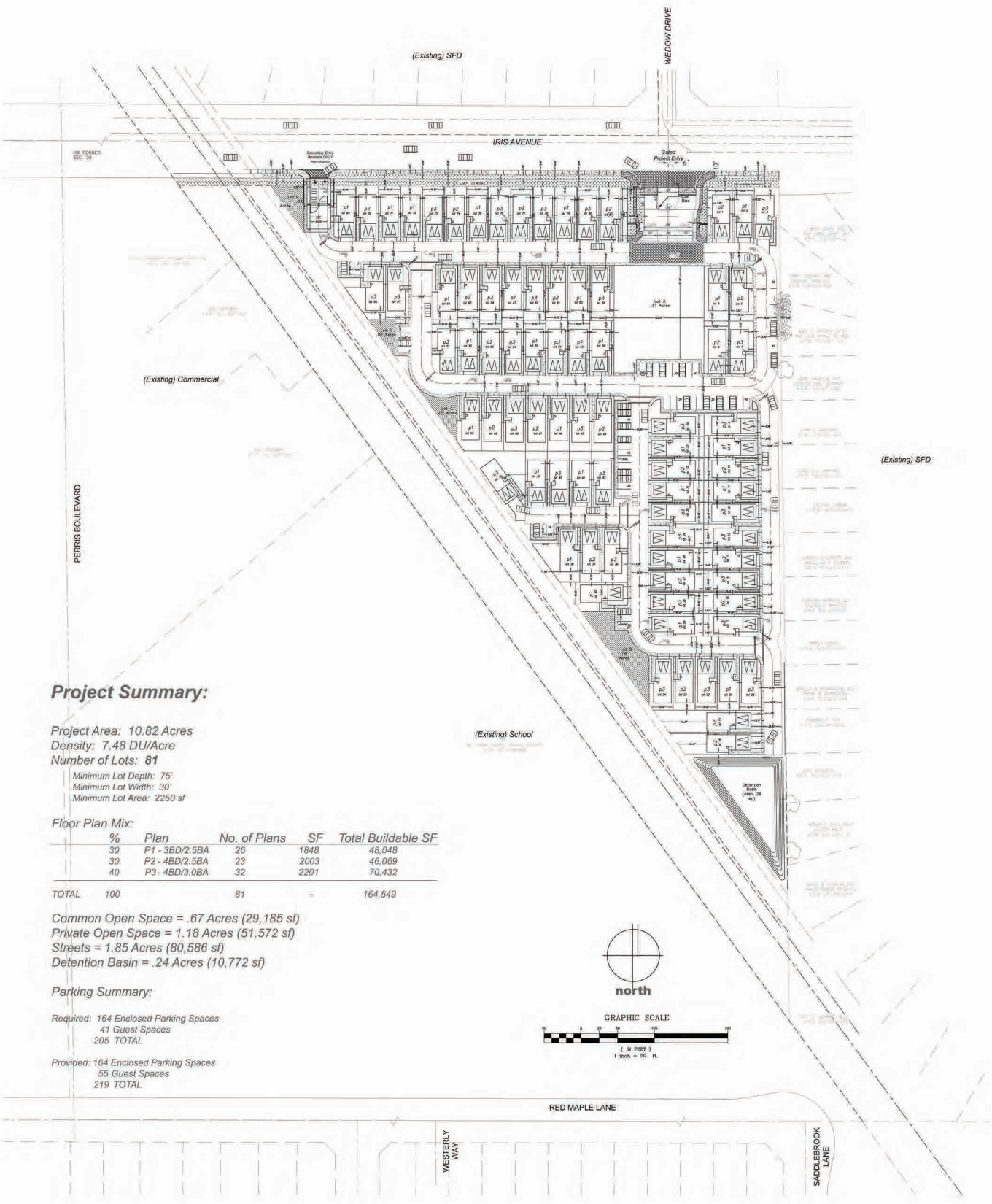


PEDESTAL GRILL (TOTAL : 2)

BBQ ASH URN (TOTAL : 1)



MAILBOX KIOSK (TOTAL : 6)



Project Summary:

Project Area: 10.82 Acres
Density: 7.48 DU/Acre
Number of Lots: **81**

- Minimum Lot Depth: 75'
- Minimum Lot Width: 30'
- Minimum Lot Area: 2250 sf

Floor Plan Mix:

%	Plan	No. of Plans	SF	Total Buildable SF
30	P1 - 3BD/2.5BA	26	1848	48,048
30	P2 - 4BD/2.5BA	23	2003	46,069
40	P3 - 4BD/3.0BA	32	2201	70,432
TOTAL 100		81	-	164,549

Common Open Space = .67 Acres (29,185 sf)
Private Open Space = 1.18 Acres (51,572 sf)
Streets = 1.85 Acres (80,586 sf)
Detention Basin = .24 Acres (10,772 sf)

Parking Summary:

Required: 164 Enclosed Parking Spaces
41 Guest Spaces
205 TOTAL

Provided: 164 Enclosed Parking Spaces
55 Guest Spaces
219 TOTAL

IRIS Park

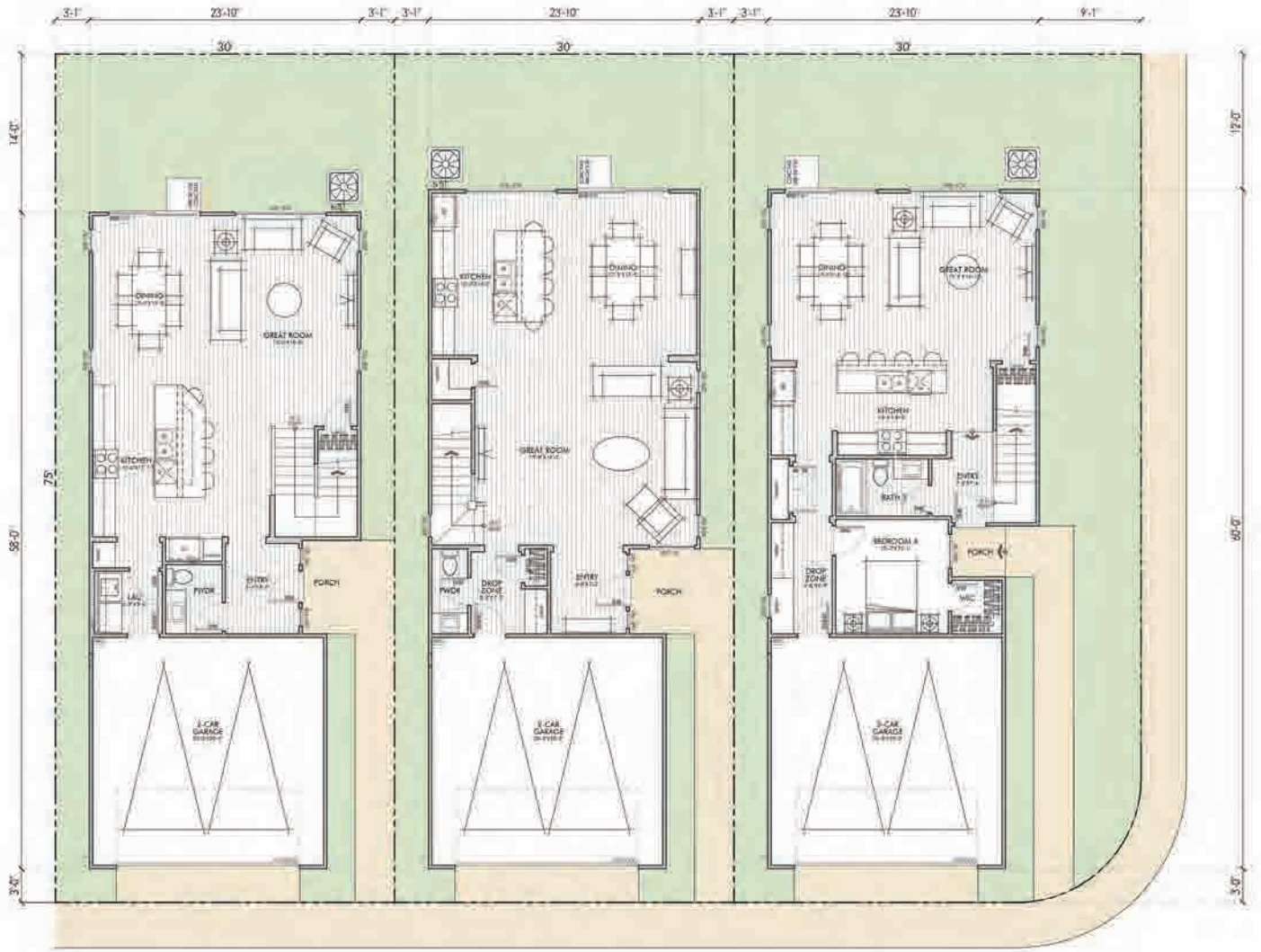
Moreno Valley, CA. October 16, 2020

Architectural Site Plan

IDEArc ARCHITECTURE + PLANNING

PASSCO PACIFICA

A1



PLAN 1

1,848 SQFT
3 BEDROOM
2.5 BATH
2 CAR GARAGE

PLAN 2

2,003 SQFT
4 BEDROOM
2.5 BATH
2 CAR GARAGE

PLAN 3

CORNER LOT
2,201 SQFT
4 BEDROOM + TEEN ROOM/OPT. BED 5
3 BATH
2 CAR GARAGE

TYPICAL LOT MODULE

SCALE: 1/4"=1'-0"

IRIS PARK

DESIGN DEVELOPMENT FLOOR PLAN

IDEArc ARCHITECTURE + PLANNING

MORENO VALLEY, CA.

APRIL 16, 2020

A02

PLAN 1B
(FARMHOUSE)

PLAN 2A
(SPANISH)

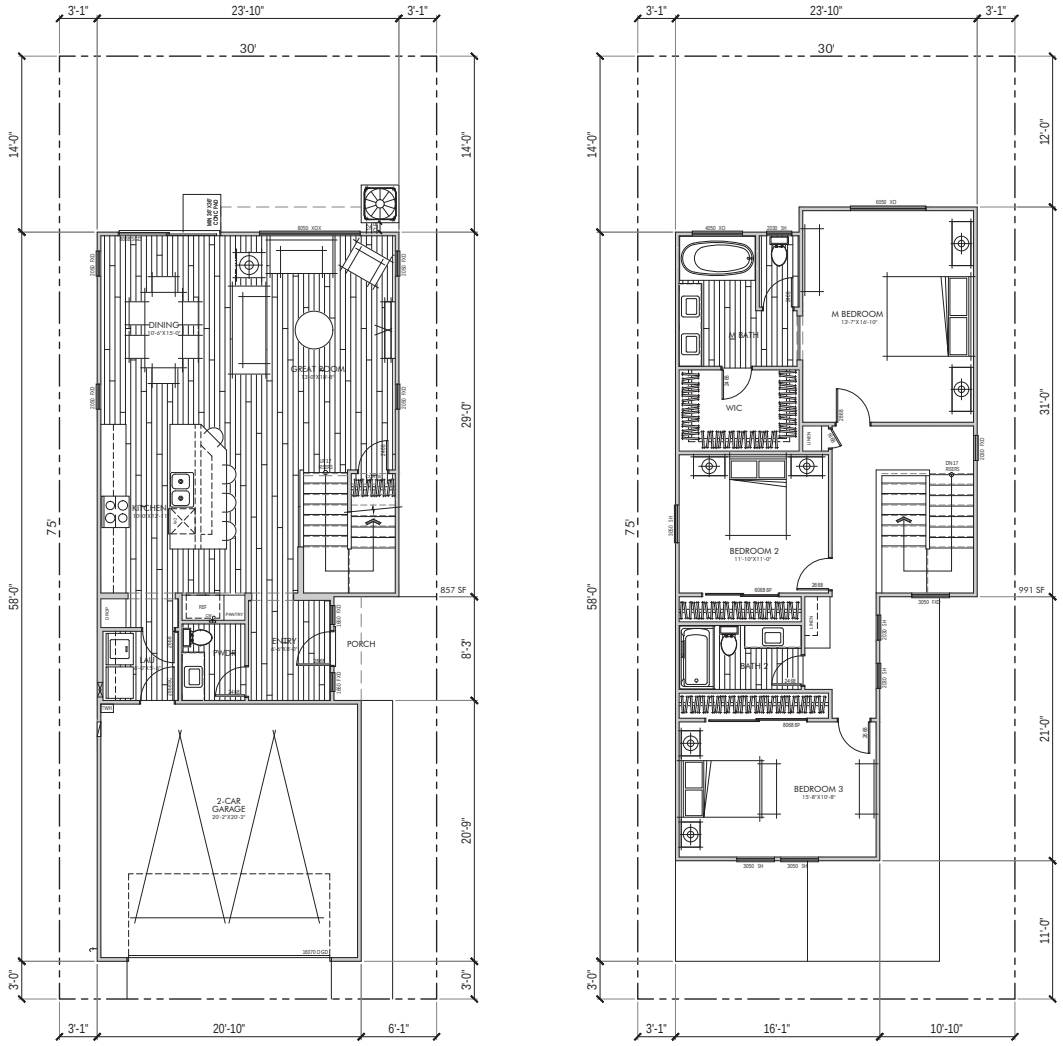
PLAN 3C
(FRENCH)

STREET SCENE

SCALE: 1/4"=1'-0"

IRIS PARK

DESIGN DEVELOPMENT FLOOR PLAN



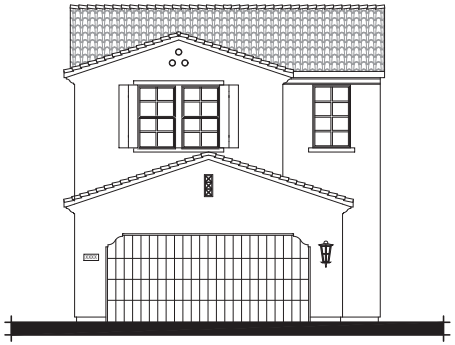
1,848 SQFT
3 BEDROOM
2.5 BATH
2 CAR GARAGE

FIRST AND SECOND LEVEL

PLAN 1

SCALE: 1/4"=1'-0"

IRIS PARK



1A - FRONT (SPANISH)

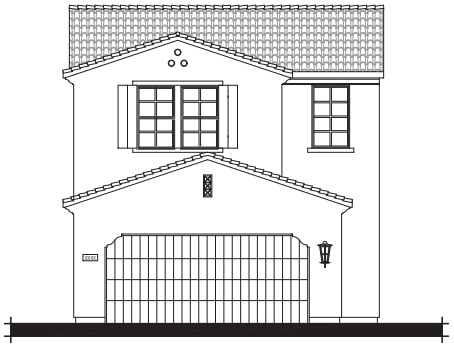
1B - FRONT (FARMHOUSE)

1C - FRONT (FRENCH)

PLAN 1

SCALE: 1/4"=1'-0"

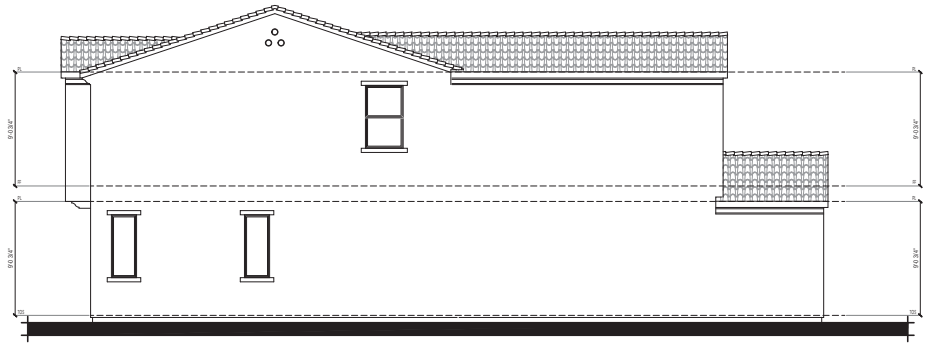
IRIS PARK



1A - FRONT (SPANISH)

1A - RIGHT (SPANISH)

1A - REAR (SPANISH)



1A - LEFT (SPANISH)

PLAN 1

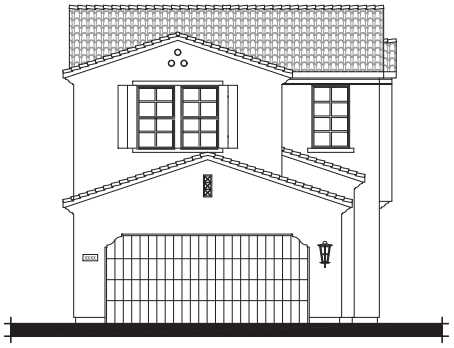
SCALE: 1/4"=1'-0"

IRIS PARK

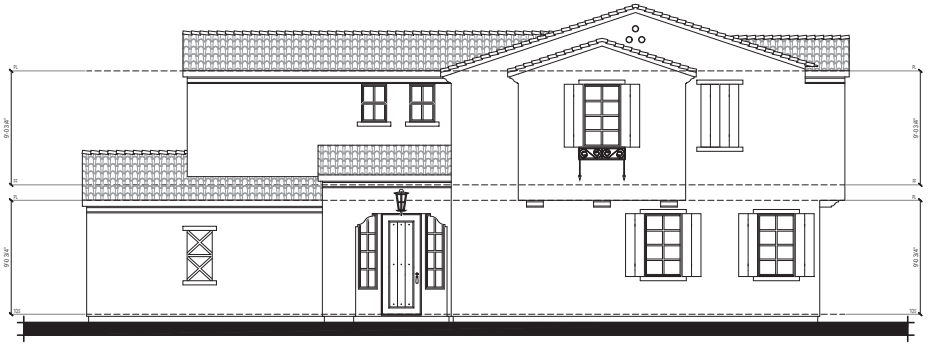
DESIGN DEVELOPMENT ELEVATIONS

IDEArc ARCHITECTURE + PLANNING
MORENO VALLEY, CA
17848 SKY PARK CIRCLE, SUITE D
IRVINE, CA 92614
949.336.6056

April 17, 2020

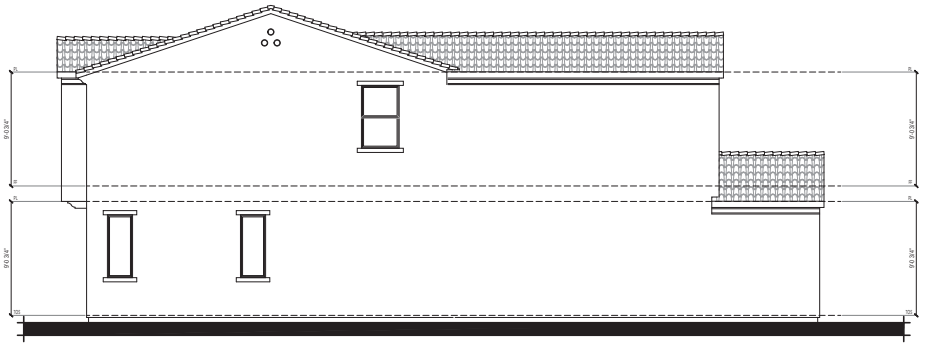


1A - FRONT (SPANISH)



1A - RIGHT ENHANCED (SPANISH)
AT END CONDITIONS ONLY

1A - REAR (SPANISH)



1A - LEFT (SPANISH)

PLAN 1
SCALE: 1/4"=1'-0"

IRIS PARK

DESIGN DEVELOPMENT ELEVATIONS

IDEArc ARCHITECTURE + PLANNING
MORENO VALLEY, CA
17848 SKY PARK CIRCLE, SUITE D
IRVINE, CA 92614
949.336.6056

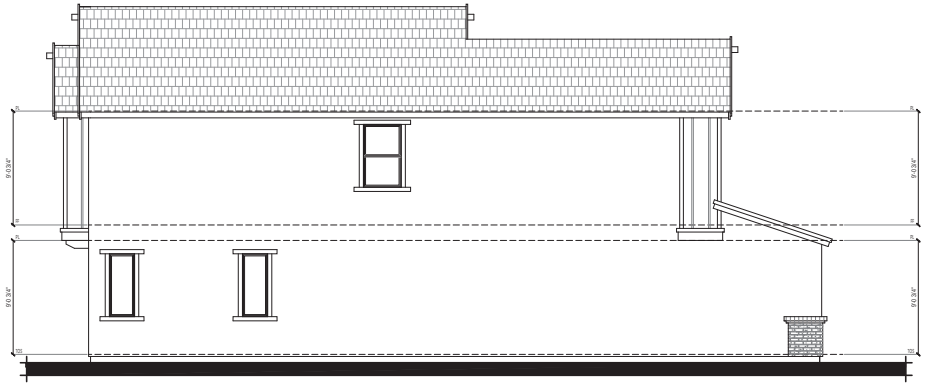
April 17, 2020

Pacifica Inve nts

1B - FRONT (FARMHOUSE)

1B - RIGHT (FARMHOUSE)

1B - REAR (FARMHOUSE)



1B - LEFT (FARMHOUSE)

PLAN 1

SCALE: 1/4"=1'-0"

IRIS PARK

DESIGN DEVELOPMENT ELEVATIONS

April 17, 2020

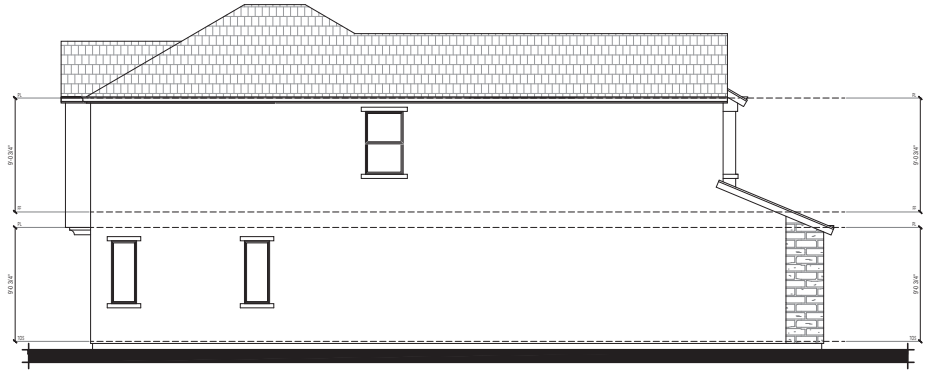
IDEArc ARCHITECTURE + PLANNING
MORENO VALLEY, CA
17848 SKY PARK CIRCLE, SUITE D
IRVINE, CA 92614
949.336.6056

Pacifica Inve nts

1C - FRONT (FRENCH)

1C - RIGHT (FRENCH)

1C - REAR (FRENCH)



1C - LEFT (FRENCH)

PLAN 1

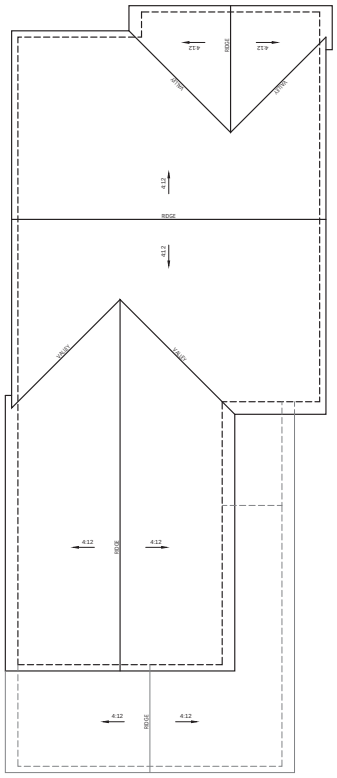
SCALE: 1/4"=1'-0"

IRIS PARK

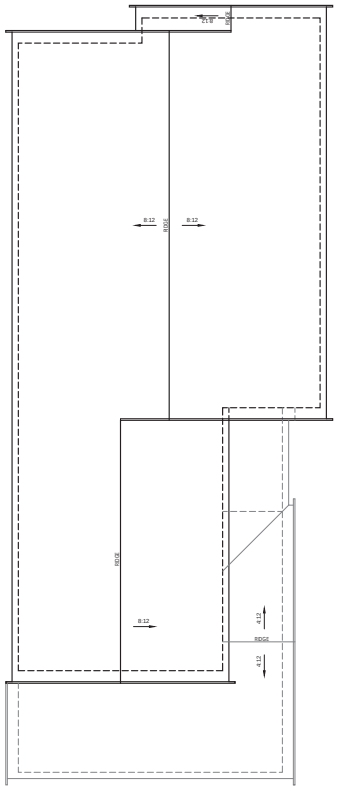
IDEArc ARCHITECTURE + PLANNING
MORENO VALLEY, CA
17848 SKY PARK CIRCLE, SUITE D
IRVINE, CA 92614
949.336.6056

April 17, 2020

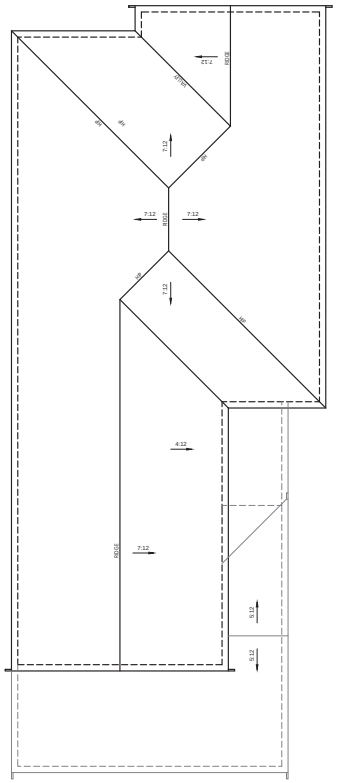
DESIGN DEVELOPMENT ELEVATIONS



1A - SPANISH



1B - FARMHOUSE



1C - FRENCH

PLAN 1

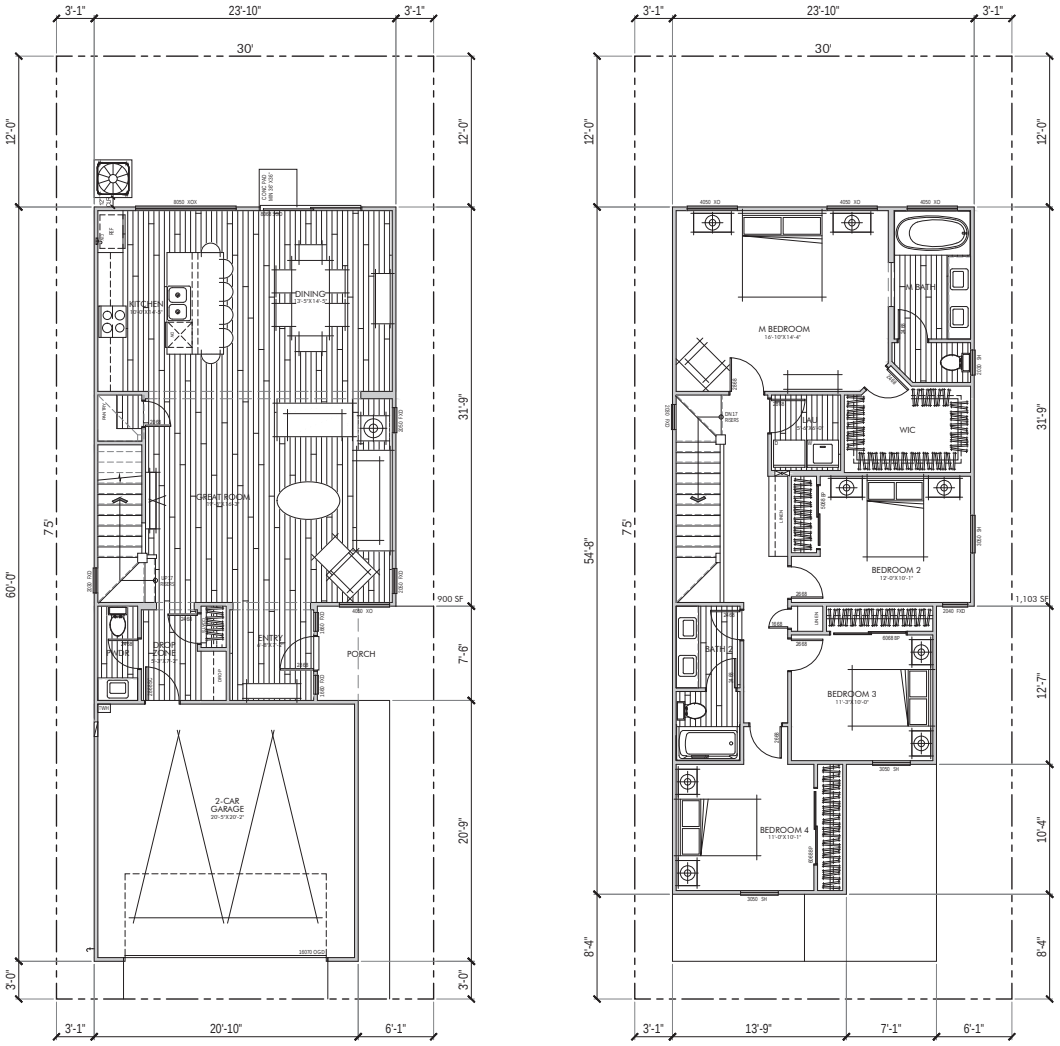
SCALE: 1/4" = 1'-0"

IRIS PARK

IDEArc ARCHITECTURE + PLANNING
MORENO VALLEY, CA
17848 SKY PARK CIRCLE, SUITE D
IRVINE, CA 92614
949.336.6056

April 17, 2020

DESIGN DEVELOPMENT ROOF PLAN



2,003 SQFT
4 BEDROOM
2.5 BATH
2 CAR GARAGE

FIRST AND SECOND LEVEL

PLAN 2

SCALE: 1/4" = 1'-0"

IRIS PARK

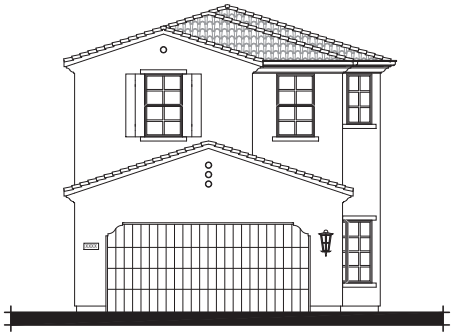
MORENO VALLEY, CA

APRIL 16, 2020

DESIGN DEVELOPMENT FLOOR PLAN

IDEArc ARCHITECTURE + PLANNING
17848 SKY PARK CIRCLE, SUITE D
IRVINE, CA 92614
949.336.6056

Pacifica Inve



2A - FRONT (SPANISH)

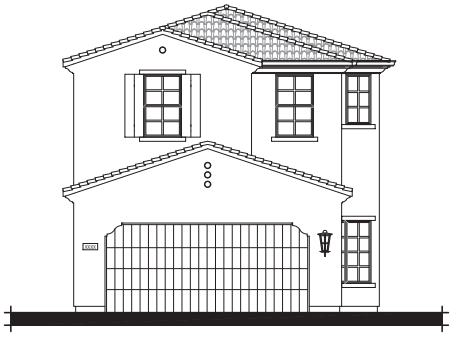
2B - FRONT (FARMHOUSE)

2C - FRONT (FRENCH)

PLAN 2

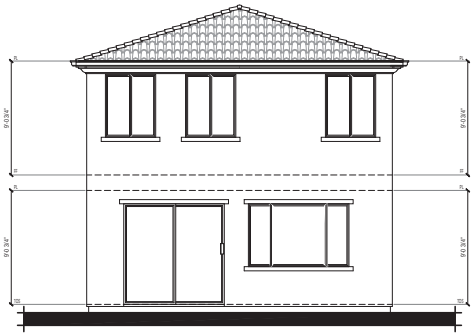
SCALE: 1/4"=1'-0"

IRIS PARK

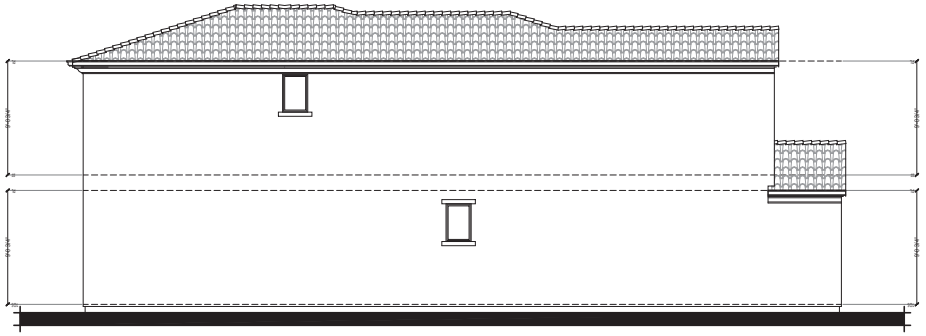


2A - FRONT (SPANISH)

2A - RIGHT (SPANISH)



2A - REAR (SPANISH)



2A - LEFT (SPANISH)

PLAN 2

SCALE: 1/4"=1'-0"

IRIS PARK

IDEArc ARCHITECTURE + PLANNING
MORENO VALLEY, CA
17848 SKY PARK CIRCLE, SUITE D
IRVINE, CA 92614
949.336.6056

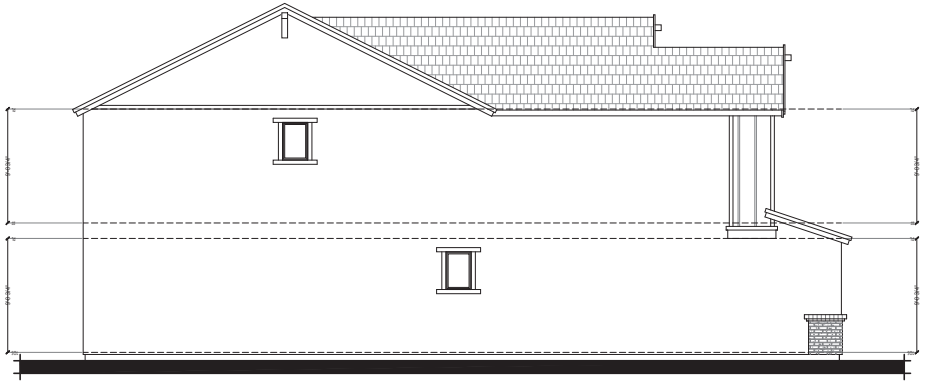
APRIL 16, 2020

DESIGN DEVELOPMENT ELEVATIONS

2B - FRONT (FARMHOUSE)

2B - RIGHT (FARMHOUSE)

2B - REAR (FARMHOUSE)



2B - LEFT (FARMHOUSE)

PLAN 2

SCALE: 1/4"=1'-0"

IRIS PARK

MORENO VALLEY, CA

APRIL 16, 2020

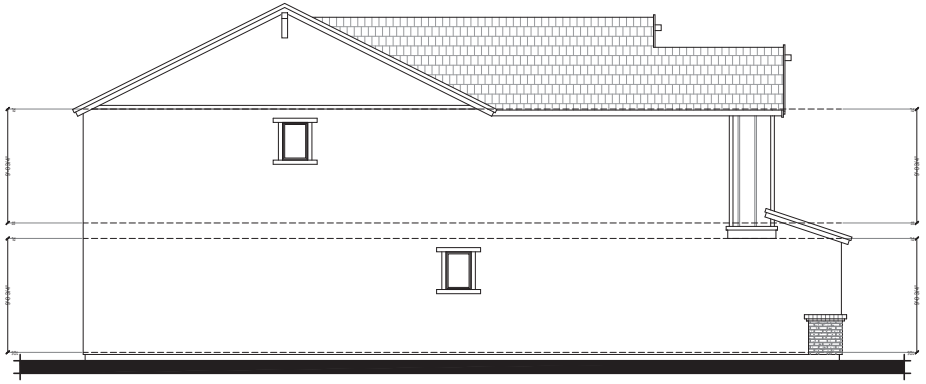
DESIGN DEVELOPMENT ELEVATIONS

IDEArc ARCHITECTURE + PLANNING
17848 SKY PARK CIRCLE, SUITE D
IRVINE, CA 92614
949.336.6056

2B - FRONT (FARMHOUSE)

2B - RIGHT ENHANCED (FARMHOUSE)
AT END CONDITIONS ONLY

2B - REAR (FARMHOUSE)



2B - LEFT (FARMHOUSE)

PLAN 2

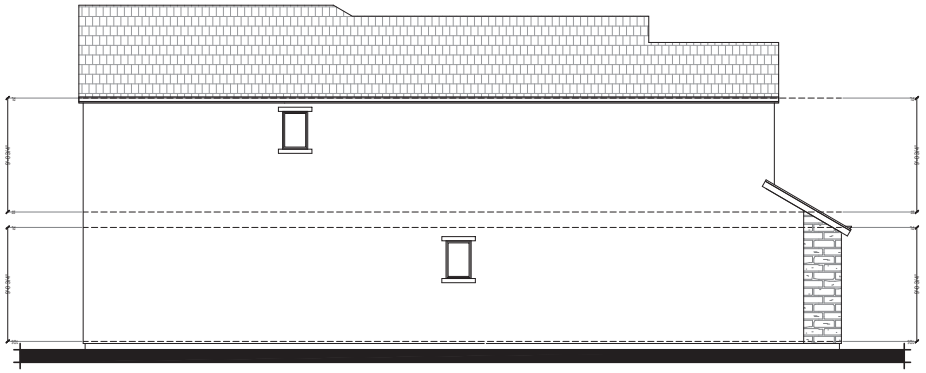
SCALE: 1/4"=1'-0"

IRIS PARK

2C - FRONT (FRENCH)

2C - RIGHT (FRENCH)

2C - REAR (FRENCH)



2C - LEFT (FRENCH)

PLAN 2

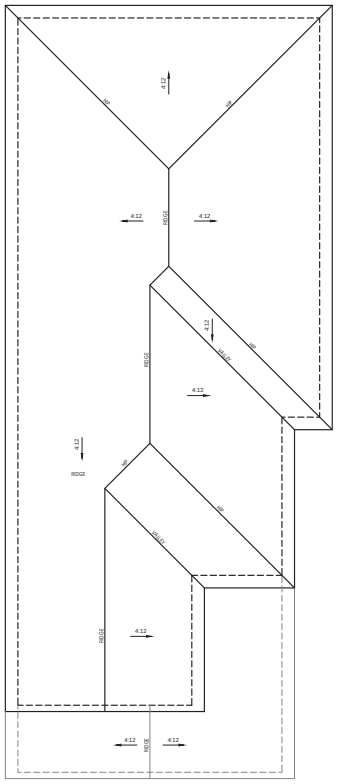
SCALE: 1/4"=1'-0"

IRIS PARK

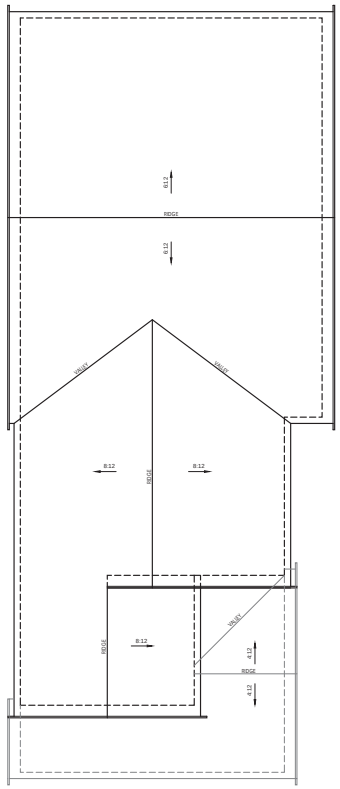
IDEArc ARCHITECTURE + PLANNING
MORENO VALLEY, CA
17848 SKY PARK CIRCLE, SUITE D
IRVINE, CA 92614
949.336.6056

APRIL 16, 2020

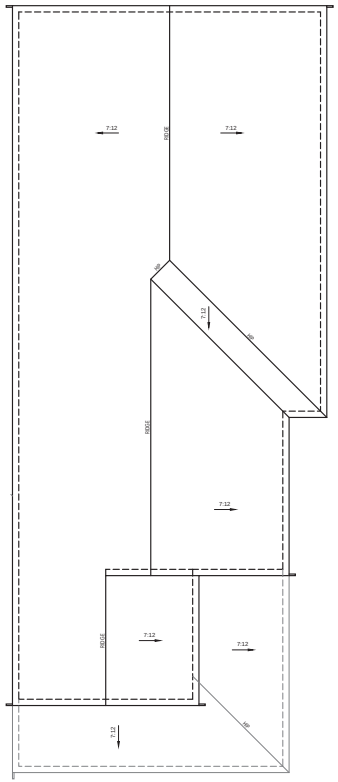
DESIGN DEVELOPMENT ELEVATIONS



2A - SPANISH



2B - FARMHOUSE

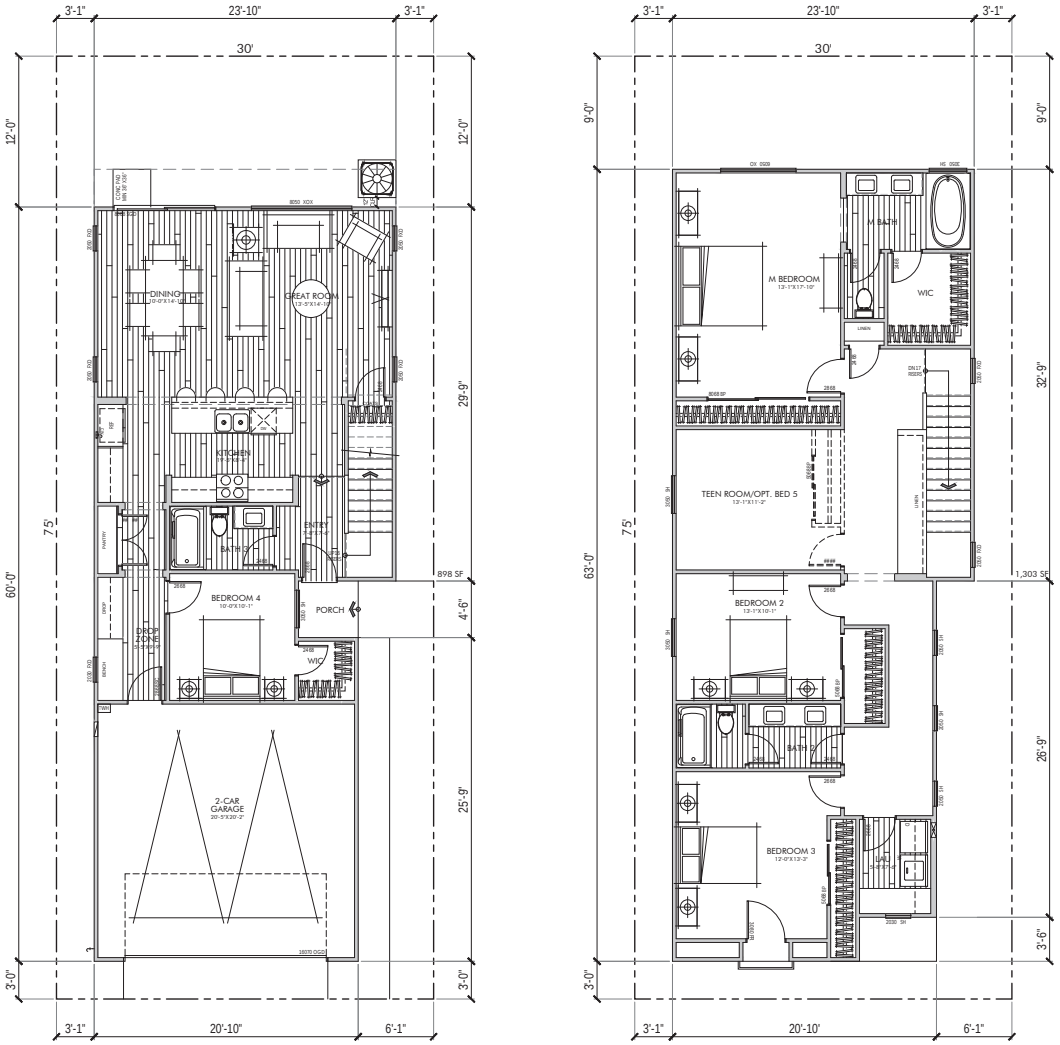


2C - FRENCH

PLAN 2

SCALE: 1/4"=1'-0"

IRIS PARK



2,201 SQFT
4 BEDROOM + TEEN ROOM/OPT. BED 5
3 BATH
2 CAR GARAGE

FIRST AND SECOND LEVEL

PLAN 3

SCALE: 1/4"=1'-0"

IRIS PARK

IDEArc ARCHITECTURE + PLANNING
MORENO VALLEY, CA
17848 SKY PARK CIRCLE, SUITE D
IRVINE, CA 92614
949.336.6056

APRIL 16, 2020

DESIGN DEVELOPMENT FLOOR PLAN

3A - FRONT (SPANISH)

3B - FRONT (FARMHOUSE)

3C - FRONT (FRENCH)

PLAN 3

SCALE: 1/4"=1'-0"

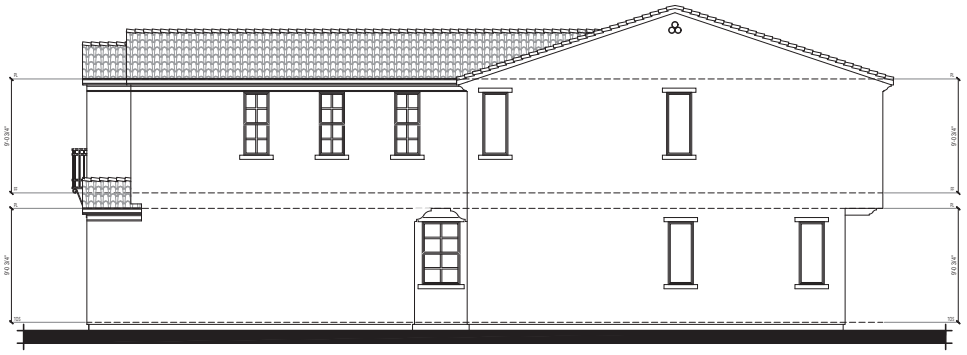
IRIS PARK

IDEArc
ARCHITECTURE + PLANNING
MORENO VALLEY, CA
17848 SKY PARK CIRCLE, SUITE D
IRVINE, CA 92614
949.336.6056

APRIL 16, 2020

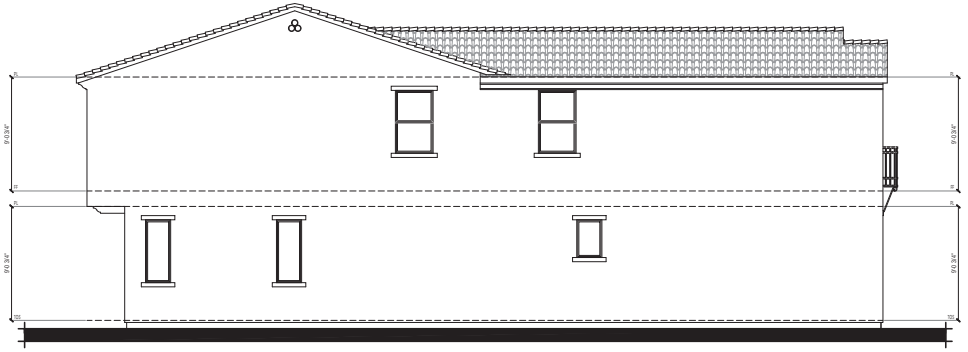
DESIGN DEVELOPMENT ELEVATIONS

3A - FRONT (SPANISH)



3A - RIGHT (SPANISH)

3A - REAR (SPANISH)



3A - LEFT (SPANISH)

PLAN 3

SCALE: 1/4"=1'-0"

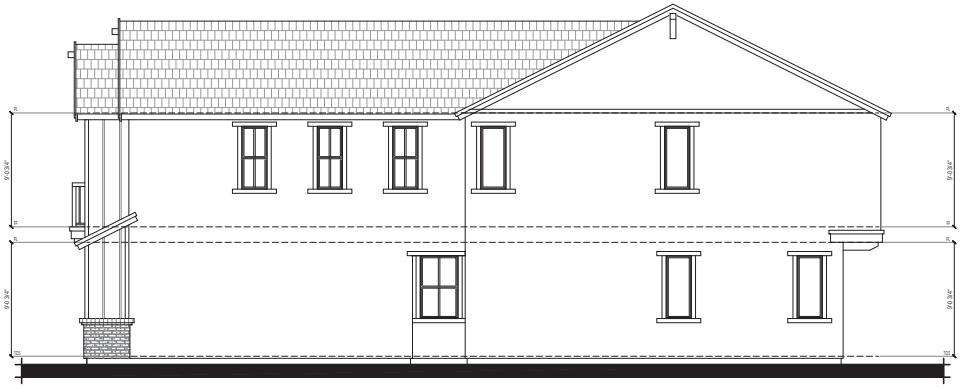
IRIS PARK

IDEArc ARCHITECTURE + PLANNING
MORENO VALLEY, CA
17848 SKY PARK CIRCLE, SUITE D
IRVINE, CA 92614
949.336.6056

APRIL 16, 2020

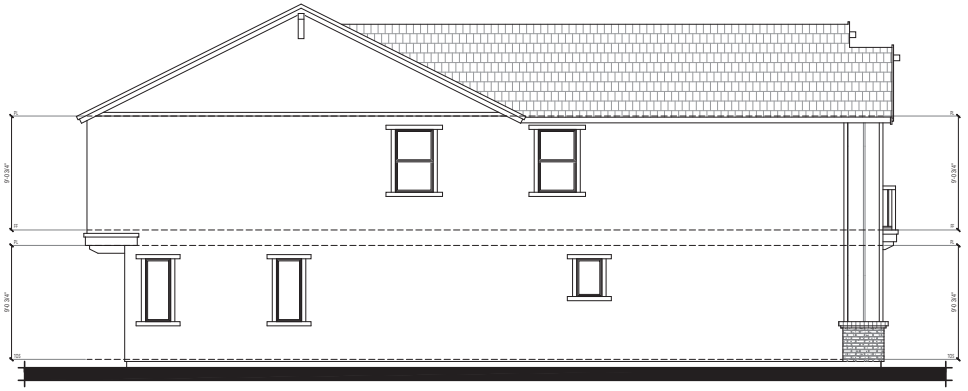
DESIGN DEVELOPMENT ELEVATIONS

3B - FRONT (FARMHOUSE)



3B - RIGHT (FARMHOUSE)

3B - REAR (FARMHOUSE)



3B - LEFT (FARMHOUSE)

PLAN 3

SCALE: 1/4"=1'-0"

IRIS PARK

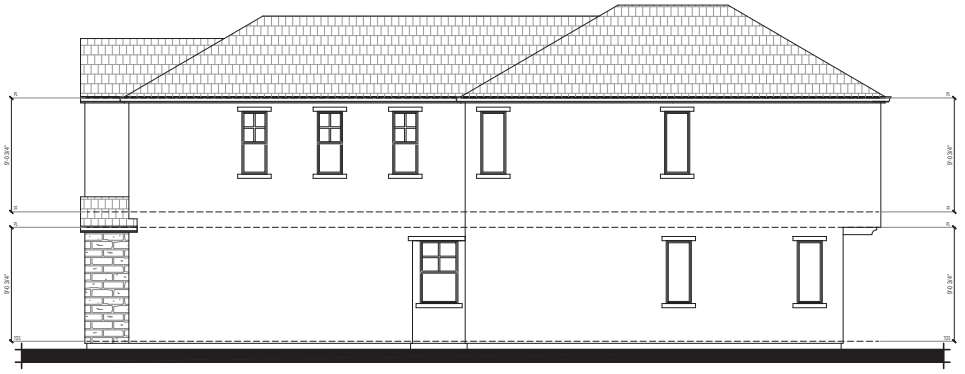
DESIGN DEVELOPMENT ELEVATIONS

IDEArc ARCHITECTURE + PLANNING
MORENO VALLEY, CA
17848 SKY PARK CIRCLE, SUITE D
IRVINE, CA 92614
949.336.6056

APRIL 16, 2020

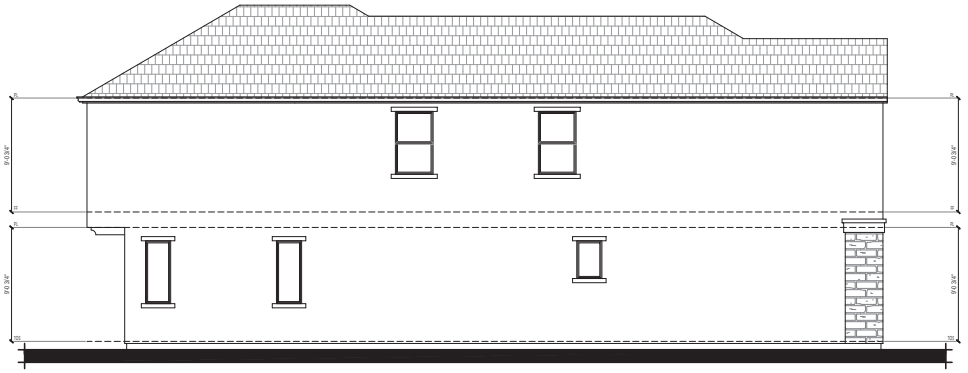
Pacifica Inve

3C - FRONT (FRENCH)



3C - RIGHT (FRENCH)

3C - REAR (FRENCH)



3C - LEFT (FRENCH)

PLAN 3

SCALE: 1/4"=1'-0"

IRIS PARK

IDEArc ARCHITECTURE + PLANNING
MORENO VALLEY, CA
17848 SKY PARK CIRCLE, SUITE D
IRVINE, CA 92614
949.336.6056

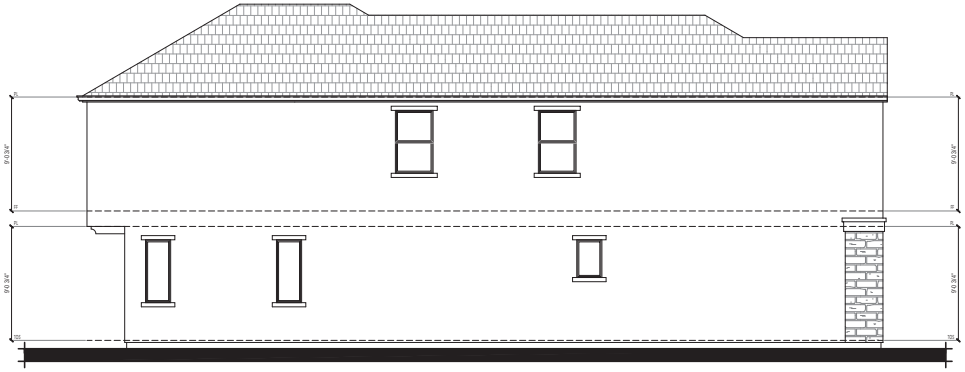
APRIL 16, 2020

DESIGN DEVELOPMENT ELEVATIONS

3C - FRONT (FRENCH)

3C - RIGHT ENHANCED (FRENCH)
AT END CONDITIONS ONLY

3C - REAR (FRENCH)



3C - LEFT (FRENCH)

PLAN 3

SCALE: 1/4"=1'-0"

IRIS PARK

IDEArc ARCHITECTURE + PLANNING
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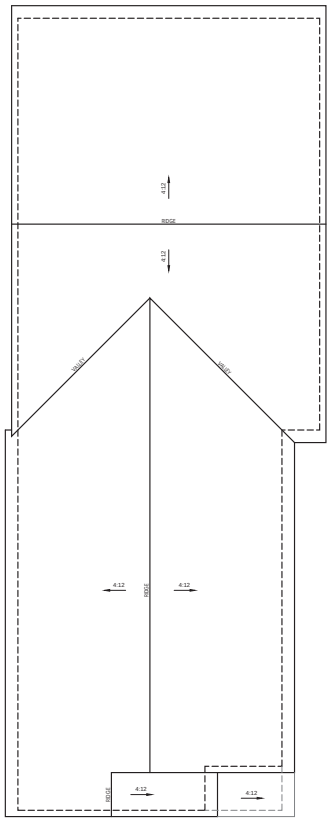
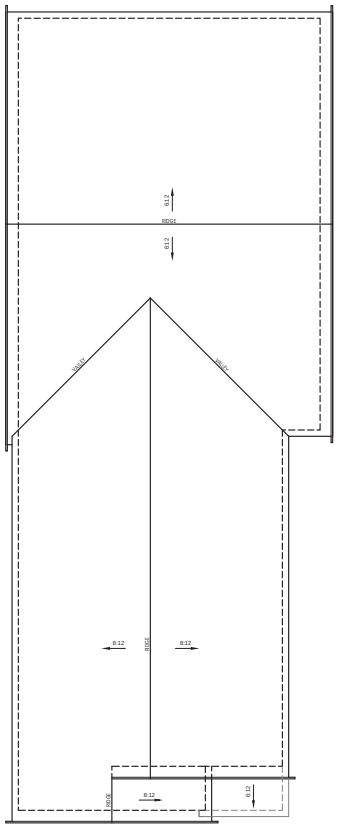
949.336.6056

APRIL 16, 2020

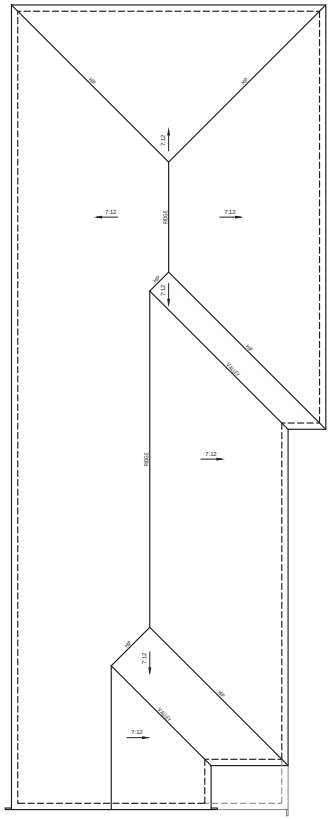
DESIGN DEVELOPMENT ELEVATIONS



3A - SPANISH



3B - FARMHOUSE



3C - FRENCH

PLAN 3

SCALE: 1/4"=1'-0"

IRIS PARK

IDEArc ARCHITECTURE + PLANNING
MORENO VALLEY, CA
17848 SKY PARK CIRCLE, SUITE D
IRVINE, CA 92614
949.336.6056

APRIL 16, 2020

DESIGN DEVELOPMENT ROOF PLAN

Tentative Tract Map No. 37909

LEGAL DESCRIPTION:

THE LAND IS SITUATED IN THE CITY OF MORENO VALLEY, COUNTY OF RIVERSIDE, STATE OF CALIFORNIA, AND IS DESCRIBED AS FOLLOWS:

THE NORTHWEST QUARTER OF THE NORTHWESTQUARTER OF SECTOIN 29, TOWNSHIP 3 SOUTH, RANGE 3 WEST, SAN BERNARDINO MERIDIAN, IN THE CITY OF MORENO VALLEY, COUNTY OF RIVERSIDE, STATE OF CALIFORNIA, ACCORDING TO OFFICIAL PLAT THEREOF.

EXCEPTING THEREFROM THAT CONVEYED TO THE CITY OF MORENO VALLEY BY DEED RECORDED AUGUST 28, 1989 AS INSTRUMENT NO. 89-292505, OFFICIAL RECORDS.

ALSO EXCEPTING THEREFROM ALL OIL, WATER, GAS, HYDROCARBONS, PRECIOUS METALS AND MINERALS OF ANY KIND WHETHER DESCRIBED OR NOT. BELOW A DEPTH OF 500 FEET WITHOUT ANY RIGHT OF SURFACE ENTRY AS RESERVED IN A DEED RECORDED JUNE 13, 1991 AS INSTRUMENT NO. 91-199908 OFFICIAL RECORDS.

ALSO EXCEPTING THEREFROM THAT PORTION SAID LAND CONVEYED TO VAL VERDE UNIFIED SCHOOL DISTRICT BY DEED RECORDED OCTOBER 10, 2002 AS INSTRUMENT NO. 02-566961 OFFICIAL RECORDS

ALSO EXCEPTING THEREFROM, LOT 1, LETTERED LOTS A THROUGH C OF TRACT MAP NO. 29857-1, AS SHOWN ON FILE IN BOOK 422 PAGES 23 AND 24 OF MAPS, RECORDS OF RIVERSIDE COUNTY , CALIFORNIA.

APN: 312-020-025

GENERAL PLAN/ZONING/LANDUSE

EXISTING GENERAL PLAN DESIGNATION:
PROPOSED GENERAL PLAN DESIGNATION:

EXISTING ZONING:	*R5 – SUBURBAN RESIDENTIAL*
PROPOSED ZONING:	*R10*
EXISTING LANDUSE:	*Vacant*
PROPOSED LANDUSE:	*DETACHED SFR*

PROJECT NOTES

TOTAL GROSS PROJECT SIZE: 471,228 SF (10.82 Ac.)
DENSITY: 7.58 DU/ACRE
NUMBER OF RESIDENTIAL LOTS: 81

MINIMUM LOT AREA: As Shown on the map
MINIMUM LOT DEPTH: 73'
MINIMUM LOT WIDTH: 30'
LOT SIZE: AS SHOWN ON MAP

GUEST PARKING 0.50 SPACES PER UNIT REQUIRED = 41
GUEST PARKING PROVIDED = 55
ALL ONSITE STREETS ARE PRIVATE
TOPOGRAPHY SOURCE: Aerial Topographic Mapping
PROJECT IS GATED – Gate At Wedwow Dr. shall be 60' minimum from Iris Ave ROW

DEVELOPER

Passco Pacifica LLC
333 City Boulevard West, 17th Floor
Orange, CA 92866
ATT: Oscar Graham
714-609-7257

OWNER

Maple Lane Group, LLC
A California Limited Liability Company

UTILITY PURVEYORS

WATER:	*EASTERN MUNICIPAL WATER DISTRICT*
SEWER:	*EASTERN MUNICIPAL WATER DISTRICT*
GAS:	*SOUTHERN CALIFORNIA GAS COMPANY*
ELECTRICITY:	*SOUTHERN CALIFORNIA EDISON*
TELEPHONE:	*AT&T*
SCHOOL:	*MORENO VALLEY UNIFIED SCHOOL DISTRICT*
CATV:	*SPECTRUM*

LEGEND

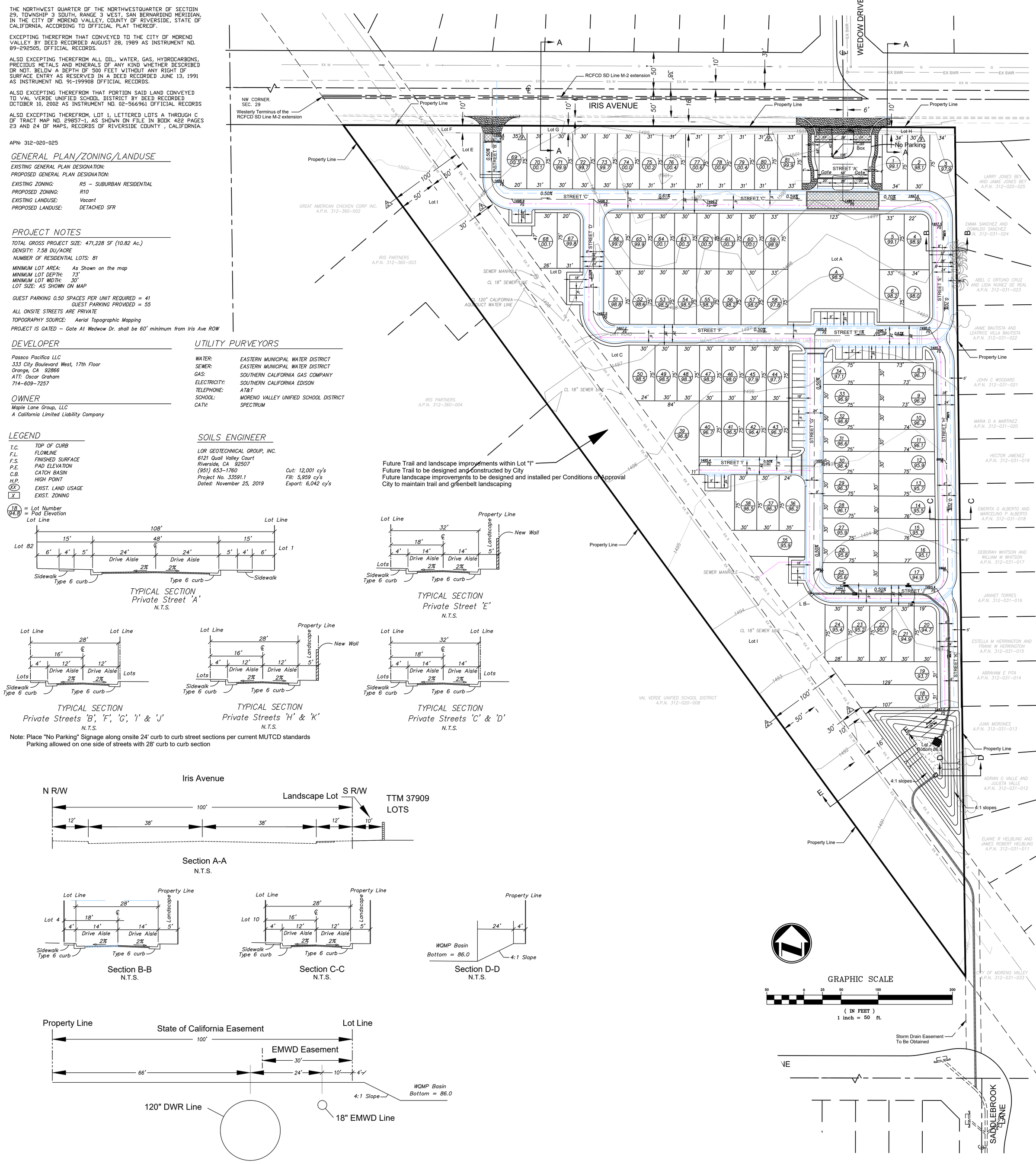
T.C.	*TOP OF CURB*
F.L.	*FLOWLINE*
F.S.	*FINISHED SURFACE*
P.E.	*PAD ELEVATION*
C.B.	*CATCH BASIN*
H.P.	*HIGH POINT*
(XX)	*EXIST. LAND USAGE*
[X]	*EXIST. ZONING*

(18) / (94.8) = Lot Number / Pad Elevation

SOILS ENGINEER

LOR GEOTECHNICAL GROUP, INC.
6121 Quail Valley Court
Riverside, CA 92507
(951) 653-1760
Project No. 33591.1
Dated: November 25, 2019

Cut: 12,001 cy's
Fill: 5,959 cy's
Export: 6,042 cy's



TYPICAL SECTION
Private Street 'A'
N.T.S.

TYPICAL SECTION
Private Street 'E'
N.T.S.

TYPICAL SECTION
Private Streets 'B', 'F', 'G', 'I' & 'J'
N.T.S.

TYPICAL SECTION
Private Streets 'H' & 'K'
N.T.S.

TYPICAL SECTION
Private Streets 'C' & 'D'
N.T.S.

Note: Place "No Parking" Signage along onsite 24' curb to curb street sections per current MUTCD standards
Parking allowed on one side of streets with 28' curb to curb section

Section A-A
N.T.S.

Section B-B
N.T.S.

Section C-C
N.T.S.

Section D-D
N.T.S.

Section E-E
N.T.S.

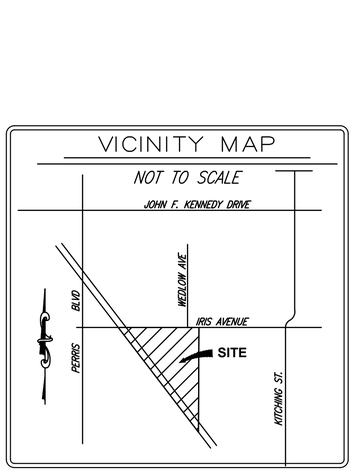
FLOOD ZONE
ZONE X, AREA OF MINIMAL FLOOD HAZARD PER FIRM MAP 06065C078G, EFFECTIVE DATE 8-27-2008, CITY OF MORENO VALLEY, COMMUNITY NO. 065074.

EASEMENT NOTES

(2) *A 100 FOOT WIDE EASEMENT IN FAVOR OF THE STATE OF CALIFORNIA FOR THE PIPELINE PURPOSES PER DOCUMENT RECORDED JANUARY 23, 1967 AS INSTRUMENT NO. 5814, OFFICIAL RECORDS.*

(3) *A 30 FOOT WIDE EASEMENT IN FAVOR OF THE EASTERN MUNICIPAL WATER DISTRICT FOR ROAD AND UTILITY PURPOSES RECORD FEBRUARY 16, 1984 AS INSTRUMENT NO. 31787, OFFICIAL RECORDS.*

(9) *A 10 FOOT WIDE EASEMENT IN FAVOR OF THE CITY OF MORENO VALLEY FOR LANDSCAPE AND INCIDENTAL PURPOSES AS DEDICATED ON TRACT NO. 29857-1, FILED IN BOOK 422, PAGES 23 AND 24 OF MAPS, RECORDS OF RIVERSIDE COUNTY*



Lot Statistics Table

Residential Lots

Lot Number	Width (ft)	Depth (ft)	Area (sf)
1	34	75	2,551
2	30	75	2,253
3	34	75	2,872
4	34	75	2,479
5	33	75	2,474
6	33	75	2,342
7	34	75	2,428
8	30	73	2,197
9	30	73	2,211
10	30	73	2,226
11	30	74	2,241
12	30	74	2,255
13	30	75	2,270
14	30	75	2,284
15	30	76	2,302
16	30	76	2,311
17	30	77	2,311
18	31	107	3,409
19	31	129	4,308
20	30	75	2,250
21	30	75	2,201
22	30	75	2,250
23	30	75	2,250
24	30	75	2,250
25	30	75	2,201
26	30	75	2,250
27	30	75	2,250
subtotal Residential Lot Area			65,626

Residential Lots

Lot Number	Width (ft)	Depth (ft)	Area (sf)
28	30	75	2,250
29	30	75	2,250
30	30	75	2,250
31	30	75	2,250
32	30	75	2,250
33	30	75	2,250
34	30	75	2,250
35	30	75	3,021
36	35	75	2,599
27	30	75	2,250
38	30	75	2,250
39	30	75	4,741
40	30	75	2,250
41	30	75	2,250
42	30	75	2,250
43	30	75	2,250
44	30	75	2,250
45	30	75	2,250
46	30	75	3,606
47	30	77	2,788
48	30	75	2,258
49	30	75	2,250
50	30	75	2,547
51	35	75	2,576
52	30	75	2,250
53	30	75	2,250
54	30	75	2,250
subtotal Residential Lot Area			66,886

Residential Lots

Lot Number	Width (ft)	Depth (ft)	Area (sf)
55	30	107	2,250
56	30	129	2,250
57	30	75	2,250
58	33	75	2,475
59	33	75	2,475
60	30	75	2,250
61	30	75	2,250
62	30	75	2,250
63	30	75	2,250
64	30	75	2,250
65	30	75	2,250
66	35	75	2,602
67	31	75	2,299
68	30	75	2,717
69	35	75	2,576
70	31	75	2,369
71	30	75	2,250
72	30	75	2,250
73	30	75	2,250
74	30	75	2,250
75	30	75	2,250
76	30	75	2,250
77	30	75	2,250
78	30	75	2,250
79	31	75	2,324
80	31	75	2,323
81	33	75	2,432
subtotal Residential Lot Area			62,842
Total Residential Lot Area			195,354
Average Lot Size			2,382

Lettered Lots

Lot Number	Use	Area (sf)
A	OS - Park	17,996
B	OS - Park	4,619
C	OS - Park	1,365
D	OS - Park	1,224
E	OS - Park	2,568
F	Landscape	591
G	Landscape	1,003
H	Landscape	1,112
I	OS - Trail	131,357
J	WQMP Basin	12,934
subtotal		174,769

Streets

A	Street	8,088
B	Street	2,854
C	Street	18,835
D	Street	6,224
E	Street	8,108
F	Street	15,921
G	Street	12,718
H	Street	11,448
I	Street	5,457
J	Street	4,992
subtotal		94,645

ROBERT BEERS
8175 Limonite Avenue, Suite E
Jurupa Valley, CA 92509
Ph. (951) 317-2041 Fax (909) 360-2070

REGISTERED PROFESSIONAL ENGINEER — ROBERT MARK BEERS — No. 39405 Exp. 12-31-21 — CIVIL — STATE OF CALIFORNIA

Date

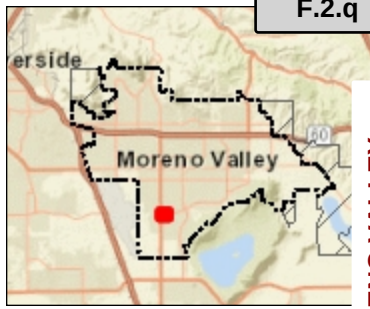
Robert M. Beers R.C.E. 39405 Expires 12-31-21

PREPARED FOR:
Passco Pacifica LLC
333 City Boulevard West
17th Floor
Orange, CA 92866
PHONE: (714) 609-7257

TTM 37909
City of Moreno Valley
California

DATE Oct. 14, 2020
JOB NO.
DRAWN BY R.A.H.
CHECKED BY R.M.B.
SHEET C-1

PEN20-0063 - 0065 Site Map



Legend

Master Plan of Trails
- Bridge
- Improved
- Multiuse
- Proposed
- Regional
- State

Road Labels

Parcels

City Boundary

Sphere of Influence

Image Source: Nearmap

Notes:

APN(s): 312020025

631.0 0 315.48 631.0 Feet

WGS_1984_Web_Mercator_Auxiliary_Sphere

Print Date: 10/26/2020

DISCLAIMER: The information shown on this map was compiled from the City of Moreno Valley GIS and Riverside County GIS. The land base and facility information on this map is for display purposes only and should not be relied upon without independent verification as to its accuracy. Riverside County and City of Moreno Valley will not be held responsible for any claims, losses or damages resulting from the use of this map.

600' Radius Map
Iris Ave
Moreno Valley CA
APN(s) 312020025
Prepared 10/6/2020
by Susan Case Inc
1 inch = 350 feet

GERANIUM CT
NEWGARDEN ST
GATEWOOD ST
STARVIEW ST
PERRIS BLVD
RED MAPLE LN
IRIS AVE
CEREMONY AVE
IVORY AVE
SPACE DR
NIPPET LN
KITCHING ST
BLUECHIP CIR
BEANTREE CT

316030014
485220031
312360008
312360007
312360006
312360005
312360002
312360001
312360004
312020008
312020025
486211021
486211022

RESOLUTION NUMBER 2021-XX

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF MORENO VALLEY, CALIFORNIA, ADOPTING A MITIGATED NEGATIVE DECLARATION AND MITIGATION MONITORING PLAN FOR THE DISTRICT MORENO VALLEY PROJECT LOCATED AT THE SOUTHEAST CORNER OF HEACOCK STREET AND IRONWOOD AVENUE (APN'S 481-020-013, 029, 030, 034, 035, 038)

WHEREAS, the City of Moreno Valley ("City") is a general law city and a municipal corporation of the State of California, and the lead agency for the preparation and consideration of environmental documents for local projects that are subject to requirements of the California Environmental Quality Act (CEQA[1]) and CEQA Guidelines[2]; and

WHEREAS, LCG 10MV, LLC., ("Developer") is seeking approval for the development of The District Moreno Valley Business Park, an approximately 200,000 square foot light industrial building on a 9.96-acre site that includes: 1) a General Plan Amendment (GPA) (PEN20-0139) amending Figure 2-2 "Land Use Map" of the Moreno Valley General Plan to change the land use designation of the Project site from Commercial to Business Park; 2) a Specific Plan Amendment to change the land use designation of the site from SP205 Retail Commercial to SP205 Mixed Use and other minor modifications the Specific Plan; 3) a Plot Plan for an approximately 200,000 square foot light industrial building with associated public improvements located at the southeast corner of Heacock Street and Ironwood Avenue (APN'S 481-020-013, 029, 030, 034, 035, 038); and

WHEREAS, the proposed "Project" shall include not only the General Plan Amendment (GPA) (PEN20-0139), Specific Plan Amendment, and Plot Plan, but also a corresponding amendment to the City's Zoning Atlas to reflect the proposed changes in the zoning classification and/or redistricting associated with the General Plan Amendment and Specific Plan Amendment; and

WHEREAS, Planning Division Staff completed an environmental assessment for the proposed Project, and, based on the assessment, decided to prepare an Initial Study ("IS") and a Mitigated Negative Declaration ("MND") in accordance with Section 6 (ND Procedures) of the City's Rules and Procedures for the Implementation of the California Environmental Quality Act and the requirements of the CEQA Guidelines Sections 15070 – 15075; and

WHEREAS, a Notice of Intent to Adopt a Mitigated Negative Declaration was duly noticed and circulated for public review for a period of 20 days commencing on December 23, 2020, through January 11, 2021; and

[1] Public Resources Code §§ 21000-21177
[2] 14 California Code of Regulations §§15000-15387

WHEREAS, in conformance with CEQA and the CEQA Guidelines, a Mitigation Monitoring Plan ("MMP") that includes a program for reporting on and monitoring Project mitigation measures was prepared for the proposed Project and noticed with the Mitigated Negative Declaration; and

WHEREAS, on January 14, 2021 a hearing was conducted by the Planning Commission to consider a recommendation that the City Council approve the Mitigated Negative Declaration and the Mitigation Monitoring Plan and approve the proposed Project; and

WHEREAS, on January 14, 2021 a hearing was conducted by the Planning Commission whereby the Planning Commission approved Planning Commission Resolution 2021-01, recommending that the City Council approve the Mitigated Negative Declaration and the Mitigation Monitoring Plan and approve the proposed Project; and

WHEREAS, on February 2, 2021 a hearing was conducted by the City Council whereby the City Council approved the Mitigated Negative Declaration and the Mitigation Monitoring Plan and approve the proposed Project; and

WHEREAS, at the conclusion of the public hearing, in the exercise of its own independent judgment, the City Council determined that the Mitigated Negative Declaration and the Mitigation Monitoring Plan would reduce the environmental impacts of the Project to levels of insignificance and that there is no substantial evidence supporting a fair argument that the Project will have a significant effect on the environment.

NOW, THEREFORE, THE CITY COUNCIL OF THE CITY OF MORENO VALLEY, CALIFORNIA, DOES HEREBY RESOLVE AS FOLLOWS:

Section 1. **Recitals and Exhibits**

That the foregoing Recitals and attached exhibits are true and correct and are hereby incorporated by this reference.

Section 2. **Evidence**

That the City Council has considered all of the evidence submitted into the Administrative Record for the Mitigated Negative Declaration and Mitigation Monitoring Plan, including, but not limited to, the following:

(a) Initial Study prepared for the proposed Project, attached hereto as Exhibit A;
(b) Notice of Intent to Adopt a Mitigated Negative Declaration/Newspaper Notice, attached hereto as Exhibit B;
(c) Mitigation Monitoring Plan, attached hereto as Exhibit C;

(d) Staff Report prepared for the City Council's consideration and all documents, records and references related thereto, and Staff's presentation at the public hearing; and
(e) Testimony, comments and correspondence from all persons that were provided at, or prior to, the public hearing.

Section 3. **Findings**

That based on the content of the foregoing Recitals and the Evidence contained in the Administrative Record as set forth above, the City Council makes the following findings:

(a) That the City has independently reviewed, analyzed, and considered the Mitigated Negative Declaration and Mitigation Monitoring Plan, and the whole record before it, including, the Initial Study and comments received;
(b) That the proposed mitigation measures will reduce all environmental impacts of the proposed Project to levels of insignificance and there is no substantial evidence supporting a fair argument that the Project will have a significant effect on the environment;
(c) That the Mitigated Negative Declaration and Mitigation Monitoring Plan have been completed in compliance with CEQA and the CEQA Guidelines consistent the City's Rules and Procedures for the Implementation of the California Environmental Quality Act;
(d) That the Mitigated Negative Declaration and Mitigation Monitoring Plan reflect the independent judgment and analysis of the City as lead agency for the proposed Project; and
(e) That the Mitigated Negative Declaration and Mitigation Monitoring Plan are adequate to serve as the required CEQA environmental documentation for the proposed Project.

Section 4. **Adoption**

That based on the foregoing Recitals, Evidence contained in the Administrative Record and Findings, as set forth herein, the City Council adopts the Mitigated Negative Declaration/Initial Study attached hereto as Exhibit A and the Mitigation Monitoring Plan attached hereto as Exhibit C.

Section 5. **Repeal of Conflicting Provisions**

That all the provisions as heretofore adopted by the City Council that are in conflict with the provisions of this Resolution are hereby repealed.

Section 6. **Severability**

That the City Council declares that, should any provision, section, paragraph, sentence or word of this Resolution be rendered or declared invalid by any final court

action in a court of competent jurisdiction or by reason of any preemptive legislation, the remaining provisions, sections, paragraphs, sentences or words of this Resolution as hereby adopted shall remain in full force and effect.

Section 7. **Effective Date**

That this Resolution shall take effect immediately upon the date of adoption.

Section 8. **Certification**

That the City Clerk for the City Council shall certify to the passage of this Resolution.

PASSED AND ADOPTED THIS _____ day of _____, 2021.

CITY OF MORENO VALLEY
CITY COUNCIL

_____
Dr. Yxstian A. Gutierrez
Mayor of the City of Moreno Valley

ATTEST:

_____
Pat Jacquez-Nares, City Clerk

APPROVED AS TO FORM:

_____
Steven B. Quintanilla, Interim City Attorney

Exhibits:
Exhibit A: Initial Study / Mitigated Negative Declaration
Exhibit B: Notice of Intent to Adopt a Mitigated Negative Declaration
Exhibit D: Mitigation Monitoring Plan

Exhibit A

INITIAL STUDY / MITIGATED NEGATIVE DECLARATION

Exhibit B

NOTICE OF INTENT TO ADOPT A MITIGATED NEGATIVE DECLARATION/NEWSPAPER NOTICE

Exhibit C

MITIGATION MONITORING PLAN

INITIAL STUDY AND MITIGATED NEGATIVE DECLARATION

MORENO VALLEY BUSINESS PARK AMENDMENT NO. 2 MORENO VALLEY FESTIVAL SPECIFIC PLAN (SP-205) MORENO VALLEY, CALIFORNIA

LEAD AGENCY:

CITY OF MORENO VALLEY PLANNING DIVISION
14177 FREDERICK STREET
MORENO VALLEY, CALIFORNIA 92553

REPORT PREPARED BY:

BLODGETT BAYLOSIS ENVIRONMENTAL PLANNING
2211 S. HACIENDA BOULEVARD, SUITE 107
HACIENDA HEIGHTS, CALIFORNIA 91745

DECEMBER 16, 2020

MORV 007

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MITIGATED NEGATIVE DECLARATION

PROJECT NAME: Moreno Valley Business Park

PROJECT APPLICANT: The Applicant for the proposed project is Mr. Ryan Martin, LCG 10MV, LLC, 670 Ledo Way, Los Angeles, CA 90049.

PROJECT LOCATION: The geographic area that is the subject of the proposed amendment (Amendment Number 2) includes a 9.98-acre property located on the southeast corner of Heacock Street and Ironwood Avenue. The affected Assessor Parcel Numbers (APMs) include 481-020-13, 29, 30, 34, 35, 38 and 39.

CITY AND COUNTY: City of Moreno Valley, Riverside County.

PROJECT: The Specific Plan Amendment that is the focus of this Initial Study and Mitigated Negative Declaration (IS/MND) is the *Second Amendment* to the adopted *Moreno Valley Festival Specific Plan (SP-205)*. The original Specific Plan was adopted, and the Environmental Impact Report (EIR) was certified, by the City Council of Moreno Valley on October 27, 1987. *Amendment Number 1* was adopted in 2018 as a means to promote a wider range of land uses and development so as to take advantage of more recent development trends that were occurring since the original Specific Plan was adopted.[1] This IS/MND for Amendment No. 2 also tiers off of the Final EIR that was certified for the *Moreno Valley Festival Specific Plan/EIR (SP-205)*. This current proposed amendment (Amendment Number 2) that is the subject of this IS/MND, expands the geographic area of the Specific Plan's Planning Area 1 to include a 9.98-acre property located on the southeast corner of Heacock Street and Ironwood Avenue. This Specific Plan Amendment Number 2 is contemplating a new light industrial building totaling 220,390 square feet of floor area.

FINDINGS: The environmental analysis provided in the attached Initial Study indicates that the proposed project will not result in any significant adverse unmitigable impacts. For this reason, the City of Moreno Valley determined that a *Mitigated Negative Declaration* is the appropriate CEQA document for the proposed project. The following findings may be made based on the analysis contained in the attached Initial Study:

- The proposed project *will not* have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory.

- The proposed project *will not* have impacts that are individually limited, but cumulatively considerable.

[1] The expanded range of allowable uses will include a Mix of Uses Development (MU), Commercial/Retail Development (CR), Retail Mix of Uses (RMU) and Open Space (OS) designation. The plan amendment will also facilitate the extension of Davis Street in a northerly direction to ultimately re-connect with the segment of Davis Street that extends north of Ironwood Avenue. The overall placement, design, and phasing of future development will be responsive to the employment and community service needs while mitigating the potential impacts on sensitive development that will be located both within and in close proximity to the Planning Area.

- The proposed project *will not* have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly.

The environmental analysis is provided in the attached Initial Study prepared for the proposed project. The project is also described in greater detail in the attached Initial Study.

Signature _____ Date 12/14/2020

TABLE OF CONTENTS

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SECTION 1 INTRODUCTION

1.1 PURPOSE OF INITIAL STUDY

The Specific Plan Amendment that is the focus of this Initial Study and Mitigated Negative Declaration (IS/MND) is the *second amendment* to the adopted *Moreno Valley Festival Specific Plan/EIR (SP-205)*. The original Specific Plan was adopted, and the Environmental Impact Report (EIR) was certified, by the City Council of Moreno Valley on October 27, 1987. *Amendment Number 1* was adopted in 2018 as a means to promote a wider range of land uses and development so as to take advantage of more recent development trends that were occurring since the original Specific Plan was adopted.[2] This current proposed amendment (Amendment Number 2) that is the subject of this IS/MND, expands the geographic area of the Specific Plan's Planning Area 1 to include a 9.98-acre property located on the southeast corner of Heacock Street and Ironwood Avenue. This IS/MND for Amendment No. 2 also tiers off of the Final EIR that was certified for the *Moreno Valley Festival Specific Plan/EIR (SP-205)*. This Specific Plan Amendment Number 2 is contemplating a new light industrial building totaling 220,390 square feet of floor area. The original SP-205 designated the area as *Regional Commercial* in the geographic area that is now included in the expanded Planning Area 1. This Second Amendment is now designating this area as *Mixed Uses*.

During the preparation of the original adopted Moreno Valley Festival Specific Plan (SP 205), consideration was given to all public utility and infrastructure needed to serve the future development contemplated as part of the adopted Specific Plan's implementation. The majority of the needed infrastructure has been installed pursuant to the requirements of the adopted Plan. All future public utility and infrastructure shall be installed according to Title 9 (Land Use and Planning) of the City of Moreno Valley Municipal Code and the requirements of this Plan Amendment. The installation of new infrastructure will be phased as part of the area-wide master planned facilities. The implementation of roadways and infrastructure to service the Planning Area will occur according to development needs.

The adopted Moreno Valley Festival Specific Plan was prepared pursuant to Government Code Section 65450, which grants authority to cities to adopt specific plans for purposes of implementing the goals and policies of their general plans. The Government Code sets forth the minimum requirements and review procedures for specific plans including the provision of a land use plan, infrastructure and public services plan, criteria and standards for development, and implementation measures. The Specific Plan Amendment complies with the City of Moreno Valley's Municipal Code (Chapter 9.13) governing amendments of the specific plans content and procedures for their adoption and enforcement.[3] The adoption and subsequent implementation of the Moreno Valley Festival Specific Plan Amendment Number 2 is considered to be a project under the California Environmental Quality Act (CEQA).[4] The City of Moreno Valley is the designated *Lead Agency* for the proposed "project" and the City will be responsible for the project's environmental review. The project Applicant is LCG 10MV, LLC, 670 Ledo Way, Los Angeles, California 90049.

[2] The expanded range of allowable uses will include a Mix of Uses Development (MU), Commercial/Retail Development (CR), Retail Mix of Uses (RMU) and Open Space (OS) designation. The plan amendment will also facilitate the extension of Davis Street in a northerly direction to ultimately re-connect with the segment of Davis Street that extends north of Ironwood Avenue. The overall placement, design, and phasing of future development will be responsive to the employment and community service needs while mitigating the potential impacts on sensitive development that will be located both within and in close proximity to the Planning Area.

[3] National Engineering Consultants. *Amendment to Specific Plan 205*. Draft dated December 29th, 2015.

[4] California, State of. *Title 14. California Code of Regulations. Chapter 3. Guidelines for the Implementation of the California Environmental Quality Act*. as Amended 1998 (CEQA Guidelines). § 15060 (b).

As part of the proposed project's environmental review, the City of Moreno Valley authorized the preparation of this Initial Study.[5] The primary purpose of CEQA is to ensure that decision-makers and the public understand the environmental implications of a specific action or project. The purpose of this Initial Study is to ascertain whether the proposed project will have the potential for significant adverse impacts on the environment. Pursuant to the CEQA Guidelines, additional purposes of this Initial Study include the following:

- To provide the City of Moreno Valley with information to use as the basis for deciding whether to prepare an environmental impact report (EIR), mitigated negative declaration, or negative declaration for the Plan Amendment;
- To facilitate the project's environmental assessment early in the preparation of this Plan Amendment;
- To eliminate unnecessary EIRs; and,
- To determine the nature and extent of any impacts associated the Plan Amendment.

Although this Initial Study was prepared with consultant support, the analysis, conclusions, and findings made as part of its preparation, fully represent the independent judgment and position of the City of Moreno Valley, in its capacity as the lead agency. The City also determined, as part of this Initial Study's preparation, that a Mitigated Negative Declaration is the appropriate environmental document for the project's environmental review pursuant to CEQA. This Initial Study and the *Notice of Intent to Adopt a Mitigated Negative Declaration* will be forwarded to responsible agencies, trustee agencies, and the public for review and comment. A 30-day public review period will be provided to allow these entities and other interested parties to comment on the proposed project and the findings of this initial study.[6] Questions and/or comments should be submitted to the following contact person:

Julia Descoteaux, Associate Planner
City of Moreno Valley Community Development Department
14177 Frederick Street
Moreno Valley, California 92553

1.2 INITIAL STUDY'S ORGANIZATION

The following annotated outline summarizes the scope and content of this Initial Study:

- S*ection 1 Introduction,* provides the procedural context surrounding this Initial Study's preparation and insight into its composition.
- *Section 2 Project Description,* provides an overview of the existing environment as it relates to the Planning Area and describes the proposed project's physical and operational characteristics.

[5] California, State of. *Title 14. California Code of Regulations. Chapter 3. Guidelines for the Implementation of the California Environmental Quality Act*. as Amended 1998 (CEQA Guidelines).

[6] California, State of. *California Public Resources Code. Division 13, Chapter 2.5. Definitions*. as Amended 200. *Chapter 2.6, Section 2109(b).* 2000.

- *Section 3 Environmental Analysis* includes an analysis of potential impacts associated with the proposed project's construction and the subsequent occupancy.

- *Section 4 Findings* indicates the conclusions of the environmental analysis and the mandatory findings of significance.

- *Section 5 References* identifies the sources used in the preparation of this Initial Study.

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SECTION 2 PROJECT DESCRIPTION

2.1 PROJECT OVERVIEW

The proposed "project" is an amendment (Amendment Number 2) that expands the geographic area of the Specific Plan's Planning Area 1 to include a 9.98-acre property located on the southeast corner of Heacock Street and Ironwood Avenue. This Specific Plan Amendment Number 2 is also contemplating a new light industrial building totaling 220,390 square feet of floor area with the expanded Planning Area Number 1. The original SP-205 designated the expanded Planning Area 1 as *Regional Commercial*. This Second Amendment is now designating this area as *Mixed of Uses*.

2.2 PROJECT LOCATION

The geographic area that is subject to the Moreno Valley Festival Specific Plan is located within the corporate boundaries of the City of Moreno Valley in the northwestern portion of the City. The City of Moreno Valley is located approximately 54 miles east of downtown Los Angeles and 80 miles north of San Diego.[7] The City is bounded by unincorporated portions of Riverside County to the north and east; the City of Riverside and unincorporated Riverside County to the west; and the City of Perris to the south.[8]

The location of Moreno Valley in a regional context is shown in Exhibit 2-1. A citywide map is provided in Exhibit 2-2. The larger Planning Area is bounded by Heacock Street to the west; Ironwood Avenue to the north; and the Moreno Valley Freeway (SR-60) to the south. The existing Planning Area is illustrated in Exhibit 2-3. For planning purposes, the original Specific Plan 205 was divided into eight sub-areas that include the following:

- *Existing Planning Area 1* consists of 7.36 acres and is located in the northernmost portion of the larger Specific Plan area. This planning area occupies frontage along the south side of Ironwood Avenue and is located west of the proposed David Street extension. This proposed Amendment Number 2 that is the subject of this IS/MND expands the geographic boundaries of Planning Area Number 1.

- *Existing Planning Area 2* consists of 3.84 acres and is located in the northeastern corner of the larger Specific Plan area. Planning Area 2 occupies frontage along the south side of Ironwood Avenue and is located east of the proposed David Street extension.

- *Existing Planning Area 3* consists of 9.81 acres and is located in the western portion of the larger Specific Plan area.

- *Existing Planning Area 4* consists of 13.92 acres and is located in the central portion of the larger Specific Plan area and is bounded on the north by Planning Area 5; on the west by Davis Street; on the east by single-family residential; and on the south by Hemlock Avenue and Planning Area 7.

[7] Google Earth. Website Accessed August 9, 2017.

[8] Quantum GIS and the Southern California Association of Governments.

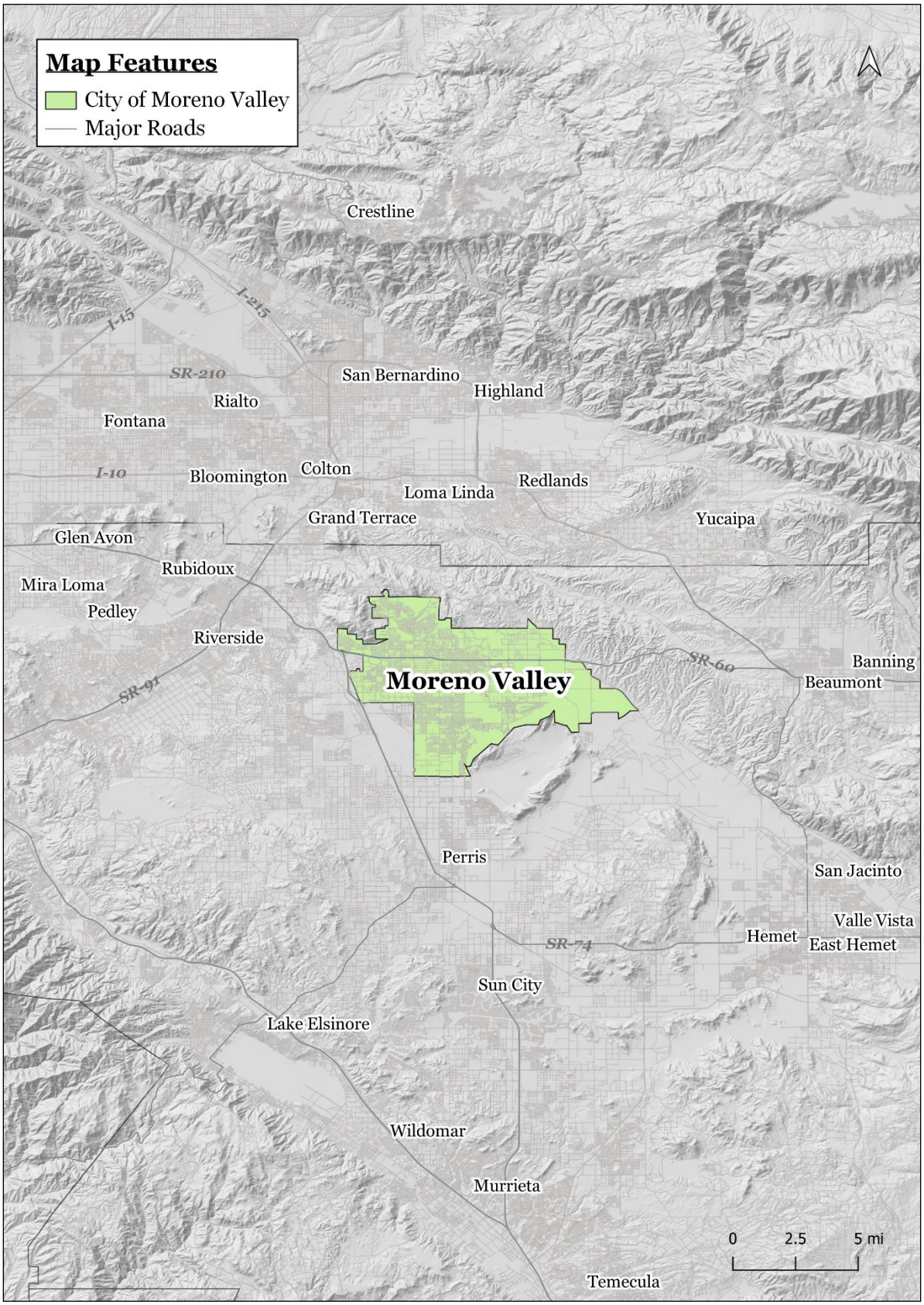

EXHIBIT 2-1
REGIONAL LOCATION

Source: Blodgett Baylosis Environmental Planning

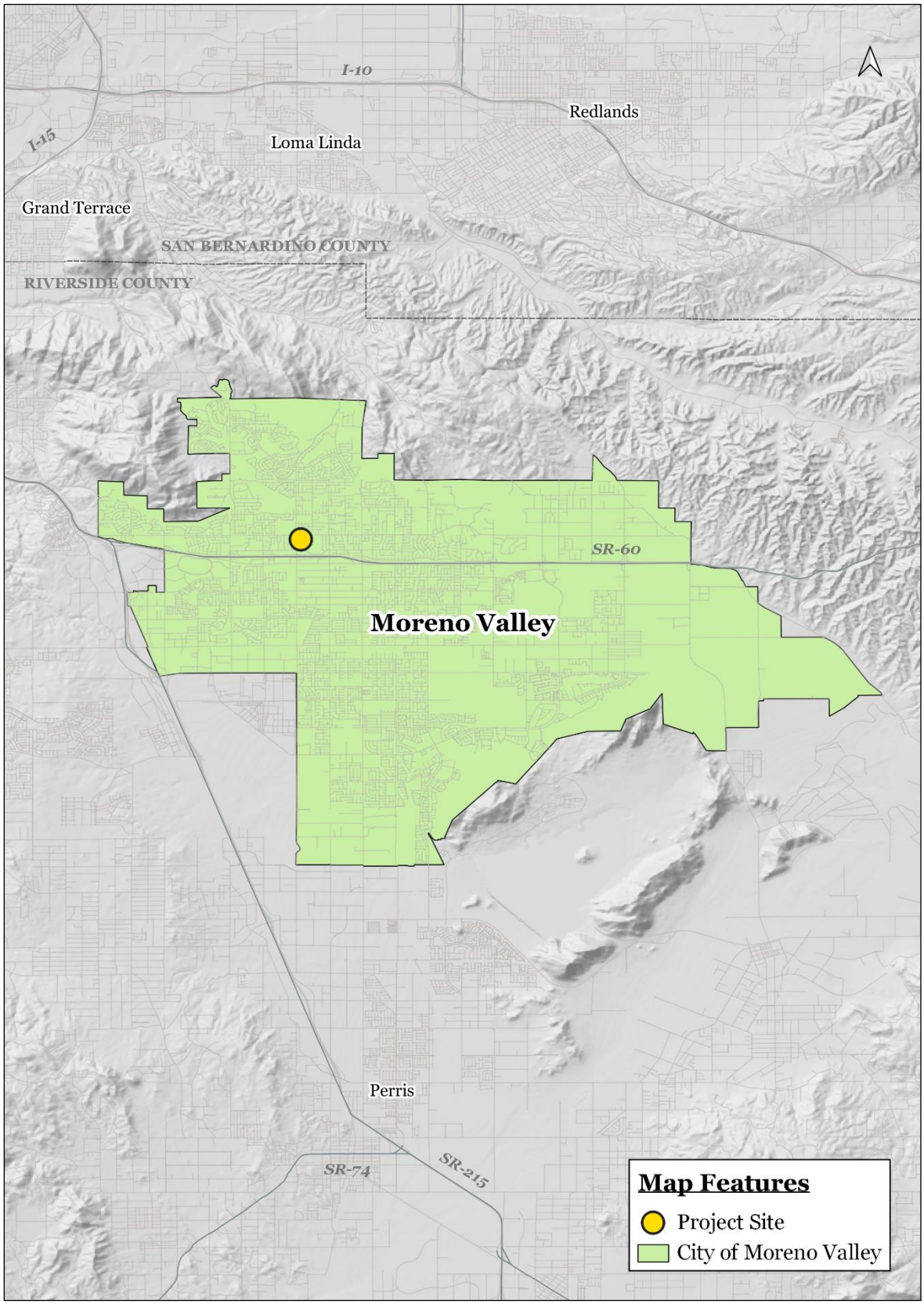

EXHIBIT 2-2
CITYWIDE MAP

Source: Blodgett Baylosis Environmental Planning

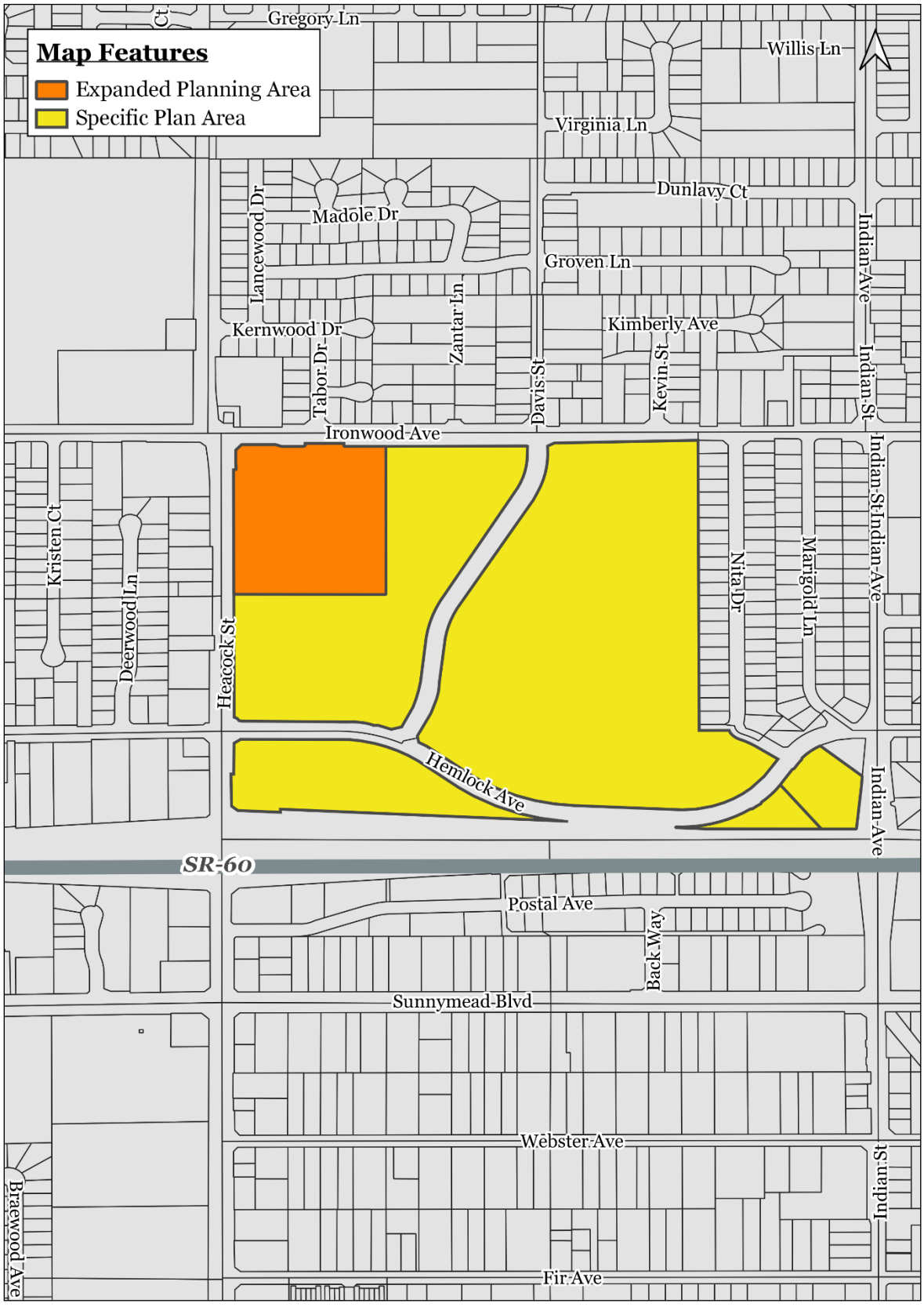

EXHIBIT 2-3
LOCAL MAP

Source: Blodgett Baylosis Environmental Planning

- *Existing Planning Area 5* consists of 12.90 acres and is located in the eastern portion of the larger Specific Plan area and is bounded on the north by Planning Area 2; on the west by the proposed Davis Street extension; on the east by single-family residential; and on the south by Planning Area 4. Planning Area 5 is owned by the City of Moreno Valley and is used for storm water retention.

- *Existing Planning Area 6* consists of 6.08 acres and is located in the southwestern portion of the larger Specific Plan area and is bounded on the north by Hemlock Avenue; on the west by Heacock Street; on the east by undeveloped land; and on the south by the Moreno Valley Freeway.

- *Existing Planning Area 7* consists of 6.44 acres and is located in the eastern portion of the larger Specific Plan area and is bounded on the north by Planning Area 4; on the west by Planning Area 4 and Hemlock Avenue; on the east by Nita Drive and Hemlock Avenue; and on the south by Hemlock Avenue.

- *Existing Planning Area 8* consists of 3.44 acres and is located in the southeastern most portion of the larger Specific Plan area. Planning Area 8 is bounded on the north by Hemlock Avenue; on the west by undeveloped land and Hemlock Avenue; on the east by Indian Street; and on the south by the Moreno Valley Freeway.

This current amendment would expand the Specific Plan Area to include a 9.98-acre property located on the southeast corner of Heacock Street and Ironwood Avenue. This added area will be incorporated into the existing *Planning Area 1*. The affected Assessor Parcel Numbers (APMs) within the expanded Planning Area 1 include 481-020-13, 29, 30, 34, 35, 38 and 39. Once the amendment is approved, the revisions will be reflected in the adopted Festival Specific Plan by reference. A map of the entire Moreno Valley Festival Specific Plan is provided in Exhibit 2-4.

2.3 ENVIRONMENTAL SETTING

Newer light industrial development is occurring in those areas located to the south and east of the new expanded Planning Area 1. The larger Festival Specific Planning Area is located in the midst of an urbanized area and is surrounding on all sides by urban development. The land uses and development that surround the Festival Specific Plan Planning Area are outlined below.

- *North of the Plan Amendment Area*. Ironwood Avenue extends along the north side of the Planning Area. Single-family residential units are located further north, along the north side of Ironwood Avenue.[9]

- *South of the Plan Amendment Area*. The Moreno Valley Freeway (SR-60) extends along the south side of the Planning Area. Commercial and residential uses are located further south, along the south side of the aforementioned Freeway.[10]

- *East of the Plan Amendment Area*. Single-family residential units extend along the Planning Area's east side.[11]

[9] Blodgett Baylosis Environmental Planning. *Site survey*. Survey was conducted on August 9, 2017.

[10] Ibid.

[11] Ibid

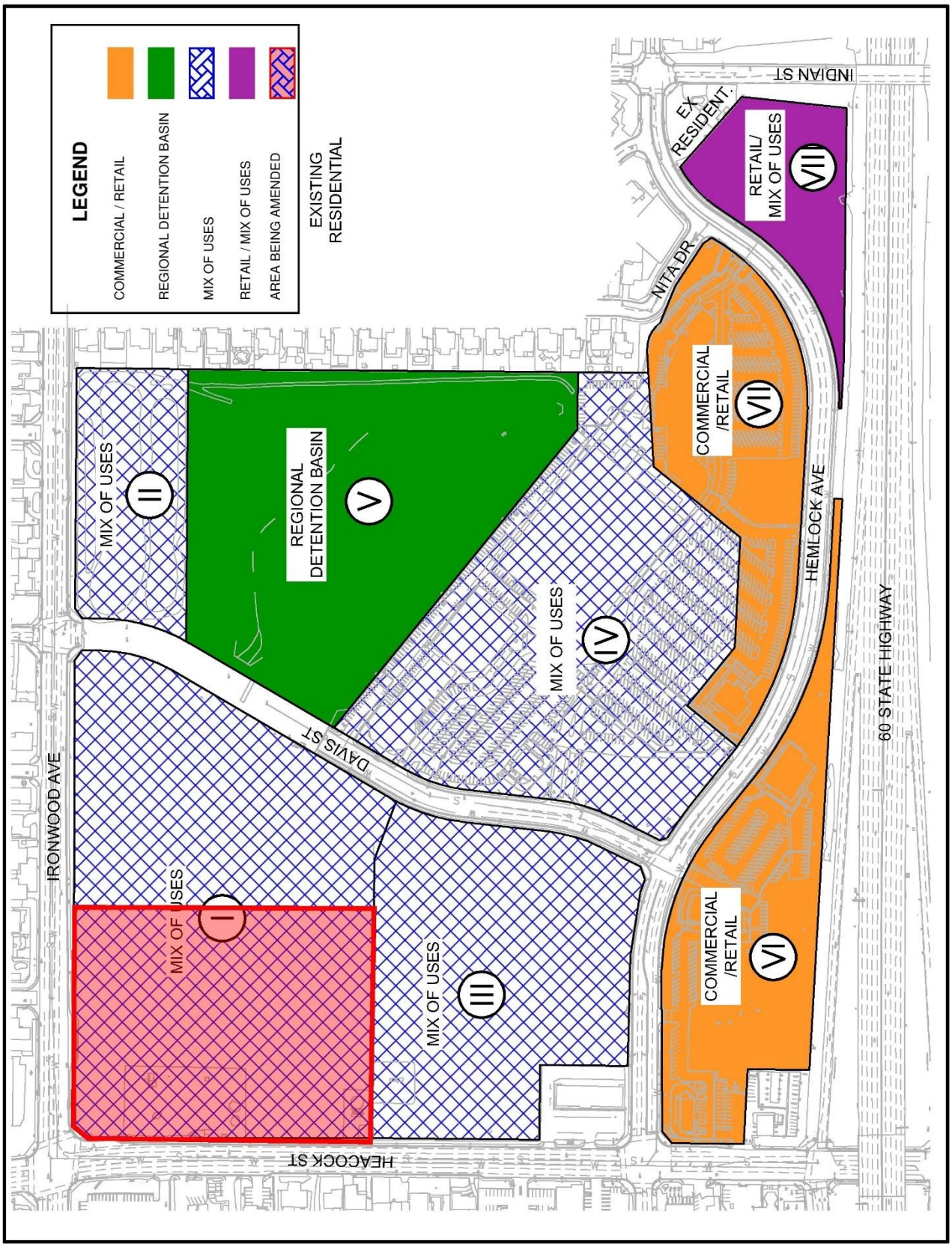

EXHIBIT 2-4
FESTIVAL SPECIFIC PLAN PLANNING AREAS
Source: National Engineering Consultants

EXHIBIT 2-5
AERIAL PHOTOGRAPH OF THE PLANNING AREA
Source: Blodgett Baylosis Environmental Planning

- *West of the Plan Amendment Area*. Heacock Street abuts the Planning Area to the west. Various uses, including a State Farm Insurance office, a Rite Aid, and single-family residential are located further west, along the west side of Heacock Street.[12]

This Second Amendment would expand the Specific Plan Area to include a 9.98-acre property located on the southeast corner of Heacock Street and Ironwood Avenue. This added area will be referred to as the expanded *Planning Area 1*. This Planning Area 1 is currently undeveloped though it has been rough graded and disked for maintenance and fire mitigation. Once the amendment is approved for Planning Area 1, the property will be incorporated into the larger Festival Specific Plan. Photographs of the Planning Area are provided in Exhibits 2-6 and 2-7.

2.4 PROJECT DESCRIPTION

The proposed project involves the adoption and subsequent implementation to the Moreno Valley Festival Specific Plan. This current amendment expands the Planning Area to include a 9.98-acre property located on the southeast corner of Heacock Street and Ironwood Avenue. This property, referred to as *Planning Area 1*, is located in the northwest corner of the Specific Plan area. The Specific Plan is being amended to allow for the development of a 220,390 square foot light industrial building.

The Plan Amendment's adoption, by itself, will not lead to any physical changes to the environment. However, the Plan Amendment's adoption will establish regulations that will govern the use of the land as well as establishing development standards and regulations. The purpose of the Specific Plan Amendment is to provide a comprehensive planning framework to guide future high quality multi-use development that will include a range of land uses that can prosper in the current economic environment. At the same time, the Specific Plan Amendment will ensure that future land uses are compatible with both existing development in the surrounding area and future development that will occur within the Planning Area itself. The Specific Plan Amendment 2 and land use plan for expanded Planning Area 1 provides for the following land use designations described below:

- *Community Commercial (CC Zone)*. The primary purpose of the community commercial (CC) district is to provide for the general shopping needs of area residents and workers with a variety of business, retail, personal and related or similar services.

- *Office Commercial (OC Zone)*. The primary purpose of the office commercial (OC) district is to provide for the establishment of business, corporate and administrative office, as well as commercial services which are supportive to major business developments. Retail facilities which support the office developments are permitted, subject to limitations specified in this section.

- *Office (O Zone)*. The primary purpose of the office (O) district is to provide areas for the establishment of park-like, office-based working environments for general business, corporate, professional, and administrative offices. It is the further intent of this district to provide setbacks, landscaping and architectural treatments that ensure the location of such uses is relatively compatible with residential development in the vicinity.

[12] Blodgett Baylosis Environmental Planning. *Site survey*. Survey was conducted on August 9, 2017.

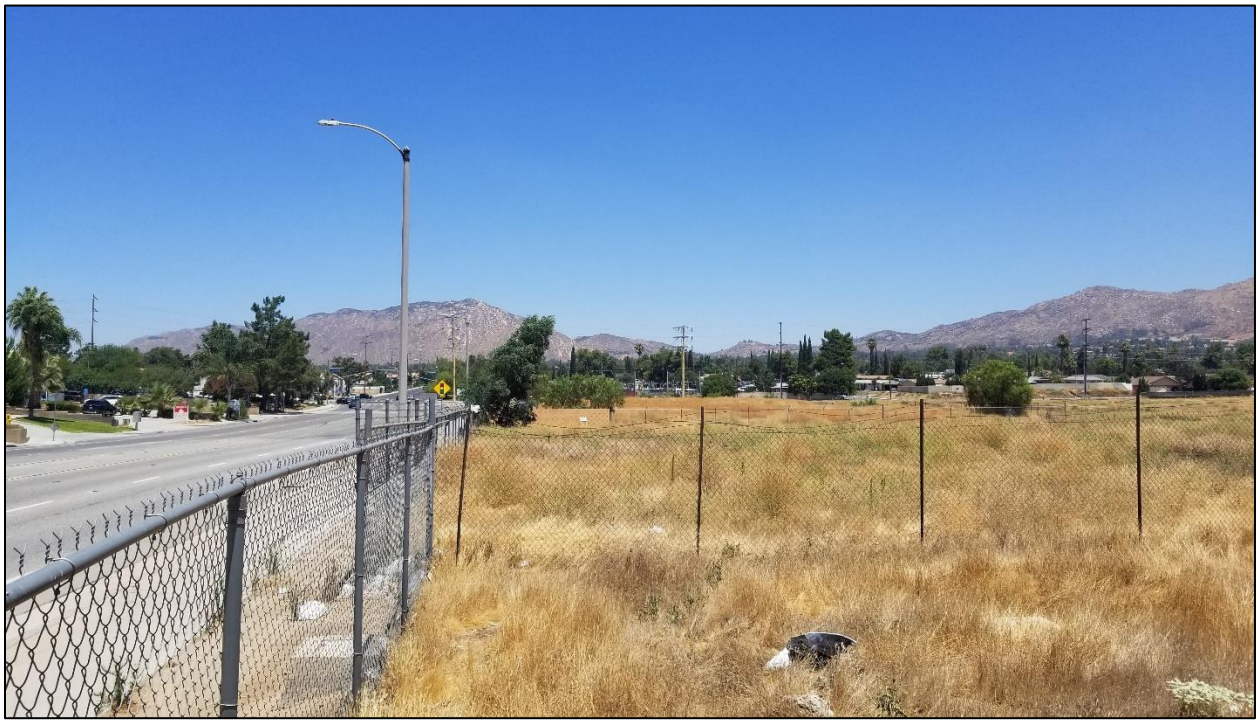

EXHIBIT 2-6
PHOTOGRAPHS OF THE PLANNING AREA

Source: Blodgett Baylosis Environmental Planning

EXHIBIT 2-7
PHOTOGRAPHS OF THE PLANNING AREA
Source: Blodgett Baylosis Environmental Planning

- *Light Industrial (LI Zone).* The primary purpose of the light industrial (LI) district is to provide for light manufacturing, light industrial, research and development, warehousing and distribution and multitenant industrial uses, as well as certain supporting administrative and professional offices and commercial uses on a limited basis. This district is intended as an area for light industrial uses that can meet high performance standards.

- *Business Park (BP Zone).* The primary purpose of the business park (BP) district is to provide for light industrial, research and development, office-based firms and limited supportive commercial in an attractive and pleasant working environment and a prestigious location.

- Open Space (OS). The primary purposes of the open space (OS) district are to provide for low intensity, outdoor-oriented recreational facilities, preserve unique natural and environmentally sensitive areas, and protect and preserve the public health, safety, and welfare.[13]

Table 2-2 indicates the various types of uses that are permitted in the expanded Planning Area 1.

Table 2-2
Land Use Matrix - List of Permitted and Conditionally Permitted Uses

Development Types Corresponding Zone District	Expanded Planning Area 1
Auto-Related Uses	
Automobile Sales, New and Used *(CC Zone)*	**Conditionally Permitted Use**
Automobile Service Stations *(CC Zone)*	**Conditionally Permitted Use**
Auto Repair, Minor Service *(CC Zone)*	**Permitted Use**
Auto Repair, Paint and Major Service *(CC Zone)*	**Conditionally Permitted Use**
Auto Rentals *(CC Zone)*	**Permitted Use**
Auto Related, Accessory Uses *(CC Zone)*	**Conditionally Permitted Use**
Auto Supply Stores *(CC Zone)*	**Permitted Use**
Car Wash *(CC Zone)*	**Permitted Use**
Parking Lot & Parking Structure *(CC Zone)*	**Permitted Use**
Indoor, Entertainment, Fitness, & Sports Facilities	
Athletic Clubs, Gymnasiums, and Spas *(CC Zone)*	**Permitted Use**
Recreational Facilities, Commercial Indoor/Outdoor *(CC Zone)*	**Permitted Use**
Business Park	
Research & Development *(BP-Zone)*	**Permitted Use**
Wholesale & Limited Distribution *(LI Zone)*	**Permitted Use**
Nursery, Wholesale and Distribution *(LI Zone)*	**Permitted Use**
Parcel Delivery Terminals (*LI Zone and BP-Zone*)	**Permitted Use**
Transfer, Moving, & Storage *(LI Zone)*	**Permitted Use**
Office, Business Services, & Professional	
Banks, including ATMs & drive-thru *(CC, O, and OC Zones)*	**Permitted Use**
Retail, Commercial, & Food Related (*CC- Community Commercial)*	
Business Offices *(CC, O, and OC Zones)*	**Permitted Use**
Business & Office Equipment Sales and Supply Stores *(CC Zone)*	**Permitted Use**

[13] National Engineering Consultants. *Amendment to Specific Plan 205*. Draft dated December 29th, 2015.

Table 2-2
Land Use Matrix - List of Permitted and Conditionally Permitted Uses (cont.)

Development Types Corresponding Zone District	Expanded Planning Area 1
Computer Sales and Repairs *(CC and OC Zones)*	**Permitted Use**
Copy Shops *(CC, O, and OC Zones)*	**Permitted Use**
Day Care Centers *(CC, O, and OC Zones)*	**Permitted Use**
Finance, Insurance, and Real Estate *(CC, O, and OC Zones)*	**Permitted Use**
Laboratories, Medical, & Dental *(CC, O, and OC Zones)*	**Permitted Use**
Medical Offices *(CC, O, and OC Zones)*	**Permitted Use**
Medical Clinics/Medical Care *(CC, O, and OC Zones)*	**Permitted Use**
Medical Equipment *(CC and OC Zones)*	**Permitted Use**
Personal Grooming *(CC and OC Zones)*	**Permitted Use**
Personal Services *(CC and OC Zones)*	**Permitted Use**
Public Buildings *(CC, O, and OC Zones)*	**Permitted Use**
Veterinary Office *(CC)*	**Permitted Use**
Bakeries *(CC Zone)*	**Permitted Use**
Building Material Sales, incl. Outdoor Storage *(CC Zone)*	**Permitted Use**
Fast Food/Fast Casual Restaurant *(CC Zone)*	**Permitted Use**
Fast Food/Fast Casual Restaurant with Drive-thru *(CC Zone)*	**Permitted Use**
Floor Covering Stores *(CC Zone)*	**Permitted Use**
Fast Food/Fast Casual Restaurant (CC Zone)	**Permitted Use**
Fast Food/Fast Casual Restaurant with Drive-thru *(CC Zone)*	**Permitted Use**
Floor Covering Stores *(CC Zone)*	**Permitted Use**
Food Delicatessen *(CC Zone)*	**Permitted Use**
General Commercial *(CC Zone)*	**Permitted Use**
Hardware & Home Furnishings *(CC Zone)*	**Permitted Use**
Heavy Equipment Sales & Rentals *(CC Zone)*	**Permitted Use**
Hospital *(CC Zone)*	**Permitted Use**
Ice Cream & Yogurt *(CC Zone)*	**Permitted Use**
Indoor Storage, Mini Warehouses *(CC Zone)*	**Permitted Use**
Jewelry Stores *(CC Zone)*	**Permitted Use**
Medical Equipment Sales & Supplies *(CC Zone)*	**Permitted Use**
Offices, Administrative & Professional *(CC Zone)*	**Permitted Use**
Personal Services, Nail Salons/Spas/Barbers/Beauty *(CC Zone)*	**Permitted Use**
Pharmacies, with and without Drive-Thru *(CC Zone)*	**Permitted Use**
Postal Services *(CC Zone)*	**Permitted Use**
Recreational Facilities, Commercial *(CC Zone)*	**Permitted Use**
Rental Services, Furniture, Office, Home *(CC Zone)*	**Permitted Use**
Sit-down Restaurants *(CC Zone)*	**Permitted Use**
Skating Rinks *(CC Zone)*	**Permitted Use**
Specialty Retail *(CC Zone)*	**Permitted Use**
Stationary Stores *(CC Zone)*	**Permitted Use**
Supermarkets *(CC Zone)*	**Permitted Use**
Tire Stores & Tire Repair *(CC Zone)*	**Permitted Use**
Trade & Vocational Schools *(CC Zone)*	**Permitted Use**
Weight Reduction Centers *(CC Zone)*	**Permitted Use**

Details of specific development projects will be determined by subdivisions and site development plans. In the event of a conflict between the Specific Plan and the City of Moreno Valley Municipal Code, the Specific Plan shall prevail. If the Specific Plan is silent on a particular subject, the Municipal Code shall apply. For purposes of the environmental analysis, certain assumptions were made to provide a maximum potential build-out scenario. This amendment to expand Planning Area No. 1 would allow for the development of a 220,390 square foot light industrial building.

Circulation Plan

The Specific Plan Amendment also includes a comprehensive circulation plan that indicates the location and extent of roadways, pedestrian routes, and other facilities needed to accommodate the future development. The circulation plan outlines a hierarchy of roadways and other facilities that will serve the homes, business, and the employment related uses contemplated as part of the Specific Plan's implementation. The majority of the "backbone" circulation system has been constructed though the extension of Davis Street to Ironwood Avenue will need to be completed.

Infrastructure Plan

The Specific Plan Amendment will also ensure that sufficient facilities are provided to accommodate the development envisioned under the Specific Plan's implementation. The Specific Plan Area contains existing water, sewer, and stormwater infrastructure. These storm drains, water, and sewer lines are located within the streets that comprise the Planning Area's circulation network. Additional storm drains, water, and sewer lines are located within the undeveloped portion of Davis Street.

2.5 DISCRETIONARY ACTIONS

A discretionary action is a decision taken by a government agency (for this project, the government agency is the City of Moreno Valley) that calls for an exercise of judgment in deciding whether to approve a project. As part of the proposed project's implementation, the City will consider the following approvals:

- The approval of the Mitigated Negative Declaration (MND);
- The adoption of the Mitigation Monitoring and Reporting Program (MMRP);
- The adoption of a General Plan Amendment (GPA) to the City of Moreno Valley General Plan;
- The adoption of a Zone Change to the City of Moreno Valley Zoning Ordinance; and,
- The adoption of the Moreno Valley Festival Specific Plan Amendment.

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SECTION 3 ENVIRONMENTAL ANALYSIS

This section of the Initial Study analyzes the potential environmental impacts that may result from the proposed project's implementation. The issue areas evaluated in this Initial Study include the following:

Aesthetics (Section 3.1);
Agricultural & Forestry Resources (Section 3.2);
Air Quality (Section 3.3);
Biological Resources (Section 3.4);
Cultural Resources (Section 3.5);
Energy (Section 3.6)
Geology & Soils (Section 3.7);
Greenhouse Gas Emissions; (Section 3.8);
Hazards & Hazardous Materials (Section 3.9);
Hydrology & Water Quality (Section 3.10);
Land Use & Planning (Section 3.11);
Mineral Resources (Section 3.12);
Noise (Section 3.13);
Population & Housing (Section 3.14);
Public Services (Section 3.15);
Recreation (Section 3.16);
Transportation (Section 3.17);
Tribal Cultural Resources (Section 3.18);
Utilities (Section 3.19);
Wildfire (Section 3.20); and,
Mandatory Findings of Significance (Section 3.21).

The environmental analysis included in this section reflects the Initial Study Checklist format used by the City of Moreno Valley in its environmental review process. Under each issue area, an analysis of impacts is provided in the form of questions followed by corresponding detailed responses. For the evaluation of potential impacts, questions are stated and an answer is provided according to the analysis undertaken as part of this Initial Study's preparation. To each question, there are four possible responses:

- *No Impact*. The proposed project *will not* have any measurable environmental impact on the environment.

- *Less Than Significant Impact*. The proposed project *may have* the potential for affecting the environment, although these impacts will be below levels or thresholds that the City of Moreno Valley or other responsible agencies consider to be significant.

- *Less Than Significant Impact with Mitigation*. The proposed project *may have* the potential to generate impacts that will have a significant impact on the environment. However, the level of impact may be reduced to levels that are less than significant with the implementation of mitigation measures.

- *Potentially Significant Impact*. The proposed project may result in environmental impacts that are significant.

This Initial Study will assist the City of Moreno Valley in determining as to whether there is a potential for significant adverse impacts on the environment associated with the implementation of the proposed project.

3.1 AESTHETICS

Threshold	Potentially Significant Impact	Less Than Significant Impact with Mitigation	Less Than Significant Impact	No Impact
A. Would the project have a substantial adverse effect on a scenic vista?				✕
B. Would the project substantially damage scenic resources including, but not limited to, trees, rock outcroppings, and historic buildings within a State scenic highway?				✕
C. In non-urbanized areas, would the project substantially degrade the existing visual character or quality of public views of the site and its surroundings (public views are those that are experienced from a publicly accessible vantage point)? If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?				✕
D. Would the project create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?			✕	

ANALYSIS OF ENVIRONMENTAL IMPACTS

A. Would the project have a substantial adverse effect on a scenic vista? ● No Impact.

This current amendment would expand the Specific Plan Area to include a 9.98-acre property located on the southeast corner of Heacock Street and Ironwood Avenue. This added area will be referred to as the expanded *Planning Area 1*. This expanded Planning Area 1 is currently undeveloped though it has been rough graded and disked for maintenance and fire mitigation. The Specific Plan is being amended to allow for the development of a 220,390 square foot light industrial building.

The continued implementation of the Specific Plan Amendment will rely on the various goals, policies, and design standards included in the Specific Plan that will enhance the visual appearance of the existing and future land uses and development within the larger Planning Area. In addition, the Specific Plan includes guidance regarding the design of new development. Section 4.0 of the Specific Plan is concerned with *off-site* design standards while Section 5.0 focuses on *on-site* design standards.[14] The off-street design standards address a number of design criteria that includes landscaping around the edges of the planning area, streetscape design amenities, entryway treatments, and signage. The following off-site design requirements included in the Specific Plan Amendment will be effective in addressing potential aesthetic impacts:

- *General Landscaping Design Guidelines*. The Project Design Guidelines section of the Specific Plan Amendment offers more detailed information for individual project developers (also refer to Title 9 of the City Municipal Code).

[14] National Engineering Consultants. *The Moreno Valley Festival, (Draft) Amendment to Specific Plan 205, Section 4.2.4.* October 10, 2017.

- *General Landscaping Design Guidelines*. All landscape designs shall adhere to the concept depicted in the Landscape (Plan) Figure 4-3 (included in the Specific Plan Amendment).

- *Streetscape Landscaping*. Landscaping along public streets is designed to provide a unified appearance along street frontages, to reinforce the street hierarchy, and to establish identities of place, particularly at intersections within the Planning Area.

- *Streetscape Landscaping*. Implementation of the street landscaping will be executed by the developer during the initial stages of development.

- *Streetscape Landscaping*. Trees will be planted along all existing streets within the Specific Plan Amendment boundaries, where they do not currently exist. In addition, landscape guidelines have been provided for those streets adjacent to the project's boundaries that will require improvements associated with the development.

- *Streetscape Landscaping*. Low growing plant materials will be added to provide year-round color and textural interest. Mounded turf and landscaped berms will be used where appropriate to screen undesirable views, such as parking lots.[15]

- *Parkway Landscaping*. Trees are required along all street frontages. Trees shall be planted in a single row at spacing of 40 feet between each tree (Municipal Code Ordinance. 786 § 2, 2009).

- *Parkway Landscaping*. All street trees within street right of way, unless otherwise noted, are to be 24" box size, with a minimum of eight feet of brown trunk measured from finish grade. Trees in other areas shall be 15 gallon minimum in size but 25% shall be minimum 24" box.

- *Parkway Landscaping*. Landscaping berms along street frontages may be utilized. Maximum slopes may not exceed 2:1. City maintained areas shall not exceed 3:1.

- *Parkway Landscaping*. Shrubs along street frontages are to be utilized where possible (Minimum size at installation is 1 gallon.)

- *Edge Treatments*. There are six discrete edge treatment plans in and around the project. The areas that will be subject to the edge treatment plans include Hemlock Avenue, Heacock Street, Indian Avenue, Ironwood Avenue, Eastern Edge, and SR 60 Freeway.[16]

- *Screening Criteria for Internal Roadways*. All interior roadways shall be lined with sidewalks, landscaping and setbacks from the street as prescribed by the City of Moreno Valley planning standards and elaborated in this Specific Plan.[17]

[15]National Engineering Consultants. *The Moreno Valley Festival, (Draft) Amendment to Specific Plan 205, Section 4.2.4.* October 10, 2017.

[16] Ibid.

[17] Ibid.

- *Entry Themes*. Entrances to Plan Amendment Area shall be enhanced with landscaping, project monument signage and hardscape features.[18]

- *Entry Themes*. The landscape concept for the project shall be introduced through the entry treatments. Medium accent trees combined with low evergreen and flowering accent shrubs will be used consistently throughout the project entries. The foreground will feature a combination of ground cover and annual color.[19]

- *Entry Themes*. The entry signage and elements shall be visually clear to vehicular and pedestrian users, and shall allow the use of digital signage subject that it meets the City of Moreno's requirements.[20]

- *Buffer Treatments*. Landscape buffers are required along the eastern, southern, and northern boundaries of the project site. The master developer will be responsible for implementing the buffer system.

- *Buffer Treatments*. When development is located adjacent to existing residential uses, landscape buffers and water quality management plan (WQMP) basins are recommended to be used as functional buffers for potentially incompatible uses. Refer to sample cross section exhibits below for guidelines.[21]

The Specific Plan Amendment Number 2 will use the *Project Design Guidelines* that were previously adopted for the original Specific Plan (SP-205). The objective of these guidelines was to create projects that contribute to the overall design continuity of the development while maintaining their own sense of individuality. The following general guidelines which address site, architectural, and landscape design apply to all future development within the Planning Area:[22]

- Vehicular and pedestrian entries to the project should be clearly identifiable to visitors through the use of signage, and landscaping.

- Circulation within sites shall be designed to minimize conflicts between service vehicles, automobiles, and pedestrians.

- Neighboring lots should share entry drives wherever possible to create a greater uninterrupted expanse of landscaping.

- Visibility of parking areas along roadways shall be minimized through the use of landscaped berms and screen shrubs wherever possible.

[18] National Engineering Consultants. *The Moreno Valley Festival, (Draft) Amendment to Specific Plan 205, Section 4.2.4.* October 10, 2017..

[19] Ibid.

[20] Ibid.

[21] Ibid.

[22] Ibid.

- Service zones (trash enclosures, loading and outdoor storage areas) shall be located in areas that are least visible to the public. An appropriate screening method shall be used if service zone is exposed to public view.

- All buildings and walkways shall be accessible to the handicapped according to requirements in Title 24 of the California Administrative Code.

- A secondary sidewalk shall be provided within individual sites and connect with the master circulation system, creating a continuous and pleasant link between projects.

- Consideration should be given to ensure safe pedestrian access through parking areas, and from the public street walkways to building entrances.

- Security measures shall be considered in the project's site design, particularly in pedestrian areas. The use of tall, dense shrubbery should be avoided along walkways and adequate lighting should be provided.

Exhibit 3-1 shows the various project design features that mitigate light trespass and alleviate size and massing. The Specific Plan Amendment states that architectural design should express the character of a mixed use, commercial, and retail development center in a manner that is progressive and enduring. Individual creativity and identity are encouraged, but care must be taken to maintain design integrity and compatibility among all projects in order to establish a clear, unified image throughout the Planning Area. General building design guidelines for the various uses are as follows:

- Distinctive architectural design shall be encouraged to create individual building identity. However, buildings must be compatible with adjacent development projects to achieve a sense of architectural continuity.

- Detailing may vary but all materials are to be durable, aesthetically pleasing, and low maintenance.[23]

- The building's scale should be a major determining factor in the architectural design and detailing.

- Long expanses of building walls may be ameliorated by employing a system of overlapping forms and heights.

- The architectural concept must be consistent throughout the individual project with consideration given to all sides.

- Distinctive hardscape and colorful landscaping should be used to identify and accentuate building entries.

All properties within the expanded Planning Area 1 will be required to be developed in conformance with the Specific Plan Amendment. All development will be consistent with the Specific Plan objectives and design guidelines. Details of specific development projects will be determined by subdivisions and site

[23] National Engineering Consultants. *The Moreno Valley Festival, (Draft) Amendment to Specific Plan 205, Section 5.3.1.* October 10, 2017.

development plans. In the event of a conflict between the Specific Plan and the City of Moreno Valley Municipal Code, the Specific Plan will prevail. If the Specific Plan is silent on a particular subject, the Municipal Code will apply. The implementation of the Specific Plan will facilitate development that will not negatively impact any scenic vistas. The most prominent scenic vistas located within the Planning Area include the Box Springs Mountains, located between two to three miles north of the Planning Area, and the San Bernardino Mountains, located 15 miles to the north. The development that is permitted under the Specific Plan will not obstruct views of the aforementioned vistas. The setback and building height standards will prohibit the clustering and placement of new buildings within a certain distance from the public right-of-way, while the maximum height standards will restrict the height of the buildings that will be erected within the Planning Area. As a result, no visual impacts will result from the implementation of the Specific Plan.

B. *Would the project substantially damage scenic resources including, but not limited to, trees, rock outcroppings, and historic buildings within a State scenic highway? ● No Impact.*

According to the California Department of Transportation (Caltrans), neither the SR-60 nor the arterial roadways within the Moreno Valley Festival Specific Plan are designated scenic highways.[24] However, this Freeway is identified as a scenic corridor in the Moreno Valley General Plan. The expanded Planning Area 1 is visually separated from the aforementioned Freeway by the development that is located elsewhere in the Specific Plan area. In addition, the vegetation present within the Planning Area is not considered to be a "scenic resource." The expanded Planning Area 1 does not contain any scenic rock outcroppings.[25] Lastly, the Specific Plan's implementation will not involve the removal of any buildings listed in the State or National Registrar (refer to Section 3.5). As a result, no impacts will occur.

C. *In non-urbanized areas, would the project substantially degrade the existing visual character or quality of public views of the site and its surroundings (public views are those that are experienced from a publicly accessible vantage point)? If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality? ● No Impact.*

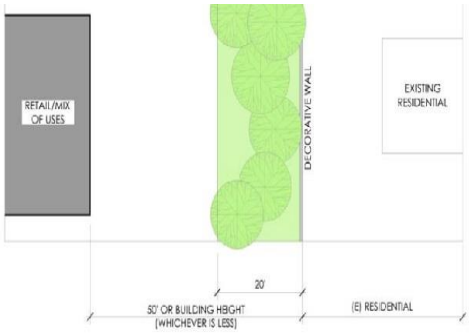
The implementation of the Specific Plan Amendment Number 2 will facilitate modern development within an area that underutilized. The Specific Plan Amendment will ensure that all new development adheres to the Specific Plan's design requirements relative to architecture, signage, and landscaping and Zoning requirements governing scenic quality. Therefore, the implementation of the Specific Plan will not degrade the site and surrounding area and no impacts are likely to occur.

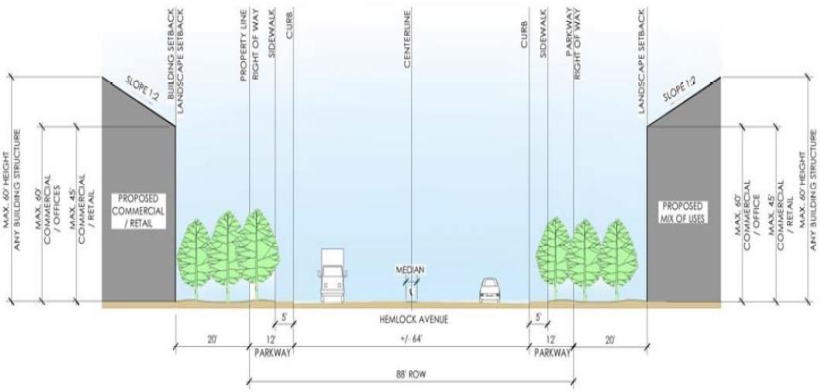
D. *Would the project create a new source of substantial light or glare which would adversely affect day or nighttime views in the area? ● Less than Significant Impact.*

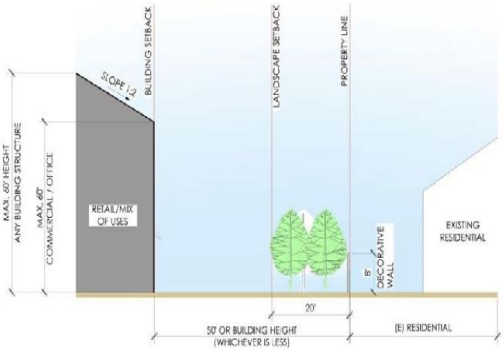
Sensitive receptors refer to land uses and/or activities that are especially sensitive to light and typically include homes, schools, playgrounds, hospitals, convalescent homes, and other similar facilities where children or the elderly may congregate. The nearest sensitive receptors to the expanded Planning Area are the single-family residential units located along the west side of Heacock Street and north side Ironwood Avenue. Additional light sensitive receptors are shown in Exhibit 3-2.

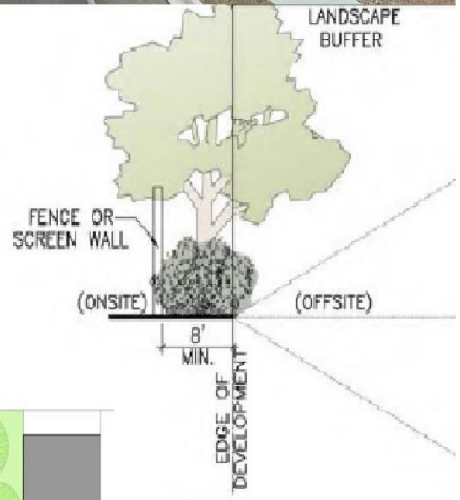
[24] California Department of Transportation. *Official Designated Scenic Highways*. www.dot.ca.gov

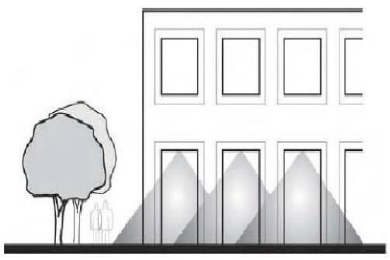
[25] Blodgett Baylosis Environmental Planning. *Site survey*. Survey was conducted on August 9, 2017.











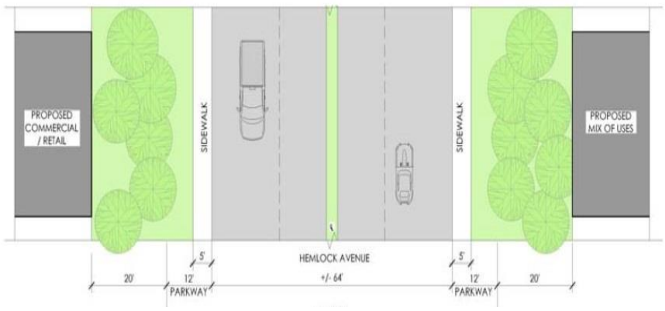


EXHIBIT 3-1
PROJECT DESIGN FEATURES THAT SERVE AS MITIGATION
Source: Amendment to Specific Plan 205

The adoption of the Specific Plan will not directly result in any light spillover or glare impacts. However, the Specific Plan will facilitate new development and the revitalization of the Festival at Moreno Valley shopping center. According to the Specific Plan, exterior lighting is to be provided to enhance the safety and security of motorists, pedestrians, and cyclists. To reinforce identity and unity, all exterior lighting is to be consistent in height, spacing, color, and type of fixture throughout the building site and compatible throughout the Moreno Valley Festival.[26] This new exterior lighting will be installed in accordance with all applicable regulations outlined in Section 9.08.100 of the City's Municipal Code. In addition, the Specific Plan includes the following objectives that should be considered in the installation of new lighting within the Planning Area.[27]

- Exterior lighting is to be provided as a means to enhance the safety and security of motorists, pedestrians, and cyclists.
- Lighting is intended to create a night time character that reinforces the image of the "MVF" as a quality business location.
- The developer will be responsible for installation of light fixtures during the project's initial development phase.
- Street lights per City standards will be installed on all public roads according to the City's recommendations.

With adherence to the above requirements, the potential impacts will be less than significant.

MITIGATION MEASURES

The analysis of aesthetics indicated that no impacts on these resources would occur as part of the proposed Specific Plan's implementation. As a result, no mitigation is required.

[26] National Engineering Consultants. *Amendment to Specific Plan 205, Section 4.3.* October 10, 2017.

[27] Ibid.

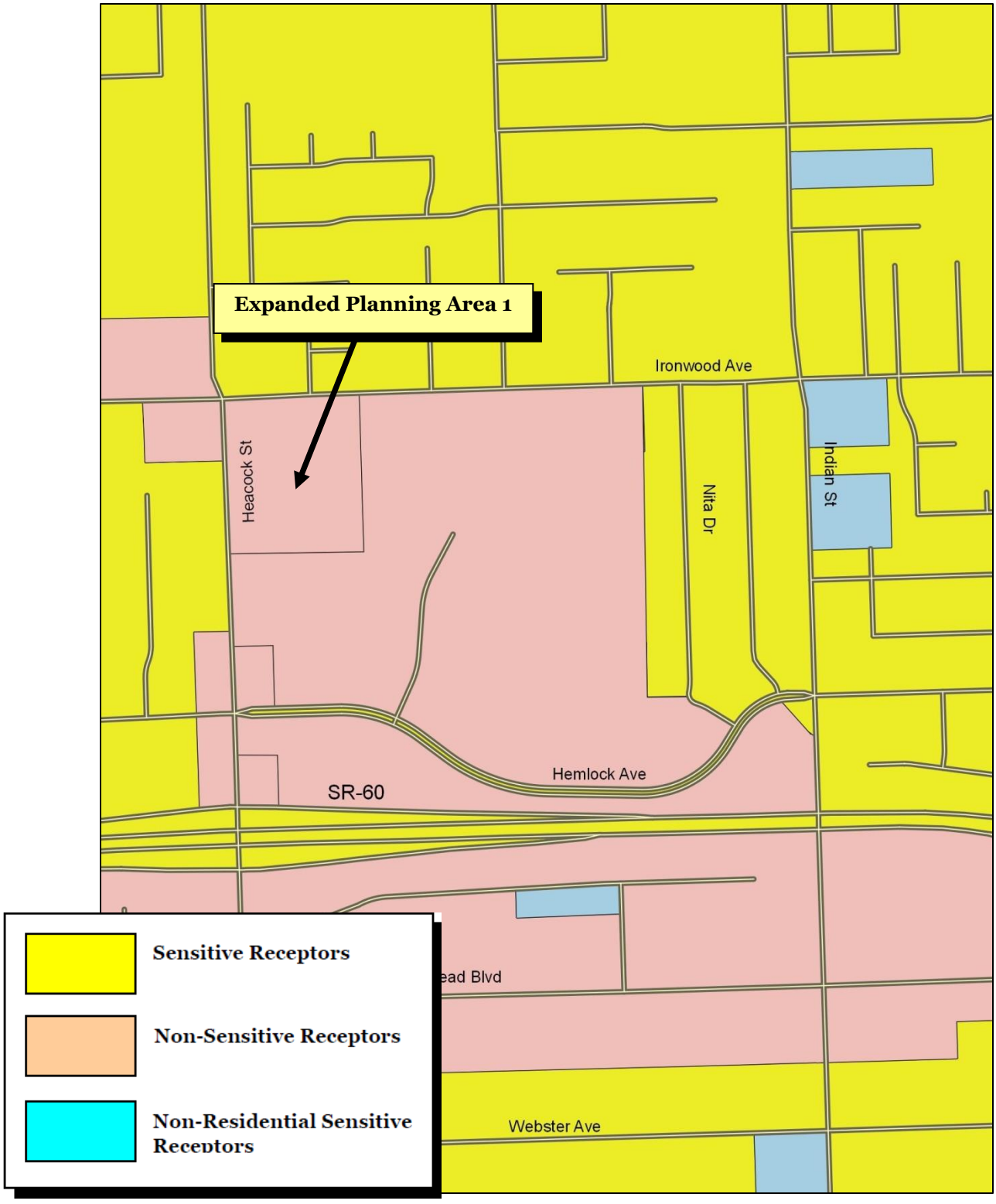


EXHIBIT 3-2
LIGHT SENSITIVE USES

Source: Quantum GIS

3.2 AGRICULTURE & FORESTRY RESOURCES

Environmental Issue Areas Examined	Potentially Significant Impact	Less Than Significant Impact With Mitigation	Less Than Significant Impact	No Impact
A. Would the project convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural uses?				✖
B. Would the project conflict with existing zoning for agricultural uses, or a Williamson Act Contract?				✖
C. Would the project conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section 12220(g)), timberland (as defined by Public Resources Code Section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104(g))?				✖
D. Would the project result in the loss of forest land or conversion of forest land to a non-forest use?				✖
E. Would the project involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland to non-agricultural use or conversion of forest land to a non-forest use?				✖

ANALYSIS OF ENVIRONMENTAL IMPACTS

A. *Would the project convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance, as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?* ● *No Impact.*

This current amendment would expand the Panning Area 1 within the larger Specific Plan Area to include a 9.98-acre property located on the southeast corner of Heacock Street and Ironwood Avenue. This added area will be referred to as the expanded *Planning Area 1*. This portion of Planning Area Number 1 is currently undeveloped though it has been rough graded and disked for maintenance and fire mitigation. The Specific Plan is being amended to allow for the development of a 220,390 square foot light industrial building. There are no areas of Prime Farmland, Unique Farmland, or Farmland of Statewide Importance located within the Planning Area. Furthermore, there are no agricultural uses or activities located within the Planning Area. The City's General Plan Environmental Impact Report indicates that a majority of the important farmlands are concentrated within the underdeveloped eastern portion of the City.[28] As a result, no impacts will occur.

[28] P and D Consultants. *Final Environmental Impact Report - City of Moreno Valley General Plan SCH# 200091075*. Report dated July 2006.

B. Would the project conflict with existing zoning for agricultural use or a Williamson Act contract? ● No Impact.

The adopted Festival Specific Plan (SP 205) does not contemplate agricultural uses nor are there such uses within the Specific Plan Area. The implementation of the Specific Plan will not conflict with existing agricultural operations since there are no agricultural uses located within the expanded Planning Area 1. In addition, none of the properties within the Planning Area are subject to a Williamson Act Contract.[29] As a result, the adoption and subsequent implementation of the Moreno Valley Festival Specific Plan nor the proposed Amendment will not result in any impacts on existing Williamson Act contracts.

C. Would the project conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section 12220(g)), timberland (as defined by Public Resources Code Section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104(g))? ● No Impact.

The area governed by the Moreno Valley Festival Specific Plan is located in the midst of a larger urban area and no forest lands are located within the City or within this portion of Riverside County. As a result, no impacts on forest land or timber resources will result from the proposed project's implementation.

D. Would the project result in the loss of forest land or the conversion of forest land to a non-forest use? ● No Impact.

There are no forest lands present within the larger Specific Plan Planning Area. This conclusion is supported by the field survey that was undertaken for the proposed project. As a result, the adoption and subsequent implementation of the Moreno Valley Festival Specific Plan nor the proposed Amendment will not result in any impacts related to the loss or conversion of existing forest lands. Therefore, no impacts will result from the project's implementation.

E. Would the project involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland to non-agricultural use or conversion of forest land to a non-forest use?● No Impact.

No agricultural activities, farmland uses, or forest uses are located in the geographic area governed by the Moreno Valley Festival Specific Plan.[30] As a result, the adoption and subsequent implementation of the Moreno Valley Festival Specific Plan will not involve the conversion of any existing farmland area to urban uses or the conversion of forest land to non-forest uses. As a result, no impacts are anticipated.

MITIGATION MEASURES

The analysis of agricultural and forestry resources indicated that no impacts on these resources would occur as part of the proposed Specific Plan's implementation.

[29] California Department of Conservation. *State of California Williamson Act Contract Land*. ftp://ftp.consrv.ca.gov/pub/dlrp/WA/2012%20Statewide%20Map/WA_2012_8x11.pdf

[30] Blodgett Baylosis Environmental Planning. *Site survey*. Survey was conducted on August 9, 2017.

3.3 AIR QUALITY

Environmental Issue Areas Examined	Potentially Significant Impact	Less Than Significant Impact With Mitigation	Less Than Significant Impact	No Impact
A. Would the project conflict with or obstruct implementation of the applicable air quality plan?				✖
B. Would the project result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable Federal or State ambient air quality standard?			✖	
C. Would the project expose sensitive receptors to substantial pollutant concentrations?			✖	
D. Would the project result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?				✖

ANALYSIS OF ENVIRONMENTAL IMPACTS

A. *Would the project conflict with or obstruct implementation of the applicable air quality plan? ● No Impact.*

This current amendment would expand the Specific Plan Area to include a 9.98-acre property located on the southeast corner of Heacock Street and Ironwood Avenue. This added area will be referred to as the expanded *Planning Area 1*. This Planning Area 1 is currently undeveloped though it has been rough graded and disked for maintenance and fire mitigation. The Specific Plan is being amended to allow for the development of a 220,390 square foot light industrial building. The South Coast Air Quality Management District (SCAQMD) has established quantitative thresholds for criteria pollutants that include the following:

- *Ozone (O_3)* is a nearly colorless gas that irritates the lungs and damages materials and vegetation. O_3 is formed by photochemical reaction. Los Angeles and the surrounding South Coast Air Basin (SCAB) are designated by the Environmental Protection Agency (EPA) and the California Air Resources Board (CARB) as an extreme ozone *non-attainment area*. [31]

- *Carbon Monoxide (CO)* is a colorless, odorless toxic gas that interferes with the transfer of oxygen to the brain that is produced by the incomplete combustion of carbon-containing fuels emitted as vehicle exhaust. The SCAB is designated as an attainment area for carbon monoxide by the EPA.

- *Nitrogen dioxide (NO_2)* is a yellowish-brown gas that, at high levels, can cause breathing difficulties. NO_2 is formed when nitric oxide (a pollutant from burning processes) combines with oxygen. Although NO_2 concentrations have not exceeded National standards since 1991, NO_2 emissions remain a concern because of their contribution to the formation of O_3 and particulate matter. The SCAB is designated as an attainment area for NO_2 by the EPA.

[31] A non-attainment area refers to a geographic area where the Environmental Protection Agency (EPA) and/or the California Air Resources Board (CARB) have determined that the air quality standards for the criteria pollutants are not being met.

- *Sulfur dioxide* (SO_2) is a colorless, pungent gas formed primarily by the combustion of sulfur-containing fossil fuels. Health effects include acute respiratory symptoms and difficulty in breathing for children. Though SO_2 concentrations have been reduced to levels that are well below State and Federal standards, further reductions in SO_2 emissions are desirable since SO_2 is a precursor to sulfate and PM_{10}. The SCAB is designated as an attainment area for SO_2.

- *PM_{10}* refers to particulate matter less than ten microns in diameter. PM_{10} particulates cause a greater health risk than larger-sized particles since fine particles can more easily cause respiratory irritation. The Federal standards for PM_{10} have been met in most areas within the SCAB.

- *$PM_{2.5}$* refers to particulate matter less than 2.5 microns in diameter. $PM_{2.5}$ also represents a significant health risk because particulate matter of this size may be more easily inhaled, causing respiratory irritation. The annual average concentrations of $PM_{2.5}$ exceeded Federal standards in some areas of the SCAB. As a result, $PM_{2.5}$ continues to be designated non-attainment.

Projects in the South Coast Air Basin (SCAB) generating construction-related emissions that exceed any of the following emissions thresholds are considered to be significant under CEQA: 75 pounds per day or 2.50 tons per quarter of reactive organic compounds; 100 pounds per day or 2.50 tons per quarter of nitrogen dioxide; 550 pounds per day or 24.75 tons per quarter of carbon monoxide; 150 pounds per day or 6.75 tons per quarter of PM_{10}; 55 pounds per day or 2.43 tons per quarter of $PM_{2.5}$; or, 150 pounds per day or 6.75 tons per quarter of sulfur oxides. A project would have a significant effect on air quality if any of the following operational emissions thresholds for criteria pollutants are exceeded: 55 pounds per day of reactive organic compounds; 55 pounds per day of nitrogen dioxide; 550 pounds per day of carbon monoxide; 150 pounds per day of PM_{10}; 55 pounds per day of $PM_{2.5}$; or, 150 pounds per day of sulfur oxides.

The Planning Area located within the SCAB which covers a 6,600-square-mile area within Orange County, the non-desert portions of Riverside County, and San Bernardino County. The SCAB is subject to the Final 2016 Air Quality Management Plan (AQMP), which was jointly prepared with the California Air Resources Board (CARB) and the Southern California Association of Governments (SCAG).[32] The Air Quality Handbook refers to the following criteria as a means to determine a project's conformity with the AQMP:[33]

- *Consistency Criteria 1* refers to a proposed project's potential for resulting in an increase in the frequency or severity of an existing air quality violation or its potential for contributing to the continuation of an existing air quality violation.

- *Consistency Criteria 2* refers to a proposed project's potential for exceeding the assumptions included in the AQMP or other regional growth projections relevant to the AQMP's implementation.

The Plan's potential build out includes up to 220,390 square feet of light industrial or business park mix of uses. As indicated in Tables 3-1 and 3-2, the project's construction and operational emissions are anticipated to be below the thresholds of significance established by the SCAQMD. Therefore, the approval of the Specific Plan Amendment will not violate *Consistency Criteria 1*. In terms of *Consistency Criteria 2*, the potential build-out under the Specific Plan Amendment is within the three alternative build-out

[32] South Coast Air Quality Management District, *Final 2016 Air Quality Plan*, Adopted March 2017.

[33] South Coast Air Quality Management District. *CEQA Air Quality Handbook*. 2016.

projections established for the General Plan. As a result, no impacts related to the implementation of the AQMP are anticipated.

B. Would the project result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable Federal or State ambient air quality standard? ● Less than Significant Impact.

The proposed development is conceptual in nature and the timeline for development is not yet known. Individual projects may be proposed upon approval of the Specific Plan amendment, or they may be proposed several years in the future. Therefore, construction timeline of twelve months was used. This construction timeline would include all of the development proposed within the expanded Planning Area 1. For purposes of this IS/MND's air quality analysis, future development within the expanded Planning Area 1 was assumed to be a 220,390 square foot light industrial building. The analysis of daily construction and operational emissions was prepared utilizing the California Emissions Estimator Model (CalEEMod V.2016.3.2). The Specific Plan amendment's potential construction emissions are shown in Table 3-1.

Table 3-1
Estimated Daily Construction Emissions

Construction Phase	ROG	NO_2	CO	SO_2	PM_{10}	$PM_{2.5}$
Site Preparation (on-site)	4.56	48.19	22.47	0.03	20.64	12.30
Site Preparation (off-site)	0.10	0.06	0.89	--	0.20	0.05
Total Site Preparation	**4.66**	**48.25**	**23.36**	**0.03**	**20.86**	**12.35**
Grading (on-site)	4.73	54.52	33.37	0.06	9.32	5.60
Grading (off-site)	0.11	0.06	0.88	--	0.22	0.06
Total Grading	**4.84**	**54.58**	**34.25**	**0.06**	**9.54**	**5.66**
Building Construction (on-site)	2.36	21.07	17.16	0.02	1.28	1.21
Building Construction (off-site)	1.70	13.12	13.18	0.05	3.54	1.03
Total Building Construction	**4.06**	**34.19**	**30.34**	**0.07**	**4.82**	**2.24**
Building Construction (on-site)	2.11	19.18	16.84	0.02	1.11	1.05
Building Construction (off-site)	1.54	11.84	11.91	0.05	3.50	1.00
Total Building Construction	**3.65**	**31.02**	**28.65**	**0.07**	**4.61**	**2.05**
Building Construction (on-site)	1.90	17.43	16.57	0.02	0.95	0.90
Building Construction (off-site)	1.41	10.65	10.84	0.05	3.46	0.95
Total Building Construction	**3.31**	**28.08**	**27.41**	**0.07**	**4.41**	**1.85**
Building Construction (on-site)	1.70	15.61	16.36	0.02	0.80	0.76
Building Construction (off-site)	1.32	10.02	10.01	0.05	3.46	0.95
Total Building Construction	**3.02**	**25.63**	**26.37**	**0.07**	**4.26**	**1.71**
Paving (on-site)	1.10	11.12	14.58	0.02	0.56	0.52
Paving (off-site)	0.06	0.03	0.51	--	0.16	0.04
Total Paving	**1.16**	**11.15**	**15.09**	**0.02**	**0.72**	**0.56**
Architectural Coatings (on-site)	40.58	1.30	1.81	--	0.07	0.07
Architectural Coatings (off-site)	0.20	0.10	1.54	--	0.55	0.14
Total Architectural Coatings	**40.78**	**1.40**	**3.35**	**--**	**0.62**	**0.21**
Maximum Daily Emissions	**40.79**	**54.58**	**34.26**	**0.08**	**20.84**	**12.35**
Daily Thresholds	**75**	**100**	**550**	**150**	**150**	**55**

Source: CalEEMod V.2016.3.2. (the worksheet are included herein in Appendix A)

As indicated previously, the construction emissions presented in Table 3-1 assumed a twelve month construction timeline. In addition, these emissions also assumed the simultaneous development of the entire expanded Planning Area Number 1 as opposed to any incremental construction phasing.

The entire Specific Plan Area is located in a non-attainment area for ozone and particulates. All construction undertaken in the Specific Plan area will be required to adhere to all SCAQMD regulations related to fugitive dust generation and other construction-related emissions. According to SCAQMD Regulation 403, all unpaved demolition and construction areas shall be regularly watered up to three times per day during excavation, grading, and construction as required (depending on temperature, soil moisture, wind, etc.). Watering could reduce fugitive dust by as much as 55 percent. Rule 403 also requires that temporary dust covers be used on any piles of excavated or imported earth to reduce wind-blown dust. In addition, all clearing, earthmoving, or excavation activities must be discontinued during periods of high winds (i.e. greater than 15 mph), so as to prevent excessive amounts of fugitive dust. Finally, the contractors must comply with other SCAQMD regulations governing equipment idling and emissions controls. The aforementioned SCAQMD regulations are standard conditions required for every construction project undertaken in the City as well as in the Cities and Counties governed by the SCAQMD. As shown in Table 3-1, daily construction emissions are not anticipated to exceed the SCAQMD's significance thresholds.

The long-term air quality impacts associated with the proposed project include mobile emissions from vehicular traffic; on-site stationary emissions related to the operation of machinery; and off-site stationary emissions associated with the off-site generation and consumption of energy (natural gas). The analysis of long-term operational impacts summarized in Table 3-2, also used the CalEEMod computer model developed for the SCAQMD. The maximum case build-out of 220,390 square feet of light industrial uses was used to determine the Specific Plan amendment's operational emissions.

Table 3-2
Estimated Operational Emissions in lbs/day

Emission Source	ROG	NO_2	CO	SO_2	PM_{10}	$PM_{2.5}$
Area	15.04	--	0.06	--	--	--
Energy	0.05	0.52	0.43	--	0.03	0.03
Mobile	12.42	53.21	93.68	0.28	83.54	23.08
Total (lbs/day)	**27.52**	**53.73**	**94.19**	**0.28**	**83.58**	**23.12**
Daily Thresholds	**55**	**55**	**550**	**150**	**150**	**55**

Source: CalEEMod V.2016.3.2 (the worksheet are included herein in Appendix A)

As indicated in Table 3-2, the projected long-term emissions are anticipated to be below the thresholds of significance established by the SCAQMD. The operational emissions take into account the number of trips provided in the traffic report. In addition, the uses permitted under the specific plan will serve the local market. Adherence to the mitigation provided in Section 3.7.B will further reduce operational emissions. As a result, the potential impacts are considered to be less than significant.

C. Would the project expose sensitive receptors to substantial pollutant concentrations? ● Less than Significant Impact.

Sensitive populations are more susceptible to the effects of air pollution than the general population. Sensitive populations (sensitive receptors) that are in proximity to localized sources of toxics and CO are of particular concern. Land uses considered sensitive receptors include residences, schools, playgrounds, childcare centers, athletic facilities, long-term health care facilities, rehabilitation centers, convalescent centers, and retirement homes. The nearest sensitive receptors are located along the west side of Heacock Street and along the north side of Ironwood Avenue. Additional sensitive receptors are depicted in Exhibit 3-3.

Most vehicles generate carbon monoxide (CO) as part of the tail-pipe emissions and high concentrations of CO along busy roadways and congested intersections are a concern. The areas surrounding the most congested intersections are often found to contain high levels of CO that exceed applicable standards. Typically, a hot-spot may occur near an intersection that is experiencing severe congestion (a LOS E or LOS F). The SCAQMD stated in its CEQA Handbook that a CO hot-spot would not likely develop at an intersection operating at LOS C or better. Since the Handbook was written, there have been new CO emissions controls added to vehicles and reformulated fuels are now sold in the SCAB. These new automobile emissions controls, along with the reformulated fuels, have resulted in a lowering of both ambient CO concentrations and vehicle emissions. In addition, the total number of vehicle trips that would be generated by the potential new development within the expanded Planning Area 1 would potentially result in 88 morning (AM) peak hour trips and 93 evening (PM) peak hour trips. This net increase in traffic would not be great enough to result in the creation of a carbon monoxide hotspot. As a result, the impacts related to the adoption and subsequent implementation of the Plan Amendment will be less than significant.

D. Would the project create objectionable odors affecting a substantial number of people? ● No Impact.

The SCAQMD has identified those land uses that are typically associated with odor complaints. These uses include activities involving livestock, rendering facilities, food processing plants, chemical plants, composting activities, refineries, landfills, and businesses involved in fiberglass molding.[34] For purposes of analysis, this IS/MND assumes the future development within the expanded Planning Area 1 will consist of light industrial development. The future tenant is not known at this time. However, should any of the future tenants be involved in any odor generating use, the future tenant must be in compliance with all applicable SCAQMD regulations. Furthermore, no odors were observed coming from the uses located within the Planning Area based on the field survey that was undertaken. As a result, no impacts will result.

MITIGATION MEASURES

The analysis presented above indicated that the project's potential air quality impacts are considered to be less than significant. These emissions are further reduced with the implementation of the mitigation presented in Section 3.8.

[34] South Coast Air Quality Management District. *CEQA Air Quality Handbook*. April 1993.

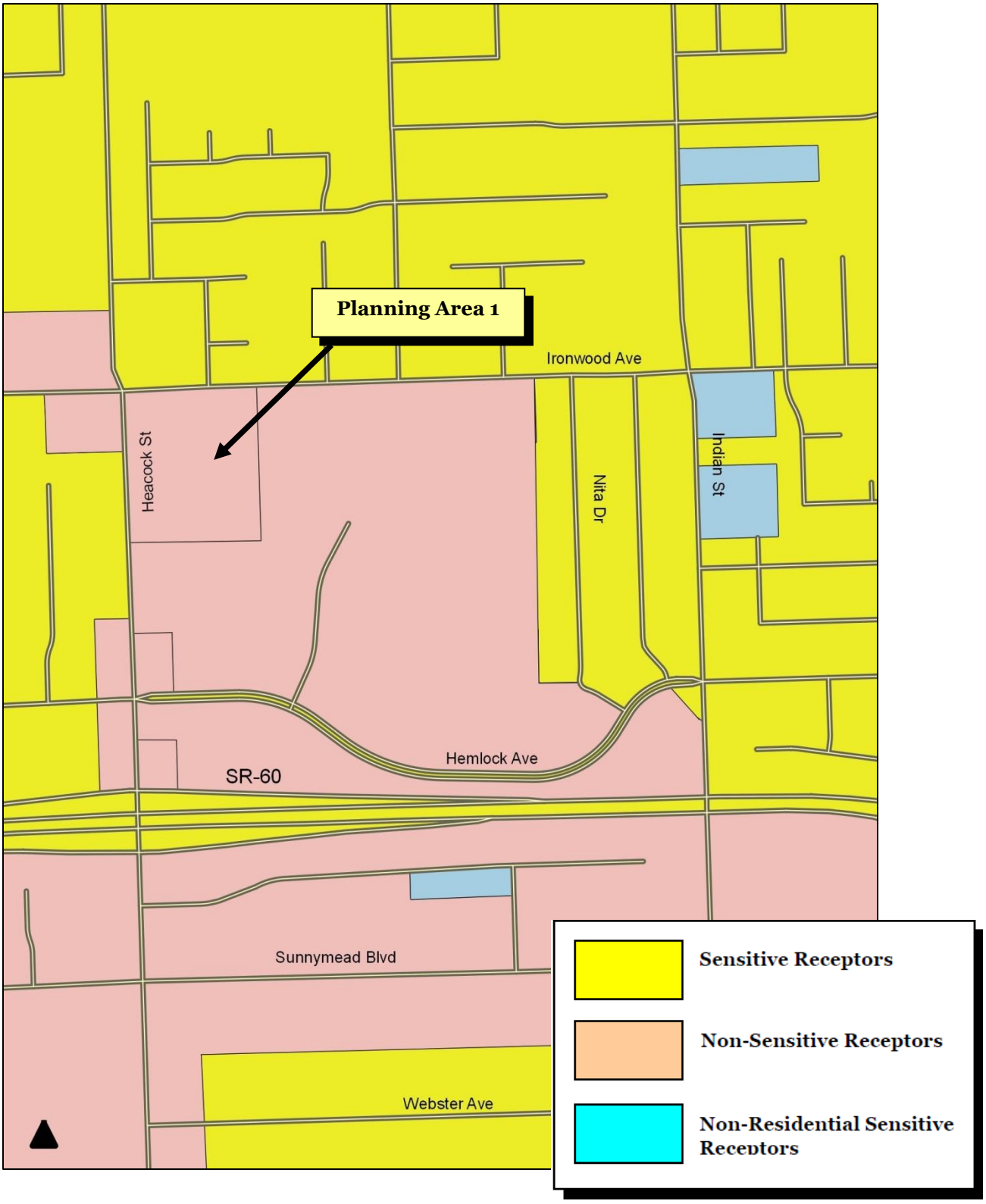


EXHIBIT 3-3
SENSITIVE RECEPTORS
Source: Quantum GIS

3.4 BIOLOGICAL RESOURCES

Environmental Issue Areas Examined	Potentially Significant Impact	Less Than Significant Impact With Mitigation	Less Than Significant Impact	No Impact
A. Would the project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?		✖		
B. Would the project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?				✖
C. Would the project have a substantial adverse effect on State or Federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?				✖
D. Would the project interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory life corridors, or impede the use of native wildlife nursery sites?		✖		
E. Would the project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?				✖
F. Would the project conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or State habitat conservation plan?				✖

A. *Would the project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?* ● *Less than Significant Impact with Mitigation.*

This current amendment would expand the Specific Plan Area to include a 9.98-acre property located on the southeast corner of Heacock Street and Ironwood Avenue. This added area will be referred to as the expanded *Planning Area 1*. This Planning Area 1 is currently undeveloped though it has been rough graded and disked for maintenance and fire mitigation. The Specific Plan is being amended to allow for the development of a 220,390 square foot light industrial building. Hernandez Environmental Services conducted a literature review and reviewed aerial photographs and topographic maps of the larger Specific Plan Area which included the expanded Planning Area 1. This earlier study is still valid given that conditions within Planning Area 1 relative to natural habitats, have not changed since the earlier study was completed. The Sunnymead quadrangle and adjacent surrounding eight quadrangles were reviewed to identify sensitive species in the California Natural Diversity Data Base (CNDDB). Additional resources reviewed during the literature search included the United States Fish and Wildlife (USFWS) Endangered Species Lists, Forest Service List, and the California Native Plant Society's (CNPS) Rare plant lists to obtain species

information for the project area.[35] In addition, Hernandez Environmental Services conducted field survey of the approximate 49-acre project site on July 13, 2015. The ambient temperature at 9:30 a.m. was 72˚Fahrenheit, sunny, with zero to three mile per hour winds from the northeast. The purpose of the field survey was to document the existing habitat conditions, obtain plant and animal species information, view the surrounding uses, assess the potential for state and federal waters, and assess the potential for wildlife movement corridors, sensitive species, and nesting habitat.[36] The report considered 13 species that are listed as state and/or federally threatened, endangered, or candidate species. These 13 species are also identified for special consideration under the Riverside County MSHCP. The 13 species include the following: *Southern Mountain Yellow-Legged Frog*; *Tricolored Blackbird*; *Burrowing Owl*; *Western Yellow-Billed Cuckoo*; *Southwestern Willow Flycatcher; Bald Eagle*; *Coastal California Gnatcatcher*; *Least Bell's Vireo; Santa Ana Sucker*; and, *Quino Checkerspot Butterfly*.

According to the report, none of the species identified above are likely to be encountered within the Planning Area due to the amount of disturbance that has occurred to accommodate the existing landscaping and development. Hernandez Environmental Services also conducted a Burrowing Owl Survey and prepared a report to summarize the findings. According to the Burrowing Owl Survey, there were no signs of Burrowing Owl habitation within the Planning Area.[37] Species exclusively identified in the Western Riverside MSHCP are listed below:

- *Cooper's Hawk*. Cooper's hawk is a CDFW watch list species and International Union for Conservation of Nature (IUCN) species of least concern. The species foraging habitat includes rivers, and woodlands including willows, cottonwoods, and sycamores. Nesting habitat for this species occurs at the project site in the Eucalyptus trees adjacent to the site. This species is covered by the Western Riverside MSHCP and is considered adequately conserved.

- *Bell's Sage Sparrow*. Bell's sage sparrow is a CDFW watch list species and USFWS bird of conservation concern. The species nests in coastal sage scrub and chaparral. The project site supports some disturbed coastal sage scrub that may serve as habitat. This species is potentially present, though this species is considered adequately conserved.

- *Orange-throat Whiptail*. Orange-throat whiptail is a CDFW species of special concern and IUCN species of least concern. The species inhabits low elevation coastal scrub, chamise-redshank chaparral, mixed chaparral, and valley-foothill hardwood habitat. The project site supports some disturbed coastal sage scrub that may serve as habitat. This species is potentially present. This species is covered by the Western Riverside MSHCP and is considered adequately conserved.[38]

- *Coastal Whiptail*. Coastal whiptail is a CDFW species of special concern and IUCN species of least concern. It is found in a variety of ecosystems, primarily in hot and dry open areas with sparse foliage – chaparral, woodland, and riparian areas. The project site supports habitat for this species.

[35] Hernandez Environmental Services. *General Biological Assessment Report, Moreno Valley Festival.* Report dated November 2015.

[36] Hernandez Environmental Services. *General Biological Assessment Report, Moreno Valley Festival.* Report dated November 2015.

[37] Ibid.

[38] Ibid.

This species is potentially present. This species is covered by the Western Riverside MSHCP and is considered adequately conserved.

- *Red-diamond Rattlesnake*. Red-diamond rattlesnake is a CDFW species of special concern. The species habitat includes coastal sage scrub or chaparral with granite boulders. The project site supports habitat for this species. This species is potentially present. This species is covered by the Western Riverside MSHCP and is considered adequately conserved.

- *California Horned Lark*. California horned lark is a CDFW watch list species and IUCN species of least concern. The species is found in open areas dominated by sparse low herbaceous vegetation or widely scattered low shrubs. The project site supports habitat for this species. This species is potentially present. This species is covered by the Western Riverside MSHCP and is considered adequately conserved.

- *Western Yellow Bat*. Western yellow bat is a CDFW species of special concern and IUCN species of least concern. The species occupies a range of habitats of extremely arid areas including savannas, secluded woodlands, regions dominated by pasture or croplands, and residential areas. It is insectivorous and often roosts in trees. The project site supports limited roosting habitat for this species. This species is potentially present.

- *San Diego Black-tailed Jackrabbit*. San Diego black-tailed jackrabbit is a CDFW species of special concern. The species habitat includes chaparral and coastal sage scrub. The project site supports limited habitat for this species. This species is covered by the Western Riverside MSHCP and is considered adequately conserved.

- *Coast Horned Lizard*. Coast horned lizard is a CDFW species of special concern and IUCN species of least concern. The species inhabits open areas of sandy soils and low vegetation in valleys, foothills, and semiarid mountains. It is found in grasslands, coniferous forests, woodlands, and chaparral, with open areas and patches of loose soil. The project site supports limited habitat for this species. This species is potentially present. This species is covered by the Western Riverside MSHCP and is considered adequately conserved.

- *Lawrence's Goldfinch*. Lawrence's goldfinch is an IUCN species of least concern. The species inhabits open woodlands, chaparral, and weedy fields. The project site supports limited habitat for this species in the basin located adjacent to the eastern project boundary. This species is potentially present.[39]

The implementation of the Specific Plan Amendment for the expanded Planning Area 1 and all subsequent development may have the potential to impact the aforementioned Western Riverside MSHCP species. As a result, the following mitigation is required:

- The proposed project must be consistent with the Western Riverside MSHCP. Payment of the appropriate development mitigation fees will mitigate any impacts to these species.

[39] Hernandez Environmental Services. *General Biological Assessment Report, Moreno Valley Festival.* Report dated November 2015.

- Prior to any land disturbance, a focused pre-construction burrowing owl survey shall be conducted prior to construction in accordance with the Burrowing Owl Survey instructions of the Western Riverside County MSHCP. This survey is to be conducted within 30 days prior to ground disturbance. After the pre-construction burrowing owl survey has been completed, a survey report will be prepared in accordance with the MSHCP 30-day Pre-construction Burrowing Owl Survey Report Format.

Adherence to the above-mentioned mitigation will reduce potential impacts to levels that are less than significant.

B. Would the project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service? ● No Impact.

The property is relatively flat with the exception of an incised gully (previously Bale Creek) that traverses the property from northwest to southeast. The majority of the property is earthen with the exception of a gravel and concrete parking area on the western border and a large storage tank in the southwest corner. The entire property has been previously disturbed and graded. There are a few scattered native trees in the northwest portion of the gully, but the reminder of the property supports non-native vegetation common in previously disturbed habitat surrounded by development. The property is bordered by Ironwood Avenue and developed areas to the north, disturbed habitat to the east and south, and Heacock Street and developed areas to the west. Prior to development the property likely supported an ephemeral channel that drained from northwest to southeast. This is evident from a blue line shown on the United States Geological Survey map of the area and remnants of a channel on site. However, storm drain re-alignment including undergrounding of sewer stormwater Line H in 2009 directed all flow that previously crossed the property into a storm drain that is underground, and north of the property.[40] The underground storm drains collects water from surrounding storm drains and directs it into the Indian Detention Basin that occurs approximately 600 feet to the east.[41]

There are no jurisdictional wetlands or waters features on the property. There are no channel features, or other wetland and water features that hold water on the property. The property was surveyed approximately 3 days after a significant rain event and any surface flow would have been evident. Given the majority of the property has been graded and is generally flat with small tractor tracks rainfall appears to soak into the surface. The property has no channels or storm drains leading onto the property. The property consists of a very small watershed limited to only the water that falls on site. There is not enough surface flow on the property to support even an ephemeral channel. The main gully likely previously supported flow from a storm drain to the northwest. The storm drain has been re-directed and the gully no longer supports a drainage feature.[42] Although there are individual native trees near the western end of the gully (cottonwood and willow) they are not part of a larger riparian system, do not by themselves constitute a wetland community, and are not supported by a wetland community. Rather they are remnants from the channel

[40] Borcher Environmental Management. *Results of the Jurisdictional Wetlands and Waters Assessment for the Heacock/Ironwood Project in Moreno Valley, California*. Letter dated December 27, 2016.

[41] Please refer to Clean Water Act Section 401 Water Quality Certification from the City of Moreno Valley (SARWQCB Project No. 332009-18) for the Ironwood Avenue and Indian Detention Basin Project for more details regarding the storm drain and Indian Detention Basin.

[42] Borcher Environmental Management. *Results of the Jurisdictional Wetlands and Waters Assessment for the Heacock/Ironwood Project in Moreno Valley, California*. Letter dated December 27, 2016.

that likely existed prior to the underground storm drain re-alignment. The new normal condition does not support directed flow or wetland vegetation communities. As a result, no impacts will result.

C. *Would the project have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means? ● No Impact.*

According to wetland delineation survey that was completed for the expanded Planning Area 1, there are no jurisdictional wetlands or waters features on the property. Furthermore, there are no channel features, or other wetland and water features that hold water on the property.[43] The property was surveyed approximately three days after a significant rainstorm and any surface flow would have been evident. Given the majority of the property has been graded and is generally flat with small tractor tracks rainfall appears to percolate into the surface. The property has no channels or storm drains leading onto the property. The property consists of a very small watershed limited to only the water that falls on site. There is not enough surface flow on the property to support even an ephemeral channel. The main gully likely previously supported flow from a storm drain to the northwest. The storm drain has been re-directed and the gully no longer supports a drainage feature. This is evident by the lack of ordinary high water marks (OHWM), bed and bank, and the absence of a non-soil component at the bottom of the gully. Meaning the soils in the bottom of the gully are the similar to those on the surface above rather than sand or other sediments found in creek bottoms.

Soils on the property have been disturbed by past grading and earthwork. The soils are mapped by the United States Department of Agriculture as sandy loams, and are generally well drained. The disturbance to the soils also has created many pockets and pores for rainfall to soak into the surface rather than run off into a channel. There are two outfall structures east of the property that transports water flow in the area from the underground storm drain into the Indian Detention Basin. Although there are individual native trees near the western end of the gully (cottonwood and willow) they are not part of a larger riparian system, do not by themselves constitute a wetland community, and are not supported by a wetland community. Rather they are remnants from the channel that likely existed prior to the underground storm drain re-alignment. The new normal condition does not support directed flow or wetland vegetation communities. As a result, the proposed project's implementation will not result in any impacts on this issue.

D. *Would the project interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory life corridors, or impede the use of native wildlife nursery sites? ● Less than Significant Impact with Mitigation*

According to the General Biological Assessment report, the Planning Area contains vegetation that is suitable for nesting and migrating birds. For future projects located within the Specific Plan area, the following mitigation measures will apply:

- Vegetation removal shall be conducted outside of the nesting season for migratory birds to avoid direct impacts. The migratory bird nesting season is between February 1 and September 15.

[43] Borcher Environmental Management. *Results of the Jurisdictional Wetlands and Waters Assessment for the Heacock/Ironwood Project in Moreno Valley, California.* Letter dated December 27, 2016.

- If active nests are found during nesting bird surveys, they shall be flagged and a 200-foot buffer shall be fenced around the nests.

- If vegetation removal will occur during the migratory bird nesting season, between February 1 and September 15, pre-construction nesting bird surveys must be performed within three days prior to vegetation removal.

Adherence to the mitigation measures identified above will reduce potential impacts to levels that are less than significant.

E. Would the project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance? ● No Impact.

Chapter 9.17, Street Trees, of the City's Municipal Code governs the planting of trees within certain major arterials. According to the Code, street trees are installed a minimum of one foot, and a maximum of two feet, on the private side of the property line (single-family residential lots) or in the public right-of-way for all other projects. Should any trees be planted within the public right-of-way, future Applicants must consult with the City to determine the appropriate species of tree that will be planted. In addition, the Moreno Valley Festival Specific Plan also includes a focus on landscaping and tree planting with the new developments. The project site is not located within a Western Riverside County MSHCP Criteria Area. As such, the proposed Project is not required to set aside conservation lands pursuant to the Western Riverside County MSHCP, and the proposed project is not subject to the MSHCP's Habitat Evaluation and Acquisition Negotiation Strategy (HANS) process, or Joint Project Review (JPR). As a result, the adoption and subsequent implementation of the Moreno Valley Festival Specific Plan will not result in any impacts.

F. Would the project conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan? ● No Impact.

The entire City is located within the Western Riverside MSHCP. However, the Planning Area is not located within a criteria cell of the MSHCP. The City of Moreno Valley Municipal Code contains provisions for the protection of the Stephens' Kangaroo Rat pursuant to the Stephens' Kangaroo Rat HCP (refer to Title 8, Chapter 8.60 of the Municipal Code). The project site is not located within an identified reserve area for the Stephens' Kangaroo Rat and the species has a low to moderate potential to occur on the project site. In addition, the species was not observed during biological surveys of the project site or the off-site improvement area. Accordingly, the project is exempt from the focused survey requirements for the Stephens' Kangaroo Rat established by the City's Municipal Code. The project Applicant is required to contribute a local development impact and mitigation fee, which requires a fee payment to assist the City in implementing the habitat conservation plan for the Stephens' Kangaroo Rat.

The project Applicant is required to contribute a local mitigation fee to assist the Western Riverside County – Regional Conservation Authority in implementing the Western Riverside County MSHCP reserve system (including the acquisition, management, and long-term maintenance of sensitive habitat areas). With mandatory compliance with standard regulatory requirements (i.e., mitigation fee payment), the proposed Project would not conflict with any City policies or ordinances related to the mitigation fee program associated with Western Riverside County MSHCP.

MITIGATION MEASURES

The analysis indicated that the proposed project may result in impacts to protected species and habitat. As a result, the following mitigation is required:

Mitigation Measure No. 1 (Biological Resources Impacts). The proposed project must be consistent with the Western Riverside MSHCP. Payment of the appropriate development mitigation fees will mitigate any impacts to these species.

Mitigation Measure No. 2 (Biological Resources Impacts). Prior to any land disturbance, a focused pre-construction burrowing owl survey shall be conducted prior to construction in accordance with the Burrowing Owl Survey instructions of the Western Riverside County MSHCP. This survey is to be conducted within 30 days prior to ground disturbance. After the pre-construction burrowing owl survey has been completed, a survey report will be prepared in accordance with the MSHCP 30-day Pre-construction Burrowing Owl Survey Report Format.

Mitigation Measure No. 3 (Biological Resources Impacts). Future developers must consult with the California Department of Fish and Wildlife, the U.S. Army Corps of Engineers, and the Santa Ana Regional Water Quality Control Board to determine the need for permits that must be obtained prior to initiation of construction of a proposed project.

Mitigation Measure No. 4 (Biological Resources Impacts). Prior to the start of construction activity, developers must prepare a Multiple Species Habitat Conservation Program (MSHCP) Determination of Biologically Equivalent or Superior Preservation (DBESP) should a future project affect Western Riverside MSHCP riverine resources.

Mitigation Measure No. 5 (Biological Resources Impacts). Vegetation removal shall be conducted outside of the nesting season for migratory birds to avoid direct impacts. The migratory bird nesting season is between February 1 and September 15.

Mitigation Measure No. 6 (Biological Resources Impacts). If active nests are found during nesting bird surveys, they shall be flagged and a 200-foot buffer shall be fenced around the nests.

Mitigation Measure No. 7 (Biological Resources Impacts). If vegetation removal will occur during the migratory bird nesting season, between February 1 and September 15, pre-construction nesting bird surveys must be performed within three days prior to vegetation removal.

3.5 CULTURAL RESOURCES

Environmental Issue Areas Examined	Potentially Significant Impact	Less Than Significant Impact With Mitigation	Less Than Significant Impact	No Impact
A. Would the project cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5 of the CEQA Guidelines?				✖
B. Would the project cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5 of the CEQA Guidelines?		✖		
C. *Would the project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?*		✖		

ANALYSIS OF ENVIRONMENTAL IMPACTS

A. Would the project cause a substantial adverse change in the significance of a historical resource as defined in §15064.5 of the State CEQA Guidelines? ● No Impact.

This current amendment would expand the Specific Plan Area to include a 9.98-acre property located on the southeast corner of Heacock Street and Ironwood Avenue. This added area will be referred to as the expanded *Planning Area 1*. This Planning Area 1 is currently undeveloped though it has been rough graded and disked for maintenance and fire mitigation. The Specific Plan is being amended to allow for the development of a 220,390 square foot light industrial building. Historic structures and sites are generally defined by local, State, and Federal criteria. A site or structure may be historically significant if it is protected through a local general plan or historic preservation ordinance. The U.S. Department of the Interior has established specific guidelines and criteria that indicate the manner in which a site, structure, or district is to be identified as having historic significance through a determination of eligibility for listing on the National Register of Historic Places. Significance may be determined if the property is associated with events, activities, or developments that were important in the past, with the lives of people who were important in the past, or represents significant architectural, landscape, or engineering elements. The adoption and subsequent implementation of the Moreno Valley Festival Specific Plan Amendment Number 2 will not involve any removal of historically buildings.

Exhibit 3-4 shows locally designated resources. None of the buildings that are located within the Planning Area, including the existing above ground water reservoir tanks located in the southernmost portion of the expanded Planning Area 1, are included on any list of historic resources compiled by the United States Department of the Interior, National Park Service.[44] In addition, the project area is not present on the list of historic resources identified by the State Office of Historic Preservation (SHPO).[45] This existing reservoir tank is not unique nor is it historically significant. In addition, the tank and its ancillary facilities are in a state of disrepair. As a result, no impacts will occur as part of the property's redevelopment.

[44] National Park Service. *National Register of Historic Places*. Website http://npgallery.nps.gov/nrhp/SearchResults/. Website accessed August 21, 2017.

[45] California Department of Parks and Recreation. *California Historical Resources*. Website http:// ohp.parks.ca.gov/ ListedResources. Website accessed in June 13, 2017.

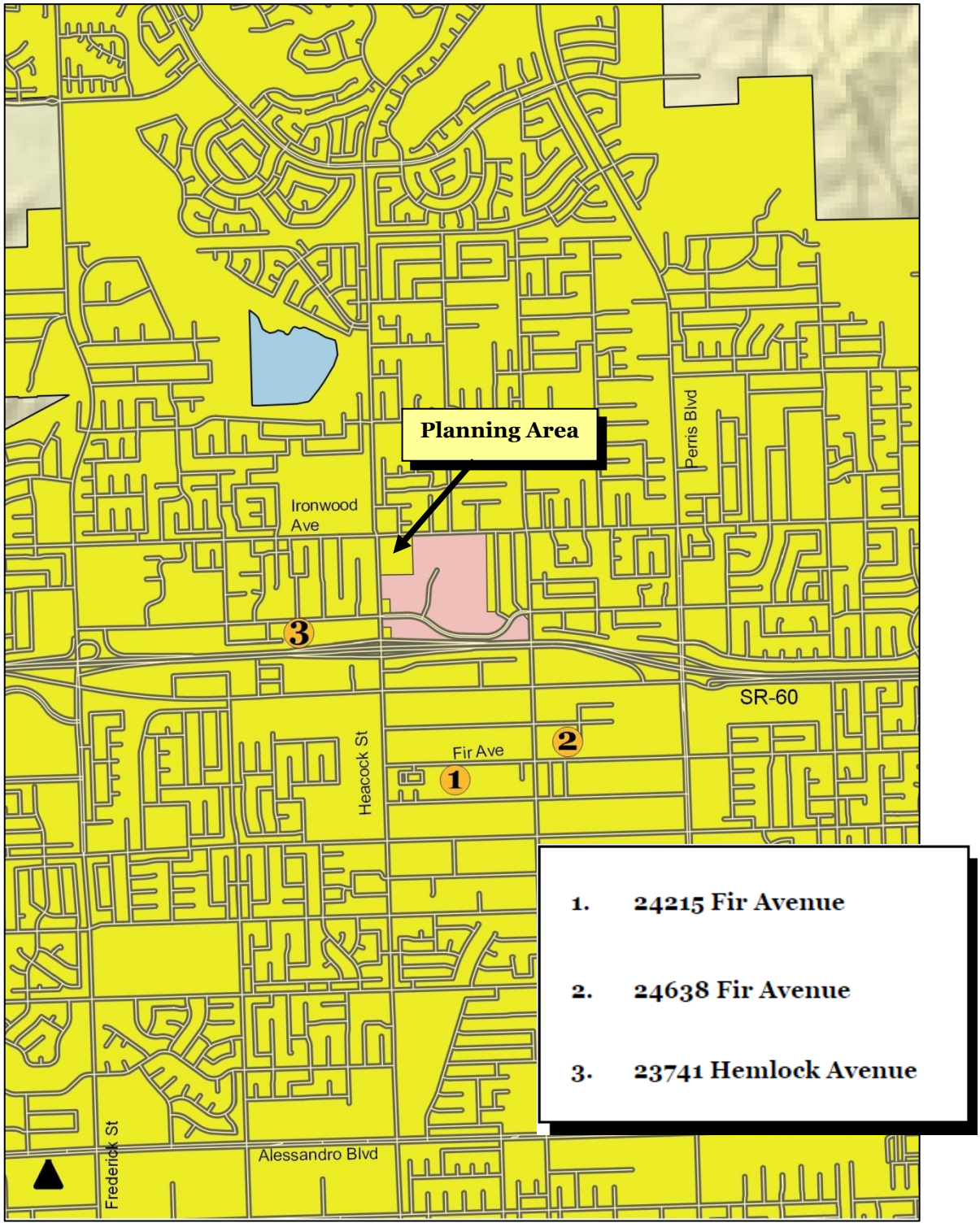


EXHIBIT 3-4
LOCALLY DESIGNATED HISTORICAL RESOURCES
Source: Moreno Valley General Plan

B. Would the project cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5 of the State CEQA Guidelines? ● Less than Significant Impact with Mitigation.

Ancestors of the Luiseno and Cahuilla Indian tribes were the first inhabitants of Moreno Valley. The Late Prehistoric Luiseño and Cahuilla peoples who occupied the region were generally believed to be semi-sedentary, meaning that they wintered in villages, then spread out in family groups during the spring and summer months to harvest seeds and acorns. Thus, smaller occupational locations tend to be associated with areas where plentiful milling stations are found. Milling stations are indicated by the presence of bedrock mortars and slicks. Rock art is also found within several complexes. This consists of "pictographs" or painted images and "petroglyphs" or rock engravings.

AB-52 consultation was completed in 2018 and formal requests for consultation were sent to seven tribal bands identified by the Native American Heritage Commission. Responses were received by the City from five tribes. The Pechanga Tribal Band requested a conference call, and mitigation measures were discussed. The same mitigation requested for Amendment Number 1 were also incorporated herein for Amendment Number 2. The Pechanga Tribal Band and Soboba Tribal Band also concurred with the following mitigation measures would continue to be applicable to the potential Amendment Number 2 development:

- Prior to the issuance of a grading permit, the developer shall retain a professional archaeologist to conduct monitoring of all mass grading and trenching activities. The project archaeologist must have the authority to temporarily redirect earthmoving activities in the event that suspected archaeological resources are unearthed during project construction. The project archaeologist, in consultation with the Consulting Tribe(s), the contractor, and the City, must develop a Cultural Resources Management Plan (CRMP) in consultation pursuant to the definition in AB-52 to address the details, timing, and responsibility of all archaeological and cultural activities that will occur on the project site. A consulting tribe is defined as a tribe that initiated the AB-52 tribal consultation process for the project, has not opted out of the AB-52 consultation process, and has completed AB-52 consultation with the City as provided for in Cal Pub Res Code Section 21080.3.2(b)(1) of AB52. Details in the Plan shall include:

    - Project grading and development scheduling;

    - The project archeologist and the Consulting Tribes(s) as defined in this mitigation must attend the pre-grading meeting with the City, the construction manager and any contractors and will conduct a mandatory Cultural Resources Worker Sensitivity Training to those in attendance. The training will include a brief review of the cultural sensitivity of the project and the surrounding area; what resources could potentially be identified during earthmoving activities; the requirements of the monitoring program; the protocols that apply in the event inadvertent discoveries of cultural resources are identified, including who to contact and appropriate avoidance measures until the find(s) can be properly evaluated; and any other appropriate protocols. All new construction personnel that will conduct earthwork or grading activities that begin work on the Project following the initial training must take the Cultural Sensitivity Training prior to beginning work and the project archaeologist and Consulting Tribe(s) shall make themselves available to provide the training on an as-needed basis;

- The protocols and stipulations that the contractor, City, Consulting Tribe(s) and project archaeologist will follow in the event of inadvertent cultural resources discoveries, including any newly discovered cultural resource deposits that shall be subject to a cultural resources evaluation.

- Prior to the issuance of a grading permit, the developer shall secure agreements with the Pechanga Band of Luiseño Indians, the Soboba Band of Luiseño Indians, and the Morongo Band of Mission Indians for tribal monitoring. The developer is also required to provide a minimum of 30 days advance notice to the tribes of all mass grading and trenching activities. The Native American Tribal Representatives shall have the authority to temporarily halt and redirect earth moving activities in the affected area in the event that suspected archaeological resources are unearthed. If the Native American Tribal Representatives suspect that an archaeological resource may have been unearthed, the project archaeologist or the Tribal Representatives shall immediately redirect grading operations in a 100-foot radius around the find to allow identification and evaluation of the suspected resource. In consultation with the Native American Tribal Representatives, the project archaeologist shall evaluate the suspected resource and make a determination of significance pursuant to California Public Resources Code Section 21083.2.

- In the event that Native American cultural resources are discovered during the course of grading (inadvertent discoveries), the following procedures shall be carried out for final disposition of the discoveries:

  - One or more of the following treatments, in order of preference, shall be employed with the tribes. Evidence of such shall be provided to the City of Moreno Valley Planning Department:

    i. Preservation-in-place of the cultural resources, if feasible. Preservation in place means avoiding the resources, leaving them in the place they were found with no development affecting the integrity of the resources.

    ii. Onsite reburial of the discovered items as detailed in the treatment plan required pursuant to the initial mitigation. This shall include measures and provisions to protect the future reburial area from any future impacts in perpetuity. Reburial shall not occur until all legally required cataloging and basic recordation have been completed. No recordation of sacred items is permitted without the written consent of all Consulting Native American Tribal Governments as defined in the first mitigation identified in Section 3.5.2.B.

  - The City shall verify that the following note is included on the Grading Plan: "If any suspected archaeological resources are discovered during ground-disturbing activities and the project archaeologist or Native American Tribal Representatives are not present, the construction supervisor is obligated to halt work in a 100-foot radius around the find and call the project archaeologist and the Tribal Representatives to the site to assess the significance of the find."

- If potential historic or cultural resources are uncovered during excavation or construction activities at the project site, work in the affected area must cease immediately and a qualified person meeting the Secretary of the Interior's standards (36 CFR 61), Tribal Representatives, and all site monitors per the Mitigation Measures, shall be consulted by the City to evaluate the find, and as appropriate recommend alternative measures to avoid, minimize or mitigate negative effects on the historic, or

prehistoric resource. Determinations and recommendations by the consultant shall be immediately submitted to the Planning Division for consideration, and implemented as deemed appropriate by the Community Development Director, in consultation with the State Historic Preservation Officer (SHPO) and any and all Consulting Native American Tribes as defined in previously identified mitigation before any further work commences in the affected area.

- If human remains are discovered, no further disturbance shall occur in the affected area until the County Coroner has made necessary findings as to origin. If the County Coroner determines that the remains are potentially Native American, the California Native American Heritage Commission shall be notified within five-days of the published finding to be given a reasonable opportunity to identify the "most likely descendant". The "most likely descendant" shall then make recommendations, and engage in consultations concerning the treatment of the remains (California Public Resources Code 5097.98). (GP Objective 23.3, CEQA).

Adherence to the aforementioned mitigation will reduce potential impacts to levels that are less than significant.

C. Would the project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature? ● Less than Significant Impact with Mitigation.

The Moreno Valley area contains sedimentary rock-units with potential to contain significant nonrenewable paleontological (fossil) resources. These sedimentary units are referred to as the Mt. Eden Formation and the San Timoteo Formation. The Mt. Eden Formation is described as being primarily reddish sandstone and dark green and brown clay with local reddish agglomerate and conglomerate. The age of the fossils contained in the Formation and the dark reddish brown coloration distinguish the Mt. Eden Formation from the younger, green to gray, tan, and red weathering of the San Timoteo Formation. Fossilized fauna include cricetine rodent, horse, and proboscidean (extinct animals related to elephants). The San Timoteo Formation sediments consist of claytons, siltstones, shales, sandstones, gravels, and fanglomerates. Paleontological sites are abundant within the San Timoteo Formation, with vertebrate faunas (animals) and floras (plants) reported. These sites contain a variety of fossilized fauna including horse, peccary, antelope, camel, deer, mastodon, sloth, tortoise, sabertooth cat, bear, and rabbit. The Mt. Eden Formation and the San Timoteo Formation are known to be highly fossiliferous, and have produced abundant and diverse floral and faunal remains ranging in age from as old as 5 million years to 1.3 million years or less.[46] As a result, the following mitigation is required:

- If previously unidentified paleontological resources are unearthed during construction, work shall cease within 50 feet of the find and the project Applicant must retain a qualified paleontologist, approved by the City, to assess the significance of the find. If a find is determined to be significant, the Lead Agency and the paleontologist will determine appropriate avoidance measures or other appropriate mitigation. All significant fossil materials recovered will be, as necessary and at the discretion of the qualified paleontologist, subject to scientific analysis, professional museum curation, and documentation according to current professional standards.

[46] P and D Consultants. *Final Environmental Impact Report - City of Moreno Valley General Plan SCH# 200091075*. Report dated July 2006.

Adherence to the above-mentioned mitigation will reduce potential impacts to levels that are less than significant.

D. Would the project disturb any human remains, including those interred outside of dedicated cemeteries? ● Less than Significant Impact.

There are no cemeteries located near the Planning Area. The nearest cemetery to the Planning Area is Riverside National Cemetery, located more than four miles to the southwest.[47] In the unlikely event that a human burial is encountered, all construction activities shall be halted and Moreno Valley Police Department will be contacted (the department will then contact the County Coroner). In the event of an accidental discovery, Title 14; Chapter 3; Article 5; Section 15064.5 of CEQA will apply in terms of the identification of significant archaeological resources and their salvage. As a result, the potential impacts are considered to be less than significant.

MITIGATION MEASURES

The following mitigation will be effective in minimizing potential impacts to possible cultural resources:

Mitigation Measure No. 8 (Cultural Resources Impacts). Prior to the issuance of a grading permit, the developer shall retain a professional archaeologist to conduct monitoring of all mass grading and trenching activities. The project archaeologist must have the authority to temporarily redirect earthmoving activities in the event that suspected archaeological resources are unearthed during project construction. The project archaeologist, in consultation with the Consulting Tribe(s), the contractor, and the City, must develop a Cultural Resources Management Plan (CRMP) in consultation pursuant to the definition in AB-52 to address the details, timing, and responsibility of all archaeological and cultural activities that will occur on the project site. A consulting tribe is defined as a tribe that initiated the AB-52 tribal consultation process for the project, has not opted out of the AB-52 consultation process, and has completed AB-52 consultation with the City as provided for in Cal Pub Res Code Section 21080.3.2(b)(1) of AB-52. Details in the Plan shall include:

- Project grading and development scheduling;

- The project archeologist and the Consulting Tribes(s) as defined in this mitigation must attend the pre-grading meeting with the City, the construction manager and any contractors and will conduct a mandatory Cultural Resources Worker Sensitivity Training to those in attendance. The training will include a brief review of the cultural sensitivity of the project and the surrounding area; what resources could potentially be identified during earthmoving activities; the requirements of the monitoring program; the protocols that apply in the event inadvertent discoveries of cultural resources are identified, including who to contact and appropriate avoidance measures until the find(s) can be properly evaluated; and any other appropriate protocols. All new construction personnel that will conduct earthwork or grading activities that begin work on the Project following the initial training must take the Cultural Sensitivity Training prior to beginning work and the project archaeologist and Consulting Tribe(s) shall make themselves available to provide the training on an as-needed basis;

[47] Google Earth. Site accessed August 21, 2017.

- The protocols and stipulations that the contractor, City, Consulting Tribe(s) and project archaeologist will follow in the event of inadvertent cultural resources discoveries, including any newly discovered cultural resource deposits that shall be subject to a cultural resources evaluation.

Mitigation Measure No. 9 (Cultural Resources Impacts). Prior to the issuance of a grading permit, the developer shall secure agreements with the Pechanga Band of Luiseño Indians, the Soboba Band of Luiseño Indians, and the Morongo Band of Mission Indians for tribal monitoring. The developer is also required to provide a minimum of 30 days advance notice to the tribes of all mass grading and trenching activities. The Native American Tribal Representatives shall have the authority to temporarily halt and redirect earth moving activities in the affected area in the event that suspected archaeological resources are unearthed. If the Native American Tribal Representatives suspect that an archaeological resource may have been unearthed, the project archaeologist or the Tribal Representatives shall immediately redirect grading operations in a 100-foot radius around the find to allow identification and evaluation of the suspected resource. In consultation with the Native American Tribal Representatives, the project archaeologist shall evaluate the suspected resource and make a determination of significance pursuant to California Public Resources Code Section 21083.2.

Mitigation Measure No. 10 (Cultural Resources Impacts). In the event that Native American cultural resources are discovered during the course of grading (inadvertent discoveries), the following procedures shall be carried out for final disposition of the discoveries:

- One or more of the following treatments, in order of preference, shall be employed with the tribes. Evidence of such shall be provided to the City of Moreno Valley Planning Department:

    i. Preservation-in-place of the cultural resources, if feasible. Preservation in place means avoiding the resources, leaving them in the place they were found with no development affecting the integrity of the resources.

    ii. Onsite reburial of the discovered items as detailed in the treatment plan required pursuant to the initial mitigation. This shall include measures and provisions to protect the future reburial area from any future impacts in perpetuity. Reburial shall not occur until all legally required cataloging and basic recordation have been completed. No recordation of sacred items is permitted without the written consent of all Consulting Native American Tribal Governments as defined in the first mitigation identified in Section 3.5.2.B.

- The City shall verify that the following note is included on the Grading Plan: "If any suspected archaeological resources are discovered during ground-disturbing activities and the project archaeologist or Native American Tribal Representatives are not present, the construction supervisor is obligated to halt work in a 100-foot radius around the find and call the project archaeologist and the Tribal Representatives to the site to assess the significance of the find."

Mitigation Measure No. 11 (Cultural Resources Impacts). If potential historic or cultural resources are uncovered during excavation or construction activities at the project site, work in the affected area must cease immediately and a qualified person meeting the Secretary of the Interior's standards (36 CFR 61), Tribal Representatives, and all site monitors per the Mitigation Measures, shall be consulted by the City to evaluate the find, and as appropriate recommend alternative measures to avoid, minimize or mitigate

negative effects on the historic, or prehistoric resource. Determinations and recommendations by the consultant shall be immediately submitted to the Planning Division for consideration, and implemented as deemed appropriate by the Community Development Director, in consultation with the State Historic Preservation Officer (SHPO) and any and all Consulting Native American Tribes as defined in previously identified mitigation before any further work commences in the affected area.

Mitigation Measure No. 12 (Cultural Resources Impacts). If human remains are discovered, no further disturbance shall occur in the affected area until the County Coroner has made necessary findings as to origin. If the County Coroner determines that the remains are potentially Native American, the California Native American Heritage Commission shall be notified within five-days of the published finding to be given a reasonable opportunity to identify the "most likely descendant". The "most likely descendant" shall then make recommendations, and engage in consultations concerning the treatment of the remains (California Public Resources Code 5097.98). (GP Objective 23.3, CEQA).

Mitigation Measure No. 13 (Cultural Resources Impacts). If previously unidentified paleontological resources are unearthed during construction, work shall cease within 50 feet of the find and the project Applicant must retain a qualified paleontologist, approved by the City, to assess the significance of the find. If a find is determined to be significant, the Lead Agency and the paleontologist will determine appropriate avoidance measures or other appropriate mitigation. All significant fossil materials recovered will be, as necessary and at the discretion of the qualified paleontologist, subject to scientific analysis, professional museum curation, and documentation according to current professional standards.

3.6 ENERGY

Environmental Issue Areas Examined	Potentially Significant Impact	Less Than Significant Impact With Mitigation	Less Than Significant Impact	No Impact
A. Would the project result in a potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources during project construction or operation?			✖	
B. Would the project conflict with or obstruct a State or local plan for renewable energy or energy efficiency?			✖	

ANALYSIS OF ENVIRONMENTAL IMPACTS

A. *Would the project result in a potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources during project construction or operation? ● Less than Significant Impact.*

This current amendment would expand the Specific Plan Area to include a 9.98-acre property located on the southeast corner of Heacock Street and Ironwood Avenue. This added area will be referred to as the expanded *Planning Area 1*. This Planning Area 1 is currently undeveloped though it has been rough graded and disked for maintenance and fire mitigation. The Specific Plan is being amended to allow for the development of a 220,390 square foot light industrial building. The proposed project is projected to consume 3,035 kWh of electricity and 2,935 cubic feet of natural gas on a daily basis. The project Applicant will be required to closely work with the local electrical utility company to identify existing and future strategies that will be effective in reducing energy consumption. As a result, the impact will be less than significant.

B. *Would the project conflict with or obstruct a state or local plan for renewable energy or energy efficiency? ● Less Than Significant Impact.*

On January 12, 2010, the State Building Standards Commission adopted updates to the California Green Building Standards Code (Code) which became effective on January 1, 2011. The California Code of Regulations (CCR) Title 24, Part 11: California Green Building Standards (Title 24) became effective to aid efforts to reduce GHG emissions associated with energy consumption. Title 24 now requires that new buildings reduce water consumption, employ building commissioning to increase building system efficiencies, divert construction waste from landfills, and install low pollutant-emitting finish materials. The proposed project will be required to conform to all pertinent energy conservation requirements. As a result, the potential impacts will be less than significant.

MITIGATION MEASURES

The analysis determined that the proposed project will not result in significant impacts related to energy and mitigation measures are not required.

3.7 GEOLOGY & SOILS

Environmental Issue Areas Examined	Potentially Significant Impact	Less Than Significant Impact With Mitigation	Less Than Significant Impact	No Impact
A. Would the project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault; strong seismic ground shaking; seismic-related ground failure, including liquefaction; or, landslides?			✖	
B. Would the project result in substantial soil erosion or the loss of topsoil?			✖	
C. Would the project be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?			✖	
D. Would the project be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (2012), creating substantial direct or indirect risks to life or property?			✖	
E. Would the project have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?				✖

ANALYSIS OF ENVIRONMENTAL IMPACTS

A. *Would the project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault; strong seismic ground shaking; seismic-related ground failure, including liquefaction; or, landslides? ● Less than Significant Impact.*

This current amendment would expand the Specific Plan Area to include a 9.98-acre property located on the southeast corner of Heacock Street and Ironwood Avenue. This added area will be referred to as the expanded *Planning Area 1*. This Planning Area 1 is currently undeveloped though it has been rough graded and disked for maintenance and fire mitigation. The Specific Plan is being amended to allow for the development of a 220,390 square foot light industrial building. The City of Moreno Valley is located in a seismically active region. Earthquakes from several active and potentially active faults in the Southern California region could affect the Planning Area. In 1972, the Alquist-Priolo Earthquake Zoning Act was passed in response to the damage sustained in the 1971 San Fernando Earthquake.[48] The Alquist-Priolo Earthquake Fault Zoning Act's main purpose is to prevent the construction of buildings used for human occupancy on the surface trace of active faults.[49] The City of Moreno Valley is located within an Alquist-

[48] California Department of Conservation. *What is the Alquist-Priolo Act* http://www.conservation.ca.gov /cgs/rghm/ap/ Pages/main.aspx

[49] Ibid.

Priolo Special Studies Zone.[50] The nearest Alquist-Priolo fault is the Claremont Fault located five miles to the east.[51] This fault trace is part of the larger San Jacinto Fault Zone.[52] This fault trace is shown in Exhibit 3-5. The potential impacts in regards to ground shaking and fault rupture are less than significant since the risk is no greater in and around the Planning Area than for the rest of the City.

In addition, conformance with the most recent 2016 Building Code standards will ensure all future development can properly withstand ground shaking and fault rupture. As illustrated in Figure 4-1.1 of the Moreno Valley Hazard Mitigation, the Planning Area is not susceptible to liquefaction.[53] According to the United States Geological Survey, liquefaction is the process by which water-saturated sediment temporarily loses strength and acts as a fluid. Essentially, liquefaction is the process by which the ground soil loses strength due to an increase in water pressure following seismic activity. Lastly, the Planning Area is not at risk for landslides and is at no greater risk for ground shaking and fault rupture than the rest of the City. Therefore, the impacts are expected to be less than significant.

B. Would the project expose people or structures to potential substantial adverse effects, including substantial soil erosion or the loss of topsoil? ● Less than Significant Impact.

A review of the United States Department of Agriculture Web Soil Survey was conducted to determine the type of soils that underlie the Planning Area. According to the results of the Web Soil Survey, the Planning Area contains the following soils associations: Greenfield Sandy Loam; Hanford Coarse Sandy Loam; Monserate Sandy Loam; Ramona Sandy Loam; and Tujunga Loamy Sand. The varying soils within the planning area are shown in Exhibit 3-6.

All of the aforementioned soils possess some level of an erosion risk, ranging from slight to moderate. However, construction activities and the placement of "permanent vegetative cover" will reduce the soil's erosion risk.[54] Deep rooting plants will secure loose topsoil as will the pavement of barren earth. In addition, prior to the approval of all project-specific development proposals, detailed geotechnical investigation, and analysis will be prepared and submitted to the City for review. The results of those studies will be incorporated into the detailed plans for each project. As a result, the potential impacts are considered to be less than significant.

[50] California Department of Conservation. Table 4, Cities and Counties Affected by Alquist-Priolo Earthquake Fault Zones as of January 2010.

[51] GIS data provided by the California Department of Conservation

[52] Ibid.

[53] City of Moreno Valley. *Local Hazard Mitigation Plan*. Document updated December 2016.

[54] United States Department of Agriculture. *Soil Survey, West Riverside Area, California*. Report dated November 1971.

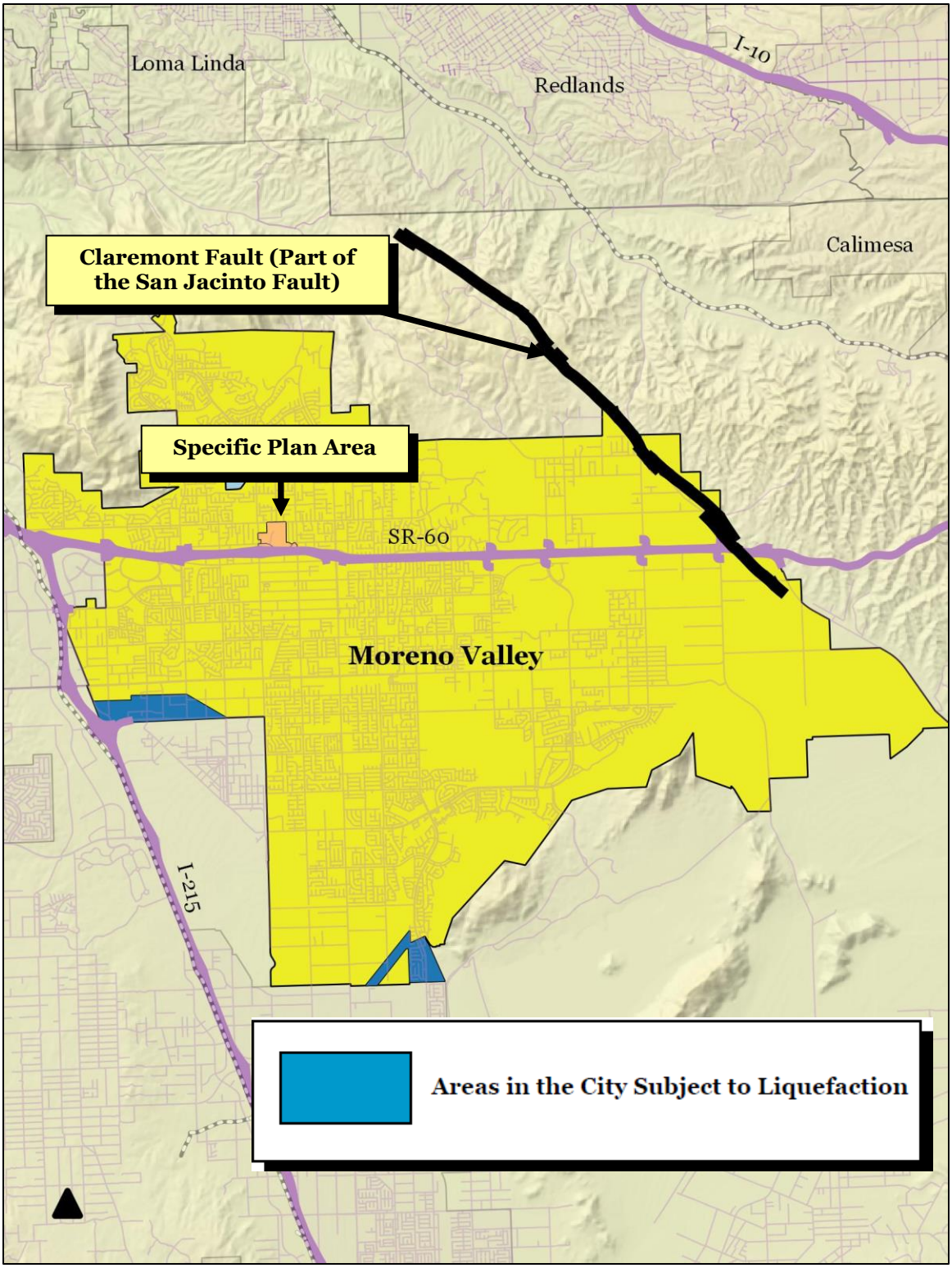


EXHIBIT 3-5
SEISMIC HAZARDS IN THE CITY
Source: California Department of Conservation

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
GyA	Greenfield sandy loam, 0 to 2 percent slopes	7.3	10.0%
GyC2	Greenfield sandy loam, 2 to 8 percent slopes, eroded	10.2	13.9%
GyD2	Greenfield sandy loam, 8 to 15 percent slopes, eroded	10.8	14.8%
HcC	Hanford coarse sandy loam, 2 to 8 percent slopes	22.5	30.8%
MmB	Monserate sandy loam, 0 to 5 percent slopes	2.9	3.9%
RaB2	Ramona sandy loam, 2 to 5 percent slopes, eroded	17.6	24.1%
RaB3	Ramona sandy loam, 0 to 5 percent slopes, severely erod ed	1.8	2.5%
Totals for Area of Interest		**73.1**	**100.0%**

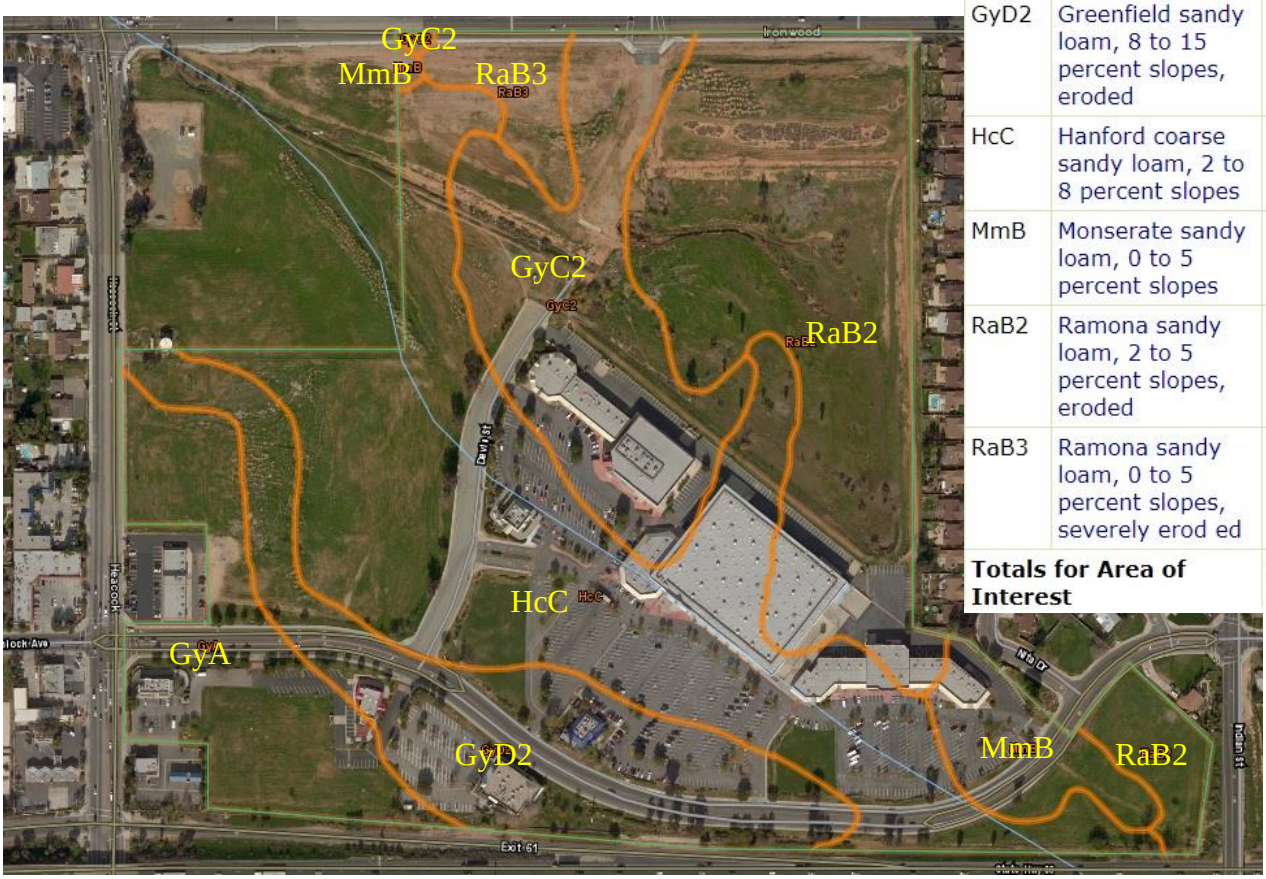


EXHIBIT 3-6
SOILS WITHIN THE PLANNING AREA
Source: Web Soil Survey

C. Would the project expose people or structures to potential substantial adverse effects, including location on a geologic unit or a soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse? ● Less than Significant Impact.

The only soils identified within the Planning Area that are prone to shrinking and swelling are the Monserate soils.[55] Soils that are prone to shrinking and swelling become sticky when wet and expand according to the moisture content present at the time. Monserate soils are located in two specific areas within the Planning Area. These soils become sticky when wet and expand according to the moisture content present at the time. An influx of groundwater may be absorbed by the soils and could lead to lateral spreading, though the impacts are considered to be less than significant since the building will be constructed with the strict adherence to the most pertinent State and City building codes. As indicated above, there are two areas located within the Planning Area that contain soils that are prone to shrinking and swelling. These two areas are also prone to subsidence. Subsidence occurs via soil shrinkage and is triggered by a significant reduction in an underlying groundwater table, thus causing the earth on top to sink.[56] Prior to the approval of all project-specific development proposals, detailed geotechnical investigation and analysis will be prepared and submitted to the City for review.

Grading and other construction activities are not expected to reach the depths required to encounter an underlying groundwater aquifer. In addition, any future development undertaken within the Planning Area will be required to be connected to the City's water lines; therefore, future development will not directly affect underlying groundwater resources. As a result, the potential impacts are anticipated to be less than significant.

D. Would the project result in or expose people to potential impacts, including location on expansive soil, as defined in Uniform Building Code (2010), creating substantial risks to life or property? ● Less than Significant Impact.

The only soils identified within the Planning Area that are prone to shrinking and swelling are the Monserate soils.[57] Shrinking and swelling is influenced by the amount of clay present in the underlying soils.[58] According to the United States Department of Agriculture, clay is present in the composition of Monserate soils.[59] Prior to the approval of all project-specific development proposals, detailed geotechnical investigation, and analysis will be prepared and submitted to the City for review. As a result, the potential impacts are considered to be less than significant.

[55] States Department of Agriculture. *Soil Survey, West Riverside Area, California*. Report dated November 1971.

[56] Subsidence Support. *What Causes House Subsidence?* http://www.subsidencesupport.co.uk/what-causes-subsidence.htm

[57] United States Department of Agriculture. *Soil Survey, West Riverside Area, California*. Report dated November 1971.

[58] Natural Resources Conservation Service Arizona. *Soil Properties Shrink/Swell Potential.* *http://www.nrcs.usda.gov/wps/portal/nrcs /detailfull/az/soils/?cid=nrcs144p2_065083*

[59] United States Department of Agriculture Soil Conservation Service. *Report and General Soil Map Riverside County, California*. Revised 1969.

E. Would the project result in or expose people to potential impacts, including soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater? ● No Impact.

No septic tanks will be used as part of any future development. As a result, no impacts associated with the use of septic tanks will occur as part of the proposed project's implementation.

MITIGATION MEASURES

The adoption and subsequent implementation of the Moreno Valley Festival Specific Plan will not lead to any impacts not already identified in the certified EIR that was prepared for the City of Moreno Valley General Plan. As a result, no additional mitigation beyond that which may be required for individual development projects is required.

3.8 GREENHOUSE GAS EMISSIONS

Environmental Issue Areas Examined	Potentially Significant Impact	Less Than Significant Impact With Mitigation	Less Than Significant Impact	No Impact
A. Would the project generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?			✖	
B. Would the project conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases?			✖	

ENVIRONMENTAL ANALYSIS

A. Would the project generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment? ● Less than Significant Impact.

This current amendment would expand the Specific Plan Area to include a 9.98-acre property located on the southeast corner of Heacock Street and Ironwood Avenue. This added area will be referred to as the expanded *Planning Area 1*. This Planning Area 1 is currently undeveloped though it has been rough graded and disked for maintenance and fire mitigation. The Specific Plan is being amended to allow for the development of a 220,390 square foot light industrial building. The State of California requires CEQA documents to include an evaluation of greenhouse gas (GHG) emissions or gases that trap heat in the atmosphere. GHG are emitted by both natural processes and human activities. Examples of GHG that are produced both by natural processes and human activities include carbon dioxide (CO_2), methane (CH_4), and nitrous oxide (N_2O). The accumulation of GHG in the atmosphere regulates the earth's temperature. Without these natural GHG, the Earth's surface would be about 61°F cooler. However, emissions from fossil fuel combustion have elevated the concentrations of GHG in the atmosphere to above natural levels. These man-made GHG will have the effect of warming atmospheric temperatures with the attendant impacts of changes in the global climate, increased sea levels, and changes to the worldwide biome. They major GHG that influence global warming are described below.

- *Water Vapor*. Water vapor is the most abundant GHG present in the atmosphere. While water vapor is not considered a pollutant, while it remains in the atmosphere it maintains a climate necessary for life. Changes in the atmospheric concentration of water vapor is directly related to the warming of the atmosphere rather than a direct result of industrialization. As the temperature of the atmosphere rises, more water is evaporated from ground storage (rivers, oceans, reservoirs, soil). Because the air is warmer, the relative humidity can be higher (in essence, the air is able to "hold" more water when it is warmer), leading to more water vapor in the atmosphere. As a GHG, the higher concentration of water vapor is then able to absorb more thermal indirect energy radiated from the Earth, thus further warming the atmosphere. When water vapor increases in the atmosphere, more of it will eventually also condense into clouds, which are more able to reflect incoming solar radiation. This will allow less energy to reach the Earth's surface thereby affecting surface temperatures.

- *Carbon Dioxide (CO2).* The natural production and absorption of CO2 is achieved through the terrestrial biosphere and the ocean. Manmade sources of CO2 include the burning coal, oil, natural gas, and wood. Since the industrial revolution began in the mid-1700's, these activities have increased the atmospheric concentrations of CO2. Prior to the industrial revolution, concentrations were fairly stable at 280 parts per million (ppm). The International Panel on Climate Change (IPCC Fifth Assessment Report, 2014) Emissions of CO2 from fossil fuel combustion and industrial processes contributed about 78% of the total GHG emissions increase from 1970 to 2010, with a similar percentage contribution for the increase during the period 2000 to 2010.

- *Methane (CH4).* CH4 is an extremely effective absorber of radiation, although its atmospheric concentration is less than that of CO2. Methane's lifetime in the atmosphere is brief (10 to 12 years), compared to some other GHGs (such as CO2, N2O, and Chlorofluorocarbons (CFCs). CH4 has both natural and anthropogenic sources. It is released as part of the biological processes in low oxygen environments, such as in swamplands or in rice production (at the roots of the plants). Over the last 50 years, human activities such as growing rice, raising cattle, using natural gas, and mining coal have added to the atmospheric concentration of methane. Other human-related sources of methane production include fossil-fuel combustion and biomass burning.

- *Nitrous Oxide (N2O).* Concentrations of N2O also began to increase at the beginning of the industrial revolution. In 1998, the global concentration of this GHG was documented at 314 parts per billion (ppb). N2O is produced by microbial processes in soil and water, including those reactions which occur in fertilizer containing nitrogen. In addition to agricultural sources, some industrial processes (fossil fuel-fired power plants, nylon production, nitric acid production, and vehicle emissions) also contribute to its atmospheric load. It is also commonly used as an aerosol spray propellant.

- *Chlorofluorocarbons (CFC).* CFCs are gases formed synthetically by replacing all hydrogen atoms in methane or ethane (C2H6) with chlorine and/or fluorine atoms. CFCs are nontoxic, nonflammable, insoluble, and chemically unreactive in the troposphere (the level of air at the Earth's surface). CFCs have no natural source but were first synthesized in 1928. It was used for refrigerants, aerosol propellants, and cleaning solvents. Due to the discovery that they are able to destroy stratospheric ozone, a global effort to halt their production was undertaken and in 1989 the European Community agreed to ban CFCs by 2000 and subsequent treaties banned CFCs worldwide by 2010. This effort was extremely successful, and the levels of the major CFCs are now remaining level or declining. However, their long atmospheric lifetimes mean that some of the CFCs will remain in the atmosphere for over 100 years.

- *Hydrofluorocarbons (HFC).* HFCs are synthetic man-made chemicals that are used as a substitute for CFCs. Out of all the GHGs, they are one of three groups with the highest global warming potential. The HFCs with the largest measured atmospheric abundances are (in order), HFC-23 (CHF3), HFC-134a (CF3CH2F), and HFC-152a (CH3CHF2). Prior to 1990, the only significant emissions were HFC-23. HFC-134a use is increasing due to its use as a refrigerant. Concentrations of HFC-23 and HFC-134a in the atmosphere are now about 10 parts per trillion (ppt) each. Concentrations of HFC-152a are about 1 ppt. HFCs are manmade and used for applications such as automobile air conditioners and refrigerants.

- *Perfluorocarbons (PFC).* PFCs have stable molecular structures and do not break down through the chemical processes in the lower atmosphere. High-energy ultraviolet rays about 60 kilometers above Earth's surface are able to destroy the compounds. Because of this, PFCs have very long lifetimes, between 10,000 and 50,000 years. Two common PFCs are tetrafluoromethane (CF4) and hexafluoroethane (C2F6). Concentrations of CF4 in the atmosphere are over 70 ppt. The two main sources of PFCs are primary aluminum production and semiconductor manufacturing.

- *Sulfur Hexafluoride (SF6).* SF6 is an inorganic, odorless, colorless, nontoxic, nonflammable gas. SF6 has the highest global warming potential of any gas evaluated; 23,900 times that of CO2. Concentrations in the 1990s were about 4 ppt. Sulfur hexafluoride is used for insulation in electric power transmission and distribution equipment, in the magnesium industry, in semiconductor manufacturing, and as a tracer gas for leak detection.

The SCAQMD has established a threshold of significance of 10,000 metric tons of CO_2E ($MTCO_2E$) per year for new development. Table 3-3 summarizes annual greenhouse gas emissions from build-out of the proposed project. As indicated in Table 3-3, the CO_2E total for the project is 29,636 pounds per day or 13 $MTCO_2E$ per day. This translates into a generation of approximately 4,745 $MTCO_2E$ per year, which is below the single established threshold of 10,000 $MTCO_2E$ for new development. The project's operational GHG emissions were calculated using the CalEEMod V.2016.3.2. The GHG emissions estimates reflect what the land uses that have been identified previously of the same location and description would generate once fully operational. The type of activities that may be undertaken once the project is operational have been predicted and accounted for in the model for the selected land use type.

Table 3-3
Greenhouse Gas Emissions Inventory

Source	GHG Emissions (Lbs/Day)			
	CO_2	CH_4	N_2O	CO_2E
Area	0.14	--	--	0.15
Energy	625.06	0.01	0.01	628.78
Mobile	28,964.17	1.74	--	29,007.90
Long-Term - Total	**29,589.38**	**1.76**	**0.01**	**29,636.84**

Source: CalEEMod.V.2016.3.2

Once operational, the development contemplated under the Specific Plan amendment is projected to fall below the 10,000 MTCO2E per year threshold established for GHG emissions by the SCAQMD. The project's true emissions may be lower if future development that is proposed is smaller than the maximum case build-out. The Moreno Valley Festival Specific will promote in-fill development that will reduce overall VMT. In addition, mitigation measures are provided in the following subsection which will further reduce GHG emissions. Therefore, the potential impacts in regards to GHG emissions are considered to be less than significant.

B. Would the project conflict an applicable plan, policy, or regulation adopted for the purpose of reducing emissions of greenhouse gases? ● Less than Significant Impact.

AB 32 requires the reduction of GHG emissions to 1990 levels, which would require a minimum 28 percent reduction in "business as usual" GHG emissions for the entire State. Additionally, Governor Edmund G. Brown signed into law Executive Order (E.O.) B-30-15 on April 29, 2015, the Country's most ambitious policy for reducing Greenhouse Gas Emissions. Executive Order B-30-15 calls for a 40 percent reduction in

greenhouse gas emissions below 1990 levels by 2030.[60] On October 9, 2012, the Moreno Valley City Council approved the Energy Efficiency and Climate Action Strategy and the related Greenhouse Gas Analysis. The Strategy and Analysis documents and identifies potential programs and policies to reduce overall City energy consumption and increase the use of renewable energy. The Strategy also prioritizes implementation of programs, policies, and projects based upon energy efficiency, cost efficiency, and potential resources. The Greenhouse Gas Analysis provides a more scientific approach and recommends a target to reducing community-wide GHG emissions consistent with the State reduction goals in Assembly Bill (AB) 32, the legislation that provides the basis of the State's climate action initiatives. The Energy Efficiency and Climate Action Strategy contain 124 different strategies that would reduce the City's carbon footprint. In addition, the General Plan includes the following:

- *Chapter 5, Transportation Demand Management 5.3.5*. Transportation Demand Management (TDM) strategies reduce dependence on the single occupant vehicle, and increase the ability of the existing transportation system to carry more people. The goal of TDM is to reduce single occupant vehicle trips during peak hours and modify the vehicular demand for travel. A reduction in peak hour trips and a decrease in non-attainment pollutants can be achieved through the implementation of TDM strategies. Examples of the strategies include: carpooling, telecommuting, flexible work hours, and electronic commerce that enables people to work and shop from home.

- *Policy 6.7.6*. Require building construction to comply with the energy conservation requirements of Title 24 of the California Administrative Code.

- *Policy 7-3*. Maintain a close working relationship with EMWD to ensure that EMWD plans for and is aware of opportunities to use reclaimed water in the City.

- *Policy 7.3.1*. Require water conserving landscape and irrigation systems through development review. Minimize the use of lawn within private developments, and within parkway areas. The use of mulch and native and drought tolerant landscaping shall be encouraged.

- *Policy 7.3.2*. Encourage the use of reclaimed wastewater, stored rainwater, or other legally acceptable non-potable water supply for irrigation.

- *Policy 7-4*. Provide guidelines for preferred planting schemes and specific species to encourage aesthetically pleasing landscape statements that minimize water use.

- *Policy 7.5.1*. Encourage building, site design, and landscaping techniques that provide passive heating and cooling to reduce energy demand.

- *Policy 7.5.2*. Encourage energy efficient modes of transportation and fixed facilities, including transit, bicycle, equestrian, and pedestrian transportation. Emphasize fuel efficiency in the acquisition and use of City-owned vehicles.

- *Policy 7.5.3*. Locate areas planned for commercial, industrial, and multiple family density residential development within areas of high transit potential and access.

[60] Office of Governor Edmund G. Brown Jr. *New California Goal Aims to Reduce Emissions 40 Percent Below 1990 Levels by 2030.* http://gov.ca.gov/news.php?id=18938

- *Policy 7.5.4*. Encourage efficient energy usage in all city public buildings.

- *Policy 7.5.5*. Encourage the use of solar power and other renewable energy systems.

- *Chapter 7 Issues and Opportunities 7.6.2*. The amount of energy consumed in automobile travel can be reduced if commercial and recreational opportunities are located near residential uses. Commuter travel can be minimized if there is a reasonable balance between jobs and housing within the area. Placing high intensity uses along transit corridors can also reduce automobile travel. Reducing residential street width can affect microclimates and reduce the summer cooling needs of adjacent homes. The orientation of buildings can be arranged to affect the amount of heat gain. Shade trees can also cool microclimates and aid in energy conservation. Building construction options are available to reduce energy consumption. Building construction methods include, but are not limited to, insulation of walls and ceilings, insulated windows and solar water heating systems. Many building energy conservation measures have been incorporated into Title 24 of the California Administrative Code and are required of all residential structures.

- *Policy 7.8.1*. Encourage recycling projects by individuals, non-profit organizations, corporations and local businesses, as well as programs sponsored through government agencies.

According to the Specific Plan, construction of the Moreno Valley Festival will be in conformance with California's "Cal-Green" building regulations, the most stringent, environmentally-friendly building code in the United States. Cal-Green is a comprehensive, far-reaching set of regulations which mandate environmentally-advanced building practices and regulations designed to conserve natural resources and reduce greenhouse gas emissions, energy consumption, and water use. The project will incorporate sustainable design features to further reduce its environmental footprint, including but not limited to:

- Reduced water use for landscape irrigation;
- Accommodate the use of alternative means of transportation;
- Use recycled building materials to the extent feasible;
- Use local sources of building materials to the extent feasible; and,
- Minimize the use of impervious paved surfaces throughout the project.[61]

In order to further ensure the project's conformance with the General Plan and the Energy Efficiency and Climate Action Strategy, the following mitigation measures are required:

- The Applicant must install ENERGY STAR appliances wherever appliances are installed.

- The Applicant shall install ENERGY STAR rated light emitting diodes (LEDs) for traffic, street, and outdoor lighting.

- The Applicant must install ENERGY STAR rated Compact Florescent Lights (CFLs) in all indoor areas that require continuous lighting. CFLs should not be used in rooms or areas that are subject to frequent on/off cycling, as the lifespan of CFLs diminishes when there are frequently turned off.

- The Applicant must install light colored "cool" roofs.

[61] National Engineering Consultants. *Amendment to Specific Plan 205*. Draft dated December 29th, 2015.

- The Applicant must install "cool" (lighter colored) pavement throughout the parking areas.
- All landscape planted on-site must be watered by water dispensed through drip irrigation.
- The building contractors shall install bicycle racks consistent with the City's Municipal Code adjacent to each building.
- The building contractors shall install electric vehicle charging stations in the parking areas. Preferential parking spaces for electric vehicles must be provided.

These mitigation measures shall be required for individual projects proposed within the Planning Area. As a result, the potential impacts are considered to be less than significant.

MITIGATION MEASURES

The following mitigation is required to further reduce future projects greenhouse gas emissions impacts:

Mitigation Measure No. 14 (Greenhouse Gases Emissions Impacts). The Applicant must install ENERGY STAR appliances wherever appliances are installed.

Mitigation Measure No. 15 (Greenhouse Gases Emissions Impacts). The Applicant shall install ENERGY STAR rated light emitting diodes (LEDs) for traffic, street, and outdoor lighting.

Mitigation Measure No. 16 (Greenhouse Gases Emissions Impacts). The Applicant must install ENERGY STAR rated Compact Florescent Lights (CFLs) in all indoor areas that require continuous lighting. CFLs should not be used in rooms or areas that are subject to frequent on/off cycling, as the lifespan of CFLs diminishes when there are frequently turned off.

Mitigation Measure No. 17 (Greenhouse Gases Emissions Impacts). The Applicant must install light colored "cool" roofs.

Mitigation Measure No. 18 (Greenhouse Gases Emissions Impacts). The Applicant must install "cool" pavement (lighter colored) throughout the parking areas.

Mitigation Measure No. 19 (Greenhouse Gases Emissions Impacts). All landscape planted on-site must be watered by water dispensed through drip irrigation.

Mitigation Measure No. 20 (Greenhouse Gases Emissions Impacts). The building contractors shall install bicycle racks consistent with the City's Municipal Code adjacent to each building.

Mitigation Measure No. 21 (Greenhouse Gases Emissions Impacts). The building contractors shall install electric vehicle charging stations in the parking areas. Preferential parking spaces for electric vehicles must be provided.

3.9 HAZARDS & HAZARDOUS MATERIALS

Environmental Issue Areas Examined	Potentially Significant Impact	Less Than Significant Impact With Mitigation	Less Than Significant Impact	No Impact
A. Would the project create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?			✖	
B. Would the project create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?			✖	
C. Would the project emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?			✖	
D. Would the project be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?				✖
E. Would the project for a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?				✖
F. Would the project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?				✖
G. Would the project expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires?				✖

ANALYSIS OF ENVIRONMENTAL IMPACTS

A. Would the project create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials? ● Less than Significant Impact.

This current amendment would expand the Specific Plan Area to include a 9.98-acre property located on the southeast corner of Heacock Street and Ironwood Avenue. This added area will be referred to as the expanded *Planning Area 1*. This Planning Area 1 is currently undeveloped though it has been rough graded and disked for maintenance and fire mitigation. The Specific Plan is being amended to allow for the development of a 220,390 square foot light industrial building. The project area is not listed on the California Department of Toxic Substances Control's Hazardous Waste and Substances Site database.[62] Furthermore, none of the properties located within the Planning Area are identified on the California Department of Toxic Substances Control's EnviroStor database.[63] In addition, the Planning Area is not identified on any Leaking Underground Storage Tank database (LUST). The United States Environmental

[62] CalEPA. *Cortese List Data Resources*. http://www.calepa.ca.gov/sitecleanup/corteselist/

[63] CalEPA. *EnviroStor Database*. http://www.envirostor.dtsc.ca.gov/public/mapfull.asp?global_id=&x=-119&y=37&zl=18&ms=640,480&mt=m&findaddress=True&city=south%20gate&zip=&county=&federal_superfund=true&state_response=true&voluntary_cleanup=true&school_cleanup=true&ca_site=true&tiered_permit=true&evaluation=true&military_evaluation=true&school_investigation=true&operating=true&post_closure=true&non_operating=true

Protection Agency's multi-system search was consulted to determine whether the Planning Area is identified on any Federal Brownfield list; Federal Comprehensive Environmental Response, Compensation and Liability Information System (CERCLIS) List; Federal Resource Conservation and Recovery Act (RCRA) Treatment, Storage, and Disposal (TSD) Facilities List; and/or Federal RCRA Generators List. There is one use located within the Planning Area that is identified in the database. This use is located at 24318 Hemlock Avenue Suite G3 and is identified as M and M Cleaners, a former dry cleaning service.[64] M and M Cleaners is listed as a small quantity generator which is typical for dry cleaning services. These uses are required to report to the EPA due to their use, storage, and disposal of hazardous materials such as the solvents used to clean clothing. While no contamination is known to exist onsite, in the event any unknown contamination is encountered during the demolition, grading, and/or site preparation activities, this contamination must also be removed and disposed of in accordance with applicable laws before the City issues any building permit. The mandatory cleanup of potential contamination is considered beneficial since removal of contaminated soils and or the control of possible vapor release is required prior to the start of construction activities. As a result, the potential impacts related to the project's construction are considered to be less than significant.

Once operational, the use of hazardous materials for the new development promoted by the Specific Plan Amendment will largely consist of those commonly found in a commercial setting used in routine maintenance and cleaning. All future tenants will need to comply with all Federal and State regulations regarding hazardous materials. Therefore, the potential construction and operational impacts are considered to be less than significant.

B. *Would the project create a significant hazard to the public or the environment, or result in reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment? ● Less than Significant Impact.*

The proposed Specific Plan Amendment will permit a variety of retail, retail/mix of uses, and mix of uses. Many of these uses, including the business park, are still speculative. In the event that a future tenant is involved in the transport, use, storage, and disposal of hazardous materials, the tenant will be required to comply with Federal and State regulations regarding hazardous materials. The tenant would also be required to comply with the EPA's Hazardous Materials Transportation Act, Title 42, Section 11022 of the United States Code and Chapter 6.95 of the California Health and Safety Code which requires the reporting of hazardous materials when used or stored in certain quantities. Furthermore, the future tenant will be required to file a Hazardous Materials Disclosure Plan and a Business Emergency Plan to ensure the safety of the employees and citizens of Moreno Valley. Any contamination encountered during the demolition, grading, and/or site preparation activities must also be removed and disposed of in accordance with applicable laws before the City issues any building permit. As a result, the potential impacts are anticipated to be less than significant.

C. *Would the project emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school? ● Less than Significant Impact.*

[64] United States Environmental Protection Agency. *Environfacts Search Results*. https://oaspub.epa.gov/enviro/multisys2_v2.get_list?facility_uin=110006482573

The Planning Area is not located within a quarter mile of an existing school. The nearest school is Honey Hollow Elementary School, which is located 0.72 miles to the northwest.[65] In the event that a future tenant is involved in the transport, use, storage, and disposal of hazardous materials, the tenant will be required to comply with Federal and State regulations regarding hazardous materials. The tenant would also be required to comply with the EPA's Hazardous Materials Transportation Act, Title 42, Section 11022 of the United States Code and Chapter 6.95 of the California Health and Safety Code which requires the reporting of hazardous materials when used or stored in certain quantities. Furthermore, future tenants will be required to file a Hazardous Materials Disclosure Plan and a Business Emergency Plan to ensure the safety of the employees and citizens of Moreno Valley. Therefore, adherence to all pertinent regulations governing the handling of hazardous materials will reduce potential impacts to levels that are less than significant.

D. Would the project be located on a site, which is included on a list of hazardous material sites compiled pursuant to Government Code Section 65962.5, and, as a result, would it create a significant hazard to the public or the environment? ● No Impact.

The *Cortese List*, also referred to as the Hazardous Waste and Substances Sites List or the California Superfund List, is a planning document used by the State and other local agencies to comply with CEQA requirements that require the provision of information regarding the location of hazardous materials release sites. California Government Code section 65962.5 requires the California Environmental Protection Agency to develop and update the Cortese List on an annual basis. The list is maintained as part of the DTSC's Brownfields and Environmental Restoration Program referred to as EnviroStor. The database currently contains 575 sites, including the Federal Superfund sites. The database was consulted in August of 2017. A search of the Envirostor Hazardous Waste and Substances Site List website was completed to identify whether the Planning Area is listed in the database as a Cortese site.[66] The Planning Area is not included on a hazardous sites list compiled pursuant to California Government Code Section 65962.5.[67] As a result, no impacts will result.

E. Would the project be located within an airport land use plan, or where such a plan has not been adopted, within two miles of a public airport or a public use airport, would the project result in a safety hazard for people residing or working in the Planning Area? ● No Impact.

The Planning Area is not located within two miles of an operational public airport. The March Air Reserve Base is the closest airport to the Planning Area. This airport is located 2.90 miles southwest of the Planning Area. In addition, the Riverside Municipal Airport is located in the City of Riverside approximately 12 miles to the west of the Planning Area. The Planning Area is not located within the Runway Protection Zone (RPZ) for the March Air Reserve Base, and the development envisioned under the Specific Plan will not penetrate the airport's slope. Essentially, the adoption and implementation of the Specific Plan will not introduce a building that will interfere with the approach and take off of airplanes utilizing the aforementioned airport. According to the Land Use Compatibility Plan that was prepared for the March Air

[65] Google Earth. Website accessed August 23, 2017.

[66] California, State of. California Department of Toxic Substances Control Envirostor Hazardous Waste and Substances Site List. http://www.envirostor.dtsc.ca.gov/public/search.asp (Website accessed August 22, 2017).

[67] California, State of, Department of Toxic Substances Control, *DTSC's Hazardous Waste and Substances Site List - Site Cleanup (Cortese List),* 2009.

Reserve Base, the planning area is not located within the RPZ or FAR Part 77 height restriction zone and no impacts will occur.[68]

F. Would the project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan? ● No Impact.

Future development proposals will be reviewed by the City to identify specific provisions for the regulation of construction vehicle ingress and egress to the site during construction as a means to provide continued through-access. As a result, no impacts are associated with the proposed project's implementation.

G. Would the project expose people or structures to a significant risk of loss, injury, or death involving wild lands fire, including where wild lands are adjacent to urbanized areas or where residences are intermixed with wild lands? ● No Impact.

The City of Moreno Valley is subject to both wild lands and urban fires. The natural vegetation in the area is highly prone to fire. The vegetation and geographical landscape consists of rolling hills covered in annual grasses with sage brush with no tree top canopy. The vegetation typically comes on an annual basis from annual rains which occur between the months of January and March.[69] Within the City of Moreno Valley, wildfire poses a threat to the northern and eastern portions of the city, as those areas are within the high fire hazard area. Also, the southeast area contains the largest potential for state land threat, Lake Perris, which is a California State Park that falls under the direct protection of the City of Moreno Valley for structure and wildland protection. Other areas of concern include Box Springs (northwest area), San Timoteo Canyon (north), and Reche Canyon (northeast area). The Planning Area is located outside of a wild lands fire risk zone. Therefore, no impacts will result.

MITIGATION MEASURES

The adoption and subsequent implementation of the Moreno Valley Festival Specific Plan will not lead to any potentially significant impacts in regards to hazards or hazardous materials. Any future industrial tenant will be required to adhere to all pertinent Federal and State regulations governing the handling and use of hazardous materials. As a result, no additional mitigation beyond that which may be required for individual development projects is required.

[68] Riverside County Airport Land Use Commission. *Riverside Municipal Airport Land Use Compatibility Plan*. Adopted March 2005.

[69] City of Moreno Valley. *Local Hazard Mitigation Plan*. Document updated December 2016.

3.10 HYDROLOGY & WATER QUALITY

Environmental Issue Areas Examined	Potentially Significant Impact	Less Than Significant Impact With Mitigation	Less Than Significant Impact	No Impact
A. Would the project violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality?			✖	
B. Would the project substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?				✖
C. Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would result in substantial erosion or siltation on- or off-site; substantially increase the rate or amount of surface runoff in a manner in which would result in flooding on- or off-site; create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or, impede or redirect flood flows?				✖
D. In flood hazard, tsunami, or seiche zones, would the project risk release of pollutants due to project inundation?				✖
E. Would the project conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?			✖	

ANALYSIS OF ENVIRONMENTAL IMPACTS

A. Would the project violate any water quality standards or waste discharge requirements? ● Less than Significant Impact.

This current amendment would expand the Specific Plan Area to include a 9.98-acre property located on the southeast corner of Heacock Street and Ironwood Avenue. This added area will be referred to as the expanded *Planning Area 1*. This Planning Area 1 is currently undeveloped though it has been rough graded and disked for maintenance and fire mitigation. The Specific Plan is being amended to allow for the development of a 220,390 square foot light industrial building. Most developments are required to implement a Water Quality Management Plan (WQMP) in accordance with the NPDES Permit Board Order R8-2010-0033. The WQMP for the Santa Ana Region of Riverside County was approved by the Santa Ana Region Water Quality Control Board on October 22, 2012. Projects identified as a 'Priority Development project' are required to prepare a Project-Specific WQMP. The MS4 Permit mandates a Low Impact Development (LID) approach to storm water treatment and management of runoff discharges. The project site should be designed to minimize imperviousness, detain runoff, and infiltrate, reuse or evapotranspirate runoff where feasible. LID Best Management Practices (BMPs) should be used to infiltrate, evapotranspirate, harvest, and use, or treat runoff from impervious surfaces, in accordance with the Design Handbook for Low Impact Development Practices. The project should also ensure that runoff does not create a hydrologic condition of concern. Site design BMPs are intended to create a functional project

design that attempts to mimic the natural hydrologic regime. Methods of accomplishing the site design concepts include:

- Maximize the permeable area;
- Incorporate landscape buffer areas between sidewalks and streets;
- Use natural drainage systems;
- Where soil and conditions are suitable, use perforated pipe or gravel filtration pits for low flow infiltration;
- Construct ponding areas or detention facilities to increase opportunities for infiltration consistent with vector control objectives;
- Sites must be designed to contain and infiltrate roof runoff, or direct roof runoff to vegetative swales or buffer areas, where feasible;
- Where landscaping is proposed, drain impervious sidewalks, walkways, trails, and patios into adjacent landscaping;
- Increase the use of vegetated drainage swales in lieu of underground piping or imperviously lined swales;
- Parking areas may be paved with a permeable surface, or designed to drain into landscaping prior to discharging to the MS4; and,
- Where landscaping is proposed in parking areas, incorporate landscape areas into the drainage design.

Source control BMPs would also be required to be implemented as part of the Final WQMP. Source control BMPs are those measures which can be taken to eliminate the presence of pollutants through prevention. Such measures can be both non-structural and structural. Non-structural source control BMPs include: education for property owners, operators, tenants, occupants, or employees; activity restrictions; irrigation system and landscape maintenance; common area litter control; street sweeping private streets and parking lots; and drainage facility inspection and maintenance. Structural source control BMPs include: stenciling and signage; landscape and irrigation system design; protection of slopes and channels; and properly designing fueling areas, trash storage areas, loading docks, and outdoor material storage areas.

The treatment control BMP strategy for the project is to select Low Impact Development (LID) BMPs that promote infiltration and evapo-transpiration, including infiltration basins, bio detention facilities, and extended detention basins. Generally infiltration BMPs have advantages over other types of BMPs, including reduction of the volume and rate of runoff, as well as full treatment of all potential pollutants potentially contained in the storm water runoff. It is recognized however that infiltration may not be feasible on sites with low infiltration rates, or located on compacted engineered fill. Therefore, prior to final design, infiltration tests shall be performed within the boundaries of the proposed infiltration BMP to confirm the suitability of infiltration. In situations where infiltration BMPs are not appropriate, bio

detention and/or bio treatment BMPs (including extended detention basins, bio swales, and constructed wetlands) that provide opportunity for evapotranspiration and incidental infiltration will be considered. Harvest and use BMPs will also be considered as a Treatment Control BMP to store runoff for later non-potable uses. Ponds may be used to collect storm water runoff for harvest and use. A description of the aforementioned treatment control BMPs is provided below:

- *Infiltration Basins*. An infiltration basin is a flat earthen basin designed to capture the design capture volume. The storm water infiltrates through the bottom of the basin into the underlying soil over a 72-hour drawdown period. Flows exceeding the design capture volume must discharge to a downstream conveyance system. Infiltration basins are highly effective in removing all targeted pollutants from storm water runoff. The use of infiltration basins may be restricted by concerns over groundwater contamination, soil permeability, and clogging at the site. Where this BMP is being used, the soil beneath the basin must be thoroughly evaluated in a geotechnical report since the underlying soils are critical to the basin's long term performance. To protect the basin from erosion, the sides and bottom of the basin must be vegetated, preferably with native or low water use plant species.

- *Bio detention Facility*. Bio detention facilities are shallow, vegetated basins underlain by an engineered soil media. In most cases, the bottom of a bio detention facility is unlined, which also provides an opportunity for infiltration to the extent that the underlying onsite soil can accommodate it. When the infiltration rate of the underlying soil is exceeded, fully bio treated flows are discharged via underdrains. Bio detention facilities therefore will inherently achieve the maximum feasible level of infiltration and evapotranspiration and achieve the minimum feasible (but highly bio treated) discharge to the storm drain system.

- *Extended Detention Basin*. The extended detention basin is designed to detain the design volume of storm water and maximize opportunities for volume losses through infiltration, evaporation, evapotranspiration, and surface wetting. Additional pollutant removal is provided through sedimentation, in which pollutants can attach to sediment accumulated in the basin through the process of settling. Storm water enters the basin through a forebay where any trash, debris, and sediment accumulate for easy removal. Flows from the forebay enter the top stage of the basin which is vegetated with native grasses and interspersed with gravel-filled trenches which together enhance evapotranspiration and infiltration. Water that does not get infiltrated or evapotranspired is conveyed to the bottom stage of the basin. At the bottom stage of the basin, low or incidental dry weather flows will be treated through a media filter and collected in a sub drain structure. Any additional flows will be detained in the basin for an extended period by incorporating an outlet structure that is more restrictive than a traditional detention basin outlet. The restrictive outlet extends the drawdown time of the basin which further allows particles and associated pollutants to settle out before exiting the basin, while maximizing opportunities for additional incidental value losses.

Adherence to the site design concepts, source control BMP, and treatment control BMP recommendations outlined above will reduce potential impacts to levels that are less than significant.

B. Would the project substantially deplete groundwater supplies or interfere substantially with groundwater recharge in such a way that would cause a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of a pre-existing nearby well would drop to a level which would not support existing land uses or planned uses for which permits have been granted)? ● No Impact.

The majority of the City is situated within the Perris North Groundwater Basin, while the easternmost portion of the City is located within the San Jacinto Groundwater Basin. Groundwater depth ranges from approximately 100 feet to 150 feet below ground surface. The California State Department of Water Resources (DWR) has estimated the groundwater basins in the vicinity of the City to have capacity for approximately one million acre-feet of water. The adoption and subsequent implementation of the Specific Plan will not introduce any development that will affect underlying groundwater supplies. As indicated previously, groundwater depth ranges from 100 to 150 feet below ground surface. Grading and other construction related activities will not extend to depths where groundwater may be encountered. In addition, any new development will be connected to the City's water lines and is not anticipated to deplete groundwater supplies through the direct consumption of the water. The Specific Plan calls for the installation of xeriscape landscaping and water efficient appliances to reduce the burden placed on the City's water resources. Future water consumption will be limited to that used for landscaping, restroom use, and routine maintenance and cleaning. Adherence to the required BMPs identified in the Specific Plan will restrict the discharge of contaminated runoff into the local groundwater aquifers. As a result, no impacts are anticipated.

C. Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would result in substantial erosion or siltation on- or off-site; substantially increase the rate or amount of surface runoff in a manner in which would result in flooding on- or off-site; create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or, impede or redirect flood flows? ● No Impact.

The larger Specific Plan Planning Area contains a 12.9-acre detention basin. This detention basin is located north of Planning Area 4 and south of Planning Area 2. The basin would fall under the jurisdiction of the California Department of Fish and Wildlife, United States Army Corps of Engineers (USACE), and the Regional Water Quality Control Board (RWQCB). The basin contains approximately 11.22 acres of CDFW jurisdiction and approximately 9.77 acres of waters of the United States.[70] The development of this detention basin will be prohibited. As stated previously, future projects must integrate BMPs identified in the mandatory WQMP plans. These BMPs will allow stormwater runoff to either percolate into the ground or discharge into the local storm drains. Stormwater runoff will not be discharged into the detention basin. Furthermore, stormwater will not discharge off-site and there will be no impacts regarding off-site erosion or siltation due to off-site stormwater discharge.

[70] Hernandez Environmental Services. *Basin Constraints Analysis*. Report dated February 22, 2016.

D. In flood hazard, tsunami, or seiche zones, would the project risk release of pollutants due to project inundation? ● No Impact.

According to maps obtained at the Federal Emergency Management System Map Service Center, a majority of the Planning Area is not located within a 100-year flood plain.[71] The entire Planning Area, with the exception of the detention basin, is located within Zone X.[72] This flood zone has an annual probability of flooding of less than 0.2 percent and represents areas outside the 500-year flood plain. Thus, properties located in Zone X are not located within a 100-year flood plain.[73] Although the detention basin is located within Zone A, a high risk area with a 1% annual chance of flooding and a 26% chance of flooding over the life of a 30-year mortgage, no impacts will occur since the development of the detention basin will be prohibited. As a result, no impacts related to flood flows are associated with the proposed project's implementation.

According to the General Plan, the potential for dam inundation is considered to be remote. There are two locations of concern situated within the City: the Poorman Reservoir (Pigeon Pass Reservoir) and Lake Perris. Failure of the dam at Poorman Reservoir could result in extensive flooding along the downstream watercourse.[74] Flood waters will be conveyed though an existing channel where they will ultimately flow through the detention basin. The risk of flooding due to dam failure is limited to the period during and immediately after major storms. The reservoir does not retain water throughout the year. Therefore, the likelihood of dam inundation is considered to be less than significant.

Failure of the dam at Lake Perris would only affect a very small area south of Nandina Avenue along the Perris Valley Storm Drain and the Mystic Lake area in the southeast corner of the City.[75] Although the Planning Area is located within the path of potential flood waters, this water will be conveyed through a system of existing channels and detention basins. As a result, the potential impacts are considered to be less than significant. The Planning Area is located between 42 to 70 miles north of the Pacific Ocean and the Planning Area would not be exposed to the effects of a tsunami.[76] A seiche in the Poorman Reservoir is not likely to happen due to the volume of water present. Lastly, the Planning Area will not be subject to mudslides because the Planning Area and surrounding areas are generally level. As a result, no impacts are likely to occur.

E. Would the project conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?? ● Less than Significant Impact.

As indicated previously, future development proposals must include a WQMP. The WQMP shall include measures designed to control pollutants, pollutant loads, and runoff volume to the maximum extent feasible by minimizing impervious surface area and controlling runoff from impervious surfaces through

[71] FEMA. *FEMA's National Flood Hazard Layer (official).* http://fema.maps.arcgis.com/home/webmap/viewer.html?webmap=cbe088e7c8704464aa0fc34eb99e7f30&extent=-117.29161196434968,33.93176642411599,-117.20852785790449,33.95526379253687

[72] Ibid.

[73] FEMA. *Flood Zones, Definition/Description.* http://www.fema.gov/floodplain-management/flood-zones

[74] City of Moreno Valley General Plan. *Chapter 6 Safety Element, 6.8 Flood Hazards, 6.8.1 Background.* Plan dated July 11, 2006.

[75] Ibid.

[76] Google Earth. Site accessed September 22, 2017.

infiltration, evapo-transpiration, bioretention, and/or rainfall harvest and use. The project applicant shall prepare a WQMP plan which implements set LID standards and practices for stormwater pollution mitigation and provides documentation to demonstrate compliance with the municipal NPDES permit on the plans and permit application submitted to the city. In addition, the proposed project will not create excess runoff that will exceed the capacity of the existing storm water drainage system. All future development will be required to implement operational BMPs identified in the Specific Plan. These operational BMPs will reduce the amount of stormwater runoff discharged into the streets. Implementation of the previously mentioned BMPs will reduce potential impacts to levels that are less than significant.

MITIGATION MEASURES

The adoption and subsequent implementation of the Moreno Valley Festival Specific Plan will not lead to any impacts not already identified in the certified EIR that was prepared for the City of Moreno Valley General Plan. As a result, no additional mitigation beyond that which may be required for individual development projects is required.

3.11 LAND USE & PLANNING

Environmental Issue Areas Examined	Potentially Significant Impact	Less Than Significant Impact With Mitigation	Less Than Significant Impact	No Impact
A. Would the project physically divide an established community?				✖
B. Would the project cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?				✖

ANALYSIS OF ENVIRONMENTAL IMPACTS

A. Would the project physically divide an established community? ● No Impact.

This current amendment would expand the Specific Plan Area to include a 9.98-acre property located on the southeast corner of Heacock Street and Ironwood Avenue. This added area will be referred to as the expanded *Planning Area 1*. This Planning Area 1 is currently undeveloped though it has been rough graded and disked for maintenance and fire mitigation. For purposes of analysis, the expanded Planning Area's potential development has been assumed to be a 220,390 square foot light industrial building. The expanded Planning Area 1 is located in the midst of an urbanized area and is surrounding on all sides by urban development. The land uses and development that surround the larger Specific Plan Planning Area are outlined below:

- *North of the Plan Amendment Area 1.* Ironwood Avenue extends along the north side of the expanded Planning Area 1. Single-family residential units are located further north, along the north side of Ironwood Avenue opposite the Planning Area.[77]

- *South of the Plan Amendment Area 1.* A recently constructed concrete tilt-up building occupies Planning Area 3 located to the south of the expanded Planning Area 1.[78]

- *East of the Plan Amendment Area 1.* A recently constructed concrete tilt-up building occupies the easterly portion of the larger Planning Area 1..[79]

- *West of the Plan Amendment Area 1.* Heacock Street abuts the expanded Planning Area 1 to the west.[80]

The development contemplated under the Moreno Valley Festival Specific Plan Amendment Number 2 will not divide or disrupt an established community since all of the development envisioned under the Specific Plan will be contained within the Planning Area. In addition, the adoption and subsequent implementation of the Specific Plan will not result in incompatible land uses. The Specific Plan contains provisions for

[77] Blodgett Baylosis Environmental Planning. *Site survey*. Survey was conducted on August 9, 2017.

[78] Ibid.

[79] Ibid.

[80] Ibid.

buffers between industrial warehousing/business park type uses and the adjacent single-family units. These buffers will also provide separation between potential residential units and potential industrial uses. Landscaping (also serving as on-site BMPs), block walls, and adequate setbacks are examples of buffers that will maintain stability between the various existing uses and those that are proposed under the Specific Plan. As a result, no impacts will result.

B. Would the project conflict with an applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including but not limited to, a general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect? ● No Impact.

The original SP-205 designated the expanded Planning Area 1 as *Regional Commercial*. This Second Amendment is now designating this area as *Mix of Uses*. The types of uses permitted, conditionally permitted, and prohibited under the Specific Plan are summarized herein in Table 2-2, included in Section 2. The proposed Plan Amendment Number 2's implementation will require the following land use-related discretionary actions:

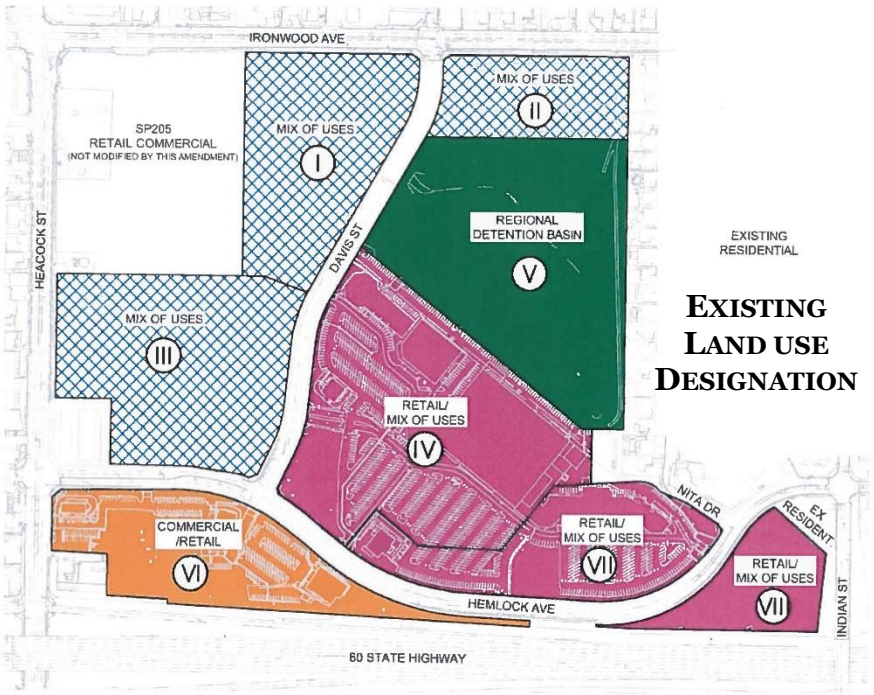
- The adoption of a General Plan Amendment (GPA) to the City of Moreno Valley General Plan to change the land use designation from *Commercial* to *Business Park;*
- The adoption of a Zone Change to the City of Moreno Valley Zoning Ordinance to change the land use designation from SP205 *Regional Commercial* to SP205 *Mix of Uses*; and,
- The adoption of the Moreno Valley Festival Specific Plan Amendment Number 2 to change the land use designation from *Regional Commercial* to *Mix of Uses*.

As indicated above, the current SP-205 land use applicable for the expanded Planning Area 1 is *Regional Commercial*. The proposed Amendment Number 2 would change the land use designation to *Mix of Uses* which allows for a wide range of land uses indicated in Table 2-2. The existing and proposed land use designations for the expanded Planning Area No. 1 is illustrated in Exhibit 3-7. The Moreno Valley Festival Specific Plan Amendment Number 2 would be adopted pursuant to Government Code Section 65450 which grants authority to cities to adopt or amend specific plans for purposes of implementing the goals and policies of their General Plans. The Government Code sets forth the minimum requirements and review procedures for specific plans including the provision of a land use plan, infrastructure and public services plan, criteria and standards for development, and implementation measures.[81] The proposed Specific Plan Amendment Number 2 would permit a comparable range in land uses and development types compared to that previously anticipated under the original SP-205. As a result, no impacts will result from the Plan Amendment's adoption and implementation.

MITIGATION MEASURES

The adoption and subsequent implementation of the Moreno Valley Festival Specific Plan will not lead to any impacts not already identified in the original certified EIR that was prepared for the City of Moreno Valley General Plan. As a result, no additional mitigation beyond that which may be required for individual projects is required.

[81] Blodgett Baylosis Environmental Planning. *Site survey*. Survey was conducted on August 9, 2017.



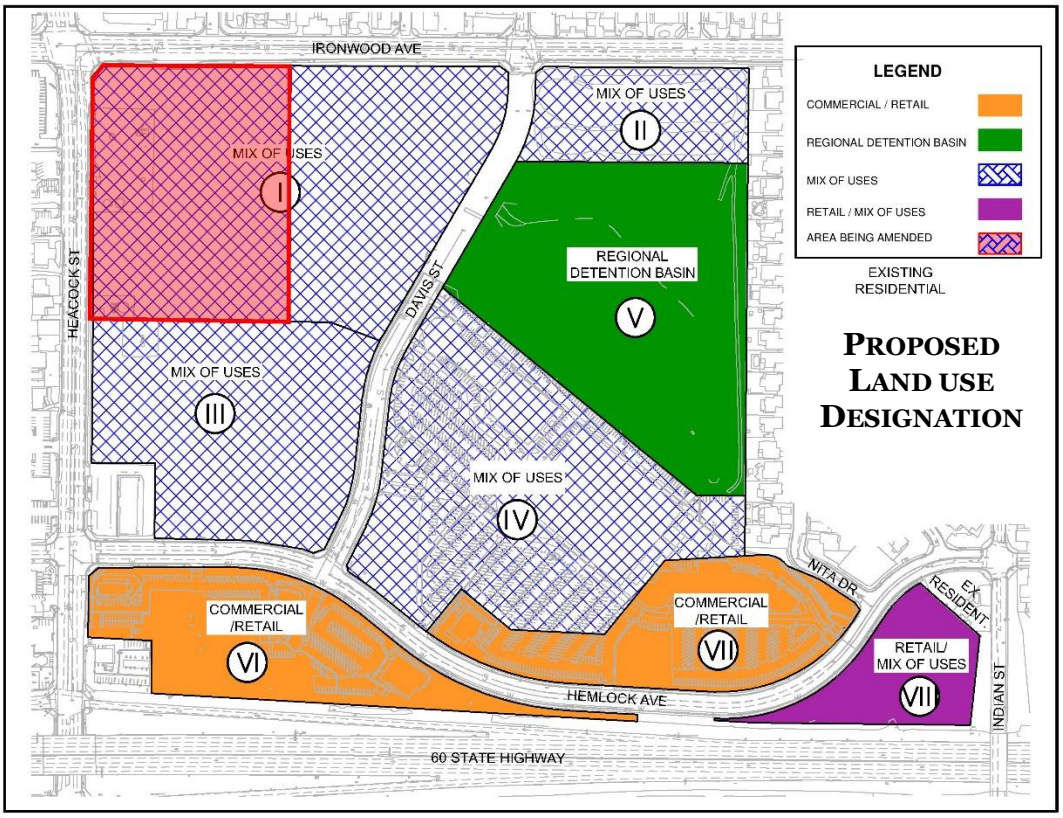


EXHIBIT 3-7
EXISTING AND PROPOSED LAND USE DESIGNATIONS

Source: Blodgett Baylosis Environmental Planning

3.12 MINERAL RESOURCES

Environmental Issue Areas Examined	Potentially Significant Impact	Less Than Significant Impact With Mitigation	Less Than Significant Impact	No Impact
A. Would the project result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the State?				✖
B. Would the project result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?				✖

ANALYSIS OF ENVIRONMENTAL IMPACTS

A. Would the project result in the loss of availability of a known mineral resource that would be of value to the region and the residents or the state? ● No Impact.

The expanded Planning Area 1 is not located in a Significant Mineral Aggregate Resource Area (SMARA) nor is it located in an area with active mineral extraction activities. In addition, according to the SMARA study area maps prepared by the California Geological Survey, the City of Moreno Valley is located within the larger San Bernardino SMARA.[82] However, as indicated in the San Bernardino P-C region map, the Planning Area is not located in an area where there are significant aggregate resources present.[83] A review of California Division of Oil, Gas, and Geothermal Resources (DOGGR) well finder indicates that there are no wells located within the Planning Area.[84] The nearest well is located approximately five miles to the northeast along the northeast side of Highland Boulevard in the City of Moreno Valley.[85] This well is presently plugged and abandoned.[86] Since there are no active oil or mineral resource extraction operations present within the Planning Area, no impacts to these resources will occur.

B. Would the project result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan? ● No Impact.

A review of the San Bernardino P-C region map indicated that the Planning Area is not located in a location that contains aggregate extraction operations.[87] Therefore, the project's implementation will not contribute to a loss of availability to locally important mineral resources. Furthermore, the resources and materials

[82] California Department of Conservation. *Southern San Bernardino Production-Consumption (P-C) Region, San Bernardino and Riverside Counties, California.* http://www.conservation.ca.gov/smgb/Misc/Documents/SanBernPlates.pdf (NOTE: The Planning Area is located within the Sunnymead Quadrangle).

[83] Ibid.

[84] California, State of. Department of Conservation. *California Oil, Gas, and Geothermal Resources Well Finder. https://maps.conservation.ca.gov/doggr/wellfinder/#close*

[85] Google Earth. Site accessed August 24, 2017. The coordinates for the well were identified on the DOGGR website.

[86] California, State of. Department of Conservation. *Well Details.* https://secure.conservation.ca.gov/WellSearch/Details?api=06500122

[87] Ibid.

that will be utilized for the construction of the proposed project will not include any materials that are considered rare or unique. Thus, no impacts will result with the implementation of the Specific Plan.

MITIGATION MEASURES

The adoption and subsequent implementation of the Moreno Valley Festival Specific Plan Amendment No. 2 will not lead to any impacts not already identified in the certified EIR that was prepared for the City of Moreno Valley General Plan. As a result, no additional mitigation beyond that which may be required for individual development projects is required.

3.13 NOISE

Environmental Issue Areas Examined	Potentially Significant Impact	Less Than Significant Impact With Mitigation	Less Than Significant Impact	No Impact
A. Would the project result in generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?			✖	
B. Would the project result in generation of excessive groundborne vibration or groundborne noise levels?			✖	
C. For a project located within the vicinity of a private airstrip or an airport land use plan, or where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?				✖

ANALYSIS OF ENVIRONMENTAL IMPACTS

A. Would the project result in generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies? ● Less than Significant Impact.

Noise levels may be described using a number of methods designed to evaluate the "loudness" of a particular noise. The most commonly used unit for measuring the level of sound is the decibel (dB). Zero on the decibel scale represents the lowest limit of sound that can be heard by humans. The eardrum may rupture at 140 dB. In general, an increase of between 3.0 dB and 5.0 dB is the ambient noise level that is considered to represent the threshold for human sensitivity. In other words, increases in ambient noise levels of 3.0 dB or less are not generally perceptible to persons with average hearing abilities.

The current noise environment within the area surrounding the Planning Area is dominated by traffic noise emanating from Ironwood Avenue, Heacock Street, Hemlock Avenue, and the Moreno Valley Freeway. A *Sper Scientific* Digital Sound Meter was used to conduct the noise measurements. A series of 100 discrete noise measurements were recorded and the results of the survey are summarized in Table 3-4. Three measurement locations were utilized (refer to Exhibit 3-8). These measurements were taken on a Monday morning at 10:15. Table 3-4 indicates the variation in noise levels over time during the measurement period.[88] As indicated previously, the L_{50} noise level represents the noise level that is exceeded 50% of the time. Half the time the noise level exceeds this level and half the time the noise level is less than this level. The average noise levels during the measurement periods were 57.3 dBA for location 1, 47.7 dBA location 2, and 60.7 dBA for location 3.

[88] Bugliarello, et. al., *The Impact of Noise Pollution,* Chapter 127, 1975.

Table 3-4
Noise Measurement Results

Noise Metric	Noise Level (dBA) Davis Street Terminus – Location 1	Noise Level (dBA) Nita Drive – Location 2	Noise Level (dBA) Heacock Street – Location 3
L_{50} (Noise levels <50% of time)	57.3 dBA	45.9 dBA	61.3 dBA
L_{75} (Noise levels <75% of time)	58.2 dBA	51.7 dBA	67.4 dBA
L_{90} (Noise levels <90% of time)	59.0 dBA	55.1 dBA	71.3 dBA
L_{99} (Noise levels <99% of time)	61.5 dBA	59.1 dBA	76.4 dBA
L_{min} (Minimum Noise Level)	54.3 dBA	40.8 dBA	48.6 dBA
L_{max} (Maximum Noise Level)	62.4 dBA	62.0 dBA	77.7 dBA
Average Noise Level	57.3 dBA	47.7 dBA	60.7 dBA

Source: Blodgett Baylosis Environmental Planning.

Title 11, Chapter 11.80 Noise Regulation, Table 11.80.030-2 illustrates the maximum permitted noise levels established for commercial and residential uses. According to the Table, the maximum permitted noise levels for commercial uses are 65 dBA during the day-time and 60 dBA during the evening hours. For residential, the maximum permitted noise levels are 60 dBA for day-time hours and 55 dBA for evening hours. As indicated previously, the areas adjacent to the surrounding roadways are subject to the highest noise levels, with an average noise reading of 60.7 dBA. Noise sensitive land uses consisting of single-family residential is located north of the Planning Area along the north side of Ironwood Avenue and west of the Planning Area along the west side of Heacock Street.

The types of industrial uses permitted under the Specific Plan consist of business park and warehouse type uses. These uses generally produce noise from roll-up doors, back up alarms, forklift equipment, etc. Operational noise will be sufficiently mitigated by the inclusion of block walls, adequate setbacks, and landscaping. If buildings are situated in a manner that directs operational noise away from sensitive receptors, this noise will be attenuated by the building itself.

As indicated in the previous section, a change in traffic noise levels of between 3.0 dBA and 5.0 dBA is generally considered to be the limit where the change in the ambient noise levels may be perceived by persons with normal hearing. It typically requires a doubling of traffic volumes to register a perceptible change (increase) in traffic noise). The proposed project is anticipated to generate approximately 88 AM peak hour trips, and 93 PM peak hour trips. The proposed project's traffic generation will not result in a doubling of traffic volumes. Finally, the loading docks and activity areas will be located away from the residential uses located on the north side of Ironwood Avenue. In addition, the proposed uses will be required to comply with the City of Moreno Valley Noise Control Ordinance. All of the activities will be enclosed within the new building. In addition, new landscaping will attenuate noise from the parking area. As a result, the potential impacts are considered to be less than significant.

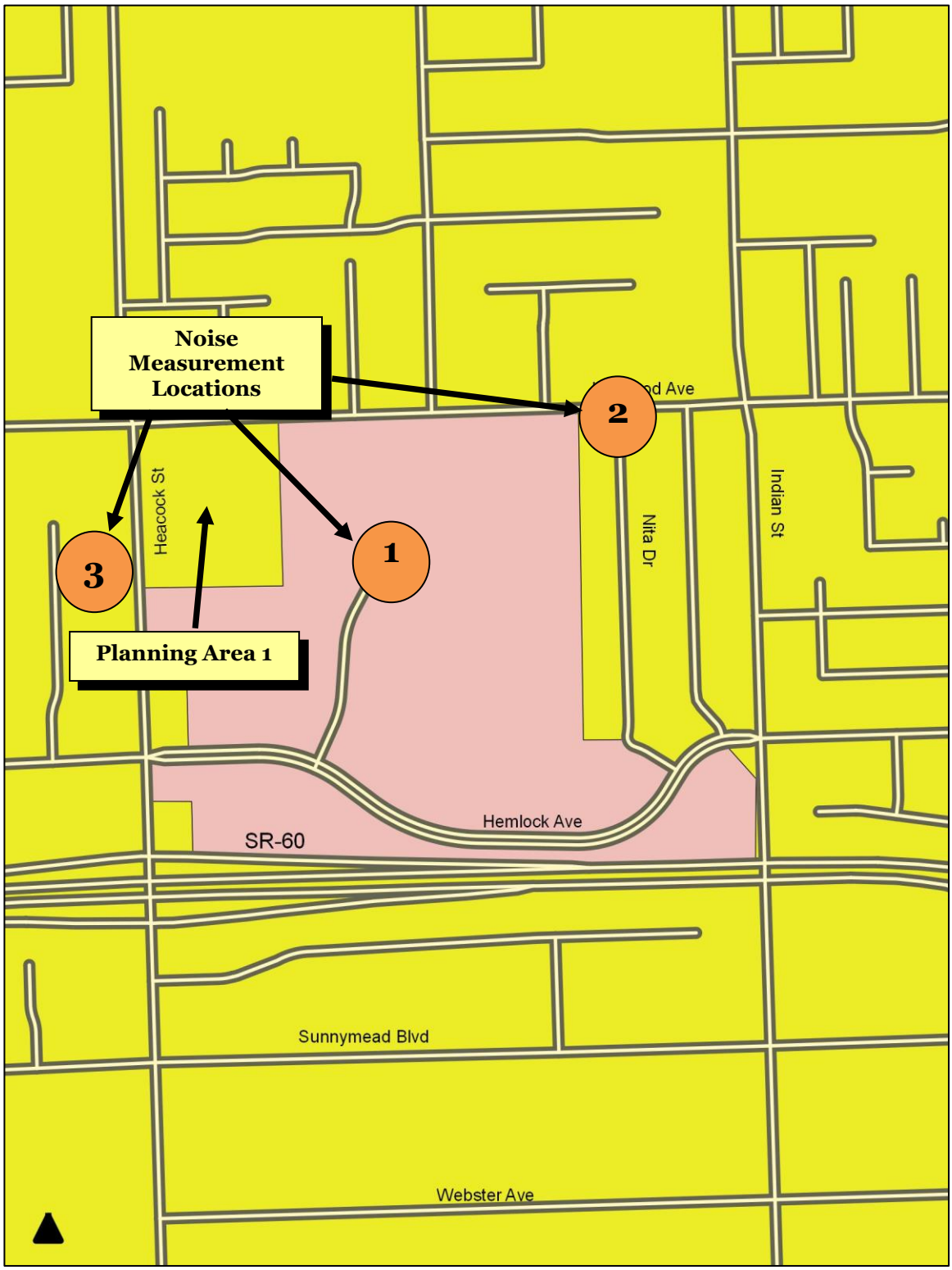


EXHIBIT 3-8
NOISE MEASUREMENT LOCATIONS
Source: Quantum GIS

B. Would the project result in exposure of people to or generation of excessive ground-borne noise levels?
● Less than Significant Impact with Mitigation.

The current noise environment within the Planning Area is dominated by traffic noise emanating from the SR-60 freeway, nearby arterial roadways, and the adjacent uses. Any future development will be required to adhere to the City's noise control requirements. Once operational, future development permitted under the Specific Plan will not generate excessive ground-borne noise because the individual projects will not require the use of equipment capable of creating ground-borne noise (the types of industrial uses that are preferred include warehousing and business park). Future sources of noise will include roadway noise as well as operational noise from the future use. Roadway noise is estimated in the previous subsection. The inclusion of landscape buffers, decorative concrete walls, setbacks, and mitigation including the use of silent alarms will be effective in further reducing potential noise impacts. As a result, the potential impacts are considered to be less than significant.

A change in traffic noise levels of between 3.0 dBA and 5.0 dBA is generally considered to be the limit where the change in the ambient noise levels may be perceived by persons with normal hearing. This requires a doubling of traffic volumes along the adjacent roadways. The implementation of the Planning Area 1 amendment would result in approximately 2,740 net daily trips with 88 net trips in the PM peak hour and 93 net trips during the PM peak hour. The streetscape plan, building design, and other development standards will be effective in attenuating any increased traffic noise. In addition, the future land uses and development will be required to comply with the City's noise control requirements as well as with the mitigation identified in the previous subsection. Adherence to all applicable City noise control requirements will reduce potential impacts to levels that are less than significant.

Composite construction noise is best characterized by Bolt, Beranek, and Newman.[89] In this study, the noisiest phases of construction for non-residential development is presented as 89 dBA as measured at a distance of 50 feet from the construction effort. In later phases during building erection, noise levels are typically reduced from these values and the physical structures further break up line-of-sight noise. However, as a worst-case scenario the 89 dBA value was used as an average noise level for the construction effort. The construction noise levels will decline as one moves away from the noise source. This effect is known as *spreading loss*. In general, the noise level adjustment that takes the spreading loss into account calls for a 6.0 dBA reduction for every doubling of the distance beginning with the initial 50-foot distance.

As indicated previously, there are noise sensitive land uses (single-family residential) located north of the Planning Area along the north side of Ironwood Avenue and west of the Planning Area along the west side of Heacock Street. Due to the presence of the aforementioned sensitive receptors, the following mitigation will be required for all future construction undertaken within the Planning Area:

- The Applicant shall ensure that the contractors conduct demolition and construction activities between the hours of 7:00 AM and 6:00 PM on weekdays and 9:00 AM to 12:00 PM on Saturdays, with no construction permitted on Sundays or Federal holidays.

- The Applicant shall ensure that the contractors use construction equipment that includes working mufflers and other sound suppression equipment as a means to reduce machinery noise.

[89] USEPA, Protective Noise Levels. 1971

- Signs must be installed around the perimeter of the Planning Area that display the name and phone number of the local contact person residents may call to complain about noise. Upon receipt of a complaint, the contractor must respond immediately by reducing noise to meet Code requirements. In addition, copies of all complaints and subsequent communication between the affected residents and contractors must be forwarded to the City's Community Development Department.

- Construction vehicles will be prohibited from traveling along Ironwood Avenue. This mitigation is designed to minimize the number of residential units that may be exposed to noise and vibration.

- The use of any such equipment which is capable of causing ground shaking is not permitted without prior written approval from the Public Works Director, or designee. If ground shaking vibratory equipment is requested and approved, the Contractor is responsible for making any repairs or replacements to facilities damaged due to nearby soils settling or other impacts of vibrating. The Contractor must install vibratory monitoring equipment to monitor for any settlement/damage caused.

- Construction staging must occur over 200 feet from the nearest residential use. The location of staging and queuing areas will be subject to the approval of the Community Development Department prior to the issuance of any building or grading permit.

Adherence to the aforementioned mitigation will reduce potential impacts to levels that are less than significant.

C. *For a project located within the vicinity of a private airstrip or- an airport land use plan, or where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels? ● No Impact.*

The Planning Area is not located within two miles of an operational public airport. The March Air Reserve Base is the closest airport to the Planning Area. This airport is located 2.90 miles southwest of the Planning Area. In addition, the Riverside Municipal Airport is located in the City of Riverside approximately 12 miles to the west of the Planning Area. According to the Land Use Compatibility Plan that was prepared for the March Air Reserve Base, the planning area is not located within the 65, 60, or 55 CNEL boundaries and no impacts will occur.[90] Therefore, the development envisioned under the Specific Plan will not be exposed to noise generated by the approach and take-off of aircraft utilizing the aforementioned airports. As a result, no impacts are anticipated.

MITIGATION MEASURES

The following mitigation will be effective in reducing potential impacts in regards to construction noise:

Mitigation Measure No. 22 (Noise Impacts). The Applicant shall ensure that the contractors conduct demolition and construction activities between the hours of 7:00 AM and 6:00 PM on weekdays and 9:00 AM to 12:00 PM on Saturdays, with no construction permitted on Sundays or Federal holidays.

[90] Riverside County Airport Land Use Commission. *Riverside Municipal Airport Land Use Compatibility Plan*. Adopted March 2005.

Mitigation Measure No. 23 (Noise Impacts). The Applicant shall ensure that the contractors use construction equipment that includes working mufflers and other sound suppression equipment as a means to reduce machinery noise.

Mitigation Measure No. 24 (Noise Impacts). Signs must be installed around the perimeter of the Planning Area that display the name and phone number of the local contact person residents may call to complain about noise. Upon receipt of a complaint, the contractor must respond immediately by reducing noise to meet Code requirements. In addition, copies of all complaints and subsequent communication between the affected residents and contractors must be forwarded to the City's Community Development Department.

Mitigation Measure No. 25 (Noise Impacts). The use of any such equipment which is capable of causing ground shaking is not permitted without prior written approval from the Public Works Director, or designee. If ground shaking vibratory equipment is requested and approved, the Contractor is responsible for making any repairs or replacements to facilities damaged due to nearby soils settling or other impacts of vibrating. The Contractor must install vibratory monitoring equipment to monitor for any settlement/damage caused.

Mitigation Measure No. 26 (Noise Impacts). Construction staging must occur over 200 feet from the nearest residential use. The location of staging and queuing areas will be subject to the approval of the Community Development Department prior to the issuance of any building or grading permit.

3.14 POPULATION & HOUSING

Environmental Issue Areas Examined	Potentially Significant Impact	Less Than Significant Impact With Mitigation	Less Than Significant Impact	No Impact
A. Would the project induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?				✖
B. Would the project displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?				✖

ANALYSIS OF ENVIRONMENTAL IMPACTS

A. Would the project induce substantial population growth in an area, either directly or indirectly (e.g., through projects in an undeveloped area or extension of major infrastructure)? ● No Impact.

This current amendment would expand the Specific Plan Area to include a 9.98-acre property located on the southeast corner of Heacock Street and Ironwood Avenue. This added area will be referred to as the expanded *Planning Area 1*. The Specific Plan is being amended to allow for the development of a 220,390 square foot light industrial building. The Planning Area is located in the midst of an urbanized area and is surrounded on all sides urban development. The adoption and subsequent implementation of the proposed amendment to the expanded Planning Area 1 will not lead to any impacts not already identified in the certified EIR that was prepared for the City of Moreno Valley General Plan.[91] The Specific Plan Amendment does not envision any residential at this time. As a result, no additional mitigation beyond that which may be required for individual development projects is required and no impacts will result.

B. Would the project displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere? ● No Impact.

There are no housing units located within the Planning Area. Much of the Planning Area is now undergoing development as non-residential land uses. As a result, no impacts will occur.

MITIGATION MEASURES

The adoption and subsequent implementation of the Moreno Valley Festival Specific Plan will not lead to any impacts not already identified in the certified EIR that was prepared for the City of Moreno Valley General Plan. As a result, no additional mitigation beyond that which may be required for individual development projects is required.

[91] P and D Consultants. *Final Environmental Impact Report - City of Moreno Valley General Plan SCH# 200091075*. Report dated July 2006.

3.15 PUBLIC SERVICES

Environmental Issue Areas Examined	Potentially Significant Impact	Less Than Significant Impact With Mitigation	Less Than Significant Impact	No Impact
A. Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which would cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for: fire protection; police protection; schools; parks; or other public facilities?			✖	

ANALYSIS OF ENVIRONMENTAL IMPACTS

A. *Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which would cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for: fire protection; police protection; schools; parks; or other public facilities?● Less than Significant Impact.*

This current amendment would expand the Specific Plan Area to include a 9.98-acre property located on the southeast corner of Heacock Street and Ironwood Avenue. This added area will be referred to as the expanded *Planning Area 1*. The Specific Plan is being amended to allow for the development of a 220,390 square foot light industrial building.

Fire Protection Services

Moreno Valley contracts with the Riverside County Fire Department for fire protection and emergency services. Fire Operations is the largest division within the Moreno Valley Fire Department, consisting of 72 sworn staff and two non-sworn staff as of December 2011. The City of Moreno Valley has seven fire stations. The closest first response station to the Planning Area is the Sunnymead Station located 0.43 mile to the east at 24935 Hemlock Avenue. This station as well as other public facilities including schools, parks, and the City's Police Station are shown in Exhibit 3-9.

The retail, retail/mix of uses, and mix of uses once occupied, will be periodically inspected by the Moreno Valley Fire Department. In addition, the Fire Department will review the development plans to ascertain the nature and extent of any additional measures that may be required to meet any Fire Code requirements. The Fire Department currently reviews all new development plans, and future development will be required to conform to all fire protection and prevention requirements, including, but not limited to, building setbacks, emergency access, fire hydrants, interior sprinklers, et cetera. As individual projects are proposed, the Applicants will be responsible for paying all pertinent Fire Department fees and impact fees. As a result, the potential impacts are considered to be less than significant.

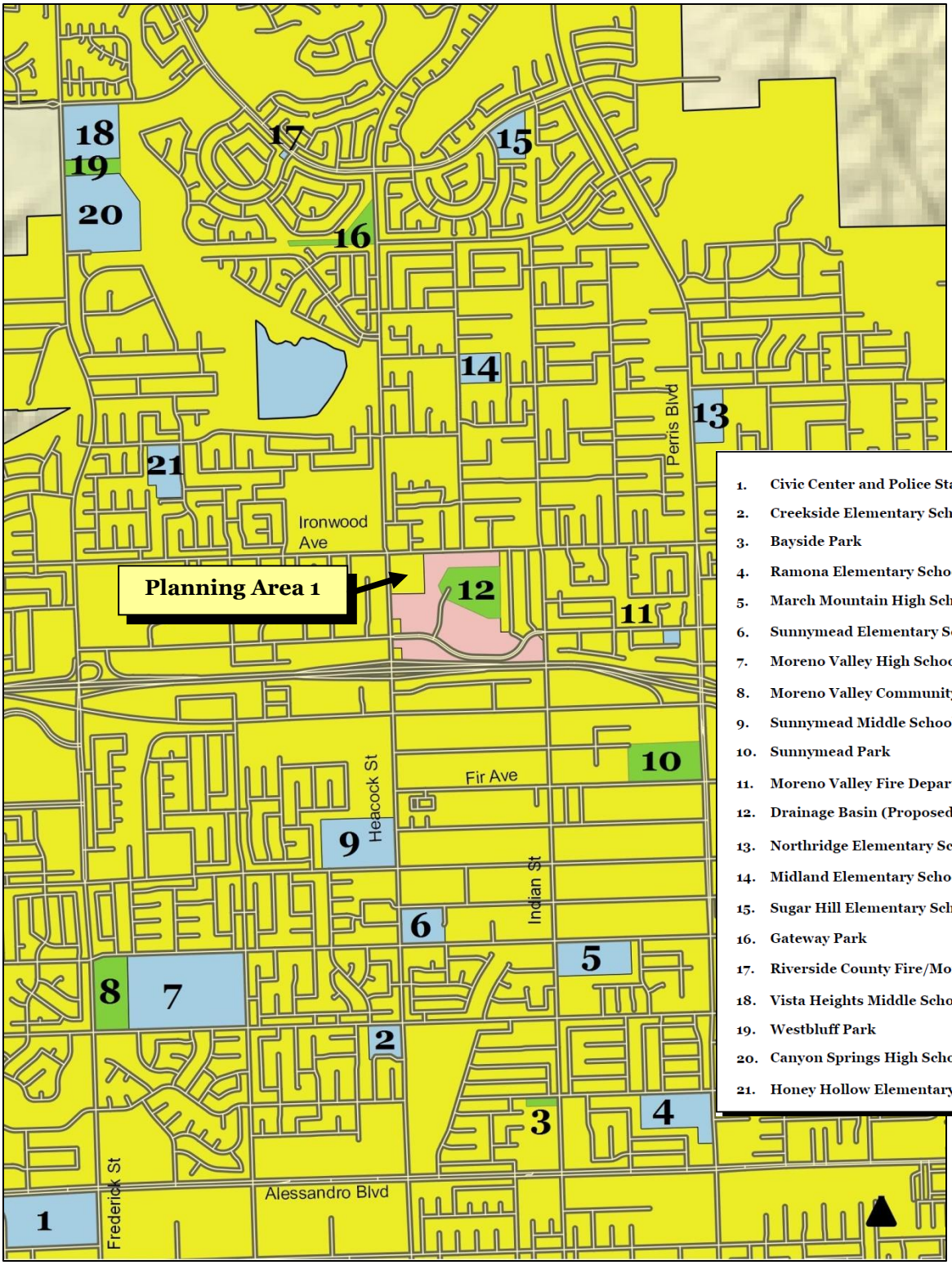


EXHIBIT 3-9
PUBLIC FACILITIES MAP
Source: City of Moreno Valley

Law Enforcement Services

Law enforcement services in Moreno Valley are provided by the Moreno Valley Police Department, a local branch of the Riverside County Sherriff's Department. The Moreno Valley Police Station is located 2.27 miles to the southwest at 22850 Calle San Juan De Dos Lagos. The Moreno Valley Police Department (MVPD) has 162 sworn officers who provide field services in the City. The current officer to population ratio for MVPD is 0.9 officers per 1,000 residents. The average total response time for the period of January 01 to December 31, 2004, was over seven minutes for Priority 1 or emergency calls. As individual development is proposed, the Moreno Valley Police Department will review all development applications to ensure conformity with department requirements. The Moreno Valley General Plan calls for the need to establish defensible space. Defensible space permits the identification of suspicious occurrences or persons, in part by increasing visibility and recognition by neighbors. Where a space is defensible, it is evident to a potential criminal that a crime could be observed and the criminal easily apprehended. Good lighting is a key ingredient of defensible space. The Specific Plan identifies several key policies designed to promote maximum visibility at all hours of the day. These policies are consistent with the General Plan's goal of reducing property crime through the inclusion of defensible space. The following policies outlined in the Specific Plan will be effective in promoting exterior visibility:

- Onsite lighting includes lighting for parking areas, vehicular and pedestrian circulation, building exteriors, service areas, landscaping, security, and special effects.
- Wall-mounted utility lights that cause off-site glare are not permitted. "Shoebox" lights are preferred.
- Parking lot light fixtures shall comply with guidelines provided by owner assigned design review agent.
- Small scale walkway or building entry lighting is encouraged for safety and aesthetic purposes.[92]

The Specific Plan also mandates the inclusion of security cameras. According to the Specific Plan, the location, appearance, and installation of exterior security cameras must be integrated with the architecture. Cameras should be mounted in the following locations:

- Cameras mounted on poles in parking lot (preferred)
- Cameras suspended from soffits (second choice)
- Cameras mounted on building walls with the top of the camera below the top of the parapet (third choice).[93]

Adherence to the policies dictated in the Specific Plan and the recommendations made by the Moreno Valley Police Department will reduce impacts to levels that are less than significant.

[92] National Engineering Consultants. *Amendment to Specific Plan 205*. Draft dated December 29th, 2015.

[93] Ibid.

School Services.

The Planning Area is located within the service boundaries of the Moreno Valley Unified School District and is served by the following schools:

- Midland Elementary School, located 0.52 miles north of the site at 11440 Davis Street;
- Pal Middle School, located 1.41 miles east of the site at 11900 Slawson Avenue; and,
- Canyon Springs High School, located 1.40 miles northwest of the site at 23100 Cougar Canyon Road.

Any additional students indirectly associated with the future development will be accommodated by the aforementioned school district. In order to maintain acceptable student-teacher ratios and class sizes, developers must pay the following developer impact school fees: 60 cents per square foot.[94] As individual projects are proposed, the developers will be required to pay the above-mentioned development impact fees. These fees will generate revenue needed to expand and construct new facilities as well as hire additional staff members. As a result, the following impacts are considered to be less than significant.

Other Governmental Services.

The development envisioned under the Plan is consistent with the growth projections developed for the City by the Southern California Association Governments (SCAG). In addition, any impacts to other governmental services such as libraries, parks, and recreation may be partially offset by the increase in the taxes and an increase in the assessed valuation of the property. As a result, no additional mitigation beyond that which may be required for individual development projects is required. Therefore, the potential impacts are considered to be less than significant.

MITIGATION MEASURES

The adoption and subsequent implementation of the Moreno Valley Festival Specific Plan will not lead to any impacts not already identified in the certified EIR that was prepared for the City of Moreno Valley General Plan. As a result, no additional mitigation beyond that which may be required for individual development projects is required.

[94] Moreno Valley Unified School District. *Developer Impact School Fees*. https://www.mvusd.net/apps/pages/index.jsp?uREC_ID=786774&type=d&pREC_ID=1181763

3.16 RECREATION

Environmental Issue Areas Examined	Potentially Significant Impact	Less Than Significant Impact With Mitigation	Less Than Significant Impact	No Impact
A. Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?			✖	
B. Would the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?			✖	

ANALYSIS OF ENVIRONMENTAL IMPACTS

A. *Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated? ● Less than Significant Impact.*

This current amendment would expand the Specific Plan Area to include a 9.98-acre property located on the southeast corner of Heacock Street and Ironwood Avenue. This added area will be referred to as the expanded *Planning Area 1*. The Specific Plan is being amended to allow for the development of a 220,390 square foot light industrial building. The City of Moreno Valley Parks and Community Services Department operates 40 parks and/or joint-use facilities (531.66 maintained acres) and includes a 9-hole executive golf course, 23 multi-use sports fields, 11 tennis courts, nine basketball courts, 28 play apparatus, and three recreation centers. The adoption and subsequent implementation of the Moreno Valley Festival Specific Plan may lead to an incremental increase in the use of City park and recreational facilities. As individual development is proposed, the future Applicants will be required to pay all pertinent impact fees pursuant to Section 3.40.010 of the City's Municipal Code. The payment of in-lieu fees will ease the burden placed onto the City's park facilities. As a result, the potential impacts are expected to be less than significant.

B. *Would the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?● Less than Significant Impact.*

There are no existing recreational facilities located within the Planning Area. The closest park to the Planning Area is Sunnymead Park, located 0.44 miles to the southeast along the north side of Fir Avenue.[95] The development envisioned under the Specific Plan and within the expanded Planning Area 1 will not affect any recreational facilities directly. As stated previously, future project Applicants will be required to pay all pertinent impact fees. Thus, the potential impacts are considered to be less than significant.

[95] Google Maps. Site accessed August 28, 2017.

MITIGATION MEASURES

The adoption and subsequent implementation of the Moreno Valley Festival Specific Plan will not lead to any impacts not already identified in the certified EIR that was prepared for the City of Moreno Valley General Plan. As a result, no additional mitigation beyond that which may be required for individual development projects is required.

3.17 TRANSPORTATION

Environmental Issue Areas Examined	Potentially Significant Impact	Less Than Significant Impact with Mitigation	Less Than Significant Impact	No Impact
A. Would the project conflict with a plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities?		✖		
B. Conflict or be inconsistent with CEQA Guidelines §15064.3 subdivision (b)?			✖	
C. Would the project substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?			✖	
D. Would the project result in inadequate emergency access?				✖

ANALYSIS OF ENVIRONMENTAL IMPACTS

A. Would the project conflict with a plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities? ● Less than Significant Impact with Mitigation.

This current amendment would expand the Specific Plan Area to include a 9.98-acre property located on the southeast corner of Heacock Street and Ironwood Avenue. This added area will be referred to as the expanded *Planning Area 1*. The Specific Plan is being amended to allow for the development of a 220,390 square foot light industrial building. Weekday daily, AM and PM peak hour trip generation estimates for the proposed project were developed using trip rates provided in the *Institute of Transportation Engineers (ITE) Trip Generation, 10th Edition, 2017*. Summaries of the trip generation rates and resulting vehicle trips for the proposed project are presented in Table 3-5.

Table 3-5
Proposed Project Trip Generation

	LU	Units	Daily	AM Peak Hour			PM Peak Hour		
				In	Out	Total	In	Out	Total
Trip Rates									
Business Park	Code 770	TSF	12.44	0.24	0.16	0.40	0.19	0.23	0.42
Project Trip Generation									
Planning Area 1									
Business Park	220.239	TSF	2,740	53	35	88	42	51	93

Note: TSF = Thousand Square Feet

As indicated in Table 3-5, the new development envisioned for the expanded Planning Area 1 will potentially result in 2,740 daily trips, 88 morning (AM) peak hour trips, and 93 evening (PM) peak hour trips.

The proposed project land use was screened to determine the need for a VMT analysis based on the procedure in the *City of Moreno Valley Traffic Impact Analysis Guidelines*, June 2020 (TIA Guidelines). The project is not located in a transit priority area (TPA) or low VMT area. The project type screening analysis shows:

- *Retail Use* – The proposed project provides local serving retail. The increase in retail use as a result of the proposed project is 48,021 square-feet. The TIA Guidelines state that local serving retail less than 50,000 square-feet would have a less than significant VMT impact.

- *Hotel Use* – The proposed project provides a local serving hotel. The TIA Guidelines state that local serving hotels would have a less than significant VMT impact.

The proposed project industrial land use would not meet the screening criteria; therefore, a VMT assessment for non-screened industrial development was conducted. The TIA Guidelines have the following CEQA VMT impact thresholds:

- An industrial project would have a significant VMT impact if, in the Existing Plus Project scenario, its net VMT per employee exceeds the City's VMT per employee.

- If a project is consistent with the Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS), then the cumulative impacts shall be considered less than significant.

A specific plan was completed for the proposed project and is considered consistent with the RTP/SCS; therefore, the cumulative VMT impacts are considered less than significant. The VMT assessment for the industrial park land use was based on the RIVTAM/RIVCOM model used to complete the January 2018 TIA for the proposed project. The model was last updated on December 12, 2017 and runs on *TransCAD 5.0 r2 Build 1640*. Table 3-6 provides a summary of the model inputs and outputs as well as the resulting VMT.

Table 3-6
Comparison of Proposed Project and City of Moreno Valley Employees and VMT

	Employees	VMT	VMT per Employee
Proposed Project (Industrial Park)	620[1]	19,282	31.1
City of Moreno Valley	29,064	4,494,865	154.7

1. Employees were estimated using the ratio of trips per square-feet and trips per employees from the Institute of Transportation Engineers (ITE) *Trip Generation Manual*, 10th Edition.

Table 3-6 shows that the proposed project 31.1 VMT per employee is less than the City's 154.7 VMT per employee. The VMT analysis presents shows that the proposed project would have a less than significant VMT impact. No additional mitigation would be required beyond those proposed as part of the January 2018 TIA.

B. Conflict or be inconsistent with CEQA Guidelines §15064.3 subdivision (b)? ● Less than Significant Impact.

The Congestion Management Program (CMP) was first established in 1990 under Proposition 111. Proposition 111 established a process for each metropolitan county in California to designate a Congestion Management Agency (CMA) that would be responsible for development and implementation of the CMP within county boundaries. The Riverside County Transportation Commission (RCTC) was designated as the CMA in 1990, and therefore, prepares the CMP updates in consultation with the Technical Advisory Committee (TAC), which consists of local agencies, the County of Riverside, transit agencies, and sub regional agencies.

The intent of the CMP is to more directly link land use, transportation, and air quality, thereby prompting reasonable growth management programs that will effectively utilize new transportation funds, alleviate traffic congestion and related impacts, and improve air quality. Counties within California have developed CMPs with varying methods and strategies to meet the intent of the CMP legislation. The Riverside County CMP was significantly modified in 1997 to focus on federal Congestion Management System (CMS) requirements as well as incorporate elements of the State CMP requirements. The 1997 CMP also focused on development of an Enhanced Traffic Monitoring System in which real-time traffic count data can be accessed by RCTC to evaluate the condition of the CMS, as well as meet other monitoring requirements at the state and federal levels. This monitoring effort was completed in 2004, which consisted of installing Smart Call Boxes (traffic counters in Call Box equipment) and traffic counters at Caltrans' Traffic Management Center (TMC) sites along the state highway system. Monitoring of the CMP system on local arterials will continue to occur through the Coachella Valley Association of Governments' (CVAG) monitoring program and through local agency monitoring efforts in Western Riverside County. RCTC's adopted minimum Level of Service (LOS) threshold is LOS "E". Therefore, when a CMP street or highway segment falls to "F", a deficiency plan must be required. Preparation of a deficiency plan will be the responsibility of the local agency where the deficiency is located. Other agencies identified as contributors to the deficiency will also be required to coordinate with the development of the plan. The plan must contain mitigation measures, including consideration of Transportation Demand Management (TDM) strategies and transit alternatives, and a schedule for mitigating the deficiency.[96] A list of CMP arterials and highways is presented in Table 2-1 of the 2011 Riverside County Congestion Management Program.[97] According to the Traffic Study that was prepared for the entire Specific Plan project, the future development would not affect any CMP monitored arterial or highway to the extent that would require the completion of a deficiency plan.[98] As a result, the potential impacts will be less than significant.

C. Would the project substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?● No Impact.

The development contemplated under the Moreno Valley Festival Specific Plan for the expanded Planning Area 1 will not result in a change or disturbance the traffic geometrics of the surrounding roadways. The mitigation provided for the original Specific Plan will improve intersection performance and safety. This mitigation will also improve site access. Trucks travelling to and from the project site will not travel down

[96] Riverside County Transportation Commission. *2011 Riverside County Congestion Management Program*. Report dated December 14, 2011.

[97] Ibid.

[98] Transpogroup. *Draft Traffic Impact Analysis – Festival at Moreno Valley*. Report dated December 2017.

local residential streets. All trucks will be required to use existing truck routes. The Specific Plan Amendment contains minimum distance requirements for street trees and landscaping. These distance requirements will ensure that no trees obstruct the line-of-sight between a driveway and the adjacent roadways. Trees will be planted on each side of the street within the 12 foot parkway. Examples of the requirements include the following:

- All trees shall be planted at least 10 feet from sidewalks and driveways; and,

- A minimum of 25 feet shall be allowed from any street intersection or street lighting standard, and shall defer to line of sight requirements for distance from intersection per Public Works Standard No. 125 and 126). (Ord. 786 § 2, 2009).

Adherence to the design guidelines contained in the Specific Plan Amendment will reduce potential impacts to levels that are less than significant.

D. Would the project result in inadequate emergency access? ● No Impact.

The future development supported by the Moreno Valley Festival Specific Plan would comply with applicable regulations established by the Riverside County Fire Department and the Moreno Valley Division of Building and Safety, in addition to the standard design requirements of the Uniform Building Code. The Fire Department will review any development plan including all buildings, fences, drive gates, or other features that might affect Fire Department access. This review process, along with the proponent's compliance with the applicable regulations and standards, would ensure that adequate emergency access would be provided. Therefore, no impacts will occur.

MITIGATION MEASURES

The traffic report prepared for the original Specific Plan indicated that the following mitigation measures will be required:

- For the Heacock Street and Westbound SR-60 ramps, the Applicant must optimize the cycle length (90 second cycle length), splits, and offsets and restripe the defacto right-turn lane to a southbound right-turn lane with 50-foot storage and a southbound through lane. This mitigation will improve the LOS to C;

- The Applicant must optimize the cycle length (60 second cycle length), splits, and offsets for the intersection of Davis Street and Ironwood Avenue. This mitigation will yield a LOS B;

- The Applicant must optimize the cycle length (60 second cycle length), splits, and offsets for the intersection of Indian Street and Sunnymead Boulevard. This mitigation will yield a LOS C.

- For the Heacock Street/Ironwood Avenue intersection, the Applicant must restripe the eastbound left turn lanes to provide 150 feet of storage to accommodate 95th percentile queues;

- For the Heacock Street/Ironwood Avenue intersection, the Applicant must restripe the westbound left turn lanes to provide 190 feet of storage to accommodate 95th percentile queues;

- For the Heacock Street/Ironwood Avenue intersection, the Applicant must restripe the northbound left turn lanes to provide 210 feet of storage to accommodate 95th percentile queues;

- For the Heacock Street/Hemlock Avenue intersection, the Applicant must restripe the eastbound left turn lanes to provide 105 feet of storage to accommodate 95th percentile queues;

- For the Heacock Street/Hemlock Avenue intersection, the Applicant must restripe the northbound left turn lanes to provide 170 feet of storage to accommodate 95th percentile queues;

- For the Heacock Street/Hemlock Avenue intersection, the Applicant must restripe the southbound left turn lanes to provide 150 feet of storage to accommodate 95th percentile queues;

- For the Heacock Street/State Route (SR 60) eastbound ramps, the Applicant must restripe 50 feet of the two-way left turn lane north of the Heacock/ SR-60 westbound ramps intersection as a "Freeway Only" lane;

- For the Davis Street/Ironwood Avenue intersection, the Applicant must restripe the eastbound left turn lanes to provide 220 feet of storage to accommodate 95th percentile queues;

- For the Davis Street/Ironwood Avenue intersection, the Applicant must restripe the southbound left turn lanes to provide 145 of feet storage to accommodate 95th percentile queues;

- For the Indian Street/Ironwood Avenue intersection, the Applicant must restripe the eastbound left turn lanes to provide 145 feet of storage to accommodate 95th percentile queues;

- For the Indian Street/Ironwood Avenue intersection, the Applicant must restripe the westbound left turn lanes to provide 140 feet of storage to accommodate 95th percentile queues;

- For the Indian Street/Ironwood Avenue intersection, the Applicant must restripe the northbound left turn lanes to provide 165 feet of storage to accommodate 95th percentile queues;

- For the Indian Street/Ironwood Avenue intersection, the Applicant must restripe the southbound left turn lanes to provide 155 feet of storage to accommodate 95th percentile queues;

- For the Indian Street/Hemlock Avenue intersection, the Applicant must restripe the westbound left turn lanes to provide 110 feet of storage to accommodate 95th percentile queues;

- For the Indian Street/Hemlock Avenue intersection, the Applicant must restripe the northbound left turn lanes to provide 180 feet of storage to accommodate 95th percentile queues;

- For the Indian Street/Sunnymead Boulevard intersection, the Applicant must restripe the eastbound left turn lanes to provide 140 feet of storage to accommodate 95th percentile queues. This might require replacing the concrete island with stripping;

- For the Indian Street/Sunnymead Boulevard intersection, the Applicant must restripe the westbound left turn lanes to provide 115 feet of storage to accommodate 95th percentile queues;

- For the Indian Street/Sunnymead Boulevard intersection, the Applicant must restripe the northbound left turn lanes to provide 200 feet of storage to accommodate 95th percentile queues; and,

- For the Indian Street/Sunnymead Boulevard intersection, the Applicant must restripe the southbound left turn lanes to provide 125 feet of storage to accommodate 95th percentile queues.

3.18 TRIBAL CULTURAL RESOURCES

Environmental Issue Areas Examined	Potentially Significant Impact	Less Than Significant Impact With Mitigation	Less Than Significant Impact	No Impact
A. Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American Tribe, and that is: Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or a resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resource Code Section 5024.1 In applying the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American Tribe5020.1(k)?			X	

ANALYSIS OF ENVIRONMENTAL IMPACTS

A. *Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American Tribe, and that is: Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or a resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resource Code Section 5024.1 In applying the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American Tribe5020.1(k)?● Less than Significant Impact.*

This current amendment would expand the Specific Plan Area to include a 9.98-acre property located on the southeast corner of Heacock Street and Ironwood Avenue. This added area will be referred to as the expanded *Planning Area 1*. This Planning Area 1 is currently undeveloped though it has been rough graded and disked for maintenance and fire mitigation. The Specific Plan is being amended to allow for the development of a 220,390 square foot light industrial building. A Tribal Resource is defined in Public Resources Code section 21074 and includes the following:

- Sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe that are either of the following: included or determined to be eligible for inclusion in the California Register of Historical Resources or included in a local register of historical resources as defined in subdivision (k) of Section 5020.1.

- A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Section 5024.1. In applying the criteria set forth in subdivision (c) of Section 5024.1 for the purposes of this paragraph, the lead agency shall consider the significance of the resource to a California Native American tribe.

- A cultural landscape that meets the criteria of subdivision (a) is a tribal cultural resource to the extent that the landscape is geographically defined in terms of the size and scope of the landscape.

- A historical resource described in Section 21084.1, a unique archaeological resource as defined in subdivision (g) of Section 21083.2, or a "non-unique archaeological resource" as defined in subdivision (h) of Section 21083.2 may also be a tribal cultural resource if it conforms with the criteria of subdivision (a).

The mitigation provided in Subsection 3.5.2.B was drafted by the City of Moreno Valley in coordination with the Pechanga and the Soboba. This mitigation was ultimately selected because it is comprehensive and calls for an archaeologist to monitor all mass grading and trenching activities. Adherence to the aforementioned mitigation will minimize the potential impacts to levels that are less than significant.

Two of the responses to the AB-52 consultation, Morongo Band of Mission Indians and the Rincon Band of Luiseño Indians requested that a copy of the Cultural Resources Report that included the results of a records search at the Riverside County Archaeological Information Center (AIC) at the University of California, Riverside. A comprehensive survey of the entire City was undertaken as part of the Citywide General Plan Update which included the preparation of an Environmental Impact Report and Master Environmental Assessment. The General Plan EIR included a citywide inventory of both historic and archaeological resources. The proposed project site was not identified as being either historically or culturally significant and the California Historic Resources Inventory Search (CHRIS) for the City. The citywide inventory is included in Appendix E. The mitigation identified in Section 3.5.2.B will mitigate any potentially significant impacts related to the disturbance of soils and the potential impact on cultural resources.

As part of the AB-52 consultation with the tribal representatives, review of the project was completed. AB-52 consultation was mailed out to seven individuals identified by the NAHC. The project team has received five responses from various tribes including the San Manuel Band of Mission Indians; the Morongo Band of Mission Indians; the Soboba Band of Luiseno Indians; the Pechanga Band of Luiseno Indians; and the Rincon Band of Luiseño Indians. The tribes each requested consultation and separate mitigation measures. The mitigation provided in Subsection 3.5.2.B was drafted by the City of Moreno Valley in coordination with the Pechanga and the Soboba. This mitigation was ultimately selected because it is comprehensive and calls for an archaeologist to monitor all mass grading and trenching activities. A summary of the AB-52 responses is provided in Appendix E. Adherence to the aforementioned mitigation will minimize the potential impacts to levels that are less than significant.

MITIGATION MEASURES

According to the City's General Plan EIR, at least 190 prehistoric archaeological locations have been reported within the City of Moreno Valley. There is a possibility that mass grading and trenching operations could unearth previously unidentified tribal resources. The possibility of encountering tribal resources was taken into account during the consultation with the Pechanga and the Soboba. As a result, mitigation was provided in Subsection 3.5 to minimize the risk of disturbance to tribal cultural resources.

3.19 UTILITIES

Environmental Issue Areas Examined	Potentially Significant Impact	Less Than Significant Impact With Mitigation	Less Than Significant Impact	No Impact
A. Would the project require or result in the relocation or construction of new or expanded water, wastewater treatment or stormwater drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?			✖	
B. Would the project have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry, and multiple dry years?			✖	
C. Would the project result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?			✖	
D. Would the project generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?			✖	
E. Would the project comply with Federal, State, and local management and reduction statutes and regulations related to solid waste?				✖

ANALYSIS OF ENVIRONMENTAL IMPACTS

A. Would the project require or result in the relocation or construction of new or expanded water, wastewater treatment or stormwater drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects? ● Less than Significant Impact.

This current amendment would expand the Specific Plan Area to include a 9.98-acre property located on the southeast corner of Heacock Street and Ironwood Avenue. This added area will be referred to as the expanded *Planning Area 1*. This Planning Area 1 is currently undeveloped though it has been rough graded and disked for maintenance and fire mitigation. The Specific Plan is being amended to allow for the development of a 220,390 square foot light industrial building. The Moreno Valley Festival Specific Plan area is within the Middle and Lower San Jacinto River watershed which is part of the larger Santa Ana River watershed. The stormwater runoff within the Sunnymead Drainage Area generally flows in a southeasterly direction and the subarea boundary ends at the Perris Valley Storm Drain. The Riverside County Flood Control and Water Conservation District (RCFCWCD) is the responsible agency for the project area's regional flood control system. The Planning Area flanks an existing City-owned detention basin located in the eastern portion of the Planning Area. An earthen channel extends southeast which collects stormwater runoff north of Ironwood Avenue and conveys this water through the corner of Ironwood Avenue and Heacock Boulevard before ultimately discharging to the aforementioned detention basin. There are two 102 inch Storm Drain Lines that extend along Ironwood Avenue and south along Davis Street which also discharge to the detention basin. The detention basin outlet is conveyed by a 12 foot by 4.5 foot Reinforced Concrete Box which connects to Perris Storm Drain and discharges into Canyon Lake. The watershed

drainage continues southwest to Lake Elsinore downstream and eventually flows northwest to the Santa Ana River.[99]

The implementation of the Specific Plan will result in an increase in the amount of impervious surfaces within the Planning Area. In the absence of mitigation, the impervious surfaces (internal driveways, parking areas, etc.) that would be constructed as part of the site's development could lead to the presence of debris, leaves, soils, oil/grease, and other pollutants within the vicinity. Thus, future development proposals must include Water Quality Management Plan (WQMP). The WQMP shall include measures designed to control pollutants, pollutant loads, and runoff volume to the maximum extent feasible by minimizing impervious surface area and controlling runoff from impervious surfaces through infiltration, evapotranspiration, bioretention, and/or rainfall harvest and use. The project applicant shall prepare a WQMP which implements set standards and practices for stormwater pollution mitigation and provides documentation to demonstrate compliance with the municipal NPDES permit on the plans and permit application submitted to the City. Additional storm drain improvements will need to be added for the project. A system of underground drainage lines and detention basins will convey the storm water runoff and manage the increased flow due to the proposed development. Site specific projects shall be consistent with this concept plan. The construction of new storm drains and stormwater BMPs would not cause any adverse impacts to the environment that have not already been analyzed in this document. Since the inclusion of site specific BMPs is mandatory, these BMPs are included in the overall analysis of future development. As a result, the potential impacts are considered to be less than significant.

B. *Would the project have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry, and multiple dry years? ● Less than Significant Impact.*

Eastern Municipal Water District (EMWD) provides water service to the Moreno Valley Festival, receiving its water from Metropolitan Water District (MWD) and local groundwater wells. Future development undertaken within the Planning Area will have adequate water supply from Eastern Municipal Water District. There is an existing 16 inch water main along Hemlock Avenue, a 16 inch water main along Davis Street, and a 12 inch water main passes through current Festival Development.[100] The implementation of the Specific Plan and any subsequent development that may result will not require the construction of new water treatment facilities or the expansion of existing facilities. The amount of water that will be consumed by the development envisioned under the Specific Plan will be adequately handled by the EMWD. Furthermore, there is adequate treatment capacity available at the Moreno Valley Regional Water Reclamation Facility (MVRWRF).

The MVRWRF presently handles 10.6 million gallons per day. The Facility has a current capacity of 16 million gallons per day though with programmed upgrades it will have an ultimate capacity of 41 million gallons per day.[101] This MVRWRF also has the ability to divert about two million gallons per day to the Perris facility. Therefore, the implementation of the Specific Plan and the development of the land uses

[99] National Engineering Consultants. *Amendment to Specific Plan 205.* Draft dated December 29th, 2015.

[100] Ibid.

[101] Eastern Municipal Water District. *Moreno Valley Regional Water Reclamation Facility*. https://www.emwd.org/home/showdocument?id=1423

envisioned under the Specific Plan will not require the construction of new wastewater treatment facilities or the expansion of existing facilities.

As indicated previously, the EMWD provides potable water, recycled water, and wastewater services to an area of approximately 555 square miles in western Riverside County. EMWD is both a retail and wholesale agency, serving a retail population of 546,146 people and a wholesale population of 215,075 people. The majority of EMWD's supplies are imported water purchased through MWD from the State Water Project (SWP) and the Colorado River Aqueduct (CRA). Imported water is delivered to EMWD either as potable water treated by MWD, or as raw water that EMWD can either treat at one of its two local filtration plants or deliver as raw water for non-potable uses.[102]

EMWD's local supplies include groundwater, desalinated groundwater, and recycled water. Groundwater is pumped from the Hemet/San Jacinto and West San Jacinto areas of the San Jacinto Groundwater Basin. Groundwater in portions of the West San Jacinto Basin is high in salinity and requires desalination for potable use. EMWD owns and operates two desalination plants that convert brackish groundwater from the West San Jacinto Basin into potable water.[103] Table 3-7, shows the projected water demand for the future development envisioned under the Specific Plan. According to the Table, future development for the expanded Planning Area 1 is anticipated to consume approximately 30,841 gallons of water on a daily basis.

Table 3-7
Water Consumption (gals/day)

Use	Unit	Factor	Generation
Business Park	220,290 sq.ft.	0.14 gal/day/sq.ft	30,841 gals/day
Total			**30,841 gals/day**

Source: Blodgett Baylosis Environmental Planning.

According to the EMWD's 2015 Urban Water Management Plan which is the most recent, demand for water will reach 197,901 acre-feet per year by the year 2020. The EMWD is estimated to have a projected supply of 197,901 acre-feet per year of water. The projected supply of water will be just enough to meet the projected demand. As a result, all future development proposals must include water efficient appliances and fixtures, drought tolerant landscaping, and the use of drip irrigation. These methods of water conservation were reiterated as mitigation in Section 3.7. Thus, the potential impacts are considered to be less than significant.

C. *Would the project result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments? ● Less than Significant Impact.*

Wastewater service in Moreno Valley is provided by the Eastern Municipal Water District (EMWD), which serves most of the City and surrounding areas, and the Edgemont Community Services District, which provides service to a small area in southwestern Moreno Valley. The EMWD operates over 356 miles of sewer mains (12 inches and above) and six sewage lift stations to provide wastewater collection services within the City. All wastewater is collected and conveyed to the Moreno Valley Regional Water Reclamation Facility (MVRWRF) located in the southwestern portion of the City. The MVRWRF presently handles 10.6

[102] RMC Water and Environment. *Eastern Municipal Water District 2015 Urban Water Management Plan*. Plan dated June 2016.

[103] Ibid.

million gallons per day. The Facility has a current capacity of 16 million gallons per day though with programmed upgrades it will have an ultimate capacity of 41 million gallons per day.[104] This MVRWRF also has the ability to divert about two million gallons per day to the Perris facility. The primary trunk sewer line serving the Moreno Valley Festival area is located in Heacock Street. This trunk sewer line continues in a southerly direction in Heacock Street and the east along Mariposa Avenue conveying wastewater to the MVRWRF. As individual projects are proposed, review of the local sewer lines' capacity will be undertaken. A preliminary analysis of the amount of sewage that will be generated by the development envisioned under the Specific Plan is included in Table 3-8. According to the Table, future development is anticipated to result in the generation of 24,232 gallons of wastewater per day.

Table 3-8
Wastewater (Effluent) Generation (gals/day)

Use	Unit	Factor	Generation
Business Park	220,290 sq.ft.	0.11 gal/day/sq.ft	24,232 gals/day
Total			**24,232 gals/day**

Source: Blodgett Baylosis Environmental Planning.

As indicated previously, a review of the local sewer lines will be completed as individual projects are proposed. As indicated previously, the project will result in a generation of 24,232 gallons of wastewater per day. The proposed development will connect with an existing sewer line in Davis Street and Hemlock Avenue. The future wastewater generation will be within the treatment capacity of the Moreno Valley Regional Water Reclamation Facility. In addition, this projected effluent generation does not take into account the water conserving plumbing fixtures that will be installed. No new treatment facilities or expanded entitlements will be required. As a result, the impacts are anticipated to be less than significant.

D. Would the project generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals? ● Less than Significant Impact.

According to the City's General Plan, solid waste generated within the planning area is primarily deposited in the Riverside County Waste Management Department's (RCWMD) Badlands Landfill, located approximately 6.43 miles northeast of the Planning Area. However, the City's trash hauler can also use other County landfills in the area such as the Lamb Canyon Landfill and El Sobrante Landfill. Waste Management of Inland Empire currently provides waste pickup in Moreno Valley. The Badlands Landfill presently accepts up to 4,800 tons per day of solid waste. This landfill has a remaining capacity of 15,749,799 cubic yards of waste.[105] The El Sobrante Landfill is a Class-III landfill that currently accepts up to 70,000 tons per week. This landfill has a remaining capacity of 209 million cubic yards.[106] Table 3-9 shows the solid waste generation anticipated under the Specific Plan Amendment for the expanded Planning Area 1.

[104] Eastern Municipal Water District. *Moreno Valley Regional Water Reclamation Facility*. https://www.emwd.org/home/showdocument?id=1423

[105] CalRecycle. *Facility/Site Summary Details: Bandlands Sanitary Landfill*. http://www.calrecycle.ca.gov/SWFacilities/Directory/33-AA-0006/Detail/

[106] Waste Management. *El Sobrante Landfill*. https://www.wmsolutions.com/pdf/factsheet/El_Sobrante_Landfill.pdf

Table 3-9
Solid Waste Generation (gals/day)

Use	Unit	Factor	Generation
Business Park	220,290 sq.ft.	6 lbs/day/sq.ft	1,322 lbs./day
Total			**1,322 Lbs./day**

Source: Blodgett Baylosis Environmental Planning.

As indicated in the Table, future development envisioned under the Plan is anticipated to result in the generation of approximately 1,322 pounds of solid waste per day. The potential impacts are anticipated to be less than significant since the goals, policies, and implementation programs contained within the Plan will also further mitigate the potential impacts from future development within the Planning Area.

E. Would the project comply with Federal, State, and local statutes and regulations related to solid waste? ● No Impact.

The future development supported by the Moreno Valley Festival Specific Plan, like all other development in Moreno Valley, will be required to adhere to city and county ordinances with respect to waste reduction and recycling. As a result, no impacts related to State and local statutes governing solid waste are anticipated.

MITIGATION MEASURES

The adoption and subsequent implementation of the Moreno Valley Festival Specific Plan Amendment for the expanded Planning Area 1 will not lead to any impacts not already identified in the certified EIR that was prepared for the City of Moreno Valley General Plan. In addition, the goals, policies, and implementation programs contained within the Specific Plan will also further mitigate the potential impacts from new development contemplated as part of the implementation of the General Plan and the Moreno Valley Festival Specific Plan.[107] As a result, no additional mitigation beyond that which may be required for individual development projects is required.

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[107] P and D Consultants. *Final Environmental Impact Report - City of Moreno Valley General Plan SCH# 200091075*. Report dated July 2006.

3.20 WILDFIRE

Environmental Issue Areas Examined	Potentially Significant Impact	Less Than Significant Impact With Mitigation	Less Than Significant Impact	No Impact
A. If located in or near State responsibility areas or lands classified as very high fire hazard severity zones, would the project substantially impair an adopted emergency response plan or emergency evacuation plan?				✖
B. If located in or near State responsibility areas or lands classified as very high fire hazard severity zones, would the project due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?				✖
C. If located in or near State responsibility areas or lands classified as very high fire hazard severity zones, would the project require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines, or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?				✖
D. If located in or near State responsibility areas or lands classified as very high fire hazard severity zones, would the project expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?				✖

ANALYSIS OF ENVIRONMENTAL IMPACTS

A. *If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project substantially impair an adopted emergency response plan or emergency evacuation plan? ● No Impact.*

The project site is located in the midst of an urbanizing area. Both improved and unimproved streets serve the project site and the surrounding area. Furthermore, the proposed project would not involve the closure or alteration of any existing evacuation routes that would be important in the event of a wildfire. As a result, no impacts will occur. At no time during construction will adjacent streets be completely closed to traffic. All construction staging must occur on-site. Furthermore, the proposed project would not involve the closure or alteration of any existing evacuation routes that would be used in the event of a wildfire. As a result, no impacts will occur.

B. *If located in or near state responsibility areas or lands classified as very high fire hazard severity zones would the project due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire? ● No Impact.*

The proposed project site may be exposed to particulate emissions generated by wildland fires in the mountains (the site located approximately 20 miles north of the San Gabriel and San Bernardino Mountains). However, the potential impacts would not be exclusive to the project site since criteria pollutant emissions from wildland fires may affect the entire City as well as the surrounding cities and

unincorporated county areas. As a result, no impacts will occur.

C. *If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines, or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment? ● No Impact.*

The project will include the extension of new utility lines such as gas lines, water lines, etc. on to the site only. These utilities lines will be located below ground surface. As a result, no impacts will occur.

D. *If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes? ● No Impact.*

There is no risk from wildfire within the project site or the surrounding area given the project site's distance from any area that may be subject to a wildfire event. Therefore, the project will not expose future employees or guests to flooding or landslides facilitated by runoff flowing down barren and charred slopes and no impacts will occur.

MITIGATION MEASURES

The analysis of wildfires impacts indicated that less than significant impacts would result from the proposed project's approval and subsequent implementation. As a result, no mitigation is required.

3.21 MANDATORY FINDINGS OF SIGNIFICANCE

Environmental Issue Areas Examined	Potentially Significant Impact	Less Than Significant Impact With Mitigation	Less Than Significant Impact	No Impact
A. Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?				✖
B. Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?				✖
C. Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?				✖

The following findings can be made regarding the Mandatory Findings of Significance set forth in Section 15065 of the CEQA Guidelines based on the results of this environmental assessment:

- The proposed project *will not* have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory. As indicated in Section 3.1 through 3.20, the proposed project will not result in any significant unmitigable environmental impacts.

- The proposed project *will not* have impacts that are individually limited, but cumulatively considerable. The proposed project is relatively small and the attendant environmental impacts will not lead to a cumulatively significant impact on any of the issues analyzed herein.

- The proposed project *will not* have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly. As indicated in Section 3.1 through 3.20, the proposed project will not result in any significant unmitigable environmental impacts.

SECTION 4 CONCLUSIONS

4.1 FINDINGS

The Initial Study determined that the proposed project is not expected to have significant adverse environmental impacts. The following findings can be made regarding the Mandatory Findings of Significance set forth in Section 15065 of the CEQA Guidelines based on the results of this Initial Study:

- The proposed project *will not* have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of an endangered, rare or threatened species or eliminate important examples of the major periods of California history or prehistory.
- The proposed project *will not* have impacts that are individually limited, but cumulatively considerable.
- The proposed project *will not* have environmental effects which will cause substantially adverse effects on human beings, either directly or indirectly.

4.2 MITIGATION MONITORING

In addition, pursuant to Section 21081(a) of the Public Resources Code, findings must be adopted by the decision-maker coincidental to the approval of a Negative Declaration. These findings shall be incorporated as part of the decision-maker's findings of fact, in response to AB-3180 and in compliance with the requirements of the Public Resources Code. In accordance with the requirements of Section 21081(a) and 21081.6 of the Public Resources Code, the City of Moreno Valley can make the following additional findings: a mitigation monitoring and reporting program will be required.

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SECTION 5 REFERENCES

5.1 PREPARERS

Blodgett Baylosis Environmental Planning
16388 Colima Road, Suite 206J
Hacienda Heights, CA 91745
(626) 336-0033

Marc Blodgett, Project Principal
Jessica Golden, Project Manager

5.2 REFERENCES

Bugliarello, et. al., *The Impact of Noise Pollution,* Chapter 127, 1976.

California Department of Conservation, Division of Land Resource Protection, Farmland Mapping, and Monitoring Program. *California Important Farmland Finder*.

California Department of Fish and Wildlife, *Natural Diversity Database*.

California Department of Parks and Recreation, *California Historical Landmarks*.

California Division of Mines and Geology, *Seismic Hazards Mapping Program,* 2012.

California Office of Planning and Research, *California Environmental Quality Act and the CEQA Guidelines*, as amended 2018.

Google Earth.

Moreno Valley, City of, *Municipal Code,* Chapter 17.70, Signs.

Southern California Association of Governments, *Regional Transportation Plan/Sustainable Communities Strategy 2016-2040,* April 2016.

United States Department of Agriculture. *Web Soil Survey*.

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Appendix A to Initial Study
Air Quality Worksheets

APPENDIX A – AIR QUALITY WORKSHEETS

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Koala Road Greenhouses and Commercial Center

Mojave Desert AQMD Air District, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Manufacturing	463.00	1000sqft	10.63	463,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.6	**Precipitation Freq (Days)**	30
Climate Zone	10			**Operational Year**	2022
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	702.44	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use -

Construction Phase - N/A

Construction Off-road Equipment Mitigation - N/A

Area Mitigation -

Energy Mitigation -

Water Mitigation -

Waste Mitigation -

Koala Road Greenhouses and Commercial Center - Mojave Desert AQMD Air District, Annual

Table Name	Column Name	Default Value	New Value
tblAreaMitigation	UseLowVOCPaintParkingCheck	False	True
tblConstDustMitigation	WaterExposedAreaPM10PercentReduction	61	55
tblConstDustMitigation	WaterExposedAreaPM25PercentReduction	61	55
tblConstructionPhase	NumDays	20.00	13.00
tblConstructionPhase	NumDays	300.00	88.00
tblConstructionPhase	NumDays	30.00	21.00
tblConstructionPhase	NumDays	20.00	11.00
tblConstructionPhase	NumDays	10.00	22.00
tblConstructionPhase	PhaseEndDate	7/14/2022	8/5/2021
tblConstructionPhase	PhaseEndDate	5/19/2022	7/3/2021
tblConstructionPhase	PhaseEndDate	3/25/2021	3/2/2021
tblConstructionPhase	PhaseEndDate	6/16/2022	7/19/2021
tblConstructionPhase	PhaseEndDate	2/11/2021	2/1/2021
tblConstructionPhase	PhaseStartDate	6/17/2022	7/20/2021
tblConstructionPhase	PhaseStartDate	3/26/2021	3/3/2021
tblConstructionPhase	PhaseStartDate	2/12/2021	2/2/2021
tblConstructionPhase	PhaseStartDate	5/20/2022	7/4/2021
tblConstructionPhase	PhaseStartDate	1/29/2021	1/1/2021
tblGrading	AcresOfGrading	52.50	75.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2021	5.5900	2.1234	1.7153	4.0500e-003	0.3990	0.0908	0.4898	0.1746	0.0845	0.2591	0.0000	362.1755	362.1755	0.0686	0.0000	363.8915
Maximum	**5.5900**	**2.1234**	**1.7153**	**4.0500e-003**	**0.3990**	**0.0908**	**0.4898**	**0.1746**	**0.0845**	**0.2591**	**0.0000**	**362.1755**	**362.1755**	**0.0686**	**0.0000**	**363.8915**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2021	5.5900	2.1234	1.7153	4.0500e-003	0.2330	0.0908	0.3238	0.0931	0.0845	0.1775	0.0000	362.1753	362.1753	0.0686	0.0000	363.8912
Maximum	**5.5900**	**2.1234**	**1.7153**	**4.0500e-003**	**0.2330**	**0.0908**	**0.3238**	**0.0931**	**0.0845**	**0.1775**	**0.0000**	**362.1753**	**362.1753**	**0.0686**	**0.0000**	**363.8912**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	41.60	0.00	33.88	46.70	0.00	31.48	0.00	0.00	0.00	0.00	0.00	0.00

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	1-1-2021	3-31-2021	1.3236	1.3236
2	4-1-2021	6-30-2021	0.9133	0.9133
3	7-1-2021	9-30-2021	5.1353	5.1353
		Highest	5.1353	5.1353

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	2.3451	4.0000e-005	4.2600e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	8.2700e-003	8.2700e-003	2.0000e-005	0.0000	8.8200e-003
Energy	0.0811	0.7374	0.6194	4.4200e-003		0.0560	0.0560		0.0560	0.0560	0.0000	2,300.0903	2,300.0903	0.0772	0.0275	2,310.2174
Mobile	0.4989	4.4854	5.4152	0.0237	1.5661	0.0145	1.5806	0.4198	0.0136	0.4334	0.0000	2,199.7607	2,199.7607	0.1649	0.0000	2,202.8821
Waste						0.0000	0.0000		0.0000	0.0000	116.5412	0.0000	116.5412	6.8874	0.0000	288.7258
Water						0.0000	0.0000		0.0000	0.0000	33.9680	444.2036	478.1716	3.5072	0.0862	591.5306
Total	2.9251	5.2228	6.0388	0.0281	1.5661	0.0706	1.6367	0.4198	0.0697	0.4894	150.5091	4,943.0628	5,093.5719	10.6367	0.1137	5,393.3647

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	2.2100	4.0000e-005	4.2600e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	8.2700e-003	8.2700e-003	2.0000e-005	0.0000	8.8200e-003
Energy	0.0811	0.7374	0.6194	4.4200e-003		0.0560	0.0560		0.0560	0.0560	0.0000	2,300.0903	2,300.0903	0.0772	0.0275	2,310.2174
Mobile	0.4986	4.4854	5.4152	0.0237	1.5661	0.0145	1.5806	0.4198	0.0136	0.4334	0.0000	2,198.7607	2,198.7607	0.1649	0.0000	2,202.8821
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	33.9680	444.2036	478.1716	3.5072	0.0862	591.5306
Total	**2.7899**	**5.2228**	**5.0388**	**0.0281**	**1.5661**	**0.0706**	**1.6367**	**0.4198**	**0.0697**	**0.4894**	**33.9680**	**4,943.0628**	**4,977.0308**	**3.7493**	**0.1137**	**5,104.5383**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	4.62	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	77.43	0.00	2.29	64.75	0.00	5.35

3.0 Construction Detail

Construction Phase

Koala Road Greenhouses and Commercial Center - Mojave Desert AQMD Air District, Annual

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	1/1/2021	2/1/2021	5	22	
2	Grading	Grading	2/2/2021	3/2/2021	5	21	
3	Building Construction	Building Construction	3/3/2021	7/3/2021	5	88	
4	Paving	Paving	7/4/2021	7/19/2021	5	11	
5	Architectural Coating	Architectural Coating	7/20/2021	8/5/2021	5	13	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 75

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 694,500; Non-Residential Outdoor: 231,500; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Koala Road Greenhouses and Commercial Center - Mojave Desert AQMD Air District, Annual

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48
Grading	Excavators	2	8.00	158	0.38
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Paving	Pavers	2	8.00	130	0.42
Paving	Rollers	2	8.00	80	0.38
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Grading	Graders	1	8.00	187	0.41
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Paving	Paving Equipment	2	8.00	132	0.36
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Building Construction	Welders	1	8.00	46	0.45

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	7	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	194.00	76.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	39.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

3.2 Site Preparation - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1987	0.0000	0.1987	0.1092	0.0000	0.1092	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0428	0.4455	0.2327	4.2000e-004		0.0225	0.0225		0.0207	0.0207	0.0000	36.7793	36.7793	0.0119	0.0000	37.0767
Total	**0.0428**	**0.4455**	**0.2327**	**4.2000e-004**	**0.1987**	**0.0225**	**0.2212**	**0.1092**	**0.0207**	**0.1299**	**0.0000**	**36.7793**	**36.7793**	**0.0119**	**0.0000**	**37.0767**

3.2 Site Preparation - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	7.7000e-004	6.0000e-004	5.5900e-003	1.0000e-005	1.6000e-003	1.0000e-005	1.6100e-003	4.2000e-004	1.0000e-005	4.3000e-004	0.0000	1.3076	1.3076	4.0000e-005	0.0000	1.3086
Total	**7.7000e-004**	**6.0000e-004**	**5.5900e-003**	**1.0000e-005**	**1.6000e-003**	**1.0000e-005**	**1.6100e-003**	**4.2000e-004**	**1.0000e-005**	**4.3000e-004**	**0.0000**	**1.3076**	**1.3076**	**4.0000e-005**	**0.0000**	**1.3086**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0894	0.0000	0.0894	0.0492	0.0000	0.0492	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0428	0.4455	0.2327	4.2000e-004		0.0225	0.0225		0.0207	0.0207	0.0000	36.7792	36.7792	0.0119	0.0000	37.0766
Total	**0.0428**	**0.4455**	**0.2327**	**4.2000e-004**	**0.0894**	**0.0225**	**0.1119**	**0.0492**	**0.0207**	**0.0699**	**0.0000**	**36.7792**	**36.7792**	**0.0119**	**0.0000**	**37.0766**

3.2 Site Preparation - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	7.7000e-004	6.0000e-004	5.5900e-003	1.0000e-005	1.6000e-003	1.0000e-005	1.6100e-003	4.2000e-004	1.0000e-005	4.3000e-004	0.0000	1.3076	1.3076	4.0000e-005	0.0000	1.3086
Total	**7.7000e-004**	**6.0000e-004**	**5.5900e-003**	**1.0000e-005**	**1.6000e-003**	**1.0000e-005**	**1.6100e-003**	**4.2000e-004**	**1.0000e-005**	**4.3000e-004**	**0.0000**	**1.3076**	**1.3076**	**4.0000e-005**	**0.0000**	**1.3086**

3.3 Grading - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1030	0.0000	0.1030	0.0391	0.0000	0.0391	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0440	0.4872	0.3242	6.5000e-004		0.0209	0.0209		0.0192	0.0192	0.0000	57.2197	57.2197	0.0185	0.0000	57.6824
Total	**0.0440**	**0.4872**	**0.3242**	**6.5000e-004**	**0.1030**	**0.0209**	**0.1239**	**0.0391**	**0.0192**	**0.0582**	**0.0000**	**57.2197**	**57.2197**	**0.0185**	**0.0000**	**57.6824**

3.3 Grading - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	8.2000e-004	6.4000e-004	5.9300e-003	2.0000e-005	1.6900e-003	1.0000e-005	1.7000e-003	4.5000e-004	1.0000e-005	4.6000e-004	0.0000	1.3869	1.3869	4.0000e-005	0.0000	1.3880
Total	**8.2000e-004**	**6.4000e-004**	**5.9300e-003**	**2.0000e-005**	**1.6900e-003**	**1.0000e-005**	**1.7000e-003**	**4.5000e-004**	**1.0000e-005**	**4.6000e-004**	**0.0000**	**1.3869**	**1.3869**	**4.0000e-005**	**0.0000**	**1.3880**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0464	0.0000	0.0464	0.0176	0.0000	0.0176	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0440	0.4872	0.3242	6.5000e-004		0.0209	0.0209		0.0192	0.0192	0.0000	57.2197	57.2197	0.0185	0.0000	57.6823
Total	**0.0440**	**0.4872**	**0.3242**	**6.5000e-004**	**0.0464**	**0.0209**	**0.0672**	**0.0176**	**0.0192**	**0.0368**	**0.0000**	**57.2197**	**57.2197**	**0.0185**	**0.0000**	**57.6823**

3.3 Grading - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	8.2000e-004	6.4000e-004	5.9300e-003	2.0000e-005	1.6900e-003	1.0000e-005	1.7000e-003	4.5000e-004	1.0000e-005	4.6000e-004	0.0000	1.3869	1.3869	4.0000e-005	0.0000	1.3880
Total	**8.2000e-004**	**6.4000e-004**	**5.9300e-003**	**2.0000e-005**	**1.6900e-003**	**1.0000e-005**	**1.7000e-003**	**4.5000e-004**	**1.0000e-005**	**4.6000e-004**	**0.0000**	**1.3869**	**1.3869**	**4.0000e-005**	**0.0000**	**1.3880**

3.4 Building Construction - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0836	0.7670	0.7293	1.1800e-003		0.0422	0.0422		0.0397	0.0397	0.0000	101.9204	101.9204	0.0246	0.0000	102.5351
Total	**0.0836**	**0.7670**	**0.7293**	**1.1800e-003**		**0.0422**	**0.0422**		**0.0397**	**0.0397**	**0.0000**	**101.9204**	**101.9204**	**0.0246**	**0.0000**	**102.5351**

3.4 Building Construction - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	9.9200e-003	0.3145	0.0748	9.7000e-004	0.0224	5.0000e-004	0.0229	6.4500e-003	4.8000e-004	6.9300e-003	0.0000	92.2979	92.2979	8.0300e-003	0.0000	92.4987
Worker	0.0334	0.0260	0.2409	6.2000e-004	0.0689	4.3000e-004	0.0693	0.0183	3.9000e-004	0.0187	0.0000	56.3723	56.3723	1.7800e-003	0.0000	56.4169
Total	**0.0433**	**0.3405**	**0.3157**	**1.5900e-003**	**0.0912**	**9.3000e-004**	**0.0922**	**0.0247**	**8.7000e-004**	**0.0256**	**0.0000**	**148.6701**	**148.6701**	**9.8100e-003**	**0.0000**	**148.9155**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0836	0.7670	0.7293	1.1800e-003		0.0422	0.0422		0.0397	0.0397	0.0000	101.9203	101.9203	0.0246	0.0000	102.5350
Total	**0.0836**	**0.7670**	**0.7293**	**1.1800e-003**		**0.0422**	**0.0422**		**0.0397**	**0.0397**	**0.0000**	**101.9203**	**101.9203**	**0.0246**	**0.0000**	**102.5350**

3.4 Building Construction - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	9.9200e-003	0.3145	0.0748	9.7000e-004	0.0224	5.0000e-004	0.0229	6.4500e-003	4.8000e-004	6.9300e-003	0.0000	92.2979	92.2979	8.0300e-003	0.0000	92.4987
Worker	0.0334	0.0260	0.2409	6.2000e-004	0.0689	4.3000e-004	0.0693	0.0183	3.9000e-004	0.0187	0.0000	56.3723	56.3723	1.7800e-003	0.0000	56.4169
Total	**0.0433**	**0.3405**	**0.3157**	**1.5900e-003**	**0.0912**	**9.3000e-004**	**0.0922**	**0.0247**	**8.7000e-004**	**0.0256**	**0.0000**	**148.6701**	**148.6701**	**9.8100e-003**	**0.0000**	**148.9155**

3.5 Paving - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	6.9100e-003	0.0711	0.0806	1.3000e-004		3.7300e-003	3.7300e-003		3.4300e-003	3.4300e-003	0.0000	11.0129	11.0129	3.5600e-003	0.0000	11.1020
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**6.9100e-003**	**0.0711**	**0.0806**	**1.3000e-004**		**3.7300e-003**	**3.7300e-003**		**3.4300e-003**	**3.4300e-003**	**0.0000**	**11.0129**	**11.0129**	**3.5600e-003**	**0.0000**	**11.1020**

3.5 Paving - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.2000e-004	2.5000e-004	2.3300e-003	1.0000e-005	6.7000e-004	0.0000	6.7000e-004	1.8000e-004	0.0000	1.8000e-004	0.0000	0.5448	0.5448	2.0000e-005	0.0000	0.5453
Total	**3.2000e-004**	**2.5000e-004**	**2.3300e-003**	**1.0000e-005**	**6.7000e-004**	**0.0000**	**6.7000e-004**	**1.8000e-004**	**0.0000**	**1.8000e-004**	**0.0000**	**0.5448**	**0.5448**	**2.0000e-005**	**0.0000**	**0.5453**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	6.9100e-003	0.0711	0.0806	1.3000e-004		3.7300e-003	3.7300e-003		3.4300e-003	3.4300e-003	0.0000	11.0129	11.0129	3.5600e-003	0.0000	11.1020
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**6.9100e-003**	**0.0711**	**0.0806**	**1.3000e-004**		**3.7300e-003**	**3.7300e-003**		**3.4300e-003**	**3.4300e-003**	**0.0000**	**11.0129**	**11.0129**	**3.5600e-003**	**0.0000**	**11.1020**

3.5 Paving - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.2000e-004	2.5000e-004	2.3300e-003	1.0000e-005	6.7000e-004	0.0000	6.7000e-004	1.8000e-004	0.0000	1.8000e-004	0.0000	0.5448	0.5448	2.0000e-005	0.0000	0.5453
Total	**3.2000e-004**	**2.5000e-004**	**2.3300e-003**	**1.0000e-005**	**6.7000e-004**	**0.0000**	**6.7000e-004**	**1.8000e-004**	**0.0000**	**1.8000e-004**	**0.0000**	**0.5448**	**0.5448**	**2.0000e-005**	**0.0000**	**0.5453**

3.6 Architectural Coating - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	5.3650					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.4200e-003	9.9200e-003	0.0118	2.0000e-005		6.1000e-004	6.1000e-004		6.1000e-004	6.1000e-004	0.0000	1.6598	1.6598	1.1000e-004	0.0000	1.6625
Total	**5.3664**	**9.9200e-003**	**0.0118**	**2.0000e-005**		**6.1000e-004**	**6.1000e-004**		**6.1000e-004**	**6.1000e-004**	**0.0000**	**1.6598**	**1.6598**	**1.1000e-004**	**0.0000**	**1.6625**

3.6 Architectural Coating - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	9.9000e-004	7.7000e-004	7.1500e-003	2.0000e-005	2.0500e-003	1.0000e-005	2.0600e-003	5.4000e-004	1.0000e-005	5.5000e-004	0.0000	1.6741	1.6741	5.0000e-005	0.0000	1.6755
Total	**9.9000e-004**	**7.7000e-004**	**7.1500e-003**	**2.0000e-005**	**2.0500e-003**	**1.0000e-005**	**2.0600e-003**	**5.4000e-004**	**1.0000e-005**	**5.5000e-004**	**0.0000**	**1.6741**	**1.6741**	**5.0000e-005**	**0.0000**	**1.6755**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	5.3650					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.4200e-003	9.9200e-003	0.0118	2.0000e-005		6.1000e-004	6.1000e-004		6.1000e-004	6.1000e-004	0.0000	1.6596	1.6596	1.1000e-004	0.0000	1.6625
Total	**5.3664**	**9.9200e-003**	**0.0118**	**2.0000e-005**		**6.1000e-004**	**6.1000e-004**		**6.1000e-004**	**6.1000e-004**	**0.0000**	**1.6596**	**1.6596**	**1.1000e-004**	**0.0000**	**1.6625**

3.6 Architectural Coating - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	9.9000e-004	7.7000e-004	7.1500e-003	2.0000e-005	2.0500e-003	1.0000e-005	2.0600e-003	5.4000e-004	1.0000e-005	5.5000e-004	0.0000	1.6741	1.6741	5.0000e-005	0.0000	1.6755
Total	**9.9000e-004**	**7.7000e-004**	**7.1500e-003**	**2.0000e-005**	**2.0500e-003**	**1.0000e-005**	**2.0600e-003**	**5.4000e-004**	**1.0000e-005**	**5.5000e-004**	**0.0000**	**1.6741**	**1.6741**	**5.0000e-005**	**0.0000**	**1.6755**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.4989	4.4854	5.4152	0.0237	1.5661	0.0145	1.5806	0.4198	0.0136	0.4334	0.0000	2,198.7607	2,198.7607	0.1649	0.0000	2,202.8821
Unmitigated	0.4989	4.4854	5.4152	0.0237	1.5661	0.0145	1.5806	0.4198	0.0136	0.4334	0.0000	2,198.7607	2,198.7607	0.1649	0.0000	2,202.8821

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Manufacturing	1,768.66	689.87	287.06	4,095,753	4,095,753
Total	1,768.66	689.87	287.06	4,095,753	4,095,753

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Manufacturing	9.50	7.30	7.30	59.00	28.00	13.00	92	5	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Manufacturing	0.542047	0.035396	0.174897	0.107230	0.017469	0.005327	0.008901	0.094756	0.001421	0.002157	0.008671	0.000709	0.001020

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Install High Efficiency Lighting

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	1,497.3455	1,497.3455	0.0618	0.0128	1,502.7023
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	1,497.3455	1,497.3455	0.0618	0.0128	1,502.7023
NaturalGas Mitigated	0.0811	0.7374	0.6194	4.4200e-003		0.0560	0.0560		0.0560	0.0560	0.0000	802.7448	802.7448	0.0154	0.0147	807.5151
NaturalGas Unmitigated	0.0811	0.7374	0.6194	4.4200e-003		0.0560	0.0560		0.0560	0.0560	0.0000	802.7448	802.7448	0.0154	0.0147	807.5151

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Manufacturing	1.50429e+007	0.0811	0.7374	0.6194	4.4200e-003		0.0560	0.0560		0.0560	0.0560	0.0000	802.7448	802.7448	0.0154	0.0147	807.5151
Total		**0.0811**	**0.7374**	**0.6194**	**4.4200e-003**		**0.0560**	**0.0560**		**0.0560**	**0.0560**	**0.0000**	**802.7448**	**802.7448**	**0.0154**	**0.0147**	**807.5151**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Manufacturing	1.50429e+007	0.0811	0.7374	0.6194	4.4200e-003		0.0560	0.0560		0.0560	0.0560	0.0000	802.7448	802.7448	0.0154	0.0147	807.5151
Total		**0.0811**	**0.7374**	**0.6194**	**4.4200e-003**		**0.0560**	**0.0560**		**0.0560**	**0.0560**	**0.0000**	**802.7448**	**802.7448**	**0.0154**	**0.0147**	**807.5151**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Manufacturing	4.69945e+006	1,497.3455	0.0618	0.0128	1,502.7023
Total		**1,497.3455**	**0.0618**	**0.0128**	**1,502.7023**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Manufacturing	4.69945e+006	1,497.3455	0.0618	0.0128	1,502.7023
Total		**1,497.3455**	**0.0618**	**0.0128**	**1,502.7023**

6.0 Area Detail

6.1 Mitigation Measures Area

Use Low VOC Paint - Non-Residential Interior

Use Low VOC Paint - Non-Residential Exterior

Use Low VOC Cleaning Supplies

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	2.2100	4.0000e-005	4.2600e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	8.2700e-003	8.2700e-003	2.0000e-005	0.0000	8.8200e-003
Unmitigated	2.3451	4.0000e-005	4.2600e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	8.2700e-003	8.2700e-003	2.0000e-005	0.0000	8.8200e-003

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.5365					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.8083					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	4.0000e-004	4.0000e-005	4.2600e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	8.2700e-003	8.2700e-003	2.0000e-005	0.0000	8.8200e-003
Total	**2.3452**	**4.0000e-005**	**4.2600e-003**	**0.0000**		**2.0000e-005**	**2.0000e-005**		**2.0000e-005**	**2.0000e-005**	**0.0000**	**8.2700e-003**	**8.2700e-003**	**2.0000e-005**	**0.0000**	**8.8200e-003**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.5365					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.6731					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	4.0000e-004	4.0000e-005	4.2600e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	8.2700e-003	8.2700e-003	2.0000e-005	0.0000	8.8200e-003
Total	**2.2100**	**4.0000e-005**	**4.2600e-003**	**0.0000**		**2.0000e-005**	**2.0000e-005**		**2.0000e-005**	**2.0000e-005**	**0.0000**	**8.2700e-003**	**8.2700e-003**	**2.0000e-005**	**0.0000**	**8.8200e-003**

7.0 Water Detail

7.1 Mitigation Measures Water

Apply Water Conservation Strategy
Install Low Flow Bathroom Faucet
Install Low Flow Kitchen Faucet
Install Low Flow Toilet
Install Low Flow Shower
Use Water Efficient Irrigation System

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	478.1716	3.5072	0.0862	591.5306
Unmitigated	478.1716	3.5072	0.0862	591.5306

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Manufacturing	107.069 / 0	478.1716	3.5072	0.0862	591.5306
Total		**478.1716**	**3.5072**	**0.0862**	**591.5306**

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Manufacturing	107.069 / 0	478.1716	3.5072	0.0862	591.5306
Total		**478.1716**	**3.5072**	**0.0862**	**591.5306**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Institute Recycling and Composting Services

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	116.5412	6.8874	0.0000	288.7258

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Manufacturing	574.12	116.5412	6.8874	0.0000	288.7258
Total		**116.5412**	**6.8874**	**0.0000**	**288.7258**

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Manufacturing		0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Appendix B to Initial Study
Utility Worksheets

INTRODUCTION TO UTILITY SCREENING TABLES

The following worksheets are used to evaluated the potential impacts of a project.

Table 1 Definition of Project

This Table is used to establish the proposed development parameters that are used the calculation of utilities usage. The independent variable to be entered is identified by shading. For residential development, the number of housing units should be entered in the shaded area. For non-residential development, the total floor area of development should be entered in the shaded area.

Tables 2 Summary of Project Impacts

Consumption/Generation Rates. This table indicates the development's projected electrical consumption, natural gas consumption, water consumption, effluent generation, and solid waste generation. No modifications should be made to this table.

Tables 3 through 7 Calculation of Project Impacts

Tables 3 through 7 indicate the results of the analysis.

Table 3 Electrical Consumption - This Table calculates the projected electrical consumption for new development. Default generation rates provided in the shaded areas may be changed.

Table 4 Natural Gas Consumption - This Table calculates the projected natural gas useagefor new development. Default generation rates provided in the shaded areas may be changed.

Table 5 Water Consumption - This Table calculates the projected water consumption ratesfor new development. Default generation rates provided in the shaded areas may be changed.

Table 6 Sewage Generation - This Table calculates the projected effluent generation rates for new development. Default generation rates provided in the shaded areas may be changed.

Table 7 Solid Waste Generation - This Table calculates the projected waste generation for new development. Default generation rates provided in the shaded areas may be changed.

Table 1 Project Name: Moreno Valley Business Park (Expanded Planning Area No.1)

Definition of Project Parameters - Enter independent variable (no. of units or floor area) in the shaded area. The independent variable to be entered is the number of units (for residential development) or the gross floor area (for non-residential development).

Land Use	Independent	Factor
Residential Uses	**Variable**	**Total Units**
Single-Family Residential	No. of Units	0
Medium Density Residential	No. of Units	0
Multiple-Family Residential	No. of Units	0
Mobile Home	No. of Units	0
Office Uses	**Variable**	**Total Floor Area**
Office	Sq. Ft.	0
Medical Office Building	Sq. Ft.	0
Office Park	Sq. Ft.	0
Bank/Financial Services	Sq. Ft.	0
Commercial Uses	**Variable**	**Floor Area/Rooms**
Specialty Retail Commercial	Sq. Ft.	0
Convenience Store	Sq. Ft.	0
Movie Theater	Sq. Ft.	0
Shopping Center	Sq. Ft.	0
Sit-Down Restaurant	Sq. Ft.	0
Fast-Food Restaurant	Sq. Ft.	0
Hotel	Rooms	0
Manufacturing Uses	**Variable**	**Total Floor Area**
Business Park	Sq. Ft.	220,290
Manufacturing	Sq. Ft.	0
General Light Industry	Sq. Ft.	0
Warehouse	Sq. Ft.	0
Public/Institutional	**Variable**	**Total Floor Area**
Public/Institutional	Sq. Ft.	0
Open Space	Sq. Ft.	0

Table 2: Projected Utility Consumption and Generation

Summary of Project Impacts **- Results of analysis identified below. No modifications should be made to this Table.**

Utilities Consumption and Generation	Factor	Rates
Electrical Consumption	kWh/day	2,897
Natural Gas Consumption	cubic feet/day	2,837
Water Consumption	gallons/day	30,841
Sewage Generation	gallons/day	24,232
Solid Waste Generation	pounds/day	1,322

Table 3: Electrical Consumption

Project Component	Units of Measure	Consumption Factor		Projected Consumption
Residential Uses	**No. of Units**	**kWh**	**Variable**	**kWh/Unit/Day**
Single-Family Residential	0	5,625.00	kWh/Unit/Year	0.0
Medium Density Residential	0	5,625.00	kWh/Unit/Year	0.0
Multiple-Family Residential	0	5,625.00	kWh/Unit/Year	0.0
Mobile Home	0	4,644.00	kWh/Unit/Year	0.0
Office Uses	**Sq. Ft.**	**kWh**	**Variable**	**kWh/Sq. Ft./Day**
Office	0	20.80	kWh/Sq. Ft./Year	0.0
Medical Office Building	0	14.20	kWh/Sq. Ft./Year	0.0
Office Park	0	20.80	kWh/Sq. Ft./Year	0.0
Bank/Financial Services	0	20.80	kWh/Sq. Ft./Year	0.0
Commercial Uses	**Sq. Ft./Rooms**	**kWh**	**Variable**	**kWh/Sq. Ft./Day**
Specialty Retail Commercial	0	16.00	kWh/Sq. Ft./Year	0.0
Convenience Store	0	16.00	kWh/Sq. Ft./Year	0.0
Movie Theater	0	16.00	kWh/Sq. Ft./Year	0.0
Shopping Center	0	35.90	kWh/Sq. Ft./Year	0
Sit-Down Restaurant	0	49.10	kWh/Sq. Ft./Year	0.0
Fast-Food Restaurant	0	49.10	kWh/Sq. Ft./Year	0.0
Hotel	0	8,955.00	kWh/Sq. Ft./Year	0.0
Manufacturing Uses	**Sq. Ft.**	**kWh**	**Variable**	**kWh/Sq. Ft./Day**
Business Park	220,290	4.80	kWh/Sq. Ft./Year	2,897.0
Manufacturing	0	4.80	kWh/Sq. Ft./Year	0.0
General Light Industry	0	4.80	kWh/Sq. Ft./Year	0.0
Warehouse	0	4.80	kWh/Sq. Ft./Year	0.0
Public/Institutional	**Sq. Ft.**	**kWh**	**Variable**	**kWh/Sq. Ft./Day**
Public/Institutional	0	4.80	kWh/Sq. Ft./Year	0.0
Open Space	0	0.00	kWh/Sq. Ft./Year	0.0
Total Daily Electrical Consumption (kWh/day)				**2,897.0**

Sources:
Residential rates were derived from the SCAQMD's CEQA Air Quality Handbook (April 1993).
All other rates are from Common Forecasting Methodology VII Demand Forms, 1989

Table 4: Natural Gas Consumption

Project Component	Units of Measure	Consumption Factor		Projected Consumption
Residential Uses	**No. of Units**	**Cu. Ft. of Nat. Gas**	**Variable**	**Cu. Ft,/Day**
Single-Family Residential	0	6,665.00	Cu. Ft./Mo./Unit	0.0
Medium Density Residential	0	4,011.50	Cu. Ft./Mo./Unit	0.0
Multiple-Family Residential	0	4,011.50	Cu. Ft./Mo./Unit	0.0
Mobile Home	0	4,011.50	Cu. Ft./Mo./Unit	0.0
Office Uses	**Sq. Ft.**	**Cu. Ft. of Nat. Gas**	**Variable**	**Cu. Ft,/Day**
Office	0	2.00	Cu. Ft./Mo./Sq. Ft.	0.0
Medical Office Building	0	2.00	Cu. Ft./Mo./Sq. Ft.	0.0
Office Park	0	2.00	Cu. Ft./Mo./Sq. Ft.	0.0
Bank/Financial Services	0	2.00	Cu. Ft./Mo./Sq. Ft.	0.0
Commercial Uses	**Sq. Ft./Rooms**	**Cu. Ft. of Nat. Gas**	**Variable**	**Cu. Ft,/Day**
Specialty Retail Commercial	0	2.90	Cu. Ft./Mo./Sq. Ft.	0.0
Convenience Store	0	2.90	Cu. Ft./Mo./Sq. Ft.	0.0
Movie Theater	0	2.90	Cu. Ft./Mo./Sq. Ft.	0.0
Shopping Center	0	2.90	Cu. Ft./Mo./Sq. Ft.	0.0
Sit-Down Restaurant	0	2.90	Cu. Ft./Mo./Sq. Ft.	0.0
Fast-Food Restaurant	0	2.90	Cu. Ft./Mo./Sq. Ft.	0.0
Hotel	0	2.90	Cu. Ft./Mo./Room	0.0
Manufacturing Uses	**Sq. Ft.**	**Cu. Ft. of Nat. Gas**	**Variable**	**Cu. Ft,/Day**
Business Park	220,290	4.70	Cu. Ft./Mo./Sq. Ft.	2,836.6
Manufacturing	0	4.70	Cu. Ft./Mo./Sq. Ft.	0.0
General Light Industry	0	4.70	Cu. Ft./Mo./Sq. Ft.	0.0
Warehouse	0	4.70	Cu. Ft./Mo./Sq. Ft.	0.0
Public/Institutional Use	**Sq. Ft.**	**Cu. Ft. of Nat. Gas**	**Variable**	**Cu. Ft,/Day**
Public/Institutional	0	2.90	Cu. Ft./Mo./Sq. Ft.	0.0
Open Space	0	2.90	Cu. Ft./Mo./Sq. Ft.	0.0

Total Daily Natural Gas Consumption (cubic feet/day)	2,836.6

Sources:
South Coast Air Quality Management District, CEQA Air Quality Handbook. April 1993

Table 5: Water Consumption

Project Component	Units of Measure	Consumption Factor		Projected Consumption
Residential Uses	**No. of Units**	**Gals. of Water**	**Variable**	**Gals./Day**
Single-Family Residential	0	390.00	Gals./Day/Unit	0.0
Medium Density Residential	0	300.00	Gals./Day/Unit	0.0
Multiple-Family Residential	0	234.00	Gals./Day/Unit	0.0
Mobile Home	0	234.00	Gals./Day/Unit	0.0
Office Uses	**Sq. Ft.**	**Gals. of Water**	**Variable**	**Gals./Day**
Office	0	0.30	Gals./Day/Sq. Ft.	0.0
Medical Office Building	0	0.30	Gals./Day/Sq. Ft.	0.0
Office Park	0	0.30	Gals./Day/Sq. Ft.	0.0
Bank/Financial Services	0	0.15	Gals./Day/Sq. Ft.	0.0
Commercial Uses	**Sq. Ft./Room**	**Gals. of Water**	**Variable**	**Gals./Day**
Specialty Retail Commercial	0	0.15	Gals./Day/Sq. Ft.	0.0
Convenience Store	0	0.15	Gals./Day/Sq. Ft.	0.0
Movie Theater	0	0.20	Gals./Day/Sq. Ft.	0.0
Shopping Center	0	0.50	Gals./Day/Sq. Ft.	0.0
Sit-Down Restaurant	0	1.50	Gals./Day/Sq. Ft.	0.0
Fast-Food Restaurant	0	0.12	Gals./Day/Sq. Ft.	0.0
Hotel	0	187.50	Gals./Day/Room.	0.0
Manufacturing Uses	**Sq. Ft.**	**Gals. of Water**	**Variable**	**Gals./Day**
Business Park	220,290	0.14	Gals./Day/Sq. Ft.	30,840.6
Manufacturing	0	0.30	Gals./Day/Sq. Ft.	0.0
General Light Industry	0	0.30	Gals./Day/Sq. Ft.	0.0
Warehouse	0	0.05	Gals./Day/Sq. Ft.	0.0
Public/Institutional Use	**Sq. Ft.**	**Gals. of Water**	**Variable**	**Gals./Day**
Public/Institutional	0	0.12	Gals./Day/Sq. Ft.	0.0
Open Space	0	0.12	Gals./Day/Sq. Ft.	0.0
Total Daily Water Consumption (gallons/day)				**30,840.6**

Sources:

Source: Derived from Los Angeles County Sanitation District rates (150% of effluent generation).

Table 6: Sewage Generation

Project Component	Units of Measure	Generation Factor		Projected Consumption
Residential Uses	**No. of Units**	**Gals. of Effluent**	**Variable**	**Gals./Day**
Single-Family Residential	0	260.00	Gals./Day/Unit	0.0
Medium Density Residential	0	200.00	Gals./Day/Unit	0.0
Multiple-Family Residential	0	156.00	Gals./Day/Unit	0.0
Mobile Home	0	156.00	Gals./Day/Unit	0.0
Office Uses	**Sq. Ft.**	**Gals. of Effluent**	**Variable**	**Gals./Day**
Office	0	0.20	Gals./Day/Sq. Ft.	0.0
Medical Office Building	0	0.20	Gals./Day/Sq. Ft.	0.0
Office Park	0	0.20	Gals./Day/Sq. Ft.	0.0
Bank/Financial Services	0	0.10	Gals./Day/Sq. Ft.	0.0
Commercial Uses	**Sq. Ft./Rooms**	**Gals. of Effluent**	**Variable**	**Gals./Day**
Specialty Retail Commercial	0	0.10	Gals./Day/Sq. Ft.	0.0
Convenience Store	0	0.10	Gals./Day/Sq. Ft.	0.0
Movie Theater	0	0.13	Gals./Day/Sq. Ft.	0.0
Shopping Center	0	0.33	Gals./Day/Sq. Ft.	0.0
Sit-Down Restaurant	0	1.00	Gals./Day/Sq. Ft.	0.0
Fast-Food Restaurant	0	0.08	Gals./Day/Sq. Ft.	0.0
Hotel	0	125	Gals./Day/Room.	0.0
Manufacturing Uses	**Sq. Ft.**	**Gals. of Effluent**	**Variable**	**Gals./Day**
Business Park	220,290	0.11	Gals./Day/Sq. Ft.	24,231.9
Manufacturing	0	0.20	Gals./Day/Sq. Ft.	0.0
General Light Industry	0	0.20	Gals./Day/Sq. Ft.	0.0
Warehouse	0	0.03	Gals./Day/Sq. Ft.	0.0
Public/Institutional Use	**Sq. Ft.**	**Gals. of Effluent**	**Variable**	**Gals./Day**
Public/Institutional	0	0.10	Gals./Day/Sq. Ft.	0.0
Open Space	0	0.10	Gals./Day/Sq. Ft.	0.0
Total Daily Sewage Generation (gallons/day)				**24,231.9**

Source: Los Angeles County Sanitation Districts.

Table 7: Solid Waste Generation

Project Component	Units of Measure	Generation Factor		Projected Generation
Residential Uses	**No. of Units**	**Lbs.of Waste**	**Variable**	**Lbs./Day**
Single-Family Residential	0	12.23	Lbs./Day/Unit	0.0
Medium Density Residential	0	12.23	Lbs./Day/Unit	0.0
Multiple-Family Residential	0	12.23	Lbs./Day/Unit	0.0
Mobile Home	0	12.23	Lbs./Day/Unit	0.0
Office Uses	**Sq. Ft.**	**Lbs.of Waste**	**Variable**	**Lbs./Day**
Office	0	6.00	Lbs./Day/1,000 Sq. Ft.	0.0
Medical Office Building	0	6.00	Lbs./Day/1,000 Sq. Ft.	0.0
Office Park	0	6.00	Lbs./Day/1,000 Sq. Ft.	0.0
Bank/Financial Services	0	6.00	Lbs./Day/1,000 Sq. Ft.	0.0
Commercial Uses	**Sq. Ft./Rooms**	**Lbs.of Waste**	**Variable**	**Lbs./Day**
Specialty Retail Commercial	0	42.00	Lbs./Day/1,000 Sq. Ft.	0.0
Convenience Store	0	42.00	Lbs./Day/1,000 Sq. Ft.	0.0
Movie Theater	0	6.00	Lbs./Day/1,000 Sq. Ft.	0.0
Shopping Center	0	6.00	Lbs./Day/1,000 Sq. Ft.	0.0
Sit-Down Restaurant	0	6.00	Lbs./Day/1,000 Sq. Ft.	0.0
Fast-Food Restaurant	0	42.00	Lbs./Day/1,000 Sq. Ft.	0.0
Hotel	0		Lbs./Day/Room	0.0
Manufacturing Uses	**Sq. Ft.**	**Lbs.of Waste**	**Variable**	**Lbs./Day**
Business Park	220,290	6.00	Lbs./Day/1,000 Sq. Ft.	1,321.7
Manufacturing	0	8.93	Lbs./Day/1,000 Sq. Ft.	0.0
General Light Industry	0	8.93	Lbs./Day/1,000 Sq. Ft.	0.0
Warehouse	0	8.93	Lbs./Day/1,000 Sq. Ft.	0.0
Public/Institutional Use	**Sq. Ft.**	**Lbs.of Waste**	**Variable**	**Lbs./Day**
Public/Institutional	0	4.00	Lbs./Day/1,000 Sq. Ft.	0.0
Open Space	0	3.00	Lbs./Day/1,000 Sq. Ft.	0.0
Total Daily Solid Waste Generation				**1,321.7**

Source: City of Los Angeles CEQA Thresholds Guide, 2006, and
City of Los Angeles Average Solid Waste Generation Rates, April 1981

Appendix C to Initial Study
General Biological Assessment

GENERAL BIOLOGICAL ASSESSMENT REPORT
MORENO VALLEY FESTIVAL
CITY OF MORENO VALLEY, CALIFORNIA

Prepared for:

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Summary

Hernandez Environmental Services (HES) was contracted by Moreno Valley Festival to prepare a General Biological Assessment (GBA) and Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP) Consistency Analysis for a 49-acre proposed project site. The proposed project consists of a commercial/retail and mixed use development. The project site consists of Assessor Parcel Numbers (APNs) 481-020-017, 481-020-019, 481-020-022, 481-020-023, 481-020-028, 481-020-028, 481-090-009, 481-090-018, 481-090-020, 481-090-021, 481-090-022, 481-090-029, 481-090-032, and 481-090-033.

On July 13, 2015, Juan Hernandez, Principal Biologist for HES, conducted a field survey of the approximate 49-acre project site. The project site contains seven habitat types: 23.4 acres of developed habitat, 20.2 acres of disturbed non-native vegetation habitat, 3.20 acres of disturbed non-native grasses habitat, 1.15 acres of disturbed coastal sage scrub, 0.87 acres of ornamental vegetation habitat, 0.16 acres of streambed, and 0.07 acres of mulefat habitat. The project site also contains approximately 0.16 acres of streambed, and 0.07 acres of mulefat habitat for a total of 0.23 acre of riparian habitat. No wildlife movement corridors were found to be present on the project site. The 20.2 acres of disturbed non-native vegetation habitat, and the 3.20 acres of disturbed non-native grasses habitat, is suitable for burrowing owl. Focused surveys were performed in compliance with TLMA requirements. No burrowing owl were found.

The proposed project is expected to impact 23.4 acres of developed habitat, 20.2 acres of disturbed non-native vegetation habitat, 3.20 acres of disturbed non-native grasses habitat, 1.15 acres of disturbed coastal sage scrub, 0.87 acres of ornamental vegetation habitat, 0.16 acres of streambed, and 0.07 acres of mulefat habitat.

The project site was found to have the potential for San Bernardino aster to occur. This species is not covered under the Western Riverside MSHCP but through participation in the plan, and the land acquisition and preservation by the plan, this species would be adequately covered. Cooper's Hawk, Bell's Sage Sparrow, Coastal horned lizard, Orange-throat Whiptail, Coastal Whiptail, Red-diamond Rattlesnake, California Horned Lark, San Diego Black-tailed Jackrabbit are fully covered species under the Western Riverside MSHCP. The proposed project must be consistent with the Western Riverside MSHCP. Payment of the appropriate development mitigation fees will mitigate any impacts to these species. Further, it is recommended that three days prior to any ground disturbing activities or vegetation removal, a qualified biological monitor should conduct a preconstruction survey to identify any sensitive biological resources to flag for avoidance. Any reptile species that may be present within the project area shall be relocated outside of the impact areas.

Due to the presence of suitable nesting bird habitat on the project site, it is recommended that vegetation removal be conducted during the non-nesting season for migratory birds to avoid direct impacts. The migratory bird nesting season is between February 1 and September 15. If vegetation removal will occur during the migratory bird nesting season, between February 1 and September 15, it is recommended that pre-construction nesting bird surveys be performed within three days prior to vegetation removal.

Impacts to approximately 0.16 acres of streambed, and 0.07 acres of mulefat habitat for a total of 0.23 acre of riparian habitat will require consultation with the California Department of Fish and Wildlife, the U.S. Army Corps of Engineers, and the Santa Ana Regional Water Quality Control Board to determine the need for permits that must be obtained prior to initiation of construction of the proposed project. In addition, the loss of Western

Riverside MSHCP riverine resources will require preparation of an MSHCP Determination of Biologically Equivalent or Superior Preservation (DBESP).

1.0 Introduction

Hernandez Environmental Services (HES) was contracted by Moreno Valley Festival to prepare a General Biological Assessment (GBA) and Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP) Consistency Analysis for a 49-acre proposed project site, which is comprised of Assessor's Parcel Numbers (APNs) 481-020-017, 481-020-019, 481-020-022, 481-020-023, 481-020-028, 481-020-028, 481-090-009, 481-090-018, 481-090-020, 481-090-021, 481-090-022, 481-090-029, 481-090-032, and 481-090-033. The proposed project consists of a commercial/retail and mixed use development.

1.1 Project Site Location

The project site is located in the City of Moreno Valley in Riverside County at the southeast intersection of Heacock Street and Ironwood Avenue (Figure 1). The southern boundary is defined by the Moreno Valley Freeway (CA-60). The project site consists of 15 parcels totaling approximately 49.0 acres. Approximately 27.21 acres are developed with the existing Festival Shopping Center and commercial development south of Hemlock Avenue; the remaining 22.39 acres are undeveloped and vacant (Figure 2). The site is located within the United States Geological Survey (USGS) 7.5-Minute Topographic Map Sunnymead Quadrangle. The approximate center point is 33°56'28"N, 117°14'33"W.

1.2 Project Description

The proposed project is the development of the Moreno Valley Festival (Figure 3). The plan area includes approximately 49.0 acres; a portion of the site is currently developed with the Festival Shopping Center on the north side of Hemlock Street and with a fast food establishment and miscellaneous commercial development on the south side of Hemlock Street.

The purpose of this GBA and Western Riverside County MSHCP Consistency Analysis is to identify any potential biological resources that may be present on or adjacent to the project site.

2.0 Methodology

2.1 Literature Review

HES conducted a literature review and reviewed aerial photographs and topographic maps of the project site and surrounding areas. The Sunnymead quad and adjacent surrounding eight quads were used to identify sensitive species in the California Natural Diversity Data Base (CNDDB). Additional resources reviewed during the literature search included the United States Fish and Wildlife (USFWS) Endangered Species Lists, Forest Service List, and the California Native Plant Society's (CNPS) Rare plant lists to obtain species information for the project area.

2.2 Field Survey

On July 13, 2015, Juan Hernandez, Principal Biologist for HES, conducted a field survey of the approximate 49-acre project site. The ambient temperature at 9:30 a.m. was 72˚ Fahrenheit, sunny, with zero to three mile per hour winds from the northeast. The purpose of the field survey was to document the existing habitat conditions, obtain plant and animal species information, view the surrounding uses, assess the potential for state and federal waters, and assess the potential for wildlife movement corridors, sensitive species, and nesting habitat.

The entire project site was surveyed. Linear transects spaced approximately 50 feet apart were walked for 100 percent coverage. All species observed were recorded and are listed in Appendix A. Global Positioning System (GPS) waypoints were taken to delineate specific habitat types, species locations, and any other information that would be useful for the assessment of the property.

3.0 Existing Conditions and Results

3.1 Environmental Setting

The project site is located in a heavily urbanized area in the City of Moreno Valley. The project site has residential homes to the north, residential homes to the east, residential homes to the west, and CA-60 and commercial properties to the south. The project site has been heavily disturbed and no quality native habitat remains onsite. Portions of the property have already been developed with commercial/retail buildings. Other portions of the property consist of vacant, disked lots. The elevation of the project site varies from 1,674 feet above sea level (ASL) to 1,641feeet ASL. There is a small, disturbed, non-meandering ephemeral drainage located in the northwest portion of the property. The drainage crosses the project site from west to east and empties into Indian Basin.

3.2 Soils

The Natural Resources Conservation Service Web Soil Survey identified eight (8) soil types within the GBA 62.50-acre study area. The following soil types are identified in the Soil Survey: Greenfield sandy loam(GyA), 0 to 2 percent slope; Greenfield sandy loam (GyC2), 2 to 8 percent slopes eroded,; Greenfield sandy loam (GyD2), 8 to 15 percent slopes, eroded; Hanford coarse sandy loam (HcC), 2 to 8 percent slopes; Monserate sandy loam, 0 to 5 percent slopes; Ramona sandy loam(RaB2), 2 to 5 percent slopes, eroded; Ramona sandy loam(RaB3), 0 to 5 percent slopes, severely eroded; Tujunga loamy sand (TvC), channeled, 0 to 8 percent slopes. Tujunga Loamy Sand (TvC), channeled 0 to 8 percent slope, is the only hydric soil in the study area. Refer to Appendix D.

3.3 Plant and Habitat Communities

The project site contains seven habitat types: 23.4 acres of developed habitat, 20.2 acres of disturbed non-native vegetation habitat, 3.20 acres of disturbed non-native grasses habitat, 1.15 acres of disturbed coastal sage scrub, 0.87 acres of ornamental vegetation habitat, 0.16 acres of streambed, and 0.07 acres of mulefat habitat (Figure 4).

Table 1
Onsite Habitat

Developed Habitat	Disturbed Non-native Vegetation Habitat	Disturbed Non-native Grasses Habitat	Disturbed Coastal Sage Scrub	Ornamental Vegetation Habitat	Streambed Habitat	Mulefat Habitat
23.4 Acres	20.2 Acres	3.20 Acres	1.15 Acres	0.87 Acres	0.16 Acres	0.07 Acres

The following is a description of each habitat type:

3.3.1 Developed Habitat

Approximately 23.4 acres of developed habitat exists on the project site. The developed habitat contains existing commercial and retail buildings and the majority of the buildings are currently being utilized. This habitat also included parking lot areas, and contain no native habitat and wildlife value.

3.3.2 Disturbed Non-native Vegetation Habitat

The project site contains approximately 20.2 acres of disturbed non-native vegetation habitat. This habitat type has been disturbed and native vegetation has been removed by disking or other anthropomorphic activities. Dominant plant species found in this habitat type consist of black mustard (*Brassia nigra*), mustard (*Brassica tournefortii*), tacalote (*Centaurea melitensis*), bullthistle (*Cirsium vulgare*), field bindweed (*Convolvulus arvensis*), heron's bill (*Erodium cicutarium*), horehound (*Marrubium vulgare*), tree tabacco (*Nicotiana glauca*), castor bean (*Ricinus communis*), and Russian thistle (*Salsola tragus*).

3.3.3 Disturbed Non-native Grasses Habitat

The project site contains approximately 3.20 acres of disturbed non-native grasses habitat. This habitat type has been disturbed and native vegetation has been removed by disking or other anthropomorphic activities. Dominant plant species found in this habitat type consist of slim oats (*Avena barbata*), ripgut

brome (*Bromus diandrus*), soft chess (*Bromus hordeaceus*), foxtail (*Bromus madritensis*), foxtail barley (*Hordeum murinum*), and common barley (*Hordeum vulgare*).

3.3.4 Disturbed Coastal Sage Scrub Habitat

The project site contains approximately 1.15 acres of disturbed coastal sage scrub habitat. This habitat type has shrubs commonly associated with coastal sage scrub, but shows evidence of having been disturbed in the past. The coastal sage scrub does not look very well developed, and has sections were it has obviously been disturbed by anthropomorphic activities. Dominant vegetation in this habitat type include: brittlebush (*Encelia farinosa*), California buckwheat (*Eriogonum fasciculatum*), lotus (*Acmispon strigosus*), gord (*Cucurbita foetidissima*), tarweed (*Deinandra fasciculata*), black sage (*Salvia mellifera*) and telegraph weed (*Heterotheca grandifolia*).

3.3.5 Ornamental Vegetation Habitat

The project site contains approximately 0.87 acres of ornamental vegetation habitat. This habitat type has been created and is composed entirely of non-native trees and shrubs. Common species associated with this habitat type are eucalyptus (*Eucalyptus* sp.), oleander (*Nerium oleander*), and Peruvian pepper tree (*Schinus molle*).

3.3.6 Streambed Habitat

The project site contains approximately 0.16 acres of streambed habitat. This habitat is characterized by sandy streambed with small amounts of native and non-native vegetation. Vegetation species associated with this habitat include: Mexican fan palm (Washingtonia robusta), tree tabacco, horseweed (*Erigeron canadensis*), heliotrope (Heliotropium curassavicum), sunflower (Helianthus annus), and tamarisk (*Tamarix sp*.).

3.3.6 Mulefat Habitat

The project site contains approximately 0.07 acres of mulefat habitat. The ephemeral drainage contains small patches of areas dominated by mulefat (Baccharis salicifolia).

4.0 Sensitive Biological Resources

4.1 Threatened and Endangered Species

A total of 51 sensitive species of plants and 54 sensitive species of animals have the potential to occur on or within the vicinity of the GBA study area. These include those species listed or candidates for listing by the U. S. Fish and Wildlife Service (USFWS), California Department of Fish and Wildlife (CDFW) and California Native Plant Society (CNPS). All habitats with the potential to be used by

sensitive species was evaluated during the site visit and a determination has been made for the presence or probability of presence within this report. This section will address those species listed as Candidate, Rare, Threatened, or Endangered under the state and federal endangered species laws or directed to be evaluated under the Western Riverside Multiple Species Habitat Conservation Plan (MSHCP). Sensitive species which have a potential to occur will also be discussed in this section. All other special status species are addressed within Appendix B.

4.1.1 Threatened and Endangered Plants

A total of 11 plant species were identified as state and/or federally listed as Threatened, Endangered, or Candidate. All species have a rank of 1B.1 or 1B.2 in the CNPS Rare Plan Inventory. The GBA survey area is not located within the Western Riverside MSHCP narrow endemic plant overlay and a habitat assessment for narrow endemic plants was not required; however, several of the species identified below are covered species under the MSHCP.

Munz's Onion

Munz's onion (*Allim munzii*) is federally listed as Endangered and State listed as Threatened; the species rank is 1B.1 in the CNPS rare plant inventory. The species is found in grassy openings in coastal-sage scrub vegetation at elevations ranging from 300-900m. Its blooming period is from April to May. The project site has been disked and there is no suitable habitat for this species. **This species is not present.**

San Diego Ambrosia

San Diego Ambrosia (*Ambrosia pumila*) is a federally listed Endangered species and is a rank 1B.1 species in the CNPS rare plant inventory. The species is found in disturbed sites at elevations ranging from 50 – 600 m. Its blooming period is from April to July. The project site has been disked and the disturbed habitat may be suitable for this species. **This species is not present.**

Marsh Sandworth

Marsh sandworth (*Arenaria paludicola*) is federally and State listed as Endangered and is ranked as 1B.1 in the CNPS rare plant inventory. The species is found in wet meadows and marshes at elevations less than 300 meters. The species blooms from late spring into summer. The project site has been disked and the disturbed is not suitable for this species. The basin area on the east side of the property is regularly maintained and does not support suitable habitat for marsh sandworth. **This species is not present.**

San Jacinto Valley Crownscale

San Jacinto Valley crownscale (*Atriplex coronata* var. *notatior*) is a federally listed Endangered species and is ranked as 1B.1 in the CNPS rare plant inventory. The species is found in alkaline flats at elevations ranging from 400-500 meters. Its blooming period is April to August. The project site has been disked and the disturbed habitat is not suitable for this species. **This species is not present.**

Nevin's Barberry

Nevin's barberry (*Berberis nevinii*) is a federally and State listed endangered species and is a rank 1B.1 species in the CNPS rare plant inventory. The species is found in sandy to gravelly soils, washes, and chaparral habitats at elevations less than 650 meters. It blooms from March to May. The project site has been disked and the disturbed habitat is not suitable for this species. **This species is not present.**

Thread-leaved Brodiaea

Tread-leaved brodiaea (*Brodiaea filifolia*) is a federally listed Threatened and State listed Endangered species. The species is ranked 1B.1 in the CNPS rare plant inventory. This species occurs in grassland habitats and vernal pools at elevations ranging from 25 to 860 meters. Its blooming period is from March to June. The project site has been disked and the disturbed habitat is not suitable for this species. The basin area on the east side of the property is regularly maintained and does not support suitable habitat for thread-leaved brodiaea. **This species is not present.**

Salt Marsh Bird's-Beak

Salt marsh bird's-beak (*Chloropyron maritimum* ssp. *maritimum*) is a federally and State listed Endangered species and is ranked 1B.2 in the CNPS rare plant inventory. This species occurs in coastal salt marsh habitat at elevations less than 10 meters. Its blooming period is from May to October. The project site has been disked and the disturbed habitat is not suitable for this species. **This species is not present.**

Slender-Horned Spineflower

Slender-horned spineflower (*Dodecahema leptoceras*) is a federally and State listed Endangered species and is ranked 1B.1 in the CNPS rare plant inventory. This species occurs in sand or gravel soils at elevations ranging from 200 to 700 meters. Its flowering period is from May to June. The project site does not support suitable habitat for this species. **This species is not present.**

Santa Ana River Woollystar

Santa Ana River Woollystar (*Eriastrum densifolium* ssp. *sanctorum*) is a federally and state listed Endangered species and is ranked 1B.1 in the CNPS rare plant inventory. This species occurs in washes, floodplains, and dry riverbeds at elevations less than 500 meters. Its blooming period is from May to September. The project site does not support suitable habitat for this species. **This species is not present.**

Gambel's Water Cress

Gambel's water cress (*Nasturtium gambelii*) is a federally listed Endangered and State listed Threatened species; it is ranked 1B.1 in the CNPS rare plant inventory. This species occurs in marshes, streambanks, and lake margins at elevations less than 350 meters. Its blooming period is from May to August. The project site does not support suitable habitat for this species. **This species is not present.**

Spreading Navarretia

Spreading navarretia (*Navarretia fossalis*) is a federally listed Threatened species and is ranked 1B.1 in the CNPS rare plant inventory. This species is found in vernal pools and ditches at elevations ranging from 30 to 1300 meters. Its blooming period is from April to June. The project site does not support habitat suitable for this species. **This species is not present.**

4.1.2 Threatened and Endangered Animals

A total of 13 animal species listed as state and/or federally Threatened, Endangered, or Candidate or for special consideration under the Riverside County MSHCP will be reviewed in this section. Sensitive species which have a potential to occur will also be discussed in this section. All sensitive species identified within CNDDB were evaluated; a complete list of species is included in Appendix B.

Southern Mountain Yellow-Legged Frog

Southern mountain yellow-legged frog (*Rana muscosa*) is a federally and state listed endangered species. Additionally the species is listed as a CDFW Species of Special Concern. Populations of the species is southern California occupy a wide elevational range from 1,200 feet to 7,500 feet. Habitat includes rocky, shaded streams with cool waters originating from springs and snowmelt. The project site does not support suitable habitat for this species. **This species is not present.**

Tricolored Blackbird

Tricolored bird (*Agelaius tricolor*) is State listed as endangered and listed by the CDFW as a Species of Special Concern. The species occupies freshwater marshes with canopies of willows (*Salix* spp.) and other riparian trees and require open accessible water and suitable foraging space. The project site does not support suitable nesting habitat for the species. **This species is not present.**

Burrowing Owl

Burrowing owl (*Athene cunicularia*) is a CDFW Species of Special Concern and a MSHCP covered species. The species lives in dry open areas with no trees and short grass. Focused surveys for the species were completed and returned negative. **This species is not present.**

Western Yellow-Billed Cuckoo

Western yellow-billed cuckoo (*Coccyzus americanus occidentalis*) is federally listed as threatened and state listed as Endangered. It is found in riparian habitat with vegetation such as willow and willow-cottonwood thickets with heavy underbrush. The species is restricted to cottonwood-dominated forests. The project site does not support suitable habitat for this species. **This species is not present.**

Southwestern Willow Flycatcher

Southwestern willow flycatcher (*Empidonax trailii extimus*) is federally and state listed as endangered. The species breeds in dense riparian habitats along rivers, streams, or other wetlands. Vegetation can be dominated by dense growths of willows, seepwillow (*Baccharis* sp.), tamarisk (*Tamarix* sp.) or other large trees. The project site does not support nesting habitat for this species. **This species is not present.**

Bald Eagle

Bald eagle (*Halieaeetus leucocephalus*) is State listed as endangered and is a delisted federal species. The species is fully protected under the regulations of the CDFW. It is found around wetlands, open water areas with an abundance of fish. It nests and roosts in large trees. The project site does not support suitable habitat for this species. **The species is not present.**

Coastal California Gnatcatcher

Coastal Californiagnatcatcher (*Polioptila californica californica*) is a federally listed threatened species and CDFW species of Special Concern. The species range is limited to the California coast and is found only in coastal sage scrub. The project site does not support suitable habitat for this species. **This species is not present.**

Least Bell's Vireo

Least Bell's vireo (*Vireo belii pusillus*) is a federally and State listed endangered species. It is found in riparian forests, riparian scrub, and riparian woodlands. The project site does not support suitable habitat for this species. **This species is not present.**

Santa Ana Sucker

Santa Ana sucker (*Catostomus santaanae*) is a federally listed threatened species and CDFW species of special concern. The species is restricted to southern California rivers. The project site does not support suitable habitat for this species. **This species is not present.**

Quino Checkerspot Butterfly

Quino checkerspot butterfly (*Euphydryas editha quino*) is a federally listed endangered species. Vegetation types that support the Quino checkerspot butterfly include coastal sage scrub, open chaparral, juniper woodland, and native grassland. Suitability of habitat is affected by soil and climatic conditions, as well as other ecological and physical factors. The species range is limited to Riverside and San Diego Counties. The project site does not support suitable habitat for this species. **This species is not present.**

Delhi Sands Flower-Loving Fly

Delhi sands flower-loving fly (*Rhaphimidas terminatus abdominalis*) is a federally listed endangered species. Its habitat is limited to dunes containing sandy soils of the Delhi series. The project site does not support suitable habitat for this species. **This species is not present.**

Stephens' Kangaroo Rat

Stephens' Kangaroo Rat (*Dipodomys stephensi*) is a federally listed endangered species and state listed threatened species. The species is found in coastal sage scrub, and in valley and foothill grasslands. The project site does not support suitable habitat for this species. **This species is not present.**

Lesser Long-Nosed Bat

Lesser long-nosed bat (*Leptonycteris yerbabuenae*) is a federally listed endangered species. This species requires suitable roost sites and extensive populations of columnar cacti and agaves. The project site does not support suitable habitat for this species. **This species is not present.**

4.2 Species with other Special Status Listings

Species which are listed as California Species of Special Concern or are on the CDFW List of Rare plants have all been evaluated and the results can be reviewed within Appendix B. Any of these species that have the potential to be present or are considered present within the project area will have mitigation measures to avoid or minimize impacts in the Recommendations section of this report.

4.3 Critical Habitats

The project site is not located within critical habitat as designated by the USFWS. Critical habitat for the coastal California gnatcatcher occurs approximately three miles to the north and more than four miles to the west of the project site. There is no critical habitat immediately adjacent to the project site.

4.4 Nesting Birds

The project site does have shrubs and trees that can support nesting song birds or raptors. The 23.4 acres of developed habitat, 20.2 acres of disturbed non-native vegetation habitat, 3.20 acres of disturbed non-native grasses habitat, 1.15 acres of disturbed coastal sage scrub, 0.87 acres of ornamental vegetation habitat, 0.16 acres of streambed, and 0.07 acres of mulefat habitat are considered habitat that can be utilized by nesting birds and raptors during the nesting bird season of February 1 through September 15.

4.5 Wildlife Movement Corridors

The project site is too isolated by residential and commercial structures to function as a wildlife movement corridor. There are no major riparian areas or canyons that can function as a corridor for wildlife. The project site also has a high amount of anthropomorphic disturbances to adequately function as a wildlife movement corridor.

4.6 Western Riverside Multiple Species Habitat Conservation Plan

4.6.1 Section 6.1.2 Protection of Species Associated with Riparian/Riverine Areas and Vernal Pools

The project site contains approximately 0.16 acres of streambed, and 0.07 acres of mulefat habitat for a total of 0.23 acre of riparian habitat. This habitat is also regulated under Section 1602 of the California Department of Fish and Game Code for the protection of lake or streams and under Section 404 and 401 of the Clean Water Act. This habitat is also considered riparian/riverine areas as defined in Section 6.1.2 of the Western Riverside MSHCP. Any project impacts to this habitat will need to be in compliance with Section 6.1.2 of the Western Riverside MSHCP. No vernal pools were observed within the project boundaries.

4.6.2 Section 6.1.3 Protection of Narrow Endemic Plant Species

The project site is not located within the narrow endemic plants overlay of the MSHCP and there are no habitat assessment requirements for narrow endemic plant species as identified in the MSHCP

4.6.3 Section 6.1.4 Guidelines Pertaining to the Urban/Wildlands Interface

The project site is not located within a Western Riverside MSHCP linkage or criteria cell. Therefore, the project is not subject to Section 6.1.4 pertaining to urban/wildlands interface.

4.6.4 Section 6.3.2 Guidelines Additional Survey Needs and Procedures

Riverside County Transportation and Land Management (TLMA) requires a habitat assessment for burrowing owl. If habitat is present than focused burrowing owl surveys as described in the Western Riverside MSHCP *Burrowing Owl Survey Instructions*. The 20.2 acres of disturbed non-native vegetation habitat, and the 3.20 acres of disturbed non-native grasses habitat, is suitable for burrowing owl. Focused surveys were performed in compliance with TLMA requirements. No burrowing owl were found.

4.7 Other City, County, Regional, State, or Federal Conservation Plans

The project site is located within an independent cell group of the Reche Canyon/Badlands area plan of the Western Riverside MSHCP.

4.8 State and Federal Jurisdictional Drainages

The project site contains approximately 0.16 acres of streambed, and 0.07 acres of mulefat habitat for a total of 0.23 acre of riparian habitat. This habitat is regulated under Section 1602 of the California Department of Fish and Game Code for the protection of lake or streams and under Section 404 and 401 of the Clean Water Act. No vernal pools were observed within the project boundaries.

4.9 Oak Trees

The project site does not contain oak trees.

5.0 Project Impacts

5.1 Impacts to Existing Habitats

The proposed project is expected to impact 23.4 acres of developed habitat, 20.2 acres of disturbed non-native vegetation habitat, 3.20 acres of disturbed non-native grasses habitat, 1.15 acres of disturbed coastal sage scrub, 0.87 acres of ornamental vegetation habitat, 0.16 acres of streambed, and 0.07 acres of mulefat habitat (Figure 5).

5.2 Impacts to Sensitive Species

One species was identified to the potential to occur on site. Project activities were evaluated to determine the potential for impacts to these species.

San Bernardino Aster

The San Bernardino Aster (*Symphyotrichum defoliatum*) is a CNPS 1B.2 listed plant that is found in grasslands or disturbed habitats. It blooms between the months of July and November. The project site contains habitat for this species.

Cooper's Hawk

Cooper's hawk (*Accipiter cooperii hawk*) is a CDFW watch list species and International Union for Conservation of Nature (IUCN) species of least concern. The species foraging habitat includes rivers, and woodlands including willows, cottonwoods, and sycamores. Nesting habitat for this species occurs at the project site in the Eucalyptus trees adjacent to the site. This species is covered by the Western Riverside MSHCP and is considered adequately conserved.

Bell's Sage Sparrow

Bell's sage sparrow (*Artemisiospiza belli belli*) is a CDFW watch list species and USFWS bird of conservation concern. The species nests in coastal sage scrub and chaparral. The project site supports

some disturbed coastal sage scrub that may serve as habitat. This species is potentially present. This species is covered by the Western Riverside MSHCP and is considered adequately conserved.

Orange-throat Whiptail

Orange-throat whiptail (*Aspidoscelis typerythra*) is a CDFW species of special concern and IUCN species of least concern. The species inhabits low elevation coastal scrub, chamise-redshank chaparral, mixed chaparral, and valley-foothill hardwood habitat. The project site supports some disturbed coastal sage scrub that may serve as habitat. This species is potentially present. This species is covered by the Western Riverside MSHCP and is considered adequately conserved.

Coastal Whiptail

Coastal whiptail (*Aspidoscelis hyperythra*) is a CDFW species of special concern and IUCN species of least concern. It is found in a variety of ecosystems, primarily in hot and dry open areas with sparse foliage – chaparral, woodland, and riparian areas. The project site supports habitat for this species. This species is potentially present. This species is covered by the Western Riverside MSHCP and is considered adequately conserved.

Red-diamond Rattlesnake

Red-diamond rattlesnake (*Crotalus ruber*) is a CDFW species of special concern. The species habitat includes coastal sage scrub or chaparral with granite boulders. The project site supports habitat for this species. This species is potentially present. This species is covered by the Western Riverside MSHCP and is considered adequately conserved.

California Horned Lark

California horned lark (*Eremophila alpestris actia*) is a CDFW watch list species and IUCN species of least concern. The species is found in open areas dominated by sparse low herbaceous vegetation or widely scattered low shrubs. The project site supports habitat for this species. This species is potentially present. This species is covered by the Western Riverside MSHCP and is considered adequately conserved.

Western Yellow Bat

Western yellow bat (*Lasiurus xanthinus*) is a CDFW species of special concern and IUCN species of least concern. The species occupies a range of habitats of extremely arid areas including savannas, secluded woodlands, regions dominated by pasture or croplands, and residential areas. It is insectivorous and often roosts in trees. The project site supports limited roosting habitat for this species. This species is potentially present.

San Diego Black-tailed Jackrabbit

San Diego black-tailed jackrabbit is a CDFW species of special concern. The species habitat includes chaparral and coastal sage scrub. The project site supports limited habitat for this species. This species

is potentially present. This species is covered by the Western Riverside MSHCP and is considered adequately conserved.

Coast Horned Lizard

Coast horned lizard (*Phrynosoma blainvillii*) is a CDFW species of special concern and IUCN species of least concern. The species inhabits open areas of sandy soils and low vegetation in valleys, foothills and semiarid mountains. It is found in grasslands, coniferous forests, woodlands, and chaparral, with open areas and patches of loose soil. The project site supports limited habitat for this species. This species is potentially present. This species is covered by the Western Riverside MSHCP and is considered adequately conserved.

Lawrence's Goldfinch

Lawrence's goldfinch (*Spinus lawrencei*) is an IUCN species of least concern. The species inhabits open woodlands, chaparral, and weedy fields. The project site supports limited habitat for this species in the basin located adjacent to the eastern project boundary. This species is potentially present.

5.3 Nesting Birds

The project site does have shrubs and trees that can support nesting song birds or raptors. The 23.4 acres of developed habitat, 20.2 acres of disturbed non-native vegetation habitat, 3.20 acres of disturbed non-native grasses habitat, 1.15 acres of disturbed coastal sage scrub, 0.87 acres of ornamental vegetation habitat, 0.16 acres of streambed, and 0.07 acres of mulefat habitat are considered habitat that can be utilized by nesting birds and raptors during the nesting bird season. Potential impacts to nesting birds may occur if ground disturbing activities or vegetation removal occur during the bird nesting season of February 1 through September 15.

5.4 Impacts to Critical Habitat

The project is not located within designated federal critical habitat. No impact to critical habitat would occur.

5.5 Impacts to Wildlife Movement Corridors

No impacts to wildlife movement corridors is expected.

5.6 Conflict with Local Policies or Ordinances Protecting Biological Resources

Project is expecting removal of trees and will have to comply with City of Moreno Valley Landscape Ordinance Municipal Code § 9.17.030.

5.7 Conflict with the Provisions of an Adopted Habitat Conservation Plan, Natural Community Conservation Plan, or Other Approved Local, Regional, or State Habitat Conservation Plan

The project is within the Western Riverside MSHCP. If Western Riverside MSHCP guidelines and requirements are followed, no conflicts are expected.

5.8 State and Federal Drainages

The project site will impact approximately 0.16 acres of streambed, and 0.07 acres of mulefat habitat for a total of 0.23 acre of riparian habitat. This habitat is regulated under Section 1602 of the California Department of Fish and Game Code for the protection of lake or streams and under Section 404 and 401 of the Clean Water Act. No impacts to vernal pools are expected.

5.9 Impacts to Section 6.1.2 Protection of Species Associated with Riparian/Riverine Areas and Vernal Pools

The project site is expected to impact approximately 0.16 acres of streambed, and 0.07 acres of mulefat habitat for a total of 0.23 acre of riparian habitat. This habitat is also regulated under Section 1602 of the California Department of Fish and Game Code for the protection of lake or streams and under Section 404 and 401 of the Clean Water Act. This habitat is also considered riparian/riverine areas as defined in Section 6.1.2 of the Western Riverside MSHCP. Any project impacts to this habitat will need to be in compliance with Section 6.1.2 of the Western Riverside MSHCP. No vernal pools were observed within the project boundaries.

5.10 Impacts to Section 6.1.3 Protection of Narrow Endemic Plant Species

The project site is not located within the narrow endemic plant overlay of the MSHCP; therefore, no impacts to narrow endemic plants are expected.

5.11 Impacts to Section 6.1.4 Guidelines Pertaining to the Urban/Wildlands Interface

The project site is not located within a Western Riverside MSHCP linkage or criteria cell. Therefore, the project is not subject to Section 6.1.4 pertaining to urban/wildlands interface.

5.12 Impacts to Section 6.3.2 Guidelines Additional Survey Needs and Procedures

Riverside County Transportation and Land Management (TLMA) requires a habitat assessment for burrowing owl. If habitat is present than focused burrowing owl surveys as described in the Western Riverside MSHCP *Burrowing Owl Survey Instructions*. The 20.2 acres of disturbed non-native vegetation habitat, and the 3.20 acres of disturbed non-native grasses habitat, is suitable for burrowing owl and focused surveys were performed in compliance with TLMA requirements. Focused burrowing

owl surveys were conducted in the months of June, July, and August and no burrowing owl were found. No impacts are expected.

5.11 Impacts to Oak Trees

No impacts to oak trees will occur.

6.0 Recommendations

In order to mitigate any potential impacts from project activities, the project should incorporate the following recommendations.

6.1 San Bernardino Aster

This species is not covered under the Western Riverside MSHCP but through participation in the plan, and the land acquisition and preservation by the plan, this species would be adequately covered.

6.2 Western Riverside MSHCP Covered Species

- Cooper's Hawk, Bell's Sage Sparrow, Coastal horned lizard, Orange-throat Whiptail, Coastal Whiptail, Red-diamond Rattlesnake, California Horned Lark, San Diego Black-tailed Jackrabbit are fully covered species under the Western Riverside MSHCP. The proposed project must be consistent with the Western Riverside MSHCP. Payment of the appropriate development mitigation fees will mitigate any impacts to these species. A fee schedule can be found in the Local Development Mitigation Fee Schedule for Fiscal Year 2015.

- Three days prior to any ground disturbing activities or vegetation removal, a qualified biological monitor should conduct a preconstruction survey to identify any sensitive biological resources to flag for avoidance. Any reptile species that may be present within the project area shall be relocated outside of the impact areas.

6.3 Nesting birds

- It is recommended that vegetation removal be conducted outside of the nesting season for migratory birds to avoid direct impacts. The migratory bird nesting season is between February 1 and September 15.

- If vegetation removal will occur during the migratory bird nesting season, between February 1 and September 15, it is recommended that pre-construction nesting bird surveys be performed within three days prior to vegetation removal.

- If active nests are found during nesting bird surveys, they shall be flagged and a 200-foot buffer shall be fenced around the nests.

- A biological monitor shall visit the site once a week during ground disturbing activities to ensure all fencing is in place and no sensitive species are being impacted.

6.4 State and Federal Drainages

- The project proponent shall consult with the California Department of Fish and Wildlife, the U.S. Army Corps of Engineers, and the Santa Ana Regional Water Quality Control Board to determine the need for permits that must be obtained prior to initiation of construction of the proposed project.
- The loss of Western Riverside MSHCP riverine resources will require preparation of an MSHCP Determination of Biologically Equivalent or Superior Preservation (DBESP).

7.0 Certification

*"**CERTIFICATION**: I hereby certify that the statements furnished above and in the attached exhibits present the data and information required for this biological evaluation, and that the facts, statements, and information presented are true and correct to the best of my knowledge and belief."*

Signed 

PROJECT MANAGER

Fieldwork Performed By:

Juan Hernandez

PRINCIPAL BIOLOGIST

8.0 References

Burt, W. H., 1986. A Field Guide to the Mammals in North American North of Mexico. Houghton Mifflin Company, Boston, Massachusetts.

California Department of Fish and Game, 2013. Special Animals List.

California Native Plant Society, California Native Plant Status Report, 1985a. Centrostegia leptoceras.

California Native Plant Society, California Native Plant Status Report, 1985b. Eriastrum densifolium var. sanctorum.

Garrett, K. and J. Dunn, 1981. Birds of Southern California. Los Angeles Audubon Society. The Artisan Press, Los Angeles, California.

Grenfell, W. E., M. D. Parisi, and D. McGriff, 2003. A Check-list of the Amphibians, Reptiles, Birds and Mammals of California. California Wildlife Habitat Relationship System, California Department of Fish and Game, Sacramento, California.

Grinnell, J., 1933. Review of the Recent Mammal Fauna of California. University of California Publications in Zoology, 40:71-234.

Hall, E. R., 1981. The Mammals of North America, Volumes I and II. John Wiley and Sons, New York, New York.

Hickman, J. C., ed. 1993. The Jepson Manual: Higher Plants of California. University of California Press.

Ingles, L. G., 1965. Mammals of the Pacific States. Stanford University Press, Stanford, California.

Jameson, jr., E. W. and H. J. Peters. California Mammals. University of California Press, Berkeley, Los Angeles, London. 403 pp.

Lackey, J. 1996. Chaetodipus fallax. Mammalian Species No. 517. American Society of Mammalogists.

McKernan, R. L., 1997. The Status and Known Distribution of the San Bernardino Kangaroo Rat (Dipodomys merriami parvus): Field surveys conducted between 1987 and 1996. Report prepared for the U.S. Fish and Wildlife Service, Carlsbad Field Office.

Meserve, P. 1976. Food relationships of a rodent fauna in a California coastal sage scrub community. Journal of Mammalogy, 57: 300-319.

Munz, P.A., 1974. A Flora of Southern California. University of California Press, Berkeley, California.

Peterson, R. 1990 *A Field Guide to Western Birds*. Houghton Mifflin Company, Boston, MA.

Rey-Vizgirdas, E.M., 1994. Status and Conservation of the Endangered Slender-horned spineflower (*Dodecahema leptoceras*)

Riverside County Integrated Project (RCIP) 2003 Final Multiple Species Habitat Conservation Plan (MSHCP). Riverside, CA.

Sawyer, J.O., T. Keeler-Wolf, and J.M. Evens 2009 *A Manual of California Vegetation, 2nd edition*. California Native Plant Society Press, Sacramento, CA.

U.S. Fish and Wildlife Service, 1998b. Endangered and Threatened Wildlife and Plants; Final Rule to List the San Bernardino Kangaroo Rat as Endangered, Vol. 63, No. 185, pp. 51005 – 51017.

U.S Fish and Wildlife Service, 2014. Endangered and Threatened Wildlife and Plants. https://www.fws.gov/endangered/species/us-species.html; Accessed June 2015

Web Soil Survey. Available online at http://websoilsurvey.nrcs.usda.gov/. Accessed Novenber 2015.

Wheeler, J., 1988. Recent Ecological Investigations and Present Status of the Endangered Santa Ana River Wooly-Star, Eriastrum densifolium spp. sanctorum (Milliken) Mason. Crossosoma, Vol 14, No. 3. pp. 1-17.

Williams, D. F., 1986. Mammalian Species of Special Concern in California. Wildlife Management Division Administrative Report 86-1. Prepared for The Resources Agency, California Department of Fish and Game.

Zeiner, D. C., W. F. Laudenslayer, Jr., K. E. Mayer and M. White, 1990. California's Wildlife, Volume III Mammals, The Resources Agency, Department of Fish and Game, Sacramento, California.

Zembal, R. and K.J. Kramer, 1984. The known distribution and unknown future of Santa Ana River woolly-star (Eriastrum). Crossosoma, Vol. 10, No. 5.

FIGURES

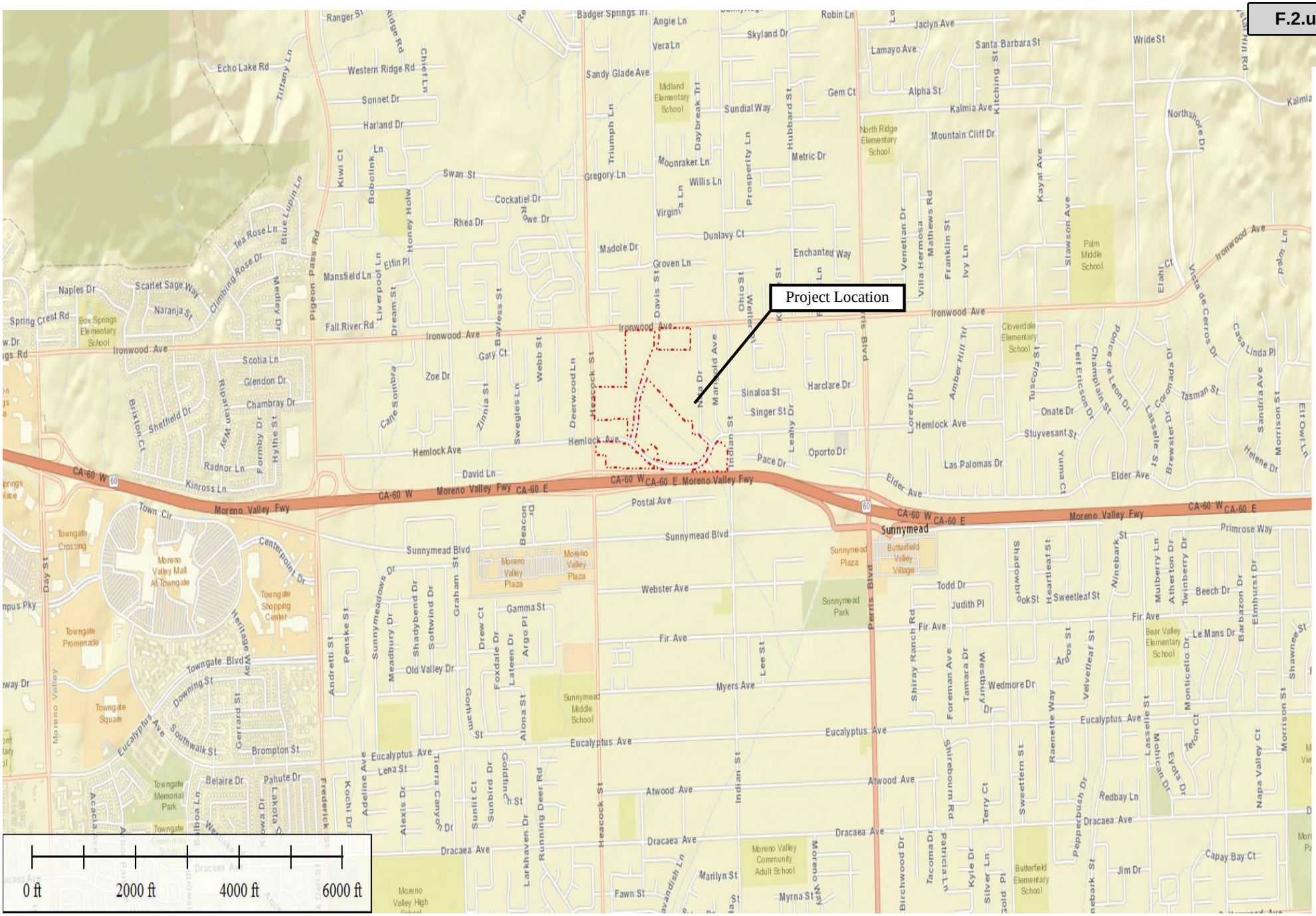

Figure 1

Location Map
Moreno Valley Festival
City of Moreno Valley, Riverside County, CA

Legend

Property Boundary

N

Hernandez Environmen Services

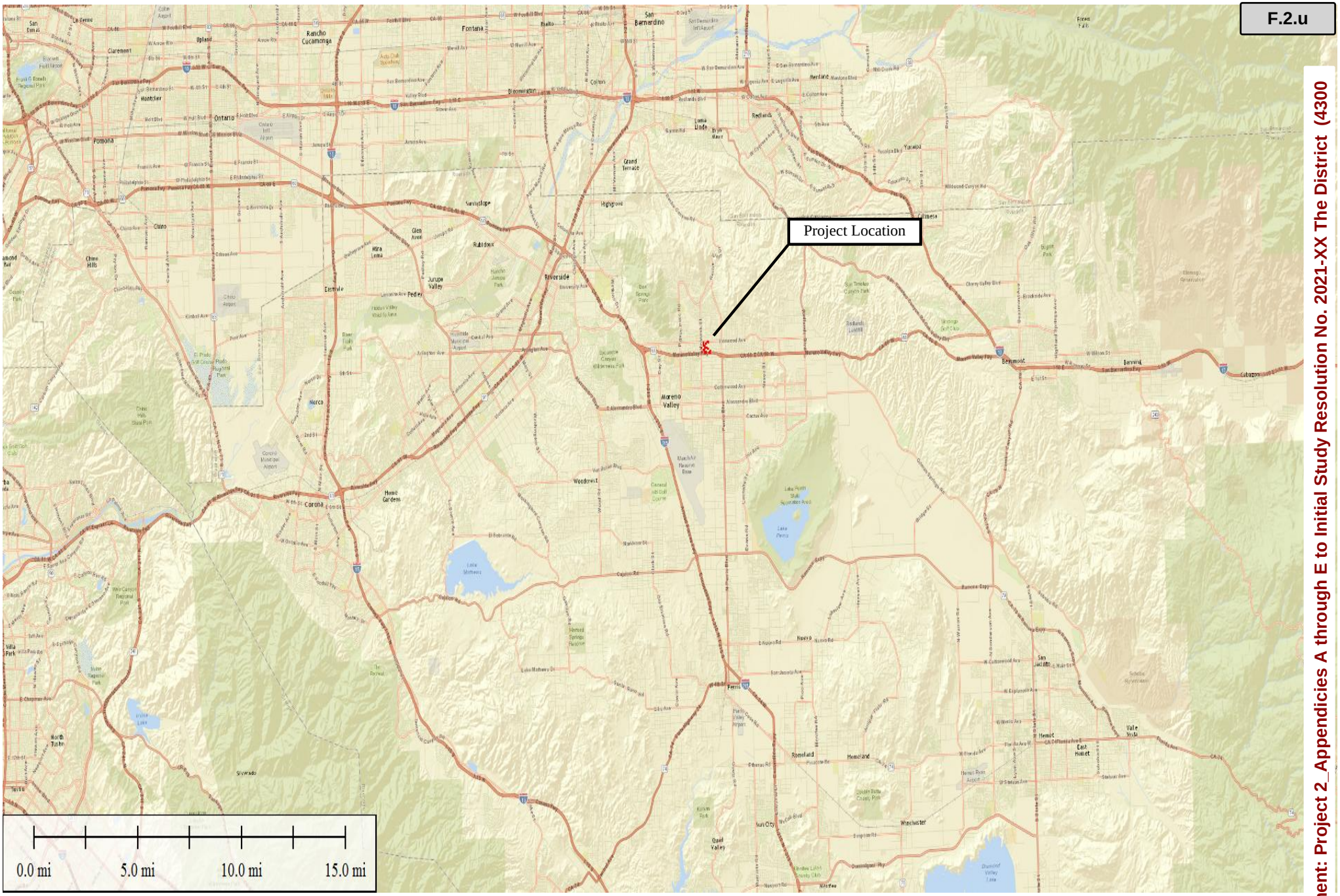

Figure 2

Vicinity Map
Moreno Valley Festival
City of Moreno Valley, Riverside County, CA

Legend

Property Boundary

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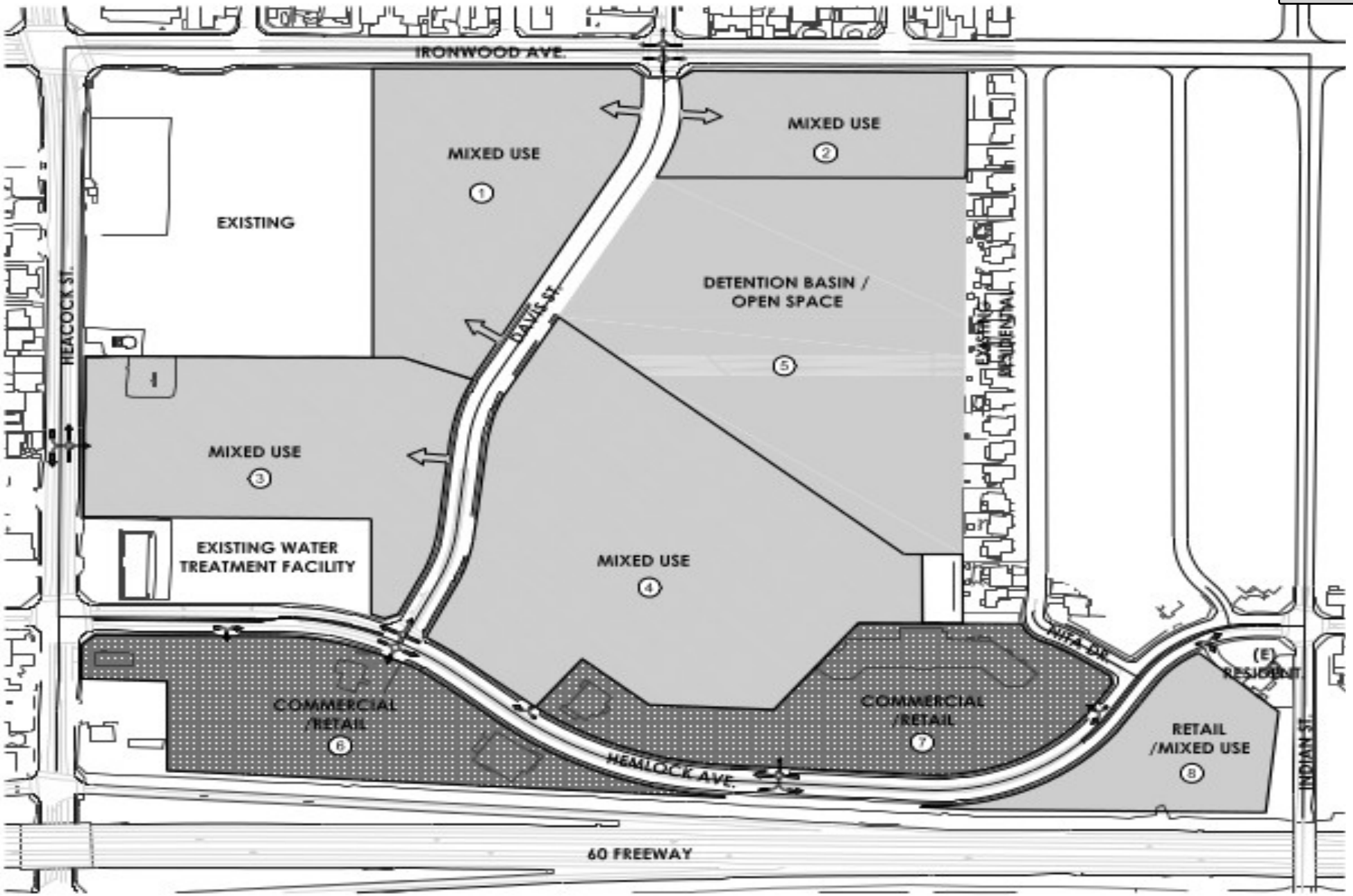

Figure 3

Project Plans
Moreno Valley Festival
City of Moreno Valley, Riverside County, CA

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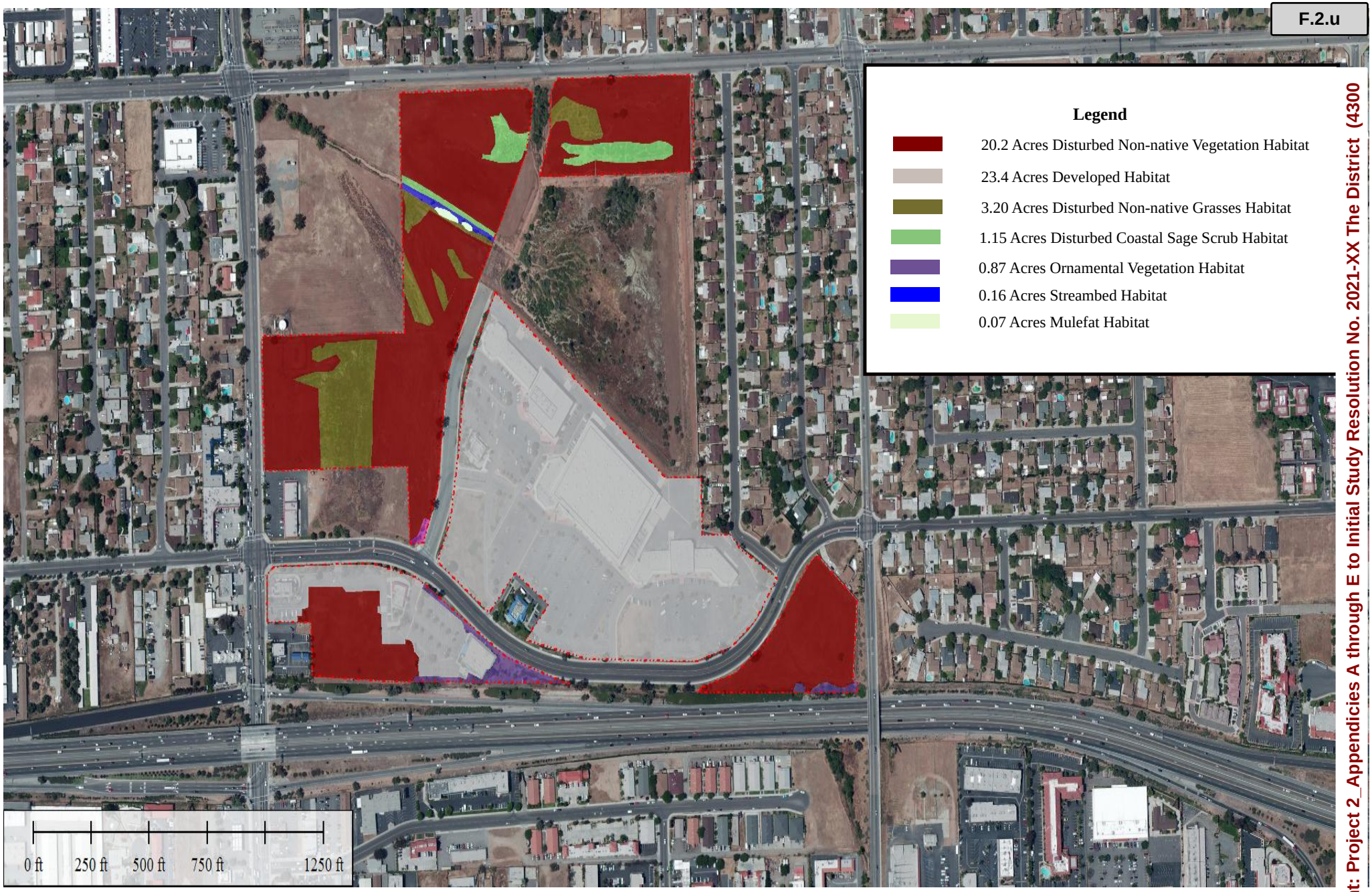


Figure 4

Habitat Map
Moreno Valley Festival
City of Moreno Valley, Riverside County, CA

Hernandez Environmen Services

Appendix A Species List

Plant List

Acmispon strigosus	Lotus
Amaranthus sp.	Pigweed
Ambrosia psilostachya	Western ragweed
Avena barbata	Oats
Baccharis salicifolia	Mulefat
Brassica nigra	Black mustard
Brassica tournefortii	Common mustard
Bromus diandrus	Ripgut brome
Bromus hordeaceus	soft chess
Bromus madritensis	Foxtail
Chamaesyce prostata	Prostate spurge
Centaurea melitensis	Tacalote
Cirsium vulgare	Bull thistle
Convolvulus arvensis	Field bindweed
Cucurbita foetidissima	Gord
Datura stramonium	Jimson weed
Deinandra fasciculata	Tarweed
Encelia farinosa	Brittlebush
Erigeron canadensis	Horseweed
Eriogonum fasciculatum	California buckwheat
Erodium cicutarium	Filaree
Eucalyptus sp.	Eucalyptus
Helianthus petiolaris	Sunflower
Hirschfeldia incana	Mustard

Hordeum murinum	Foxtail barley
Hordeum vulgare	Barley
Isocoma menziesii	Goldenbush
Malva parviflora	Cheeseweed
Marrubium vulgare	Horehound
Nerium oleander	Oleander
Nicotina glauca	Tree tabacco
Ricinus communis	Castor bean
Rumex crispus	Curly dock
Salix laevigata	Red Willow
Salix lasiolepsis	Arroyo Willow
Salsola tragus	Russian Thistle
Salvia apiana	White sage
Salvia mellifera	Black sage
Sambucus mexicana	Mexican elderberry
Schinus molle	Peruvian pepper tree
Tribulus terrestris	Puncture vine
Trichostema lanceolatum	Vinegar weed
Washingtonia robusta	Mexican Fan palm

Animal List

Aphelocoma californiaca	Western scrub jay
Buteo jamaicensis	Red-tailed Hawk
Calypte anna	Anna's hummingbird
Canis latrans	Coyote
Corvus corax	Raven
Corvus brachyrhynchos	Crow
Hirundo rustica	Barn swallow
Mimus polyglottos	Mocking bird

Passer domesticus	House Sparrow
Sayornis nigricans	Black phoebe
Sceloporus occidentalis	Western fence lizard
Streptopelia decaocto	Euroasian collard dove
Sylvilagus audubonii	Desert cottontail
Thomomys bottae	Botha's pocket gopher
Tyrannus verticalis	Western kingbird
Zenaida macroura	Mourning dove

Appendix A Species List

Plant List

Acmispon strigosus	Lotus
Amaranthus sp.	Pigweed
Ambrosia psilostachya	Western ragweed
Avena barbata	Oats
Baccharis salicifolia	Mulefat
Brassica nigra	Black mustard
Brassica tournefortii	Common mustard
Bromus diandrus	Ripgut brome
Bromus hordeaceus	soft chess
Bromus madritensis	Foxtail
Chamaesyce prostata	Prostate spurge
Centaurea melitensis	Tacalote
Cirsium vulgare	Bull thistle
Convolvulus arvensis	Field bindweed
Cucurbita foetidissima	Gord
Datura stramonium	Jimson weed
Deinandra fasciculata	Tarweed
Encelia farinosa	Brittlebush
Erigeron canadensis	Horseweed
Eriogonum fasciculatum	California buckwheat
Erodium cicutarium	Filaree
Eucalyptus sp.	Eucalyptus
Helianthus petiolaris	Sunflower
Hirschfeldia incana	Mustard

Hordeum murinum	Foxtail barley
Hordeum vulgare	Barley
Isocoma menziesii	Goldenbush
Malva parviflora	Cheeseweed
Marrubium vulgare	Horehound
Nerium oleander	Oleander
Nicotina glauca	Tree tabacco
Ricinus communis	Castor bean
Rumex crispus	Curly dock
Salix laevigata	Red Willow
Salix lasiolepsis	Arroyo Willow
Salsola tragus	Russian Thistle
Salvia apiana	White sage
Salvia mellifera	Black sage
Sambucus mexicana	Mexican elderberry
Schinus molle	Peruvian pepper tree
Tribulus terrestris	Puncture vine
Trichostema lanceolatum	Vinegar weed
Washingtonia robusta	Mexican Fan palm

Animal List

Aphelocoma californiaca	Western scrub jay
Buteo jamaicensis	Red-tailed Hawk
Calypte anna	Anna's hummingbird
Canis latrans	Coyote
Corvus corax	Raven
Corvus brachyrhynchos	Crow
Hirundo rustica	Barn swallow
Mimus polyglottos	Mocking bird

Passer domesticus	House Sparrow
Sayornis nigricans	Black phoebe
Sceloporus occidentalis	Western fence lizard
Streptopelia decaocto	Euroasian collard dove
Sylvilagus audubonii	Desert cottontail
Thomomys bottae	Botha's pocket gopher
Tyrannus verticalis	Western kingbird
Zenaida macroura	Mourning dove

APPENDIX B

Plants

Scientific Name	Common Name	Federal Listing	State Listing	CNPS Listing	Other Status	Habitat	Potential for Presence
Abronia villosa var. aurita	chaparral sand-verbena	None	None	1B.1	BLM_S-Sensitive | USFS_S-Sensitive	Sandy places in coastal-sage scrub, chaparral; Elevation: < 1600 m. Flowering Time: Mar--Aug	**Habitat too disturbed, disked, and no sandy areas. Not present.**
Allium munzii	Munz's onion	Endangered	Threatened	1B.1	SB_RSABG-Rancho Santa Ana Botanic Garden	Grassy openings in coastal-sage scrub; Elevation: 300--900 m. Flowering Time: Apr--May	**Habitat too disturbed and disked. Not present.**
Ambrosia pumila	San Diego ambrosia	Endangered	None	1B.1		Disturbed sites; Elevation: 50--600 m. Flowering Time:Apr--Jul	**Not inside narrow endemic plant survey area. Not present.**
Arenaria paludicola	marsh sandwort	Endangered	Endangered	1B.1	SB_SBBG-Santa Barbara Botanic Garden	Wet meadows, marshes; Elevation: < 300 m. Flowering Time: Late spring—summertime	**Project area too disturbed. Basin is maintained. Not present.**
Astragalus hornii var. hornii	Horn's milk-vetch	None	None	1B.1	BLM_S-Sensitive	Salty flats, lake shores; Elevation: 60--300 m. Flowering Time: May--Sep	**No habitat present. Not present.**
Astragalus pachypus var. jaegeri	Jaeger's milk-vetch	None	None	1B.1	BLM_S-Sensitive | SB_RSABG-Rancho Santa Ana Botanic Garden | USFS_S-Sensitive	Rocky or sandy areas; Elevation: 450--1200 m. Flowering Time: Dec--Jun	**Habitat too disturbed and disked Not present.**
Atriplex coronata var. notatior	San Jacinto Valley crownscale	Endangered	None	1B.1	SB_RSABG-Rancho Santa Ana Botanic Garden	Alkaline flats; Elevation: 400--500 m. Flowering Time: Apr--Aug	**No habitat present. Not present.**

Atriplex parishii	Parish's brittlescale	None	None	1B.1	USFS_S-Sensitive	Alkaline or clay soils; Elevation: < 470 m. Flowering Time: Jun--Oct	**No habitat present. Not present.**
Atriplex serenana var. davidsonii	Davidson's saltscale	None	None	1B.2		Bluffs; Elevation: < 200 m. Flowering Time: Apr--Oct	**No habitat present. Not present.**
Berberis nevinii	Nevin's barberry	Endangered	Endangered	1B.1	SB_RSABG-Rancho Santa Ana Botanic Garden | SB_SBBG-Santa Barbara Botanic Garden	Sandy to gravelly soils, washes, chaparral; Elevation: < 650 m. Flowering Time: Mar--May	**No habitat present. Not present.**
Brodiaea filifolia	thread-leaved brodiaea	Threatened	Endangered	1B.1	SB_RSABG-Rancho Santa Ana Botanic Garden	Grassland, vernal pools; Elevation: 25--860 m. Flowering Time: Mar--Jun	**Project area too disturbed. Basin is maintained. Not present.**
California macrophylla	round-leaved filaree	None	None	1B.1	BLM_S-Sensitive | SB_RSABG-Rancho Santa Ana Botanic Garden | SB_SBBG-Santa Barbara Botanic Garden	Open sites, grassland, scrub; Elevation: < 1200 m. Flowering Time: Mar--Jul	**Habitat too disturbed and disked Not present.**
Calochortus plummerae	Plummer's mariposa-lily	None	None	4.2	SB_RSABG-Rancho Santa Ana Botanic Garden	Dry, rocky chaparral, yellow-pine forest; Elevation: < 1700 m. Flowering Time: May--Jul	**No habitat present. Not present.**

Canyon Live Oak Ravine Forest	Canyon Live Oak Ravine Forest	None	None				**Not Present.**
Carex comosa	bristly sedge	None	None	2B.1		Wet places; Elevation: < 400 m. Flowering Time: Jul--Sep	**No habitat present. Not present.**
Caulanthus simulans	Payson's jewelflower	None	None	4.2	USFS_S-Sensitive	Chaparral, scrub, pinyon/juniper woodland; Elevation: 400--2200 m. Flowering Time: Mar--Jun	**Habitat too disturbed and disked Not present.**
Chloropyron maritimum ssp. maritimum	salt marsh bird's-beak	Endangered	Endangered	1B.2	SB_RSABG-Rancho Santa Ana Botanic Garden	Coastal salt marsh; Elevation: < 10 m. Flowering Time: May--Oct	**No habitat present. Not present.**
Chorizanthe parryi var. parryi	Parry's spineflower	None	None	1B.1	BLM_S-Sensitive | SB_RSABG-Rancho Santa Ana Botanic Garden | USFS_S-Sensitive	Sand; Elevation: 90--800 m. Flowering Time: May--Jun	**No habitat present. Not present.**
Chorizanthe polygonoides var. longispina	long-spined spineflower	None	None	1B.2	BLM_S-Sensitive | SB_RSABG-Rancho Santa Ana Botanic Garden	Sand; Elevation: 30--1500 m. Flowering Time: Apr--Jun	**No habitat present. Not present.**
Chorizanthe xanti var. leucotheca	white-bracted spineflower	None	None	1B.2	BLM_S-Sensitive | USFS_S-Sensitive	Sand or gravel; Elevation: 400--1300 m. Flowering Time: Apr--Jun	**No habitat present. Not present.**

Cuscuta obtusiflora var. glandulosa	Peruvian dodder	None	None	2B.2		On herbs including Alternanthera, Dalea, Lythrum, Polygonum, Xanthium; Elevation: +- < 500 m. Time: Jul--Oct	**No habitat present. Not present.**
Dodecahema leptoceras	slender-horned spineflower	Endangered	Endangered	1B.1	SB_RSABG-Rancho Santa Ana Botanic Garden	Sand or gravel; Elevation: 200--700 m. Flowering Time: May--Jun	**No habitat present. Not present.**
Eriastrum densifolium ssp. sanctorum	Santa Ana River woollystar	Endangered	Endangered	1B.1	SB_RSABG-Rancho Santa Ana Botanic Garden	Washes, floodplains, dry riverbeds; Elevation: < 500 m. Flowering Time: May--Sep	**No habitat present. Not present.**
Galium californicum ssp. primum	Alvin Meadow bedstraw	None	None	1B.2	BLM_S-Sensitive | USFS_S-Sensitive	Shade, lower elevations in Jeffrey-, Coulter-pine forests; Elevation: 1350--1700 m. Flowering Time: Mar--Jul	**No habitat present. Not present.**
Harpagonella palmeri	Palmer's grapplinghook	None	None	4.2	SB_RSABG-Rancho Santa Ana Botanic Garden	Dry, semi-barren sites in chaparral, coastal scrub, grassland; Elevation: < 1000m. Bioregional . Flowering Time: Mar--Apr	**Habitat too disturbed and disked Not present.**
Helianthus nuttallii ssp. parishii	Los Angeles sunflower	None	None	1A		Marshes; Elevation: < 500 m. Flowering Time: Aug--Oct	**No habitat present. Not present.**
Horkelia cuneata var. puberula	mesa horkelia	None	None	1B.1	USFS_S-Sensitive	Dry, sandy, coastal chaparral; Elevation: 70--870 m. Flowering Time: Mar--Jul	**Habitat too disturbed and disked Not present.**
Imperata brevifolia	California satintail	None	None	2B.1	SB_SBBG-Santa Barbara Botanic Garden | USFS_S-Sensitive	Wet springs, meadows, streambanks, floodplains; Elevation: < 500 m. Bioregional Distribution: Flowering Time: Sep--May	**Site is too high in elevation for this species. Not present.**

Lasthenia glabrata ssp. coulteri	Coulter's goldfields	None	None	1B.1	BLM_S-Sensitive | SB_RSABG-Rancho Santa Ana Botanic Garden	Saline places, vernal pools; Elevation: < 1000 m.Flowering Time: Apr--May	**No habitat present. Not present.**
Lepidium virginicum var. robinsonii	Robinson's pepper-grass	None	None	4.3		Chaparral, coastal sage scrub, bollms Jan-July.	**Habitat too disturbed and disked Not present.**
Lycium parishii	Parish's desert-thorn	None	None	2B.3		Sandy to rocky slopes, canyons; Elevation: < 1000 m. Flowering Time: Mar--Apr	**No habitat present. Not present.**
Monardella macrantha ssp. hallii	Dicots	None	None	1B.3	SB_RSABG-Rancho Santa Ana Botanic Garden | USFS_S-Sensitive	Chaparral, woodland; Elevation: 600--2000 m. Flowering Time: May--Aug	**No habitat present. Not present.**
Myosurus minimus ssp. apus	Dicots	None	None	3.1		Vernal pools, flowers May-June.	**No habitat present. Not present.**
Nama stenocarpum	mud nama	None	None	2B.2		Intermittently wet areas; Elevation: < 810 m. Flowering Time: Mar--Oct	**No habitat present. Not present.**
Nasturtium gambelii	Gambel's water cress	Endangered	Threatened	1B.1	SB_RSABG-Rancho Santa Ana Botanic Garden | SB_SBBG-Santa Barbara Botanic Garden	Marshes, streambanks, lake margins; Elevation: < 350 m. Flowering Time: May--Aug	**No habitat present. Not present.**

Navarretia fossalis	spreading navarretia	Threatened	None	1B.1	SB_RSABG-Rancho Santa Ana Botanic Garden	Vernal pools, ditches; Elevation: 30--1300 m. Flowering Time: Apr--Jun	**No habitat present. Not present.**
Ribes divaricatum var. parishii	Parish's gooseberry	None	None	1A		Moist woodland; Elevation: 60--310 m. Flowering Time: Mar--Apr Note: Possibly extinct.	**No habitat present. Not present.**
Riversidian Alluvial Fan Sage Scrub	Riversidian Alluvial Fan Sage Scrub	None	None				**Not Present.**
Sidalcea hickmanii ssp. parishii	Parish's checkerbloom	None	Rare	1B.2	BLM_S-Sensitive | SB_RSABG-Rancho Santa Ana Botanic Garden | SB_SBBG-Santa Barbara Botanic Garden | USFS_S-Sensitive	Chaparral, woodland, open conifer forest; Elevation: 1000--2200 m. Flowering Time: Jun--Aug	**No habitat present. Not present.**
Sidalcea neomexicana	Salt Spring checkerbloom	None	None	2B.2	USFS_S-Sensitive	Alkaline springs, marshes; Elevation: generally < 1500 m. Flowering Time: Apr--Jun	**No habitat present. Not present.**
Southern Coast Live Oak Riparian Forest	Southern Coast Live Oak Riparian Forest	None	None				**Not Present.**
Southern Cottonwood Willow Riparian Forest	Southern Cottonwood Willow Riparian Forest	None	None				**Not Present.**

Southern Riparian Forest	Southern Riparian Forest	None	None				**Not Present.**
Southern Riparian Scrub	Southern Riparian Scrub	None	None				**Not Present.**
Southern Sycamore Alder Riparian Woodland	Southern Sycamore Alder Riparian Woodland	None	None				**Not Present.**
Southern Willow Scrub	Southern Willow Scrub	None	None				**Not Present.**
Sphenopholis obtusata	prairie wedge grass	None	None	2B.2		Wet meadows, streambanks, ponds; Elevation: 240--2870 m. Flowering Time: Apr--Jun	**No habitat present. Not present.**
Streptanthus campestris	southern jewelflower	None	None	1B.3	BLM_S-Sensitive | USFS_S-Sensitive	Open, rocky conifer forest, chaparral, woodland; Elevation: 900--2300 m. Flowering Time: May--Jun	**No habitat present. Not present.**
Symphyotrichum defoliatum	San Bernardino aster	None	None	1B.2	BLM_S-Sensitive | USFS_S-Sensitive	Grassland, disturbed places; Elevation: < 2050 m. Flowering Time: Jul--Nov	**Potentially present.**
Tortula californica	California screw moss	None	None	1B.2	BLM_S-Sensitive	sandy, soil, chenopod scrub, and valley foothill grasslands.	**No habitat present. Not present.**
Trichocoronis wrightii var. wrightii	Wright's trichocoronis	None	None	2B.1		Moist places, drying riverbeds; Elevation: < 500 m. Flowering Time: May--Sep	**Site is too high in elevation for this species. Not present.**

Animals

Scientific Name	Common Name	Federal Listing	State Listing	Other Status	Habitat	Potential for Presence
Accipiter cooperii	Cooper's hawk	None	None	CDFW_WL-Watch List | IUCN_LC-Least Concern	Rivers with sandy banks, willows, cottonwoods, and sycamores; loose, gravelly areas of streams in drier parts of range.	Nesting habitat present in Eucalyptus trees on and adjacent to project area.
Agelaius tricolor	tricolored blackbird	None	Endangered	BLM_S-Sensitive | CDFW_SSC-Species of Special Concern | IUCN_EN-Endangered | NABCI_RWL-Red Watch List | USFWS_BCC-Birds of Conservation Concern	Nests in freshwater marsh habitat wit Typha sp. And willows being dominant.	**No habitat for this species. Not present.**
Aimophila ruficeps canescens	southern California rufous-crowned sparrow	None	None	CDFW_WL-Watch List	on steep, dry, rocky hillsides with plenty of grasses and a scattering of shrubs and small trees, such as sagebrush or scrub oaks. Recently burned areas can provide good, open habitat. The birds tend to avoid areas of dense shrubs.	**No habitat for this species. Not present.**

Anniella pulchra pulchra	silvery legless lizard	None	None	CDFW_SSC-Species of Special Concern | USFS_S-Sensitive	Occurs in moist warm loose soil with plant cover. Moisture is essential. Occurs in sparsely vegetated areas of beach dunes, chaparral, pine-oak woodlands, desert scrub, sandy washes, and stream terraces with sycamores, cottonwoods, or oaks. Leaf litter under trees and bushes in sunny areas and dunes stabilized with bush lupine and mock heather often indicate suitable habitat. Often can be found under surface objects such as rocks, boards, driftwood, and logs.	**No habitat for this species. Not present.**
Antrozous pallidus	pallid bat	None	None	BLM_S-Sensitive | CDFW_SSC-Species of Special Concern | IUCN_LC-Least Concern | USFS_S-Sensitive | WBWG_H-High Priority	The pallid bat is usually found in rocky, mountainous areas and near water. They are also found over more open, sparsely vegetated grasslands, and they seem to prefer to forage in the open.	**No habitat for this species. Not present.**

Aquila chrysaetos	golden eagle	None	None	BLM_S-Sensitive | CDF_S-Sensitive | CDFW_FP-Fully Protected | CDFW_WL-Watch List | IUCN_LC-Least Concern | USFWS_BCC-Birds of Conservation Concern	Golden Eagles live in open and semiopen country featuring native vegetation across most of the Northern Hemisphere. They avoid developed areas and uninterrupted stretches of forest. They are found primarily in mountains up to 12,000 feet, canyonlands, rimrock terrain, and riverside cliffs and bluffs. Golden Eagles nest on cliffs and steep escarpments in grassland, chapparal, shrubland, forest, and other vegetated areas.	**No habitat for this species. Not present.**
Artemisiospiza belli belli	Bell's sage sparrow	None	None	CDFW_WL-Watch List | USFWS_BCC-Birds of Conservation Concern	Nests in coastal sage scrub and chaparral.	**Some very disturbed coastal sage scrub is present. Potentially present.**
Asio otus	long-eared owl	None	None	CDFW_SSC-Species of Special Concern | IUCN_LC-Least Concern	require a combination of grassland or other open country for foraging, and dense tall shrubs or trees for nesting and roosting. Pine stands and windbreaks or shelterbelts are favored winter roost habitat.	**No habitat for this species. Not present.**

Aspidoscelis hyperythra	orangethroat whiptail	None	None	CDFW_SSC -Species of Special Concern | IUCN_LC-Least Concern | USFS_S-Sensitive	This species inhabits low-elevation coastal scrub, chamise-redshank chaparral, mixed chaparral, and valley-foothill hardwood habitat	**Some very disturbed coastal sage scrub is present. Potentially present.**
Aspidoscelis tigris stejnegeri	coastal whiptail	None	None		Found in a variety of ecosystems, primarily hot and dry open areas with sparse foliage - chaparral, woodland, and riparian areas.	**Some habitat may be present. Potentially present.**
Athene cunicularia	burrowing owl	None	None	BLM_S-Sensitive | CDFW_SSC -Species of Special Concern | IUCN_LC-Least Concern | USFWS_BCC-Birds of Conservation Concern	Lives in dry, open areas with no trees and short grass.	**Surveys for this species were conducted on no burrowing owl were found. Not present.**
Buteo regalis	ferruginous hawk	None	None	CDFW_WL-Watch List | IUCN_LC-Least Concern | USFWS_BCC-Birds of Conservation Concern	Open country, primarily prairies, plain and badlands, breeding in trees near streams or on steep slopes, sometimes on mounds in open desert.	**No nesting habitat for this species. Not present.**

Buteo swainsoni	Swainson's hawk	None	Threatened	BLM_S-Sensitive | IUCN_LC-Least Concern | USFWS_BCC-Birds of Conservation Concern	Swainson's Hawks favor open habitats for foraging.	**No nesting habitat for this species. Not present.**
Campylorhynchus brunneicapillus sandiegensis	coastal cactus wren	None	None	CDFW_SSC-Species of Special Concern | USFS_S-Sensitive | USFWS_BCC-Birds of Conservation Concern	Coastal sage scrub with thickets of Opuntia sp.	**No nesting habitat for this species. Not present.**
Catostomus santaanae	Santa Ana sucker	Threatened	None	AFS_TH-Threatened | CDFW_SSC-Species of Special Concern | IUCN_VU-Vulnerable	Flowing perennial or intermittent southern California streams.	**No habitat for this species. Not present.**
Chaetodipus fallax fallax	northwestern San Diego pocket mouse	None	None	CDFW_SSC-Species of Special Concern	shrublands that vary from sparse desert shrublands to dense coastal scrub. Tends to be more abundant where rocks or shrubs provide cover. Lives in a variety of habitats: desert slopes, agave, rocky areas, coastal sage scrub, etc.	**No habitat for this species. Not present.**

					dry shrublands, desert, and near-desert areas. They are found among scattered rocks and boulders or on talus slopes. Preferred habitat is often on south-facing hillsides at elevations from sea level to over 2,000 meters. Rosy boas are rarely found far from rock cover. They seem to prefer habitats near free water, such as canyon or desert streams, but are not restricted to such areas.	
Charina trivirgata	rosy boa	None	None	IUCN_LC-Least Concern | USFS_S-Sensitive		**No habitat for this species. Not present.**
Coccyzus americanus occidentalis	western yellow-billed cuckoo	Threatened	Endangered	BLM_S-Sensitive | NABCI_RWL-Red Watch List | USFS_S-Sensitive | USFWS_BCC-Birds of Conservation Concern	Breeding habitat primarily consists of large blocks, or contiguous areas, of riparian habitat, particularly cottonwood–willow riparian woodlands.	**No habitat for this species. Not present.**
Crotalus ruber	red-diamond rattlesnake	None	None	CDFW_SSC-Species of Special Concern | USFS_S-Sensitive	Coastal sage scrub or chaparral with granite boulders.	**Some habitat may be present. Potentially present.**
Diadophis punctatus modestus	San Bernardino ringneck snake	None	None	USFS_S-Sensitive	Prefers moist habitats, including wet meadows, rocky hillsides, gardens, farmland, grassland, chaparral, mixed coniferous forests, woodlands.	**No habitat for this species. Not present.**

Dipodomys stephensi	Stephens' kangaroo rat	Endangered	Threatened	IUCN_EN-Endangered	Typical habitat includes sparsely vegetated areas (perennial cover less than 30%) with loose, friable, well-drained soil (generally at least 0.5 m deep) and flat or gently rolling terrain.	**No habitat for this species. Not present.**
Elanus leucurus	white-tailed kite	None	None	BLM_S-Sensitive | CDFW_FP-Fully Protected | IUCN_LC-Least Concern	Commonly found in savanna, open woodlands, marshes, desert grassland, partially cleared lands, and cultivated fields.	**No nesting habitat for this species. Not present.**
Empidonax traillii extimus	southwestern willow flycatcher	Endangered	Endangered	NABCI_RWL-Red Watch List	Riparian forests.	**No nesting habitat for this species. Not present.**
Emys marmorata	western pond turtle	None	None	BLM_S-Sensitive | CDFW_SSC-Species of Special Concern | IUCN_VU-Vulnerable | USFS_S-Sensitive	Found in ponds, lakes, streams, large rivers, slow-moving sloughs, and quiet waters. The turtles prefer aquatic habitats with exposed areas for basking, with aquatic vegetation, such as algae and other water plants, but they also live in clear waters, especially where there is cover such as boulders or fallen trees in the waterThe western pond turtle also spends significant amounts of time in upland terrestrial habitats and has been found more than one kilometre from water.	**No nesting habitat for this species. Not present.**

Eremophila alpestris actia	California horned lark	None	None	CDFW_WL-Watch List | IUCN_LC-Least Concern	Open areas dominated by sparse low herbaceous vegetation or widely scattered low shrubs. Nests in hollow on ground often next to grass tuft or clod of earth or manure.	**Habitat for this species is present. Potentially present.**
Eumops perotis californicus	western mastiff bat	None	None	BLM_S-Sensitive | CDFW_SSC-Species of Special Concern | WBWG_H-High Priority	present only where there are significant rock features offering suitable roosting habitat. It is found in a variety of habitats, from desert scrub to chaparral to oak woodland and into the ponderosa pine belt.	**No habitat for this species. Not present.**
Euphydryas editha quino	quino checkerspot butterfly	Endangered	None	XERCES_CI-Critically Imperiled	The larvae may use either Plantago erecta or Castilleja exserta, both of which may be common in meadows and upland sage scrub/chapparal habitat.	**No habitat for this species. Not present.**
Gila orcuttii	arroyo chub	None	None	AFS_VU-Vulnerable | CDFW_SSC-Species of Special Concern | USFS_S-Sensitive	southern California coastal drainages.	**No habitat for this species. Not present.**

Haliaeetus leucocephalus	bald eagle	Delisted	Endangered	BLM_S-Sensitive | CDF_S-Sensitive | CDFW_FP-Fully Protected | IUCN_LC-Least Concern | USFS_S-Sensitive | USFWS_BCC-Birds of Conservation Concern	generally found close to water	**No habitat for this species. Not present.**
Icteria virens	yellow-breasted chat	None	None	CDFW_SSC-Species of Special Concern | IUCN_LC-Least Concern	Riparian forests.	**No habitat for this species. Not present.**
Lampropeltis zonata (parvirubra)	California mountain kingsnake (San Bernardino population)	None	None	BLM_S-Sensitive | CDFW_SSC-Species of Special Concern | IUCN_LC-Least Concern | USFS_S-Sensitive	Found in diverse habitats including coniferous forest, oak-pine woodlands, riparian woodland, chaparral, manzanita, and coastal sage scrub. Wooded areas near a stream with rock outcrops, talus or rotting logs that are exposed to the sun are good places to find this snake.	**No habitat for this species. Not present.**

Lanius ludovicianus	loggerhead shrike	None	None	CDFW_SSC -Species of Special Concern | IUCN_LC-Least Concern | USFWS_BCC-Birds of Conservation Concern	Open country with scattered shrubs and trees is the typical habitat of Loggerhead Shrike, but the species can also be found in more heavily wooded habitats with large openings and in very short habitats with few or no trees.	**No habitat for this species. Not present.**
Lasiurus xanthinus	western yellow bat	None	None	CDFW_SSC -Species of Special Concern | IUCN_LC-Least Concern | WBWG_H-High Priority	This species occupies a range of habitats of extremely arid areas to dry areas. It inhabits savannas, secluded woodlands, regions dominated by pasture or croplands, and even tolerates residential areas. It is insectivorous. It often roosts in trees.	**Very limited roosting habitat for this species. Potentially present.**
Leptonycteris yerbabuenae	lesser long-nosed bat	Endangered	None	IUCN_VU-Vulnerable | WBWG_H-High Priority	This bat roosts in caves and mines, often in colonies of several thousand.	**No habitat for this species. Not present.**
Lepus californicus bennettii	San Diego black-tailed jackrabbit	None	None	CDFW_SSC -Species of Special Concern	Chaparral and coastal sage scrub.	**Very limited habitat for this species. Potentially present.**
Neotoma lepida intermedia	San Diego desert woodrat	None	None	CDFW_SSC -Species of Special Concern	Chaparral and coastal sage scrub.	**No habitat for this species. Not present.**

Nyctinomops femorosaccus	pocketed free-tailed bat	None	None	CDFW_SSC -Species of Special Concern | IUCN_LC-Least Concern | WBWG_M-Medium Priority	Roosts in caves, rock crevices in cliff faces, and man-made structures.	**No habitat for this species. Not present.**
Onychomys torridus ramona	southern grasshopper mouse	None	None	CDFW_SSC -Species of Special Concern	Believed to inhabit flat, sandy, valley floor habitats	**No habitat for this species. Not present.**
Perognathus longimembris brevinasus	Los Angeles pocket mouse	None	None	CDFW_SSC -Species of Special Concern	includes lower elevation grassland, alluvial sage scrub, and coastal sage scrub.	**No habitat for this species. Not present.**
Phrynosoma blainvillii	coast horned lizard	None	None	BLM_S-Sensitive | CDFW_SSC -Species of Special Concern | IUCN_LC-Least Concern	Inhabits open areas of sandy soil and low vegetation in valleys, foothills and semiarid mountains. Found in grasslands, coniferous forests, woodlands, and chaparral, with open areas and patches of loose soil. Often found in lowlands along sandy washes with scattered shrubs and along dirt roads, and frequently found near ant hills.	**Very limited habitat for this species. Potentially present.**
Plegadis chihi	white-faced ibis	None	None	CDFW_WL-Watch List | IUCN_LC-Least Concern	Found in marsh habitat.	**No habitat for this species. Not present.**

Polioptila californica californica	coastal California gnatcatcher	Threatened	None	CDFW_SSC -Species of Special Concern | NABCI_YWL-Yellow Watch List	Coastal sage scrub.	**No habitat for this species. Not present.**
Rana muscosa	southern mountain yellow-legged frog	Endangered	Endangered	CDFW_SSC -Species of Special Concern | IUCN_EN-Endangered | USFS_S-Sensitive	Rocky stream courses in southern California perennial or intermittent streams.	**No habitat for this species. Not present.**
Rhaphiomidas terminatus abdominalis	Delhi Sands flower-loving fly	Endangered	None		Habitat consists of Delhi sands.	**No habitat for this species. Not present.**
Rhinichthys osculus ssp. 3	Santa Ana speckled dace	None	None	AFS_TH-Threatened | CDFW_SSC -Species of Special Concern | USFS_S-Sensitive	Cobble and rock southern California intermittent and perennial streams.	**No habitat for this species. Not present.**
Setophaga petechia	yellow warbler	None	None	CDFW_SSC -Species of Special Concern | USFWS_BCC-Birds of Conservation Concern	Riparian scrub and thickets.	**No habitat for this species. Not present.**

Spea hammondii	western spadefoot	None	None	BLM_S-Sensitive | CDFW_SSC-Species of Special Concern | IUCN_NT-Near Threatened	Upland coastal sage scrub and needs vernal or seasonal pools to breed.	**No habitat for this species. Not present.**
Spinus lawrencei	Lawrence's goldfinch	None	None	IUCN_LC-Least Concern | NABCI_YWL-Yellow Watch List | USFWS_BCC-Birds of Conservation Concern	Open woodlands, chaparral, and weedy fields.	**Very limited habitat for this species in the basin. Potentially present.**
Streptocephalus woottoni	Riverside fairy shrimp	Endangered	None	IUCN_EN-Endangered	Vernal pool habitat.	**No habitat for this species. Not present.**
Taxidea taxus	American badger	None	None	CDFW_SSC-Species of Special Concern | IUCN_LC-Least Concern	Coastal sage scrub, chaparral, mountain woodlands, desert habitat.	**No habitat for this species. Not present.**

Thamnophis hammondii	two-striped garter snake	None	None	BLM_S-Sensitive | CDFW_SSC-Species of Special Concern | IUCN_LC-Least Concern | USFS_S-Sensitive	Generally found around pools, creeks, cattle tanks, and other water sources, often in rocky areas, in oak woodland, chaparral, brushland, and coniferous forest.	**No habitat for this species. Not present.**
Vireo bellii pusillus	least Bell's vireo	Endangered	Endangered	IUCN_NT-Near Threatened | NABCI_YWL-Yellow Watch List	Riparian areas dominated by mulefat and willows.	**No habitat for this species. Not present.**

APPENDIX C

Moreno Valley Trails
Site Photographs

Hernandez Environmental Services

Disturbed non-native vegetation habitat.

Disturbed non-native grass habitat.

Moreno Valley Trails
Site Photographs

Hernandez Environmental Services

Disturbed coastal sage scrub habitat.

Stream habitat with nmulefat habitat to the center right.

Moreno Valley Trails
Site Photographs

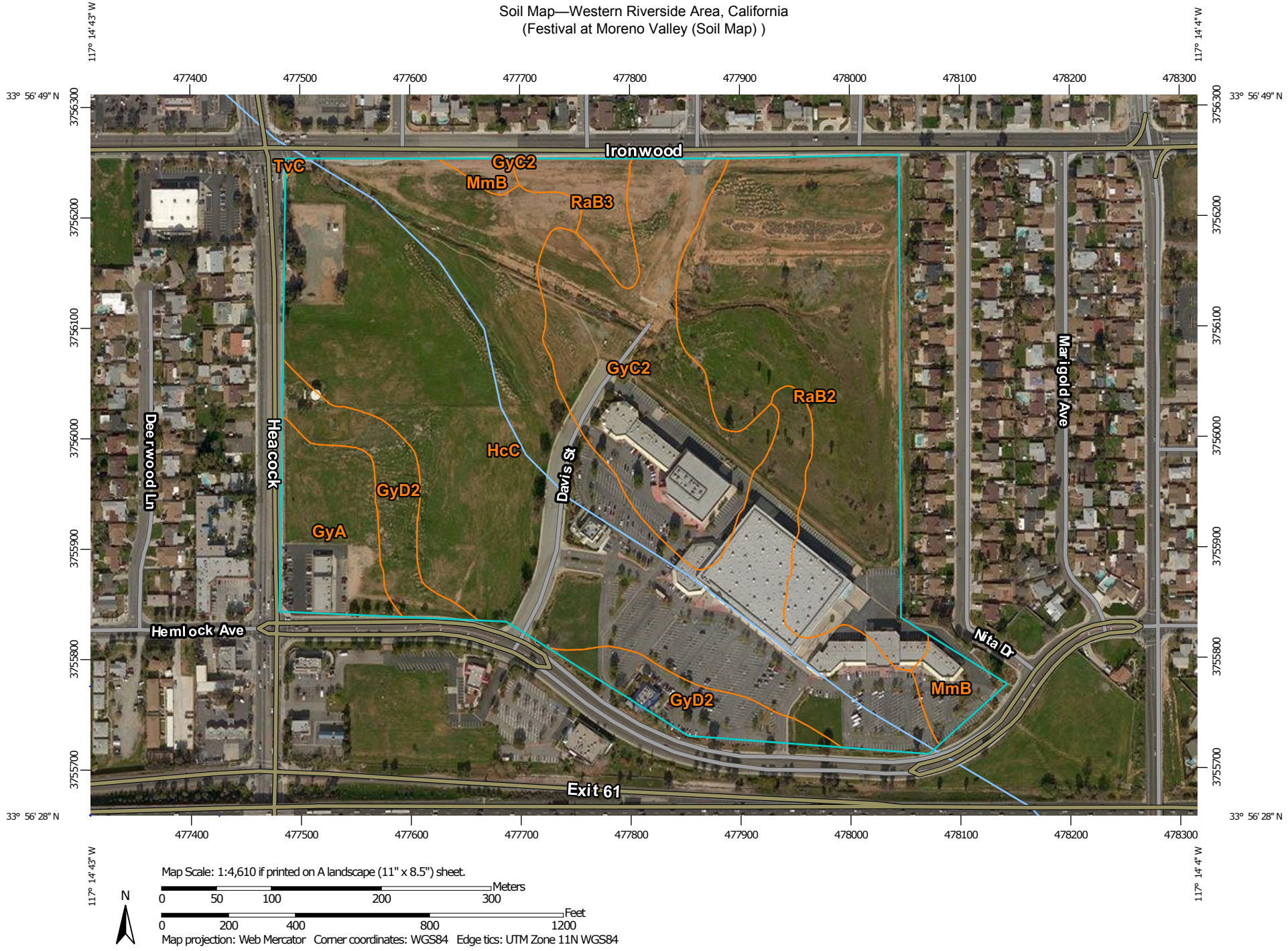
Hernandez Environmental Services

Ornamental habitat

Disturbed non-native vegetation habitat with euclyptus tree and developed portions of property.

APPENDIX D

Soil Map—Western Riverside Area, California
(Festival at Moreno Valley (Soil Map))



MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:15,800.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL: http://websoilsurvey.nrcs.usda.gov
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Western Riverside Area, California
Survey Area Data: Version 7, Sep 17, 2014

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Jan 14, 2015—Jan 21, 2015

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Western Riverside Area, California (CA679)			
Map Unit Symbol	**Map Unit Name**	**Acres in AOI**	**Percent of AOI**
GyA	Greenfield sandy loam, 0 to 2 percent slopes	3.5	5.2%
GyC2	Greenfield sandy loam, 2 to 8 percent slopes, eroded	9.9	14.7%
GyD2	Greenfield sandy loam, 8 to 15 percent slopes, eroded	4.6	6.9%
HcC	Hanford coarse sandy loam, 2 to 8 percent slopes	30.8	45.7%
MmB	Monserate sandy loam, 0 to 5 percent slopes	1.4	2.1%
RaB2	Ramona sandy loam, 2 to 5 percent slopes, eroded	15.6	23.1%
RaB3	Ramona sandy loam, 0 to 5 percent slopes, severely eroded	1.6	2.4%
TvC	Tujunga loamy sand, channeled, 0 to 8 percent slopes	0.0	0.0%
Totals for Area of Interest		**67.4**	**100.0%**

Appendix D to Initial Study
Jurisdictional Delineation

Hernandez Environmental Services

JURISDICTIONAL DELINEATION REPORT FOR THE MORENO VALLEY FESTIVAL CITY OF MORENO VALLEY, CALIFORNIA

Prepared By:

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Prepared for:

Moreno Valley Festival, LTD
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November 2015

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1.0 INTRODUCTION

1.1 Project Location

The project site is located in the City of Moreno Valley in Riverside County at the southeast intersection of Heacock Street and Ironwood Avenue (Figure 1). The southern boundary is defined by the Moreno Valley Freeway (CA-60). The project site consists of 15 parcels totaling approximately 49.0 acres. Approximately 27.21 acres are developed with the existing Festival Shopping Center and commercial development south of Hemlock Avenue; the remaining 22.39 acres are undeveloped and vacant (Figure 2). The site is located within the United States Geological Survey (USGS) 7.5-Minute Topographic Map Sunnymead Quadrangle. The approximate center point is 33°56'28"N, 117°14'33"W.

1.2 Project Description

The Moreno Valley Festival project consists of a commercial/retail and mixed use development (Figure 3). The plan area includes approximately 49.0 acres; a portion of the site is currently developed with the Festival Shopping Center on the north side of Hemlock Street and with a fast food establishment and miscellaneous commercial development on the south side of Hemlock Street.

1.3 Environmental Setting

The project site is located in a heavily urbanized area in the City of Moreno Valley. The project site has residential homes to the north, residential homes to the east, residential homes to the west, and CA-60 and commercial properties to the south. The project site has been heavily disturbed and no quality native habitat remains onsite. Portions of the property have already been developed with commercial/retail buildings. Other portions of the property consist of vacant, disked lots. The elevation of the project site varies from 1,674 feet above sea level (ASL) to 1,641feeet ASL. There is a small, disturbed, non-meandering ephemeral drainage located in the northwest portion of the property. The drainage crosses the project site from west to east and empties into Indian Basin.

1.4 Purpose of Jurisdictional Delineation

The purpose of this jurisdictional delineation is to:

- Determine if any state or federal jurisdictional waters are present within the project site boundaries;
- Quantify any impacts to jurisdictional waters due to the proposed project, if possible;
- Determine if the project will require state or federal permits for impacts to

jurisdictional waters; and

- Recommend mitigation measures to offset impacts to state or federal jurisdictional waters.

2.0 REGULATORY BACKGROUND

2.1 California Department of Fish and Wildlife Section 1602 of the California Fish and Game Code

The California Department of Fish and Wildlife (CDFW) is responsible for conserving, protecting, and managing California's fish, wildlife, and native plant resources. To meet this responsibility, the California Fish and Game Code (F&GC) requires that the CDFW be consulted if a proposed development project has the potential to detrimentally affect a stream, and thereby, wildlife resources that depend upon a stream for continued viability (F&GC Division 2, Chapter 5, Section 1600- 1616). A Section 1602 Lake or Streambed Alteration Agreement is required should the CDFW determine that the proposed project may do one or more of the following:

- Substantially divert or obstruct the natural flow of any river, stream, or lake;
- Substantially change or use any material from the bed, channel, or bank of any river, stream, or lake; or
- Deposit debris, waste, or other materials that could pass into any river, stream, or lake.

For the purposes of clarification, a stream is defined by the CDFW as "a body of water that flows perennially or episodically and that is defined by the area in which water currently flows, or has flowed, over a given course during the historic hydrologic regime, and where the width of its course can reasonably be identified by physical or biological indicators." The historic hydrologic regime is defined as circa 1800 to the present (CDFW 2010).

2.2 Regional Water Quality Control Board Clean Water Act Section 401/Porter Cologne Act

The Regional Water Quality Control Board (RWQCB) regulates activities pursuant to Section 401(a)(1) of the federal Clean Water Act, as well as the Porter Cologne Act (Water Code Section 13260). Section 401 of the Clean Water Act specifies that certification from the State is required for any project requesting a federal license or permit to conduct any activities including, but not limited to, the construction or operation of facilities that may result in any discharge into navigable waters. The certification shall originate from the State in which the discharge

originates from, or will originate from, or, if appropriate, from the interstate water pollution control agency having jurisdiction over the navigable water at the point where the discharge originates or will originate. Any such discharges will comply with the applicable provisions of sections 301, 302, 303, 306, and 307 of the Clean Water Act. The Porter Cologne Water Quality Control Act requires "any person discharging waste, or proposing to discharge waste, within any region that could affect the waters of the state to file a report of discharge." Discharge of fill material into "waters" of the State, which does not fall under the jurisdiction of the United States Army Corps of Engineers (USACE) pursuant to Section 401 of the Clean Water Act, may require authorization through application of waste discharge requirements or through waiver of waste discharge requirements.

2.2.1 Santa Ana Region Basin Plan

The Santa Ana Region Basin Plan (Basin Plan) reflects, incorporates, and implements applicable portions of a number of national and statewide water quality plans and policies, including the California Water Code and the Clean Water Act, by establishing water quality standards for groundwater and surface waters of the region. The Basin Plan recognizes and reflects regional differences in existing water quality, the beneficial uses of the region's ground and surface waters, and local water quality conditions and problems. The Basin Plan includes an implementation plan design the actions by the Regional Board and others that are necessary to achieve and maintain the water quality standards.

The term "water quality standards," as used in the federal Clean Water Act, includes both the beneficial uses of specific waterbodies and the levels of quality which must be met and maintained to protect those uses.

The project site is located within Hydrologic Unit 802.11 and within the Perris North groundwater management zone of the Santa Ana Regional Water Quality Control Board Basin Plan. The following Beneficial Uses are identified to occcur in the Perris North groundwater management zone:

MUN	**Municipal and Domestic Supply** waters are used for community, military, municipal or individual water supply systems. These uses may include, but are not limited to, drinking water supply.
AGR	**Agricultural Supply** waters are used for farming, horticulture or ranching. These uses may include but are not limited to, irrigation, stock watering, and support of vegetation for range grazing.
IND	**Industrial Service Supply** waters are used for industrial activities that do not depend primarily on water quality. These uses may include but are not limited to, mining, cooling water supply, hydraulic conveyance, gravel washing, fire protection and oil well repressurization.
PROC	**Industrial Process Supply** waters are used for industrial activities that depend primarily on water quality. These uses may include, but are not limited to, process water supply and all uses of water related to product manufacture or food preparation.

2.3 United States Army Corps of Engineers Clean Water Act Section 404

The USACE regulates "discharge of dredged or fill material" into wetlands and "waters of the United States" (WUS).

2.3.1 Waters of the United States

The term WUS is defined as:

- All waters currently used, or used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters subject to the ebb and flow of the tide;
- All interstate waters including interstate wetlands;
- All other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds; the use, degradation, or destruction of which could affect foreign commerce including any such waters, (1) which could be used by interstate or foreign travelers for recreational or other purposes; or (2) from which fish or shellfish are, or could be, taken and sold in interstate or foreign commerce; or (3) which are used or could be used for industries in interstate commerce.
- All other impoundments of waters otherwise defined as WUS under the definition;

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- Tributaries of waters identified above;
- The territorial seas; and
- Wetlands adjacent to waters (other than waters that are themselves wetlands) identified in the paragraphs above (33 Code of Federal Regulations [CFR] Part 328.3(a)).

2.3.2 Wetlands

According to the USACE manual (USACE 1987), wetlands are defined as "those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances, do support a prevalence of vegetation typically adapted for life in saturated soil conditions."

Wetlands are delineated using three parameters: hydrophytic vegetation, wetland hydrology, and hydric soils. According to the USACE, indicators for all three parameters must be present to qualify a wetland. The definition of a wetland includes the phrase "under normal circumstances," because there are situations in which the vegetation of a wetland has been removed or altered as a result of a recent natural event or human activities (USACE 1987).

Atypical situations and problem areas may lack one or more of the three criteria and still be considered wetlands. Background information on the previous condition of the area and/or field observations may indicate that the site meets the wetland criteria prior to disturbance. Additional delineation procedures would be employed if normal circumstances did not occur on a site. For the project survey area, atypical situations or problem areas do not occur, as normal circumstances are present.

2.3.3 Vernal Pools

On November 25, 1997, the USACE issued Regional General Condition #1: Vernal Pool Notification, to address discharge of dredged or fill material into any vernal pool. In that special public notice, the USACE defines vernal pools as:

> Wetlands that seasonally pond in small depressions as a result of a shallow, relatively impermeable layer that restricts downward percolation of water. The dominant water source for vernal pools is precipitation with pools typically filling after fall and winter rains and evaporating during spring and summer. These seasonal ponds are fragile, easily disturbed ecosystems that provide habitat for indigenous specialized assemblages of flora and fauna, including several species,

which are either proposed or already federally listed as threatened or endangered. (USACE 1997)

The USACE included a list of vernal pool "indicator species" in the 1997 notice. The presence of any one of the indicators could be used to bypass the normal hydric soil, wetland hydrology, and hydrophytic vegetation requirements to identify a jurisdictional vernal pool.

2.3.4 Regulatory Definition

In accordance with Section 404 of the Clean Water Act, the term "fill" is defined as material placed in WUS where the material has the effect of:

- Replacing any portion of a WUS with dry land; or
- Changing the bottom elevation of any portion of a WUS.

Examples of such fill material include, but are not limited to: rock, sand, soil, clay, plastics, construction debris, wood chips, overburden from mining or other excavation activities, and materials used to create any structure or infrastructure in the WUS. The term fill material does not include trash or garbage.

The definition of "discharge of dredged material" is defined as any addition of dredged material into, including redeposit of dredged material other than incidental fallback within, the WUS. The term includes, but is not limited to, the following:

- The addition of dredged material to a specified discharge site located in WUS;
- The runoff or overflow, associated with a dredging operation, from a contained land or water disposal area; and
- Any addition, including redeposit other than incidental fallback, of dredged material, including excavated material, into WUS which is incidental to any activity, including mechanized land clearing, ditching, channelization, or other excavation.

The term discharge of dredged material does not include the following:

- Discharges of pollutants into WUS resulting from the onshore subsequent processing of dredged material that is extracted for any commercial use (other than fill). These discharges are subject to section 402 of the Clean Water Act even though the extraction and deposit of such material may require a permit from the Corps or applicable State.

- Activities that involve only the cutting or removing of vegetation above the ground (e.g., mowing, rotary cutting, and chain-sawing) where the activity neither substantially disturbs the root system nor involves mechanized pushing, dragging, or other similar activities that redeposit excavated soil material.
- Incidental fallback.

3.0 METHODOLOGY

3.1 Literature Review

Prior to the site visit, a literature review was conducted to aid in determining the potential for permanent, intermittent, or ephemeral drainages, wetlands, and riparian vegetation. Project background documents, topographic maps, satellite imaging, soils maps, and land use maps were examined to establish an accurate project area location, project description, potential for on-site drainages and wetlands, records of on-site vegetation, watershed, soils, and surrounding land uses.

3.2 Field Survey

On August 26, 2015, Hernandez Environmental Services conducted a field survey of the project areas in order to delineate jurisdictional drainages and wetland resources associated with jurisdictional drainages.

Jurisdictional drainages were identified by looking for features such as a bed, bank, or channel. Where riparian vegetation was present, the drip line of the outer edge of the vegetation was used as the measuring criteria. Furthermore, the presence of an ordinary high water mark (OHWM) was recorded. The OHWM is defined as:

> On non-tidal rivers, the line on the shore established by the fluctuations of water and indicated by the physical characteristics such as a clear, natural line impressed on the bank; shelving; changes in the character of soil; destruction of terrestrial vegetation; the presence of litter and debris; or other appropriate means that consider the characteristics of the surrounding area.

Where the presence of an OHWM was evident, a measurement was taken for the width of the OHWM and recorded. Areas measured were also recorded using a hand-held GPS for accurate location reference.

Where changes in plant community composition were apparent, the area was examined for the possibility of wetlands. Whether or not adjacent to WUS, the potential wetland area was evaluated for the presence of the three wetland indicators: hydrology, hydric soils, and hydrophytic vegetation. The guidelines followed are those established in the 1987 USACE Manual.

4.0 RESULTS

A description of the soil types, the local hydrology, and the major vegetation types observed in each of the project areas are presented below.

4.1 Soils

The Natural Resources Conservation Service Web Soil Survey identified eight (8) soil types within the GBA 62.50-acre study area. The following soil types are identified in the Soil Survey: Greenfield sandy loam(GyA), 0 to 2 percent slope; Greenfield sandy loam (GyC2), 2 to 8 percent slopes eroded,; Greenfield sandy loam (GyD2), 8 to 15 percent slopes, eroded; Hanford coarse sandy loam (HcC), 2 to 8 percent slopes; Monserate sandy loam, 0 to 5 percent slopes; Ramona sandy loam(RaB2), 2 to 5 percent slopes, eroded; Ramona sandy loam(RaB3), 0 to 5 percent slopes, severely eroded; Tujunga loamy sand (TvC), channeled, 0 to 8 percent slopes. Tujunga Loamy Sand (TvC), channeled 0 to 8 percent slope, is the only hydric soil in the study area. Refer to Appendix A.

4.2 Hydrology

Under existing conditions a culvert outlets under Ironwood Avenue to the project site's northwest corner. Ephemeral drainage flows from this culvert outlet diagonally across the project site to a 12.9-acre detention basin (Indian Detention Basin) located immediately adjacent to the project site on the north of the existing Festival Shopping Center parking lot. Flows from Indian Detention Basin continue beyond the basin and enters the Perris Valley Storm Drain. The Perris Valley Storm Drain enters the San Jacinto River Which enters Canyon Lake and Lake Elsinore. Eventually flow from the project site enters the Santa Ana River and the Pacific Ocean.

4.3 Jurisdictional Areas

Jurisdiction has been delineated for the following agencies:

4.3.1 California Department of Fish and Wildlife

The project site contains approximately 0.23 acres of ephemeral drainage. Approximately 0.16 acre of the drainage is characterized by sandy streambed with small amounts of native and non-native vegetation. Vegetation species associated with this habitat include: Mexican fan palm (Washingtonia robusta), tree tabacco, horseweed (*Erigeron canadensis*), heliotrope (Heliotropium curassavicum), sunflower (Helianthus annus), and tamarisk (*Tamarix sp.*). Approximately 0.07 acres of the ephemeral drainage is characterized by riparian habitat dominated by mulefat (Baccharis salicifolia). The entire 0.23 acre ephemeral drainage would be under the jurisdiction of Section 1602 of the California Department of Fish and Game Code Lake and Streambed Alteration Agreement Program.

4.3.2 United States Army Corps of Engineers

The ephemeral drainage was determined to be a non-relatively permanent water that has no adjacent wetlands and flows directly or indirectly into a traditional navigable water. Approximately 0.20 acres of the ephemeral drainage are considered waters of the United States, which would be regulated under the Section 404 of the Clean Water Act and the United States Army Corps of Engineers. These waters were determined by identifying the ordinary high water mark within the banks of the ephemeral drainage. These waters eventually flow into the Pacific Ocean, but prior flow into Canyon Lake and Lake Elsinore.

4.3.3 Santa Ana Regional Water Quality Control Board

The ephemeral drainage was determined to be a non-relatively permanent water that has no adjacent wetlands and flows directly or indirectly into a traditional navigable water. Approximately 0.20 acres of the ephemeral drainage are considered waters of the United States, which would be regulated under Section 401 of the Clean Water Act and the Santa Ana Regional Water Quality Control Board. Any 404 permit issued for these waters would also require a 401 certification.

Table 1
Jurisdictional Areas

	CDFW	USACE	RWQCB
Jurisdictional Areas (Acres)	0.23	0.20	0.20

5.0 IMPACTS

Direct impacts to jurisdictional waters and wetlands are summarized in Table 2 and shown in Figures 4 and 5.

Table 2
Project Impacts to Jurisdictional Areas

	CDFW	USACE	RWQCB
Jurisdictional Area Impacts (Acres)	0.23	0.20	0.20

5.1 Impacts to California Department of Fish and Game Jurisdictional Areas

Development of the Moreno Valley Festival would result in direct impacts to 0.23 acres of state jurisdictional waters.

5.2 Jurisdictional Impacts to Waters of the United States Regulated Under Section 404 of the Clean Water Act

Development of the Moreno Valley Festival would result in direct impacts to 0.20 acres of waters of the United States, which were determined to be a non-relatively permanent water that has no adjacent wetlands and flows directly or indirectly into a traditional navigable water. These waters were determined by identifying the ordinary high water mark within the banks of the ephemeral drainage. These waters eventually flow into the Pacific Ocean, but prior flow into Canyon Lake and Lake Elsinore.

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5.3 Jurisdictional Impacts to Waters of the United States Regulated Under Section 401 of the Clean Water Act

Development of the Moreno Valley Festival would result in direct impacts to 0.20 acres of waters of the United States, which were determined to be a non-relatively permanent water that has no adjacent wetlands and flows directly or indirectly into a traditional navigable water. These waters were determined by identifying the ordinary high water mark within the banks of the ephemeral drainage. These waters eventually flow into the Pacific Ocean, but prior flow into Canyon Lake and Lake Elsinore. A 401 Clean Water Act Certification from the Santa Ana Regional Water Quality Control Board would be required prior to the issuance of a 404 permit.

6.0 MITIGATION RECOMENDATIONS

USACE, CDFW, and RWQCB jurisdictional waters are regulated by federal, state, and local governments under a no-net-loss policy, and all impacts are considered significant and should be avoided to the greatest extent possible. Unavoidable and authorized impacts would require mitigation through habitat creation, enhancement, or preservation as determined by a qualified restoration biologist in consultation with the regulatory agencies during the permitting process. Any impacts to USACE, CDFW, and RWQCB jurisdictional waters would require a Section 404 permit authorization from the USACE, a 1600 Streambed Alteration Agreement from the CDFW, and a 401 State Water Quality Certification from the RWQCB. Mitigation for impacts, if any, to jurisdictional resources will be addressed in a mitigation plan to be submitted for approval with the permit application packages.

7.0 REFERENCES

Department of the Army. 1986 (Nov 13). 33 CFR Parts 320 Through 330, Regulatory Programs of the Corps of Engineers; Final Rule. Federal Register 51(219):41206-41206.

Department of the Army. 2000 (Mar 9). 33 CFR Parts 320 Through 330, Regulatory Programs of the Corps of Engineers; Final Rule. Federal Register 65(47):12818-12899.

Department of the Army. 2002 (Jan 15). 33 CFR Parts 320 Through 330, Regulatory Programs of the Corps of Engineers; Final Rule. Federal Register 67(10):20020-2095.

Hickman, J.C. 1993. The Jepson Manual: Higher Plants of California. University of California Press. Berkeley, California.

Holland, R.F. 1986 (updated 1996). Preliminary Descriptions of the Terrestrial Natural Communities of California. Non-game Heritage Program. California Department of Fish and Game. Sacramento, California.

Munz, P.A. 1974 A Flora of Southern California. University of California Press. Berkeley, California.

Reed, P.B. 1988. National List of Plant Species That Occur in Wetlands: California (Region 0). National wetlands Inventory, US Fish and Wildlife Biological Report 88 (26.9).

Sawyer, J.O. and T. Keeler-Wolf. 1995. A Manual of California Vegetation. California Native Plant Society. Sacramento, California.

USACE (United States Army Corps of Engineers). 1987. Corps of Engineers Wetlands Delineation Manual. Technical Report Y-87-1. U.S. Army Corps of Engineers Waterways Experiment Station. Vicksburg, Mississippi.

USACE (United States Army Corps of Engineers). 2006. Interim Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region. Ed, J.S. Wakely, R.W.

USDA (United states Department of Agriculture). 2014. Soil Survey of San Diego County, California. Department of the Interior. U.S. Government Printing Office. Washington, D.C.

USGS (United States Geological Survey). La Jolla, California 7.5-Minute Topographic Quadrangle Map. Department of the Interior. U.S. Government Printing Office. Washington, D.C.

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FIGURES

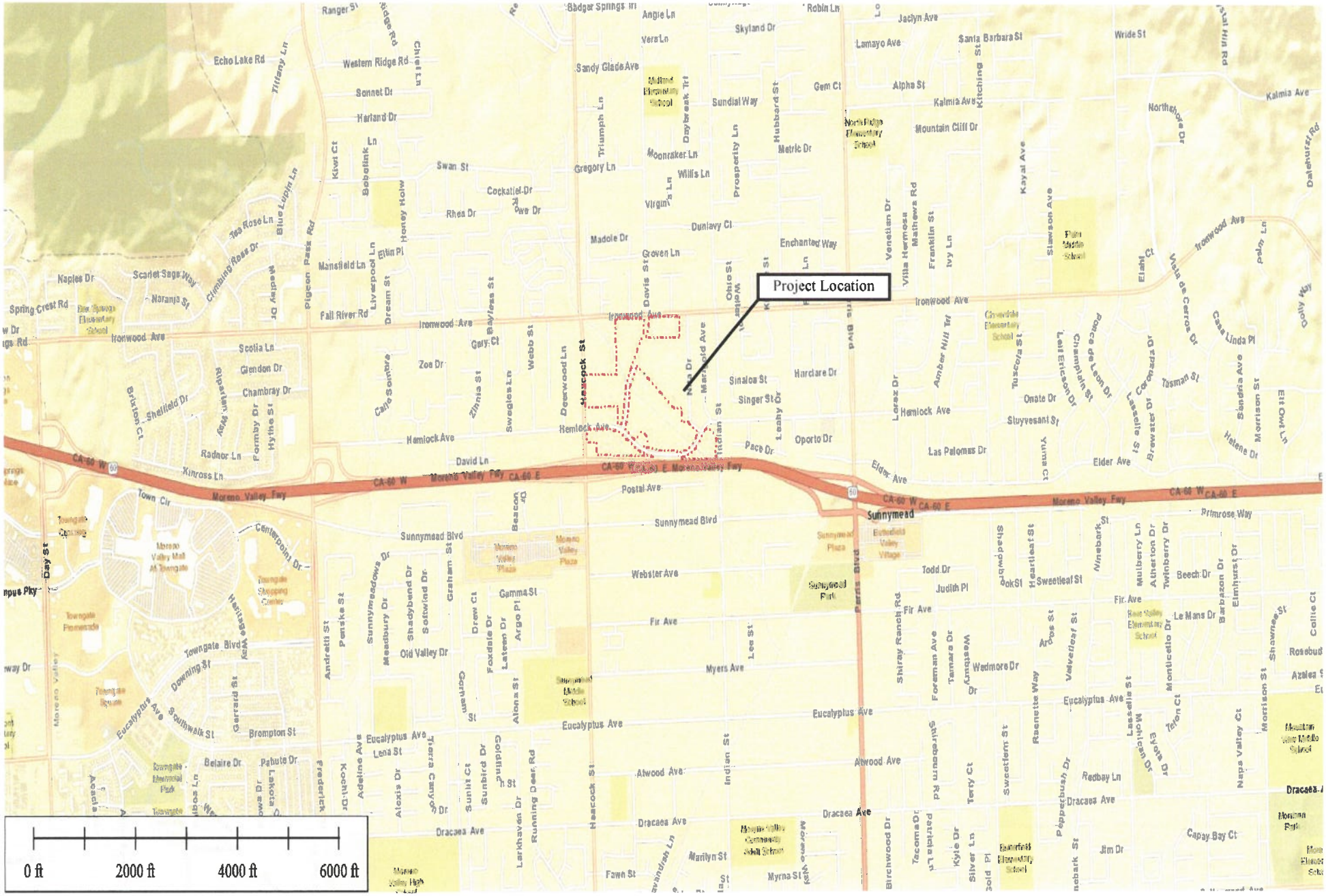
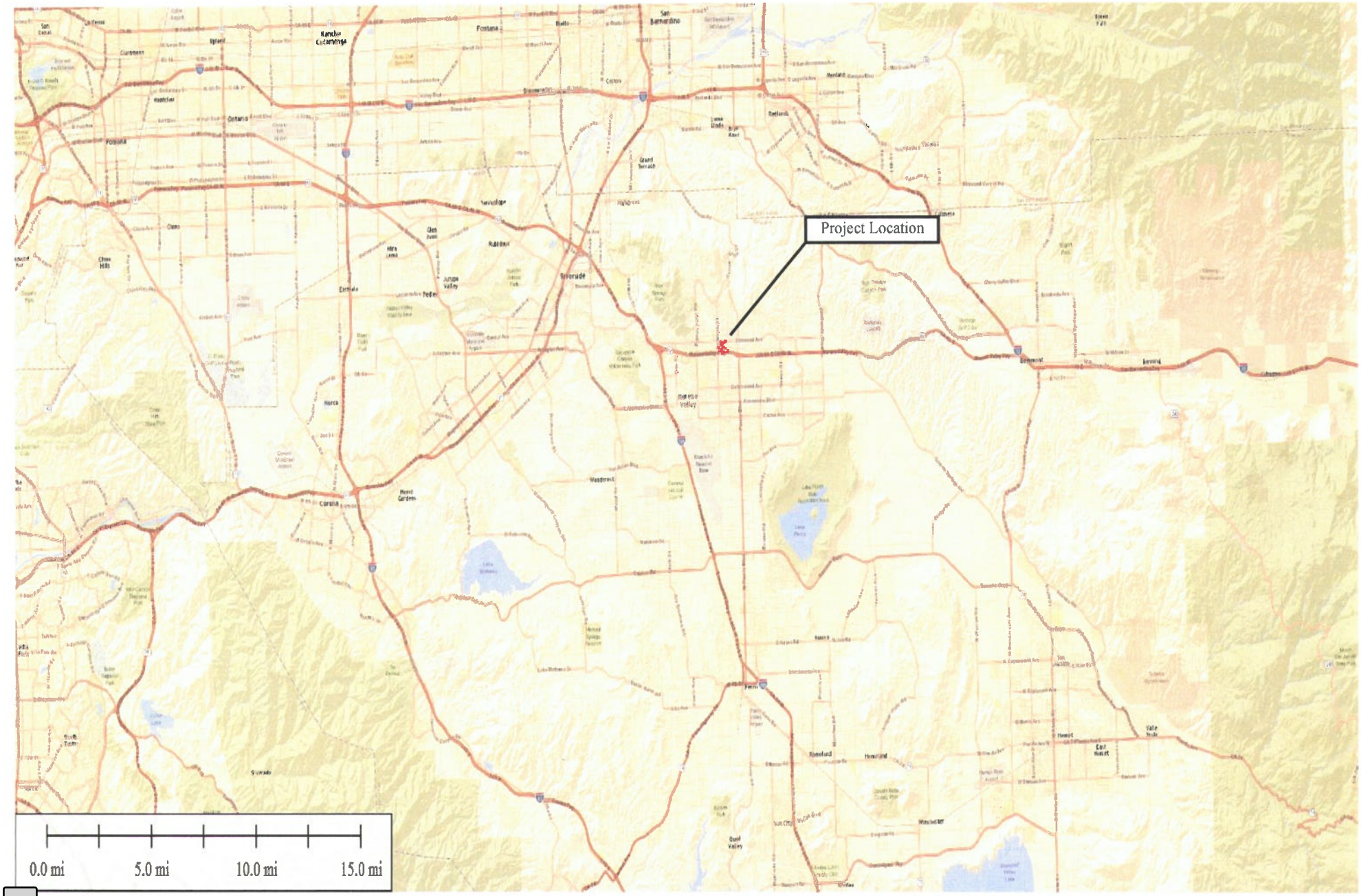


Figure 1

Location Map
Moreno Valley Festival
City of Moreno Valley, Riverside County, CA



igure 2

icinity Map
oreno Valley Festival
ty of Moreno Valley, Riverside County, CA

Legend

Property Boundary

N

Hernandez Environmental Services

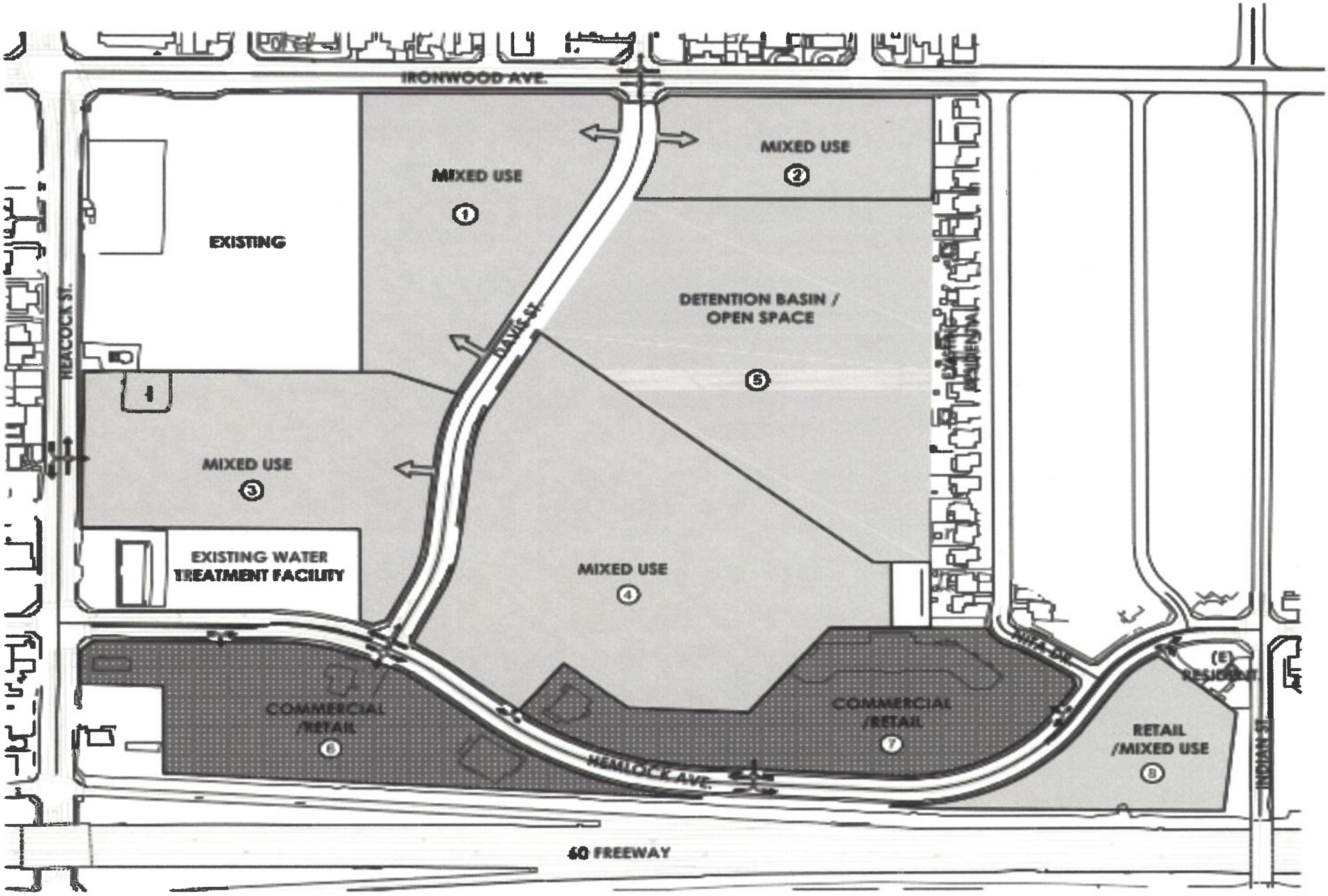


Figure 3

Project Plans
Moreno Valley Festival
City of Moreno Valley, Riverside County, CA

N

Hernandez Environmental Services

Legend

0.16 Streambed Habitat

0.07 Mulefat Habitat

N

Hernandez Environmental Services

gure 4

FW Jurisdictional Areas Map

reno Valley Festival

y of Moreno Valley, Riverside County, CA

Legend

0.20 Acres Waters of the United States

N

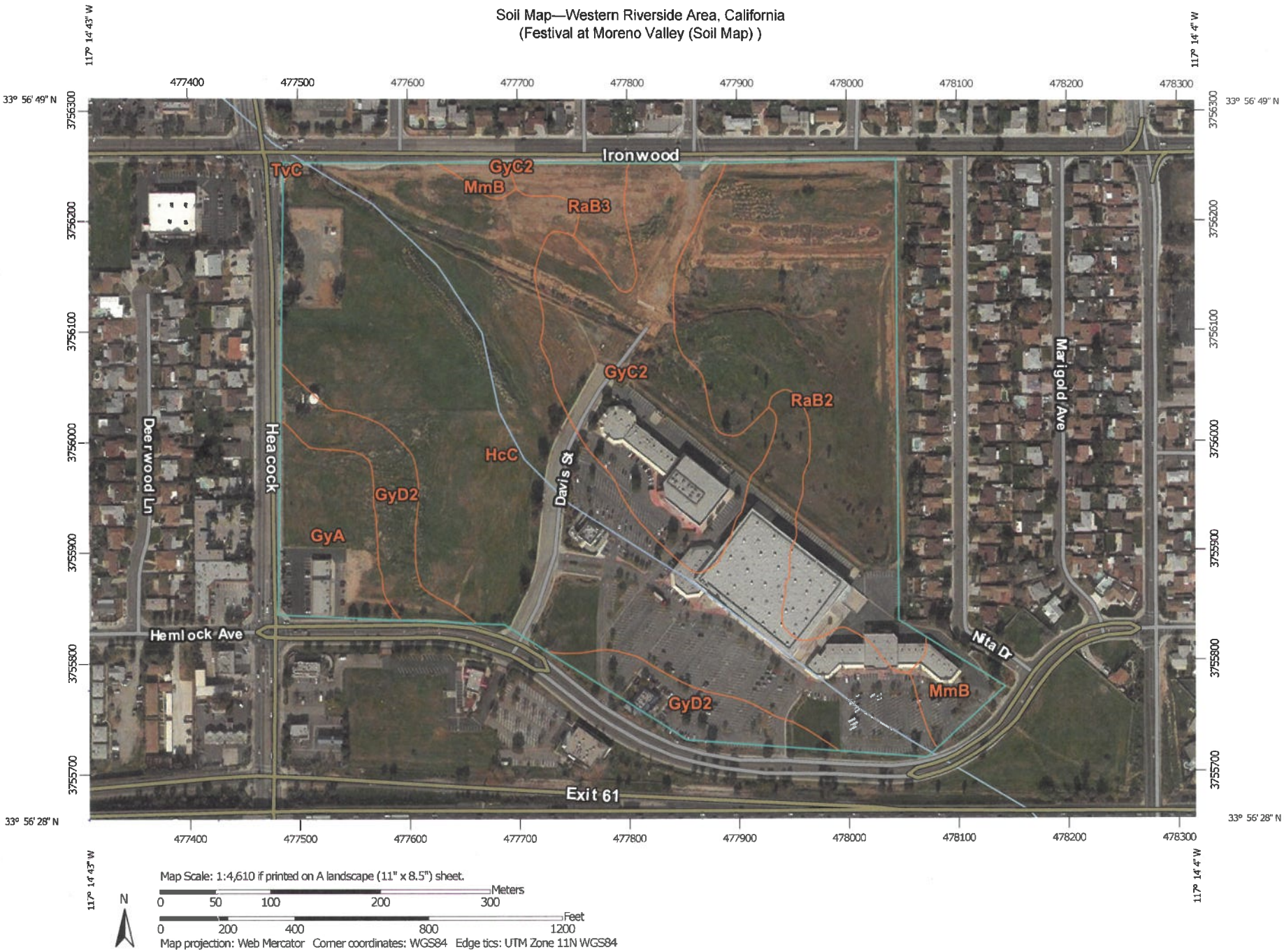
Hernandez Environmental Services

Figure 5

Waters of the United States Map
Moreno Valley Festival
City of Moreno Valley, Riverside County, CA

APPENDIX A

Soil Map—Western Riverside Area, California
(Festival at Moreno Valley (Soil Map))



MAP LEGEND

Area of Interest (AOI)
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- Soil Map Unit Points

Special Point Features
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- Sinkhole
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MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:15,800.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL: http://websoilsurvey.nrcs.usda.gov
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Western Riverside Area, California
Survey Area Data: Version 7, Sep 17, 2014

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Jan 14, 2015—Jan 21, 2015

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Western Riverside Area, California (CA679)			
Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
GyA	Greenfield sandy loam, 0 to 2 percent slopes	3.5	5.2%
GyC2	Greenfield sandy loam, 2 to 8 percent slopes, eroded	9.9	14.7%
GyD2	Greenfield sandy loam, 8 to 15 percent slopes, eroded	4.6	6.9%
HcC	Hanford coarse sandy loam, 2 to 8 percent slopes	30.8	45.7%
MmB	Monserate sandy loam, 0 to 5 percent slopes	1.4	2.1%
RaB2	Ramona sandy loam, 2 to 5 percent slopes, eroded	15.6	23.1%
RaB3	Ramona sandy loam, 0 to 5 percent slopes, severely eroded	1.6	2.4%
TvC	Tujunga loamy sand, channeled, 0 to 8 percent slopes	0.0	0.0%
Totals for Area of Interest		**67.4**	**100.0%**

APPENDIX B

Moreno Valley Trails
JD Photographs

Hernandez Environmental Services

Ephemeral Drainage facing west.

Ephemeral drainage facing east.

Appendix E to Initial Study
Basin Constraints Analysis

Hernandez Environmental Services

Memorandum

Date: February 22, 2016

To: Moreno Valley Festival, LTD

From: Juan J Hernandez, Principal Biologist

Subject: Constraints Analysis for Indian Basin, City of Moreno Valley, Riverside County, California

This memorandum provides the methods and results of a constraints analysis performed for the Indian Basin, located in the City of Moreno Valley. This analysis will describe the potential presence of listed federal and/or state listed species and their habitat, federal and/or state jurisdictional streams, lakes, or wetlands, compliance with the Western Riverside Multiple Species Habitat Conservation Plan (MSHCP) and recommendations for future actions that may be necessary to identify or mitigate potential impacts.

Location

The project site is located south of Ironwood Avenue and northeast of Davis Street within the City of Moreno Valley, Riverside County, California (Figure 1). Indian Basin consists of approximately 13.1 acres surrounded by vacant lands to the north and west, residential development to the east, and commercial/retail development to the south (Figure 2). The surrounding lands are proposed to be developed with the commercial/retail and mixed use Moreno Valley Festival. The site is located within the United States Geological Survey (USGS) 7.5-Minute Topographic Map *Sunnymead* Quadrangle. The approximate center point is 33°56'41.29"N, 117°14'15.99"W.

Literature Review

Hernandez Environmental Services (HES) conducted a literature review and reviewed aerial photographs and topographic maps of the project site and surrounding areas. The *Sunnymead* quadrangle and adjacent surrounding eight quadrangles were used to identify sensitive species in the California Natural Diversity Data Base (CNDDB). Additional resources reviewed during the literature search included the United States Fish and Wildlife (USFWS) Endangered Species Lists, Forest Service List, and the California Native Plant Society's (CNPS) Rare plant lists to obtain species information for the project area.

Literature Review

On July 13, 2015, Juan Hernandez, Principal Biologist for HES, conducted a field survey of the approximate 13.1-acre basin site. The ambient temperature at 9:30 a.m. was 72° Fahrenheit, sunny, with zero to three mile per hour winds from the northeast. The purpose of the field survey was to document the existing habitat conditions, obtain plant and animal species information, view the surrounding uses, assess the potential for state and federal waters, and assess the potential for wildlife movement corridors, sensitive species, and nesting habitat.

The entire project site was surveyed, including the basin. Linear transects spaced approximately 50 feet apart were walked for 100 percent coverage. All species observed were recorded and are listed in Appendix A. Global Positioning System (GPS) waypoints were taken to delineate specific habitat types, species locations, and any other information that would be useful for the assessment of the property.

Results

Habitat

Indian Basin contains approximately 7.14 acres of yerba mansa (*Anemopsis californica*), 2.09 acres of mixed willow (*Salix* sp.) habitat, 3.05 acres of disturbed non-native vegetation habitat, 0.65 acres of *Tamarix* sp. Habitat, and 0.17 acres of cattail (*Typha* sp.) habitat.

Plants

The following two sensitive plant species and two sensitive habitats have a potential to exist or are present withing the Indian Basin:

- Bristly sage (*Carex comosa*), a CNPS 2B.1 plant;
- Mud nama (*Nama stenocarpum*), a CNPS 2B.2 plant; and,
- Southern willow scrub is present/southern riparian scrub is present.

Animals

The following sensitive animal species have a potential to exist or are present withing the Indian Basin:

- Cooper's hawk (*Accipiter cooperii*), is a California Department of Fish and Wildlife (CDFW) Species of Special Concern (SSC);
- Tricolored blackbird (*Agelaius tricolor*), is a state endangered bird species;
- Burrowing owl (*Athene cunicularia*), is a CDFW SSC;
- Western pond turtle (Emys marmorata), is a CDFW SSC;

- Yellow-breasted chat (*Icteria virens*), is a CDFW SSC;
- Yellow warbler (*Setophaga petechia*), is a CDFW SSC;
- Western spadefoot toad (*Spea hammondii*), is a CDFW SSC;
- Lawrence's goldfinch (*Spinus lawrencei*), is a CDFW SSC;
- Least Bell's vireo (*Vireo bellii pusillus*), is a state and federal endangered species.

Nesting Bird Habitats

Indian basin contains nesting habitat for migratory song birds and raptors. Nesting bird surveys would need to be conducted if project related impacts will occur between February 1 through September 15.

Jurisdictional Waters

Indian Basin would fall under the jurisdiction of the CDFW, United States Army Corps of Engineers (USACE), and the Regional Water Quality Control Board (RWQCB). **The basin contains approximately 11.22 acres of CDFW jurisdiction and approximately 9.77 acres of waters of the United States.** A wetland delineation was performed and no hydric soils were found. Therefore, the basin would not be considered a federal wetland.

Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP)

The Indian Basin falls within the Reche Canyon/Badlands Area Plan of the Western Riverside County MSHCP. Participation in the MSHCP would serve as a Habitat Conservation Plan pursuant to Section 10(a)(1)(B) of the federal Endangered Species Act of 1973 (FESA), as well as a Natural Communities Conservation Plan (NCCP) under the NCCP Act of 2001. The United States Fish and Wildlife Service (USFWS) and California Department of Fish and Game (CDFG) (hereafter, "Wildlife Agencies") have authority to regulate the “Take” of Threatened, Endangered, and rare Species. Under the Western Riverside County MSHCP, the Wildlife Agencies will grant "Take Authorization" for otherwise lawful actions such as public and private development that may incidentally “Take” or harm individual species or their habitat outside of the Western Riverside County MSHCP Conservation Area in exchange for the assembly and management of a coordinated MSHCP Conservation Area.

Under Sections 6.1.2 Protection of Species Associates with Riparian/Riverine Areas and Vernal Pools, Indian Basin would be excluded as a Riparian/Riverine resource because the basin is a result of human actions to create open waters, or a result of the alteration of natural stream courses. Areas demonstrating characteristics as described above which are artificially created are not included in the definition of a Riparian/Riverine resource. However, Indian Basin does contain habitat that could be suitable for least Bell's vireo, a state and federally endangered bird species. Participation in the plan would grant take authorization; however, focused surveys for this species would have to be performed. If the species is present, a Determination of Biologically Equivalent or Superior Preservation (DBESP) would be required.

Section 6.3.2 Additional Survey Needs and Procedures

Indian Basin is within a portion of the Western Riverside County MSHCP Plan Area that requires additional surveys for burrowing owl. Burrowing owl surveys were performed for the surrounding Moreno Valley Festival proposed project areas. No owl were found during surveys.

Recommendations

If impacts to Indian Basin are unavoidable, the following is recommended:

- Participation in the Riverside County MSHCP;
- Conduct focused surveys for least Bell's vireo;
- Any impacts to the basin would require a CDFW Section 1602 Streambed Alteration Agreement;
- Any impacts to the waters of the United States located within the basin would require a Section 404 of the Clean Water Act Permit administered by the USACE;
- Any impacts to waters of the United States would require a Clean Water Act 401 Water Quality Certification from the RWQCB;
- Impacts to 11.22 acres of CDFW jurisdictional resources may require approximately 33.7 acres of compensatory mitigation;
- Impacts to 9.77 acres of waters of the United States may require approximately 29.3 acres of compensatory mitigation;
- If least Bell's vireo are found, a DBESP would be required; and,
- Focused burrowing owl surveys would need to be performed for the basin.

Certification

I hereby certify that the statements furnished above and in the attached exhibits present data and information required for this biological evaluation, and that the facts, statements, and information presented are true and correct to the best of my knowledge and belief.

Date: February 22, 2016

Signed: _____

Juan J. Hernandez
Principal Biologist

Enclosures:

Figure 1: Project Location Map
Figure 2: Project Vicinity Map

Hernandez Environmental Services
29376 North Lake Drive
Lake Elsinore, California 92530
909.772.9009

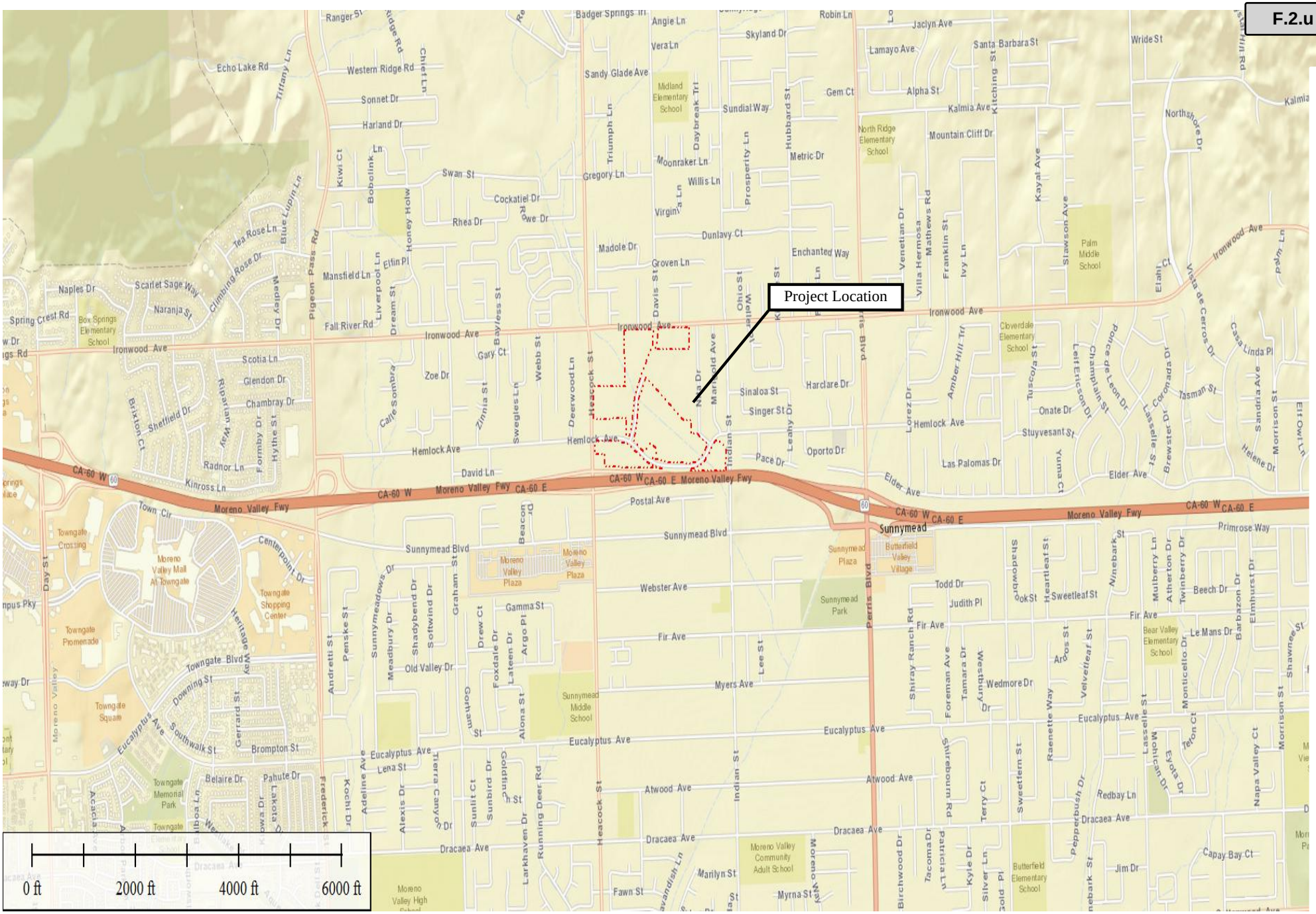


Figure 1

Location Map
Moreno Valley Festival
City of Moreno Valley, Riverside County, CA

Hernandez Environmen Services

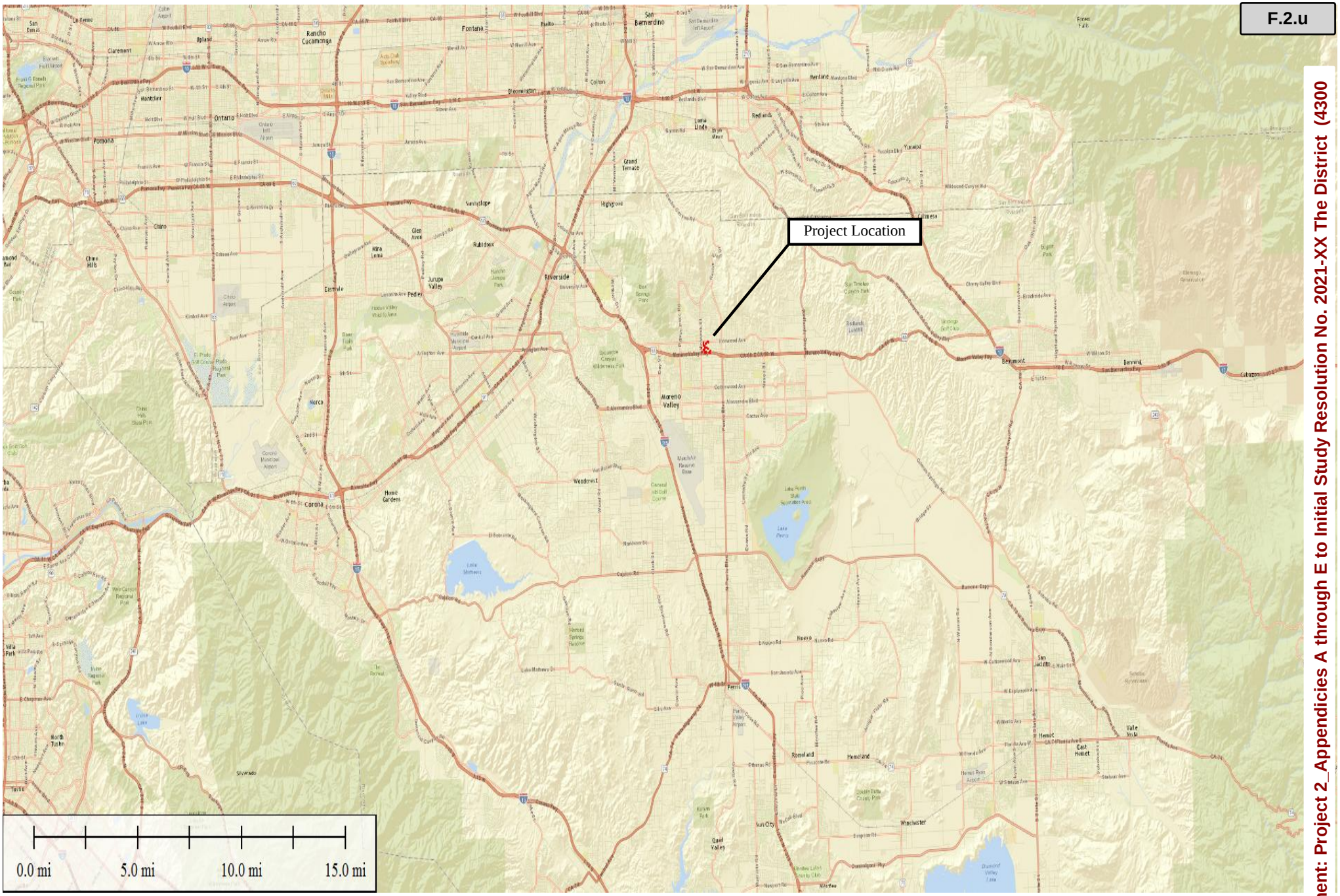


Figure 2

Vicinity Map
Moreno Valley Festival
City of Moreno Valley, Riverside County, CA

Legend

Property Boundary

N

Hernandez Environmen Services

Traffic Impact Analysis

FESTIVAL AT MORENO VALLEY

Prepared for:
BlackRidge Real Estate Group, LLC

January 2018

Prepared by:

603 Park Center Drive, Suite 108
Santa Ana, CA 92705
Phone: 949-656-7910

www.transpogroup.com
TG Project Number: 17261

Moreno Valley Case Number: PEN16-0015

Table of Contents

Figures

Tables

Appendices

I. Introduction

The purpose of this Traffic Impact Analysis (TIA) is to identify potential traffic-related impacts associated with the Festival at Moreno Valley proposed Specific Plan (project) located in the City of Moreno Valley (City). The project proposes to modify the existing 180,000 square feet of retail land use to a business park and retail uses.

The project is bounded by the SR 60 Freeway to the South, Ironwood Avenue to the North, Heacock Street to the West, and Nita Drive to the East. Currently, some of the parcels are vacant while others have some retail uses. In the City's latest adopted land use plan, the area designations include commercial, open space, and office uses.

This TIA has been prepared consistent with the City's *Traffic Impact Analysis Preparation Guide* (August 2007). A *Scoping Agreement for Traffic Analysis Study* has been prepared by Transpo and was approved by the City in November 2017. The Scoping Agreement is provided in Appendix A. The Lead Agency of the proposed project is the City of Moreno Valley.

Purpose and Objectives of the Traffic Study

The purpose of this traffic study is to evaluate the traffic and circulation impacts of the proposed project. The objectives of this traffic study include:

- Documentation of existing traffic conditions and future traffic conditions corresponding to the "Existing plus Project" scenario (consisting of existing year 2017 plus project conditions), "Near-Term Year 2022" (five-year horizon consisting of existing plus ambient growth plus cumulative projects) With and Without Project conditions, and a "Buildout Year 2040" (consisting of the General Plan Buildout Year) With and Without Project conditions.
- Determination of additional circulation system features and system management actions needed to achieve the City's levels of service requirements with implementation of the proposed project.

Site Location and Study Area

Figure 1 illustrates the project site location, while Figure 2 illustrates the project study area and traffic control. Regional access to the project site is provided by State Route 60 (SR 60) via its interchange with Heacock Street. Local access is provided by Heacock Street, Hemlock Avenue, and Ironwood Avenue. Per Scoping Agreement, the study area intersections and roadway segments are as follows:

Study Area Intersections

1. Heacock Street (NS) at Ironwood Avenue (EW)
2. Heacock Street (NS) at Project Access (EW)
3. Heacock Street (NS) at Hemlock Avenue (EW)
4. Heacock Street (NS) at SR 60 Freeway WB Ramps (EW)
5. Heacock Street (NS) at SR 60 Freeway EB Ramps (EW)
6. Project Access (NS) at Hemlock Avenue (EW)
7. Davis Street (NS) at Hemlock Avenue (EW)
8. Project Access (NS) at Hemlock Avenue (EW)
9. Project Access (NS) at Hemlock Avenue (EW)
10. Project Access (NS) at Hemlock Avenue (EW)
11. Nita Drive (NS) at Hemlock Avenue (EW)
12. Davis Street (NS) at Ironwood Avenue (EW)
13. Indian Street (NS) at Ironwood Avenue (EW)
14. Indian Street (NS) at Hemlock Avenue(EW)
15. Indian Street (NS) at Sunnymead Boulevard (EW)

Study Area Roadway Segments

1. Heacock Street – Ironwood Avenue to Hemlock Avenue
2. Heacock Street – Hemlock Avenue to SR 60 Freeway WB Ramps
3. Indian Street – Ironwood Avenue to Hemlock Avenue
4. Indian Street south of Hemlock Avenue
5. Ironwood Avenue west of Heacock Street
6. Ironwood Avenue – Heacock Street to Indian Street
7. Ironwood Avenue east of Indian Street
8. Hemlock Avenue west of Heacock Street
9. Hemlock Avenue – Heacock Street to Indian Street
10. Hemlock Avenue east of Indian Street

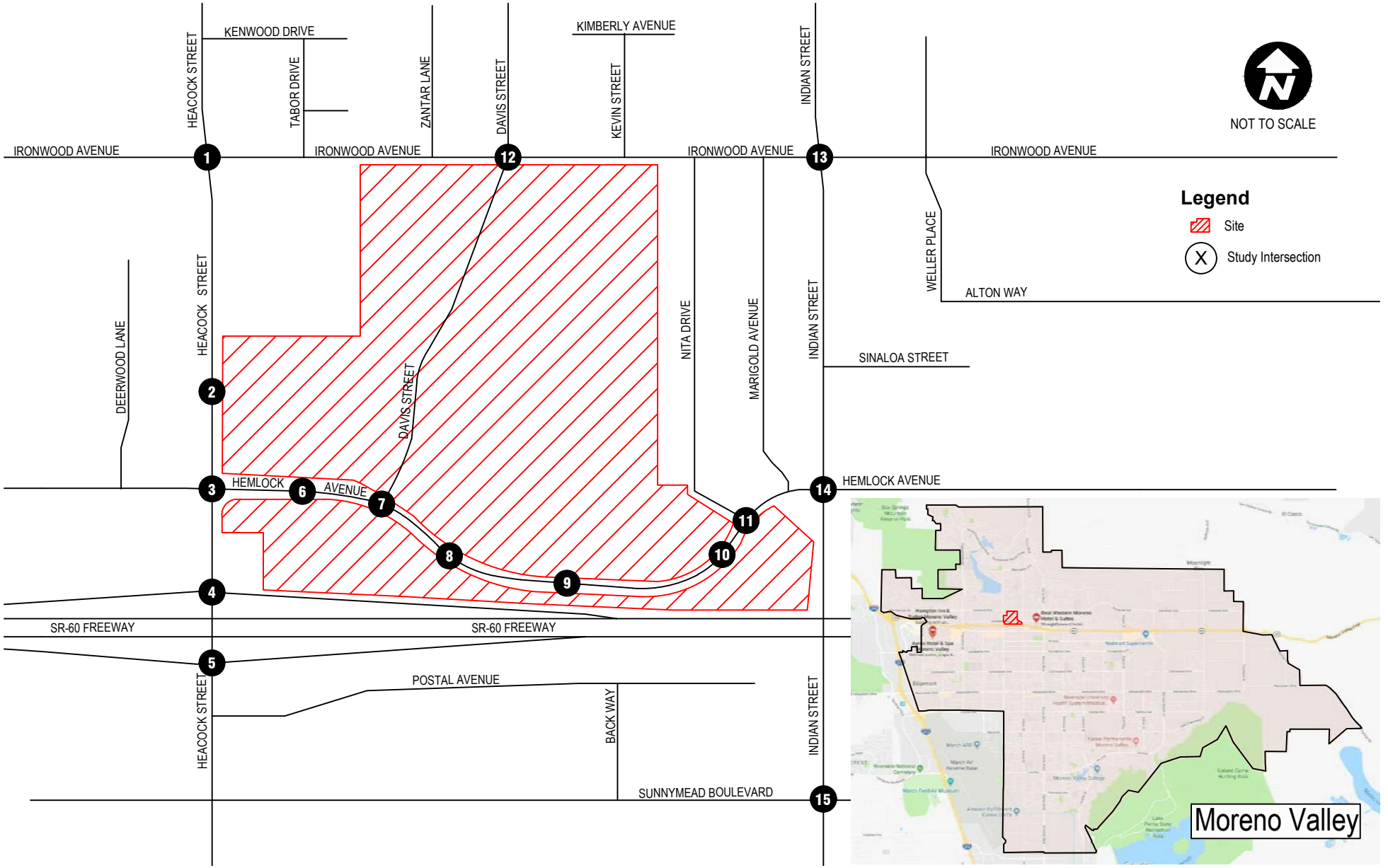
All study area intersections and roadway segments are within the jurisdiction of the City.

Project Description

The proposed project will include the development of 348,000 square feet of business park and 365,000 square feet of retail over eight planning areas as illustrated in the site plan Figure 3. Existing uses on the site include shopping centers, restaurants, and an auto service shop. Per the City's Adopted Land Use Map the area is zoned as mostly as Commercial and Open Space with an Office zoning to the southeast corner of Ironwood Avenue and Davis Street. The open space is shown in Planning Area 5 (refer to Figure 3) and is retained as such under proposed project conditions.
Existing and proposed land uses are shown in Table 1. The proposed project opening year is 2022 and no project phasing is assumed.

Table 1. Existing and Proposed Land Uses

Planning Area	Existing Uses		Proposed Uses	
	Type of Use	Size	Type of Use	Size
1			Business Park	135,000 sf
2			Business Park	35,000 sf
3			Business Park	178,000 sf
			Retail	15,000 sf
4	Shopping (Retail) Center	162,250 sf	Retail	255,000 sf
	Fast Food Restaurant with Drive Through (Yoshinoya)	3,900 sf		
5	Open Space		Open Space	
6	Fast Food Restaurant with Drive Through (Arby's)	2,700 sf	Retail	35,000 sf
	Fast Food Restaurant without Drive Through (KFC)	2,700 sf		
	Auto Service (Jiffy Lube)	3 Service Positions		
	High-Turnover Sit-down Restaurant (Centanario)	8,800 sf		
7	Shopping (Retail) Center	33,675 sf	Retail	40,000 sf
8			Retail	20,000 sf



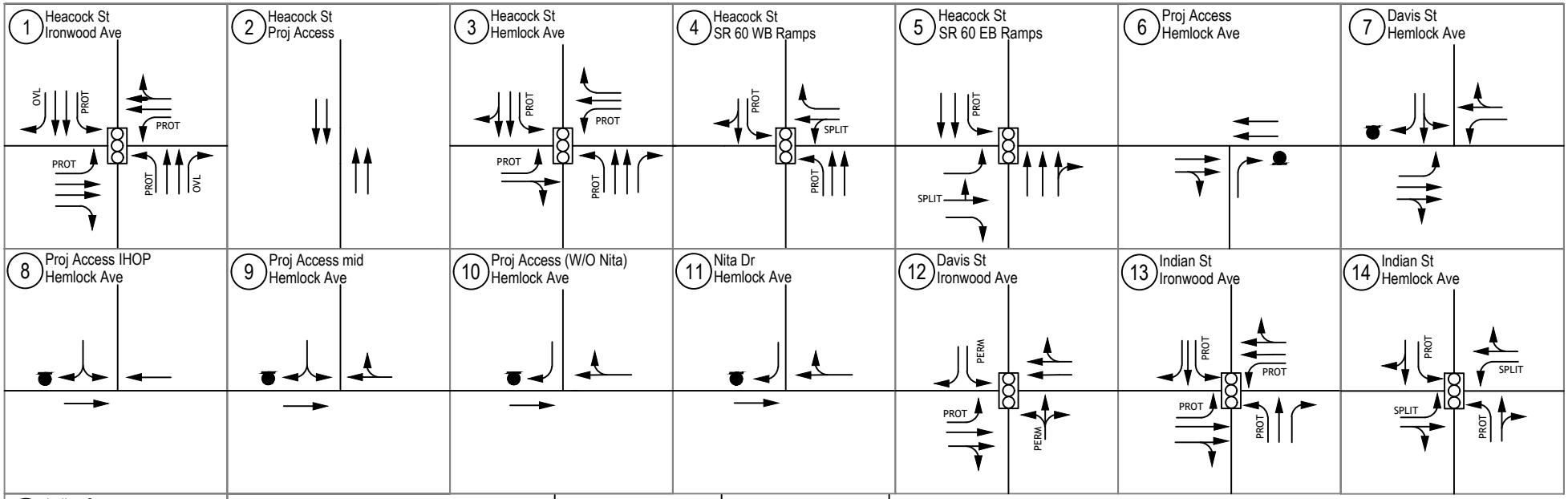
Source: Google Maps, 09/2017.

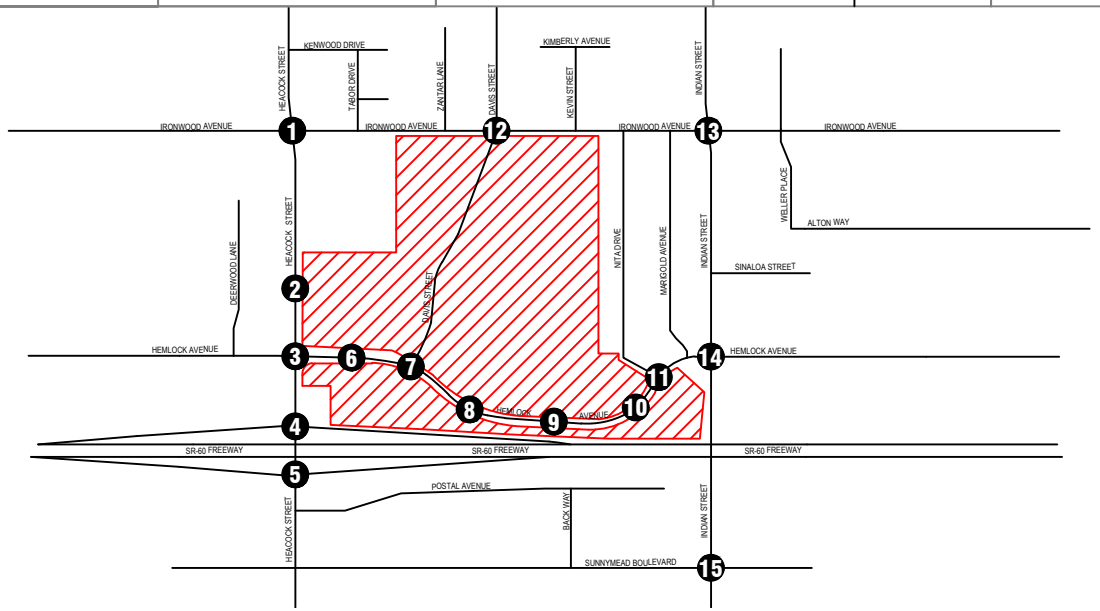
Project Site Location and Study Area

FIGURE 1

Festival at Moreno Valley

transpogroup
WHAT TRANSPORTATION CAN BE.





NOT TO SCALE

Legend

- Site
- X — Study Intersection
- Lane Geometrics
- Traffic Signal
- Stop Sign

PROT	Protected Left Turn Phasing
PERM	Permitted Left Turn Phasing
SPLIT	Split Phasing
DEFACTO	Defacto Right Turn Lane
OVL	Overlapping Right Turn Phasing
FREE	Free Movement
XD	Number of lanes (divided roadway)
XU	Number of lanes (undivided roadway)

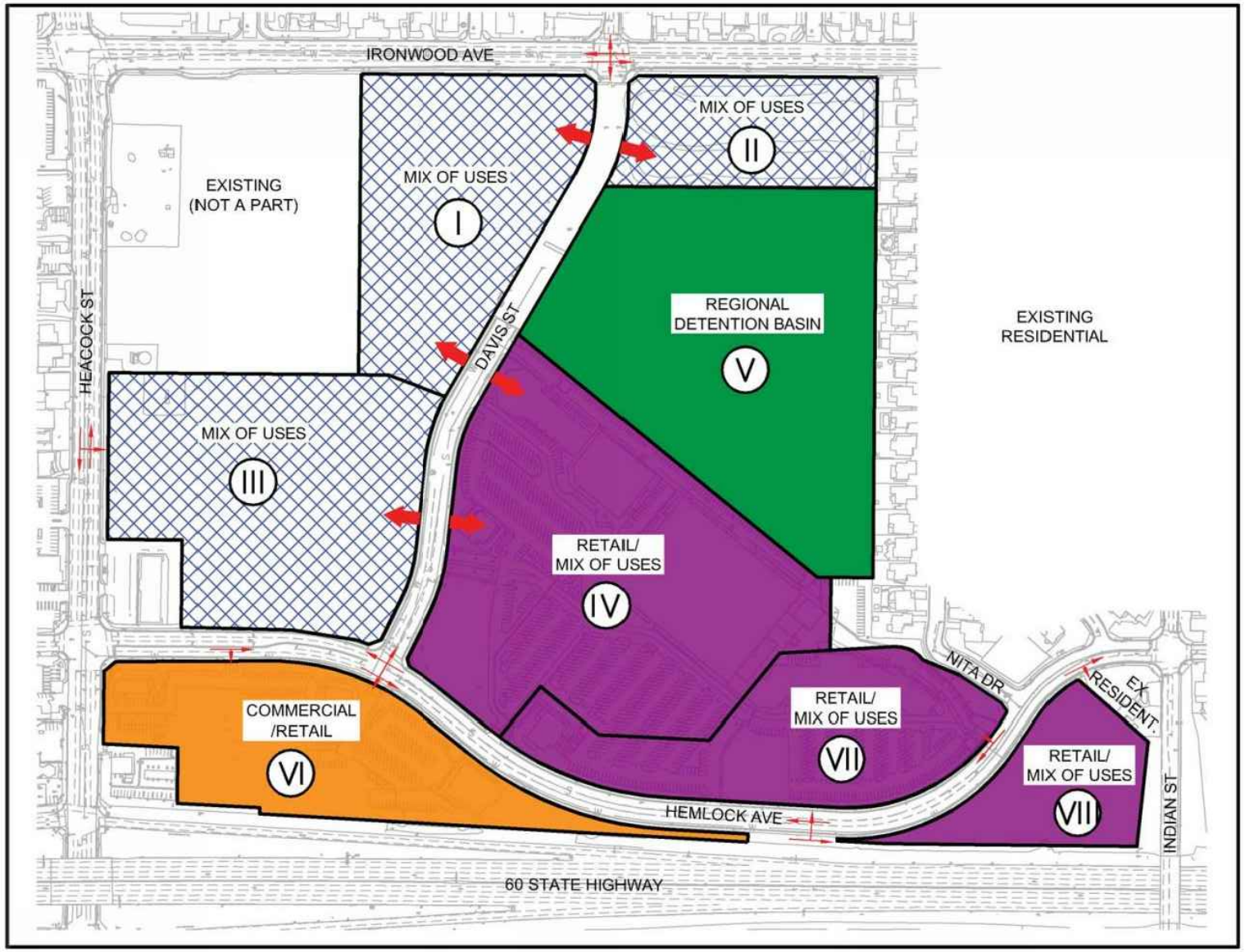
Study Area Intersection and Roadway Geometrics and Traffic Control

FIGURE 2

Festival at Moreno Valley

transpogroup
WHAT TRANSPORTATION CAN BE.

Jan 29, 2018 - 4:39pm emilyc C:\Users\emilyc\Dropbox (Transpo CA)\Transpo CA Team Folder\Projects\2017\17261.PR - Festival at Moreno Valley\Graphics\Festival at Moreno Valley.dwg Layout: fig2-Geometrics



NOT TO SCALE

Project Site Plan

Festival at Moreno Valley

FIGURE 3

transpogroup
WHAT TRANSPORTATION CAN BE.

Jan 29, 2018 - 4:43pm emilyc C:\Users\emilyc\Dropbox (Transpo CA)\Transpo CA Team Folder\Projects\2017\17261.PR - Festival at Moreno Valley\Graphics\Festival at Moreno Valley.dwg Layout: fig3-site plan

Methodology

Intersections

Per City TIA guidelines, the study area intersections were analyzed under the latest version of the *Highway Capacity Manual* (HCM) "Operations" methodology using the *Synchro* level of service (LOS) software program which is consistent with the HCM 2010 methodology. The HCM 2010 methodology determines the control delay a driver may experience at the intersection. If an intersection could not be analyzed using the HCM 2010 methodology because of a particular intersection configuration (e.g., U-turn movements), the HCM 2000 methodology was used.

The degree of congestion at an intersection is described by the level of service, which ranges from LOS A to LOS F, with LOS A representing free-flow conditions with little delay and LOS F representing over-saturated traffic flow throughout the peak hour. A complete description of the meaning of level of service can be found in the Highway Research Board Special Report 209, *Highway Capacity Manual* (HCM 2000). Brief descriptions of the six levels of service for signalized and unsignalized intersections based on the HCM methodology are shown in Table 2.

Table 2. Level of Service Definitions for Intersections

Level of Service	Control Delay in Seconds (signalized)	Control Delay in Seconds (unsignalized)
A	0.0 – 10.0 seconds	0.0 – 10.0 seconds
B	10.1 – 20.0 seconds	10.1 – 15.0 seconds
C	20.1 – 35.0 seconds	15.1 – 25.0 seconds
D	35.1 – 55.0 seconds	25.1 – 35.0 seconds
E	55.1 – 80.0 seconds	35.1 – 50.0 seconds
F	80.1 seconds or greater	50.1 seconds or greater

Table 3 below provides detailed descriptions of each level of service

Table 3. Level of Service (LOS) Descriptions

LOS	Description
A	No approach phase is fully utilized by traffic, and no vehicle waits longer than one red indication. Typically, the approach appears quite open, turns are made easily, and nearly all drivers find freedom of operation.
B	This service level represents stable operation, where an occasional approach phase is fully utilized and a substantial number are nearing full use. Many drivers begin to feel restricted within platoons of vehicles.
C	This level still represents stable operating conditions. Occasionally drivers may have to wait through more than one red signal indication, and backups may develop behind turning vehicles. Most drivers feel somewhat restricted, but not objectionably so.
D	This level encompasses a zone of increasing restriction approaching instability at the intersection. Delays to approaching vehicles may be substantial during short peaks within the peak period; however, enough cycles with lower demand occur to permit periodic clearance of developing queues, thus preventing excessive backups.
E	Capacity occurs at the upper end of this service level. It represents the most vehicles that any particular intersection approach can accommodate. Full utilization of every signal cycle is seldom attained no matter how great the demand.
F	This level describes forced flow operations at low speeds, where volumes exceed capacity. These conditions usually result from queues of vehicles backing up from a restriction downstream. Speeds are reduced substantially, and stoppages may occur for short or long periods of time due to the congestion. In the extreme case, both speed and volume can drop to zero.

Source: *Highway Capacity Manual, Transportation Research Board, Special Report No. 209, Washington, D.C., 2000.*

Roadway Segments

Per City TIA guidelines, Table 4 provides the LOS criteria for roadway segments based on daily traffic volumes.

Table 4. Level of Service Definitions for Roadway Segments

Roadway	A	B	C	D	E
6-lane Divided Arterial	33,900	39,400	45,000	50,600	56,300
4-lane Divided Arterial	22,500	26,300	30,000	33,800	37,500
4-lane Undivided Arterial	15,000	17,500	20,000	22,500	25,000
2-lane Industrial Collector	7,500	8,800	10,000	11,300	12,500
2-lane Undivided Residential	n/a	n/a	n/a	n/a	2,000

Significance Criteria

The City's significance threshold is based on the *City of Moreno Valley General Plan* (July 2006) which states:

- *LOS D is applicable to intersections and roadway segments that are adjacent to freeway on/off ramps, and/or adjacent land uses. LOS C is applicable to all other intersections and roadway segments. Boundary intersections are assumed to be LOS D.*

Therefore, if the project causes an intersection to operate below the minimum standard, the project would cause a significant project-specific impact at that intersection, and specific mitigation measures must be developed to improve the intersection's LOS back to pre-project levels.

Traffic Analysis Scenarios

This traffic study analyzed the following traffic scenarios:

Existing Condition

Existing traffic volumes were collected at the study intersections and roadway segments in August 2017 during a typical weekday. The existing traffic scenario constitutes the environmental setting in accordance with the *California Environmental Quality Act* (CEQA) analysis at the time that the hearing body reviews the proposed project.

Existing with-Project Condition

The Existing with-Project Condition traffic was developed by adding the proposed project traffic to the Existing Condition traffic volumes. This scenario was the basis for determining project-specific impacts and mitigation measures under existing conditions.

Near Term Year 2022 Baseline Condition

Per City requirements, the Near Term year of analysis would be 2022, a five-year horizon from the existing traffic condition. The proposed project is anticipated to be built and occupied by year 2022. Near-Term year traffic in this scenario was forecast for 2022 by applying an annual ambient growth rate (2% per year per the City's Scoping Agreement) to the existing traffic volumes. In addition to the ambient growth rate, traffic from approved and pending projects (i.e. cumulative projects) in the project's vicinity was added.

Near Term Year 2022 with-Project Condition

The Near Term Year 2022 with-Project Condition traffic was developed by adding the proposed project traffic to the Near-Term Year Baseline Condition. This scenario was also the basis for determining project-specific impacts and mitigation measures for the Near Term Year.

General Plan Buildout Baseline Condition

General Plan Buildout (2040) without Project traffic conditions were derived from the Moreno Valley Transportation Analysis Model which in turn is based-upon the Riverside Transportation Analysis Model (RivTAM) refined to represent General Plan Buildout conditions for the City of Moreno Valley. Traffic volumes for street segments in the study area were obtained from the 2007 and 2035 TransCAD model data sets to establish annual growth rates for each approach leg of the study intersection. Separate growth rates were developed for AM and PM peak period model data volumes. These annual growth rates were applied to the 2017 turning movement counts to forecast traffic growth to 2040 conditions. Consistent with all travel demand model post-processing methods, the forecasts were checked for reasonableness and adjusted if necessary. For example, model adjustments were made to better balance forecasted volume growth between adjacent study intersections.

General Plan Buildout with-Project Condition

The General Plan Buildout with-Project traffic forecasts were determined by adding the project traffic to the General Plan Buildout Baseline (without project) traffic forecasts from the Transportation Analysis Model. The General Plan Buildout traffic forecasts used in the traffic analysis were refined with existing peak hour traffic count data collected at intersection analysis locations.

II. Area Conditions

The following section describes the existing traffic conditions in the project study area. Existing traffic volumes were collected at the study intersections and roadway segments in August 2017 during a typical weekday.

Street System

As mentioned earlier regional access to the project site is provided by State Route 60 (SR 60) via its interchange with Heacock Street. In the project vicinity, the SR 60 consists of two general purpose lanes and one carpool lane per direction. Local access is provided by Heacock Street, Hemlock Avenue, and Ironwood Avenue.

Characteristics of the existing street system in the proposed project vicinity are summarized in Table 5. The roadway classifications are as per the City of Moreno Valley General Plan Circulation Element. Cross-sections described are those in the vicinity of the project and they might vary at intersections to accommodate turning lanes.

Heacock Street is a muti-modal corridor with pedestrian, bicycle, auto, and transit uses. It is also designated as a truck route while at the same time having Class 2 bicycle lanes on both sides between Ironwood Ave and the SR 60 ramps.

Table 5. Street Characteristics

	Heacock St	Ironwood Ave	Indian St	Hemlock Ave	Davis St
Classification	Arterial	Minor Arterial	Minor Arterial	-	-
Traffic Cross-section	4 lanes + TWLT	4 lanes + TWLT	2 lanes	Varies[3]	2 lanes + TWLT[4]
Posted Speed Limit	35	40	35	30	-
Truck Route	Yes	Yes[5]	No	No	No
Transit	RTA 11	RTA 11	-	RTA 11	-
Bicycle Lanes	Class 2	Class 3	Class 3	-	-
Sidewalks	Both Sides	Both Sides	SB Only	Both Sides	Both Sides

1. TWLT: Two Way Left Turn
2. ADT: Average Daily Traffic
3. The cross-section of Hemlock in 4 lanes divided west of Davis St and two lanes with a TWLT east of Davis St. West of Indian St the TWLT is converted to a median
4. Davis St is not paved to the north of the existing development
5. Ironwood Ave is a truck route between Perris Blvd and Pigeon Pass Rd

Transit

Riverside Transit Agency (RTA) Route 11 buses run in the immediate vicinity of the project site. Buses serving this route run in either of two loops, clockwise or counterclockwise, starting from and terminating at the Moreno Valley Mall.

The major destinations served by this route include in addition to the Mall, Festival at Moreno Valley, the Post Office, Kaiser Medical Offices, Riverside County Superior Court, City Hall, and Moreno Valley High School.

In the immediate vicinity of the project Route 11 runs on Heacock St south of Hemlock Ave, on Hemlock Ave, and on Ironwood Ave. Bus stops are in the vicinity of the Hemlock/Davis, Hemlock/Indian, Indian/Ironwood and Ironwood/Heacock intersections.

Service frequencies are about one bus every hour on both weekdays and weekends. Weekday operations are between 5 AM and 10 PM and weekend operations are between 8.30 AM and 8.30 PM.

Pedestrian and Bicycle Systems

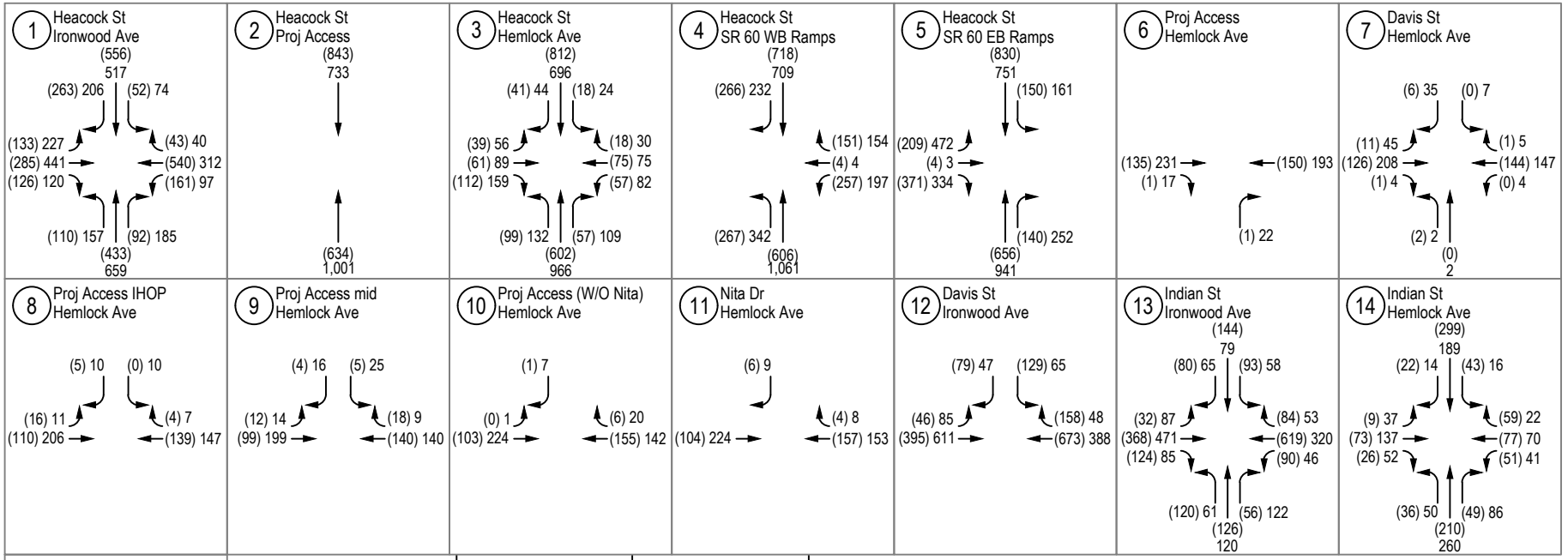
As presented in Table 5, sidewalks exist on both side of most streets in the immediate vicinity of the project with the exception of Indian Street where sidewalks are only available in the southbound direction.
Davis St currently does not connect to Ironwood Avenue and until the connection is established as part of this project, pedestrian accessibility will be served mainly by Heacock St and Nira Dr.
Standard pedestrian crosswalks (consisting of two solid parallel lines) are available at all the study area signalized intersections where pedestrian crossings are permitted.

Bicycle lanes described in Table 5 are as per the City's Bicycle Master Plan. Class 2 bike lanes are on-street paths that are located along the edge of a street with a striped lane denoting this bike path. Class 3 bike routes also are located along a street edge, but are not striped. These paths are identified by street signs only.
In the immediate project vicinity Heacock St is the only Class 2 facility while Ironwood Ave and Indian St are designated as Class 3 facilities. The Bicycle Master Plan recommends the following in the project vicinity:

- Class 2 bike lane along Hemlock between Indian St and Heacock St
- Class 2 bike lane along Heacock St (south of Hemlock Ave)
- Class 2 bike lane along Ironwood Ave
- Class 3 bike route along Davis St

Traffic Volumes

Existing traffic volumes were collected at the study intersections and roadway segments in August 2017.
Figure 4 shows the existing AM and PM peak hour traffic volumes at the study intersections, while Figure 5 shows the existing daily traffic volumes on the study area roadway segments. The raw traffic volume count sheets are provided in Appendix B.

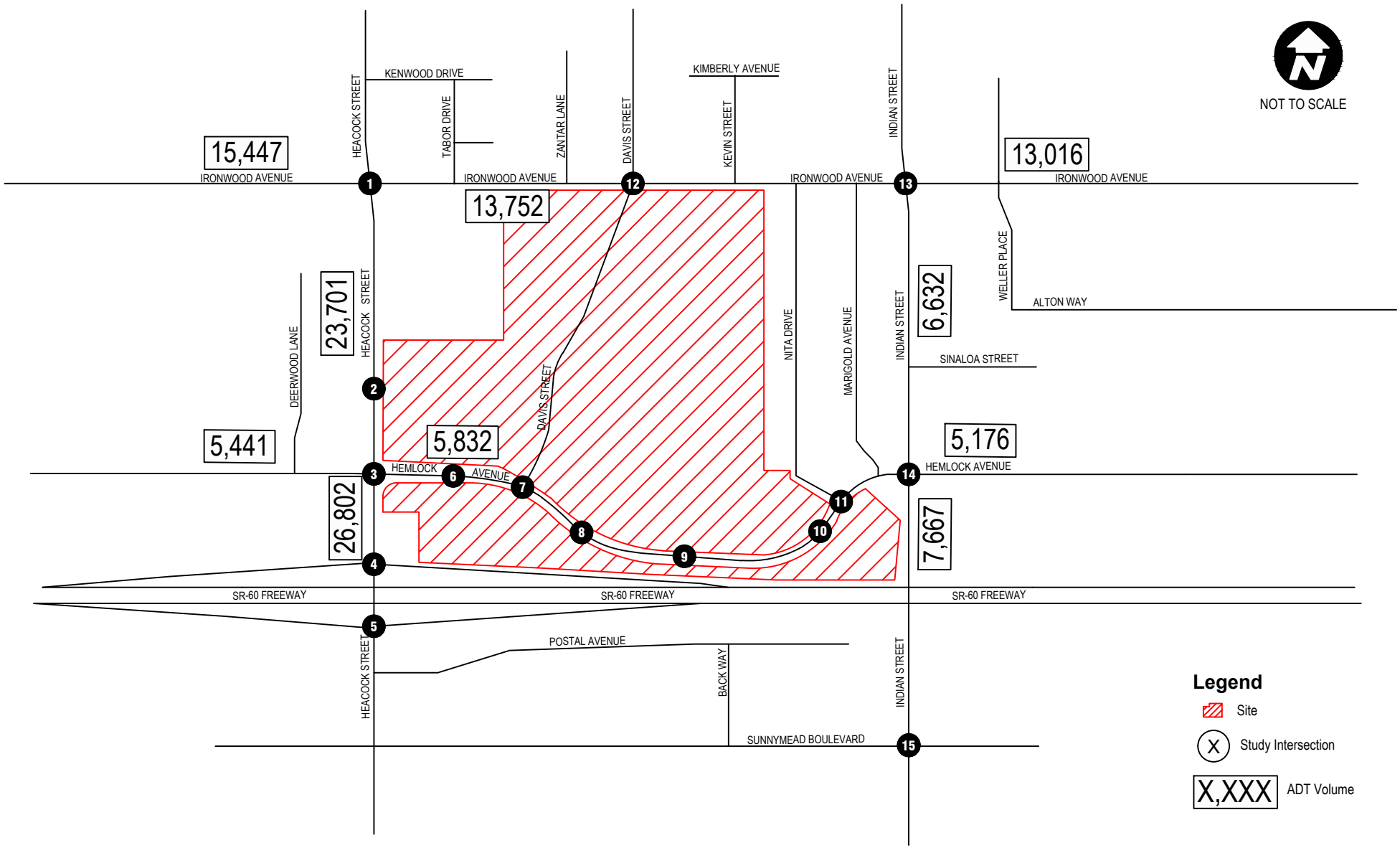


Existing AM and PM Peak Hour Traffic Volumes

FIGURE 4

Festival at Moreno Valley

transpogroup
WHAT TRANSPORTATION CAN BE.



Existing Daily Traffic Volumes

Festival at Moreno Valley

FIGURE 5

transpogroup
WHAT TRANSPORTATION CAN BE.

Levels of Service

Intersection Operations

Level of Service Analysis

Based on the analysis methodology described in Section I, the existing AM and PM peak hour traffic volumes were input into the *Synchro* LOS software to determine the existing intersection delay and LOS values. Table 6 presents the results of the existing intersection LOS analysis, while the LOS calculation sheets are provided in Appendix C.

Table 6. Existing Without-Project Weekday Peak Hour Intersection LOS

Intersection	Traffic Control	City's LOS Standard	AM Peak		PM Peak	
			LOS[1]	Delay[2]	LOS[1]	Delay[2]
1. Heacock Street/Ironwood Avenue	Signal	LOS D	C	26.9	C	28.0
2. Heacock Street/(new) Project Access	OWSC	LOS D	-	-	-	-
3. Heacock Street/Hemlock Avenue	Signal	LOS D	B	18.9	C	22.3
4. Heacock Street/State Route (SR 60) WB Ramps	Signal	LOS D	C	21.8	B	19.6
5. Heacock Street/State Route (SR 60) EB Ramps	Signal	LOS D	C	21.9	C	21.8
6. Project Access/Hemlock Avenue	OWSC	LOS C	A	8.7	A	9.9
7. Davis Street/Hemlock Avenue	TWSC	LOS C	B	11.1	B	13.5
8. Project Access IHOP/Hemlock Avenue	OWSC	LOS C	A	9.1	B	10.0
9. Project Access (middle dwy)/Hemlock Avenue	OWSC	LOS C	A	9.7	B	10.3
10. Project Access (w/o Nita Dr)/Hemlock Avenue	OWSC	LOS C	A	9.2	A	9.1
11. Nita Drive/Hemlock Avenue	OWSC	LOS C	A	9.2	A	9.2
12. Davis Street/Ironwood Avenue	Signal	LOS C	C	25.8	C	33.0
13. Indian Street/Ironwood Avenue	Signal	LOS D	C	32.1	C	25.9
14. Indian Street/Hemlock Avenue	Signal	LOS D	C	22.3	C	22.1
15. Indian Street/Sunnymead Boulevard	Signal	LOS D	C	21.2	C	27.3

1. Level of Service
2. Delay measured in seconds/vehicle
3. Delay and LOS are based on Highway Capacity Manual 2010
4. Signal = Traffic Signal (evaluated using the HCM Methodology)
5. TWSC = Two Way Stop Controlled (evaluated using the HCM Methodology)
6. OWSC = One Way Stop Controlled (evaluated using the HCM Methodology)

Based on the existing LOS analysis, all study area intersections are currently operating with a satisfactory LOS as per City's standards during both peak hours.

Queuing Analysis

A queuing analysis was conducted at the study area intersections to determine if the left turn pocket (storage) lengths are able to accommodate queues. The 95th percentile queue calculations were calculated using Synchro for the weekday AM and weekday PM peak hours and results summary is presented in Table 7 with detailed calculation in Appendix C.
Table 7 shows that the existing 95th percentile queue lengths exceed storage space. It should be noted that the 95th percentile queue is not necessarily ever observed, it is simply based on statistical calculations. In other words, if traffic was observed for 100 cycles, the 95th percentile queue would be the queue experienced with the 95th busiest cycle (or 5% of the time). It is however used by many jurisdictions as the basis for calculating storage lengths.

As shown in Table 7, the queue lengths of various intersection approaches exceed the existing pocket length under existing conditions. Mitigation measures are presented in Section V.

Table 7. Existing Without-Project Weekday Peak Hour Queuing Analysis

Intersection	Movement	Existing Pocket Length (ft)	95th Percentile Queue[1]		Exceeds Existing Pocket Length	
			AM	PM	AM	PM
1. Heacock Street/Ironwood Avenue	EBL	90	149	**126**	**Yes**	**Yes**
	WBL	135	**178**	108	**Yes**	No
	NBL	140	127	**175**	No	**Yes**
	SBL	100	70	88	No	No
2. Heacock Street/(new) Project Access	No pocket Lanes and/or No Queues					
3. Heacock Street/Hemlock Avenue	EBL	70	50	70	No	No
	WBL	360	66	92	No	No
	NBL	100	98	136	No	**Yes**
	SBL	95	31	39	No	No
4. Heacock Street/State Route (SR 60) WB Ramps	NBL	200	**239**	**256**	**Yes**	**Yes**
5. Heacock Street/State Route (SR 60) EB Ramps	EBL	0	101	213	**Yes**	**Yes**
	SBL	190	150	160	No	No
6. Project Access/Hemlock Avenue	No pocket Lanes and/or No Queues					
7. Davis Street/Hemlock Avenue	EBL	180	0	3	No	No
8. Project Access IHOP/Hemlock Avenue	No pocket Lanes and/or No Queues					
9. Project Access (middle dwy)/Hemlock Avenue	No pocket Lanes and/or No Queues					
10. Project Access (w/o Nita Dr)/Hemlock Avenue	No pocket Lanes and/or No Queues					
11. Nita Drive/Hemlock Avenue	No pocket Lanes and/or No Queues					
12. Davis Street/Ironwood Avenue	EBL	150	**88**	**162**	No	**Yes**
	SBL	40	111	61	**Yes**	**Yes**
13. Indian Street/Ironwood Avenue	EBL	95	51	103	No	**Yes**
	WBL	100	109	64	**Yes**	No
	NBL	110	139	78	**Yes**	No
	SBL	80	112	75	**Yes**	No
14. Indian Street/Hemlock Avenue	EBL	150	19	46	No	No
	WBL	80	56	49	No	No
	NBL	145	50	63	No	No
	SBL	100	54	28	No	No
15. Indian Street/Sunnymead Boulevard	EBL	90	62	**136**	No	**Yes**
	WBL	100	33	61	No	No
	NBL	145	89	104	No	No
	SBL	90	68	77	No	No

1. Calculated using Synchro – bold numbers indicate where Synchro yielded "95th percentile volume exceeds capacity, queue maybe longer." The queues were evaluated in Simtraffic at these locations.

Signal Warrant Analysis

The signal warrant analysis as per the latest edition of the Federal Highway Administration's (FHWA) Manual on Uniform Traffic Control Devices (MUTCD), was used for all study area intersections. No unsignalized intersection was found to meet the warrants for signalization. Detailed worksheets are provided in Appendix C.

Roadway Segments

Based on the analysis methodology described in Section I, the existing daily traffic volumes at the study area roadway segments were compared to the City's roadway segment LOS values presented in Table 4 above. Table 8 presents the results of the existing roadway segment LOS analysis.

Based on the existing roadway segment analysis, all study area roadway segments currently operate with LOS D or better.

Table 8. Existing Condition Roadway Segment LOS Summary

Roadway Segment	Existing Classification	Number of Lanes	Divided/ Undivided	ADT[1]	LOS Standard[2]	Maximum Capacity ADT[3]	V/C	LOS	Exceeds Threshold ?
1. Heacock Street - Ironwood Avenue to Hemlock Avenue	Arterial	4	Divided	23,701	LOS D	37,500	0.632	B	No
2. Heacock Street - Hemlock Avenue to SR 60 WB Ramps	Arterial	4	Divided	26,802	LOS D	37,500	0.715	C	No
3. Indian Street - Ironwood Avenue to Hemlock Avenue	Minor Arterial	2	Undivided	6,632	LOS D	12,500	0.531	A	No
4. Indian Street - South of Hemlock Avenue	Minor Arterial	2	Undivided	7,667	LOS D	12,500	0.613	B	No
5. Ironwood Avenue - West of Heacock Street	Minor Arterial	4	Divided	15,447	LOS C	37,500	0.412	A	No
6. Ironwood Avenue - Heacock Street to Davis Street	Minor Arterial	4	Divided	13,752	LOS C	37,500	0.367	A	No
7. Ironwood Avenue - East of Indian Street	Minor Arterial	4	Divided	13,016	LOS C	37,500	0.347	A	No
8. Hemlock Avenue - West of Heacock Street[4]	Minor Arterial	2	Undivided	5,441	LOS C	12,500	0.435	A	No
9. Hemlock Avenue - Heacock Street to Davis Street[4]	Minor Arterial	4	Divided	5,832	LOS C	37,500	0.156	A	No
10. Hemlock Avenue - East of Indian Street[4]	Minor Arterial	2	Undivided	5,176	LOS C	12,500	0.414	A	No

1. ADT: Average Daily Traffic
2. LOS based on City of Moreno Valley Roadway Segment LOS Values (Table 4)
3. Based on City of Moreno Valley Guidelines daily service volume standards table (LOS E). Four Lane Divided Arterial and Two Lane Industrial Collector used as classifications.
4. Roadway classification and LOS standard not listed in City Guidelines, assumed to be Minor Arterial, Two Lane Industrial Collector, with LOS Standard C.

III. Project Future Traffic

This section describes the project trip generation, distribution, and assignment. These have been agreed upon with the City prior to embarking on the TIA and documented in the scoping agreement included in Appendix A.

Trip Generation

Weekday daily, AM and PM peak hour trip generation estimates for the proposed project were developed using trip rates provided in the *Institute of Transportation Engineers (ITE) Trip Generation, 10th Edition, 2017*. Summaries of the trip generation rates and resulting vehicle trips for the proposed project are presented in Table 9.

Comparison to Specific Plan 205

The total trip generation of the project (before accounting for internal capture, pass-by or existing uses) was found to be 18,108 daily trips with 482 trips in the AM Peak (298 inbound and 185 outbound) and 1,537 trips in the PM Peak (735 inbound and 802 outbound). These trip generation numbers are compared to the approved Festival at Moreno Valley Specific Plan 205 trip generation numbers (Greiner Engineering Study 1986) and the results are illustrated in Table 10. As shown in Table 9, the current proposed specific plan generates less trips than the Specific Plan 205 to the order of 214 trips Daily and 900 trips in the PM Peak (note that AM Peak period was not assessed in the Greiner Engineering Study).

Internal Trip Capture and Pass-by

Internal capture was calculated using methodology from NCHRP 684 Mixed Use Spreadsheet which yields an internal trip capture of 7% in the AM peak and 4% in PM Peak and Daily.
Pass-by trip rates for the retail component of the project were estimated at 34% during PM peak hour and 17% during the AM peak hour and Daily based on the *Institute of Transportation Engineers (ITE), Trip Generation, 10th Edition, 2017*. These calculation sheets were submitted with the scoping agreement and approved by the City.

Net New Trips

The existing land uses were provided by the Client and the net new trips of the project are calculated by accounting for the existing uses as shown in Table 11. The net new trips generated by the project are calculated to be 7,612 daily trips with 527 trips in the PM Peak (231 inbound and 295 outbound). During the AM peak the project would produce less trips than existing conditions whereby the project is forecasted to remove 78 trips from the street system (21 inbound and 56 outbound).

Table 9. Proposed Project Trip Generation

	LU	Units	Daily	AM Peak Hour IN	AM Peak Hour OUT	AM Peak Hour TOTAL	PM Peak Hour IN	PM Peak Hour OUT	PM Peak Hour TOTAL
Trip Rates									
Shopping Center[1]	Code 820	TSF	37.75	0.58	0.36	0.94	1.83	1.98	3.81
Business Park[2]	Code 770	TSF	12.44	0.24	0.16	0.40	0.19	0.23	0.42
Project Trip Generation									
Planning Area 1									
Business Park	135.000	TSF	1,679	33	21	54	26	31	57
Subtotal			*1,679*	*33*	*21*	*54*	*26*	*31*	*57*
Planning Area 2									
Business Park	35.000	TSF	435	9	5	14	7	8	15
Subtotal			*435*	*9*	*5*	*14*	*7*	*8*	*15*
Planning Area 3									
Business Park	178.000	TSF	2,214	43	28	71	34	40	75
Retail	15.000	TSF	566	9	5	14	27	30	57
Subtotal			*2,781*	*52*	*33*	*85*	*62*	*70*	*132*
Planning Area 4									
Retail	255.000	TSF	9,626	149	91	240	466	505	972
Subtotal			*9,626*	*149*	*91*	*240*	*466*	*505*	*972*
Planning Area 6									
Retail	35.000	TSF	1,321	20	13	33	64	69	133
Subtotal			*1,321*	*20*	*13*	*33*	*64*	*69*	*133*
Planning Area 7									
Retail	40.000	TSF	1,510	23	14	38	73	79	152
Subtotal			*1,510*	*23*	*14*	*38*	*73*	*79*	*152*
Planning Area 8									
Retail	20.000	TSF	755	12	7	19	37	40	76
Subtotal			*755*	*12*	*7*	*19*	*37*	*40*	*76*
Total Trip Generation			*18,108*	*298*	*185*	*482*	*735*	*802*	*1,537*
Internal Trip Capture[3]			-724	-21	-13	-34	-29	-32	-61
Pass-By Trips[4]			-2,342	-29	-29	-58	-236	-237	-473
Net Trip Generation With Internal Trip Capture and Pass By			**15,041**	**248**	**142**	**390**	**469**	**533**	**1,003**
Existing Land Uses (includes Internal Trip Capture and Pass-By Reductions)[5]			7,429	269	199	468	238	238	476
Net New Trips (Project – Existing)			**7,612**	**-21**	**-56**	**-78**	**231**	**295**	**527**

Note: TSF = Thousand Square Feet

1. Trip rates from the Institute of Transportation Engineers, Trip Generation, 10th Edition, 2017. Land Use Code 820 - Shopping Center.
2. rip rates from the Institute of Transportation Engineers, Trip Generation, 10th Edition, 2017. Land Use Code 770 - Business Park.
3. Internal capture calculated using methodology from NCHRP 684 Mixed Use Spreadsheet (AM = 7%, PM/Daily = 4%)
4. Pass-by trip rate for Retail Uses (34% during PM peak hour, 17% during the AM peak hour and Daily based on weekend mid-day) from the Institute of Transportation Engineers, Trip Generation, 10th Edition, 2017. Land Use Code 820 - Shopping Center.
5. Refer to Table 10 for details
6. Note that Planning Area 5 is Open Space and as such is not included above

Table 10. Proposed Project Trip Generation Versus Greiner Engineering (SP 205)

LU	Units	Daily	AM Peak Hour			PM Peak Hour		
			IN	OUT	TOTAL	IN	OUT	TOTAL
Proposed Project Total Traffic (No Internal Trip Capture or Pass-by Reductions)		18,108	298	185	482	735	802	1,537
Greiner Engineering Study (Table 3) (No Internal Trip Capture or Pass-by Reductions)		18,322	--	--	--	1,081	1,356	2,437
Trip Generation With Internal Trip Capture and Pass By		**-214**	**--**	**--**	**--**	**-346**	**-554**	**-900**

1. Greiner Engineering – Specific Plan 205 Site Specific Analysis – December 1986
2. Greiner Engineering Study did not evaluate the AM Peak Hour as PM is the more peak with highest number of trips

Table 11. Existing Project Site Trip Generation

	LU	Units	Daily	AM Peak Hour IN	AM Peak Hour OUT	AM Peak Hour TOTAL	PM Peak Hour IN	PM Peak Hour OUT	PM Peak Hour TOTAL
Trip Rates[1]									
Shopping Center	820	TSF	37.75	0.58	0.36	0.94	1.83	1.98	3.81
Fast Food Restaurant With Drive Through	934	TSF	470.95	20.50	19.69	40.19	16.99	15.68	32.67
Fast Food Restaurant Without Drive Through	933	TSF	346.23	15.06	10.04	25.10	14.17	14.17	28.34
High-Turnover Sit-down Restaurant	932	TSF	112.18	5.47	4.47	9.94	6.06	3.71	9.77
Automobile Service	941	SP	40.00	2.01	0.99	3.00	2.72	2.13	4.85
Project Trip Generation									
Planning Area 1	Vacant								
Planning Area 2	Vacant								
Planning Area 3	Vacant								
Planning Area 4									
Shopping Center (Retail Center)	162.250	TSF	6,125	95	58	153	297	321	618
Fast Food Restaurant With Drive Through (Yoshinoya)	3.900	TSF	1,837	80	77	157	66	61	127
Subtotal			*7,962*	*174*	*135*	*309*	*363*	*383*	*746*
Planning Area 6									
Fast Food Restaurant With Drive Through (Arby's)	2.700	TSF	1,272	55	53	109	46	42	88
Fast Food Restaurant Without Drive Through (KFC)	2.700	TSF	935	41	27	68	38	38	77
Auto Service (Jiffy Lube)	3	SP	120	6	3	9	8	6	15
High-Turnover Sit-down Restaurant (Centanario)	8.800	TSF	987	48	39	87	53	33	86
Subtotal			*3,314*	*150*	*123*	*273*	*146*	*120*	*265*
Planning Area 7									
Shopping Center (Retail Center)	33.675	TSF	1,271	20	12	32	62	67	128
Subtotal			*1,271*	*20*	*12*	*32*	*62*	*67*	*128*
Planning Area 8	*Vacant*								
Total Trip Generation			*12,546*	*344*	*269*	*614*	*570*	*569*	*1,139*
Internal Trip Capture[2]			-2,886	-17	-13	-31	-131	-131	-262
Pass-By Trips For Shopping Center[3]			-1,257	-16	-15	-31	-131	-130	-261
Pass-By Trips For Fast Food With Drive Through[4]			-777	-33	-33	-66	-53	-53	-106
Pass-By Trips For High-Turnover Sit-down Restaurant[5]			-197	-9	-8	-17	-17	-17	-34
Total Pass-by Trips			*-2,232*	*-58*	*-57*	*-115*	*-201*	*-200*	*-401*
Net Trip Generation With Internal Trip Capture and Pass By			**7,429**	**269**	**199**	**468**	**238**	**238**	**476**

Note: TSF = Thousand Square Feet

1. Trip rates from the Institute of Transportation Engineers, Trip Generation, 10th Edition, 2017. Land Use Code 820 - Shopping Center, Land Use Code 934 - Fast-Food Restaurant With Drive-Through Window, Land Use Code 933 - Fast-Food Restaurant Without Drive-Through Window, Land Use Code 932 - High-Turnover (Sit-Down) Restaurant, Land Use Code 941 - Quick Lubrication Vehicle Shop.
2. Internal capture calculated using methodology from NCHRP 684 Mixed Use Spreadsheet
3. Pass-by trip rates (35% during PM peak hour, 17% for AM peak hour and Daily) from the Institute of Transportation Engineers, Trip Generation, 10th Edition, 2017. Land Use Code 820 - Shopping Center.
4. Pass-by trip rates (49% during PM peak hour, 25% for AM peak hour and Daily) from the Institute of Transportation Engineers, Trip Generation, 10th Edition, 2017. Land Use Code 934 - Fast Food Restaurant with Drive Through.
5. Pass-by trip rates (40% during PM peak hour, 20% for AM peak hour and Daily) from the Institute of Transportation Engineers, Trip Generation, 10th Edition, 2017. Land Use Code 932 - High Turnover Sit-down Restaurant.

Trip Distribution and Assignment

Regional and local trip distribution percentages for the proposed project were based on logical peak hour commute patterns and approved in the City's Scoping Agreement. Figure 6 and Figure 7 illustrate the Retail outbound and inbound trip distribution percentages respectively, while Figure 8 and Figure 9 illustrate the outbound and inbound trip distribution percentages for the Business Park component of the project respectively. The trip distribution percentages at each intersection were applied to the proposed project's weekday AM and PM peak hour trip generation estimates to calculate the project trip assignment. The resulting weekday AM, and PM peak hour trip assignments are also shown on Figure 10.

Background Cumulative Traffic

Ambient Growth Rate

Traffic Conditions prior to the time that the proposed development is completed will be estimated by increasing the existing traffic counts by a growth rate of 2% per year. The ambient growth rate will be applied from 2017 till 2022.

Cumulative Projects

The cumulative project list includes reasonably foreseeable development projects which are either approved or being processed concurrently in the study. A list of these projects was compiled in collaboration with the City's Planning Department (Economic Development) and location of each cumulative project is shown in Figure 11, while the trip generation of each cumulative project is shown in Table 12.
The cumulative project trips where then distributed and assigned on the study area intersections as shown in Figure 12.

Near Term and General Plan Traffic Forecasts

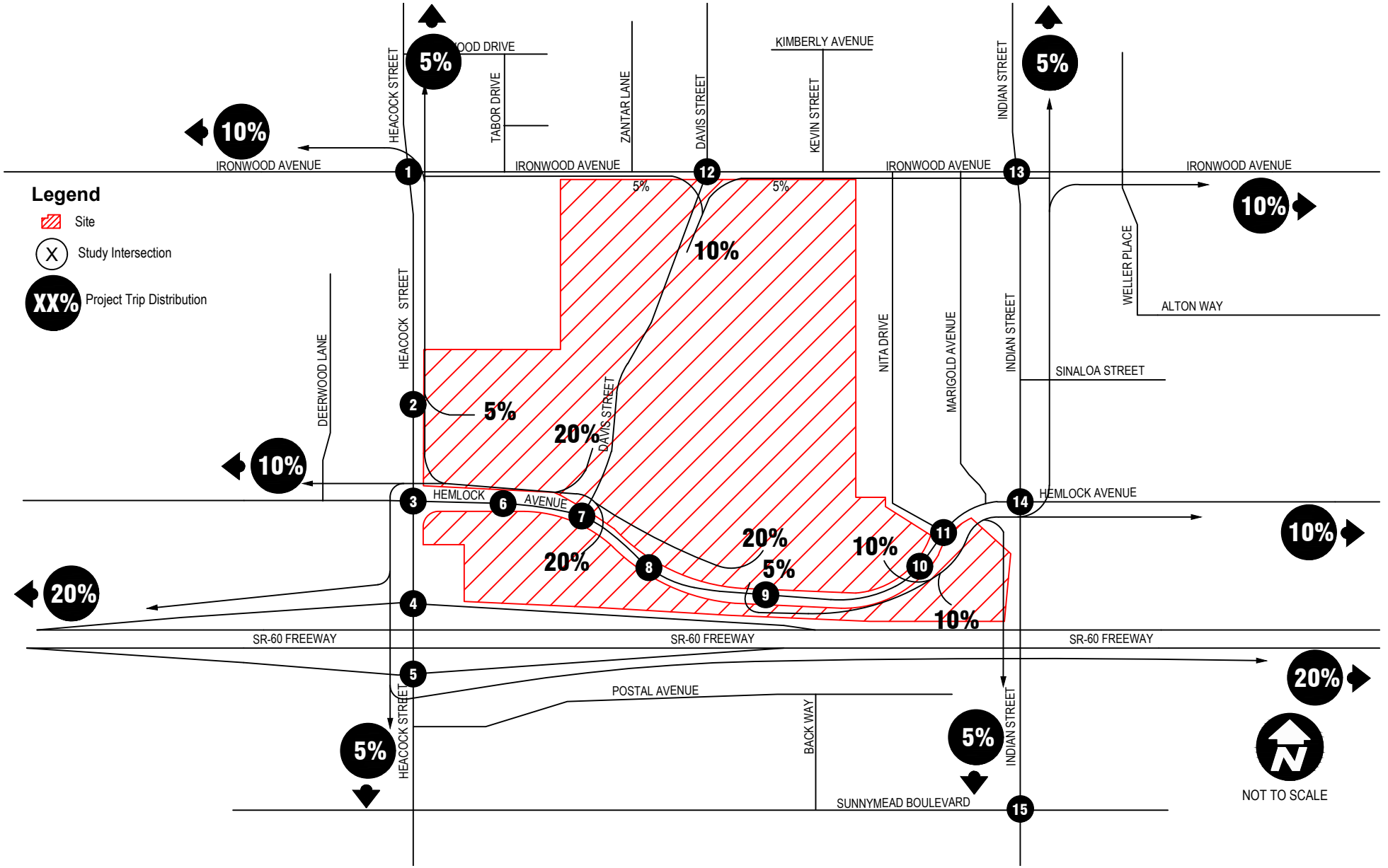
A "buildup" and "buildout" analysis were carried out. The "buildup" scenario corresponds to Near Term Year 2022 and was used to approximate the Opening Year Cumulative traffic forecasts. The "buildup" approach combines existing traffic counts with a background ambient growth factor to forecast the Near Term Year 2022 background traffic conditions. The Opening Year Cumulative traffic forecasts include background traffic, traffic generated by other cumulative development projects within the study area, and the traffic generated by the proposed Project. The 2022 roadway network is similar to the existing conditions roadway network with the exception of future roadways and intersections proposed to be developed by the Project.
The "buildout" approach is used to forecast the General Plan Buildout Without and With Project conditions of the study area. The Moreno Valley Transportation Analysis Model (based on RivTam) was used for this analysis.

Table 12. Cumulative Projects Trip Generation

	LU	Units	Daily	AM Peak Hour IN	AM Peak Hour OUT	AM Peak Hour TOTAL	PM Peak Hour IN	PM Peak Hour OUT	PM Peak Hour TOTAL
Trip Rates[1]									
Shopping Center	820	TSF	37.75	0.58	0.36	0.94	1.83	1.98	3.81
Office	710	TSF	9.74	1.00	0.16	1.16	0.18	0.97	1.15
Hotel	310	RM	8.36	0.28	0.19	0.47	0.31	0.29	0.60
Single Family Residential	210	DU	9.44	0.19	0.56	0.74	0.62	0.37	0.99
Multi-Family Housing	220	DU	7.32	0.11	0.35	0.46	0.35	0.21	0.56
Project Trip Generation									
1. Moreno Valley Plaza (Shopping Center)	341.000	TSF	12,873	199	122	321	624	676	1,299
Minus Pass-By Trips[2]			-1,287	-20	-12	-32	-118	-128	-247
Subtotal Moreno Valley Plaza (Shopping Center)			*11,585*	*179*	*110*	*288*	*505*	*547*	*1,052*
2. Olivewood Plaza (Office)	22.758	TSF	222	23	4	26	4	22	26
3. Riverside County Office Building (Office)	52.000	TSF	506	52	8	60	10	50	60
4. Sleep Inn & Suites (Hotel)	66	RM	552	18	13	31	20	19	40
5. Econo Lodge (Hotel)	51	RM	426	14	10	24	16	15	31
6. Holiday Inn Express (Hotel)	153	RM	1,279	42	29	72	47	45	92
7. Best Western Hotel and Suites (Hotel)	59	RM	493	16	11	28	18	17	35
8. Tract 32710 (Single Family Residential)	6	DU	57	1	3	4	4	2	6
9. Tract 32126 (Single Family Residential)	35	DU	330	6	19	26	22	13	35
10. Tract 36761 (Single Family Residential)	7	DU	66	1	4	5	4	3	7
11. Tract 31621 (Single Family Residential)	12	DU	113	2	7	9	7	4	12
12. Tract 35956 (Single Family Residential)	2	DU	19	0	1	1	1	1	2
13. PA15-0042 (Multi-Family Apartments)	39	DU	285	4	14	18	14	8	22
14. Tract 31814 (Multi-Family Condos)	60	DU	439	6	21	28	21	12	34
15. Tract 33771 (Multi-Family Condos)	12	DU	88	1	4	6	4	2	7
16. PEN 16-0066 (Multi-Family Apartments)	12	DU	88	1	4	6	4	2	7
17. Tract 35663 (Multi-Family Condos)	12	DU	88	1	4	6	4	2	7
18. Tract 35769 (Multi-Family Condos)	16	DU	117	2	6	7	6	3	9
19. PA09-0006 (Multi-Family Apartments)	15	DU	110	2	5	7	5	3	8
Total Trip Generation			**7,429**	**269**	**199**	**468**	**238**	**238**	**476**

Note: TSF = Thousand Square Feet, DU = Dwelling Unit, RM = Room Vehicle

1. Trip rates from the Institute of Transportation Engineers, Trip Generation, 10th Edition, 2017. Land Use Code 820 - Shopping Center, Land Use Code 710 – Office, Land Use Code 310 – Hotel, Land Use Code 210 - Single Family Residential, Land Use Code 220- Multi-Family Housing (Low-Rise).
2. Pass-by trip rates (19% during PM peak hour, 10% for AM peak hour and Daily) from the Institute of Transportation Engineers, Trip Generation, 10th Edition, 2017. Land Use Code 820 - Shopping Center



Source: Google Maps, 09/2017.

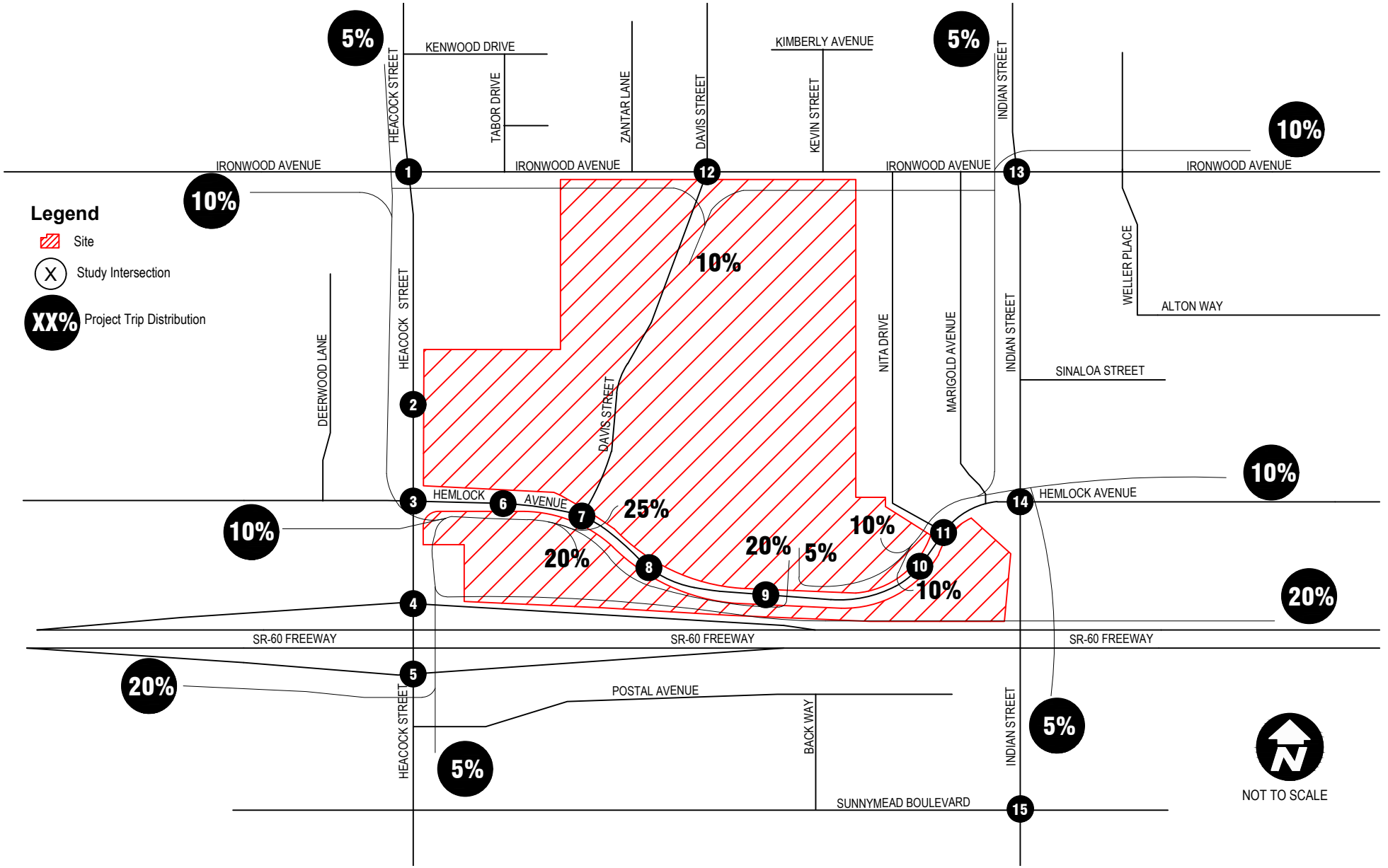
Retail Distribution Outbound

Festival at Moreno Valley

FIGURE 6

transpogroup
WHAT TRANSPORTATION CAN BE.

Dec 04, 2017 - 4:24pm emilyc C:\Users\emilyc\Dropbox (Transpo CA)\Transpo CA Team Folder\Projects\2017\17261.PR - Festival at Moreno Valley\Graphics\Festival at Moreno Valley.dwg Layout: fig6-Retail Distribution Outbound



Source: Google Maps, 09/2017.

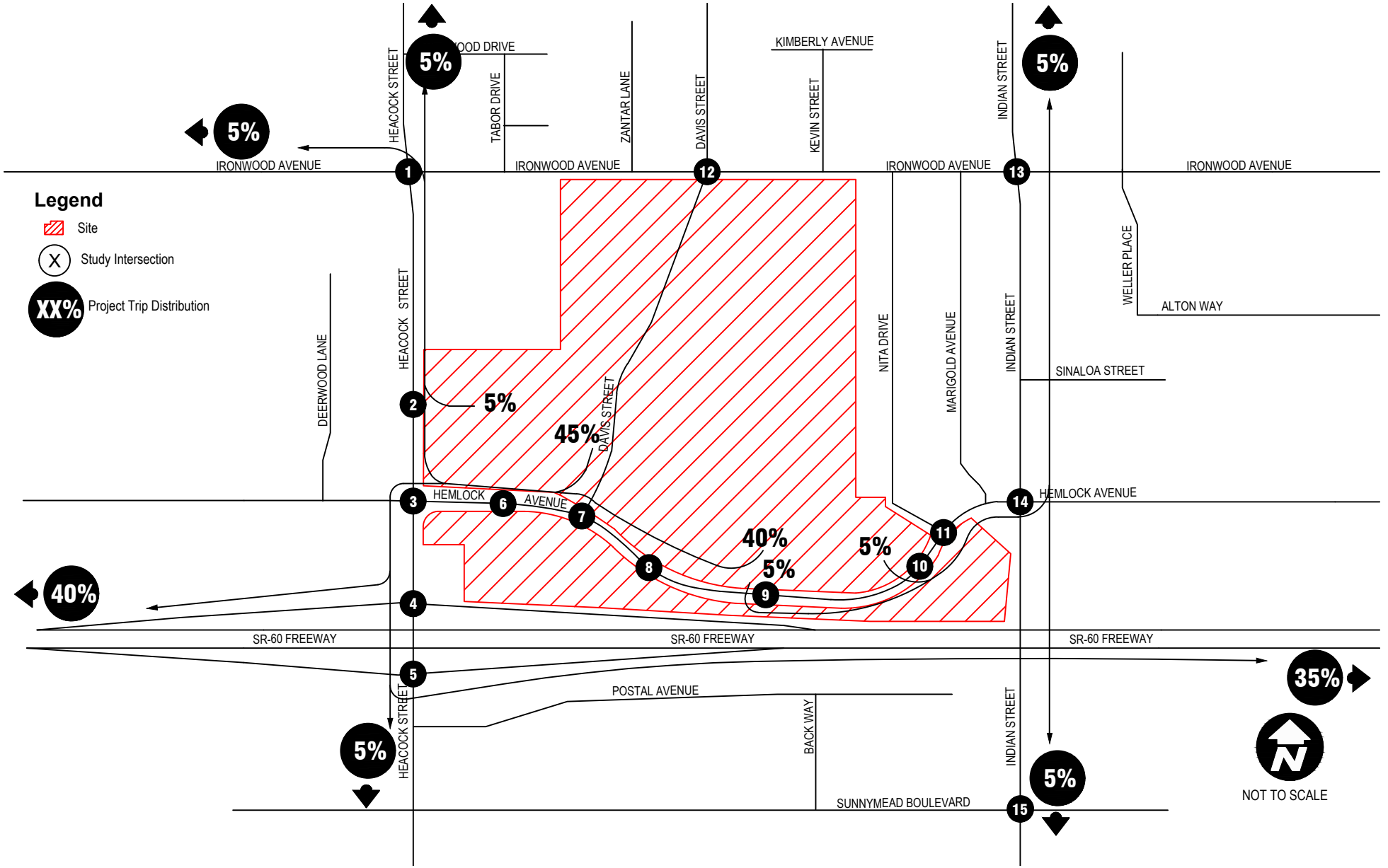
Retail Distribution Inbound

Festival at Moreno Valley

FIGURE 7

transpogroup
WHAT TRANSPORTATION CAN BE.

Dec 04, 2017 - 4:25pm emilyc C:\Users\emilyc\Dropbox (Transpo CA)\Transpo CA Team Folder\Projects\2017\17261.PR - Festival at Moreno Valley\Graphics\Festival at Moreno Valley.dwg Layout: fig7-Retail Distribution Inbound



Source: Google Maps, 09/2017.

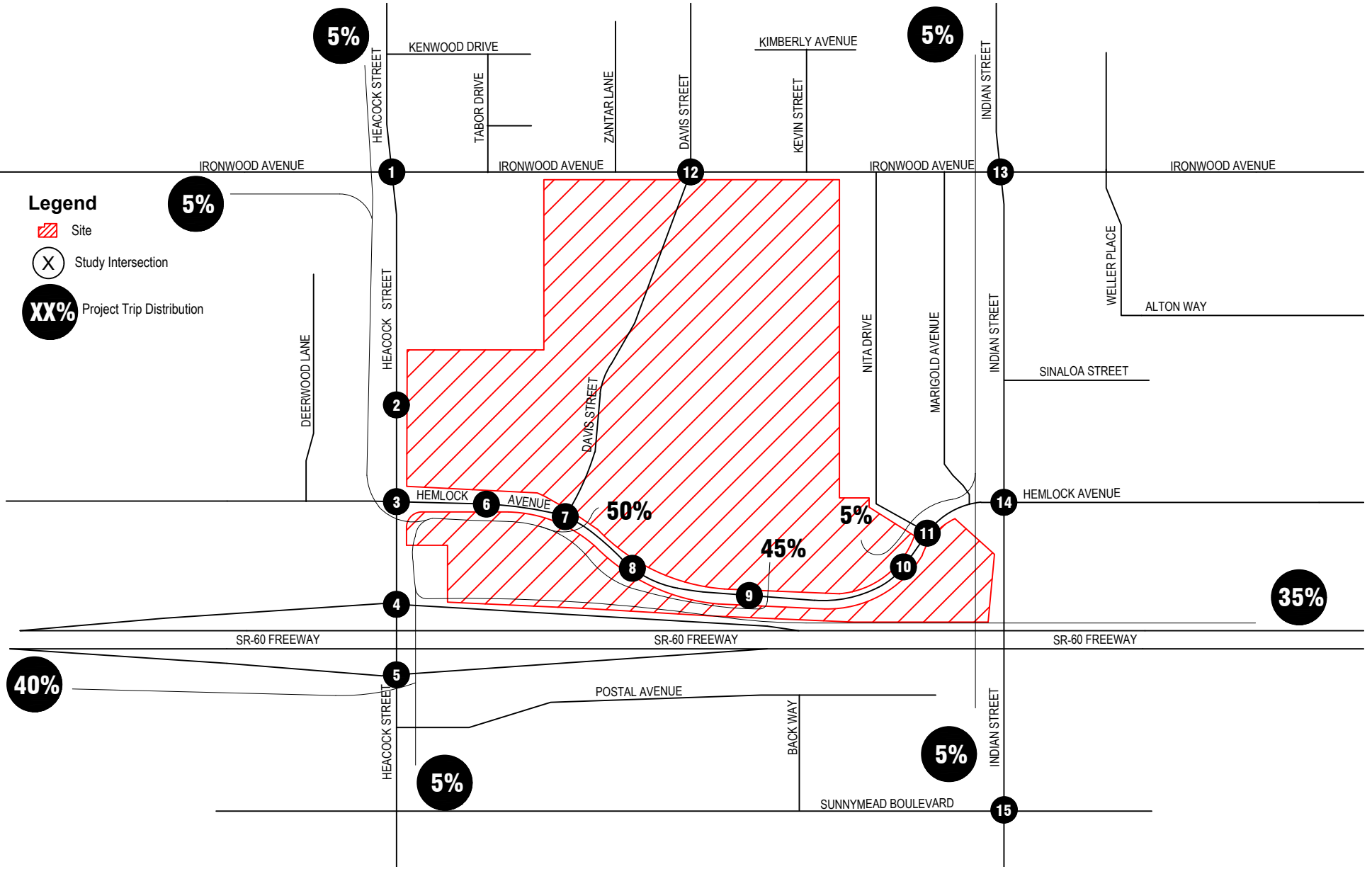
Business Park Distribution Outbound

FIGURE 8

Festival at Moreno Valley

transpogroup
WHAT TRANSPORTATION CAN BE.

Dec 04, 2017 - 4:25pm emilyc C:\Users\emilyc\Dropbox (Transpo CA)\Transpo CA Team Folder\Projects\2017\17261.PR - Festival at Moreno Valley\Graphics\Festival at Moreno Valley.dwg Layout: fig8-Business Park Distribution Outbound



Source: Google Maps, 09/2017.

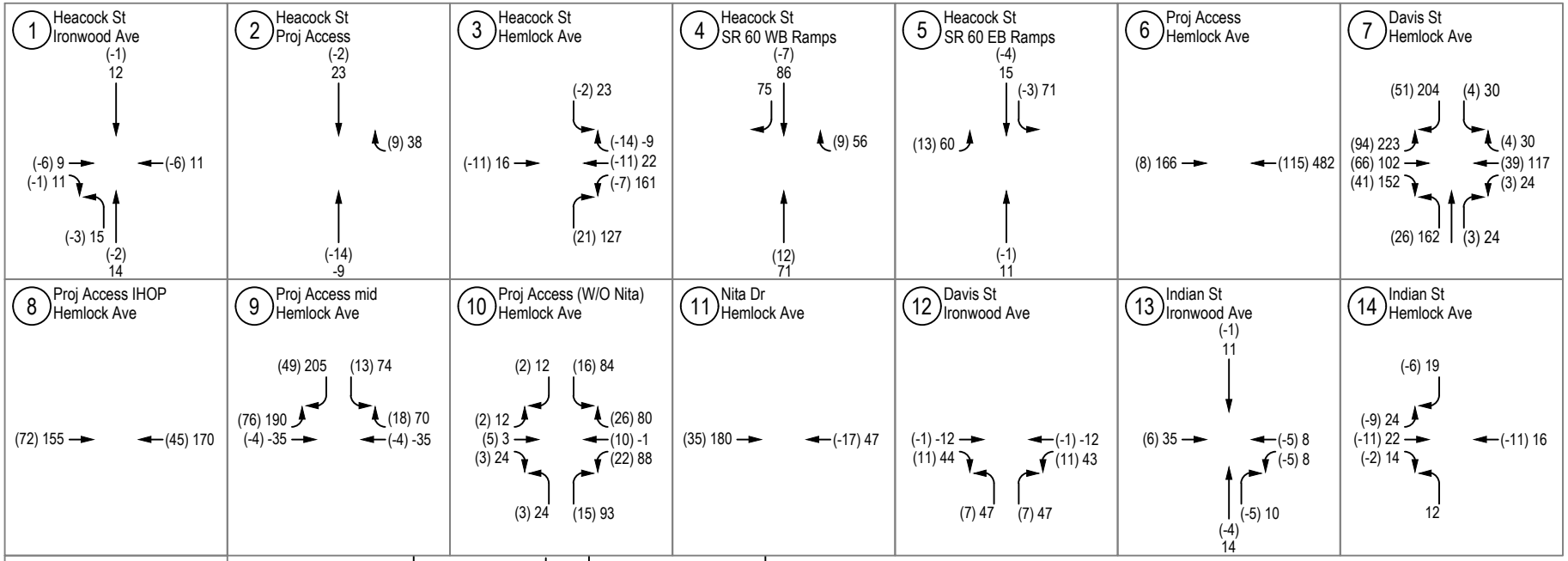
Business Park Distribution Inbound

FIGURE 9

Festival at Moreno Valley

transpogroup
WHAT TRANSPORTATION CAN BE.

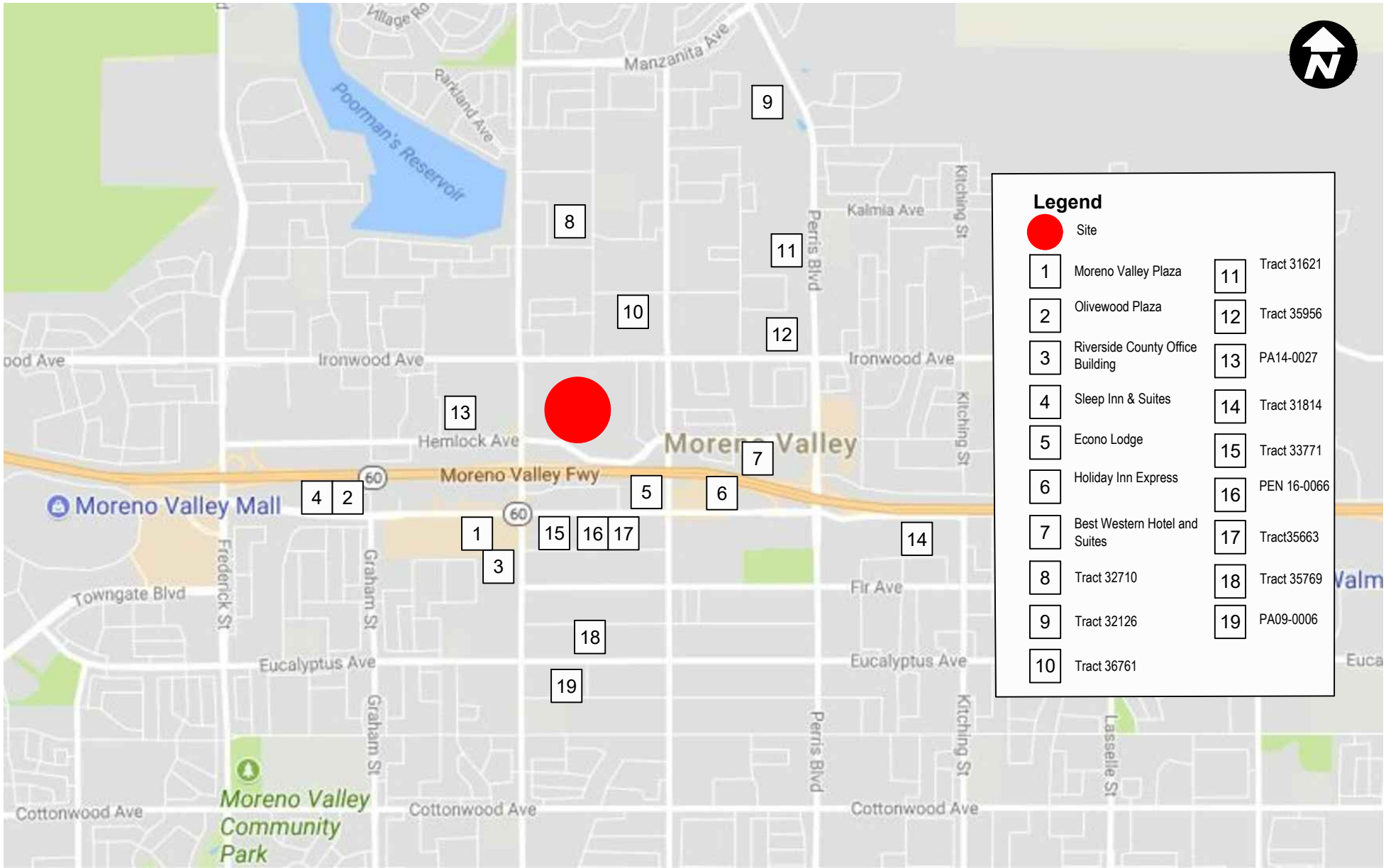
Dec 04, 2017 - 4:26pm emilyc C:\Users\emilyc\Dropbox (Transpo CA)\Transpo CA Team Folder\Projects\2017\17261.PR - Festival at Moreno Valley\Graphics\Festival at Moreno Valley.dwg Layout: fig9-Business Park Distribution Inbound



Project Trip Distribution and Assignment

Festival at Moreno Valley

FIGURE 10



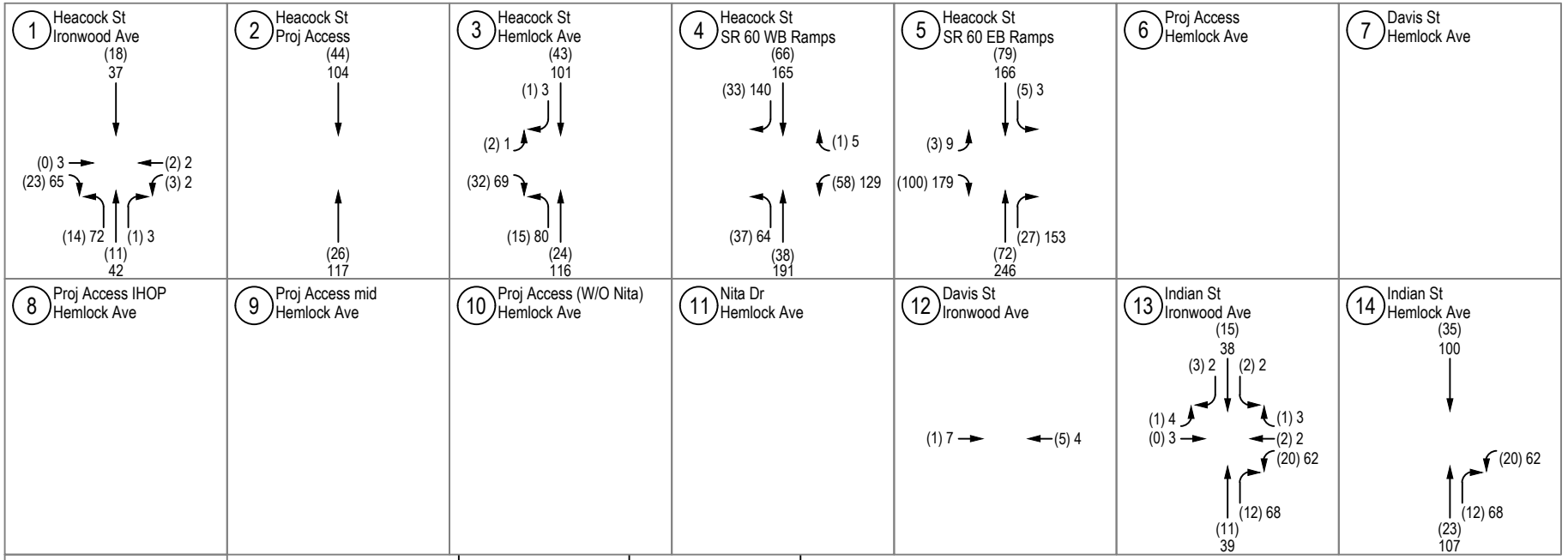
Source: City of Moreno Valley, November 2017.

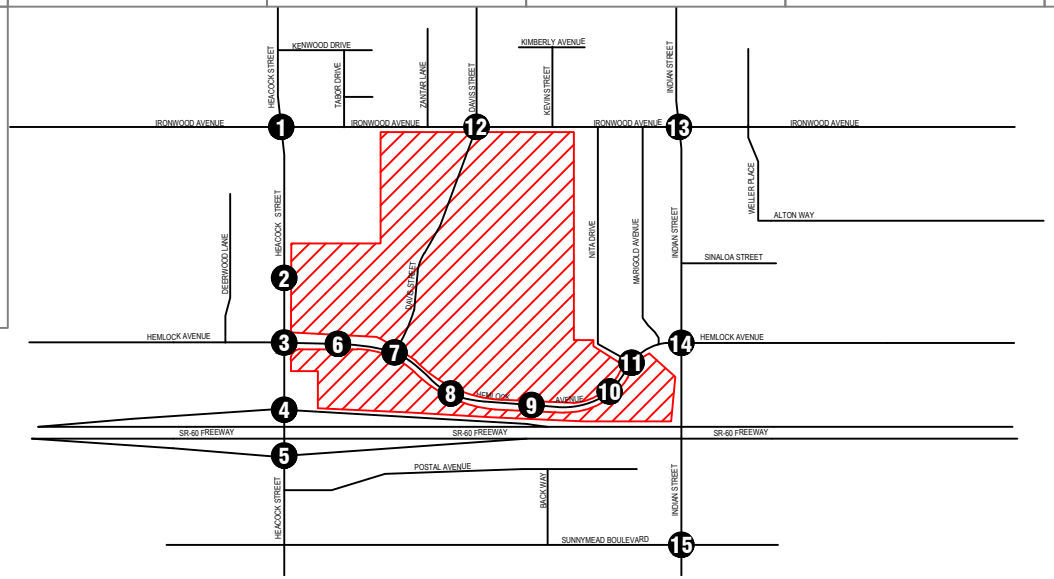
Locations of Cumulative Projects

Festival at Moreno Valley

FIGURE 11

transpogroup
WHAT TRANSPORTATION CAN BE.





NOT TO SCALE

Legend

- Site
- X Weekday PM Peak Hour Traffic Volumes
- (X) Weekday AM Peak Hour Traffic Volumes
- (X) Study Intersection

Cumulative Projects Trip Assignment

Festival at Moreno Valley

FIGURE 12

transpogroup
WHAT TRANSPORTATION CAN BE.

Dec 04, 2017 - 4:37pm emilyc C:\Users\emilyc\Dropbox (Transpo CA)\Transpo CA Team Folder\Projects\2017\17261.PR - Festival at Moreno Valley\Graphics\Festival at Moreno Valley.dwg Layout: fig12-Cumulative Projects Trip Assignment

IV. Traffic Analysis

This section describes analysis results for existing with-project, Near Term Year (2022) baseline, Near Term Year (2022) with-project conditions and the General Plan build-out (2040) without and with project conditions. Operations for existing conditions were illustrated earlier in Section II and also are summarized in this section as part of the comparison to existing plus project conditions.
Operations for both intersections and roadway segments are described along with signal warrant analysis. Mitigation measures are discussed in Section V.

Existing With-Project

Intersection Operations

Level of Service Analysis

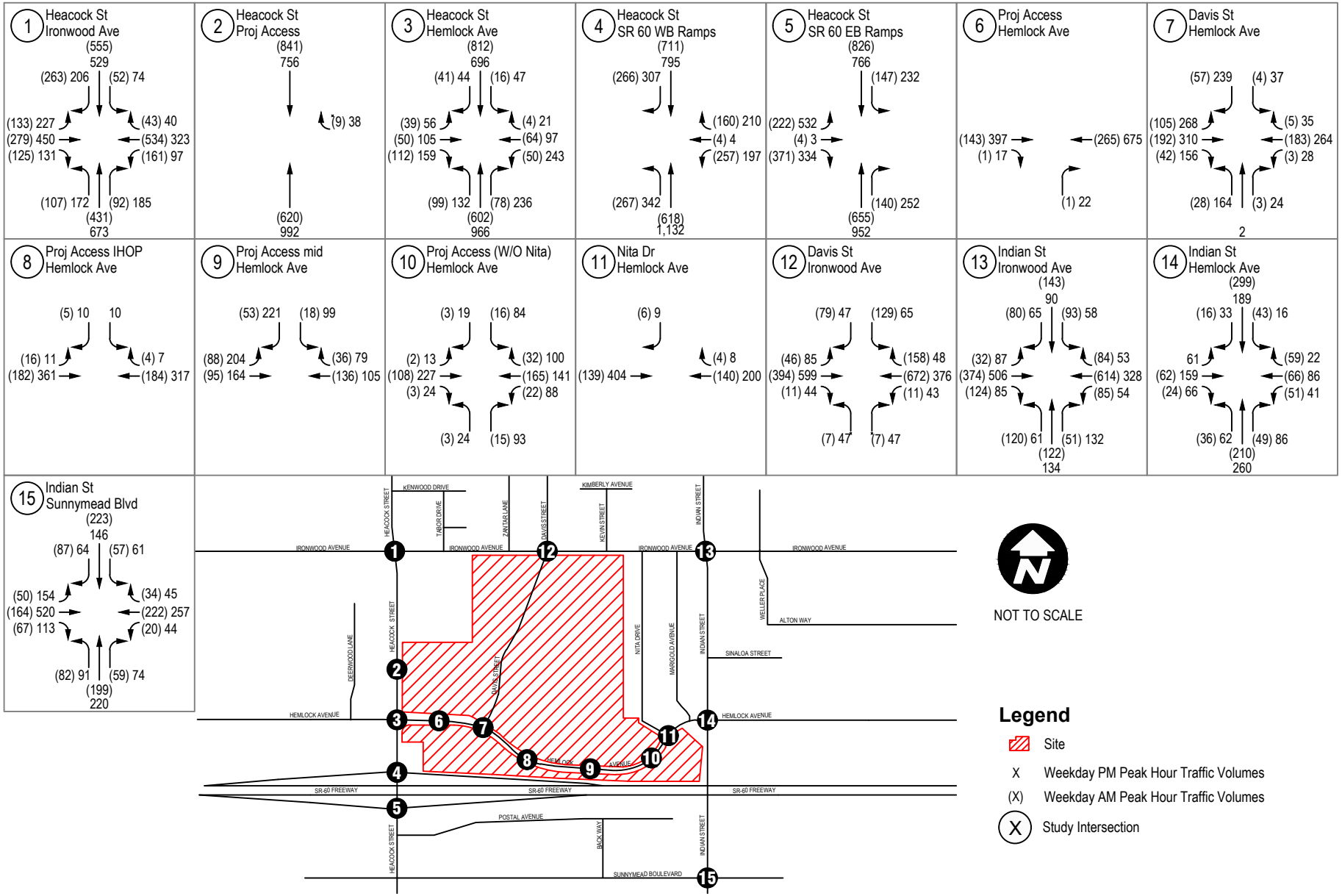
Intersection with-project traffic volumes were obtained by adding the project trip assignments (shown in Figure 10) during the AM and PM peak hours to the existing volumes at the intersection. Figure 13 illustrates the existing with-project traffic volumes at the study area intersections. An intersection operations analysis was conducted for the study area to evaluate the Existing with-Project weekday AM and PM peak hour conditions with the project. Intersection operations were calculated using the LOS methodology described previously. Table 13 provides a comparison between the Existing without and with-project conditions for the weekday AM and PM peak hours. Detailed LOS worksheets are included in Appendix C.

As shown in the Table 13, the Davis Street/Hemlock Avenue intersection is forecast to operate at LOS F during the PM peak hour with the project. The addition of project traffic is expected to increase the delay at the intersection leading to a LOS F under Existing with-Project PM peak hour conditions. This increase is considered a significant impact per the City's unsignalized intersection significance criteria (LOS C). Mitigation measures are discussed in the following section.

Queuing Analysis

A queuing analysis was conducted at the study area intersections to determine if the left turn pocket (storage) lengths are able to accommodate queues. The 95th percentile queue calculations were calculated using Synchro for the weekday AM and weekday PM peak hours and results summary is presented in Table 14 with detailed calculation in Appendix C.

Table 13 shows that the existing 95th percentile queue lengths that exceed storage space under Existing with-Project conditions. As mentioned earlier, the 95th percentile queue is not necessarily ever observed, it is simply based on statistical calculations. It is however used by many jurisdictions as the basis for calculating storage lengths. When Synchro yielded "95th percentile volume exceeds capacity, queue maybe longer", the queues were evaluated in Simtraffic. Mitigation measures are illustrated in Section V.



Existing Plus Project AM and PM Peak Hour Traffic Volumes

Festival at Moreno Valley

FIGURE 13

transpogroup WHAT TRANSPORTATION CAN BE.

Table 13. Existing and Existing with-Project Peak Hour Intersection LOS

Intersection	Traffic Control	City LOS Standard	Existing				Existing with-Project				Delay Change		Impact?	
			AM Peak		PM Peak		AM Peak		PM Peak		AM	PM	AM	PM
			LOS[1]	Delay[2]	LOS[1]	Delay[2]	LOS[1]	Delay[2]	LOS[1]	Delay[2]				
1. Heacock Street/Ironwood Avenue	Signal	LOS D	C	26.9	C	28	C	26.7	C	28.9	-0.2	0.9	NO	NO
2. Heacock Street/(new) Project Access	OWSC	LOS D	A	0	A	0	B	10.5	B	12.6	10.5	12.6	NO	NO
3. Heacock Street/Hemlock Avenue	Signal	LOS D	B	18.9	C	22.3	B	18.0	C	31.5	-0.9	9.2	NO	NO
4. Heacock Street/State Route (SR 60) WB Ramps	Signal	LOS D	C	21.8	B	19.6	C	21.7	C	22.6	-0.1	3.0	NO	NO
5. Heacock Street/State Route (SR 60) EB Ramps	Signal	LOS D	C	21.9	C	21.8	C	21.9	C	23.8	0.0	2.0	NO	NO
6. Project Access/Hemlock Avenue	OWSC	LOS C	A	8.7	A	9.9	A	8.7	A	9.7	0.0	-0.2	NO	NO
7. Davis Street/Hemlock Avenue	TWSC	LOS C	B	11.1	B	13.5	C	18.4	**F**	**1371.9**	7.3	1358.4	NO	**YES**
8. Project Access IHOP/Hemlock Avenue	OWSC	LOS C	A	9.1	B	10	A	9.4	B	11.7	0.3	1.7	NO	NO
9. Project Access (middle dwy)/Hemlock Avenue	OWSC	LOS C	A	9.7	B	10.3	B	10.2	C	18.1	0.5	7.8	NO	NO
10. Project Access (w/o Nita Dr)/Hemlock Avenue	OWSC	LOS C	A	9.2	A	9.1	B	11.6	C	22.8	2.4	13.7	NO	NO
11. Nita Drive/Hemlock Avenue	OWSC	LOS C	A	9.2	A	9.2	A	9.1	A	9.4	-0.1	0.2	NO	NO
12. Davis Street/Ironwood Avenue	Signal	LOS C	C	25.8	C	33	C	25.9	C	28.4	0.1	-4.6	NO	NO
13. Indian Street/Ironwood Avenue	Signal	LOS D	C	32.1	C	25.9	C	32.0	C	26.3	-0.1	0.4	NO	NO
14. Indian Street/Hemlock Avenue	Signal	LOS D	C	22.3	C	22.1	C	21.4	C	23.6	-0.9	1.5	NO	NO
15. Indian Street/Sunnymead Boulevard	Signal	LOS D	C	21.2	C	27.3	C	21.2	C	27.2	0.0	-0.1	NO	NO

1. Level of Service
2. Delay measured in seconds/vehicle
3. Delay and LOS are based on Highway Capacity Manual 2010
4. Signal = Traffic Signal (evaluated using the HCM Methodology)
5. TWSC = Two Way Stop Controlled (evaluated using the HCM Methodology)
6. OWSC = One Way Stop Controlled (evaluated using the HCM Methodology)
7. The decrease (in delay per vehicle) with project is not unusual when trips are added to the minor approach

Table 14. Existing With-Project Weekday Peak Hour Queuing Analysis

Intersection	Movement	Existing Pocket Length (ft)	Existing 95th Percentile Queue[1]		Existing With-Project 95th Percentile Queue[1]		Exceeds Existing Pocket Length?	
			AM	PM	AM	PM	AM	PM
1. Heacock Street/Ironwood Avenue	EBL	90	149	287	149	**128**	**Yes**	**Yes**
	WBL	135	198	107	**180**	108	**Yes**	No
	NBL	140	127	172	124	**188**	No	**Yes**
	SBL	100	70	87	70	88	No	No
2. Heacock Street/(new) Project Access		No pocket Lanes and/or No Queues						
3. Heacock Street/Hemlock Avenue	EBL	70	50	70	49	71	No	**Yes**
	WBL	360	66	92	59	**337**	No	No
	NBL	100	98	136	95	138	No	**Yes**
	SBL	95	31	39	27	62	No	No
4. Heacock Street/State Route (SR 60) WB Ramps	NBL	200	239	329	**230**	**262**	**Yes**	**Yes**
5. Heacock Street/State Route (SR 60) EB Ramps	EBL	0	101	213	106	243	**Yes**	**Yes**
	SBL	190	150	160	147	212	No	**Yes**
6. Project Access/Hemlock Avenue		No pocket Lanes and/or No Queues						
7. Davis Street/Hemlock Avenue	EBL	180	0	3	0	0	No	No
8. Project Access IHOP/Hemlock Avenue		No pocket Lanes and/or No Queues						
9. Project Access (middle dwy)/Hemlock Avenue		No pocket Lanes and/or No Queues						
10. Project Access (w/o Nita Dr)/Hemlock		No pocket Lanes and/or No Queues						
11. Nita Drive/Hemlock Avenue		No pocket Lanes and/or No Queues						
12. Davis Street/Ironwood Avenue	EBL	150	93	182	**82**	**146**	No	**Yes**
	SBL	40	109	61	112	46	**Yes**	**Yes**
13. Indian Street/Ironwood Avenue	EBL	95	51	102	51	104	No	**Yes**
	WBL	100	109	64	104	72	**Yes**	No
	NBL	110	139	78	140	78	**Yes**	No
	SBL	80	112	75	113	76	**Yes**	No
14. Indian Street/Hemlock Avenue	EBL	150	19	46	0	68	No	No
	WBL	80	56	50	57	50	No	No
	NBL	145	50	62	50	76	No	No
	SBL	100	54	28	53	29	No	No
15. Indian Street/Sunnymead Boulevard	EBL	90	62	172	62	**138**	No	**Yes**
	WBL	100	33	61	33	61	No	No
	NBL	145	89	104	89	104	No	No
	SBL	90	68	77	68	77	No	No

1. Calculated using Synchro – bold numbers indicate where Synchro yielded "95th percentile volume exceeds capacity, queue maybe longer." The queues were evaluated in Simtraffic at these locations.

Signal Warrant Analysis

The signal warrant analysis as per the latest edition of the Federal Highway Administration's (FHWA) Manual on Uniform Traffic Control Devices (MUTCD), was used for all study area intersections. It was found that the Hemlock Ave / Davis St intersection meets the 8-Hour, 4-Hour, and Peak-Hour signal warrants and as such signalization is recommended. The detailed worksheets are provided in Appendix C.

Roadway Operations

Based on the analysis methodology described in Section I, the existing with-project traffic daily traffic volumes at the study area roadway segments were compared to the City's roadway segment LOS values (presented in Table 4) and the existing traffic daily volumes LOS values. Table 15 presents the results of the existing with-project roadway segment LOS analysis.

Based on the existing with-project roadway segment analysis, all study area roadway segments currently operate with LOS D or better.

Table 15. Existing Condition Roadway Segment LOS Summary

Roadway Segment	Existing Classification	Maximum Capacity ADT[3]	Existing ADT[1]	Existing V/C Ratio	Existing LOS[2]	Existing with-Project ADT[5]	Existing with-Project V/C Ratio	Existing with Project LOS[2]	V/C Ratio Change	Impact
1. Heacock Street - Ironwood Avenue to Hemlock Avenue	Arterial	37,500	23,701	0.632	B	24,768	0.660	B	0.028	No
2. Heacock Street - Hemlock Avenue to SR 60 WB Ramps	Arterial	37,500	26,802	0.715	C	33,124	0.883	D	0.169	No
3. Indian Street - Ironwood Avenue to Hemlock Avenue	Minor Arterial	12,500	6,632	0.531	A	7,483	0.599	A	0.068	No
4. Indian Street - South of Hemlock Avenue	Minor Arterial	12,500	7,667	0.613	B	8,202	0.656	B	0.043	No
5. Ironwood Avenue - West of Heacock Street	Minor Arterial	37,500	15,447	0.412	A	16,299	0.435	A	0.023	No
6. Ironwood Avenue - Heacock Street to Davis Street	Minor Arterial	37,500	13,752	0.367	A	14,070	0.375	A	0.008	No
7. Ironwood Avenue - East of Indian Street	Minor Arterial	37,500	13,016	0.347	A	13,527	0.361	A	0.014	No
8. Hemlock Avenue - West of Heacock Street[4]	Minor Arterial	12,500	5,441	0.435	A	6,077	0.486	A	0.051	No
9. Hemlock Avenue - Heacock Street to Davis Street[4]	Minor Arterial	37,500	5,832	0.156	A	13,715	0.366	A	0.210	No
10. Hemlock Avenue - East of Indian Street[4]	Minor Arterial	12,500	5,176	0.414	A	5,812	0.465	A	0.051	No

1. ADT: Average Daily Traffic
2. LOS based on City of Moreno Valley Roadway Segment LOS Values (Table 4)
3. Based on City of Moreno Valley Guidelines daily service volume standards table (LOS E). Four Lane Divided Arterial and Two Lane Industrial Collector used as classifications.
4. Roadway classification and LOS standard not listed in City Guidelines, assumed to be Minor Arterial, Two Lane Industrial Collector, with LOS Standard C.

Near Term Year (2022) Without-Project

Intersection Operations

Level of Service Analysis

Traffic volumes for the Near Term Year (2022) without-project (baseline) scenario where obtained by adding existing traffic, ambient growth (assuming 2% growth per year) and cumulative traffic volumes. Figure 14 shows the AM and PM Near Term Year (2022) AM and PM traffic volumes at study area intersections and Table 16 illustrates the Peak Hour Level of Service Analysis.

As shown in the table, the Heacock Street/State Route (SR 60) WB Ramps intersection as well as the Indian Street/Sunnymead Boulevard are forecast to operate at LOS E during the PM peak hour without the project. Both intersections are considered to be sub-standard per the City's guidelines.

Table 16. Near Term Year Without-Project Weekday Peak Hour Intersection LOS

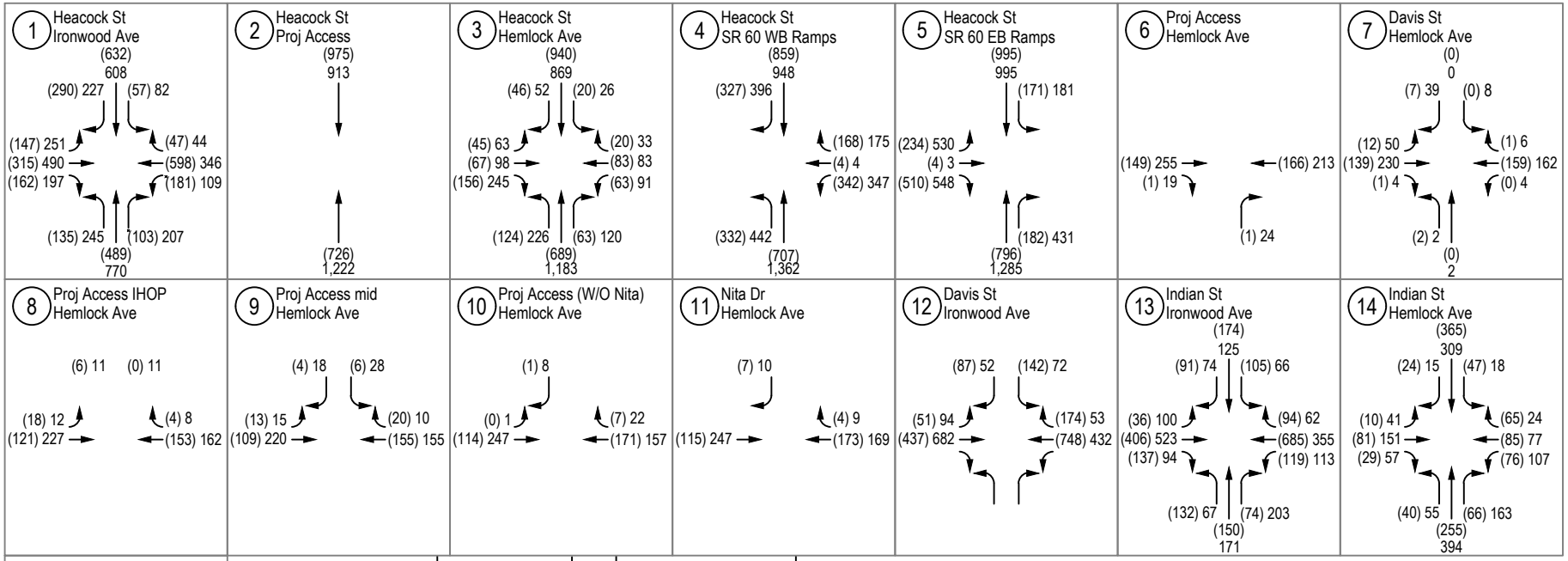
Intersection	Traffic Control	City's LOS Standard	AM Peak		PM Peak	
			LOS[1]	Delay[2]	LOS[1]	Delay[2]
1. Heacock Street/Ironwood Avenue	Signal	LOS D	C	30.3	D	35.1
2. Heacock Street/(new) Project Access	OWSC	LOS D	A	0.0	A	0.0
3. Heacock Street/Hemlock Avenue	Signal	LOS D	C	22.6	C	33.4
4. Heacock Street/State Route (SR 60) WB Ramps	Signal	LOS D	C	34.8	**E**	**58.6**
5. Heacock Street/State Route (SR 60) EB Ramps	Signal	LOS D	C	34.3	D	42.0
6. (new) Project Access/Hemlock Avenue	OWSC	LOS C	A	8.8	B	10.0
7. Davis Street/Hemlock Avenue	TWSC	LOS C	B	11.5	B	14.2
8. Project Access IHOP/Hemlock Avenue	OWSC	LOS C	A	9.2	B	10.2
9. Project Access (middle dwy)/Hemlock Avenue	OWSC	LOS C	A	9.9	B	10.6
10. Project Access (w/o Nita Dr)/Hemlock Avenue	OWSC	LOS C	A	9.3	A	9.2
11. Nita Drive/Hemlock Avenue	OWSC	LOS C	A	9.3	A	9.3
12. Davis Street/Ironwood Avenue	Signal	LOS C	C	27.5	D	36.5
13. Indian Street/Ironwood Avenue	Signal	LOS D	D	36.0	C	28.4
14. Indian Street/Hemlock Avenue	Signal	LOS D	C	23.7	C	24.6
15. Indian Street/Sunnymead Boulevard	Signal	LOS D	C	23.4	**E**	**61.0**

1. Level of Service
2. Delay measured in seconds/vehicle
3. Delay and LOS are based on Highway Capacity Manual 2010
4. Signal = Traffic Signal (evaluated using the HCM Methodology)
5. TWSC = Two Way Stop Controlled (evaluated using the HCM Methodology)
6. OWSC = One Way Stop Controlled (evaluated using the HCM Methodology)

Queuing Analysis

A queuing analysis was conducted at the study area intersections to determine if the left turn pocket (storage) lengths are able to accommodate queues. The 95th percentile queue calculations were calculated using Synchro for the weekday AM and weekday PM peak hours and results summary is presented in Table 17 with detailed calculation in Appendix C.

Table 17 shows that the existing 95th percentile queue lengths exceed storage space under Existing with-Project conditions. Mitigation measures are presented in Section V.



Near-Term 2022 Baseline AM and PM Peak Hour Traffic Volumes

FIGURE 14

Festival at Moreno Valley

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WHAT TRANSPORTATION CAN BE.

Table 17. Near Term Year Without-Project Weekday Peak Hour Queuing Analysis

Intersection	Movement	Existing Pocket Length (ft)	Near Term Year 95th Percentile Queue[1]		Exceeds Existing Pocket Length?	
			AM	PM	AM	PM
1. Heacock Street/Ironwood Avenue	EBL	90	**128**	**132**	**Yes**	**Yes**
	WBL	135	**187**	122	**Yes**	No
	NBL	140	152	**208**	**Yes**	**Yes**
	SBL	100	76	96	No	No
2. Heacock Street/(new) Project Access	No pocket Lanes and/or No Queues					
3. Heacock Street/Hemlock Avenue	EBL	70	57	79	No	**Yes**
	WBL	360	73	104	No	No
	NBL	100	**124**	**170**	**Yes**	**Yes**
	SBL	95	34	42	No	No
4. Heacock Street/State Route (SR 60) WB Ramps	NBL	200	**254**	**246**	**Yes**	**Yes**
5. Heacock Street/State Route (SR 60) EB Ramps	EBL	0	**111**	**243**	**Yes**	**Yes**
	SBL	190	165	176	No	No
6. Project Access/Hemlock Avenue	No pocket Lanes and/or No Queues					
7. Davis Street/Hemlock Avenue	EBL	180	0	3	No	No
8. Project Access IHOP/Hemlock Avenue	No pocket Lanes and/or No Queues					
9. Project Access (middle dwy)/Hemlock Avenue	No pocket Lanes and/or No Queues					
10. Project Access (w/o Nita Dr)/Hemlock Avenue	No pocket Lanes and/or No Queues					
11. Nita Drive/Hemlock Avenue	No pocket Lanes and/or No Queues					
12. Davis Street/Ironwood Avenue	EBL	150	92	**209**	No	**Yes**
	SBL	40	122	66	**Yes**	**Yes**
13. Indian Street/Ironwood Avenue	EBL	95	56	**119**	No	**Yes**
	WBL	100	**139**	**132**	**Yes**	**Yes**
	NBL	110	**152**	86	**Yes**	No
	SBL	80	**124**	**85**	**Yes**	**Yes**
14. Indian Street/Hemlock Avenue	EBL	150	21	51	No	No
	WBL	80	77	**106**	No	**Yes**
	NBL	145	55	69	No	No
	SBL	100	59	31	No	No
15. Indian Street/Sunnymead Boulevard	EBL	90	**130**	**115**	**Yes**	**Yes**
	WBL	100	38	66	No	No
	NBL	145	110	143	No	No
	SBL	90	77	25	No	No

1. Calculated using Synchro –bold numbers indicate where Synchro yielded "95th percentile volume exceeds capacity, queue maybe longer." The queues were evaluated in Simtraffic at these locations.

Signal Warrant Analysis

The signal warrant analysis as per the latest edition of the Federal Highway Administration's (FHWA) Manual on Uniform Traffic Control Devices (MUTCD), was used for all study area intersections. No unsignalized intersection was found to meet the warrants for signalization under without-project conditions. The signal warrant analysis sheets are provided in Appendix C.

Roadway Operations

Roadway traffic volumes were calculated by adding existing volumes to ambient growth and cumulative projects daily volumes. Based on the analysis methodology described in Section I, the Near Term Year (2022) without-project traffic daily traffic volumes at the study area roadway segments yield the LOS values illustrated in Table 18.

Based on the Near Term Year (2022) without-project segment analysis, all study area roadway segments currently operate with LOS D or better with the exception of Heacock Street between Hemlock and the SR 60 WB Ramps and Indian Street South of Hemlock Avenue which operate at a LOS E.

Table 18. Near Term Year With-out Project Roadway Segment LOS Summary

Roadway Segment	Existing Classification	Maximum Capacity ADT[3]	LOS Standard[2]	ADT[1]	V/C	LOS	Exceeds Threshold?
1. Heacock Street - Ironwood Avenue to Hemlock Avenue	Arterial	37,500	LOS D	29,320	0.782	C	No
2. Heacock Street - Hemlock Avenue to SR 60 WB Ramps	Arterial	37,500	LOS D	34,101	0.909	**E**	**Yes**
3. Indian Street - Ironwood Avenue to Hemlock Avenue	Minor Arterial	12,500	LOS D	9,206	0.737	C	No
4. Indian Street - South of Hemlock Avenue	Minor Arterial	12,500	LOS D	11,507	0.921	**E**	**Yes**
5. Ironwood Avenue - West of Heacock Street	Minor Arterial	37,500	LOS C	18,329	0.489	A	No
6. Ironwood Avenue - Heacock Street to Davis Street	Minor Arterial	37,500	LOS C	15,284	0.408	A	No
7. Ironwood Avenue - East of Indian Street	Minor Arterial	37,500	LOS C	15,618	0.416	A	No
8. Hemlock Avenue - West of Heacock Street[4]	Minor Arterial	12,500	LOS C	7,450	0.596	A	No
9. Hemlock Avenue - Heacock Street to Davis Street[4]	Minor Arterial	37,500	LOS C	6,439	0.172	A	No
10. Hemlock Avenue - East of Indian Street[4]	Minor Arterial	12,500	LOS C	6,873	0.550	A	No

1. ADT: Average Daily Traffic Calculated by growing existing volumes by 2% per year and adding cumulative projects traffic
2. LOS based on City of Moreno Valley Roadway Segment LOS Values (Table 4)
3. Based on City of Moreno Valley Guidelines daily service volume standards table (LOS E). Four Lane Divided Arterial and Two Lane Industrial Collector used as classifications.
4. Roadway classification and LOS standard not listed in City Guidelines, assumed to be Minor Arterial, Two Lane Industrial Collector, with LOS Standard C.

Near Term Year (2022) With-Project

Intersection Operations

Level of Service Analysis

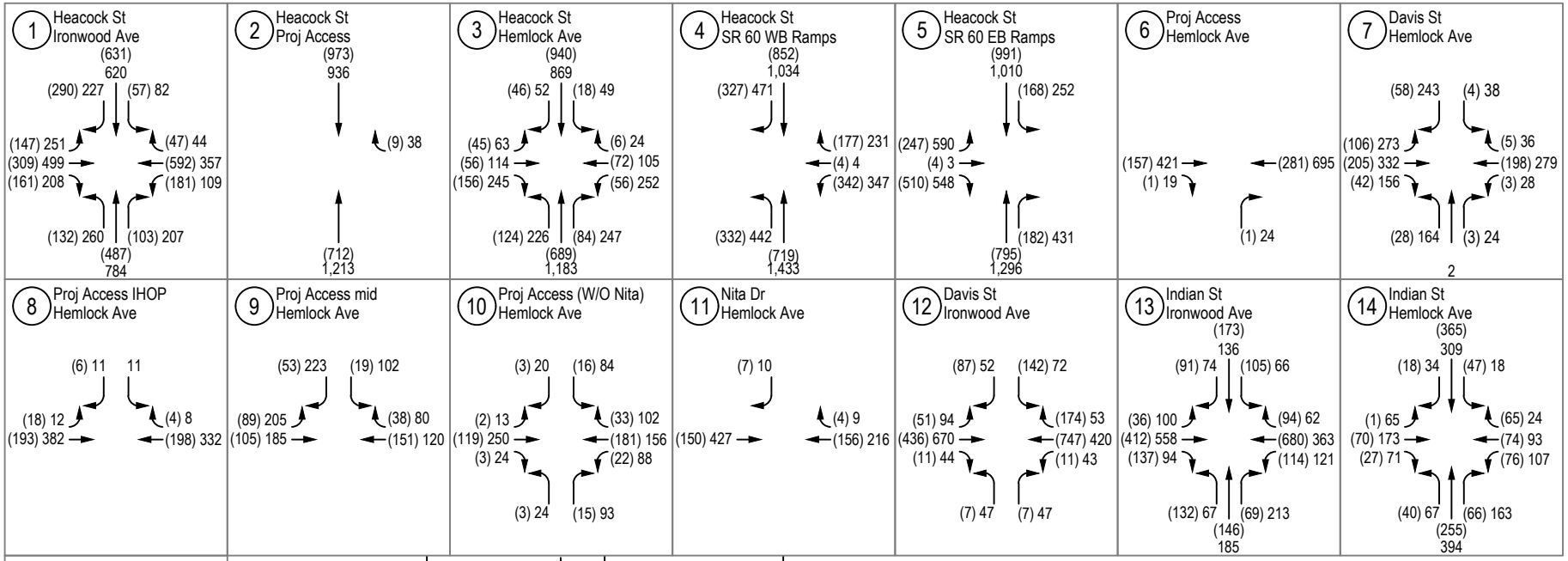
Traffic volumes for the Near Term Year (2022) with-project scenario where obtained by adding project traffic volumes (shown in Figure 10) to the Near Term (2022) without-project volumes. Figure 15 shows the AM and PM Near Term Year (2022) with-project AM and PM traffic volumes at study area intersections and Table 19 illustrates the Peak Hour intersection Level of Service Analysis.

As shown in the table, the Heacock Street/State Route (SR 60) WB Ramps intersection as well as the Davis Street/Hemlock Avenue are forecast to operate at LOS F during the PM peak hour with project. Davis Street/Ironwood Avenue are Indian Street/Sunnymead Boulevard are forecast to operate at LOS D and LOS E respectively during the PM peak hour with project. All these intersections are considered to be sub-standard per the City's guidelines. Mitigation measure will be discussed in the following section.

Queuing Analysis

A queuing analysis was conducted at the study area intersections to determine if the left turn pocket (storage) lengths are able to accommodate queues. The 95th percentile queue calculations were calculated using Synchro for the weekday AM and weekday PM peak hours and results summary is presented in Table 20 with detailed calculation in Appendix C.

Table 20 shows that the existing 95th percentile queue lengths exceed storage space under Near Term with-Project conditions. Mitigations are presented in the following section.



Near-Term 2022 plus Project AM and PM Peak Hour Traffic Volumes

FIGURE 15

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Table 19. Near Term with-Project Peak Hour Intersection LOS

Intersection	Traffic Control	City LOS Standard	Near Term (2022) without-Project				Near Term (2022) with-Project				Delay Change		Impact?	
			AM Peak		PM Peak		AM Peak		PM Peak		AM	PM	AM	PM
			LOS[1]	Delay[2]	LOS[1]	Delay[2]	LOS[1]	Delay[2]	LOS[1]	Delay[2]				
1. Heacock Street/Ironwood Avenue	Signal	LOS D	C	30.3	D	35.1	C	30.0	D	36.7	-0.3	1.6	NO	NO
2. Heacock Street/(new) Project Access	OWSC	LOS D	A	0.0	A	0.0	B	10.9	B	14.2	10.9	14.2	NO	NO
3. Heacock Street/Hemlock Avenue	Signal	LOS D	C	22.6	C	33.4	C	21.7	D	49.5	-0.9	16.1	NO	NO
4. Heacock Street/State Route (SR 60) WB Ramps	Signal	LOS D	C	34.8	**E**	**58.6**	C	34.4	**F**	**81.1**	-0.4	22.5	NO	**YES**
5. Heacock Street/State Route (SR 60) EB Ramps	Signal	LOS D	C	34.3	D	42.0	C	34.2	D	46.1	-0.1	4.1	NO	NO
6. Project Access/Hemlock Avenue	OWSC	LOS C	A	8.8	B	10.0	A	8.8	B	10.7	0.0	0.7	NO	NO
7. Davis Street/Hemlock Avenue	TWSC	LOS C	B	11.5	B	14.2	C	19.4	**F**	**1617.9**	7.9	1603.7	NO	**YES**
8. Project Access IHOP/Hemlock Avenue	OWSC	LOS C	A	9.2	B	10.2	A	9.5	B	11.9	0.3	1.7	NO	NO
9. Project Access (middle dwy)/Hemlock Avenue	OWSC	LOS C	A	9.9	B	10.6	B	10.4	C	19.5	0.5	8.9	NO	NO
10. Project Access (w/o Nita Dr)/Hemlock Avenue	OWSC	LOS C	A	9.3	A	9.2	B	11.9	C	24.7	2.6	15.5	NO	NO
11. Nita Drive/Hemlock Avenue	OWSC	LOS C	A	9.3	A	9.3	A	9.2	A	9.5	-0.1	0.2	NO	NO
12. Davis Street/Ironwood Avenue	Signal	LOS C	C	27.5	D	36.5	C	27.7	**D**	**35.7**	0.2	-0.8	NO	**YES**
13. Indian Street/Ironwood Avenue	Signal	LOS D	D	36.0	C	28.4	D	35.8	C	29.1	-0.2	0.7	NO	NO
14. Indian Street/Hemlock Avenue	Signal	LOS D	C	23.7	C	24.6	C	22.9	C	26.2	-0.8	1.6	NO	NO
15. Indian Street/Sunnymead Boulevard	Signal	LOS D	C	23.4	**E**	**61.0**	C	23.4	**E**	**60.6**	0.0	-0.4	NO	**YES**

1. Level of Service
2. Delay measured in seconds/vehicle
3. Delay and LOS are based on Highway Capacity Manual 2010
4. Signal = Traffic Signal (evaluated using the HCM Methodology)
5. TWSC = Two Way Stop Controlled (evaluated using the HCM Methodology)
6. OWSC = One Way Stop Controlled (evaluated using the HCM Methodology)
7. The decrease (in delay per vehicle) with project is not unusual when trips are added to the minor approach

Table 20. Near Term With-Project Weekday Peak Hour Queuing Analysis

Intersection	Movement	Existing Pocket Length (ft)	Near Term With-out Project 95th Percentile Queue[1]		Near Term With-Project 95th Percentile Queue[1]		Exceeds Existing Pocket Length?	
			AM	PM	AM	PM	AM	PM
1. Heacock Street/Ironwood Avenue	EBL	90	**128**	**132**	**129**	**117**	**Yes**	**Yes**
	WBL	135	**187**	122	**187**	122	**Yes**	No
	NBL	140	152	**208**	148	**194**	**Yes**	**Yes**
	SBL	100	76	96	76	96	No	No
2. Heacock Street/(new) Project Access		No pocket Lanes and/or No Queues						
3. Heacock Street/Hemlock Avenue	EBL	70	57	79	56	79	No	**Yes**
	WBL	360	73	104	65	**327**	No	**Yes**
	NBL	100	**124**	**170**	**120**	**151**	**Yes**	**Yes**
	SBL	95	34	42	31	65	No	No
4. Heacock Street/State Route (SR 60) WB Ramps	NBL	200	**254**	**246**	**260**	**264**	**Yes**	**Yes**
5. Heacock Street/State Route (SR 60) EB Ramps	EBL	0	111	243	116	272	**Yes**	**Yes**
	SBL	190	165	176	162	226	No	**Yes**
6. Project Access/Hemlock Avenue		No pocket Lanes and/or No Queues						
7. Davis Street/Hemlock Avenue	EBL	180	0	3	7.5	25	No	No
8. Project Access IHOP/Hemlock Avenue		No pocket Lanes and/or No Queues						
9. Project Access (middle dwy)/Hemlock		No pocket Lanes and/or No Queues						
10. Project Access (w/o Nita Dr)/Hemlock		No pocket Lanes and/or No Queues						
11. Nita Drive/Hemlock Avenue		No pocket Lanes and/or No Queues						
12. Davis Street/Ironwood Avenue	EBL	150	**92**	**209**	**102**	**210**	No	**Yes**
	SBL	40	122	66	**122**	**66**	**Yes**	**Yes**
13. Indian Street/Ironwood Avenue	EBL	95	56	119	56	119	No	**Yes**
	WBL	100	139	132	**134**	**140**	**Yes**	**Yes**
	NBL	110	152	86	**152**	86	**Yes**	No
	SBL	80	124	85	**124**	**85**	**Yes**	**Yes**
14. Indian Street/Hemlock Avenue	EBL	150	21	51	5	72	No	No
	WBL	80	77	106	77	**109**	No	**Yes**
	NBL	145	55	69	54	85	No	No
	SBL	100	59	31	58	32	No	No
15. Indian Street/Sunnymead Boulevard	EBL	90	130	**115**	**130**	**124**	**Yes**	**Yes**
	WBL	100	38	66	38	66	No	No
	NBL	145	110	143	110	143	No	No
	SBL	90	77	25	21	83	No	No

1. Calculated using Synchro –bold numbers indicate where Synchro yielded "95th percentile volume exceeds capacity, queue maybe longer." The queues were evaluated in Simtraffic at these locations.

Signal Warrant Analysis

The signal warrant analysis as per the latest edition of the Federal Highway Administration's (FHWA) Manual on Uniform Traffic Control Devices (MUTCD), was used for all study area intersections. It was found that the Hemlock Ave / Davis St intersection meets the 8-Hour, 4-Hour, and Peak-Hour signal warrants and as such signalization is recommended. The signal warrant analysis sheets are provided in Appendix C.

Roadway Operations

Based on the analysis methodology described in Section I, the Near Term Year (2022) with-project traffic daily traffic volumes at the study area roadway segments were compared to the City's roadway segment LOS values and the with-out project traffic daily volumes LOS values. Table 21 presents the results of the Near Term Year (2022) with-project roadway segment LOS analysis.

Table 21 shows that, all study area roadway segments operate with an acceptable LOS except Heacock Street (Hemlock Avenue to SR 60 WB Ramps) and Indian Street (South of Hemlock Avenue). Mitigation measures are illustrated in Section V.

Table 21. Near Term Year Roadway Segment LOS Summary

Roadway Segment	Existing Classification	Maximum Capacity ADT[3]	Near Term With-out Project ADT[1]	Near Term With-out Project V/C Ratio	Near Term With-out Project LOS[2]	Near Term With Project ADT[5]	Near Term with-Project V/C Ratio	Near Term with-Project LOS[2]	V/C Ratio Change	Impact
1. Heacock Street - Ironwood Avenue to Hemlock Avenue	Arterial	37,500	29,320	0.782	C	30,387	0.810	D	0.028	No
2. Heacock Street - Hemlock Avenue to SR 60 WB Ramps	Arterial	37,500	34,101	0.909	E	40,423	1.078	**F**	0.169	**Yes**
3. Indian Street - Ironwood Avenue to Hemlock Avenue	Minor Arterial	12,500	9,206	0.737	C	10,057	0.805	D	0.068	No
4. Indian Street - South of Hemlock Avenue	Minor Arterial	12,500	11,507	0.921	E	12,042	0.963	**E**	0.043	**Yes**
5. Ironwood Avenue - West of Heacock Street	Minor Arterial	37,500	18,329	0.489	A	19,181	0.511	A	0.023	No
6. Ironwood Avenue - Heacock Street to Davis Street	Minor Arterial	37,500	15,284	0.408	A	15,602	0.416	A	0.008	No
7. Ironwood Avenue - East of Indian Street	Minor Arterial	37,500	15,618	0.416	A	16,129	0.430	A	0.014	No
8. Hemlock Avenue - West of Heacock Street[4]	Minor Arterial	12,500	7,450	0.596	A	8,086	0.647	B	0.051	No
9. Hemlock Avenue - Heacock Street to Davis Street[4]	Minor Arterial	37,500	6,439	0.172	A	14,322	0.382	A	0.210	No
10. Hemlock Avenue - East of Indian Street[4]	Minor Arterial	12,500	6,873	0.550	A	7,509	0.601	B	0.051	No

1. ADT: Average Daily Traffic
2. LOS based on City of Moreno Valley Roadway Segment LOS Values (Table 4)
3. Based on City of Moreno Valley Guidelines daily service volume standards table (LOS E). Four Lane Divided Arterial and Two Lane Industrial Collector used as classifications.
4. Roadway classification and LOS standard not listed in City Guidelines, assumed to be Minor Arterial, Two Lane Industrial Collector, with LOS Standard C.

General Plan Buildout Year (2040) Without-Project

Intersection Operations

Traffic volumes for the General Plan Buildout Year (2040) without-project (baseline) scenario where obtained from the Moreno Valley Transportation Analysis Model. The model results were post-processed using the 2007 model data, the existing 2017 traffic counts, and the 2035 model outputs. Figure 16 shows the AM and PM General Plan Buildout Year (2040) without-project AM and PM traffic volumes at study area intersections and Table 22 illustrates the Peak Hour Level of Service Analysis.

As shown in the table, the Indian Street/Ironwood Avenue is forecast to operate at LOS E during the AM peak hour with-out the project (City's LOS Standard is D). Indian Street/Ironwood and Indian Street/Sunnymead Boulevard are forecast to operate at LOS E during the AM and PM peak hour respectively with-out the project (City's LOS Standard is D). Mitigation measures will be discussed in the following section.

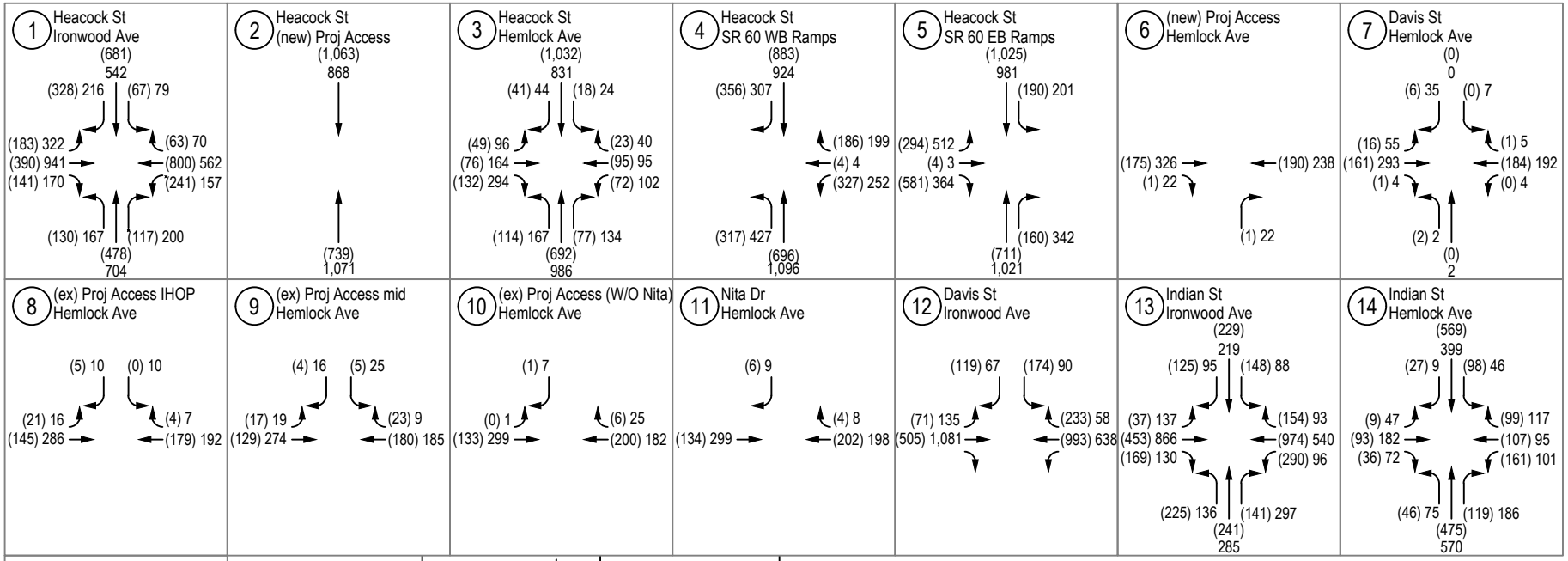
Table 22. General Plan Buildout Year Without-Project Peak Hour Intersection LOS

Intersection	Traffic Control	City's LOS Standard	AM Peak		PM Peak	
			LOS[1]	Delay[2]	LOS[1]	Delay[2]
1. Heacock Street/Ironwood Avenue	Signal	LOS D	D	36.7	D	35.7
2. Heacock Street/(new) Project Access	OWSC	LOS D	A	0.0	A	0.0
3. Heacock Street/Hemlock Avenue	Signal	LOS D	C	22.9	D	40.0
4. Heacock Street/State Route (SR 60) WB Ramps	Signal	LOS D	C	34.7	C	33.0
5. Heacock Street/State Route (SR 60) EB Ramps	Signal	LOS D	C	29.0	C	21.3
6. (new) Project Access/Hemlock Avenue	OWSC	LOS C	A	8.8	B	10.3
7. Davis Street/Hemlock Avenue	TWSC	LOS C	A	9.8	C	16.1
8. Project Access IHOP/Hemlock Avenue	OWSC	LOS C	A	9.4	B	10.6
9. Project Access (middle dwy)/Hemlock Avenue	OWSC	LOS C	B	10.1	B	11.0
10. Project Access (w/o Nita Dr)/Hemlock Avenue	OWSC	LOS C	A	9.5	A	9.4
11. Nita Drive/Hemlock Avenue	OWSC	LOS C	A	9.5	A	9.4
12. Davis Street/Ironwood Avenue	Signal	LOS C	C	25.2	B	16.0
13. Indian Street/Ironwood Avenue	Signal	LOS D	**E**	**56.5**	D	36.8
14. Indian Street/Hemlock Avenue	Signal	LOS D	D	38.2	D	40.1
15. Indian Street/Sunnymead Boulevard	Signal	LOS D	D	46.0	**E**	**66.8**

1. Level of Service
2. Delay measured in seconds/vehicle
3. Delay and LOS are based on Highway Capacity Manual 2010
4. Signal = Traffic Signal (evaluated using the HCM Methodology)
5. TWSC = Two Way Stop Controlled (evaluated using the HCM Methodology)
6. OWSC = One Way Stop Controlled (evaluated using the HCM Methodology)

Queuing Analysis

A queuing analysis was conducted at the study area intersections to determine if the left turn pocket (storage) lengths are able to accommodate queues. The 95th percentile queue calculations were calculated using Synchro for the weekday AM and weekday PM peak hours and results summary is presented in Table 23 with detailed calculations in Appendix C.



General Plan Build-out (2040) Baseline AM and PM Peak Hour Traffic Volumes

FIGURE 16

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Table 23 shows that the build-out year 95th percentile queue lengths exceed storage space under without-Project conditions. As mentioned earlier, the 95th percentile queue is not necessarily ever observed, it is simply based on statistical calculations. It is however used by many jurisdictions as the basis for calculating storage lengths. Mitigation measures are presented in the following section.

Table 23. General Plan Without-Project Weekday Peak Hour Queuing Analysis

Intersection	Movement	Existing Pocket Length (ft)	Build-out Year 95th Percentile Queue[1]		Exceeds Existing Pocket Length?	
			AM	PM	AM	PM
1. Heacock Street/Ironwood Avenue	EBL	90	**134**	**119**	**Yes**	**Yes**
	WBL	135	**193**	**170**	**Yes**	**Yes**
	NBL	140	**161**	**199**	**Yes**	**Yes**
	SBL	100	75	**124**	No	**Yes**
2. Heacock Street/(new) Project Access	No pocket Lanes and/or No Queues					
3. Heacock Street/Hemlock Avenue	EBL	70	57	**171**	No	**Yes**
	WBL	360	76	135	No	No
	NBL	100	**119**	**149**	**Yes**	**Yes**
	SBL	95	28	74	No	No
4. Heacock Street/State Route (SR 60) WB Ramps	NBL	200	**250**	**248**	**Yes**	**Yes**
5. Heacock Street/State Route (SR 60) EB Ramps	EBL	0	**100**	**183**	**Yes**	**Yes**
	SBL	190	148	136	No	No
6. Project Access/Hemlock Avenue	No pocket Lanes and/or No Queues					
7. Davis Street/Hemlock Avenue	EBL	180	0	3	No	No
8. Project Access IHOP/Hemlock Avenue	No pocket Lanes and/or No Queues					
9. Project Access (middle dwy)/Hemlock Avenue	No pocket Lanes and/or No Queues					
10. Project Access (w/o Nita Dr)/Hemlock Avenue	No pocket Lanes and/or No Queues					
11. Nita Drive/Hemlock Avenue	No pocket Lanes and/or No Queues					
12. Davis Street/Ironwood Avenue	EBL	150	92	100	No	No
	SBL	40	**119**	**59**	**Yes**	**Yes**
13. Indian Street/Ironwood Avenue	EBL	95	54	144	No	**Yes**
	WBL	100	**132**	**125**	**Yes**	**Yes**
	NBL	110	**155**	**154**	**Yes**	**Yes**
	SBL	80	**125**	**115**	**Yes**	**Yes**
14. Indian Street/Hemlock Avenue	EBL	150	23	77	No	No
	WBL	80	**196**	**143**	**Yes**	**Yes**
	NBL	145	76	118	No	No
	SBL	100	**126**	80	**Yes**	No
15. Indian Street/Sunnymead Boulevard	EBL	90	**138**	**119**	**Yes**	**Yes**
	WBL	100	62	**153**	No	**Yes**
	NBL	145	**205**	**192**	**Yes**	**Yes**
	SBL	90	**136**	**140**	**Yes**	**Yes**

1. Calculated using Synchro –bold numbers indicate where Synchro yielded "95th percentile volume exceeds capacity, queue maybe longer." The queues were evaluated in Simtraffic at these locations.

Signal Warrant Analysis

The signal warrant analysis as per the latest edition of the Federal Highway Administration's (FHWA) Manual on Uniform Traffic Control Devices (MUTCD), was used for all study area intersections. No unsignalized intersection was found to meet the warrants for signalization. The signal warrant analysis sheets are provided in Appendix C.

Roadway Operations

Roadway traffic volumes were also obtained from the Moreno Valley Transportation Analysis Model. The model plots are presented in Appendix D. Based on the analysis methodology described in Section I, the General Plan Buildout Year (2040) without-project traffic daily traffic volumes at the study area roadway segments yield the LOS values illustrated in Table 24.

Table 24 shows that, all study area roadway segments operate with an acceptable LOS except for Indian Street between Ironwood and Hemlock and south of Hemlock.

Table 24. General Plan With-out Project Roadway Segment LOS Summary

Roadway Segment	Existing Classification	Maximum Capacity ADT[3]	LOS Standard[2]	ADT[1]	V/C	LOS	Exceeds Threshold?
1. Heacock Street - Ironwood Avenue to Hemlock Avenue	Arterial	37,500	LOS D	26,600	0.709	B	No
2. Heacock Street - Hemlock Avenue to SR 60 WB Ramps	Arterial	37,500	LOS D	32,700	0.872	D	No
3. Indian Street - Ironwood Avenue to Hemlock Avenue	Minor Arterial	12,500	LOS D	18,400	1.472	F	**Yes**
4. Indian Street - South of Hemlock Avenue	Minor Arterial	12,500	LOS D	20,600	1.648	F	**Yes**
5. Ironwood Avenue - West of Heacock Street	Minor Arterial	37,500	LOS C	24,900	0.664	B	No
6. Ironwood Avenue - Heacock Street to Davis Street	Minor Arterial	37,500	LOS C	21,200	0.565	A	No
7. Ironwood Avenue - East of Indian Street	Minor Arterial	37,500	LOS C	23,400	0.624	B	No
8. Hemlock Avenue - West of Heacock Street[4]	Minor Arterial	12,500	LOS C	4,900	0.392	A	No
9. Hemlock Avenue - Heacock Street to Davis Street[4]	Minor Arterial	37,500	LOS C	20,900	0.557	A	No
10. Hemlock Avenue - East of Indian Street[4]	Minor Arterial	12,500	LOS C	5,800	0.464	A	No

1. ADT: Average Daily Traffic calculated by growing the 2017 volumes using the model growth rates derived from 2007 and 2035 model volumes
2. LOS based on City of Moreno Valley Roadway Segment LOS Values (Table 4)
3. Based on City of Moreno Valley Guidelines daily service volume standards table (LOS E). Four Lane Divided Arterial and Two Lane Industrial Collector used as classifications.
4. Roadway classification and LOS standard not listed in City Guidelines, assumed to be Minor Arterial, Two Lane Industrial Collector, with LOS Standard C.

General Plan Buildout Year (2040) With-Project

Intersection Operations

Traffic volumes for the General Plan Buildout Year (2040) with-project scenario where obtained by adding project traffic volumes (shown in Figure 10) to the General Plan Buildout Year (2040) without-project volumes. Figure 17 shows the AM and PM General Plan Buildout Year (2040) with-project AM and PM traffic volumes at study area intersections and Table 25 illustrates the Peak Hour intersection Level of Service Analysis.

As shown in the table, the Davis Street/Hemlock Avenue and Indian Street/Sunnymead Blvd intersections are forecast to operate at LOS F during the PM peak hour with project. Heacock Street/Hemlock Avenue, the Project Access (w/o Nita Dr)/Hemlock Avenue and Indian Street/Ironwood Avenue intersections are also forecast to operate at sub-standard levels of services during the peak hour periods with project. Mitigation measures will be discussed in the following section.

Queuing Analysis

A queuing analysis was conducted at the study area intersections to determine if the left turn pocket (storage) lengths are able to accommodate queues. The 95th percentile queue calculations were calculated using Synchro for the weekday AM and weekday PM peak hours and results summary is presented in Table 26 with detailed calculation in Appendix C.

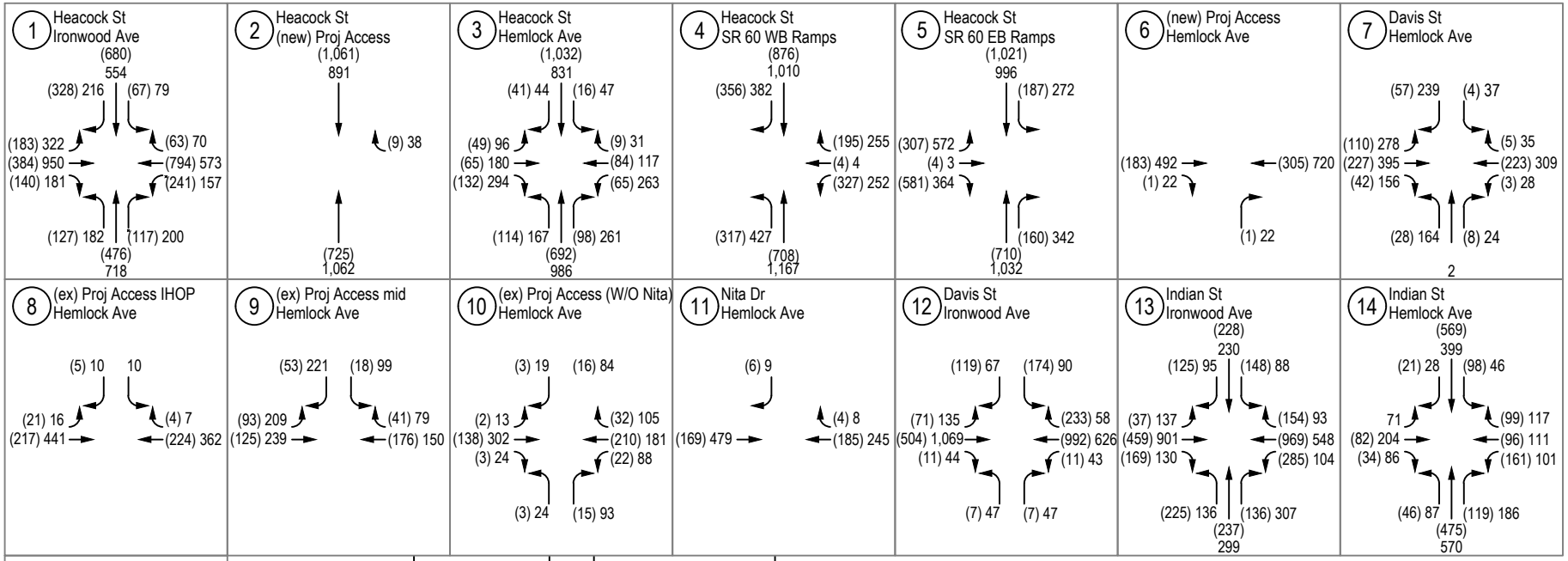
Table 26 shows that the existing 95th percentile queue lengths exceed storage space under the General Plan with-Project conditions.

Signal Warrant Analysis

The signal warrant analysis as per the latest edition of the Federal Highway Administration's (FHWA) Manual on Uniform Traffic Control Devices (MUTCD), was used for all study area intersections. It was found that the Hemlock Ave / Davis St intersection meets the 8-Hour, 4-Hour, and Peak-Hour signal warrants and as such signalization is recommended. It was also found that the 4-Hour warrants for the Middle Access and Hemlock (Intersection 9) are also met. The signal warrant analysis sheets are provided in Appendix C.

Roadway Operations

Based on the analysis methodology described in Section I, the General Plan Buildout Year (2040) with-project traffic daily traffic volumes at the study area roadway segments were compared to the City's roadway segment LOS values in Table 4 and the with-out project traffic daily volumes LOS values. Table 27 presents the results of the General Plan Buildout Year (2040) with-project roadway segment LOS analysis.
Based on the capacity analysis, all study area roadway segments operate with an acceptable LOS except for Indian Street (south and north of Hemlock) as well as Heacock St between Hemlock Ave and SR 60 WB Ramps.



General Plan Build-out (2040) plus Project AM and PM Peak Hour Traffic Volumes

FIGURE 17

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WHAT TRANSPORTATION CAN BE.

Table 25. General Plan Buildout with-Project Peak Hour Intersection LOS

Intersection	Traffic Control	City LOS Standard	General Plan Buildout without-Project				General Plan Buildout with-Project				Delay Change		Impact?	
			AM Peak		PM Peak		AM Peak		PM Peak		AM	PM	AM	PM
			LOS[1]	Delay[2]	LOS[1]	Delay[2]	LOS[1]	Delay[2]	LOS[1]	Delay[2]				
1. Heacock Street/Ironwood Avenue	Signal	LOS D	D	36.7	D	35.7	D	36.4	D	37.1	-0.3	1.4	NO	NO
2. Heacock Street/(new) Project Access	OWSC	LOS D	A	0.0	A	0.0	B	11.0	B	13.1	11.0	13.1	NO	NO
3. Heacock Street/Hemlock Avenue	Signal	LOS D	C	22.9	D	40.0	C	22.0	**E**	**55.8**	-0.9	15.8	NO	**YES**
4. Heacock Street/State Route (SR 60) WB Ramps	Signal	LOS D	C	34.7	C	33.0	C	34.2	D	44.5	-0.5	11.5	NO	NO
5. Heacock Street/State Route (SR 60) EB Ramps	Signal	LOS D	C	29.0	C	21.3	C	28.9	C	23.9	-0.1	2.6	NO	NO
6. Project Access/Hemlock Avenue	OWSC	LOS C	A	8.8	B	10.3	A	8.9	B	11.1	0.1	0.8	NO	NO
7. Davis Street/Hemlock Avenue	TWSC	LOS C	A	9.8	C	16.1	C	19.8	**F**	**2178.9**	10.0	2162.8	NO	**YES**
8. Project Access IHOP/Hemlock Avenue	OWSC	LOS C	A	9.4	B	10.6	A	9.7	B	12.4	0.3	1.8	NO	NO
9. Project Access (middle dwy)/Hemlock Avenue	OWSC	LOS C	B	10.1	B	11.0	B	10.6	C	21.8	0.5	10.8	NO	NO
10. Project Access (w/o Nita Dr)/Hemlock Avenue	OWSC	LOS C	A	9.5	A	9.4	B	12.5	**D**	**29.9**	3.0	20.5	NO	**YES**
11. Nita Drive/Hemlock Avenue	OWSC	LOS C	A	9.5	A	9.4	A	9.4	A	9.7	-0.1	0.3	NO	NO
12. Davis Street/Ironwood Avenue	Signal	LOS C	C	25.2	B	16.0	C	21.2	B	18.2	-4.0	2.2	NO	NO
13. Indian Street/Ironwood Avenue	Signal	LOS D	**E**	**56.5**	D	36.8	**E**	**56.0**	D	39.0	-0.5	2.2	**YES**	NO
14. Indian Street/Hemlock Avenue	Signal	LOS D	D	38.2	D	40.1	D	36.3	D	42.4	-1.9	2.3	NO	NO
15. Indian Street/Sunnymead Boulevard	Signal	LOS D	D	46.0	**E**	**66.8**	D	41.2	**F**	**120.0**	-4.8	53.2	NO	**YES**

1. Level of Service
2. Delay measured in seconds/vehicle
3. Delay and LOS are based on Highway Capacity Manual 2010
4. Signal = Traffic Signal (evaluated using the HCM Methodology)
5. TWSC = Two Way Stop Controlled (evaluated using the HCM Methodology)
6. OWSC = One Way Stop Controlled (evaluated using the HCM Methodology)
7. The decrease (in delay per vehicle) with project is not unusual when trips are added to the minor approach

Table 26. General Plan Build-out With-Project Weekday Peak Hour Queuing Analysis

Intersection	Movement	Existing Pocket Length (ft)	Build-out Without-Project 95th Percentile Queue[1]		Build-out With-Project 95th Percentile Queue[1]		Exceeds Existing Pocket Length?	
			AM	PM	AM	PM	AM	PM
1. Heacock Street/Ironwood Avenue	EBL	90	**134**	**119**	**137**	**116**	**Yes**	**Yes**
	WBL	135	**193**	**170**	**187**	**188**	**Yes**	**Yes**
	NBL	140	**161**	**199**	**153**	**194**	**Yes**	**Yes**
	SBL	100	75	**124**	75	**131**	No	**Yes**
2. Heacock Street/(new) Project Access	No pocket Lanes and/or No Queues							
3. Heacock Street/Hemlock Avenue	EBL	70	57	**171**	56	**102**	No	**Yes**
	WBL	360	76	135	28	291	No	No
	NBL	100	**119**	**149**	**116**	**154**	**Yes**	**Yes**
	SBL	95	28	74	25	60	No	No
4. Heacock Street/State Route (SR 60) WB Ramps	NBL	200	**250**	**248**	**256**	**242**	**Yes**	**Yes**
5. Heacock Street/State Route (SR 60) EB Ramps	EBL	0	100	183	104	**403**	**Yes**	**Yes**
	SBL	190	148	136	146	183	No	No
6. Project Access/Hemlock Avenue	No pocket Lanes and/or No Queues							
7. Davis Street/Hemlock Avenue	EBL	180	0	3	8	28	No	No
8. Project Access IHOP/Hemlock Avenue	No pocket Lanes and/or No Queues A							
9. Project Access (middle dwy)/Hemlock	No pocket Lanes and/or No Queues A							
10. Project Access (w/o Nita Dr)/Hemlock	No pocket Lanes and/or No Queues A							
11. Nita Drive/Hemlock Avenue	No pocket Lanes and/or No Queues A							
12. Davis Street/Ironwood Avenue	EBL	150	92	100	98	**151**	No	**Yes**
	SBL	40	**119**	**59**	**74**	**59**	**Yes**	**Yes**
13. Indian Street/Ironwood Avenue	EBL	95	54	**144**	54	**148**	**No**	**Yes**
	WBL	100	**132**	**125**	**131**	**128**	**Yes**	**Yes**
	NBL	110	**155**	**154**	**155**	**156**	**Yes**	**Yes**
	SBL	80	**125**	**115**	**126**	**118**	**Yes**	**Yes**
14. Indian Street/Hemlock Avenue	EBL	150	23	77	0	100	No	No
	WBL	80	**196**	**143**	**194**	**133**	**Yes**	**Yes**
	NBL	145	76	118	76	124	No	No
	SBL	100	**126**	80	**126**	74	**Yes**	No
15. Indian Street/Sunnymead Boulevard	EBL	90	**138**	**119**	**141**	**129**	**Yes**	**Yes**
	WBL	100	62	**153**	71	**134**	No	**Yes**
	NBL	145	**205**	**192**	**204**	**187**	**Yes**	**Yes**
	SBL	90	**136**	**140**	**137**	**145**	**Yes**	**Yes**

2. Calculated using Synchro –bold numbers indicate where Synchro yielded "95th percentile volume exceeds capacity, queue maybe longer." The queues were evaluated in Simtraffic at these locations.

Table 27. General Plan Buildout Condition Roadway Segment LOS Summary

Roadway Segment	Existing Classification	Maximum Capacity ADT[3]	Buildout With-out Project ADT[1]	Buildout With-out Project V/C Ratio	Buildout With-out Project LOS[2]	Buildout With Project ADT[5]	Buildout with-Project V/C Ratio	Buildout with-Project LOS[2]	V/C Ratio Change	Impact
1. Heacock Street - Ironwood Avenue to Hemlock Avenue	Arterial	37,500	26,600	0.709	B	27,667	0.738	C	0.028	No
2. Heacock Street - Hemlock Avenue to SR 60 WB Ramps	Arterial	37,500	32,700	0.872	D	**39,022**	**1.041**	**F**	0.169	**Yes**
3. Indian Street - Ironwood Avenue to Hemlock Avenue	Minor Arterial	12,500	**18,400**	**1.472**	**F**	**19,251**	**1.540**	**F**	0.068	**Yes**
4. Indian Street - South of Hemlock Avenue	Minor Arterial	12,500	**20,600**	**1.648**	**F**	**21,135**	**1.691**	**F**	0.043	**Yes**
5. Ironwood Avenue - West of Heacock Street	Minor Arterial	37,500	24,900	0.664	B	25,752	0.687	B	0.023	No
6. Ironwood Avenue - Heacock Street to Davis Street	Minor Arterial	37,500	21,200	0.565	A	21,518	0.574	A	0.008	No
7. Ironwood Avenue - East of Indian Street	Minor Arterial	37,500	23,400	0.624	B	23,911	0.638	A	0.014	No
8. Hemlock Avenue - West of Heacock Street[4]	Minor Arterial	12,500	4,900	0.392	A	5,536	0.443	A	0.051	No
9. Hemlock Avenue - Heacock Street to Davis Street[4]	Minor Arterial	37,500	20,900	0.557	A	28,783	0.768	B	0.210	No
10. Hemlock Avenue - East of Indian Street[4]	Minor Arterial	12,500	5,800	0.464	A	6,436	0.515	A	0.051	No

1. ADT: Average Daily Traffic
2. LOS based on City of Moreno Valley Roadway Segment LOS Values (Table 4)
3. Based on City of Moreno Valley Guidelines daily service volume standards table (LOS E). Four Lane Divided Arterial and Two Lane Industrial Collector used as classifications.
4. Roadway classification and LOS standard not listed in City Guidelines, assumed to be Minor Arterial, Two Lane Industrial Collector, with LOS Standard C.

V. Mitigation Measures

This section provides a summary of recommended mitigation measures necessary to address the cumulative traffic impacts. A summary of the operationally deficient study area intersections and roadway segments and recommended improvements required to achieve acceptable circulation system operational conditions are described below. It is important to note that Cumulative impacts are deficiencies that would not be directly caused by the project. The project would, however, contribute traffic to these deficient facilities along with other cumulative development projects, resulting in a cumulatively considerable impact.

The recommended mitigation measures necessary to reduce project impacts to less-than-significant are discussed below.

Intersections

Level of Service Mitigations

Based on the traffic analysis presented in the earlier sections, the following four intersections were observed to perform at a LOS below the City's standards.

1. Davis Street and Hemlock Avenue under all with-Project scenarios in the PM Peak Hour

A warrant analysis was performed for this intersection and it was found that the 8-hour, 4-hour, and peak-hour warrants are all met. As such it is recommended that this intersection be signalized. Installing a signal improved the LOS at this intersection to LOS B during the PM peak hours for all scenarios (cycle length is assumed at 60 seconds as per the City's guidelines). Signal warrant worksheets and LOS worksheets are attached in Appendix C.

Mitigation: It is recommended to install a traffic signal at the Davis Street / Hemlock Avenue intersection.

2. Heacock Street and SR 60 WB Ramps under Near Term with-Project scenario in the PM Peak Hour

Mitigation: Optimizing the cycle length (90s cycle length), splits, and offsets and restriping the defacto right-turn lane to a SB right-turn lane with 50ft storage and a SB through lane improves the LOS to C

3. Davis Street and Ironwood Avenue under the Near Term PM peak hour scenario can be mitigated by optimizing the cycle length. LOS worksheets are attached in Appendix C.

Mitigation: Optimizing the cycle length (60s cycle length), splits, and offsets yields a LOS B

4. Indian Street and Sunnymead Blvd under the Near Term PM peak and the General Plan PM peak hour scenarios. Under the Near Term Conditions this could be mitigated by optimizing the cycle length (80s cycle length), splits, and offsets and yields a LOS C. Under the General Plan Conditions, restriping of the defacto right-turn lanes in the EB and a WB directions to provide 50ft right turn pocket lanes yield a LOS D. Analysis worksheets are provided in Appendix C.

Mitigation: Optimizing the cycle length (80s cycle length), splits, and offsets yields under Near Term (2022) conditions and restriping to provide a EBR and a WBR turn lanes under General Plan (2040) conditions

5. Heacock St Hemlock Ave under the General Plan Build-out with-project PM peak yields a LOS E. Restriping the defacto right-turn to provide a SBR lane yields a LOS D. Analysis worksheets are provided in Appendix C.

Mitigation: Restripe the defacto SB right-turn lane to provide a right turn pocket lane

6. Project Access (w/o Nita Dr)/Hemlock Avenue (Intersection 10) under the General Plan Build-out with-project PM peak yields a LOS D. Converting to an all-way-stop control brings the LOS back to C. Analysis worksheets are provided in Appendix C.

Mitigation: Convert to an all-way stop control

7. Indian Street/Ironwood Avenue under the General Plan Build-out with-project AM peak yields a LOS E. Increasing the cycle length to 120s (maximum length per Moreno Valley standards) yields a LOS D. Analysis worksheets are provided in Appendix C.

Mitigation: Optimizing the cycle length (120s cycle length), splits, and offsets yields a LOS D

Queuing Mitigations

Based on the queuing analysis, Table 28 presents a set of recommended measures to address storage lengths at the various approaches of the study area intersections. It is important to note that much of the analysis is based on the 95th percentile queue lengths which has a low (5%) probability of occurring.

Table 28. General Plan Build-out With-Project Weekday Peak Hour Queuing Analysis

Intersection	Movement	Existing Pocket Length (ft)	Maximum Queue Length[1] (ft)	Proposed Mitigation to accommodate 95th percentile queues
1. Heacock Street/Ironwood Avenue	EBL	90	149	Restripe left turn lanes to provide 150 ft storage
	WBL	135	193	Restripe left turn lanes to provide 200 ft storage
	NBL	140	208	Restripe left turn lanes to provide 210 ft storage
	SBL	100	131	Restripe left turn lanes to provide 135 ft storage
3. Heacock Street/Hemlock Avenue	EBL	70	171	Restripe left turn lanes to provide 175 ft storage
	NBL	100	170	Restripe left turn lanes to provide 170 ft storage
4. Heacock Street/State Route (SR 60) WB Ramps	NBL	200	264	A storage lane is provided south of the Heacock/ SR 60 EB ramps intersection. No further mitigation is recommended.
5. Heacock Street/State Route (SR 60) EB Ramps	EBL	0	403	Length of the left tun lane is over 600ft. No further mitigation is recommended.
	SBL	190	226	Restripe 50ft of the TWLT lane north of the Heacock/ SR 60 WB ramps intersection as “Freeway Only” lane.
12. Davis Street/Ironwood Avenue	EBL	150	210	Restripe left turn lanes to provide 210 ft storage
	SBL	40	122	Restripe left turn lanes to provide 125 ft storage
13. Indian Street/Ironwood Avenue	EBL	95	148	Restripe left turn lanes to provide 150 ft storage
	WBL	100	140	Restripe left turn lanes to provide 140 ft storage
	NBL	110	156	Restripe left turn lanes to provide 105 ft storage
	SBL	80	126	Restripe left turn lanes to provide 130 ft storage.
14. Indian Street/Hemlock Avenue	WBL	80	100	Restripe left turn lanes to provide 100 ft storage
	NBL	145	196	Restripe left turn lanes to provide 200 ft storage
	SBL	100	126	Restripe left turn lanes to provide 130 ft storage
15. Indian Street/Sunnymead Boulevard	EBL	90	141	Restripe left turn lanes to provide 145 ft storage to accommodate 95th percentile queues. This might require replacing the concrete island with stripping.
	WBL	100	153	Restripe left turn lanes to provide 155 ft storage
	NBL	145	205	Restripe left turn lanes to provide 205 ft storage
	SBL	90	145	Restripe left turn lanes to provide 145 ft storage

1. Maximum for all scenarios

Roadway Operations

The roadway capacity analysis identified three segments that do not meet the City LOS standards. These segments are:

1. Heacock Street from Hemlock Avenue to SR 60 WB Ramps in the Near Term Year with-out and with-Project as well as General Plan with-Project conditions
2. Indian Street from Ironwood Avenue to Hemlock Avenue in the Near Term Year with-Project as well as General Plan with-out and with-Project conditions
3. Indian Street South of Hemlock Avenue in the Near Term Year with-out and with-Project as well as General Plan with-out and with-Project conditions

As noted in both the City of Moreno Valley's traffic study guidelines, these roadway capacities are "rule of thumb" estimates for planning purposes and are affected by such factors as intersections (spacing, configuration and control features), degree of access control, roadway grades, design geometrics (horizontal and vertical alignment standards), sight distance, vehicle mix (truck and bus traffic) and pedestrian and bicycle traffic. In other words, while using average daily traffic (ADT) for planning purposes is suitable with regards to evaluating potential volume to capacity with future forecasts, it is not suitable for operational analysis because it does not account for the factors listed previously. As such, where the ADT based roadway segment analysis indicates a deficiency (unacceptable LOS), a review of the more detailed peak hour intersection analysis and progression analysis are undertaken. The more detailed peak hour intersection analysis explicitly accounts for factors that affect roadway capacity. Therefore, roadway segment widening is typically only recommended if the peak hour intersection analysis indicates the need for additional through lanes.

However, examining the intersections on both ends of these roadway segments shows that the operations of the intersections is within acceptable level of service standards. As such roadway segment widening does not appear necessary to address the deficiencies at the identified roadway segments based on the peak hour intersection operations analysis along these roadway segments.

Traffic Calming Options for Davis Street

It is our understanding that once Davis Street is completed, thereby connecting Hemlock Avenue to Ironwood Avenue, it will provide an alternative for traffic trying to avoid Heacock St which in turn could potentially contribute to increased speeds along Davis St and cut-through traffic.
As such we are recommending traffic calming measures that could be implemented in case the need arises because of excessive speeds or cut-through traffic.
It should be noted that traffic calming has impacts not only on vehicular travel, but can also provide preferential corridors for cyclists and pedestrians. This is especially important for Davis Street which is envisioned in the City's Bicycle Master Plan as a Class 3 bicycle route.

Since the 660 ft section of Davis Street just south of Ironwood is yet to be constructed and knowing that the existing Davis Street has a 54 ft width curb to curb (travel lanes at 20 ft and a 14 ft two-way-left-turn-lane), we offer the following traffic calming options to be considered:

1. Providing parallel parking on both sides of Davis could reduce the street width between intersections (where parking is introduced) from 20 ft per direction to 12 ft per direction which changes both the perception and the function of the street. It is important to note that this option needs to be studied further to address turning movements at access points.
2. As the project develops providing mid-block crossing(s) on Davis Street might be desirable to connect the various uses (business park to commercial/retail/restaurants). These should come with necessary signage, striping and possibly curb bulb-ous where mid-block crossing(s) are needed

3. Speed feedback signs could be installed along Davis St. These signs display the speed at which a vehicle is traveling in contrast with the posted speed limit for the area. These units have been proven to be effective in reducing vehicular speeds in many areas.
4. Other measures such as raised medians, curb extensions, street trees and landscaping could be used for traffic calming. This is especially applicable as the new section is constructed. Speed humps have been used in residential areas but given the anticipated truck traffic in this area they might not provide the best results, however, speed tables could be also used as an option if speeding becomes an issue.

Hemlock Ave and Davis Street Classifications

To ensure that the proposed changes in land use (leading to additional truck traffic) will not significantly impact the structural integrity of the existing street segments within the specific plan area, an analysis of the pavement section on certain segments of Hemlock Avenue and Davis Street should be prepared for future plot plans in Planning Areas 1, 2, and 3 and any needed improvements are recommended to be completed per the Conditions of Approval of those plot plans.

Appendix A:Scoping Agreement

MORENO VALLEY

SCOPING AGREEMENT FOR TRAFFIC ANALYSIS STUDY

Date: October 30, 2017

This letter acknowledges the City of Moreno Valley Transportation Engineering Division requirements for the traffic impact analysis of the following project.

Case No.	PEN16-0015
Project Name:	Moreno Valley Festival
Project Address:	East of Heacock Street between Ironwood Avenue and Hemlock Avenue
Project Description:	348,000 SF of business park and 325,000 SF of commercial retail.
Related Cases:	PA15-0053, PA15-0054, P15-124

	Consultant	Developer
Name:	Transpo Group, Inc.	BlackRidge Real Estate Group, LLC
Address:	603 North Park Center Drive Suite 108 Santa Ana, CA 92705	16901 Millikan Avenue Irvine, CA 92606
Telephone:	949-656-7925	303-419-6780

I. Background

The proposed specific plan will review modifying the existing 180,000 square feet of retail land use to a business park and retail uses.
The project site will have access to Ironwood Avenue from Davis Street, Hemlock Avenue from Davis Street, Heacock Avenue via new project access drive and retail project accesses.

II. Trip Geographic Distribution and Assignment*

N: *% **S:** *% **E:** *% **W:** *%

***Please see attached trip distribution diagram.**

III. Site Trip Generation Forecast

A. ITE Trip Generation Manual (*10th Edition, 2017*)
B. AM Peak: 7:00-9:00 AM (based upon existing 24-hour traffic counts)
C. PM Peak: 4:00-6:00 PM (based upon existing 24-hour traffic counts)
D. Intersection and link acceptable Level of Service "D" for some intersections and links and Level of Service "C" for others based upon the current City policy. (Use Highway Capacity Manual - latest edition - operations procedures; parameters per County of Riverside Traffic Impact Analysis Guidelines.)

Proposed Use Rates*
Land Use (per unit): Daily:** AM:** PM:**

Existing Use Rates*
Land Use (per unit): Daily:** AM:** PM:**

Internal Trip Allowance: Yes __**__ No __ Percentage 7% AM / 4%PM and Daily_____

Pass-by Trip Allowance: Yes __**__ No __Percentage 34%PM /17% AM and Daily____

**** Please see attached trip generation tables.**

IV. Specific Project Issues to be Analyzed

A. The focus of this traffic study will be on addressing the adequacy of site access and identifying specific near-term and future circulation improvements required in the study area to maintain acceptable peak hour and daily Levels of Service (LOS).
B. The traffic study shall address the project traffic impacts at all study intersections listed in Section VI and provide appropriate mitigation measures if applicable. Peak-hour traffic signal warrants shall be evaluated for all intersections that are not currently signalized.

C. The traffic study shall include a section that discusses the difference in trip generation between the previous proposed or existing use and the proposed project.
D. Assess adequacy of non-motorized transportation between project and surrounding area.
E. Provide traffic calming options for Davis Street, between Ironwood Ave and Hemlock Ave.
F. The traffic study shall review the current roadway classifications of Hemlock Avenue and Davis Street within the Specific Plan and recommend the appropriate roadway classifications (per current City standards) for these streets to support commercial truck traffic generated by warehousing and manufacturing facilities.
G. Using Synchro software, the traffic study shall provide a Queuing Analysis section to determine the 95th percentile queues and the minimum requirement of storage length for the left-turn lanes of all studied intersections based on forecasted E+P (V.B), Opening Year + Project (V.D) and GP Buildout (V.E) traffic volumes.

V. Study of Horizon Years

A. Existing
B. Existing + Project
C. Existing + Ambient Growth + Cumulative (Assume growth rate of 2% per year)
D. Existing + Ambient Growth + Cumulative + Project
E. General Plan Build Out (with and without project) – Buildout data will be obtained from City's traffic forecast model

*****Opening year should have five (5) year minimum horizon**

VI. Facilities to be Studied

A. Intersections

1. Heacock Street (NS) at Ironwood Avenue (EW)
2. Heacock Street (NS) at Project Access (EW)
3. Heacock Street (NS) at Hemlock Avenue (EW)
4. Heacock Street (NS) at SR-60 Freeway WB Ramps (EW)
5. Heacock Street (NS) at SR-60 Freeway EB Ramps (EW)
6. Project Access (NS) at Hemlock Avenue (EW)
7. Davis Street (NS) at Hemlock Avenue (EW)
8. Project Access (NS) at Hemlock Avenue (EW)
9. Project Access (NS) at Hemlock Avenue (EW)
10. Project Access (NS) at Hemlock Avenue (EW)
11. Nita Drive (NS) at Hemlock Avenue (EW)
12. Davis Street (NS) at Ironwood Avenue (EW)
13. Indian Street (NS) at Ironwood Avenue (EW)
14. Indian Street (NS) at Hemlock Avenue(EW)
15. Indian Street (NS) at Sunnymead Boulevard (EW)

B. Roadway Segments

1. Heacock Street – Ironwood Avenue to Hemlock Avenue
2. Heacock Street – Hemlock Avenue to SR-60 Freeway WB Ramps
3. Indian Street – Ironwood Avenue to Hemlock Avenue
4. Indian Street south of Hemlock Avenue
5. Ironwood Avenue west of Heacock Street
6. Ironwood Avenue – Heacock Street to Indian Street
7. Ironwood Avenue – east of Indian Street
8. Hemlock Avenue west of Heacock Street
9. Hemlock Avenue – Heacock Street to Indian Street
10. Hemlock Avenue – east of Indian Street

VII. Deliverables

A. Draft traffic impact study (2 copies) and a PDF file (on flash drive)
B. Final traffic impact study (4 copies) and a PDF file (on flash drive)

A signed copy of this Scoping Agreement must be included in the submitted draft and final traffic impact studies. All draft and final traffic impact studies shall be delivered with the appropriate review fee to the Permit Technician, Land Development Division, Moreno Valley City Hall, 14177 Frederick Street, Moreno Valley, CA 92552. Please contact the Land Development Division at 951-413-3110 prior to the delivery of the traffic study.

If you have any questions regarding this *Scoping Agreement*, please contact Eric Lewis at (951) 413-3140.

Recommended By:

Rawad Hani, P.E.
Transpo Group, Inc.

Approved By:

Eric Lewis, P.E., T.E.
City Traffic Engineer

NOTE: This scoping agreement was reviewed and approved based on the information submitted by Transpo Group on 10/30/2017. Transpo Group and the project applicant acknowledge that any changes to the project (zoning, size, type of use, number or location of access points, project phasing, etc.) after 10/30/2017 may require this scoping agreement to be revised and resubmitted for review and approval by the City of Moreno Valley.

Table XX. Proposed Project Trip Generation (Based on Land Use Table 2-3, October 12, 2017)

				AM Peak Hour			PM Peak Hour		
Land Use	**LU Code**	**Units**	**Daily**	**In**	**Out**	**Total**	**In**	**Out**	**Total**
Trip Rates									
Shopping Center[1]	820	TSF	37.75	0.58	0.36	0.94	1.83	1.98	3.81
Business Park[2]	770	TSF	12.44	0.24	0.16	0.40	0.19	0.23	0.42

				AM Peak Hour			PM Peak Hour		
Project Trip Generation		**Units**	**Daily**	**In**	**Out**	**Total**	**In**	**Out**	**Total**
Planning Area 1									
Business Park	135.000	TSF	1,679	33	21	54	26	31	57
Subtotal			*1,679*	*33*	*21*	*54*	*26*	*31*	*57*
Planning Area 2									
Business Park	35.000	TSF	435	9	5	14	7	8	15
Subtotal			*435*	*9*	*5*	*14*	*7*	*8*	*15*
Planning Area 3									
Business Park	178.000	TSF	2,214	43	28	71	34	40	75
Retail	15.000	TSF	566	9	5	14	27	30	57
Subtotal			*2,781*	*52*	*33*	*85*	*62*	*70*	*132*
Planning Area 4									
Retail	255.000	TSF	9,626	149	91	240	466	505	972
Subtotal			*9,626*	*149*	*91*	*240*	*466*	*505*	*972*
Planning Area 6									
Retail	35.000	TSF	1,321	20	13	33	64	69	133
Subtotal			*1,321*	*20*	*13*	*33*	*64*	*69*	*133*
Planning Area 7									
Retail	40.000	TSF	1,510	23	14	38	73	79	152
Subtotal			*1,510*	*23*	*14*	*38*	*73*	*79*	*152*
Planning Area 8									
Retail	20.000	TSF	755	12	7	19	37	40	76
Subtotal			*755*	*12*	*7*	*19*	*37*	*40*	*76*
Total Trip Generation			**18,108**	**298**	**185**	**482**	**735**	**802**	**1,537**
Internal Trip Capture (AM = 7%, PM/Daily = 4%)[3]			-724	-21	-13	-34	-29	-32	-61
Net Trip Generation With Internal Trip Capture			*17,384*	*277*	*172*	*449*	*705*	*770*	*1,475*
Pass-By Trips For Commercial Retail (AM / Daily = 17%, PM = 34%) [4]			-2,342	-36	-22	-58	-227	-246	-473
Total Pass-by Trips			*-2,342*	*-36*	*-22*	*-58*	*-227*	*-246*	*-473*
Net Trip Generation With Internal Trip Capture and Pass By			**15,041**	**241**	**150**	**390**	**478**	**524**	**1,003**

TSF = Thousand Square Feet

[1] Trip rates from the Institute of Transporation Engineers, *Trip Generation, 10th Edition,* 2017. Land Use Code 820 - Shopping Center.

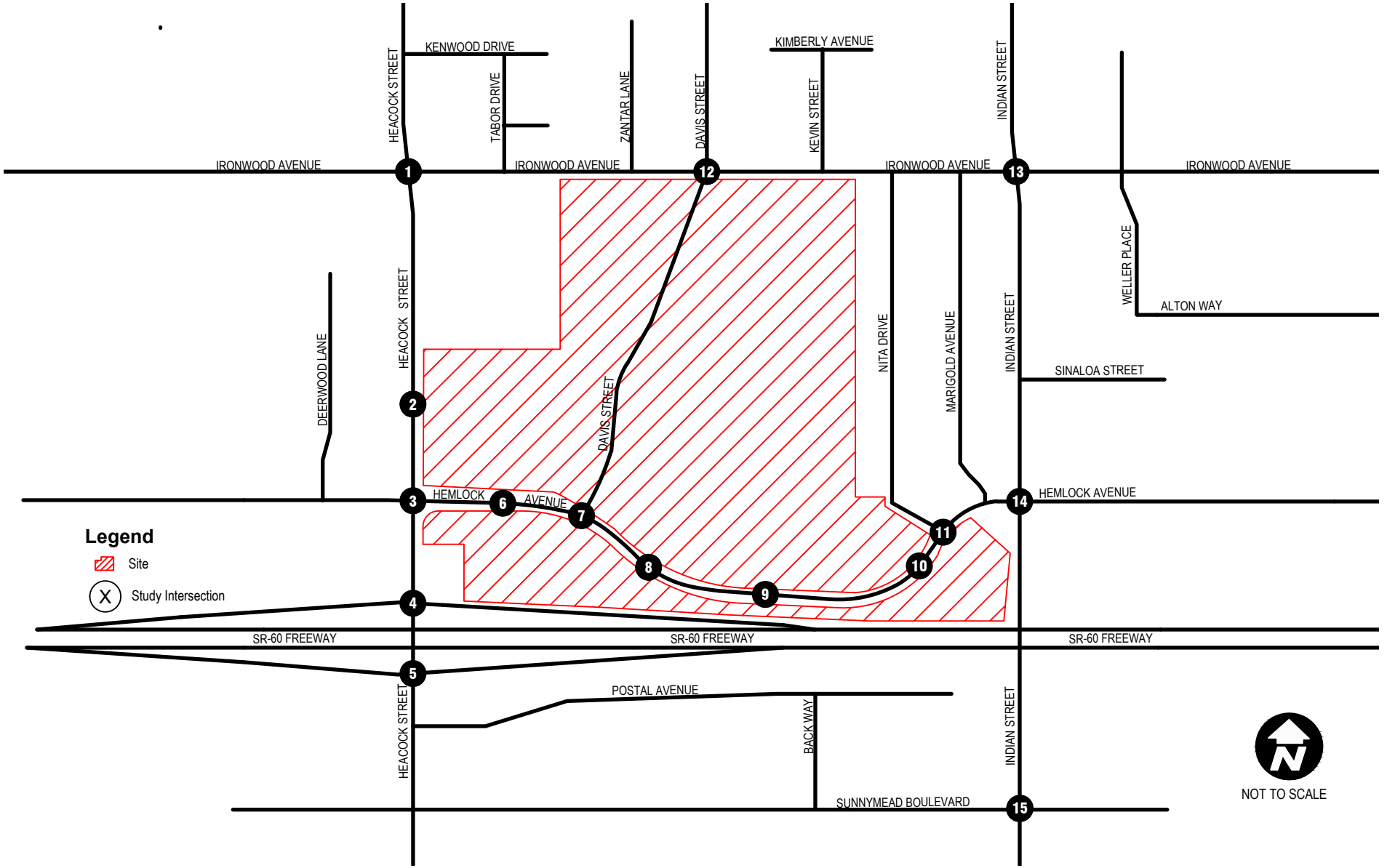
[2] Trip rates from the Institute of Transporation Engineers, *Trip Generation, 10th Edition,* 2017. Land Use Code 770 - Business Park.

[3] Internal capture calculated using methodology from NCHRP 684 Mixed Use Spreadsheet

[4] Pass-by trip rate (34% during PM peak hour, 17% during the AM peak hour and Daily based on weekend mid-day) from the Institute of Transporation Engineers, Trip Generation, 10th Edition, 2017. Land Use Code 820 - Shopping Center.

Table XX. Proposed Project Trip Generation Comparison (Based on Updated Table 2-3, October 12, 2017) -

			AM Peak Hour			PM Peak Hour		
Project Trip Generation Comparison	**Units**	**Daily**	**In**	**Out**	**Total**	**In**	**Out**	**Total**
Proposed Project vs. Greiner Engineering Study (Table 3)								
Proposed Project Total Traffic (No Internal Trip Capture or Pass-by Reductions)		18,108	298	185	482	735	802	1,537
Greiner Engineering Study (Table 3) (No Interal Trip Capture or Pass-by Reductions)		18,322	--	--	--	1,081	1,356	2,437
Difference (Proposed Project - Greiner Engineering Study Table 3)		**-214**	**298**	**185**	**482**	**-346**	**-554**	**-900**
Proposed Project minus Existing Land Uses (New Project Trips)								
Proposed Project New Trips (includes Internal Trip Capture and Pass-By Reductions)		15,041	241	150	390	478	524	1,003
Existing Land Uses (includes Internal Trip Capture and Pass-By Reductions)		6,426	310	239	549	231	233	464
New Trips (Proposed Project - Existing Land Uses)		**8,616**	**-70**	**-89**	**-159**	**247**	**292**	**538**



Source: Google Maps, 09/2017.

Project Site Location and Study Area

Festival at Moreno Valley

FIGURE 1

transpogroup
WHAT TRANSPORTATION CAN BE.

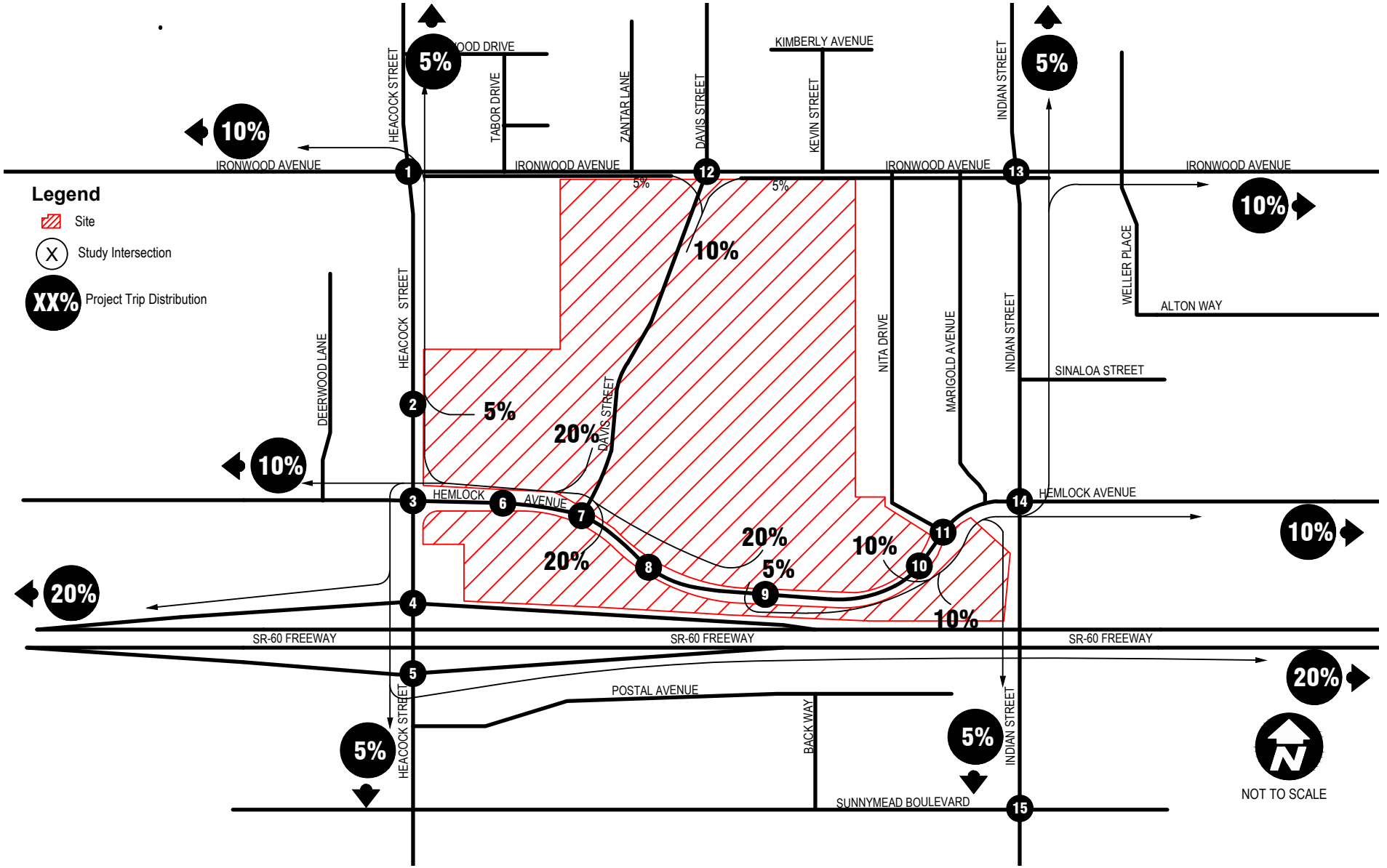
NOT TO SCALE

Project Plan

Festival at Moreno Valley

FIGURE 2

transpogroup
WHAT TRANSPORTATION CAN BE.



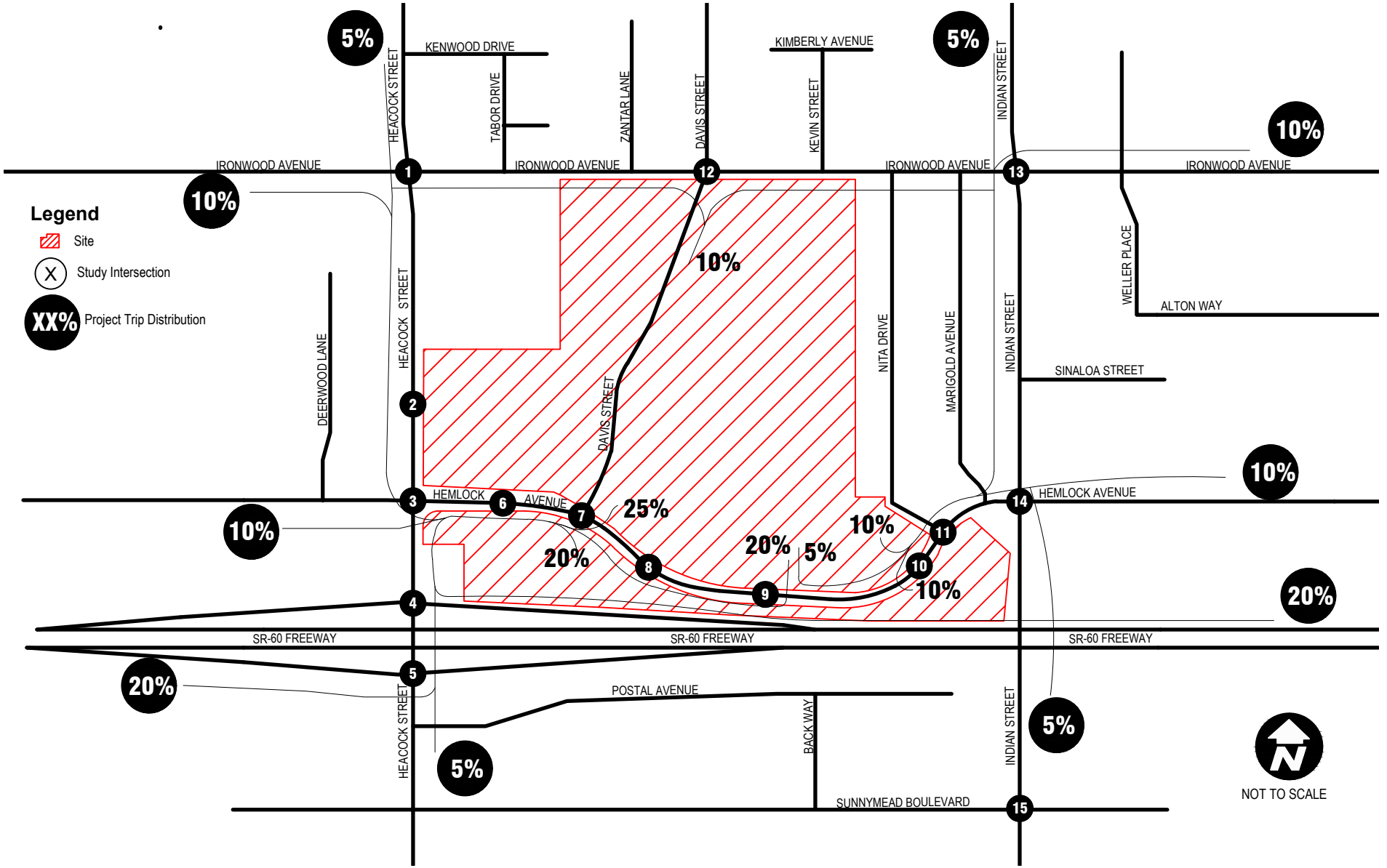
Source: Google Maps, 09/2017.

Retail Distribution Outbound

Festival at Moreno Valley

FIGURE 3

transpogroup
WHAT TRANSPORTATION CAN BE.



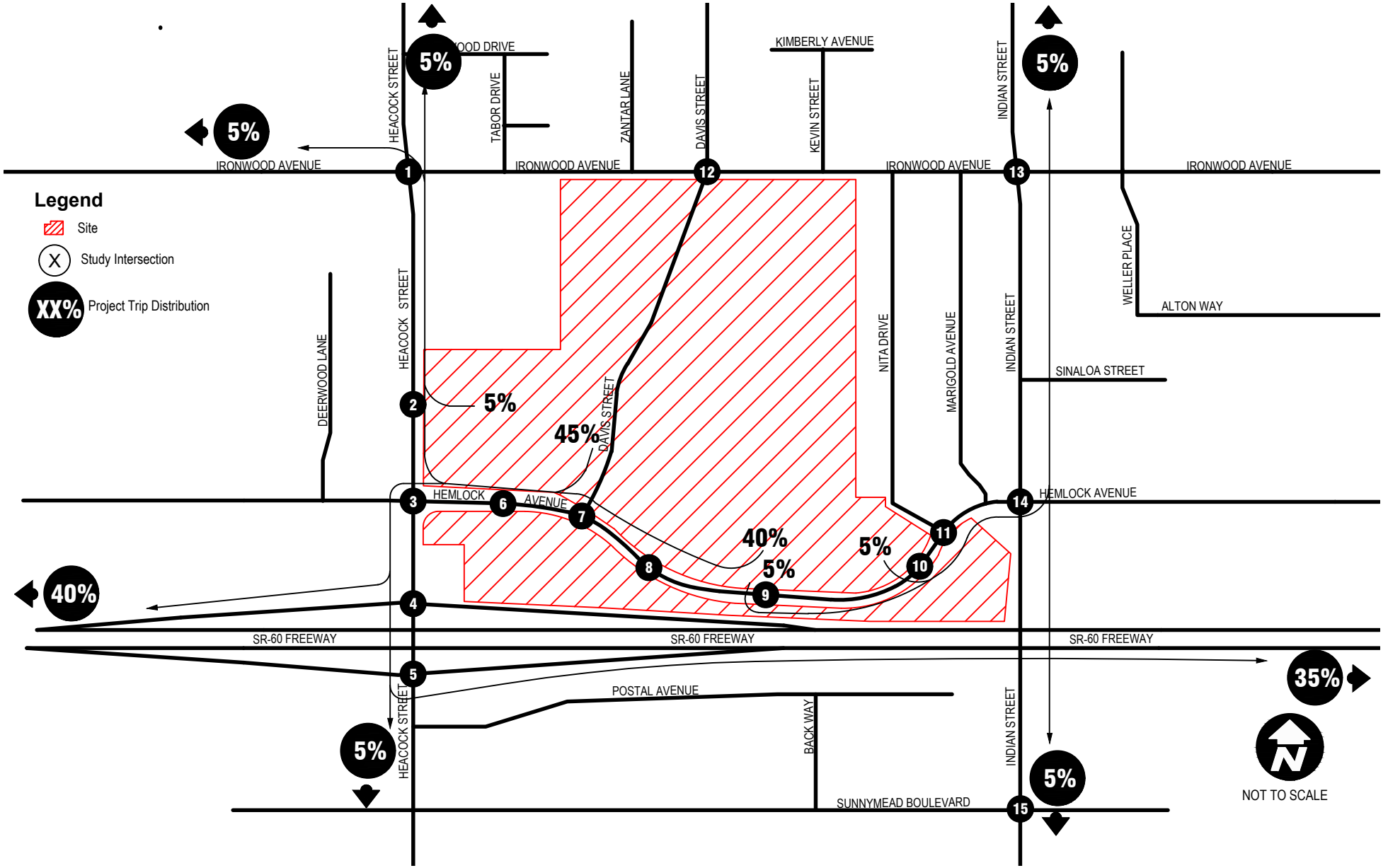
Source: Google Maps, 09/2017.

Retail Distribution Inbound

Festival at Moreno Valley

FIGURE 4

transpogroup
WHAT TRANSPORTATION CAN BE.



Source: Google Maps, 09/2017.

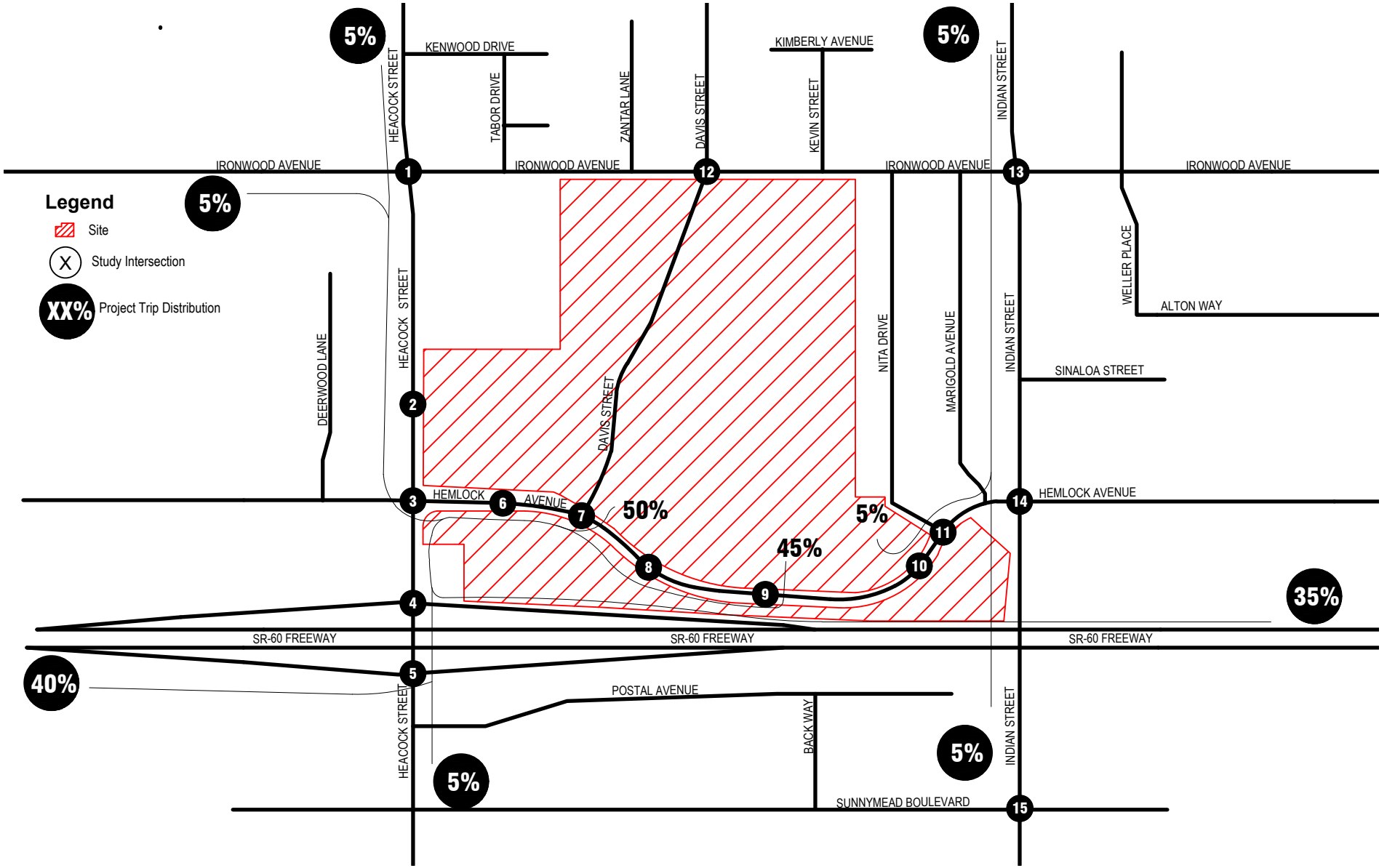
Business Park Distribution Outbound

FIGURE 5

Festival at Moreno Valley

transpogroup
WHAT TRANSPORTATION CAN BE.

Oct 30, 2017 - 4:58pm rudyg C:\Users\rudyg\Dropbox (Transpo CA)\Transpo CA Team Folder\Projects\2017\17261.PR - Festival at Moreno Valley\Graphics\Festival at Moreno Valley.dwg Layout: fig5-Business Park Distribution Outbound



Source: Google Maps, 09/2017.

Business Park Distribution Inbound

Festival at Moreno Valley

FIGURE 6

transpogroup
WHAT TRANSPORTATION CAN BE.

Appendix B:Traffic Counts

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE: Wed, Aug 16, 17

LOCATION: Moreno Valley
NORTH & SOUTH: Heacock
EAST & WEST: Ironwood

PROJECT #: SC1422
LOCATION #: 1
CONTROL: SIGNAL

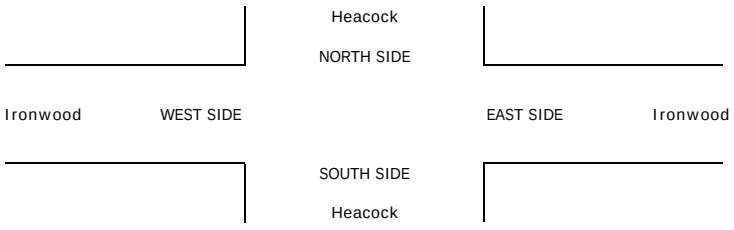
NOTES:

AM PM MD OTHER OTHER

N ◄ W E ► S

Add U-Turns to Left Turns

		NORTHBOUND Heacock			SOUTHBOUND Heacock			EASTBOUND Ironwood			WESTBOUND Ironwood				U-TURNS				
	LANES:	NL 1	NT 2	NR 1	SL 1	ST 2	SR 1	EL 1	ET 2	ER 0	WL 1	WT 2	WR 0	TOTAL	NB 0	SB 0	EB 0	WB 0	T
AM	7:00 AM	25	101	21	8	102	50	11	33	22	29	75	5	482	0	0	0	0	0
	7:15 AM	27	94	29	8	123	53	34	64	32	26	133	4	627	0	0	0	0	0
	7:30 AM	25	112	22	16	142	80	33	101	28	41	119	8	727	0	0	0	0	0
	7:45 AM	28	101	17	14	144	67	40	60	26	45	148	17	707	0	0	0	0	0
	8:00 AM	26	110	19	13	137	59	25	52	37	46	120	13	657	0	0	0	0	0
	8:15 AM	31	107	15	9	144	50	25	35	32	28	83	10	569	0	0	0	0	0
	8:30 AM	26	96	19	13	119	36	17	43	44	29	50	6	498	0	0	0	0	0
	8:45 AM	30	70	25	10	106	24	18	39	27	31	54	3	437	0	0	0	0	0
	9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	VOLUMES	218	791	167	91	1,017	419	203	427	248	275	782	66	4,704	0	0	0	0	0
	APPROACH %	19%	67%	14%	6%	67%	27%	23%	49%	28%	24%	70%	6%						
	APP/DEPART	1,176	/	1,060	1,527	/	1,540	878	/	685	1,123	/	1,419	0					
	BEGIN PEAK HR		7:15 AM																
	VOLUMES	106	417	87	51	546	259	132	277	123	158	520	42	2,718					
	APPROACH %	17%	68%	14%	6%	64%	30%	25%	52%	23%	22%	72%	6%						
	PEAK HR FACTOR		0.959			0.899			0.821			0.857		0.935					
	APP/DEPART	610	/	591	856	/	827	532	/	415	720	/	885	0					
PM	03:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:00 PM	35	145	29	14	123	42	41	66	29	21	70	10	625	0	0	0	0	0
	4:15 PM	39	126	47	12	110	42	46	86	34	29	72	19	662	0	0	0	0	0
	4:30 PM	42	183	31	9	151	49	51	77	29	20	58	8	708	0	1	0	0	1
	4:45 PM	45	138	52	15	130	42	42	83	28	30	73	18	696	0	0	0	0	0
	5:00 PM	42	170	39	14	113	60	54	110	31	24	90	11	758	0	0	0	0	0
	5:15 PM	47	182	35	17	140	49	56	86	25	19	58	8	722	0	0	0	0	0
	5:30 PM	33	157	52	20	108	45	55	131	26	32	86	11	756	0	0	0	0	0
	5:45 PM	33	140	47	22	140	49	61	107	37	18	72	9	735	0	0	0	0	0
	VOLUMES	316	1,241	332	123	1,015	378	406	746	239	193	579	94	5,662	0	1	0	0	1
	APPROACH %	17%	66%	18%	8%	67%	25%	29%	54%	17%	22%	67%	11%						
	APP/DEPART	1,889	/	1,742	1,516	/	1,447	1,391	/	1,200	866	/	1,273	0					
	BEGIN PEAK HR		5:00 PM																
	VOLUMES	155	649	173	73	501	203	226	434	119	93	306	39	2,971					
	APPROACH %	16%	66%	18%	9%	64%	26%	29%	56%	15%	21%	70%	9%						
	PEAK HR FACTOR		0.925			0.921			0.919			0.849		0.980					
	APP/DEPART	977	/	914	777	/	713	779	/	680	438	/	664	0					



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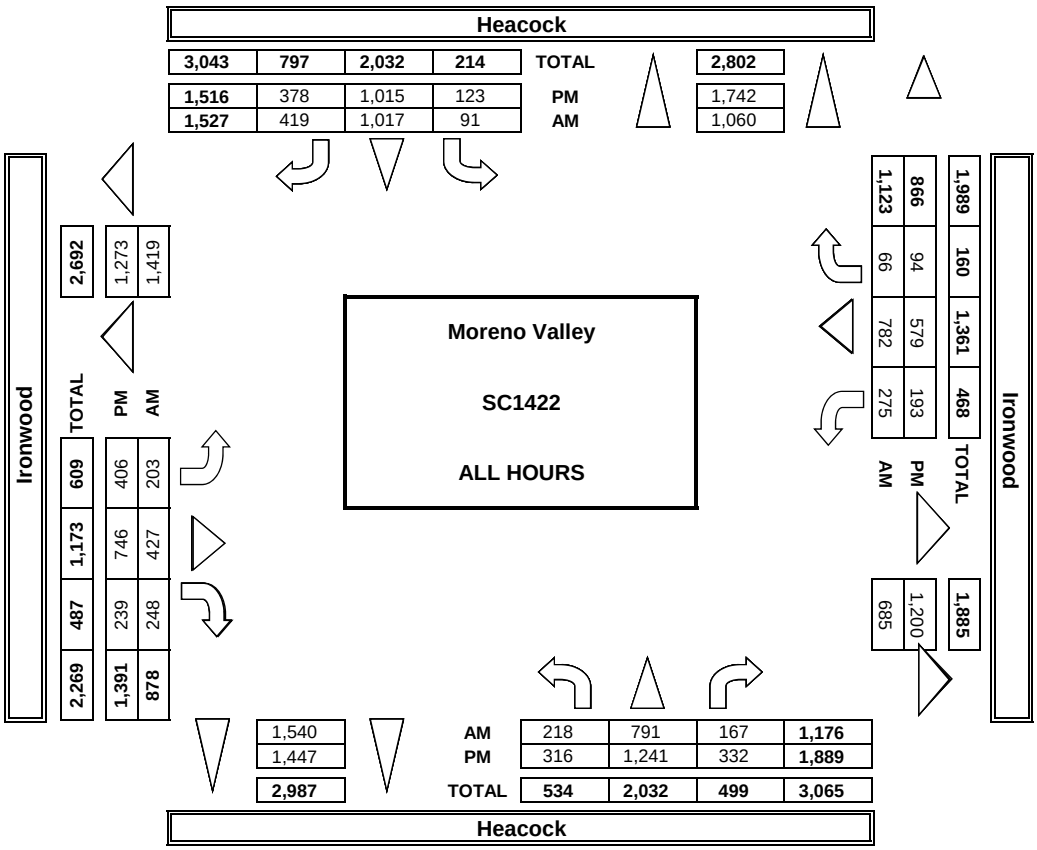
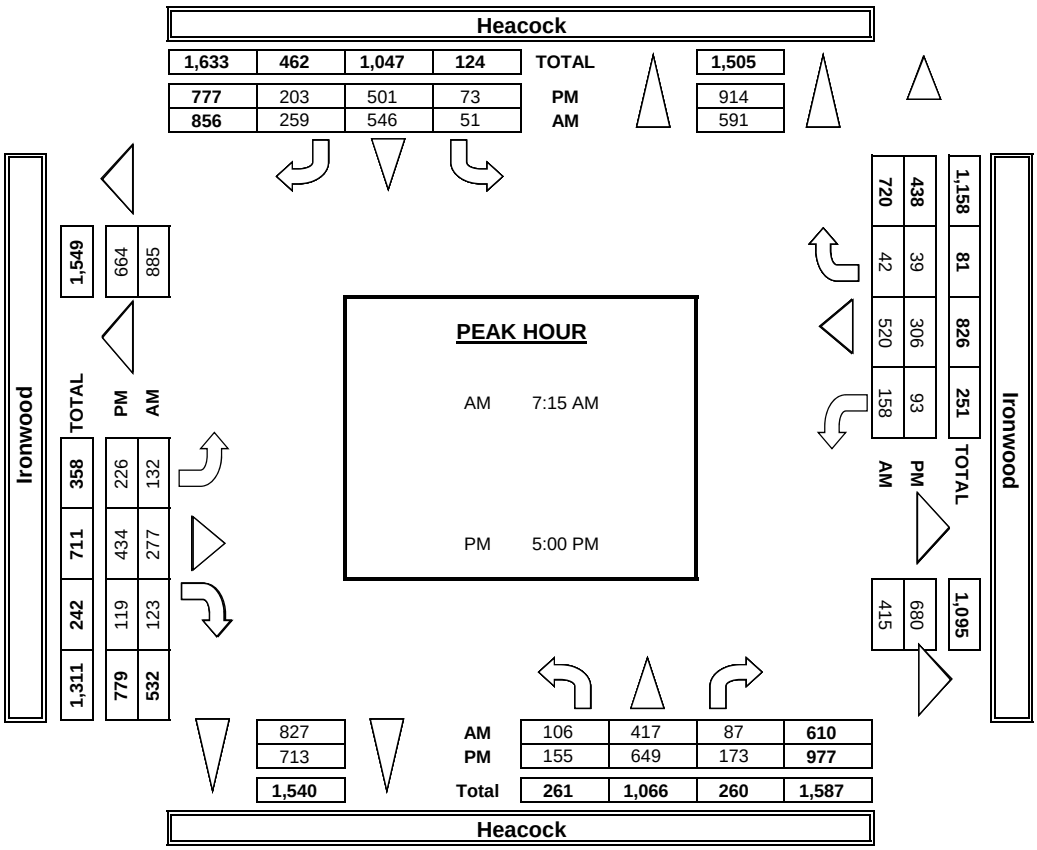
TURNING MOVEMENT COUNTS





INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:	LOCATION:	Moreno Valley	PROJECT #:	SC1422
Wed, Aug 16, 17	NORTH & SOUTH:	West FMV	LOCATION #:	2
	EAST & WEST:	Hemlock	CONTROL:	STOP S

NOTES:

AM / PM / MD / OTHER / OTHER

▲ N ◄ W E ► S ▼

Add U-Turns to Left Turns

		NORTHBOUND (West FMV)			SOUTHBOUND (West FMV)			EASTBOUND (Hemlock)			WESTBOUND (Hemlock)				U-TURNS				
	LANES:	NL X	NT X	NR X	SL 0	ST X	SR 0	EL 0	ET 1	ER X	WL X	WT 1	WR 0	TOTAL	NB 0	SB 0	EB 0	WB 0	T
AM	7:00 AM	0	0	0	2	0	0	3	14	0	0	16	1	36	0	0	0	0	0
	7:15 AM	0	0	0	0	0	1	1	15	0	0	18	0	35	0	0	0	0	0
	7:30 AM	0	0	0	1	0	1	3	33	0	0	29	5	72	0	0	1	0	1
	7:45 AM	0	0	0	0	0	0	2	34	0	0	35	4	75	0	0	0	0	0
	8:00 AM	0	0	0	2	0	0	3	16	0	0	31	4	56	0	0	0	0	0
	8:15 AM	0	0	0	2	0	3	4	15	0	0	39	5	68	0	0	0	0	0
	8:30 AM	0	0	0	3	0	0	3	18	0	0	24	1	49	0	0	0	0	0
	8:45 AM	0	0	0	6	0	1	3	22	0	0	25	4	61	0	0	0	0	0
	9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	VOLUMES	0	0	0	16	0	6	22	167	0	0	217	24	452	0	0	1	0	1
	APPROACH %	0%	0%	0%	73%	0%	27%	12%	88%	0%	0%	90%	10%						
	APP/DEPART	0	/	45	22	/	0	189	/	183	241	/	224	0					
	BEGIN PEAK HR		7:30 AM																
	VOLUMES	0	0	0	5	0	4	12	98	0	0	134	18	271					
	APPROACH %	0%	0%	0%	56%	0%	44%	11%	89%	0%	0%	88%	12%						
	PEAK HR FACTOR		0.000			0.450			0.764			0.864		0.903					
	APP/DEPART	0	/	29	9	/	0	110	/	103	152	/	139	0					
PM	03:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:00 PM	0	0	0	5	0	1	7	44	0	0	27	2	86	0	0	0	0	0
	4:15 PM	0	0	0	4	0	4	4	40	0	0	33	3	88	0	0	0	0	0
	4:30 PM	0	0	0	7	0	2	0	53	0	0	32	3	97	0	0	0	0	0
	4:45 PM	0	0	0	8	0	8	9	47	0	0	35	0	107	0	0	0	0	0
	5:00 PM	0	0	0	5	0	1	1	52	0	0	33	3	95	0	0	0	0	0
	5:15 PM	0	0	0	5	0	1	0	36	0	0	26	4	72	0	0	0	0	0
	5:30 PM	0	0	0	2	0	1	3	52	0	0	29	1	88	0	0	0	0	0
	5:45 PM	0	0	0	12	0	9	1	51	0	0	37	1	111	0	0	0	0	0
	VOLUMES	0	0	0	48	0	27	25	375	0	0	252	17	744	0	0	0	0	0
	APPROACH %	0%	0%	0%	64%	0%	36%	6%	94%	0%	0%	94%	6%						
	APP/DEPART	0	/	42	75	/	0	400	/	423	269	/	279	0					
	BEGIN PEAK HR		4:15 PM																
	VOLUMES	0	0	0	24	0	15	14	192	0	0	133	9	387					
	APPROACH %	0%	0%	0%	62%	0%	38%	7%	93%	0%	0%	94%	6%						
	PEAK HR FACTOR		0.000			0.609			0.920			0.986		0.904					
	APP/DEPART	0	/	23	39	/	0	206	/	216	142	/	148	0					

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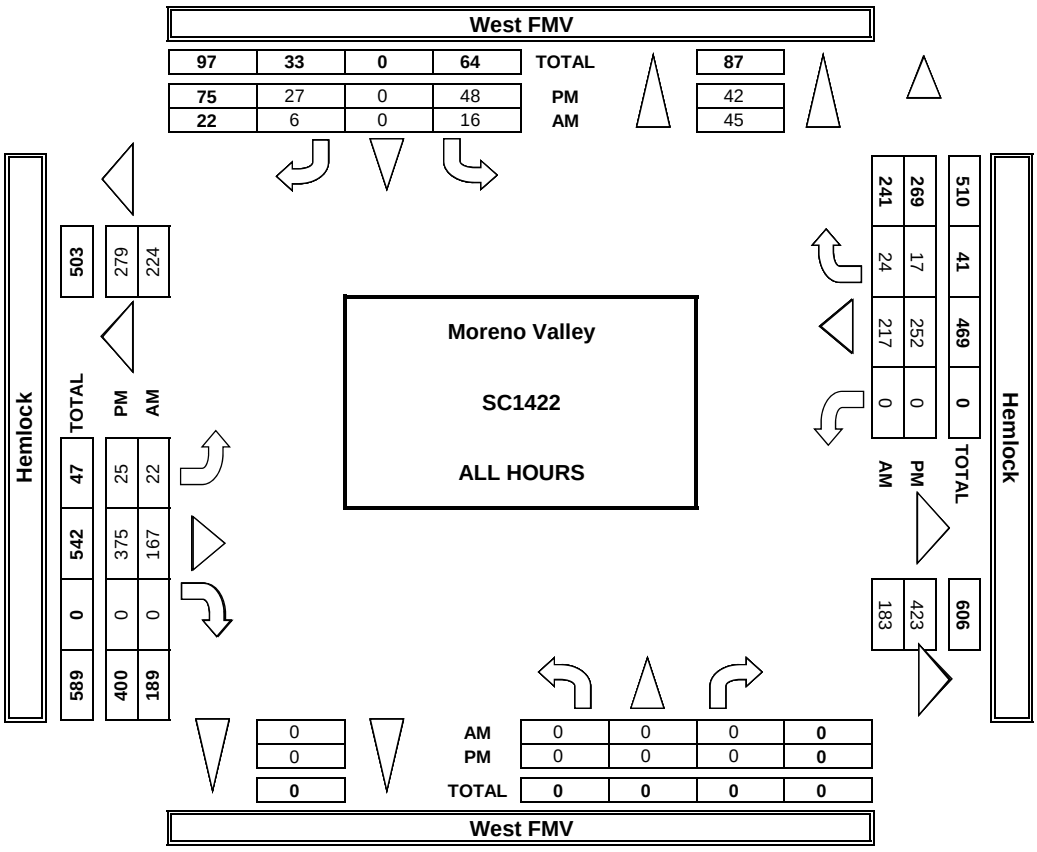
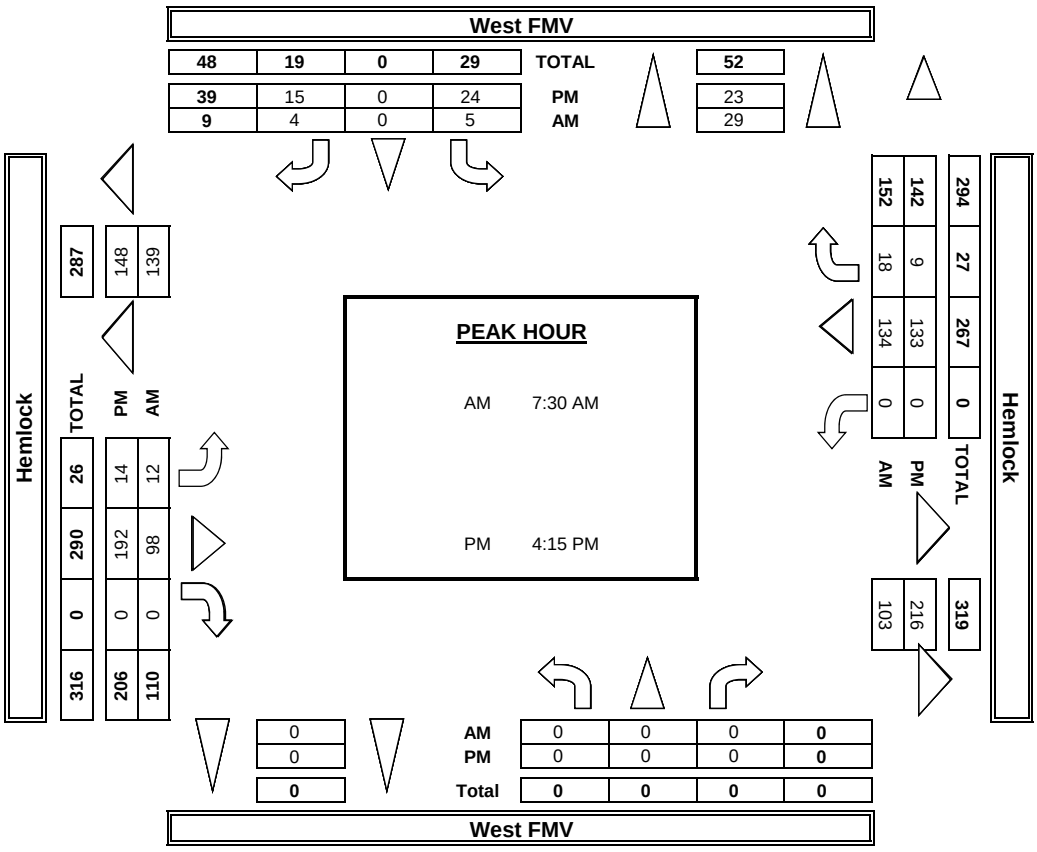
TURNING MOVEMENT COUNTS





INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE: Wed, Aug 16, 17

LOCATION: Moreno Valley
NORTH & SOUTH: Heacock
EAST & WEST: Hemlock

PROJECT #: SC1422
LOCATION #: 3
CONTROL: SIGNAL

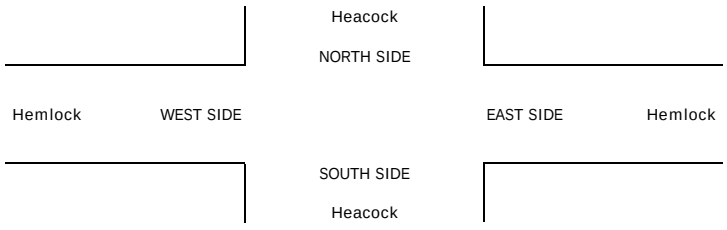
NOTES:

AM PM MD OTHER OTHER

▲ N ◄ W E ► S ▼

Add U-Turns to Left Turns

		NORTHBOUND Heacock			SOUTHBOUND Heacock			EASTBOUND Hemlock			WESTBOUND Hemlock				U-TURNS				
	LANES:	NL 1	NT 2	NR 1	SL 1	ST 2	SR 0	EL 1	ET 1	ER 0	WL 1	WT 1	WR 1	TOTAL	NB 0	SB 0	EB 0	WB 0	T
AM	7:00 AM	18	142	11	0	140	6	8	6	23	5	11	1	371	0	0	0	0	0
	7:15 AM	29	124	4	2	181	3	14	13	29	8	11	1	419	0	0	0	0	0
	7:30 AM	33	159	11	5	184	6	6	27	32	13	16	2	494	0	0	0	0	0
	7:45 AM	16	154	15	3	212	14	11	15	21	7	24	4	496	0	0	0	0	0
	8:00 AM	26	135	16	4	203	11	9	9	26	13	13	5	470	0	0	0	0	0
	8:15 AM	19	128	11	6	193	10	11	10	27	20	20	6	461	0	0	0	1	1
	8:30 AM	22	119	14	5	179	7	10	9	31	23	6	4	429	0	0	0	0	0
	8:45 AM	20	130	19	3	163	6	4	17	28	10	14	5	419	0	0	0	0	0
	9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	VOLUMES	183	1,091	101	28	1,455	63	73	106	217	99	115	28	3,559	0	0	0	1	1
	APPROACH %	13%	79%	7%	2%	94%	4%	18%	27%	55%	41%	48%	12%						
	APP/DEPART	1,375	/	1,192	1,546	/	1,770	396	/	236	242	/	361	0					
	BEGIN PEAK HR		7:30 AM																
	VOLUMES	94	576	53	18	792	41	37	61	106	53	73	17	1,921					
	APPROACH %	13%	80%	7%	2%	93%	5%	18%	30%	52%	37%	51%	12%						
	PEAK HR FACTOR		0.890			0.929			0.785			0.777		0.968					
	APP/DEPART	723	/	630	851	/	950	204	/	133	143	/	208	0					
PM	03:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:00 PM	27	230	31	6	161	1	5	23	33	20	12	5	554	0	0	0	0	0
	4:15 PM	25	195	28	10	173	6	10	26	37	17	15	9	551	0	0	0	0	0
	4:30 PM	27	239	26	8	174	17	12	21	39	17	18	5	603	0	0	0	0	0
	4:45 PM	34	219	29	6	170	9	5	19	42	23	21	9	586	0	0	0	0	0
	5:00 PM	41	232	29	5	165	7	20	26	38	15	16	11	605	0	0	0	0	0
	5:15 PM	28	249	16	5	167	9	16	20	35	20	17	4	586	0	0	0	0	0
	5:30 PM	24	236	29	8	168	11	11	27	40	14	14	4	586	0	0	0	0	0
	5:45 PM	31	191	28	3	176	7	9	29	38	21	18	13	564	0	0	0	0	0
	VOLUMES	237	1,791	216	51	1,354	67	88	191	302	147	131	60	4,635	0	0	0	0	0
	APPROACH %	11%	80%	10%	3%	92%	5%	15%	33%	52%	43%	39%	18%						
	APP/DEPART	2,244	/	1,939	1,472	/	1,803	581	/	458	338	/	435	0					
	BEGIN PEAK HR		4:30 PM																
	VOLUMES	130	939	100	24	676	42	53	86	154	75	72	29	2,380					
	APPROACH %	11%	80%	9%	3%	91%	6%	18%	29%	53%	43%	41%	16%						
	PEAK HR FACTOR		0.968			0.932			0.872			0.830		0.983					
	APP/DEPART	1,169	/	1,021	742	/	905	293	/	210	176	/	244	0					



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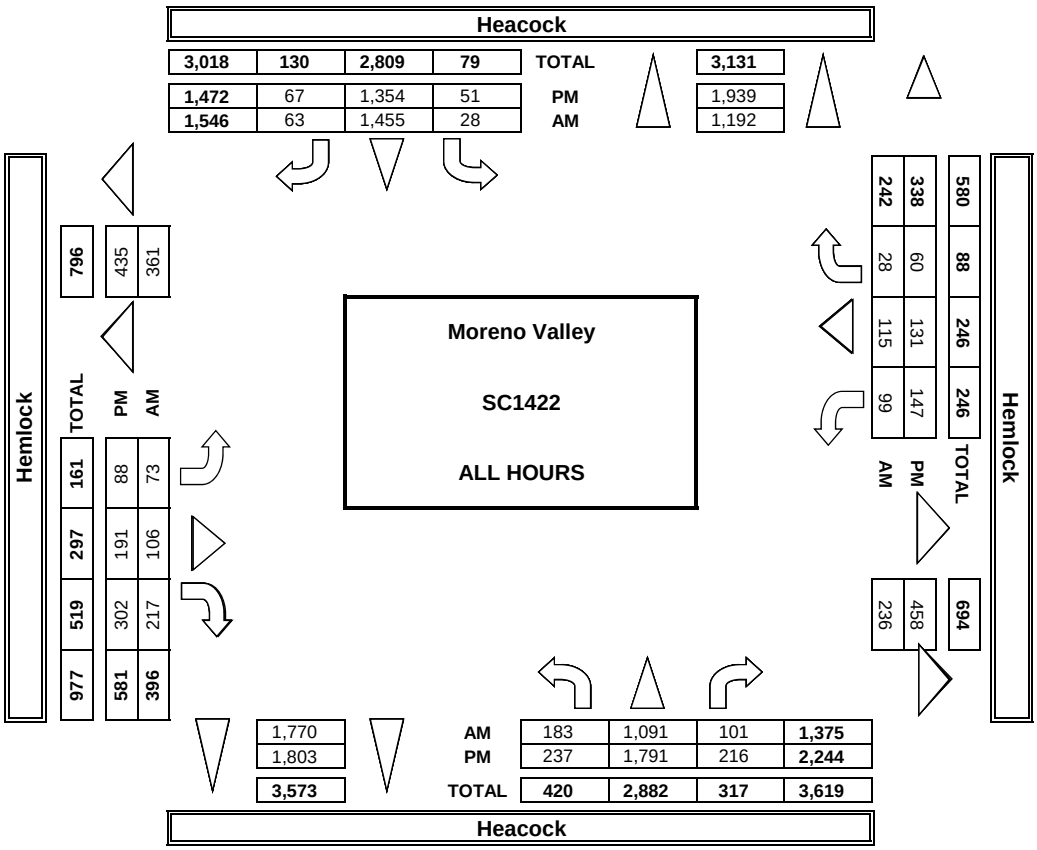
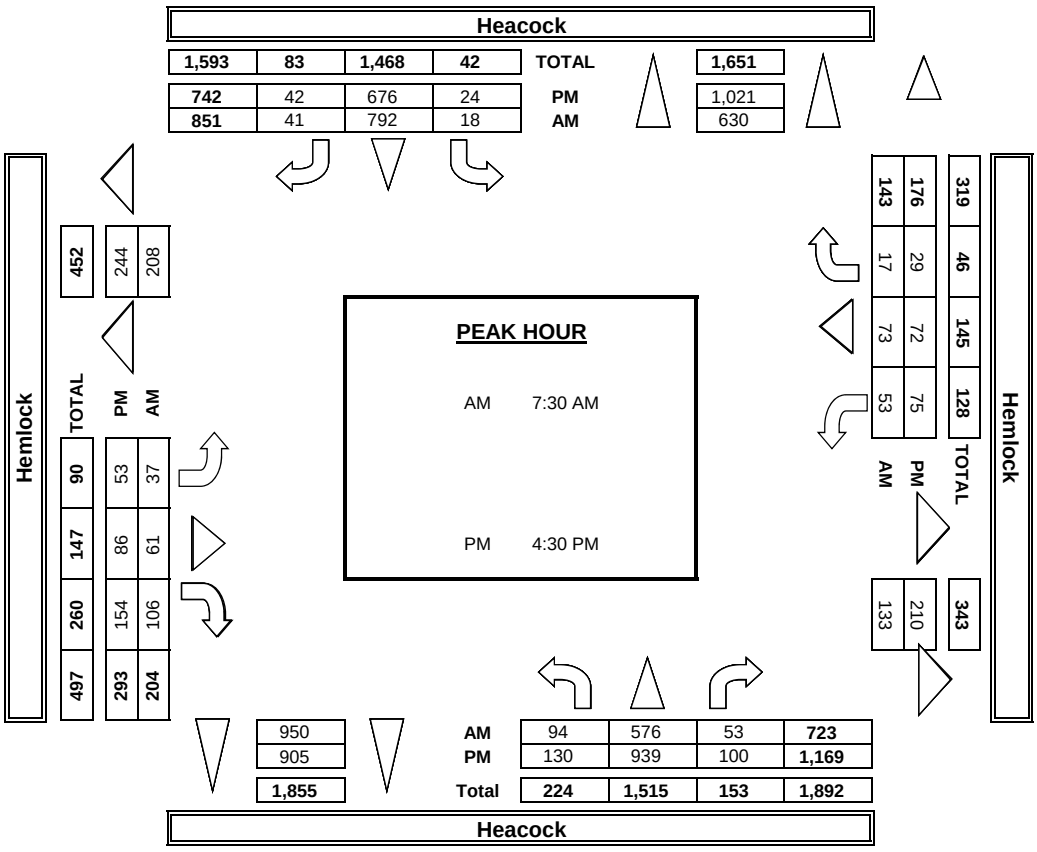
TURNING MOVEMENT COUNTS





INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE: Wed, Aug 16, 17

LOCATION: Moreno Valley
NORTH & SOUTH: Heacock
EAST & WEST: SR-60 WB Ramps

PROJECT #: SC1422
LOCATION #: 4
CONTROL: SIGNAL

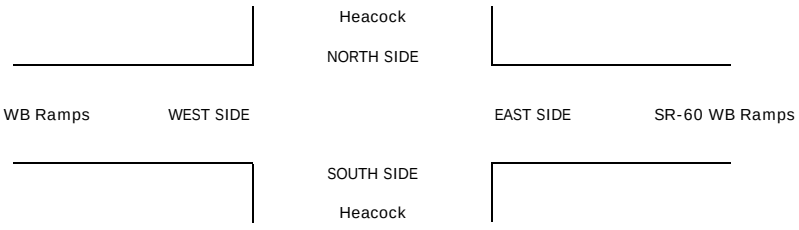
NOTES: AM SB queue. PM NB/SB queue

AM PM MD OTHER OTHER

◄ W N ▲ S ▼ E ►

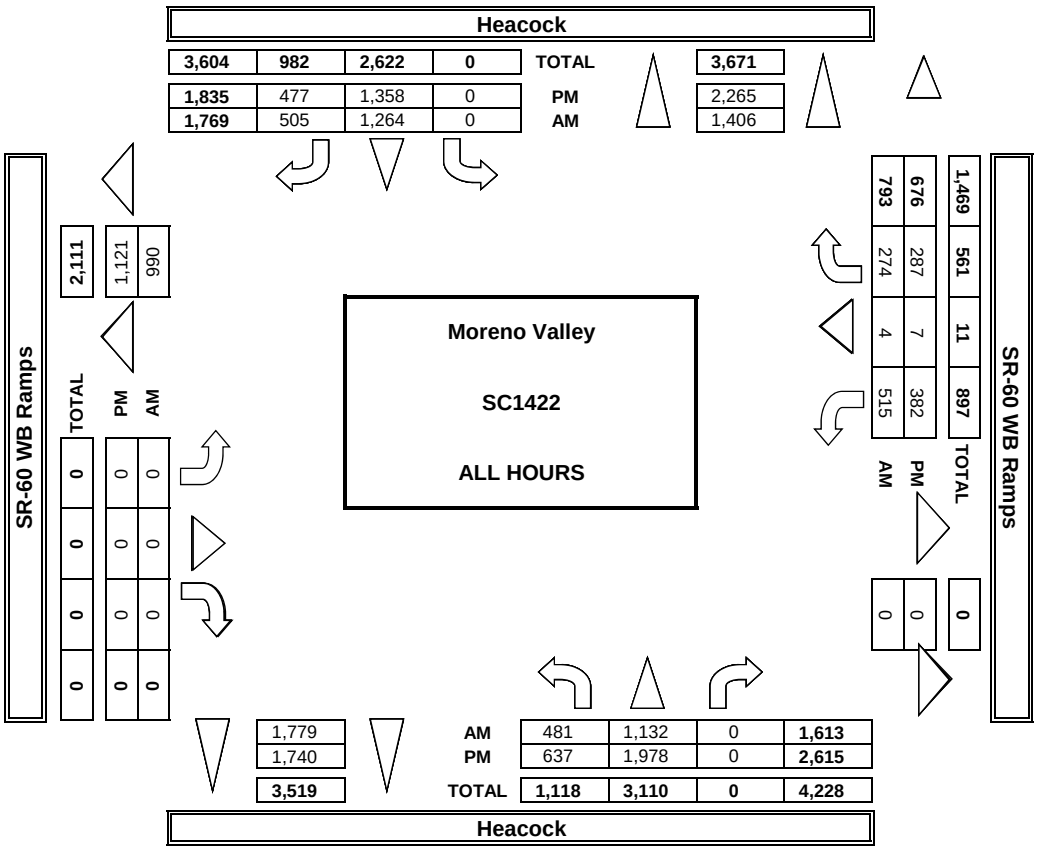
Add U-Turns to Left Turns

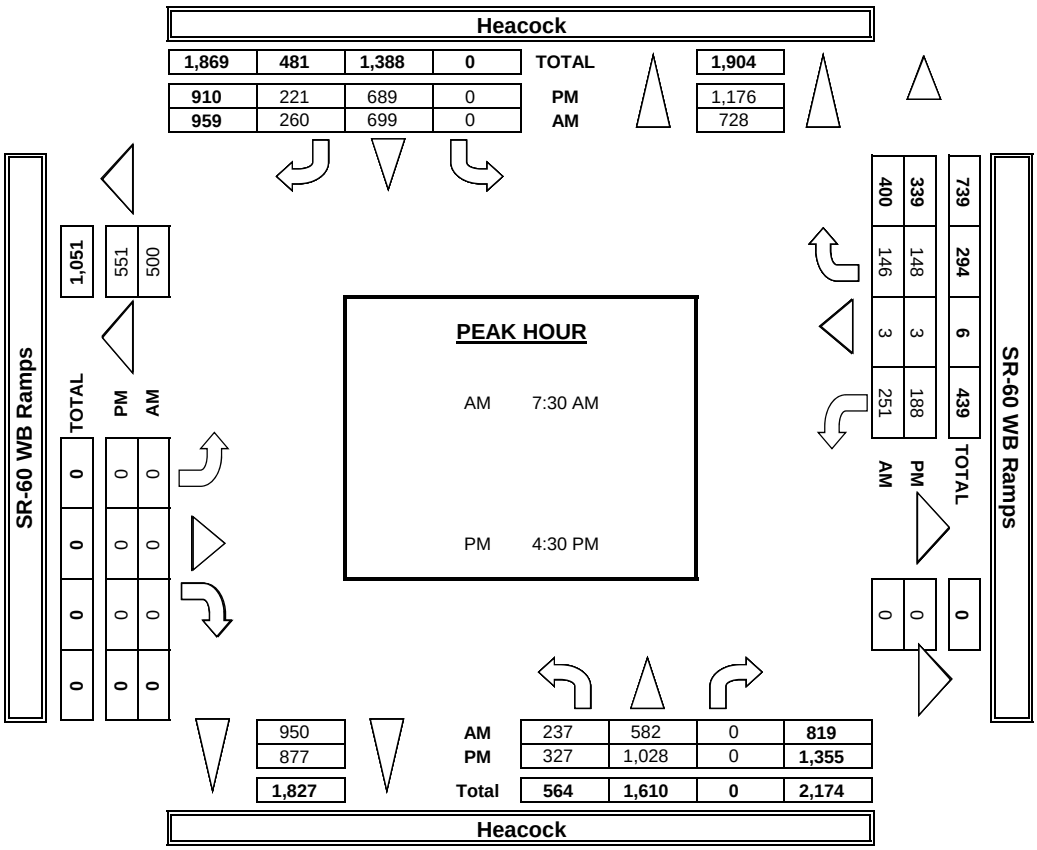
		NORTHBOUND Heacock			SOUTHBOUND Heacock			EASTBOUND SR-60 WB Ramps			WESTBOUND SR-60 WB Ramps				U-TURNS				
	LANES:	NL 1	NT 2	NR X	SL X	ST 2	SR 0	EL X	ET X	ER X	WL 1	WT 0	WR 1	TOTAL	NB 0	SB 0	EB 0	WB 0	T
AM	7:00 AM	56	139	0	0	106	62	0	0	0	59	1	40	463	0	0	0	0	0
	7:15 AM	56	129	0	0	151	62	0	0	0	66	0	37	501	0	0	0	0	0
	7:30 AM	63	148	0	0	172	62	0	0	0	75	0	50	570	0	0	0	0	0
	7:45 AM	49	153	0	0	181	59	0	0	0	70	1	41	554	0	0	0	0	0
	8:00 AM	62	147	0	0	176	71	0	0	0	58	0	26	540	0	0	0	0	0
	8:15 AM	63	134	0	0	170	68	0	0	0	48	2	29	514	0	0	0	0	0
	8:30 AM	67	129	0	0	161	62	0	0	0	85	0	30	534	0	0	0	0	0
	8:45 AM	65	153	0	0	147	59	0	0	0	54	0	21	499	0	0	0	0	0
	9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	VOLUMES	481	1,132	0	0	1,264	505	0	0	0	515	4	274	4,175	0	0	0	0	0
	APPROACH %	30%	70%	0%	0%	71%	29%	0%	0%	0%	65%	1%	35%						
	APP/DEPART	1,613	/	1,406	1,769	/	1,779	0	/	0	793	/	990	0					
	BEGIN PEAK HR		7:30 AM																
	VOLUMES	237	582	0	0	699	260	0	0	0	251	3	146	2,178					
	APPROACH %	29%	71%	0%	0%	73%	27%	0%	0%	0%	63%	1%	37%						
	PEAK HR FACTOR		0.970			0.971			0.000			0.800		0.955					
	APP/DEPART	819	/	728	959	/	950	0	/	0	400	/	500	0					
PM	03:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:00 PM	83	254	0	0	151	56	0	0	0	57	0	40	641	0	0	0	0	0
	4:15 PM	72	219	0	0	170	76	0	0	0	43	1	33	614	0	0	0	0	0
	4:30 PM	82	257	0	0	173	61	0	0	0	61	0	45	679	0	0	0	0	0
	4:45 PM	66	244	0	0	185	48	0	0	0	47	1	38	629	0	0	0	0	0
	5:00 PM	88	278	0	0	163	52	0	0	0	45	0	27	653	0	0	0	0	0
	5:15 PM	91	249	0	0	168	60	0	0	0	35	2	38	643	0	0	0	0	0
	5:30 PM	77	257	0	0	172	58	0	0	0	45	2	38	649	0	0	0	0	0
	5:45 PM	78	220	0	0	176	66	0	0	0	49	1	28	618	0	0	0	0	0
	VOLUMES	637	1,978	0	0	1,358	477	0	0	0	382	7	287	5,126	0	0	0	0	0
	APPROACH %	24%	76%	0%	0%	74%	26%	0%	0%	0%	57%	1%	42%						
	APP/DEPART	2,615	/	2,265	1,835	/	1,740	0	/	0	676	/	1,121	0					
	BEGIN PEAK HR		4:30 PM																
	VOLUMES	327	1,028	0	0	689	221	0	0	0	188	3	148	2,604					
	APPROACH %	24%	76%	0%	0%	76%	24%	0%	0%	0%	55%	1%	44%						
	PEAK HR FACTOR		0.926			0.972			0.000			0.800		0.959					
	APP/DEPART	1,355	/	1,176	910	/	877	0	/	0	339	/	551	0					



AimTD LLC

TURNING MOVEMENT COUNTS





INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE: Wed, Aug 16, 17

LOCATION: Moreno Valley
NORTH & SOUTH: Heacock
EAST & WEST: SR-60 EB Ramps

PROJECT #: SC1422
LOCATION #: 5
CONTROL: SIGNAL

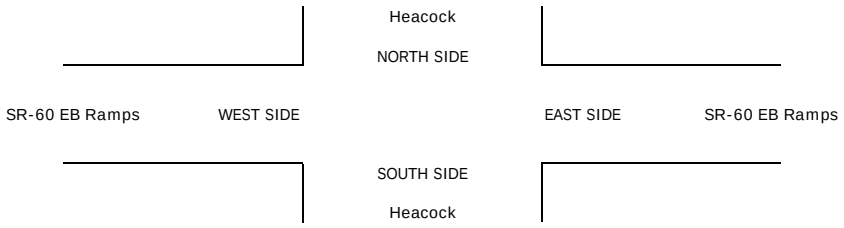
NOTES:
PM NB queue

AM PM MD OTHER OTHER

N ◄ W E ► S

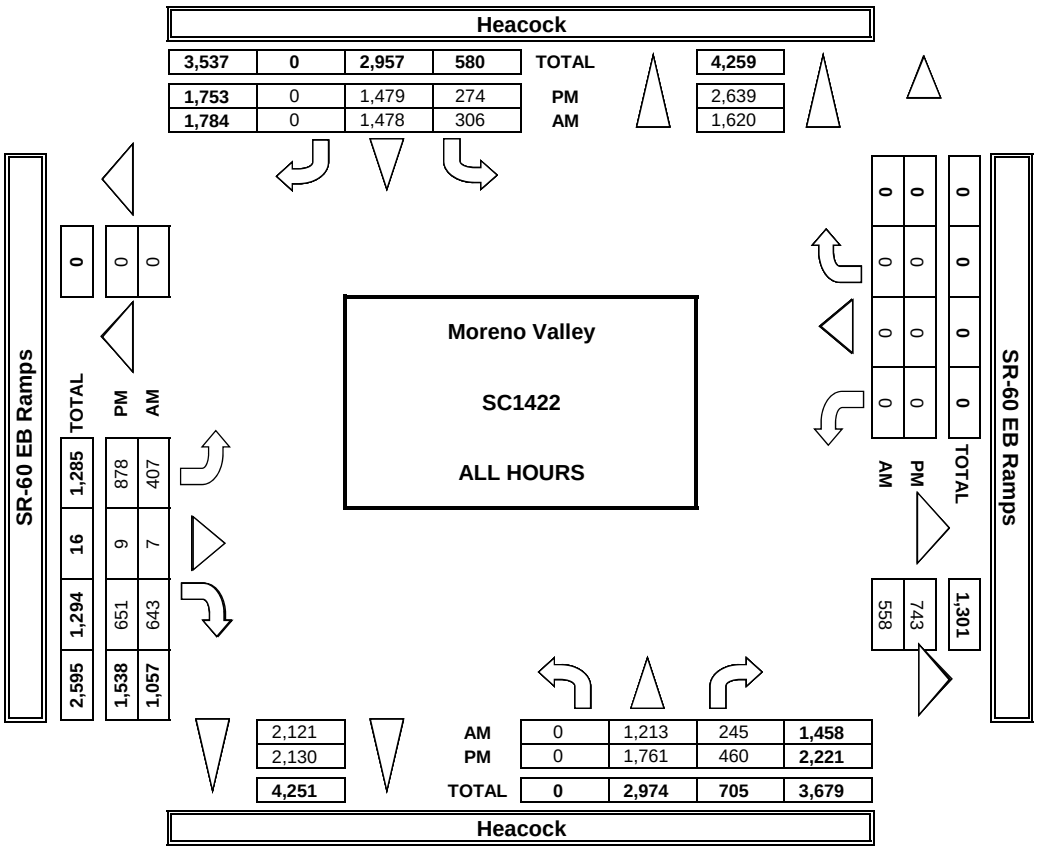
Add U-Turns to Left Turns

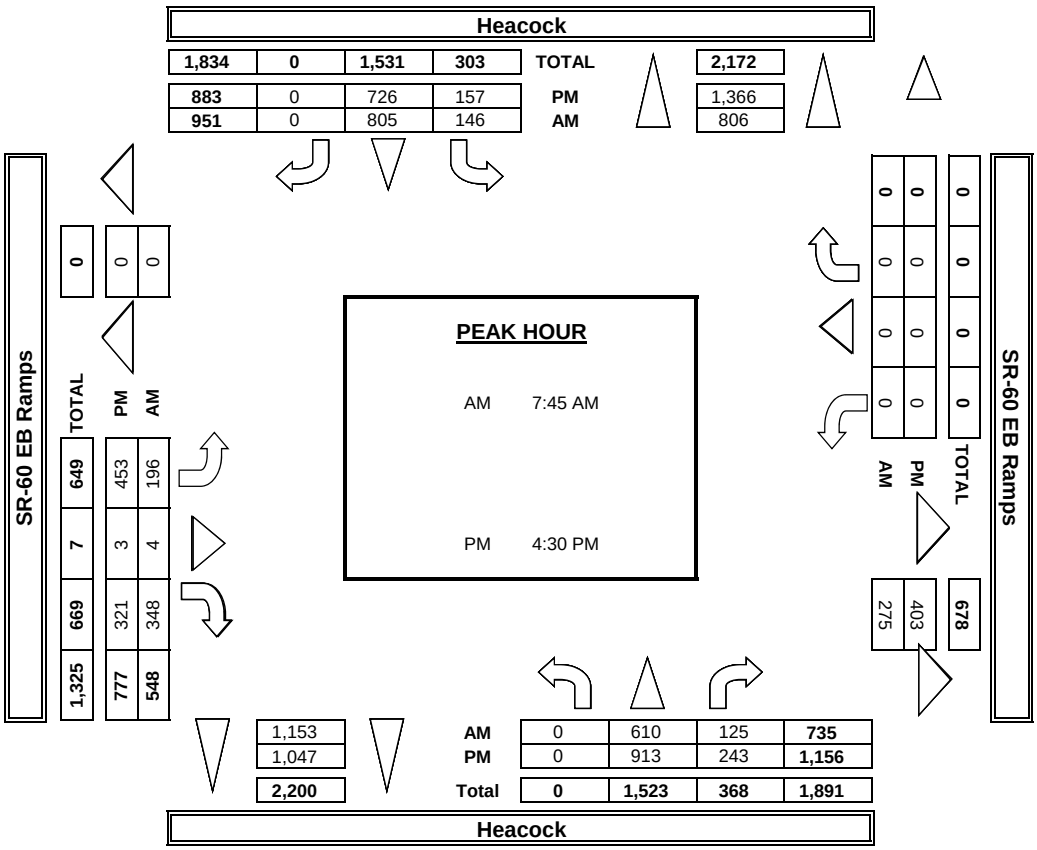
		NORTHBOUND Heacock			SOUTHBOUND Heacock			EASTBOUND SR-60 EB Ramps			WESTBOUND SR-60 EB Ramps				U-TURNS				
	LANES:	NL X	NT 3	NR 0	SL 1	ST 2	SR X	EL 1.5	ET 0.5	ER 1	WL X	WT X	WR X	TOTAL	NB 0	SB 0	EB 0	WB 0	T
AM	7:00 AM	0	143	29	31	134	0	54	0	55	0	0	0	446	0	0	0	0	0
	7:15 AM	0	132	38	47	172	0	52	0	70	0	0	0	511	0	0	0	0	0
	7:30 AM	0	163	24	55	194	0	50	1	71	0	0	0	558	0	0	0	0	0
	7:45 AM	0	167	33	59	194	0	34	1	83	0	0	0	571	0	0	0	0	0
	8:00 AM	0	151	33	27	206	0	60	1	79	0	0	0	557	0	0	0	0	0
	8:15 AM	0	143	28	35	185	0	56	0	96	0	0	0	543	0	0	0	0	0
	8:30 AM	0	149	31	25	220	0	46	2	90	0	0	0	563	0	0	0	0	0
	8:45 AM	0	165	29	27	173	0	55	2	99	0	0	0	550	0	0	0	0	0
	9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	VOLUMES	0	1,213	245	306	1,478	0	407	7	643	0	0	0	4,299	0	0	0	0	0
	APPROACH %	0%	83%	17%	17%	83%	0%	39%	1%	61%	0%	0%	0%						
	APP/DEPART	1,458	/	1,620	1,784	/	2,121	1,057	/	558	0	/	0	0					
	BEGIN PEAK HR		7:45 AM																
	VOLUMES	0	610	125	146	805	0	196	4	348	0	0	0	2,234					
	APPROACH %	0%	83%	17%	15%	85%	0%	36%	1%	64%	0%	0%	0%						
	PEAK HR FACTOR		0.919			0.940			0.901			0.000		0.978					
	APP/DEPART	735	/	806	951	/	1,153	548	/	275	0	/	0	0					
PM	03:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:00 PM	0	234	48	23	180	0	105	2	100	0	0	0	692	0	0	0	0	0
	4:15 PM	0	191	58	26	191	0	104	1	82	0	0	0	653	0	0	0	0	0
	4:30 PM	0	215	56	34	204	0	126	2	101	0	0	0	738	0	0	0	0	0
	4:45 PM	0	201	58	36	191	0	112	1	90	0	0	0	689	0	0	0	0	0
	5:00 PM	0	264	68	40	172	0	106	0	64	0	0	0	714	0	0	0	0	0
	5:15 PM	0	233	61	47	159	0	109	0	66	0	0	0	675	0	0	0	0	0
	5:30 PM	0	223	53	26	196	0	115	2	84	0	0	0	699	0	0	0	0	0
	5:45 PM	0	200	58	42	186	0	101	1	64	0	0	0	652	0	0	0	0	0
	VOLUMES	0	1,761	460	274	1,479	0	878	9	651	0	0	0	5,512	0	0	0	0	0
	APPROACH %	0%	79%	21%	16%	84%	0%	57%	1%	42%	0%	0%	0%						
	APP/DEPART	2,221	/	2,639	1,753	/	2,130	1,538	/	743	0	/	0	0					
	BEGIN PEAK HR		4:30 PM																
	VOLUMES	0	913	243	157	726	0	453	3	321	0	0	0	2,816					
	APPROACH %	0%	79%	21%	18%	82%	0%	58%	0%	41%	0%	0%	0%						
	PEAK HR FACTOR		0.870			0.928			0.848			0.000		0.954					
	APP/DEPART	1,156	/	1,366	883	/	1,047	777	/	403	0	/	0	0					



AimTD LLC

TURNING MOVEMENT COUNTS





INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:	LOCATION:	Moreno Valley	PROJECT #:	SC1422
Wed, Aug 16, 17	NORTH & SOUTH:	East FMV	LOCATION #:	6
	EAST & WEST:	Hemlock	CONTROL:	STOP S

NOTES:

AM / PM / MD / OTHER / OTHER

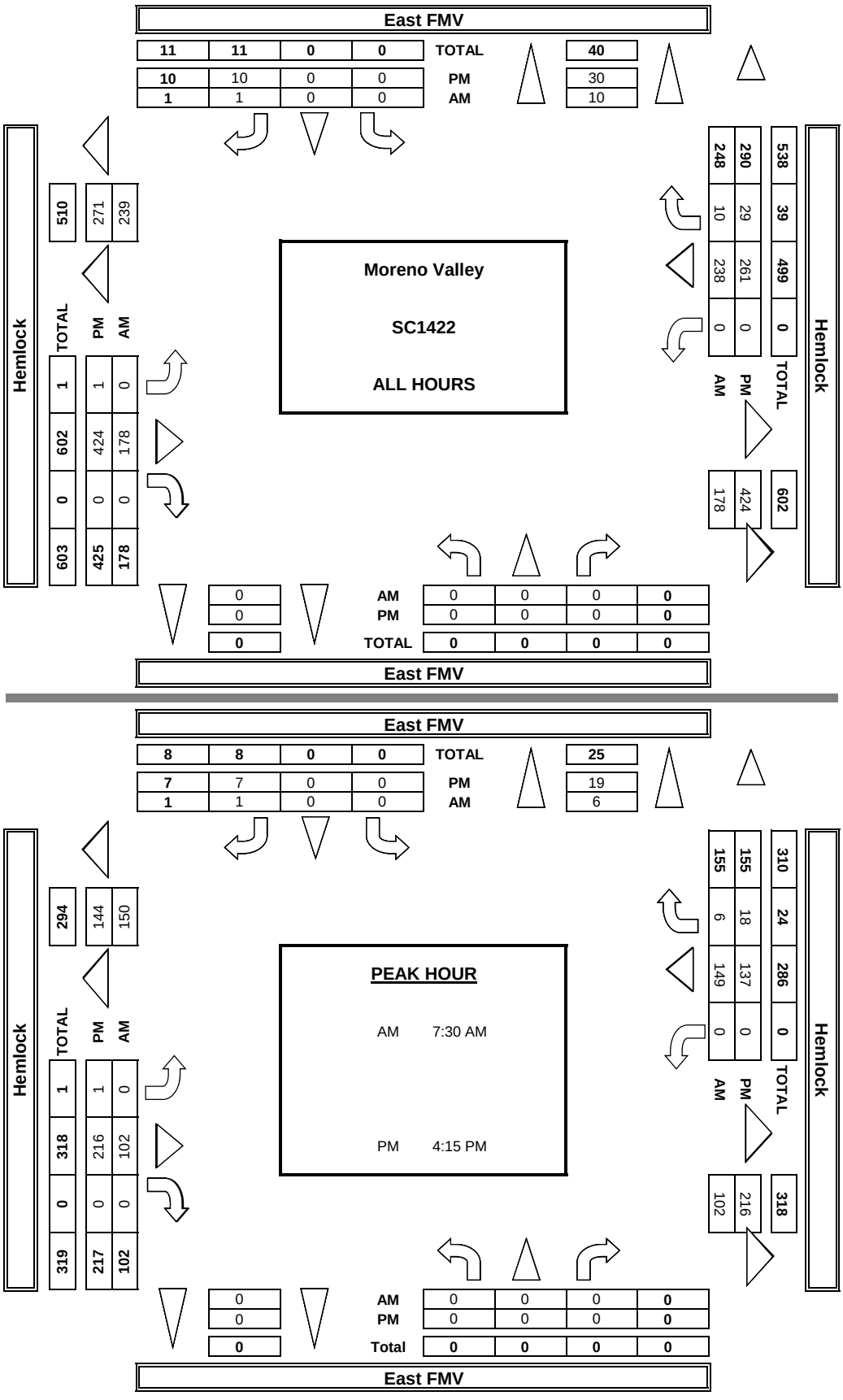
▲ N ◄ W E ► S ▼

Add U-Turns to Left Turns

		NORTHBOUND East FMV			SOUTHBOUND East FMV			EASTBOUND Hemlock			WESTBOUND Hemlock				U-TURNS				
	LANES:	NL X	NT X	NR X	SL X	ST X	SR 0	EL X	ET 1	ER X	WL X	WT 1	WR 0	TOTAL	NB 0	SB 0	EB 0	WB 0	T
AM	7:00 AM	0	0	0	0	0	0	0	16	0	0	17	0	33	0	0	0	0	0
	7:15 AM	0	0	0	0	0	0	0	15	0	0	18	0	33	0	0	0	0	0
	7:30 AM	0	0	0	0	0	0	0	33	0	0	34	1	68	0	0	0	0	0
	7:45 AM	0	0	0	0	0	1	0	34	0	0	38	2	75	0	0	0	0	0
	8:00 AM	0	0	0	0	0	0	0	18	0	0	35	1	54	0	0	0	0	0
	8:15 AM	0	0	0	0	0	0	0	17	0	0	42	2	61	0	0	0	0	0
	8:30 AM	0	0	0	0	0	0	0	21	0	0	25	3	49	0	0	0	0	0
	8:45 AM	0	0	0	0	0	0	0	24	0	0	29	1	54	0	0	0	0	0
	9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	VOLUMES	0	0	0	0	0	1	0	178	0	0	238	10	427	0	0	0	0	0
	APPROACH %	0%	0%	0%	0%	0%	100%	0%	100%	0%	0%	96%	4%						
	APP/DEPART	0	/	10	1	/	0	178	/	178	248	/	239	0					
	BEGIN PEAK HR		7:30 AM																
	VOLUMES	0	0	0	0	0	1	0	102	0	0	149	6	258					
	APPROACH %	0%	0%	0%	0%	0%	100%	0%	100%	0%	0%	96%	4%						
	PEAK HR FACTOR		0.000			0.250			0.750			0.881		0.860					
	APP/DEPART	0	/	6	1	/	0	102	/	102	155	/	150	0					
PM	03:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:00 PM	0	0	0	0	0	0	0	48	0	0	27	4	79	0	0	0	0	0
	4:15 PM	0	0	0	0	0	1	1	50	0	0	32	2	86	0	0	0	0	0
	4:30 PM	0	0	0	0	0	1	0	55	0	0	36	2	94	0	0	0	0	0
	4:45 PM	0	0	0	0	0	4	0	52	0	0	31	9	96	0	0	0	0	0
	5:00 PM	0	0	0	0	0	1	0	59	0	0	38	5	103	0	0	0	0	0
	5:15 PM	0	0	0	0	0	2	0	44	0	0	28	1	75	0	0	0	0	0
	5:30 PM	0	0	0	0	0	1	0	54	0	0	28	4	87	0	0	0	0	0
	5:45 PM	0	0	0	0	0	0	0	62	0	0	41	2	105	0	0	0	0	0
	VOLUMES	0	0	0	0	0	10	1	424	0	0	261	29	725	0	0	0	0	0
	APPROACH %	0%	0%	0%	0%	0%	100%	0%	100%	0%	0%	90%	10%						
	APP/DEPART	0	/	30	10	/	0	425	/	424	290	/	271	0					
	BEGIN PEAK HR		4:15 PM																
	VOLUMES	0	0	0	0	0	7	1	216	0	0	137	18	379					
	APPROACH %	0%	0%	0%	0%	0%	100%	0%	100%	0%	0%	88%	12%						
	PEAK HR FACTOR		0.000			0.438			0.919			0.901		0.920					
	APP/DEPART	0	/	19	7	/	0	217	/	216	155	/	144	0					

AimTD LLC

TURNING MOVEMENT COUNTS



INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:	LOCATION:	Moreno Valley	PROJECT #:	SC1422
Wed, Aug 16, 17	NORTH & SOUTH:	Davis	LOCATION #:	7
	EAST & WEST:	Hemlock	CONTROL:	STOP N/S

NOTES:

AM / PM / MD / OTHER / OTHER

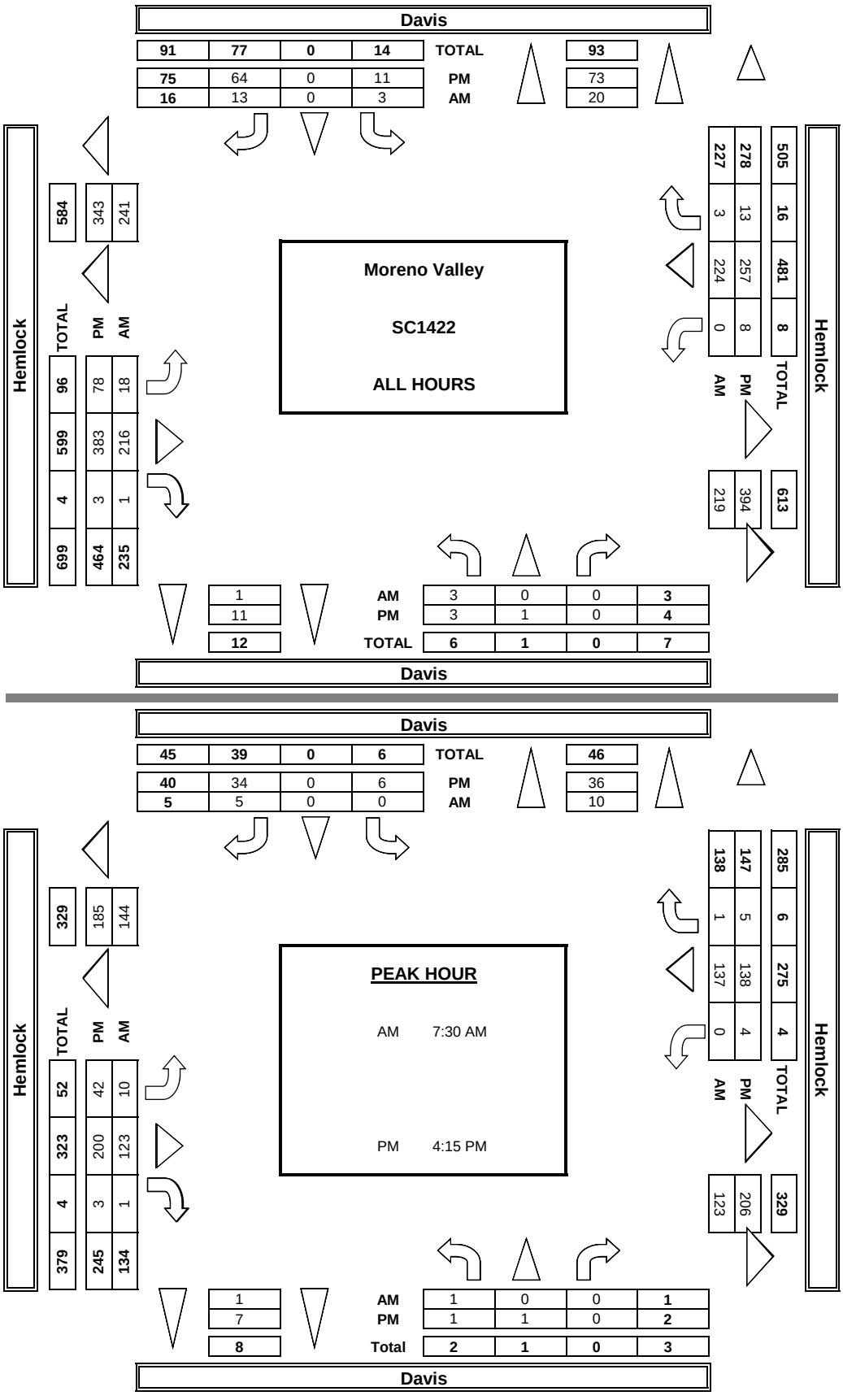
▲ N ◄ W E ► S ▼

Add U-Turns to Left Turns

		NORTHBOUND Davis			SOUTHBOUND Davis			EASTBOUND Hemlock			WESTBOUND Hemlock				U-TURNS				
	LANES:	NL 0	NT 1	NR 0	SL 0	ST 1	SR 1	EL 1	ET 2	ER 0	WL 1	WT 1	WR 0	TOTAL	NB 0	SB 0	EB 0	WB 0	T
AM	7:00 AM	0	0	0	0	0	0	1	18	0	0	16	0	35	0	0	0	0	0
	7:15 AM	1	0	0	1	0	0	1	13	0	0	18	0	34	0	0	0	0	0
	7:30 AM	0	0	0	0	0	2	1	37	0	0	31	0	71	0	0	0	0	0
	7:45 AM	1	0	0	0	0	0	1	42	1	0	36	0	81	0	0	0	0	0
	8:00 AM	0	0	0	0	0	0	4	23	0	0	30	0	57	0	0	1	0	1
	8:15 AM	0	0	0	0	0	3	4	21	0	0	40	1	69	0	0	0	0	0
	8:30 AM	1	0	0	1	0	2	3	27	0	0	28	0	62	0	0	0	0	0
	8:45 AM	0	0	0	1	0	6	3	35	0	0	25	2	72	0	0	0	0	0
	9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	VOLUMES	3	0	0	3	0	13	18	216	1	0	224	3	481	0	0	1	0	1
	APPROACH %	100%	0%	0%	19%	0%	81%	8%	92%	0%	0%	99%	1%						
	APP/DEPART	3	/	20	16	/	1	235	/	219	227	/	241	0					
	BEGIN PEAK HR		7:30 AM																
	VOLUMES	1	0	0	0	0	5	10	123	1	0	137	1	278					
	APPROACH %	100%	0%	0%	0%	0%	100%	7%	92%	1%	0%	99%	1%						
	PEAK HR FACTOR		0.250			0.417			0.761			0.841		0.858					
	APP/DEPART	1	/	10	5	/	1	134	/	123	138	/	144	0					
PM	03:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:00 PM	0	0	0	1	0	10	9	50	0	2	24	1	97	0	0	1	0	1
	4:15 PM	0	0	0	3	0	9	9	49	0	1	34	0	105	0	0	2	0	2
	4:30 PM	0	0	0	1	0	7	6	48	1	1	33	1	98	0	0	2	0	2
	4:45 PM	0	1	0	0	0	10	15	55	0	2	41	1	125	0	0	2	0	2
	5:00 PM	1	0	0	2	0	8	12	48	2	0	30	3	106	0	0	6	0	6
	5:15 PM	2	0	0	2	0	4	7	30	0	0	27	2	74	0	0	5	0	5
	5:30 PM	0	0	0	1	0	6	9	52	0	1	28	2	99	0	0	0	0	0
	5:45 PM	0	0	0	1	0	10	11	51	0	1	40	3	117	0	0	1	0	1
	VOLUMES	3	1	0	11	0	64	78	383	3	8	257	13	821	0	0	19	0	19
	APPROACH %	75%	25%	0%	15%	0%	85%	17%	83%	1%	3%	92%	5%						
	APP/DEPART	4	/	73	75	/	11	464	/	394	278	/	343	0					
	BEGIN PEAK HR		4:15 PM																
	VOLUMES	1	1	0	6	0	34	42	200	3	4	138	5	434					
	APPROACH %	50%	50%	0%	15%	0%	85%	17%	82%	1%	3%	94%	3%						
	PEAK HR FACTOR		0.500			0.833			0.875			0.835		0.868					
	APP/DEPART	2	/	36	40	/	7	245	/	206	147	/	185	0					

AimTD LLC

TURNING MOVEMENT COUNTS



INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE: Wed, Aug 16, 17

LOCATION: Moreno Valley
NORTH & SOUTH: Driveway
EAST & WEST: Hemlock

PROJECT #: SC1422
LOCATION #: 8
CONTROL: STOP N

NOTES:

AM PM MD OTHER OTHER

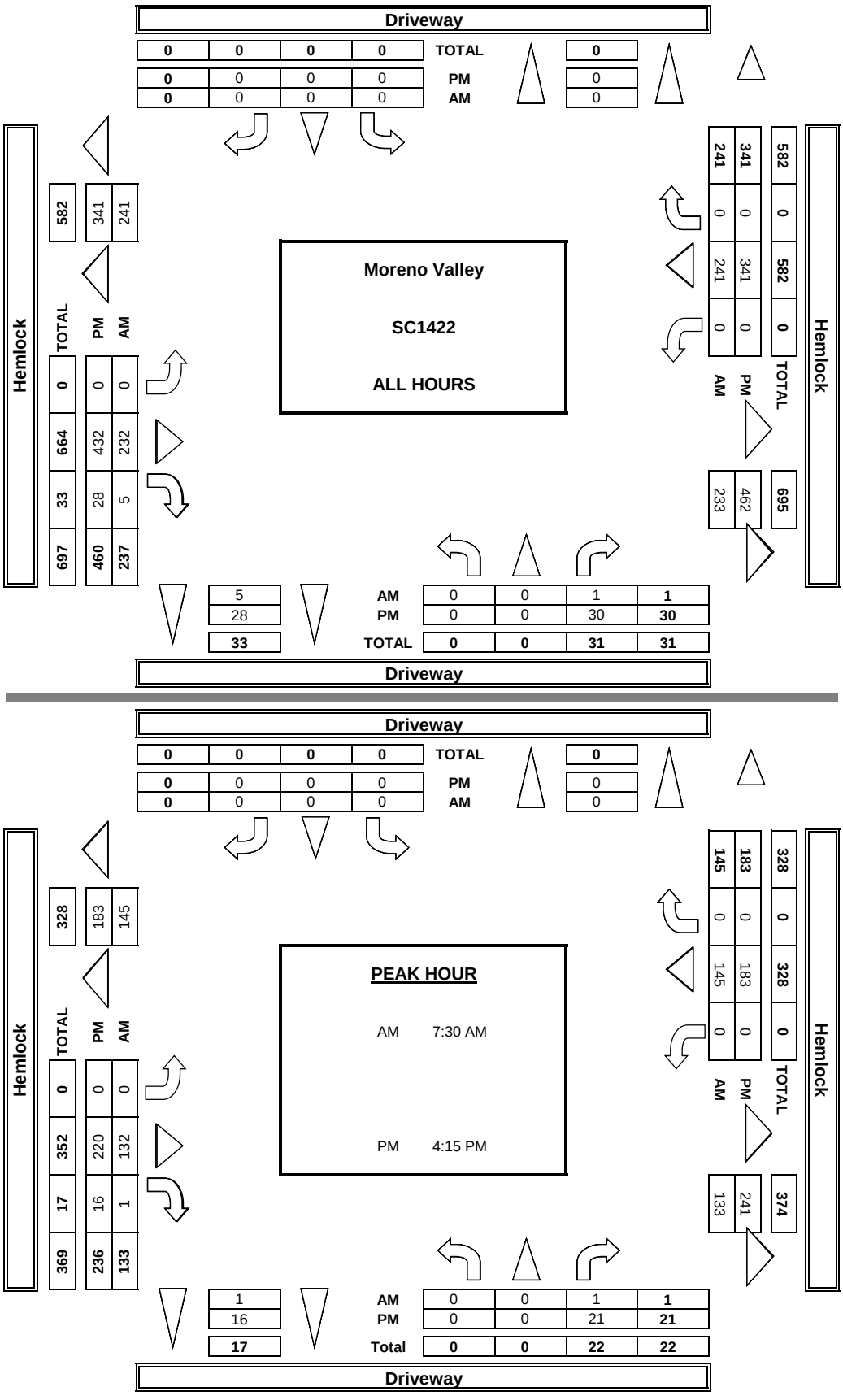
▲ N ◄ W E ► S ▼

Add U-Turns to Left Turns

		NORTHBOUND Driveway			SOUTHBOUND Driveway			EASTBOUND Hemlock			WESTBOUND Hemlock				U-TURNS				
	LANES:	NL X	NT X	NR 1	SL X	ST X	SR X	EL X	ET 2	ER 0	WL X	WT 3	WR X	TOTAL	NB 0	SB 0	EB 0	WB 0	T
AM	7:00 AM	0	0	0	0	0	0	0	15	2	0	19	0	36	0	0	0	0	0
	7:15 AM	0	0	0	0	0	0	0	19	0	0	18	0	37	0	0	0	0	0
	7:30 AM	0	0	0	0	0	0	0	43	0	0	33	0	76	0	0	0	0	0
	7:45 AM	0	0	0	0	0	0	0	38	0	0	39	0	77	0	0	0	0	0
	8:00 AM	0	0	0	0	0	0	0	24	0	0	31	0	55	0	0	0	0	0
	8:15 AM	0	0	1	0	0	0	0	27	1	0	42	0	71	0	0	0	0	0
	8:30 AM	0	0	0	0	0	0	0	29	0	0	32	0	61	0	0	0	0	0
	8:45 AM	0	0	0	0	0	0	0	37	2	0	27	0	66	0	0	0	0	0
	9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	VOLUMES	0	0	1	0	0	0	0	232	5	0	241	0	479	0	0	0	0	0
	APPROACH %	0%	0%	100%	0%	0%	0%	0%	98%	2%	0%	100%	0%						
	APP/DEPART	1	/	0	0	/	5	237	/	233	241	/	241	0					
	BEGIN PEAK HR		7:30 AM																
	VOLUMES	0	0	1	0	0	0	0	132	1	0	145	0	279					
	APPROACH %	0%	0%	100%	0%	0%	0%	0%	99%	1%	0%	100%	0%						
	PEAK HR FACTOR		0.250			0.000			0.773			0.863		0.906					
	APP/DEPART	1	/	0	0	/	1	133	/	133	145	/	145	0					
PM	03:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:00 PM	0	0	2	0	0	0	0	55	3	0	35	0	95	0	0	0	0	0
	4:15 PM	0	0	3	0	0	0	0	58	6	0	45	0	112	0	0	0	0	0
	4:30 PM	0	0	3	0	0	0	0	53	4	0	41	0	101	0	0	0	0	0
	4:45 PM	0	0	6	0	0	0	0	53	2	0	50	0	111	0	0	0	0	0
	5:00 PM	0	0	9	0	0	0	0	56	4	0	47	0	116	0	0	0	0	0
	5:15 PM	0	0	4	0	0	0	0	38	4	0	37	0	83	0	0	0	0	0
	5:30 PM	0	0	1	0	0	0	0	59	4	0	32	0	96	0	0	0	0	0
	5:45 PM	0	0	2	0	0	0	0	60	1	0	54	0	117	0	0	0	0	0
	VOLUMES	0	0	30	0	0	0	0	432	28	0	341	0	831	0	0	0	0	0
	APPROACH %	0%	0%	100%	0%	0%	0%	0%	94%	6%	0%	100%	0%						
	APP/DEPART	30	/	0	0	/	28	460	/	462	341	/	341	0					
	BEGIN PEAK HR		4:15 PM																
	VOLUMES	0	0	21	0	0	0	0	220	16	0	183	0	440					
	APPROACH %	0%	0%	100%	0%	0%	0%	0%	93%	7%	0%	100%	0%						
	PEAK HR FACTOR		0.583			0.000			0.922			0.915		0.948					
	APP/DEPART	21	/	0	0	/	16	236	/	241	183	/	183	0					

AimTD LLC

TURNING MOVEMENT COUNTS



INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE: Wed, Aug 16, 17

LOCATION: Moreno Valley
NORTH & SOUTH: IHOP
EAST & WEST: Hemlock

PROJECT #: SC1422
LOCATION #: 9
CONTROL: STOP S

NOTES:

AM / PM / MD / OTHER / OTHER

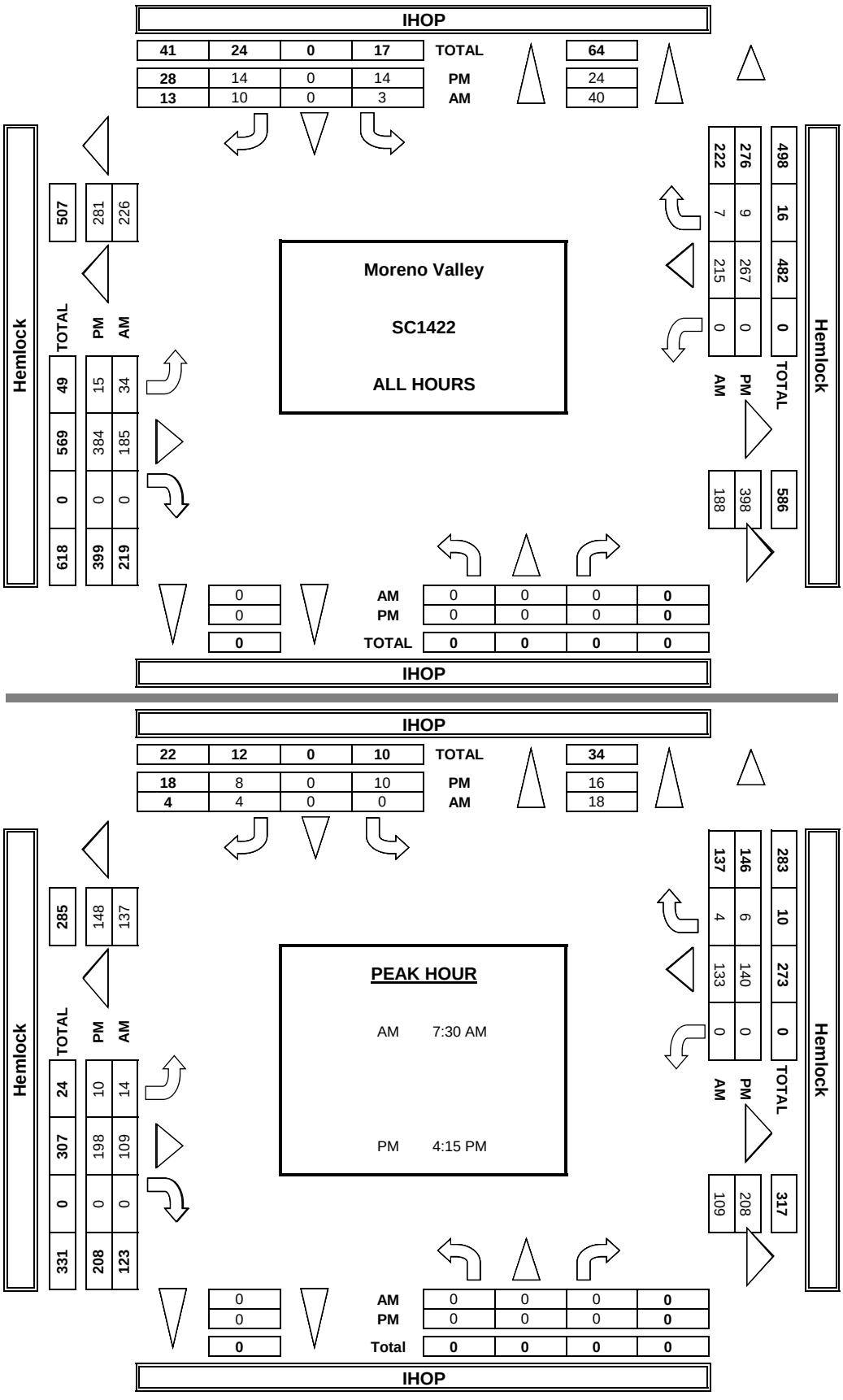
N ▲ S ▼ W ◄ E ►

Add U-Turns to Left Turns

		NORTHBOUND IHOP			SOUTHBOUND IHOP			EASTBOUND Hemlock			WESTBOUND Hemlock				U-TURNS				
	LANES:	NL X	NT X	NR X	SL 0	ST X	SR 0	EL 0	ET 1	ER X	WL X	WT 1	WR 0	TOTAL	NB 0	SB 0	EB 0	WB 0	T
AM	7:00 AM	0	0	0	1	0	1	2	16	0	0	15	1	36	0	0	0	0	0
	7:15 AM	0	0	0	2	0	0	0	14	0	0	18	1	35	0	0	0	0	0
	7:30 AM	0	0	0	0	0	0	1	36	0	0	31	0	68	0	0	0	0	0
	7:45 AM	0	0	0	0	0	2	6	36	0	0	34	1	79	0	0	0	0	0
	8:00 AM	0	0	0	0	0	1	5	18	0	0	29	1	54	0	0	0	0	0
	8:15 AM	0	0	0	0	0	1	2	19	0	0	39	2	63	0	0	0	0	0
	8:30 AM	0	0	0	0	0	4	7	21	0	0	24	0	56	0	0	0	0	0
	8:45 AM	0	0	0	0	0	1	11	25	0	0	25	1	63	0	0	1	0	1
	9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	VOLUMES	0	0	0	3	0	10	34	185	0	0	215	7	454	0	0	1	0	1
	APPROACH %	0%	0%	0%	23%	0%	77%	16%	84%	0%	0%	97%	3%						
	APP/DEPART	0	/	40	13	/	0	219	/	188	222	/	226	0					
	BEGIN PEAK HR		7:30 AM																
	VOLUMES	0	0	0	0	0	4	14	109	0	0	133	4	264					
	APPROACH %	0%	0%	0%	0%	0%	100%	11%	89%	0%	0%	97%	3%						
	PEAK HR FACTOR		0.000			0.500			0.732			0.835		0.835					
	APP/DEPART	0	/	18	4	/	0	123	/	109	137	/	137	0					
PM	03:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:00 PM	0	0	0	1	0	1	1	50	0	0	26	1	80	0	0	0	0	0
	4:15 PM	0	0	0	0	0	2	7	46	0	0	35	2	92	0	0	0	0	0
	4:30 PM	0	0	0	6	0	2	1	48	0	0	32	2	91	0	0	0	0	0
	4:45 PM	0	0	0	3	0	3	2	52	0	0	41	1	102	0	0	0	0	0
	5:00 PM	0	0	0	1	0	1	0	52	0	0	32	1	87	0	0	0	0	0
	5:15 PM	0	0	0	2	0	2	1	35	0	0	26	1	67	0	0	0	0	0
	5:30 PM	0	0	0	0	0	1	0	52	0	0	30	0	83	0	0	0	0	0
	5:45 PM	0	0	0	1	0	2	3	49	0	0	45	1	101	0	0	0	0	0
	VOLUMES	0	0	0	14	0	14	15	384	0	0	267	9	703	0	0	0	0	0
	APPROACH %	0%	0%	0%	50%	0%	50%	4%	96%	0%	0%	97%	3%						
	APP/DEPART	0	/	24	28	/	0	399	/	398	276	/	281	0					
	BEGIN PEAK HR		4:15 PM																
	VOLUMES	0	0	0	10	0	8	10	198	0	0	140	6	372					
	APPROACH %	0%	0%	0%	56%	0%	44%	5%	95%	0%	0%	96%	4%						
	PEAK HR FACTOR		0.000			0.563			0.963			0.869		0.912					
	APP/DEPART	0	/	16	18	/	0	208	/	208	146	/	148	0					

AimTD LLC

TURNING MOVEMENT COUNTS



INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE: Wed, Aug 16, 17

LOCATION: Moreno Valley
NORTH & SOUTH: Indian
EAST & WEST: Hemlock

PROJECT #: SC1422
LOCATION #: 13
CONTROL: STOP S

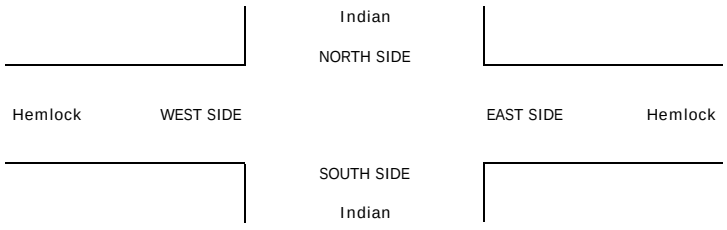
NOTES:

AM PM MD OTHER OTHER

N ◄ W E ► S

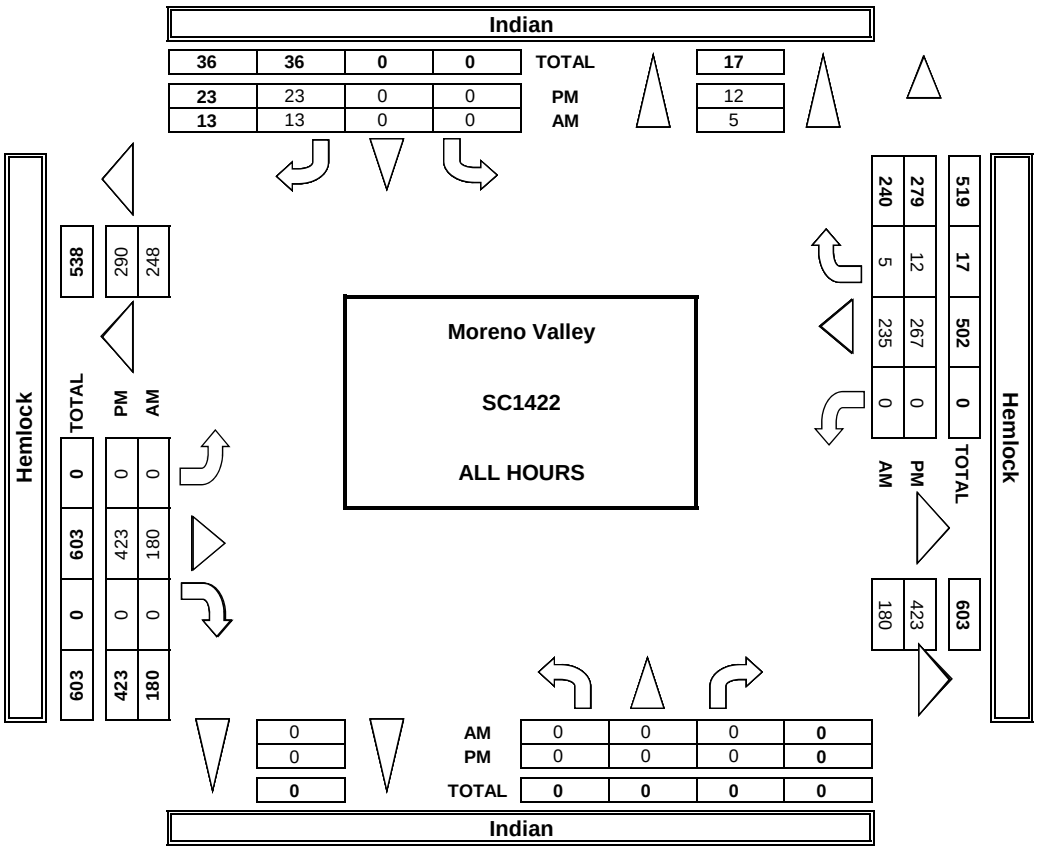
Add U-Turns to Left Turns

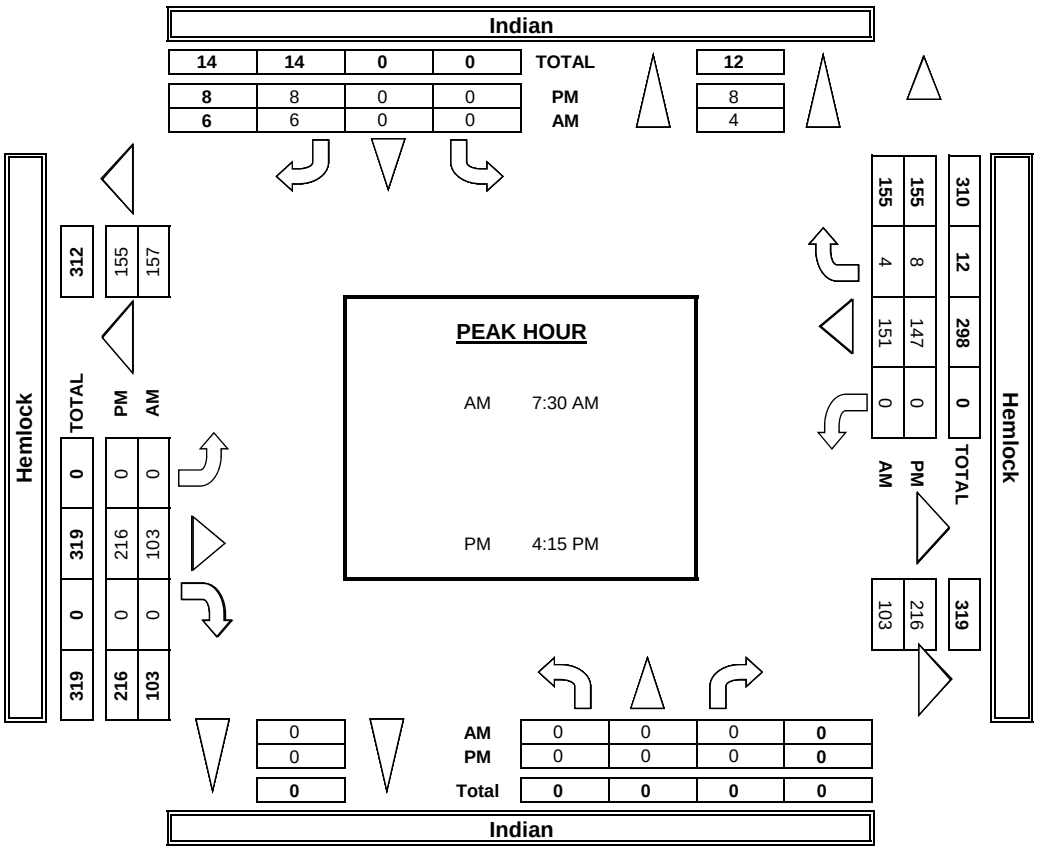
		NORTHBOUND Indian			SOUTHBOUND Indian			EASTBOUND Hemlock			WESTBOUND Hemlock				U-TURNS				
	LANES:	NL X	NT X	NR X	SL X	ST X	SR 0	EL X	ET 1	ER X	WL X	WT 1	WR 0	TOTAL	NB 0	SB 0	EB 0	WB 0	T
AM	7:00 AM	0	0	0	0	0	2	0	16	0	0	15	0	33	0	0	0	0	0
	7:15 AM	0	0	0	0	0	1	0	15	0	0	17	1	34	0	0	0	0	0
	7:30 AM	0	0	0	0	0	4	0	34	0	0	31	1	70	0	0	0	0	0
	7:45 AM	0	0	0	0	0	1	0	34	0	0	39	2	76	0	0	0	0	0
	8:00 AM	0	0	0	0	0	1	0	18	0	0	35	1	55	0	0	0	0	0
	8:15 AM	0	0	0	0	0	0	0	17	0	0	46	0	63	0	0	0	0	0
	8:30 AM	0	0	0	0	0	2	0	21	0	0	26	0	49	0	0	0	0	0
	8:45 AM	0	0	0	0	0	2	0	25	0	0	26	0	53	0	0	0	0	0
	9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	VOLUMES	0	0	0	0	0	13	0	180	0	0	235	5	433	0	0	0	0	0
	APPROACH %	0%	0%	0%	0%	0%	100%	0%	100%	0%	0%	98%	2%						
	APP/DEPART	0	/	5	13	/	0	180	/	180	240	/	248	0					
	BEGIN PEAK HR		7:30 AM																
	VOLUMES	0	0	0	0	0	6	0	103	0	0	151	4	264					
	APPROACH %	0%	0%	0%	0%	0%	100%	0%	100%	0%	0%	97%	3%						
	PEAK HR FACTOR		0.000			0.375			0.757			0.842		0.868					
	APP/DEPART	0	/	4	6	/	0	103	/	103	155	/	157	0					
PM	03:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:00 PM	0	0	0	0	0	1	0	48	0	0	30	1	80	0	0	0	0	0
	4:15 PM	0	0	0	0	0	4	0	50	0	0	30	4	88	0	0	0	0	0
	4:30 PM	0	0	0	0	0	1	0	55	0	0	37	3	96	0	0	0	0	0
	4:45 PM	0	0	0	0	0	3	0	52	0	0	37	1	93	0	0	0	0	0
	5:00 PM	0	0	0	0	0	0	0	59	0	0	43	0	102	0	0	0	0	0
	5:15 PM	0	0	0	0	0	3	0	44	0	0	26	0	73	0	0	0	0	0
	5:30 PM	0	0	0	0	0	4	0	54	0	0	28	2	88	0	0	0	0	0
	5:45 PM	0	0	0	0	0	7	0	61	0	0	36	1	105	0	0	0	0	0
	VOLUMES	0	0	0	0	0	23	0	423	0	0	267	12	725	0	0	0	0	0
	APPROACH %	0%	0%	0%	0%	0%	100%	0%	100%	0%	0%	96%	4%						
	APP/DEPART	0	/	12	23	/	0	423	/	423	279	/	290	0					
	BEGIN PEAK HR		4:15 PM																
	VOLUMES	0	0	0	0	0	8	0	216	0	0	147	8	379					
	APPROACH %	0%	0%	0%	0%	0%	100%	0%	100%	0%	0%	95%	5%						
	PEAK HR FACTOR		0.000			0.500			0.915			0.901		0.929					
	APP/DEPART	0	/	8	8	/	0	216	/	216	155	/	155	0					



AimTD LLC

TURNING MOVEMENT COUNTS





INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE: Wed, Aug 16, 17

LOCATION: Moreno Valley
NORTH & SOUTH: Davis
EAST & WEST: Ironwood

PROJECT #: SC1422
LOCATION #: 11
CONTROL: SIGNAL

NOTES:

AM PM MD OTHER OTHER

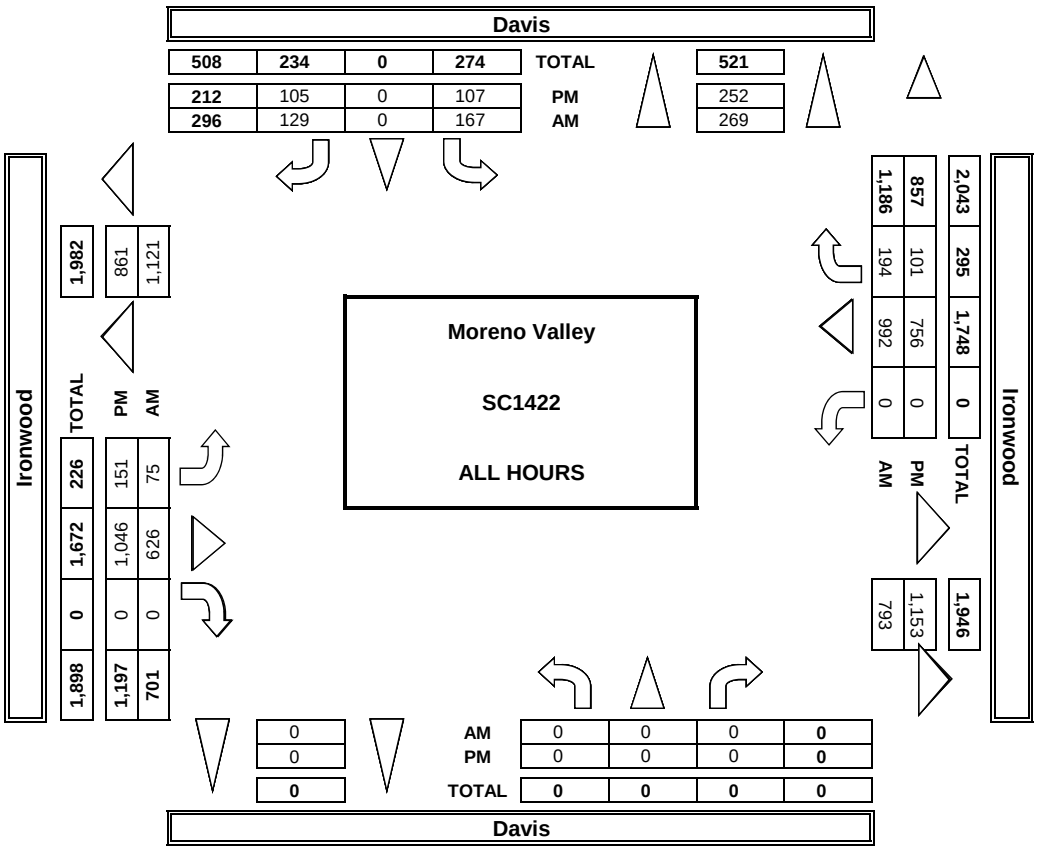
N ▲ ◄ W E ► S ▼

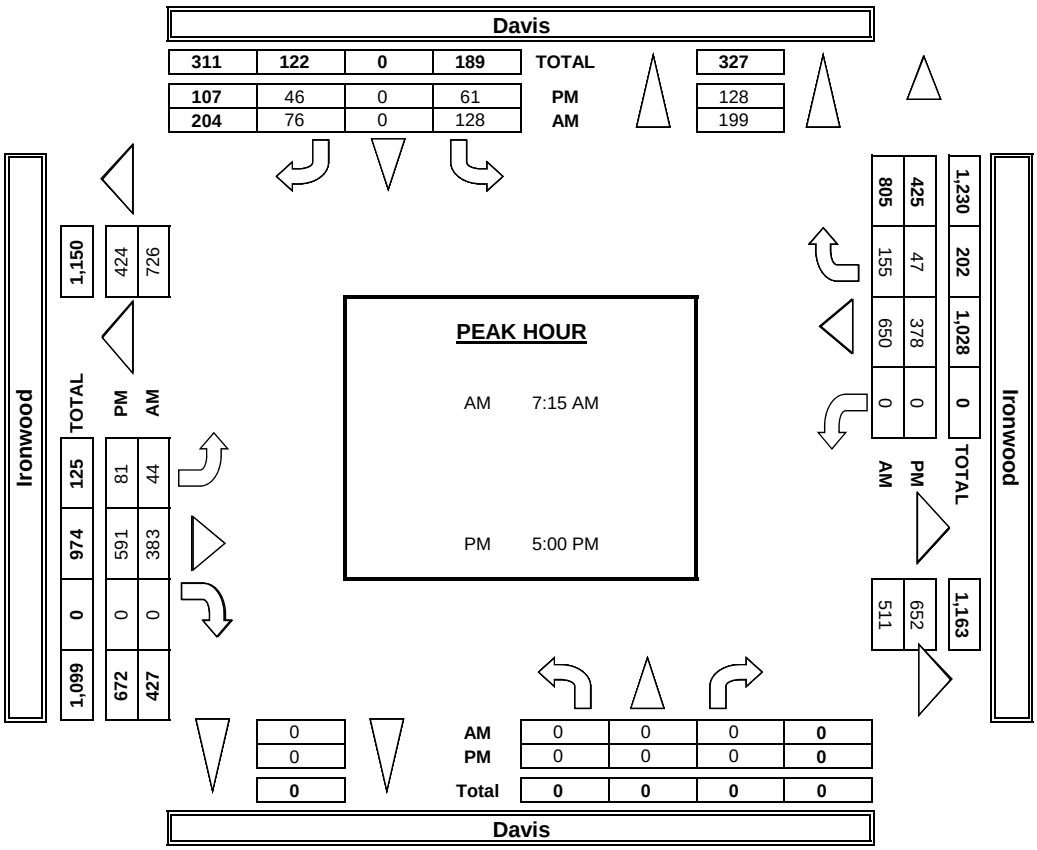
Add U-Turns to Left Turns

		NORTHBOUND Davis			SOUTHBOUND Davis			EASTBOUND Ironwood			WESTBOUND Ironwood				U-TURNS				
	LANES:	NL X	NT X	NR X	SL 1	ST X	SR 1	EL 1	ET 2	ER X	WL X	WT 2	WR 0	TOTAL	NB 0	SB 0	EB 0	WB 0	T
AM	7:00 AM	0	0	0	15	0	13	15	54	0	0	104	21	222	0	0	0	0	0
	7:15 AM	0	0	0	38	0	18	11	96	0	0	140	31	334	0	0	0	0	0
	7:30 AM	0	0	0	29	0	17	14	116	0	0	155	58	389	0	0	0	0	0
	7:45 AM	0	0	0	34	0	21	9	91	0	0	213	44	412	0	0	0	0	0
	8:00 AM	0	0	0	27	0	20	10	80	0	0	142	22	301	0	0	0	0	0
	8:15 AM	0	0	0	12	0	13	3	51	0	0	96	5	180	0	0	0	0	0
	8:30 AM	0	0	0	6	0	10	4	68	0	0	78	5	171	0	0	0	0	0
	8:45 AM	0	0	0	6	0	17	9	70	0	0	64	8	174	0	0	0	0	0
	9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	VOLUMES	0	0	0	167	0	129	75	626	0	0	992	194	2,183	0	0	0	0	0
	APPROACH %	0%	0%	0%	56%	0%	44%	11%	89%	0%	0%	84%	16%						
	APP/DEPART	0	/	269	296	/	0	701	/	793	1,186	/	1,121	0					
	BEGIN PEAK HR		7:15 AM																
	VOLUMES	0	0	0	128	0	76	44	383	0	0	650	155	1,436					
	APPROACH %	0%	0%	0%	63%	0%	37%	10%	90%	0%	0%	81%	19%						
	PEAK HR FACTOR		0.000			0.911			0.821			0.783		0.871					
	APP/DEPART	0	/	199	204	/	0	427	/	511	805	/	726	0					
PM	03:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:00 PM	0	0	0	13	0	14	14	111	0	0	91	8	251	0	0	0	0	0
	4:15 PM	0	0	0	10	0	20	16	124	0	0	106	14	290	0	0	0	0	0
	4:30 PM	0	0	0	16	0	13	17	93	0	0	75	15	229	0	0	0	0	0
	4:45 PM	0	0	0	7	0	12	23	127	0	0	106	17	292	0	0	0	0	0
	5:00 PM	0	0	0	10	0	14	14	150	0	0	105	7	300	0	0	0	0	0
	5:15 PM	0	0	0	17	0	10	24	114	0	0	78	13	256	0	0	0	0	0
	5:30 PM	0	0	0	24	0	12	23	163	0	0	110	13	345	0	0	0	0	0
	5:45 PM	0	0	0	10	0	10	20	164	0	0	85	14	303	0	0	0	0	0
	VOLUMES	0	0	0	107	0	105	151	1,046	0	0	756	101	2,266	0	0	0	0	0
	APPROACH %	0%	0%	0%	50%	0%	50%	13%	87%	0%	0%	88%	12%						
	APP/DEPART	0	/	252	212	/	0	1,197	/	1,153	857	/	861	0					
	BEGIN PEAK HR		5:00 PM																
	VOLUMES	0	0	0	61	0	46	81	591	0	0	378	47	1,204					
	APPROACH %	0%	0%	0%	57%	0%	43%	12%	88%	0%	0%	89%	11%						
	PEAK HR FACTOR		0.000			0.743			0.903			0.864		0.872					
	APP/DEPART	0	/	128	107	/	0	672	/	652	425	/	424	0					

AimTD LLC

TURNING MOVEMENT COUNTS





INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE: Wed, Aug 16, 17

LOCATION: Moreno Valley
NORTH & SOUTH: Indian
EAST & WEST: Ironwood

PROJECT #: SC1422
LOCATION #: 12
CONTROL: SIGNAL

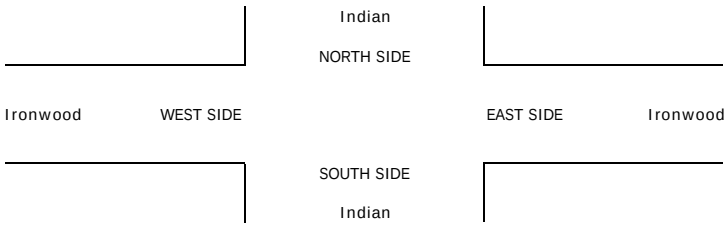
NOTES:

AM PM MD OTHER OTHER

▲ N
◄ W E ►
S ▼

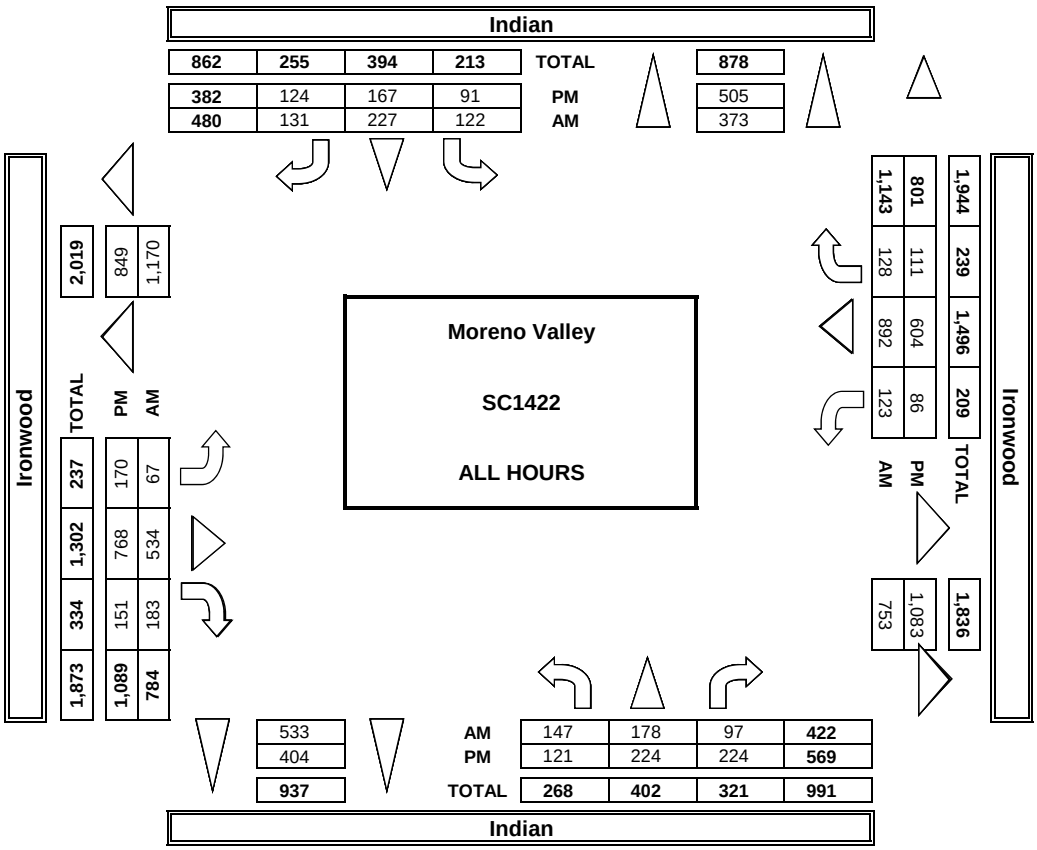
Add U-Turns to Left Turns

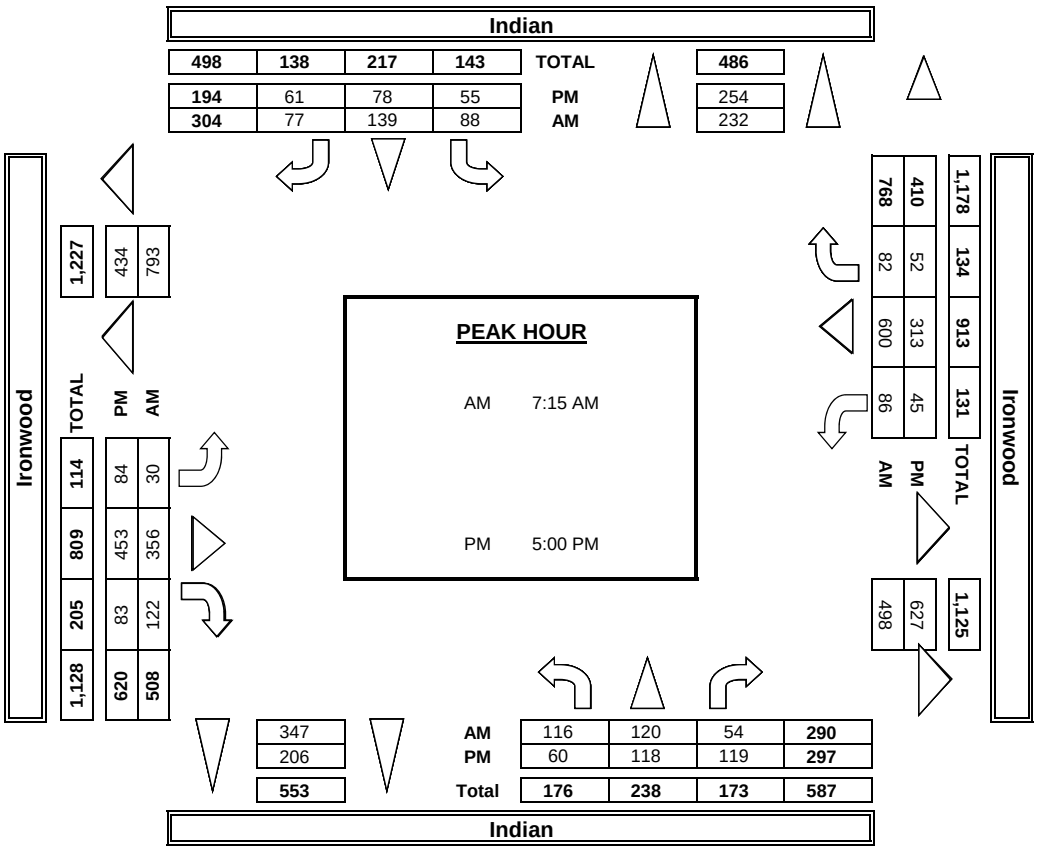
		NORTHBOUND Indian			SOUTHBOUND Indian			EASTBOUND Ironwood			WESTBOUND Ironwood				U-TURNS				
	LANES:	NL 1	NT 1	NR 1	SL 1	ST 1	SR 1	EL 1	ET 2	ER 0	WL 1	WT 2	WR 0	TOTAL	NB 0	SB 0	EB 0	WB 0	T
AM	7:00 AM	9	18	16	9	19	15	3	52	11	9	95	13	269	0	0	0	0	0
	7:15 AM	29	33	13	25	25	23	5	101	20	11	105	12	402	0	0	0	0	0
	7:30 AM	37	21	18	27	49	18	9	105	31	19	151	30	515	0	0	0	0	0
	7:45 AM	28	34	12	23	39	21	3	86	36	43	211	27	563	0	0	0	0	0
	8:00 AM	22	32	11	13	26	15	13	64	35	13	133	13	390	0	0	0	0	0
	8:15 AM	10	13	12	8	30	13	6	43	22	5	78	9	249	0	0	0	0	0
	8:30 AM	6	7	6	8	18	15	8	50	14	6	60	7	205	0	0	0	0	0
	8:45 AM	6	20	9	9	21	11	20	33	14	17	59	17	236	0	0	0	0	0
	9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	VOLUMES	147	178	97	122	227	131	67	534	183	123	892	128	2,829	0	0	0	0	0
	APPROACH %	35%	42%	23%	25%	47%	27%	9%	68%	23%	11%	78%	11%						
	APP/DEPART	422	/	373	480	/	533	784	/	753	1,143	/	1,170	0					
	BEGIN PEAK HR		7:15 AM																
	VOLUMES	116	120	54	88	139	77	30	356	122	86	600	82	1,870					
	APPROACH %	40%	41%	19%	29%	46%	25%	6%	70%	24%	11%	78%	11%						
	PEAK HR FACTOR		0.954			0.809			0.876			0.683		0.830					
	APP/DEPART	290	/	232	304	/	347	508	/	498	768	/	793	0					
PM	03:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:00 PM	14	31	20	9	22	11	18	73	16	12	68	14	308	0	0	0	0	0
	4:15 PM	20	23	21	10	22	18	21	92	21	8	80	13	349	0	0	0	0	0
	4:30 PM	12	24	27	7	18	14	27	62	16	13	59	12	291	0	0	0	0	0
	4:45 PM	15	28	37	10	27	20	20	88	15	8	84	20	372	0	0	0	0	0
	5:00 PM	19	33	31	19	22	15	20	97	24	12	79	13	384	0	0	0	0	0
	5:15 PM	16	34	34	11	15	14	18	98	17	6	63	17	343	0	0	0	0	0
	5:30 PM	14	23	30	10	21	18	27	128	22	11	95	10	409	0	0	0	0	0
	5:45 PM	11	28	24	15	20	14	19	130	20	16	76	12	385	0	0	0	0	0
	VOLUMES	121	224	224	91	167	124	170	768	151	86	604	111	2,841	0	0	0	0	0
	APPROACH %	21%	39%	39%	24%	44%	32%	16%	71%	14%	11%	75%	14%						
	APP/DEPART	569	/	505	382	/	404	1,089	/	1,083	801	/	849	0					
	BEGIN PEAK HR		5:00 PM																
	VOLUMES	60	118	119	55	78	61	84	453	83	45	313	52	1,521					
	APPROACH %	20%	40%	40%	28%	40%	31%	14%	73%	13%	11%	76%	13%						
	PEAK HR FACTOR		0.884			0.866			0.876			0.884		0.930					
	APP/DEPART	297	/	254	194	/	206	620	/	627	410	/	434	0					



AimTD LLC

TURNING MOVEMENT COUNTS





INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE: Wed, Aug 16, 17

LOCATION: Moreno Valley
NORTH & SOUTH: Indian
EAST & WEST: Hemlock

PROJECT #: SC1422
LOCATION #: 13
CONTROL: SIGNAL

NOTES:

AM PM MD OTHER OTHER

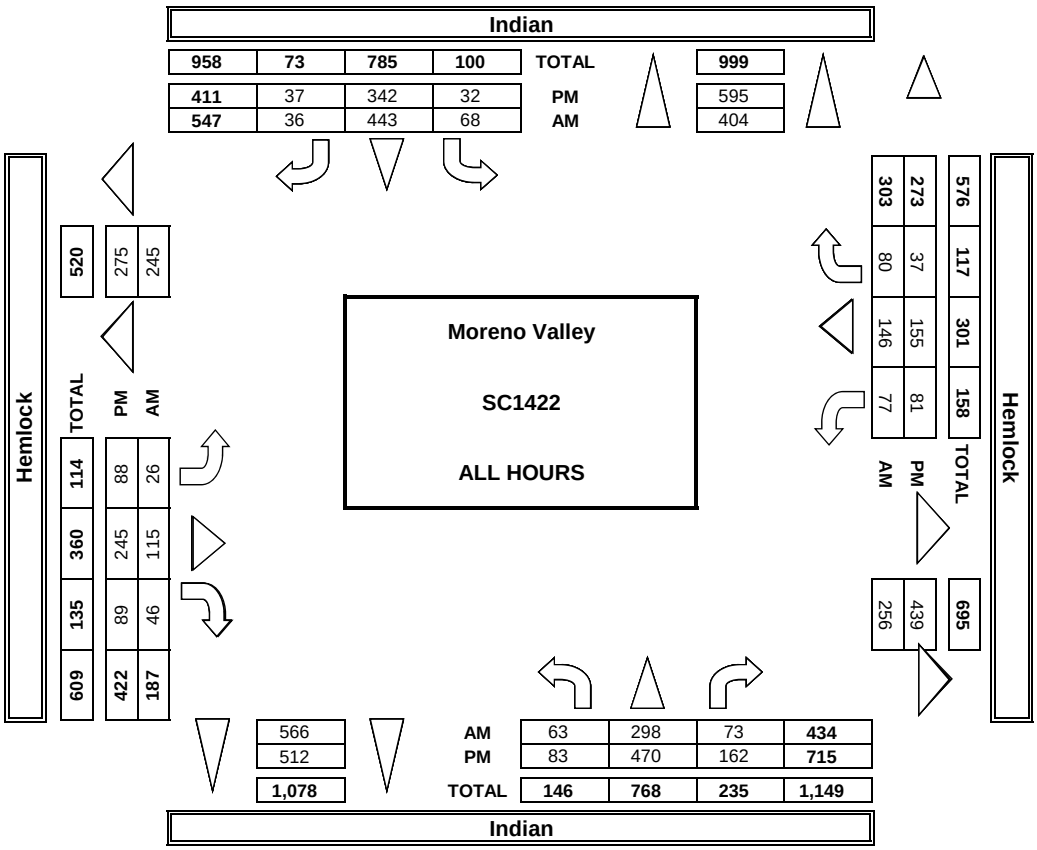
N ▲ ◄ W E ► S ▼

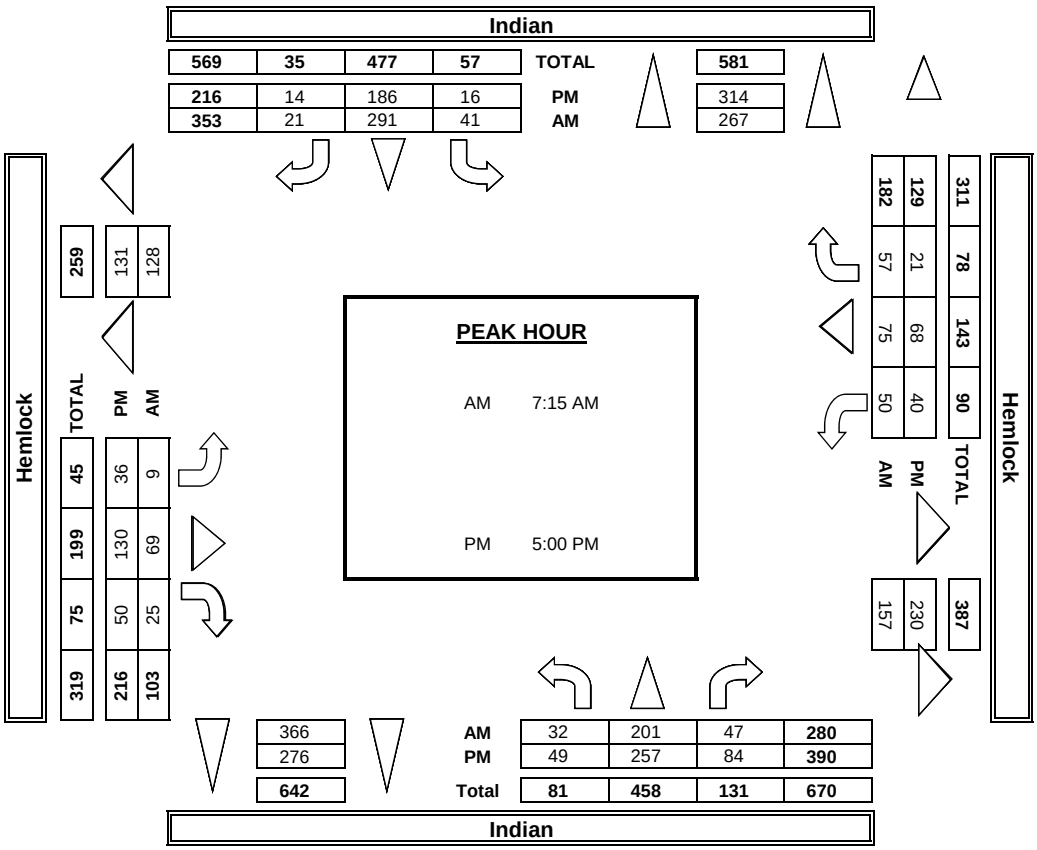
Add U-Turns to Left Turns

		NORTHBOUND Indian			SOUTHBOUND Indian			EASTBOUND Hemlock			WESTBOUND Hemlock				U-TURNS				
	LANES:	NL 1	NT 1	NR 0	SL 1	ST 1	SR 0	EL 1	ET 1	ER 0	WL 1	WT 1	WR 0	TOTAL	NB 0	SB 0	EB 0	WB 0	T
AM	7:00 AM	6	31	9	5	27	2	1	10	6	7	11	14	129	0	0	0	0	0
	7:15 AM	4	43	7	8	53	4	1	13	1	11	8	17	170	0	0	0	0	0
	7:30 AM	13	50	14	2	93	2	4	24	8	8	16	18	252	0	0	0	0	0
	7:45 AM	8	57	13	15	99	5	2	22	10	18	29	10	288	0	0	0	0	0
	8:00 AM	7	51	13	16	46	10	2	10	6	13	22	12	208	0	0	0	0	0
	8:15 AM	9	27	6	11	49	7	4	11	2	10	30	2	168	0	0	0	0	0
	8:30 AM	6	12	5	8	29	2	6	13	4	4	18	2	109	0	0	0	0	0
	8:45 AM	10	27	6	3	47	4	6	12	9	6	12	5	147	0	0	0	0	0
	9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	VOLUMES	63	298	73	68	443	36	26	115	46	77	146	80	1,471	0	0	0	0	0
	APPROACH %	15%	69%	17%	12%	81%	7%	14%	61%	25%	25%	48%	26%						
	APP/DEPART	434	/	404	547	/	566	187	/	256	303	/	245	0					
	BEGIN PEAK HR		7:15 AM																
	VOLUMES	32	201	47	41	291	21	9	69	25	50	75	57	918					
	APPROACH %	11%	72%	17%	12%	82%	6%	9%	67%	24%	27%	41%	31%						
	PEAK HR FACTOR		0.897			0.742			0.715			0.798		0.797					
	APP/DEPART	280	/	267	353	/	366	103	/	157	182	/	128	0					
PM	03:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:00 PM	8	45	22	6	43	1	12	25	10	7	23	4	206	0	0	0	0	0
	4:15 PM	6	57	17	4	35	9	8	30	6	13	21	7	213	0	0	0	0	0
	4:30 PM	9	43	21	3	40	3	17	29	13	10	23	1	212	0	0	0	0	0
	4:45 PM	11	68	18	3	38	10	15	31	10	11	20	4	239	0	0	0	0	0
	5:00 PM	13	64	17	5	53	5	13	31	12	12	19	2	246	0	0	0	0	0
	5:15 PM	11	77	23	2	34	1	5	27	11	7	16	7	221	0	0	0	0	0
	5:30 PM	12	65	17	6	50	4	7	34	12	7	13	6	233	0	0	0	0	0
	5:45 PM	13	51	27	3	49	4	11	38	15	14	20	6	251	0	0	0	0	0
	VOLUMES	83	470	162	32	342	37	88	245	89	81	155	37	1,821	0	0	0	0	0
	APPROACH %	12%	66%	23%	8%	83%	9%	21%	58%	21%	30%	57%	14%						
	APP/DEPART	715	/	595	411	/	512	422	/	439	273	/	275	0					
	BEGIN PEAK HR		5:00 PM																
	VOLUMES	49	257	84	16	186	14	36	130	50	40	68	21	951					
	APPROACH %	13%	66%	22%	7%	86%	6%	17%	60%	23%	31%	53%	16%						
	PEAK HR FACTOR		0.878			0.857			0.844			0.806		0.947					
	APP/DEPART	390	/	314	216	/	276	216	/	230	129	/	131	0					

AimTD LLC

TURNING MOVEMENT COUNTS





INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE: Wed, Aug 16, 17

LOCATION: Moreno Valley
NORTH & SOUTH: Indian
EAST & WEST: Sunnymead

PROJECT #: SC1422
LOCATION #: 14
CONTROL: SIGNAL

NOTES: N-leg construction

AM PM MD OTHER OTHER

▲ N ◄ W E ► S ▼

Add U-Turns to Left Turns

		NORTHBOUND Indian			SOUTHBOUND Indian			EASTBOUND Sunnymead			WESTBOUND Sunnymead				U-TURNS				
	LANES:	NL 1	NT 1	NR 1	SL 1	ST 1	SR 1	EL 1	ET 2	ER 0	WL 1	WT 2	WR 0	TOTAL	NB 0	SB 0	EB 0	WB 0	T
AM	7:00 AM	11	35	5	3	29	7	7	17	8	4	19	7	152	0	0	0	0	0
	7:15 AM	15	43	10	8	45	12	7	24	7	2	32	4	209	0	0	0	0	0
	7:30 AM	18	61	10	23	71	19	10	29	14	3	52	5	315	0	0	0	0	0
	7:45 AM	18	61	14	15	77	30	10	36	15	1	52	10	339	0	0	0	0	0
	8:00 AM	28	48	19	6	37	19	16	46	21	10	54	6	310	0	0	0	0	0
	8:15 AM	13	18	12	11	31	17	11	40	14	5	57	11	240	0	2	0	0	2
	8:30 AM	24	14	18	9	22	6	9	58	18	8	47	6	239	0	0	0	0	0
	8:45 AM	24	21	12	10	32	21	12	55	11	3	74	8	283	0	0	0	0	0
	9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	VOLUMES	151	301	100	85	344	131	82	305	108	36	387	57	2,087	0	2	0	0	2
	APPROACH %	27%	55%	18%	15%	61%	23%	17%	62%	22%	8%	81%	12%						
	APP/DEPART	552	/	442	560	/	488	495	/	488	480	/	669	0					
	BEGIN PEAK HR		7:30 AM																
	VOLUMES	77	188	55	55	216	85	47	151	64	19	215	32	1,204					
	APPROACH %	24%	59%	17%	15%	61%	24%	18%	58%	24%	7%	81%	12%						
	PEAK HR FACTOR		0.842			0.730			0.789			0.911		0.888					
	APP/DEPART	320	/	269	356	/	299	262	/	259	266	/	377	0					
PM	03:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:00 PM	31	46	18	7	29	23	22	85	22	13	69	9	374	0	0	0	0	0
	4:15 PM	29	40	20	10	29	16	27	95	31	8	66	12	383	0	0	0	0	0
	4:30 PM	24	37	27	8	36	20	28	87	37	16	81	9	410	0	0	0	1	1
	4:45 PM	23	54	21	13	33	11	39	131	22	13	64	11	435	0	0	0	0	0
	5:00 PM	25	48	15	21	40	17	36	142	26	6	59	17	452	0	0	0	0	0
	5:15 PM	21	53	20	12	17	20	35	115	31	14	67	7	412	0	0	0	1	1
	5:30 PM	22	48	16	14	38	15	44	122	31	10	62	9	431	0	0	1	0	1
	5:45 PM	20	38	24	20	44	17	40	110	28	14	66	11	432	0	0	0	0	0
	VOLUMES	195	364	161	105	266	139	271	887	228	94	534	85	3,329	0	0	1	2	3
	APPROACH %	27%	51%	22%	21%	52%	27%	20%	64%	16%	13%	75%	12%						
	APP/DEPART	720	/	719	510	/	586	1,386	/	1,155	713	/	869	0					
	BEGIN PEAK HR		4:45 PM																
	VOLUMES	91	203	72	60	128	63	154	510	110	43	252	44	1,730					
	APPROACH %	25%	55%	20%	24%	51%	25%	20%	66%	14%	13%	74%	13%						
	PEAK HR FACTOR		0.934			0.804			0.949			0.963		0.957					
	APP/DEPART	366	/	400	251	/	280	774	/	643	339	/	407	0					

Indian

NORTH SIDE

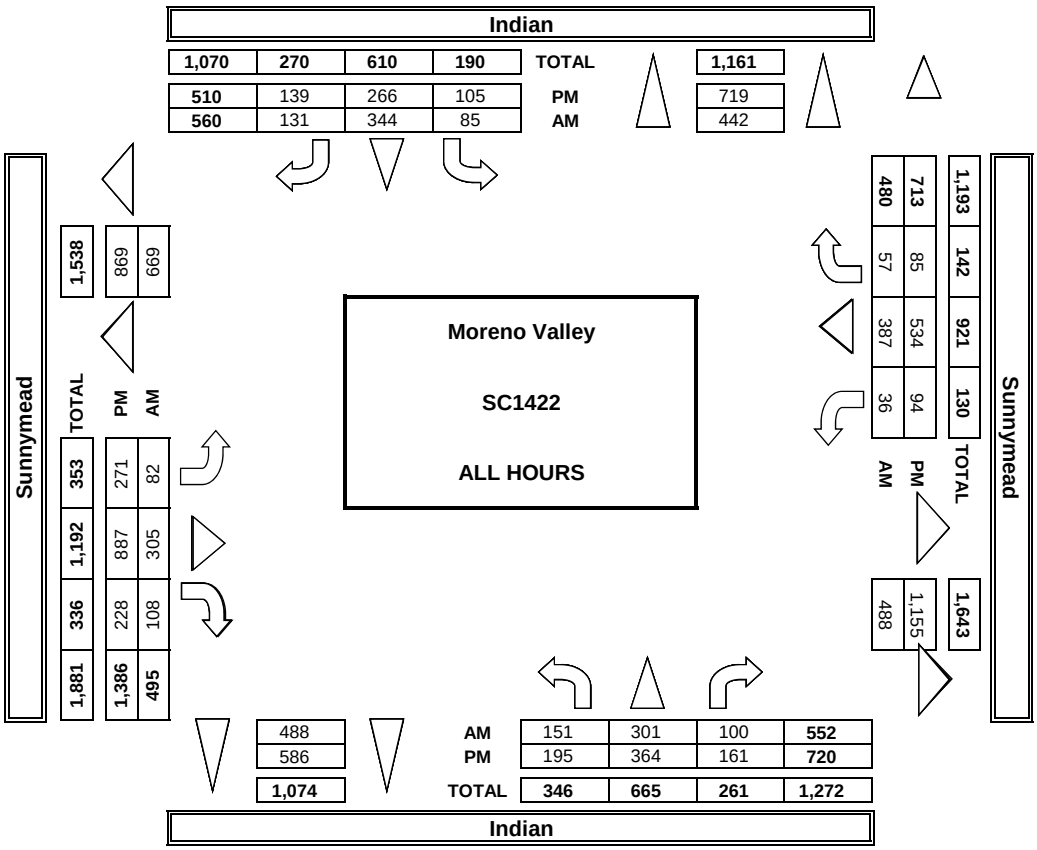
Sunnymead WEST SIDE EAST SIDE Sunnymead

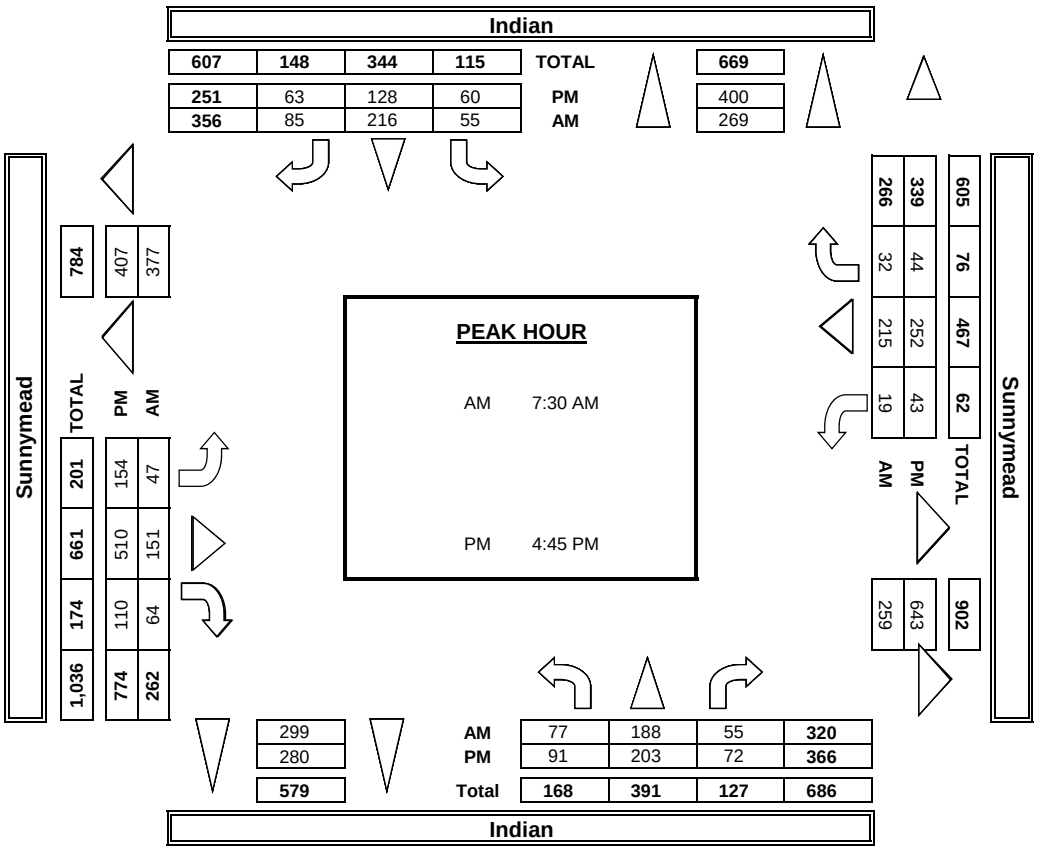
SOUTH SIDE

Indian

AimTD LLC

TURNING MOVEMENT COUNTS





A816

24-HOUR ROADWAY SEGMENT COUNTS (WITH FHWA CLASSIFICATION)

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE: Wednesday, August 16, 2017
JOB #: SC1422

LOCATION#
CLASS1 Heacock between Ironwood and Hemlock

AM	NORTHBOUND														PM	NORTHBOUND													
TIME	1	2	3	4	5	6	7	8	9	10	11	12	13	TOTAL	Time	1	2	3	4	5	6	7	8	9	10	11	12	13	TOTAL
0:00	0	48	2	0	1	0	0	0	0	0	0	0	0	51	12:00	1	146	21	1	6	3	0	0	0	0	0	0	0	178
0:15	1	35	5	0	0	1	0	0	0	0	0	0	0	42	12:15	1	132	29	1	11	1	1	0	0	0	0	1	0	177
0:30	0	28	1	0	1	0	0	0	0	0	0	0	0	30	12:30	0	142	19	0	8	5	0	0	0	0	0	0	0	174
0:45	0	33	2	0	0	0	0	0	0	0	0	0	0	35	12:45	3	150	25	0	4	0	1	1	0	0	0	0	0	184
1:00	0	30	3	0	1	0	0	0	0	0	0	0	0	34	13:00	4	152	17	0	5	2	1	0	0	0	0	0	0	181
1:15	0	25	3	0	0	0	0	0	0	0	0	0	0	28	13:15	7	124	18	1	7	3	0	0	2	0	0	0	0	162
1:30	0	21	2	0	1	0	0	0	0	0	0	0	0	24	13:30	4	139	26	1	8	5	0	0	0	0	1	0	0	184
1:45	0	24	4	0	0	0	0	0	0	0	0	0	0	28	13:45	1	161	18	0	15	2	1	0	0	0	0	0	0	198
2:00	0	12	2	0	0	0	0	0	0	0	0	0	0	14	14:00	4	152	23	0	8	4	0	0	0	1	1	1	0	194
2:15	0	23	0	0	0	0	0	0	0	0	0	0	0	23	14:15	2	150	24	0	7	5	1	0	1	1	0	0	0	191
2:30	0	14	1	0	0	0	0	0	0	0	0	0	0	15	14:30	2	160	27	0	7	3	1	0	0	0	0	0	0	200
2:45	0	24	2	0	0	0	0	0	0	0	0	0	0	26	14:45	3	149	30	0	5	2	0	0	0	1	0	1	1	192
3:00	0	10	3	0	1	0	0	0	0	0	0	0	0	14	15:00	1	189	33	0	8	4	0	0	1	0	0	1	0	237
3:15	0	13	1	0	1	0	0	0	0	0	0	0	0	15	15:15	1	172	27	0	3	7	1	0	1	0	0	1	0	213
3:30	0	16	4	0	0	0	0	0	0	0	0	0	0	20	15:30	1	173	17	1	10	8	0	0	0	0	0	0	0	210
3:45	0	20	3	0	0	0	0	0	0	0	0	0	0	23	15:45	3	149	28	0	8	4	0	0	0	0	0	0	0	192
4:00	0	19	2	0	2	0	0	0	1	0	0	0	0	24	16:00	3	193	31	0	7	3	0	0	0	0	0	0	0	237
4:15	0	14	6	0	0	0	0	0	0	0	0	0	0	20	16:15	2	175	25	0	11	3	1	0	1	0	0	0	0	218
4:30	0	23	6	0	2	0	0	0	0	0	0	0	0	31	16:30	4	203	28	0	6	3	1	0	0	0	0	0	0	245
4:45	0	25	7	0	1	0	0	0	0	0	0	0	0	33	16:45	4	186	33	0	9	4	1	0	0	1	1	0	0	239
5:00	0	40	2	0	1	0	0	1	0	0	0	0	0	44	17:00	6	210	33	2	9	9	0	0	0	1	0	0	0	270
5:15	0	33	6	0	0	0	0	0	0	0	0	0	0	39	17:15	3	200	31	0	11	2	0	1	1	0	0	0	0	249
5:30	0	30	5	0	2	0	0	0	1	0	0	0	0	38	17:30	6	196	22	0	10	3	1	0	1	0	0	1	1	241
5:45	0	33	5	0	5	1	0	0	0	0	0	0	0	44	17:45	3	189	20	0	5	2	2	0	0	0	0	0	0	221
6:00	0	64	9	0	1	0	0	0	0	0	0	0	0	74	18:00	7	159	23	0	5	4	0	0	0	0	0	1	0	199
6:15	4	63	10	0	4	0	0	0	0	0	0	0	0	81	18:15	7	169	27	0	6	5	0	0	0	0	1	0	0	215
6:30	0	83	13	0	6	1	1	0	0	0	0	0	1	105	18:30	0	148	23	0	3	4	0	0	0	0	0	1	0	179
6:45	2	77	15	0	2	0	1	0	0	0	0	0	0	97	18:45	3	146	18	0	6	10	1	0	0	0	0	1	0	185
7:00	1	109	12	0	3	2	3	0	0	0	0	0	1	131	19:00	3	160	16	0	8	3	1	1	0	0	0	0	0	192
7:15	2	112	17	0	5	5	1	0	0	0	0	0	0	142	19:15	4	147	20	0	5	5	1	0	0	0	1	0	0	183
7:30	1	129	22	0	5	3	0	0	0	0	0	0	0	160	19:30	0	125	12	0	5	3	1	0	0	0	0	0	0	146
7:45	2	123	22	1	4	1	0	0	0	0	0	0	0	153	19:45	1	160	15	0	6	2	0	0	0	0	0	2	0	186
8:00	2	132	19	0	6	1	0	0	0	0	0	1	0	161	20:00	6	128	22	0	4	3	0	0	0	0	0	0	0	163
8:15	2	121	16	0	9	3	0	0	0	0	1	1	0	153	20:15	2	123	16	0	4	1	1	0	0	0	0	0	0	147
8:30	0	117	17	0	6	0	0	0	0	0	0	1	0	141	20:30	2	128	15	0	3	1	0	0	0	0	0	0	0	149
8:45	0	111	17	0	6	3	0	0	0	0	0	0	0	137	20:45	0	128	11	0	5	1	0	1	0	0	0	0	0	146
9:00	0	94	20	0	8	2	1	0	0	0	0	0	0	125	21:00	3	96	13	0	0	4	0	0	0	0	0	0	0	116
9:15	0	93	19	1	4	2	3	0	0	0	0	0	0	122	21:15	1	122	10	0	2	3	0	0	0	0	0	0	0	138
9:30	0	98	18	0	4	1	0	0	0	0	1	0	0	122	21:30	2	99	13	0	3	2	0	0	0	0	0	0	0	119
9:45	3	100	14	0	3	2	0	0	0	0	1	0	0	123	21:45	0	89	7	0	4	1	0	0	0	0	0	0	0	101
10:00	2	119	7	1	2	1	0	0	0	0	0	0	0	132	22:00	1	78	10	0	3	1	0	0	0	0	0	0	0	93
10:15	2	87	18	1	5	3	1	0	0	1	0	0	0	118	22:15	1	82	9	0	0	2	0	0	0	0	0	0	0	94
10:30	2	118	16	1	1	2	1	0	1	0	0	0	0	142	22:30	2	67	12	0	0	1	0	0	0	0	0	0	0	82
10:45	1	91	17	0	4	0	0	0	0	0	0	0	0	113	22:45	1	71	1	0	0	0	0	0	0	0	0	0	0	73
11:00	4	122	23	0	6	2	1	0	1	0	1	0	0	160	23:00	4	66	4	0	3	1	0	0	0	0	0	0	0	78
11:15	1	131	14	0	5	2	0	1	0	0	0	1	0	155	23:15	0	53	1	0	2	1	0	0	0	0	0	0	0	57
11:30	3	139	15	1	6	6	0	0	0	0	0	0	0	170	23:30	0	58	5	0	0	0	0	0	0	0	0	0	0	63
11:45	2	110	21	0	6	3	1	0	1	0	0	0	0	144	23:45	0	47	2	0	0	0	0	0	0	0	0	0	0	49
TOTAL	37	3,136	468	6	130	47	14	2	5	1	4	4	2	3,856	TOTAL	119	6,641	910	7	265	145	18	4	8	5	5	11	2	8,140

AM PEAK HOUR	11:00 AM
AM PEAK VOLUME	629

PM PEAK HOUR	4:30 PM
PM PEAK VOLUME	1,003

CLASS 1	Class 1 — Motorcycles	CLASS 8	3 to 4 Axles, Single Trailer
CLASS 2	Passenger Cars	CLASS 9	5 Axles, Single Trailer
CLASS 3	2 Axles, 4-Tire Single Units	CLASS 10	6 or More Axles, Single Trailer
CLASS 4	Buses	CLASS 11	5 or Less Axles, Multi-Trailers
CLASS 5	2 Axles, 6-Tire Single Units	CLASS 12	6 Axles, Multi-Trailers
CLASS 6	3 Axles, Single Unit	CLASS 13	7 or More Axles, Multi-Trailers
CLASS 7	4 or More Axles, Single Unit		

TOTAL: AM+PM	156	9,777	1,378	13	395	192	32	6	13	6	9	15	4	11,996
% OF TOTAL	1.3%	81.5%	11.5%	0.1%	3.3%	1.6%	0.3%	0.1%	0.1%	0.1%	0.1%	0.1%	0.0%	100.0%
Class	1	2	3	4	5	6	7	8	9	10	11	12	13	
TOTAL: ALL	318	19,409	2,696	25	710	366	66	10	35	9	16	32	9	23,701
% OF TOTAL	2.7%	161.8%	22.5%	0.2%	5.9%	3.1%	0.6%	0.1%	0.3%	0.1%	0.1%	0.3%	0.1%	100.0%

24-HOUR ROADWAY SEGMENT COUNTS (WITH FHWA CLASSIFICATION)

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE: Wednesday, August 16, 2017
JOB #: SC1422

LOCATION#
CLASS1 Heacock between Ironwood and Hemlock

AM	SOUTHBOUND														PM	SOUTHBOUND													
TIME	1	2	3	4	5	6	7	8	9	10	11	12	13	TOTAL	Time	1	2	3	4	5	6	7	8	9	10	11	12	13	TOTAL
0:00	0	24	1	0	0	0	0	0	0	0	0	0	0	25	12:00	3	107	18	1	2	2	0	0	1	0	0	0	0	134
0:15	0	30	2	0	0	0	0	0	0	0	0	0	0	32	12:15	4	152	15	1	13	6	1	0	1	0	0	1	0	194
0:30	0	14	4	0	0	0	0	0	0	0	0	0	0	18	12:30	2	142	14	0	6	3	1	0	0	0	0	0	0	168
0:45	0	19	3	0	1	0	0	0	0	0	0	0	0	23	12:45	1	108	17	0	2	3	2	0	0	0	0	0	0	133
1:00	0	15	0	0	1	0	0	0	0	0	0	0	0	16	13:00	4	152	15	0	5	3	2	0	0	0	0	0	0	181
1:15	0	11	1	0	1	0	0	0	0	0	0	0	0	13	13:15	0	152	22	2	6	2	0	1	0	0	0	2	0	187
1:30	0	15	0	0	0	0	0	0	0	0	0	0	0	15	13:30	0	127	11	0	5	6	4	0	1	1	0	0	1	156
1:45	0	17	0	0	0	0	0	0	0	0	0	0	0	17	13:45	1	132	18	0	12	4	0	0	1	0	0	0	0	168
2:00	0	10	2	0	0	0	0	0	0	0	0	0	0	12	14:00	6	111	23	0	6	4	0	0	0	0	0	0	0	150
2:15	0	17	1	0	0	0	0	0	1	0	0	0	0	19	14:15	3	149	19	0	8	1	2	0	0	0	1	1	0	184
2:30	0	14	2	0	0	0	0	0	0	0	0	0	0	16	14:30	5	137	22	0	5	5	2	0	0	0	0	1	0	177
2:45	0	9	1	0	2	0	0	0	0	0	0	0	0	12	14:45	0	129	19	0	10	2	1	0	0	0	0	1	0	162
3:00	0	32	3	0	0	0	0	0	0	0	0	0	0	35	15:00	1	154	20	0	2	0	0	1	0	0	0	1	0	179
3:15	1	26	4	0	0	1	0	0	0	0	0	0	0	32	15:15	3	147	12	0	7	3	0	0	0	0	0	0	0	172
3:30	0	46	6	0	0	0	0	0	0	0	0	0	0	52	15:30	5	126	19	0	2	4	0	0	0	0	0	2	0	158
3:45	1	50	8	0	2	1	0	0	0	0	0	0	0	62	15:45	2	131	12	0	4	5	0	0	0	0	0	0	1	155
4:00	0	48	16	0	6	0	0	0	0	0	0	0	0	70	16:00	2	148	19	0	5	0	0	0	0	0	1	0	0	175
4:15	0	77	19	0	7	2	0	0	1	0	0	0	0	106	16:15	3	156	19	0	6	1	0	0	0	0	0	0	0	185
4:30	1	89	16	0	4	0	0	0	0	0	0	0	0	110	16:30	2	158	18	0	2	5	2	0	0	1	0	0	0	188
4:45	2	76	28	0	4	0	0	0	0	0	0	0	0	110	16:45	10	151	18	0	7	5	0	0	1	0	0	0	0	192
5:00	0	93	14	0	3	1	0	0	0	0	0	0	0	111	17:00	3	145	20	0	2	3	0	0	0	0	0	0	0	173
5:15	0	97	21	0	3	1	0	0	0	0	0	0	0	122	17:15	3	155	20	0	1	5	1	0	0	0	1	1	0	187
5:30	0	88	31	0	8	1	0	0	0	0	0	0	0	128	17:30	6	149	22	0	3	0	1	0	0	0	0	0	1	182
5:45	0	81	18	0	3	0	0	0	0	0	0	0	0	102	17:45	4	156	9	0	7	3	0	0	0	0	0	1	0	180
6:00	0	89	14	0	2	1	0	0	0	0	0	0	0	106	18:00	5	173	14	0	4	3	0	0	1	0	0	0	0	200
6:15	3	89	17	0	1	0	0	0	1	0	0	1	0	112	18:15	2	147	12	0	1	2	0	0	1	0	0	0	0	165
6:30	0	116	22	0	2	1	0	0	0	0	0	0	0	141	18:30	2	144	25	0	4	0	0	0	0	1	0	0	0	176
6:45	2	112	18	0	5	4	1	0	0	0	0	0	0	142	18:45	3	162	15	0	3	4	0	0	0	0	0	0	0	187
7:00	2	125	22	1	4	1	3	0	1	0	0	0	0	159	19:00	5	132	19	0	1	3	0	0	0	0	0	0	0	160
7:15	6	164	13	0	2	5	1	0	0	0	0	0	0	191	19:15	3	101	21	0	5	2	1	0	1	0	0	0	0	134
7:30	4	170	19	0	2	3	0	0	0	0	0	0	0	198	19:30	1	119	14	0	3	3	0	0	0	0	1	0	0	141
7:45	3	171	21	1	5	4	0	0	0	0	0	2	0	207	19:45	0	106	15	0	1	2	0	0	0	0	0	0	0	124
8:00	3	175	21	0	4	5	3	0	0	0	0	0	1	212	20:00	0	104	15	0	3	1	1	0	0	0	0	0	0	124
8:15	8	161	18	1	7	3	1	0	1	0	0	0	0	200	20:15	0	93	17	0	2	1	0	0	0	0	0	0	0	113
8:30	4	151	24	0	16	5	0	0	0	0	0	0	0	200	20:30	0	100	13	0	2	0	0	0	0	0	0	1	0	116
8:45	2	142	15	1	3	5	1	0	0	0	0	0	0	169	20:45	0	87	5	0	2	0	0	0	0	0	0	1	0	95
9:00	2	105	16	0	4	2	0	0	1	0	1	0	0	131	21:00	1	74	14	0	1	1	1	0	0	0	0	0	0	92
9:15	0	137	17	1	7	0	1	0	0	0	0	0	0	163	21:15	0	85	10	0	1	1	0	0	1	0	0	0	0	98
9:30	0	131	14	0	8	3	0	0	0	0	1	0	0	157	21:30	1	77	10	0	0	2	0	0	1	0	0	0	0	91
9:45	7	130	17	0	3	2	0	0	0	0	0	1	0	160	21:45	0	68	8	0	0	0	0	0	0	0	0	0	0	76
10:00	1	119	16	0	3	5	0	0	0	0	0	0	0	144	22:00	0	60	3	0	1	1	0	0	0	0	0	0	0	65
10:15	3	122	14	0	3	3	0	0	0	0	0	0	0	145	22:15	0	57	6	1	2	1	0	0	0	0	0	0	0	67
10:30	0	133	23	1	3	3	1	2	1	0	0	0	0	167	22:30	0	45	5	0	1	0	0	0	1	0	0	0	0	52
10:45	2	138	21	0	4	0	0	0	0	0	0	0	0	165	22:45	1	49	9	0	1	0	0	0	0	0	0	0	0	60
11:00	3	118	14	0	3	3	0	0	1	0	0	0	0	142	23:00	0	39	3	0	0	1	0	0	0	0	0	0	0	43
11:15	0	119	11	1	4	2	0	0	0	0	1	0	1	139	23:15	0	20	2	0	2	0	0	0	1	0	0	0	0	25
11:30	0	124	23	0	3	2	0	0	0	0	0	0	0	152	23:30	0	28	2	0	1	0	0	0	0	0	0	0	0	31
11:45	5	116	28	0	3	2	0	0	1	0	0	0	0	155	23:45	0	33	1	0	0	0	0	0	1	0	0	0	0	35
TOTAL	65	4,155	639	7	146	71	12	2	9	0	3	4	2	5,115	TOTAL	97	5,477	679	5	169	103	22	2	13	3	4	13	3	6,590

AM PEAK HOUR	7:45 AM
AM PEAK VOLUME	819

PM PEAK HOUR	5:15 PM
PM PEAK VOLUME	749

CLASS 1	Class 1 — Motorcycles	CLASS 8	3 to 4 Axles, Single Trailer
CLASS 2	Passenger Cars	CLASS 9	5 Axles, Single Trailer
CLASS 3	2 Axles, 4-Tire Single Units	CLASS 10	6 or More Axles, Single Trailer
CLASS 4	Buses	CLASS 11	5 or Less Axles, Multi-Trailers
CLASS 5	2 Axles, 6-Tire Single Units	CLASS 12	6 Axles, Multi-Trailers
CLASS 6	3 Axles, Single Unit	CLASS 13	7 or More Axles, Multi-Trailers
CLASS 7	4 or More Axles, Single Unit		

TOTAL: AM+PM	162	9,632	1,318	12	315	174	34	4	22	3	7	17	5	11,705
% OF TOTAL	1.4%	82.3%	11.3%	0.1%	2.7%	1.5%	0.3%	0.0%	0.2%	0.0%	0.1%	0.1%	0.0%	100.0%

Class	1	2	3	4	5	6	7	8	9	10	11	12	13

A816

24-HOUR ROADWAY SEGMENT COUNTS (WITH FHWA CLASSIFICATION)

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE: Wednesday, August 16, 2017
JOB #: SC1422

LOCATION#
CLASS2 Heacock between Hemlock and SR-60 WB Ramps

AM	NORTHBOUND													
TIME	1	2	3	4	5	6	7	8	9	10	11	12	13	TOTAL
0:00	1	50	4	0	2	0	0	0	0	0	0	0	0	57
0:15	1	39	3	0	0	0	0	0	0	0	0	0	0	43
0:30	0	38	1	0	2	0	0	0	0	0	0	0	0	41
0:45	0	40	3	0	0	0	0	0	0	0	0	0	0	43
1:00	0	36	1	0	3	0	0	0	0	0	0	0	0	40
1:15	0	23	3	0	0	1	1	0	0	0	0	0	0	28
1:30	0	25	2	0	1	0	0	0	0	0	0	0	0	28
1:45	0	27	4	0	0	0	0	0	0	0	0	0	0	31
2:00	0	16	2	0	0	0	0	0	0	0	0	0	0	18
2:15	0	24	1	0	0	1	0	0	0	0	0	0	0	26
2:30	0	18	2	0	0	0	0	0	0	0	0	0	0	20
2:45	0	28	2	0	0	0	0	0	0	0	0	0	0	30
3:00	0	14	4	0	2	0	0	0	0	0	0	0	0	20
3:15	0	16	1	0	1	0	0	0	0	0	0	0	0	18
3:30	0	17	4	0	0	0	0	0	0	0	0	0	0	21
3:45	0	25	3	0	1	0	0	0	0	0	0	0	0	29
4:00	0	27	4	0	5	0	0	0	1	0	0	0	0	37
4:15	0	16	5	0	1	0	0	0	0	0	0	0	0	22
4:30	0	31	9	0	1	0	0	0	0	0	0	0	0	41
4:45	0	32	5	0	10	1	0	0	0	0	0	0	0	48
5:00	0	43	3	0	2	1	0	1	1	0	0	0	0	51
5:15	2	35	8	0	1	1	0	0	0	0	0	0	0	47
5:30	0	34	2	0	4	0	0	0	2	0	0	0	0	42
5:45	0	38	5	0	6	1	0	0	0	0	0	0	0	50
6:00	2	56	10	0	2	0	0	0	1	0	0	1	0	72
6:15	4	64	14	0	4	1	0	0	0	0	0	0	0	87
6:30	1	89	15	1	6	4	0	1	0	0	0	0	1	118
6:45	2	80	15	0	5	2	0	0	0	0	0	0	1	105
7:00	5	136	12	2	9	6	3	0	0	0	0	0	1	174
7:15	4	133	21	0	5	3	1	0	0	0	0	0	0	167
7:30	5	154	20	0	5	2	1	0	0	0	0	2	3	192
7:45	0	152	22	1	4	2	2	0	0	0	0	0	0	183
8:00	2	138	20	0	5	4	2	0	1	0	0	0	0	172
8:15	3	136	12	0	8	1	2	0	1	0	0	0	1	164
8:30	2	134	15	0	7	6	1	0	0	0	0	0	0	165
8:45	1	137	17	0	10	1	2	0	0	1	0	0	0	169
9:00	0	132	23	2	10	4	2	0	0	0	0	1	0	174
9:15	5	109	19	1	6	3	2	0	1	0	1	0	1	148
9:30	6	115	17	1	6	7	0	0	0	2	0	0	0	154
9:45	2	132	15	1	7	3	3	1	2	1	0	0	0	167
10:00	3	113	11	2	6	5	1	0	0	0	1	2	0	144
10:15	10	103	24	1	6	4	1	0	2	0	2	0	0	153
10:30	5	107	11	0	3	5	1	0	0	0	0	1	1	134
10:45	2	105	22	2	6	4	1	1	1	0	1	0	1	146
11:00	6	145	29	1	10	6	2	1	2	0	0	0	0	202
11:15	6	131	14	6	8	3	0	1	2	1	0	0	1	173
11:30	6	149	15	1	6	9	1	1	0	0	0	1	0	189
11:45	3	137	21	1	6	2	3	0	2	0	0	1	1	177
TOTAL	89	3,579	495	23	192	93	32	7	19	5	5	9	12	4,560

AM PEAK HOUR	11:00 AM
AM PEAK VOLUME	741

PM	NORTHBOUND													
Time	1	2	3	4	5	6	7	8	9	10	11	12	13	TOTAL
12:00	15	148	20	1	10	5	0	2	1	0	0	0	1	203
12:15	1	138	22	1	8	4	1	0	0	3	1	1	1	181
12:30	9	140	14	3	11	8	0	0	1	0	1	2	1	190
12:45	4	142	19	0	6	3	3	1	1	0	0	2	2	183
13:00	3	151	21	0	6	2	2	0	0	2	0	0	2	189
13:15	9	140	21	2	7	5	3	2	1	0	0	1	1	192
13:30	5	167	34	0	11	3	0	0	0	2	1	1	0	224
13:45	8	163	21	0	9	9	1	0	1	1	1	0	1	215
14:00	8	149	21	2	8	5	1	0	1	1	1	1	1	199
14:15	8	147	24	0	11	4	1	3	0	0	1	0	2	201
14:30	5	165	21	2	7	7	0	1	0	0	0	2	2	212
14:45	4	157	26	0	3	5	3	1	1	0	0	1	2	203
15:00	2	189	30	1	11	7	2	1	3	0	1	2	1	250
15:15	3	200	27	0	7	4	1	0	1	0	0	0	2	245
15:30	2	192	27	2	9	2	3	0	0	0	0	2	3	242
15:45	10	153	23	0	6	6	0	0	0	0	1	2	0	201
16:00	8	206	25	0	4	5	1	0	2	0	1	0	2	254
16:15	8	224	24	1	17	0	1	1	2	1	1	0	0	280
16:30	5	247	24	1	9	7	1	0	1	0	0	2	1	298
16:45	4	228	21	1	7	1	0	1	2	1	1	1	2	270
17:00	5	249	26	0	7	6	5	2	1	0	0	3	4	308
17:15	6	236	23	0	12	6	0	2	1	0	2	1	4	293
17:30	8	246	20	1	13	8	0	2	0	0	2	1	4	305
17:45	12	232	19	0	10	3	2	0	0	0	1	0	3	282
18:00	0	167	19	0	5	4	0	2	0	0	1	2	2	202
18:15	3	170	19	0	5	8	6	0	0	0	2	2	1	216
18:30	1	166	17	1	5	2	1	0	0	0	0	1	1	195
18:45	3	164	17	0	8	8	1	0	1	0	0	2	1	205
19:00	0	192	19	0	8	8	0	0	0	1	0	0	1	229
19:15	8	160	22	0	8	6	0	0	0	1	0	1	1	207
19:30	6	147	15	1	7	7	1	1	0	0	0	0	0	185
19:45	0	153	14	0	7	4	0	0	0	0	0	0	1	179
20:00	3	136	21	0	5	5	2	1	1	0	1	1	0	176
20:15	1	153	20	0	4	0	0	0	0	0	0	0	0	178
20:30	2	138	17	0	5	1	1	0	0	1	0	1	0	166
20:45	1	145	18	0	9	6	1	1	0	0	0	0	0	181
21:00	2	121	16	0	4	2	0	1	0	0	0	0	0	146
21:15	2	148	15	0	3	2	0	0	0	0	0	0	0	170
21:30	1	117	12	1	4	1	1	0	0	0	0	1	0	138
21:45	3	101	7	0	6	0	1	0	1	1	1	0	0	121
22:00	3	92	11	0	2	3	0	0	0	0	0	0	0	111
22:15	0	111	12	0	2	0	0	0	0	0	0	0	0	125
22:30	3	87	10	0	0	0	1	0	0	0	0	0	0	101
22:45	0	105	8	0	1	0	0	0	0	0	0	0	0	114
23:00	2	89	2	0	3	1	0	0	0	0	0	0	0	97
23:15	0	67	5	0	3	0	0	0	0	0	0	0	0	75
23:30	0	80	8	0	1	0	1	0	0	0	0	0	0	90
23:45	0	60	5	0	2	0	0	0	0	0	0	0	0	67
TOTAL	196	7,478	882	21	316	183	48	25	23	15	21	36	50	9,294

PM PEAK HOUR	5:00 PM
PM PEAK VOLUME	1,188

CLASS 1	Class 1 — Motorcycles	CLASS 8	3 to 4 Axles, Single Trailer
CLASS 2	Passenger Cars	CLASS 9	5 Axles, Single Trailer
CLASS 3	2 Axles, 4-Tire Single Units	CLASS 10	6 or More Axles, Single Trailer
CLASS 4	Buses	CLASS 11	5 or Less Axles, Multi-Trailers
CLASS 5	2 Axles, 6-Tire Single Units	CLASS 12	6 Axles, Multi-Trailers
CLASS 6	3 Axles, Single Unit	CLASS 13	7 or More Axles, Multi-Trailers
CLASS 7	4 or More Axles, Single Unit		

TOTAL: AM+PM	285	11,057	1,377	44	508	276	80	32	42	20	26	45	62	13,854
% OF TOTAL	2.1%	79.8%	9.9%	0.3%	3.7%	2.0%	0.6%	0.2%	0.3%	0.1%	0.2%	0.3%	0.4%	100.0%
Class	1	2	3	4	5	6	7	8	9	10	11	12	13	
TOTAL: ALL	596	21,543	2,476	107	849	542	178	79	97	50	55	80	150	26,802
% OF TOTAL	4.3%	155.5%	17.9%	0.8%	6.1%	3.9%	1.3%	0.6%	0.7%	0.4%	0.4%	0.6%	1.1%	100.0%

24-HOUR ROADWAY SEGMENT COUNTS (WITH FHWA CLASSIFICATION)

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE: Wednesday, August 16, 2017
JOB #: SC1422

LOCATION#
CLASS2 Heacock between Hemlock and SR-60 WB Ramps

AM	SOUTHBOUND														PM	SOUTHBOUND													
TIME	1	2	3	4	5	6	7	8	9	10	11	12	13	TOTAL	Time	1	2	3	4	5	6	7	8	9	10	11	12	13	TOTAL
0:00	0	33	1	0	0	0	0	0	0	0	0	0	0	34	12:00	6	134	15	0	6	4	1	1	0	0	1	0	0	168
0:15	0	34	2	0	0	0	0	0	0	0	0	0	0	36	12:15	6	120	13	0	10	6	3	0	1	0	0	1	2	162
0:30	2	25	4	0	0	0	0	0	0	0	0	0	0	31	12:30	9	140	10	2	6	5	3	1	2	1	3	1	1	184
0:45	0	20	3	0	1	0	0	0	0	0	0	0	0	24	12:45	2	138	16	0	6	4	2	0	1	0	0	1	2	172
1:00	0	19	0	0	1	0	0	0	0	0	0	0	0	20	13:00	10	137	12	4	5	3	2	4	2	1	0	1	2	183
1:15	0	14	1	0	1	0	0	0	0	0	0	0	0	16	13:15	7	133	15	4	7	7	2	2	0	2	2	0	1	182
1:30	0	14	0	0	1	0	0	0	0	0	0	0	0	15	13:30	6	123	13	4	7	3	5	2	3	2	1	1	3	173
1:45	0	21	0	0	0	0	0	0	0	0	0	0	0	21	13:45	1	90	6	5	8	3	4	2	1	0	0	0	1	121
2:00	1	13	1	0	0	0	0	0	0	0	0	0	0	15	14:00	5	112	21	6	4	8	0	0	6	1	1	0	3	167
2:15	0	16	2	0	0	0	0	0	1	0	0	0	0	19	14:15	5	142	11	2	10	3	2	2	2	0	0	1	4	184
2:30	0	21	2	0	1	0	0	0	0	0	0	0	0	24	14:30	6	90	8	0	2	5	2	0	0	0	0	0	1	114
2:45	0	15	1	0	1	0	0	0	0	0	0	0	0	17	14:45	5	135	20	1	9	2	0	1	0	0	0	0	1	174
3:00	0	32	5	0	0	2	0	0	0	0	0	0	0	39	15:00	5	125	16	0	2	4	4	1	0	2	2	0	4	165
3:15	2	35	4	0	1	0	0	0	0	0	0	0	0	42	15:15	2	135	16	0	7	7	0	2	1	0	1	1	2	174
3:30	0	49	7	0	1	0	0	0	0	0	0	0	0	57	15:30	2	144	14	0	6	7	1	2	1	0	0	0	3	180
3:45	0	53	11	0	1	1	0	0	0	0	0	0	0	66	15:45	0	129	14	3	4	5	1	0	2	0	1	0	0	159
4:00	1	59	12	0	6	1	0	0	0	0	0	0	0	79	16:00	11	168	10	2	3	4	3	0	2	0	0	1	1	205
4:15	0	95	19	0	6	0	0	0	0	0	0	1	0	121	16:15	2	193	9	1	8	1	2	0	0	1	0	1	3	221
4:30	0	103	17	0	4	2	1	0	0	0	0	0	0	127	16:30	4	230	12	1	2	4	2	0	0	1	0	0	0	256
4:45	0	92	21	0	3	0	0	0	0	0	0	1	0	117	16:45	3	167	18	2	3	3	2	3	1	0	1	0	2	205
5:00	0	92	11	0	5	1	1	0	1	1	0	0	0	112	17:00	5	198	14	1	8	9	3	0	0	1	1	0	0	240
5:15	5	102	20	0	2	2	1	0	0	0	0	0	0	132	17:15	3	199	21	1	3	3	1	2	0	1	0	3	1	238
5:30	2	110	29	1	7	2	1	0	0	0	0	0	2	154	17:30	3	208	25	0	2	2	0	0	0	1	0	2	0	243
5:45	3	95	12	0	8	1	1	0	0	0	0	0	0	120	17:45	7	200	7	1	8	2	5	0	0	0	0	1	2	233
6:00	1	85	14	0	2	3	2	0	0	0	0	0	0	107	18:00	6	114	11	3	4	4	3	1	0	2	1	1	4	154
6:15	1	98	14	0	4	1	0	0	0	0	0	0	1	119	18:15	3	143	12	0	3	2	2	2	2	0	0	0	3	172
6:30	0	102	14	1	3	2	1	1	0	0	0	0	0	124	18:30	3	128	21	3	5	3	2	1	1	0	2	0	4	173
6:45	1	118	17	0	7	1	0	0	0	1	1	0	1	147	18:45	7	148	9	1	0	8	0	0	0	0	0	0	2	175
7:00	6	177	21	2	4	1	1	0	1	0	0	0	0	213	19:00	11	128	16	0	3	5	3	0	0	0	0	0	2	168
7:15	10	183	11	0	6	6	0	0	2	0	0	1	2	221	19:15	4	122	17	0	3	1	1	1	2	0	0	1	0	152
7:30	7	194	15	1	7	4	1	0	0	1	0	1	1	232	19:30	5	133	11	0	3	6	0	1	1	0	1	0	0	161
7:45	7	196	17	0	7	6	3	0	0	1	1	0	2	240	19:45	3	118	14	1	1	5	0	0	0	0	0	0	1	143
8:00	7	191	13	1	6	6	1	3	0	1	0	2	0	231	20:00	4	111	9	0	5	7	2	0	0	0	0	0	1	139
8:15	2	164	7	0	7	9	2	0	2	0	0	1	2	196	20:15	2	125	14	0	0	2	0	0	1	0	0	1	0	145
8:30	5	182	22	1	6	5	3	1	1	0	1	0	3	230	20:30	0	107	14	0	2	2	0	0	1	0	0	0	1	127
8:45	6	169	19	0	3	6	0	0	0	0	1	0	0	204	20:45	3	105	7	0	2	1	0	0	0	0	0	0	0	118
9:00	1	96	12	1	6	7	2	0	0	0	1	0	3	129	21:00	4	106	7	1	0	1	0	1	0	0	0	0	0	120
9:15	6	130	12	1	9	4	0	2	0	0	0	0	1	165	21:15	0	97	8	0	3	1	0	0	1	0	1	0	1	112
9:30	12	114	9	0	6	3	2	3	0	3	1	0	2	155	21:30	2	101	9	0	2	5	0	0	2	0	0	1	0	122
9:45	2	133	12	2	5	4	0	1	2	0	1	0	2	164	21:45	0	92	10	0	0	0	0	0	0	0	0	1	0	103
10:00	6	138	13	0	1	1	2	0	1	3	0	0	2	167	22:00	1	84	4	0	1	1	0	0	0	0	0	0	1	92
10:15	5	122	20	0	4	2	0	1	1	0	0	0	2	157	22:15	0	82	5	1	0	1	0	0	0	0	0	0	0	89
10:30	6	135	19	0	4	1	3	1	0	2	0	3	1	175	22:30	0	62	5	0	2	0	0	0	1	0	0	0	0	70
10:45	6	85	10	0	1	4	2	0	2	0	0	2	0	112	22:45	0	79	10	0	0	1	1	0	0	0	0	0	0	91
11:00	8	118	18	0	4	2	0	0	0	1	1	0	0	152	23:00	0	61	3	0	0	1	0	0	0	0	0	0	0	65
11:15	2	158	14	0	7	3	1	0	0	0	1	1	0	187	23:15	0	39	5	0	0	1	0	0	2	0	0	0	0	47
11:30	6	136	17	0	2	3	1	0	0	0	1	1	1	168	23:30	0	49	2	0	1	0	0	0	0	0	0	0	0	52
11:45	9	124	13	2	4	8	2	2	1	0	0	1	1	167	23:45	0	52	2	0	0	0	0	0	1	0	0	0	0	55
TOTAL	138	4,510	538	13	165	104	34	15	15	14	10	15	29	5,600	TOTAL	173	5,976	561	50	176	162	64	32	40	16	19	20	59	7,348

AM PEAK HOUR	7:15 AM
AM PEAK VOLUME	924

PM PEAK HOUR	5:00 PM
PM PEAK VOLUME	954

CLASS 1	Class 1 — Motorcycles	CLASS 8	3 to 4 Axles, Single Trailer
CLASS 2	Passenger Cars	CLASS 9	5 Axles, Single Trailer
CLASS 3	2 Axles, 4-Tire Single Units	CLASS 10	6 or More Axles, Single Trailer
CLASS 4	Buses	CLASS 11	5 or Less Axles, Multi-Trailers
CLASS 5	2 Axles, 6-Tire Single Units	CLASS 12	6 Axles, Multi-Trailers
CLASS 6	3 Axles, Single Unit	CLASS 13	7 or More Axles, Multi-Trailers
CLASS 7	4 or More Axles, Single Unit		

TOTAL: AM+PM	311	####	1,099	63	341	266	98	47	55	30	29	35	88	12,948
% OF TOTAL	2.4%	81.0%	8.5%	0.5%	2.6%	2.1%	0.8%	0.4%	0.4%	0.2%	0.2%	0.3%	0.7%	100.0%

Class	1	2	3	4	5	6	7	8	9	10	11	12	13

A816

24-HOUR ROADWAY SEGMENT COUNTS (WITH FHWA CLASSIFICATION)

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE: Wednesday, August 16, 2017
JOB #: SC1422

LOCATION#
CLASS3 Indian between Ironwood and Hemlock

AM	NORTHBOUND														PM	NORTHBOUND													
TIME	1	2	3	4	5	6	7	8	9	10	11	12	13	TOTAL	Time	1	2	3	4	5	6	7	8	9	10	11	12	13	TOTAL
0:00	0	3	1	0	0	0	0	0	0	0	0	0	0	4	12:00	0	30	7	0	1	0	0	0	0	0	0	0	0	38
0:15	0	9	1	0	0	0	0	0	0	0	0	0	0	10	12:15	0	28	3	0	3	0	0	0	0	0	0	0	0	34
0:30	0	6	0	0	0	0	0	0	0	0	0	0	0	6	12:30	0	39	8	0	1	1	0	0	0	0	0	0	0	49
0:45	0	4	0	0	0	0	0	0	0	0	0	0	0	4	12:45	0	37	6	0	3	0	0	0	0	0	0	0	0	46
1:00	0	5	0	0	0	0	0	0	0	0	0	0	0	5	13:00	0	34	7	0	2	0	0	0	0	0	0	0	0	43
1:15	0	0	0	0	1	0	0	0	0	0	0	0	0	1	13:15	0	34	5	0	6	0	0	0	0	0	0	0	0	45
1:30	0	3	0	0	0	0	0	0	0	0	0	0	0	3	13:30	0	43	9	0	5	0	0	0	0	0	0	0	0	57
1:45	0	4	0	0	0	0	0	0	0	0	0	0	0	4	13:45	0	56	8	0	2	1	0	0	0	0	0	0	0	67
2:00	0	1	1	0	0	0	0	0	0	0	0	0	0	2	14:00	1	59	10	0	4	0	0	0	0	0	0	0	0	74
2:15	0	6	0	0	0	0	0	0	0	0	0	0	0	6	14:15	0	55	7	0	4	0	0	0	0	0	0	0	0	66
2:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14:30	0	63	7	0	5	0	0	0	0	0	0	0	0	75
2:45	0	1	0	0	0	0	0	0	0	0	0	0	0	1	14:45	0	57	4	0	5	1	0	0	0	0	0	0	0	67
3:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1	15:00	0	51	4	0	8	0	0	0	0	0	0	0	0	63
3:15	0	0	1	0	1	0	0	0	0	0	0	0	0	2	15:15	1	52	9	0	7	0	0	0	0	0	0	0	0	69
3:30	0	1	0	0	0	0	0	0	0	0	0	0	0	1	15:30	1	51	12	0	5	1	0	0	0	0	0	0	0	70
3:45	0	3	0	0	0	0	0	0	0	0	0	0	0	3	15:45	0	54	11	0	4	0	0	0	0	0	0	0	0	69
4:00	0	5	0	0	0	0	0	0	0	0	0	0	0	5	16:00	0	51	15	0	0	0	0	0	0	0	0	0	0	66
4:15	0	4	0	0	0	0	0	0	0	0	0	0	0	4	16:15	1	51	7	0	1	0	0	0	0	0	0	0	0	60
4:30	0	2	1	0	0	0	0	0	0	0	0	0	0	3	16:30	1	55	7	0	5	0	0	0	0	0	0	0	0	68
4:45	0	4	0	0	0	0	0	0	0	0	0	0	0	4	16:45	0	60	13	0	6	0	0	0	0	0	0	0	0	79
5:00	0	7	2	0	0	0	0	0	0	0	0	0	0	9	17:00	1	66	12	0	5	0	0	0	0	0	0	0	0	84
5:15	0	5	1	0	0	0	0	0	0	0	0	0	0	6	17:15	0	63	10	0	7	0	0	0	0	0	0	0	0	80
5:30	0	8	0	0	1	0	0	0	0	0	0	0	0	9	17:30	0	63	3	0	7	0	0	0	0	0	0	0	0	73
5:45	0	1	0	0	0	0	0	0	0	0	0	0	0	1	17:45	0	56	4	0	6	0	0	0	0	0	0	0	0	66
6:00	0	13	5	0	1	0	0	0	0	0	0	0	0	19	18:00	0	69	13	0	4	0	0	0	0	0	0	0	0	86
6:15	0	7	6	0	0	0	0	0	0	0	0	0	0	13	18:15	0	63	3	0	1	0	0	0	0	0	0	0	0	67
6:30	0	13	4	0	3	0	0	0	0	0	0	0	0	20	18:30	0	53	9	0	2	0	0	0	0	0	0	0	0	64
6:45	0	25	2	0	4	0	0	0	0	0	0	0	0	31	18:45	0	56	8	0	5	0	0	0	0	0	0	0	0	69
7:00	0	40	7	0	4	0	0	0	0	0	0	0	0	51	19:00	0	55	13	0	5	0	0	0	0	0	0	0	0	73
7:15	1	55	6	0	6	0	0	0	0	0	0	0	0	68	19:15	0	49	6	0	3	0	0	0	0	0	0	0	0	58
7:30	0	61	7	1	5	0	0	0	0	0	0	0	0	74	19:30	0	46	7	0	3	0	0	0	0	0	0	0	0	56
7:45	0	60	7	0	6	0	0	0	0	0	0	0	0	73	19:45	1	52	4	0	6	0	0	0	0	0	0	0	0	63
8:00	0	50	6	0	5	0	0	0	0	0	0	0	0	61	20:00	0	53	8	0	4	0	0	0	0	0	0	0	0	65
8:15	0	25	2	0	4	0	0	0	0	0	0	0	0	31	20:15	0	27	7	0	3	0	0	0	0	0	0	0	0	37
8:30	0	13	6	0	1	0	0	0	0	0	0	0	0	20	20:30	0	40	3	0	3	0	0	0	0	0	0	0	0	46
8:45	0	29	10	0	1	0	0	0	0	0	0	0	0	40	20:45	0	44	1	0	6	0	0	0	0	0	0	0	0	51
9:00	0	27	7	0	2	0	0	0	0	0	0	0	0	36	21:00	0	32	3	0	1	0	0	0	0	0	0	0	0	36
9:15	1	17	2	0	1	0	0	0	0	0	0	0	0	21	21:15	0	21	6	0	4	0	0	0	0	0	0	0	0	31
9:30	0	18	3	0	2	0	0	0	0	0	0	0	0	23	21:30	0	21	3	0	0	0	0	0	0	0	0	0	0	24
9:45	0	21	4	0	2	0	0	0	0	0	0	0	0	27	21:45	0	24	1	0	1	0	0	0	0	0	0	0	0	26
10:00	0	14	1	0	5	0	0	0	0	0	0	0	0	20	22:00	0	23	1	0	3	0	0	0	0	0	0	0	0	27
10:15	0	20	2	0	2	0	0	0	0	0	0	0	0	24	22:15	0	16	2	0	1	0	0	0	0	0	0	0	0	19
10:30	0	17	3	0	0	0	0	0	0	0	0	0	0	20	22:30	0	18	2	0	2	0	0	0	0	0	0	0	0	22
10:45	0	29	6	0	2	0	0	0	0	0	0	0	0	37	22:45	0	16	1	0	0	0	0	0	0	0	0	0	0	17
11:00	1	26	3	0	3	0	0	0	0	0	0	0	0	33	23:00	0	9	2	0	1	0	0	0	0	0	0	0	0	12
11:15	0	35	5	0	0	0	0	0	0	0	0	0	0	40	23:15	0	14	0	0	2	0	0	0	0	0	0	0	0	16
11:30	0	24	6	0	2	0	0	0	0	0	0	0	0	32	23:30	0	12	0	0	1	0	0	0	0	0	0	0	0	13
11:45	0	28	6	0	4	0	0	0	0	0	0	0	0	38	23:45	0	7	4	0	0	0	0	0	0	0	0	0	0	11
TOTAL	3	750	124	1	68	0	0	0	0	0	0	0	0	946	TOTAL	7	2,028	295	0	163	4	0	0	0	0	0	0	0	2,497

AM PEAK HOUR	7:15 AM
AM PEAK VOLUME	276

PM PEAK HOUR	4:45 PM
PM PEAK VOLUME	316

CLASS 1	Class 1 — Motorcycles	CLASS 8	3 to 4 Axles, Single Trailer
CLASS 2	Passenger Cars	CLASS 9	5 Axles, Single Trailer
CLASS 3	2 Axles, 4-Tire Single Units	CLASS 10	6 or More Axles, Single Trailer
CLASS 4	Buses	CLASS 11	5 or Less Axles, Multi-Trailers
CLASS 5	2 Axles, 6-Tire Single Units	CLASS 12	6 Axles, Multi-Trailers
CLASS 6	3 Axles, Single Unit	CLASS 13	7 or More Axles, Multi-Trailers
CLASS 7	4 or More Axles, Single Unit		

TOTAL: AM+PM	10	2,778	419	1	231	4	0	0	0	0	0	0	0	3,443
% OF TOTAL	0.3%	80.7%	12.2%	0.0%	6.7%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%
Class	1	2	3	4	5	6	7	8	9	10	11	12	13	
TOTAL: ALL	17	5,418	779	6	401	8	2	0	0	0	1	0	0	6,632
% OF TOTAL	0.5%	157.4%	22.6%	0.2%	11.6%	0.2%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%

24-HOUR ROADWAY SEGMENT COUNTS (WITH FHWA CLASSIFICATION)

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE: Wednesday, August 16, 2017
JOB #: SC1422

LOCATION#
CLASS3 Indian between Ironwood and Hemlock

AM	SOUTHBOUND														PM	SOUTHBOUND													
TIME	1	2	3	4	5	6	7	8	9	10	11	12	13	TOTAL	Time	1	2	3	4	5	6	7	8	9	10	11	12	13	TOTAL
0:00	0	2	0	0	0	0	0	0	0	0	0	0	0	2	12:00	0	38	7	1	2	0	0	0	0	0	0	0	0	48
0:15	0	4	0	0	0	0	0	0	0	0	0	0	0	4	12:15	0	32	4	1	3	0	0	0	0	0	0	0	0	40
0:30	0	5	0	0	0	0	0	0	0	0	0	0	0	5	12:30	0	21	6	0	1	0	0	0	0	0	0	0	0	28
0:45	0	1	0	0	0	0	0	0	0	0	0	0	0	1	12:45	0	38	6	0	5	0	0	0	0	0	0	0	0	49
1:00	0	4	0	0	0	0	0	0	0	0	0	0	0	4	13:00	0	47	6	0	1	0	0	0	0	0	0	0	0	54
1:15	0	3	0	0	0	0	0	0	0	0	0	0	0	3	13:15	0	39	5	1	1	0	0	0	0	0	0	0	0	46
1:30	0	2	0	0	0	0	0	0	0	0	0	0	0	2	13:30	0	25	5	0	4	0	0	0	0	0	0	0	0	34
1:45	0	5	0	0	0	0	0	0	0	0	0	0	0	5	13:45	0	42	5	1	2	1	0	0	0	0	0	0	0	51
2:00	0	0	1	0	0	0	0	0	0	0	0	0	0	1	14:00	1	43	5	0	2	0	0	0	0	0	0	0	0	51
2:15	0	2	0	0	1	0	0	0	0	0	0	0	0	3	14:15	0	76	11	0	6	1	0	0	0	0	0	0	0	94
2:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14:30	0	49	10	0	3	0	0	0	0	0	0	0	0	62
2:45	0	1	0	0	0	0	0	0	0	0	0	0	0	1	14:45	0	49	9	0	5	0	0	0	0	0	0	0	0	63
3:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1	15:00	0	45	2	0	4	0	0	0	0	0	0	0	0	51
3:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	15:15	0	42	12	0	2	0	0	0	0	0	0	0	0	56
3:30	0	1	0	0	0	0	0	0	0	0	0	0	0	1	15:30	0	47	5	0	2	0	0	0	0	0	0	0	0	54
3:45	0	3	0	0	2	0	0	0	0	0	0	0	0	5	15:45	0	37	2	0	4	0	0	0	0	0	0	0	0	43
4:00	0	7	0	0	0	0	0	0	0	0	0	0	0	7	16:00	0	34	9	0	4	0	1	0	0	0	0	0	0	48
4:15	0	10	0	0	1	0	0	0	0	0	0	0	0	11	16:15	0	43	6	0	0	1	0	0	0	0	0	0	0	50
4:30	0	10	1	0	0	0	0	0	0	0	0	0	0	11	16:30	0	40	3	0	4	0	0	0	0	0	0	0	0	47
4:45	1	7	1	0	0	0	0	0	0	0	0	0	0	9	16:45	0	46	3	0	2	0	0	0	0	0	0	0	0	51
5:00	0	4	1	0	0	0	0	0	0	0	0	0	0	5	17:00	0	50	5	0	4	0	0	0	0	0	0	0	0	59
5:15	0	10	2	0	0	0	0	0	0	0	0	0	0	12	17:15	0	35	1	0	2	0	0	0	0	0	0	0	0	38
5:30	0	16	4	0	0	0	0	0	0	0	0	0	0	20	17:30	0	49	8	0	1	0	0	0	0	0	0	0	0	58
5:45	0	13	1	0	0	0	0	0	0	0	0	0	0	14	17:45	0	45	7	0	5	0	0	0	0	0	0	0	0	57
6:00	1	15	2	0	2	0	0	0	0	0	0	0	0	20	18:00	0	56	5	0	4	0	0	0	0	0	0	0	0	65
6:15	0	14	3	0	0	0	0	0	0	0	0	0	0	17	18:15	0	41	3	0	0	0	0	0	0	0	0	0	0	44
6:30	0	10	3	0	3	0	0	0	0	0	0	0	0	16	18:30	0	31	10	0	3	0	0	0	0	0	0	0	0	44
6:45	0	33	3	0	6	0	0	0	0	0	0	0	0	42	18:45	0	50	4	0	1	0	0	0	0	0	0	0	0	55
7:00	0	27	4	0	5	0	0	0	0	0	0	0	0	36	19:00	0	43	3	0	1	0	0	0	0	0	0	0	0	47
7:15	0	54	8	0	5	0	0	0	0	0	0	0	0	67	19:15	0	30	4	0	3	0	0	0	0	0	0	0	0	37
7:30	1	80	15	0	2	0	0	0	0	0	0	0	0	98	19:30	0	21	5	0	2	0	0	0	0	0	0	0	0	28
7:45	0	99	7	0	6	0	0	0	0	0	0	0	0	112	19:45	0	34	5	0	2	0	0	0	0	0	0	0	0	41
8:00	0	70	12	0	4	0	0	0	0	0	0	0	0	86	20:00	0	32	7	0	3	0	0	0	0	0	0	0	0	42
8:15	0	46	4	0	6	0	0	0	0	0	0	0	0	56	20:15	0	42	3	0	3	0	0	0	0	0	0	0	0	48
8:30	0	29	5	0	6	0	0	0	0	0	0	0	0	40	20:30	0	33	2	0	2	0	0	0	0	0	0	0	0	37
8:45	1	42	10	0	0	0	0	0	0	0	0	0	0	53	20:45	0	25	2	0	2	0	0	0	0	0	0	0	0	29
9:00	0	37	4	0	1	0	0	0	0	0	0	0	0	42	21:00	0	19	2	0	0	0	0	0	0	0	0	0	0	21
9:15	1	31	5	1	1	0	0	0	0	0	1	0	0	40	21:15	0	31	5	0	1	0	0	0	0	0	0	0	0	37
9:30	0	43	10	0	1	0	1	0	0	0	0	0	0	55	21:30	0	17	2	0	1	0	0	0	0	0	0	0	0	20
9:45	0	28	4	0	2	0	0	0	0	0	0	0	0	34	21:45	0	20	2	0	0	0	0	0	0	0	0	0	0	22
10:00	0	37	4	0	1	0	0	0	0	0	0	0	0	42	22:00	0	15	1	0	0	0	0	0	0	0	0	0	0	16
10:15	0	27	2	0	3	0	0	0	0	0	0	0	0	32	22:15	0	12	2	0	0	0	0	0	0	0	0	0	0	14
10:30	0	38	5	0	4	0	0	0	0	0	0	0	0	47	22:30	0	13	0	0	0	0	0	0	0	0	0	0	0	13
10:45	0	30	8	0	1	0	0	0	0	0	0	0	0	39	22:45	0	10	1	0	1	0	0	0	0	0	0	0	0	12
11:00	0	28	4	0	3	1	0	0	0	0	0	0	0	36	23:00	0	9	0	0	0	0	0	0	0	0	0	0	0	9
11:15	0	30	4	0	1	0	0	0	0	0	0	0	0	35	23:15	1	3	0	0	0	0	0	0	0	0	0	0	0	4
11:30	0	36	7	0	4	0	0	0	0	0	0	0	0	47	23:30	0	6	1	0	0	0	0	0	0	0	0	0	0	7
11:45	0	38	5	0	1	0	0	0	0	0	0	0	0	44	23:45	0	2	0	0	0	0	0	0	0	0	0	0	0	2
TOTAL	5	1,033	149	1	72	1	1	0	0	0	1	0	0	1,263	TOTAL	2	1,607	211	4	98	3	1	0	0	0	0	0	0	1,926

AM PEAK HOUR	7:15 AM
AM PEAK VOLUME	363

PM PEAK HOUR	2:15 PM
PM PEAK VOLUME	270

CLASS 1	Class 1 — Motorcycles	CLASS 8	3 to 4 Axles, Single Trailer
CLASS 2	Passenger Cars	CLASS 9	5 Axles, Single Trailer
CLASS 3	2 Axles, 4-Tire Single Units	CLASS 10	6 or More Axles, Single Trailer
CLASS 4	Buses	CLASS 11	5 or Less Axles, Multi-Trailers
CLASS 5	2 Axles, 6-Tire Single Units	CLASS 12	6 Axles, Multi-Trailers
CLASS 6	3 Axles, Single Unit	CLASS 13	7 or More Axles, Multi-Trailers
CLASS 7	4 or More Axles, Single Unit		

TOTAL: AM+PM	7	2,640	360	5	170	4	2	0	0	0	1	0	0	3,189
% OF TOTAL	0.2%	82.8%	11.3%	0.2%	5.3%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%

Class	1	2	3	4	5	6	7	8	9	10	11	12	13

A816

24-HOUR ROADWAY SEGMENT COUNTS (WITH FHWA CLASSIFICATION)

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE: Wednesday, August 16, 2017
JOB #: SC1422

LOCATION#
CLASS4 Indian south of Hemlock

AM	NORTHBOUND													
TIME	1	2	3	4	5	6	7	8	9	10	11	12	13	TOTAL
0:00	0	3	1	0	0	0	0	0	0	0	0	0	0	4
0:15	0	7	1	0	0	0	0	0	0	0	0	0	0	8
0:30	0	7	0	0	0	0	0	0	0	0	0	0	0	7
0:45	0	12	0	0	0	0	0	0	0	0	0	0	0	12
1:00	0	10	0	0	0	0	0	0	0	0	0	0	0	10
1:15	0	1	0	0	1	0	0	0	0	0	0	0	0	2
1:30	0	5	1	0	0	0	0	0	0	0	0	0	0	6
1:45	0	3	0	0	0	0	0	0	0	0	0	0	0	3
2:00	0	5	1	0	0	0	0	0	0	0	0	0	0	6
2:15	0	5	0	0	0	0	0	0	0	0	0	0	0	5
2:30	0	2	0	0	0	0	0	0	0	0	0	0	0	2
2:45	0	1	0	0	0	0	0	0	0	0	0	0	0	1
3:00	0	3	0	0	0	0	0	0	0	0	0	0	0	3
3:15	0	1	1	0	0	0	0	0	0	0	0	0	0	2
3:30	0	2	0	0	0	0	0	0	0	0	0	0	0	2
3:45	0	5	1	0	1	0	0	0	0	0	0	0	0	7
4:00	0	5	0	0	0	0	0	0	0	0	0	0	0	5
4:15	0	5	0	0	0	0	0	0	0	0	0	0	0	5
4:30	0	6	1	0	0	0	0	0	0	0	0	0	0	7
4:45	0	4	0	0	1	0	0	0	0	0	0	0	0	5
5:00	0	9	1	0	0	0	0	0	0	0	0	0	0	10
5:15	0	5	1	0	0	0	0	0	0	0	0	0	0	6
5:30	0	5	0	0	1	0	0	0	0	0	0	0	0	6
5:45	0	1	0	0	0	0	0	0	0	0	0	0	0	1
6:00	1	12	5	0	1	0	0	0	0	0	0	0	0	19
6:15	0	8	3	0	0	0	0	0	0	0	0	0	0	11
6:30	0	16	3	0	2	0	0	0	0	0	0	0	0	21
6:45	0	26	3	0	4	0	0	0	0	0	0	0	0	33
7:00	0	37	8	0	2	0	0	0	0	0	0	0	0	47
7:15	0	44	10	0	2	0	0	0	0	0	0	0	0	56
7:30	0	62	7	1	6	0	0	0	0	0	0	0	0	76
7:45	5	55	11	0	6	0	0	0	0	0	0	0	0	77
8:00	0	61	6	0	4	0	0	0	0	0	0	0	0	71
8:15	0	35	3	0	5	1	0	0	0	0	0	0	0	44
8:30	0	25	6	0	1	0	0	0	0	0	0	0	0	32
8:45	0	27	13	0	1	0	0	0	0	0	0	0	0	41
9:00	0	27	7	0	1	0	0	0	0	0	0	0	0	35
9:15	0	19	5	0	2	0	0	0	0	0	0	0	0	26
9:30	0	24	3	0	1	0	0	0	0	0	0	0	0	28
9:45	0	20	5	0	0	0	0	0	0	0	0	0	0	25
10:00	0	26	4	0	4	0	0	0	0	0	0	0	0	34
10:15	0	20	4	0	1	0	0	0	0	0	0	0	0	25
10:30	1	30	2	0	0	0	0	0	0	0	0	0	0	33
10:45	0	29	1	0	2	0	0	0	0	0	0	0	0	32
11:00	3	30	7	0	1	0	0	0	0	0	0	0	0	41
11:15	0	38	6	0	1	1	0	0	0	0	0	0	0	46
11:30	0	29	7	0	2	0	0	0	0	0	0	0	0	38
11:45	0	36	4	0	3	0	0	0	0	0	0	0	0	43
TOTAL	10	848	142	1	56	2	0	0	0	0	0	0	0	1,059

AM PEAK HOUR	7:15 AM
AM PEAK VOLUME	280

PM	NORTHBOUND													
Time	1	2	3	4	5	6	7	8	9	10	11	12	13	TOTAL
12:00	1	44	6	0	2	0	0	0	0	0	0	0	0	53
12:15	0	27	7	0	3	0	0	0	0	0	0	0	0	37
12:30	0	41	5	0	1	0	0	0	0	0	0	0	0	47
12:45	0	37	6	0	2	0	0	0	0	0	0	0	0	45
13:00	0	50	6	0	1	0	0	0	0	0	0	0	0	57
13:15	0	49	7	0	5	0	0	0	0	0	0	0	0	61
13:30	0	44	10	0	4	0	1	0	0	0	0	0	0	59
13:45	0	52	7	0	3	1	0	0	0	0	0	0	0	63
14:00	0	57	13	0	2	0	0	0	0	0	0	0	0	72
14:15	2	64	4	0	5	0	0	0	0	0	0	0	0	75
14:30	0	70	13	0	2	0	0	0	0	0	0	0	0	85
14:45	1	61	2	0	7	0	0	0	0	0	0	0	0	71
15:00	1	76	8	0	7	0	0	0	0	0	0	0	0	92
15:15	0	70	11	0	7	0	0	0	0	0	0	0	0	88
15:30	1	70	15	0	7	1	0	0	0	0	0	0	0	94
15:45	1	70	13	0	5	0	0	0	0	0	0	0	0	89
16:00	0	67	9	0	1	0	0	0	0	0	0	0	0	77
16:15	0	74	4	0	3	0	0	0	0	0	0	0	0	81
16:30	0	68	7	0	6	0	0	0	0	0	0	0	0	81
16:45	0	74	14	0	6	0	0	0	0	0	0	0	0	94
17:00	1	85	14	0	3	0	0	0	0	0	0	0	0	103
17:15	0	87	14	0	5	0	0	0	0	0	0	0	0	106
17:30	0	81	4	0	7	0	0	0	0	0	0	0	0	92
17:45	0	75	5	0	8	0	0	0	0	0	0	0	0	88
18:00	0	98	13	0	4	1	0	0	0	0	0	0	0	116
18:15	0	68	2	0	3	0	0	0	0	0	0	0	0	73
18:30	0	79	6	0	1	0	0	0	0	0	0	0	0	86
18:45	0	63	9	0	7	0	0	0	0	0	0	0	0	79
19:00	0	73	16	0	4	0	0	0	0	0	0	0	0	93
19:15	0	60	7	0	4	0	0	0	0	0	0	0	0	71
19:30	0	56	7	0	1	0	0	0	0	0	0	0	0	64
19:45	1	58	5	0	4	0	0	0	0	0	0	0	0	68
20:00	0	63	9	0	3	0	0	0	0	0	0	0	0	75
20:15	0	45	8	0	4	0	0	0	0	0	0	0	0	57
20:30	0	46	4	0	2	0	0	0	0	0	0	0	0	52
20:45	0	56	4	0	1	0	0	0	0	0	0	0	0	61
21:00	0	42	3	0	0	0	0	0	0	0	0	0	0	45
21:15	0	36	6	0	4	0	0	0	0	0	0	0	0	46
21:30	0	33	4	0	1	0	0	0	0	0	0	0	0	38
21:45	0	27	5	0	1	0	0	0	0	0	0	0	0	33
22:00	0	23	1	0	2	0	0	0	0	0	0	0	0	26
22:15	0	25	2	0	0	0	0	0	0	0	0	0	0	27
22:30	0	19	3	0	2	0	0	0	0	0	0	0	0	24
22:45	0	16	0	0	1	0	0	0	0	0	0	0	0	17
23:00	0	12	1	0	2	0	0	0	0	0	0	0	0	15
23:15	0	18	1	0	1	0	0	0	0	0	0	0	0	20
23:30	0	17	0	0	1	0	0	0	0	0	0	0	0	18
23:45	0	9	1	0	0	0	0	0	0	0	0	0	0	10
TOTAL	9	2,535	321	0	155	3	1	0	0	0	0	0	0	3,024

PM PEAK HOUR	5:15 PM
PM PEAK VOLUME	402

TOTAL: AM+PM	19	3,383	463	1	211	5	1	0	0	0	0	0	0	4,083
% OF TOTAL	0.5%	82.9%	11.3%	0.0%	5.2%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%

Class	1	2	3	4	5	6	7	8	9	10	11	12	13	
TOTAL: ALL	31	6,094	997	8	474	29	26	4	1	0	0	3	0	7,667
% OF TOTAL	0.8%	149.3%	24.4%	0.2%	11.6%	0.7%	0.6%	0.1%	0.0%	0.0%	0.0%	0.1%	0.0%	100.0%

CLASS 1	Class 1 — Motorcycles	CLASS 8	3 to 4 Axles, Single Trailer
CLASS 2	Passenger Cars	CLASS 9	5 Axles, Single Trailer
CLASS 3	2 Axles, 4-Tire Single Units	CLASS 10	6 or More Axles, Single Trailer
CLASS 4	Buses	CLASS 11	5 or Less Axles, Multi-Trailers
CLASS 5	2 Axles, 6-Tire Single Units	CLASS 12	6 Axles, Multi-Trailers
CLASS 6	3 Axles, Single Unit	CLASS 13	7 or More Axles, Multi-Trailers
CLASS 7	4 or More Axles, Single Unit		

24-HOUR ROADWAY SEGMENT COUNTS (WITH FHWA CLASSIFICATION)

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE: Wednesday, August 16, 2017
JOB #: SC1422

LOCATION#
CLASS4 Indian south of Hemlock

AM	SOUTHBOUND														PM	SOUTHBOUND													
TIME	1	2	3	4	5	6	7	8	9	10	11	12	13	TOTAL	Time	1	2	3	4	5	6	7	8	9	10	11	12	13	TOTAL
0:00	0	4	1	0	0	0	0	0	0	0	0	0	0	5	12:00	1	37	3	1	7	1	3	0	0	0	0	0	0	53
0:15	0	4	1	0	0	0	0	0	0	0	0	0	0	5	12:15	0	32	7	1	6	2	1	1	0	0	0	0	0	50
0:30	0	7	0	0	0	0	0	0	0	0	0	0	0	7	12:30	0	23	4	0	8	2	0	0	0	0	0	0	0	37
0:45	0	5	1	0	0	0	0	0	0	0	0	0	0	6	12:45	0	23	10	0	3	2	0	0	0	0	0	0	0	38
1:00	0	2	1	0	0	0	0	0	0	0	0	0	0	3	13:00	0	32	6	0	3	1	0	0	0	0	0	0	0	42
1:15	0	5	0	0	0	0	0	0	0	0	0	0	0	5	13:15	0	29	8	0	2	2	2	0	0	0	0	0	0	43
1:30	0	2	0	0	0	0	0	0	0	0	0	0	0	2	13:30	0	24	7	0	7	2	1	0	0	0	0	1	0	42
1:45	0	5	0	0	0	0	0	0	0	0	0	0	0	5	13:45	1	34	3	0	2	1	0	0	0	0	0	0	0	41
2:00	0	0	1	0	0	0	0	0	0	0	0	0	0	1	14:00	0	46	14	0	4	0	1	0	0	0	0	0	0	65
2:15	0	6	0	0	1	0	0	0	0	0	0	0	0	7	14:15	0	53	14	0	6	0	0	0	0	0	0	0	0	73
2:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14:30	0	64	15	0	6	0	0	0	0	0	0	0	0	85
2:45	0	1	0	0	0	0	0	0	0	0	0	0	0	1	14:45	0	47	16	0	6	0	0	0	0	0	0	0	0	69
3:00	0	2	1	0	0	0	0	0	0	0	0	0	0	3	15:00	0	48	7	0	3	0	0	0	0	0	0	0	0	58
3:15	0	1	0	0	0	0	0	0	0	0	0	0	0	1	15:15	0	39	11	1	3	0	0	0	0	0	0	0	0	54
3:30	0	4	0	0	0	0	0	0	0	0	0	0	0	4	15:30	0	58	11	0	4	0	0	0	0	0	0	0	0	73
3:45	0	2	0	0	0	0	0	0	0	0	0	0	0	2	15:45	0	41	6	0	6	0	0	0	0	0	0	0	0	53
4:00	0	5	1	0	1	0	0	0	0	0	0	0	0	7	16:00	0	43	11	0	8	0	1	0	0	0	0	0	0	63
4:15	0	7	1	0	1	0	0	0	0	0	0	0	0	9	16:15	0	47	6	0	2	0	0	0	0	0	0	0	0	55
4:30	0	10	0	0	3	0	0	0	0	0	0	0	0	13	16:30	0	50	4	0	8	0	0	0	0	0	0	0	0	62
4:45	1	10	2	0	2	0	0	0	0	0	0	0	0	15	16:45	0	46	6	1	5	0	0	0	0	0	0	0	0	58
5:00	0	6	2	0	1	0	0	0	0	0	0	0	0	9	17:00	0	61	8	0	6	0	0	0	0	0	0	0	0	75
5:15	0	6	1	0	0	0	0	0	0	0	0	0	0	7	17:15	0	43	9	0	0	0	0	0	0	0	0	0	0	52
5:30	0	14	5	0	1	0	0	0	0	0	0	0	0	20	17:30	0	60	5	0	5	0	0	0	0	0	0	0	0	70
5:45	0	14	3	0	2	0	0	0	0	0	0	0	0	19	17:45	0	59	11	0	7	0	0	0	0	0	0	0	0	77
6:00	1	11	1	0	2	0	0	0	0	0	0	0	0	15	18:00	0	64	11	0	4	0	0	0	0	0	0	0	0	79
6:15	0	15	5	0	0	0	0	0	0	0	0	0	0	20	18:15	0	57	9	0	4	0	0	0	0	0	0	0	0	70
6:30	0	14	4	0	3	0	0	0	0	0	0	0	0	21	18:30	0	37	8	0	2	0	0	0	0	0	0	0	0	47
6:45	0	34	8	0	3	0	0	0	0	0	0	0	0	45	18:45	0	64	2	0	1	0	0	0	0	0	0	0	0	67
7:00	0	31	4	0	10	0	0	0	0	0	0	0	0	45	19:00	0	47	6	0	3	0	0	0	0	0	0	0	0	56
7:15	0	49	10	0	6	0	0	0	0	0	0	0	0	65	19:15	0	35	11	0	4	0	0	0	0	0	0	0	0	50
7:30	0	85	18	0	5	0	0	0	0	0	0	0	0	108	19:30	0	31	7	0	3	0	0	0	0	0	0	0	0	41
7:45	0	88	21	0	9	0	0	0	0	0	0	0	0	118	19:45	0	46	11	0	2	0	0	0	0	0	0	0	0	59
8:00	0	54	10	0	5	0	0	0	0	0	0	0	0	69	20:00	0	43	5	0	2	0	0	0	0	0	0	0	0	50
8:15	1	42	9	1	6	2	0	0	0	0	0	0	0	61	20:15	0	31	7	0	5	0	0	0	0	0	0	0	0	43
8:30	0	26	5	0	4	0	1	0	0	0	0	0	0	36	20:30	0	32	5	0	1	0	0	0	0	0	0	0	0	38
8:45	1	35	13	1	4	2	3	1	0	0	0	0	0	60	20:45	0	29	3	0	2	0	0	0	0	0	0	0	0	34
9:00	0	36	4	0	2	1	0	0	0	0	0	1	0	44	21:00	0	23	4	0	1	0	0	0	0	0	0	0	0	28
9:15	0	28	6	1	2	0	0	0	0	0	0	0	0	37	21:15	0	24	10	0	3	0	0	0	0	0	0	0	0	37
9:30	1	33	8	0	2	0	2	0	0	0	0	0	0	46	21:30	0	18	5	0	4	0	0	0	0	0	0	0	0	27
9:45	0	35	11	0	2	0	0	0	0	0	0	0	0	48	21:45	1	20	5	0	0	0	0	0	0	0	0	0	0	26
10:00	0	31	1	0	5	1	1	2	0	0	0	0	0	41	22:00	0	22	4	0	0	0	0	0	0	0	0	0	0	26
10:15	0	39	6	0	1	1	1	0	0	0	0	0	0	48	22:15	0	18	2	0	1	0	0	0	0	0	0	0	0	21
10:30	0	42	5	0	4	0	0	0	0	0	0	0	0	51	22:30	0	13	2	0	0	0	0	0	0	0	0	0	0	15
10:45	1	25	11	0	3	1	2	0	0	0	0	0	0	43	22:45	0	9	2	0	1	0	0	0	0	0	0	0	0	12
11:00	0	21	7	0	2	0	2	0	0	0	0	1	0	33	23:00	0	8	1	0	0	0	0	0	0	0	0	0	0	9
11:15	2	29	7	0	3	2	1	0	0	0	0	0	0	44	23:15	0	7	2	0	0	0	0	0	0	0	0	0	0	9
11:30	1	23	12	0	5	1	2	0	0	0	0	0	0	44	23:30	0	7	1	0	0	0	0	0	0	0	0	0	0	8
11:45	0	33	2	0	3	0	1	0	1	0	0	0	0	40	23:45	0	6	0	0	0	0	0	0	0	0	0	0	0	6
TOTAL	9	981	209	3	103	11	16	3	1	0	0	2	0	1,338	TOTAL	3	1,730	325	4	160	13	9	1	0	0	0	1	0	2,246
										AM PEAK HOUR				7:15 AM										PM PEAK HOUR				5:30 PM
										AM PEAK VOLUME				360										PM PEAK VOLUME				296

CLASS 1	Class 1 — Motorcycles	CLASS 8	3 to 4 Axles, Single Trailer
CLASS 2	Passenger Cars	CLASS 9	5 Axles, Single Trailer
CLASS 3	2 Axles, 4-Tire Single Units	CLASS 10	6 or More Axles, Single Trailer
CLASS 4	Buses	CLASS 11	5 or Less Axles, Multi-Trailers
CLASS 5	2 Axles, 6-Tire Single Units	CLASS 12	6 Axles, Multi-Trailers
CLASS 6	3 Axles, Single Unit	CLASS 13	7 or More Axles, Multi-Trailers
CLASS 7	4 or More Axles, Single Unit		

TOTAL: AM+PM	12	2,711	534	7	263	24	25	4	1	0	0	3	0	3,584
% OF TOTAL	0.3%	75.6%	14.9%	0.2%	7.3%	0.7%	0.7%	0.1%	0.0%	0.0%	0.0%	0.1%	0.0%	100.0%

Class	1	2	3	4	5	6	7	8	9	10	11	12	13

A816

24-HOUR ROADWAY SEGMENT COUNTS (WITH FHWA CLASSIFICATION)

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE: Wednesday, August 16, 2017
JOB #: SC1422

LOCATION#
CLASS5 Ironwood west of Heacock

AM	EASTBOUND													
TIME	1	2	3	4	5	6	7	8	9	10	11	12	13	TOTAL
0:00	0	15	1	0	1	0	0	0	0	0	0	0	0	17
0:15	0	10	3	0	0	0	0	0	0	0	0	0	0	13
0:30	0	10	2	0	2	0	0	0	0	0	0	0	0	14
0:45	0	9	2	0	1	0	0	0	0	0	0	0	0	12
1:00	0	4	2	0	0	0	0	0	0	0	0	0	0	6
1:15	1	4	1	0	0	0	0	0	0	0	0	0	0	6
1:30	0	7	0	0	0	0	0	0	0	0	0	0	0	7
1:45	0	9	0	0	0	0	0	0	0	0	0	0	0	9
2:00	0	3	1	0	0	0	0	0	0	0	0	0	0	4
2:15	1	8	1	0	1	0	0	0	1	0	0	0	0	12
2:30	0	1	0	0	0	0	0	0	0	0	0	0	0	1
2:45	0	6	0	0	0	0	0	0	0	0	0	0	0	6
3:00	0	3	0	0	0	0	0	0	0	0	0	0	0	3
3:15	0	3	2	0	0	0	0	0	0	0	0	0	0	5
3:30	0	4	3	0	0	0	0	0	0	0	0	0	0	7
3:45	0	10	0	0	1	0	0	0	0	0	0	0	0	11
4:00	0	9	0	0	1	0	0	0	0	0	0	0	0	10
4:15	0	6	4	0	2	0	0	0	0	0	0	0	0	12
4:30	0	15	0	0	0	0	0	0	0	0	0	0	0	15
4:45	0	15	1	0	2	1	0	0	0	0	0	0	0	19
5:00	0	11	4	0	0	0	0	0	0	0	0	0	0	15
5:15	0	24	6	1	0	0	0	0	0	0	0	0	0	31
5:30	0	22	1	0	3	0	0	0	0	0	0	0	0	26
5:45	0	18	4	0	1	0	0	0	0	0	0	0	0	23
6:00	1	25	2	0	2	0	0	0	0	0	0	0	0	30
6:15	1	30	1	1	1	0	0	0	0	0	0	0	0	34
6:30	1	51	5	0	3	0	0	0	0	0	0	0	0	60
6:45	2	40	6	0	3	0	0	0	0	0	0	0	0	51
7:00	1	69	7	0	3	1	0	0	0	0	0	0	0	81
7:15	1	90	12	1	6	0	0	0	0	0	0	0	0	110
7:30	0	113	16	0	4	0	0	0	0	0	0	0	0	133
7:45	3	96	16	0	3	0	0	1	0	0	0	0	0	119
8:00	0	94	12	0	4	1	1	0	0	1	0	0	0	113
8:15	1	78	9	0	3	1	0	0	0	0	0	1	0	93
8:30	1	76	15	1	6	0	1	0	0	0	1	0	0	101
8:45	8	51	8	1	6	2	0	0	0	0	0	0	0	76
9:00	4	61	13	0	2	0	0	0	0	0	0	0	0	80
9:15	0	44	6	1	6	0	0	0	0	0	0	0	0	57
9:30	1	58	8	1	10	0	0	0	0	0	0	0	0	78
9:45	0	57	11	0	2	1	0	0	1	0	0	0	0	72
10:00	1	54	6	0	5	0	0	0	0	0	0	0	0	66
10:15	0	56	14	0	5	1	0	0	0	0	0	0	0	76
10:30	2	80	13	1	3	2	0	2	0	0	0	0	0	103
10:45	2	59	12	0	5	3	0	0	0	0	0	0	0	81
11:00	2	57	6	0	5	1	1	0	0	0	0	1	1	74
11:15	3	77	9	0	5	0	0	0	0	0	0	0	0	94
11:30	4	62	13	0	3	2	1	2	1	1	0	0	0	89
11:45	2	63	14	2	8	2	1	0	0	0	0	0	1	93
TOTAL	43	1,767	272	10	118	18	5	5	3	2	1	2	2	2,248

AM PEAK HOUR	7:15 AM
AM PEAK VOLUME	475

PM	EASTBOUND													
Time	1	2	3	4	5	6	7	8	9	10	11	12	13	TOTAL
12:00	3	82	8	0	7	3	0	0	0	0	1	0	0	104
12:15	1	71	8	1	9	2	1	0	0	1	0	0	0	94
12:30	2	75	7	0	5	2	1	0	0	0	0	0	0	92
12:45	3	65	9	1	5	1	2	0	0	0	0	1	0	87
13:00	4	102	16	0	3	6	0	0	0	1	0	2	0	134
13:15	1	106	19	1	11	1	1	0	0	0	0	0	0	140
13:30	2	88	24	0	9	0	1	0	0	0	0	0	0	124
13:45	5	96	19	2	17	2	0	0	0	0	0	0	0	141
14:00	6	77	18	1	4	0	0	0	0	0	0	0	0	106
14:15	0	72	21	0	5	3	1	0	0	0	0	0	0	102
14:30	0	89	17	0	6	2	0	0	0	0	0	0	0	114
14:45	2	68	11	0	13	2	1	0	0	0	0	0	0	97
15:00	4	89	12	1	6	2	0	1	0	0	1	0	0	116
15:15	7	82	14	0	12	0	1	0	0	0	0	1	0	117
15:30	4	87	12	0	7	2	0	2	0	0	0	1	0	115
15:45	1	90	12	1	4	0	1	1	0	0	0	0	0	110
16:00	1	123	17	0	13	1	4	0	0	0	0	0	1	160
16:15	5	133	18	0	4	1	0	0	0	0	0	2	0	163
16:30	3	126	16	0	12	3	1	2	0	0	0	1	0	164
16:45	1	134	18	0	13	2	0	0	0	0	0	0	0	168
17:00	2	123	14	0	17	2	1	0	1	0	0	0	0	160
17:15	1	132	26	1	14	0	1	1	1	0	0	0	0	177
17:30	9	141	20	0	10	2	0	0	0	0	0	1	1	184
17:45	6	134	12	0	10	2	1	0	1	0	0	0	2	168
18:00	6	113	22	0	8	3	0	0	0	0	0	1	1	154
18:15	3	107	10	0	13	7	1	0	1	0	0	0	0	142
18:30	3	77	15	0	9	1	1	1	0	0	0	0	0	107
18:45	5	121	14	0	2	1	1	1	0	0	0	1	1	147
19:00	7	104	7	0	2	2	0	1	0	0	0	0	0	123
19:15	2	75	14	0	4	1	0	0	0	0	0	0	0	96
19:30	2	81	12	0	5	1	0	0	0	0	0	0	0	101
19:45	2	85	9	0	4	1	1	0	0	0	0	0	0	102
20:00	1	69	11	0	5	0	0	0	0	0	0	0	0	86
20:15	1	58	8	0	6	0	1	1	1	0	0	0	0	76
20:30	0	51	13	0	5	1	0	0	0	0	0	0	0	70
20:45	0	64	5	0	4	0	0	0	0	0	0	0	0	73
21:00	3	51	2	0	4	1	0	0	0	0	0	0	0	61
21:15	2	71	6	0	4	0	1	0	0	0	0	1	0	85
21:30	8	38	6	0	3	0	0	0	0	0	0	0	0	55
21:45	1	36	5	0	2	0	0	0	0	0	0	0	0	44
22:00	1	40	7	0	1	0	0	0	0	0	0	0	0	49
22:15	0	43	3	1	4	0	1	0	0	0	0	0	0	52
22:30	3	31	1	0	2	0	0	0	0	0	0	0	0	37
22:45	0	26	6	0	0	0	0	0	0	0	0	0	0	32
23:00	0	38	2	0	1	0	0	0	0	0	0	0	0	41
23:15	0	15	1	0	0	0	0	0	0	0	0	0	0	16
23:30	0	16	3	0	3	0	0	0	0	0	0	0	0	22
23:45	0	9	3	0	0	0	0	0	0	0	0	0	0	12
TOTAL	123	3,804	553	10	307	60	25	11	5	2	2	12	6	4,920

PM PEAK HOUR	5:00 PM
PM PEAK VOLUME	689

CLASS 1	Class 1 — Motorcycles	CLASS 8	3 to 4 Axles, Single Trailer
CLASS 2	Passenger Cars	CLASS 9	5 Axles, Single Trailer
CLASS 3	2 Axles, 4-Tire Single Units	CLASS 10	6 or More Axles, Single Trailer
CLASS 4	Buses	CLASS 11	5 or Less Axles, Multi-Trailers
CLASS 5	2 Axles, 6-Tire Single Units	CLASS 12	6 Axles, Multi-Trailers
CLASS 6	3 Axles, Single Unit	CLASS 13	7 or More Axles, Multi-Trailers
CLASS 7	4 or More Axles, Single Unit		

TOTAL: AM+PM	166	5,571	825	20	425	78	30	16	8	4	3	14	8	7,168
% OF TOTAL	2.3%	77.7%	11.5%	0.3%	5.9%	1.1%	0.4%	0.2%	0.1%	0.1%	0.0%	0.2%	0.1%	100.0%
Class	1	2	3	4	5	6	7	8	9	10	11	12	13	
TOTAL: ALL	222	11,640	2,111	46	1,152	157	42	26	15	4	4	19	9	15,447
% OF TOTAL	3.1%	162.4%	29.5%	0.6%	16.1%	2.2%	0.6%	0.4%	0.2%	0.1%	0.1%	0.3%	0.1%	100.0%

24-HOUR ROADWAY SEGMENT COUNTS (WITH FHWA CLASSIFICATION)

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE: Wednesday, August 16, 2017
JOB #: SC1422

LOCATION#
CLASS5 Ironwood west of Heacock

AM TIME	WESTBOUND 1	2	3	4	5	6	7	8	9	10	11	12	13	TOTAL
0:00	0	11	2	0	1	0	0	0	0	0	0	0	0	14
0:15	0	13	1	0	1	0	0	0	0	0	0	0	0	15
0:30	0	5	2	0	1	0	0	0	0	0	0	0	0	8
0:45	0	6	1	0	0	0	0	0	0	0	0	0	0	7
1:00	0	7	3	0	0	0	0	0	0	0	0	0	0	10
1:15	0	4	3	0	2	0	0	0	0	0	0	0	0	9
1:30	0	5	1	0	1	0	0	0	0	0	0	0	0	7
1:45	0	4	0	0	0	0	0	0	0	0	0	0	0	4
2:00	0	3	2	0	1	0	0	0	0	0	0	0	0	6
2:15	0	7	1	0	1	0	0	0	0	0	0	0	0	9
2:30	0	4	0	0	0	0	0	0	0	0	0	0	0	4
2:45	0	5	0	0	0	0	0	0	0	0	0	0	0	5
3:00	0	2	0	0	2	0	0	0	0	0	0	0	0	4
3:15	0	4	5	0	3	0	0	0	0	0	0	0	0	12
3:30	1	3	0	0	3	0	0	0	0	0	0	0	0	7
3:45	0	13	2	0	1	0	0	0	0	0	0	0	0	16
4:00	0	7	1	0	2	0	0	0	0	0	0	0	0	10
4:15	0	10	2	0	0	0	0	0	0	0	0	0	0	12
4:30	0	15	3	0	2	0	0	0	0	0	0	0	0	20
4:45	0	14	7	0	1	0	0	0	0	0	0	0	0	22
5:00	0	18	5	0	0	1	0	0	0	0	0	0	0	24
5:15	0	20	7	0	0	0	0	0	0	0	0	0	0	27
5:30	0	26	8	0	6	0	0	0	0	0	0	0	0	40
5:45	0	22	9	0	7	1	0	0	0	0	0	0	0	39
6:00	1	37	7	0	6	0	0	0	0	0	0	0	0	51
6:15	1	45	15	0	15	0	0	0	0	0	0	0	0	76
6:30	0	59	14	1	16	0	0	0	0	0	0	0	0	90
6:45	0	83	14	0	17	3	0	0	0	0	0	0	0	117
7:00	0	123	17	0	14	0	0	0	0	0	0	0	0	154
7:15	0	141	29	1	15	2	0	0	0	0	0	0	1	189
7:30	4	135	27	1	20	5	0	0	1	0	0	0	0	193
7:45	2	158	37	1	15	4	1	1	1	0	0	1	0	221
8:00	0	147	31	0	14	4	1	0	0	0	0	0	0	197
8:15	5	128	25	1	12	2	0	0	0	0	0	0	0	173
8:30	0	97	11	0	11	0	0	0	0	0	0	0	0	119
8:45	0	84	18	1	6	0	0	0	0	0	0	0	0	109
9:00	0	63	18	0	7	0	1	0	0	0	0	0	0	89
9:15	1	54	14	0	9	1	0	1	0	0	0	0	0	80
9:30	0	49	10	0	9	1	1	0	0	0	0	0	0	70
9:45	0	55	14	2	6	0	0	0	0	0	0	0	0	77
10:00	0	62	13	0	8	0	0	0	0	0	0	0	0	83
10:15	1	61	19	1	7	0	0	1	0	0	0	1	0	91
10:30	0	58	13	0	11	2	0	0	0	0	0	0	0	84
10:45	1	62	14	1	9	2	0	1	0	0	1	0	0	91
11:00	0	55	12	1	8	0	1	0	0	0	0	1	0	78
11:15	0	58	17	0	7	2	0	0	1	0	0	0	0	85
11:30	0	66	24	0	12	0	0	0	0	0	0	0	0	102
11:45	1	99	25	0	8	0	0	0	0	0	0	0	0	133
TOTAL	18	2,207	503	11	297	30	5	4	3	0	1	3	1	3,083

AM PEAK HOUR	7:15 AM
AM PEAK VOLUME	800

PM Time	WESTBOUND 1	2	3	4	5	6	7	8	9	10	11	12	13	TOTAL
12:00	2	62	18	1	14	0	1	0	0	0	0	0	0	98
12:15	0	81	24	0	10	0	0	0	0	0	0	0	0	115
12:30	0	88	22	0	13	2	0	0	0	0	0	0	0	125
12:45	0	85	23	0	11	1	0	0	0	0	0	1	0	121
13:00	0	94	20	1	14	4	1	0	0	0	0	0	0	134
13:15	4	94	20	1	8	1	0	0	0	0	0	0	0	128
13:30	0	91	22	2	15	1	0	1	0	0	0	0	0	132
13:45	2	89	17	0	12	0	0	0	0	0	0	0	0	120
14:00	0	92	24	0	11	3	0	0	0	0	0	0	0	130
14:15	0	102	31	1	15	0	0	0	0	0	0	0	0	149
14:30	0	90	24	0	16	1	0	0	0	0	0	0	0	131
14:45	0	81	19	0	18	1	0	0	0	0	0	0	0	119
15:00	1	98	17	0	13	1	0	0	0	0	0	0	0	130
15:15	2	99	16	0	13	1	0	0	0	0	0	0	0	131
15:30	4	99	16	1	13	3	0	1	0	0	0	0	0	137
15:45	0	86	23	0	8	3	0	0	0	0	0	0	0	120
16:00	1	105	21	0	10	0	0	0	0	0	0	0	0	137
16:15	2	131	18	0	14	1	0	0	0	0	0	0	0	166
16:30	1	111	20	0	10	0	2	0	0	0	0	0	0	144
16:45	1	116	26	1	12	2	0	2	0	0	0	0	0	160
17:00	0	129	17	0	14	4	0	0	0	0	0	0	0	164
17:15	1	105	20	1	16	4	0	0	0	0	0	0	0	147
17:30	0	122	21	0	12	2	1	1	0	0	0	0	0	159
17:45	0	124	25	1	11	1	0	1	0	0	0	0	0	163
18:00	3	92	18	0	9	2	0	0	0	0	0	0	0	124
18:15	3	86	13	0	5	1	0	0	0	0	0	0	0	108
18:30	2	99	19	1	7	3	0	0	0	0	0	0	0	131
18:45	2	94	15	0	10	0	0	0	0	0	0	0	0	121
19:00	0	87	20	0	6	1	0	0	0	0	0	1	0	115
19:15	0	61	22	0	9	1	0	0	0	0	0	0	0	93
19:30	0	57	11	0	6	0	0	0	0	0	0	0	0	74
19:45	4	90	19	1	6	0	0	0	0	0	0	0	0	120
20:00	2	59	16	0	6	0	0	0	0	0	0	0	0	83
20:15	0	62	10	1	6	0	0	0	0	0	0	0	0	79
20:30	1	97	16	0	6	2	0	0	0	0	0	0	0	122
20:45	0	81	12	1	7	0	0	0	0	0	0	0	0	101
21:00	0	79	10	0	2	0	0	0	1	0	0	0	0	92
21:15	0	81	11	0	3	1	1	0	0	0	0	0	0	97
21:30	0	61	20	0	4	0	0	0	1	0	0	0	0	86
21:45	0	66	6	1	11	2	0	0	0	0	0	0	0	86
22:00	0	51	11	0	5	0	0	0	1	0	0	0	0	68
22:15	0	46	6	0	3	0	1	0	0	0	0	0	0	56
22:30	0	33	6	0	3	0	0	0	0	0	0	0	0	42
22:45	0	28	2	0	1	0	0	0	0	0	0	0	0	31
23:00	0	18	7	0	2	0	0	0	0	0	0	0	0	27
23:15	0	23	4	0	5	0	0	0	0	0	0	0	0	32
23:30	0	17	4	0	3	0	0	0	1	0	0	0	0	25
23:45	0	20	1	0	2	0	0	0	0	0	0	0	0	23
TOTAL	38	3,862	783	15	430	49	7	6	4	0	0	2	0	5,196

PM PEAK HOUR	4:15 PM
PM PEAK VOLUME	634

TOTAL: AM+PM	56	6,069	1,286	26	727	79	12	10	7	0	1	5	1	8,279
% OF TOTAL	0.7%	73.3%	15.5%	0.3%	8.8%	1.0%	0.1%	0.1%	0.1%	0.0%	0.0%	0.1%	0.0%	100.0%

Class	1	2	3	4	5	6	7	8	9	10	11	12	13

CLASS 1	Class 1 — Motorcycles	CLASS 8	3 to 4 Axles, Single Trailer
CLASS 2	Passenger Cars	CLASS 9	5 Axles, Single Trailer
CLASS 3	2 Axles, 4-Tire Single Units	CLASS 10	6 or More Axles, Single Trailer
CLASS 4	Buses	CLASS 11	5 or Less Axles, Multi-Trailers
CLASS 5	2 Axles, 6-Tire Single Units	CLASS 12	6 Axles, Multi-Trailers
CLASS 6	3 Axles, Single Unit	CLASS 13	7 or More Axles, Multi-Trailers
CLASS 7	4 or More Axles, Single Unit		

A816

24-HOUR ROADWAY SEGMENT COUNTS (WITH FHWA CLASSIFICATION)

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE: Wednesday, August 16, 2017
JOB #: SC1422

LOCATION#
CLASS6 Ironwood between Heacock and Davis

AM	EASTBOUND														PM	EASTBOUND													
TIME	1	2	3	4	5	6	7	8	9	10	11	12	13	TOTAL	Time	1	2	3	4	5	6	7	8	9	10	11	12	13	TOTAL
0:00	0	23	4	0	1	0	0	0	0	0	0	0	0	28	12:00	0	62	16	0	4	0	0	0	0	0	0	0	0	82
0:15	0	16	4	0	3	0	0	0	0	0	0	0	0	23	12:15	1	60	11	1	8	2	0	0	0	0	0	0	0	83
0:30	0	10	2	0	1	0	0	0	0	0	0	0	0	13	12:30	0	45	16	0	9	0	0	0	0	0	0	0	0	70
0:45	0	14	4	0	0	0	0	0	0	0	0	0	0	18	12:45	2	52	10	0	6	0	0	1	0	0	0	0	0	71
1:00	0	8	4	0	0	0	0	0	0	0	0	0	0	12	13:00	2	71	27	1	9	0	0	0	0	0	0	1	0	111
1:15	0	9	2	0	1	0	0	0	0	0	0	0	0	12	13:15	0	69	28	0	14	0	1	0	0	0	0	0	0	112
1:30	0	4	0	0	1	0	0	0	0	0	0	0	0	5	13:30	2	81	23	0	8	1	0	0	0	0	0	0	0	115
1:45	0	11	2	0	0	0	0	0	0	0	0	0	0	13	13:45	4	71	27	2	7	1	0	0	0	0	0	0	0	112
2:00	0	5	1	0	0	0	0	0	0	0	0	0	0	6	14:00	5	69	20	1	19	1	0	0	0	0	0	0	0	115
2:15	0	6	1	0	1	0	0	0	0	0	0	0	0	8	14:15	0	85	22	0	13	0	1	0	0	1	0	0	0	122
2:30	0	2	2	0	0	0	0	0	0	0	0	0	0	4	14:30	1	74	23	0	11	2	0	2	0	0	0	0	0	113
2:45	0	13	1	0	0	0	0	0	0	0	0	0	0	14	14:45	3	54	15	0	15	1	1	0	0	0	0	0	0	89
3:00	0	2	0	0	1	0	0	0	0	0	0	0	0	3	15:00	0	78	12	0	10	0	0	0	0	0	0	0	0	100
3:15	0	3	1	0	2	0	0	0	0	0	0	0	0	6	15:15	0	67	20	0	10	1	0	0	0	0	0	0	0	98
3:30	0	7	0	0	0	0	0	0	0	0	0	0	0	7	15:30	0	67	15	0	12	0	0	0	0	0	0	0	0	94
3:45	0	7	1	0	0	0	0	0	0	0	0	0	0	8	15:45	1	76	15	0	12	1	0	0	1	0	0	0	0	106
4:00	0	7	1	0	1	0	0	0	0	0	0	0	0	9	16:00	0	94	18	0	16	0	0	0	0	0	0	0	0	128
4:15	0	5	1	0	1	0	0	0	0	0	0	0	0	7	16:15	2	96	26	0	16	2	0	0	0	0	0	0	0	142
4:30	0	9	1	0	1	0	0	0	0	0	0	0	0	11	16:30	1	96	16	1	10	2	0	0	0	0	0	0	0	126
4:45	0	13	4	0	4	0	0	0	0	0	0	0	0	21	16:45	0	89	23	0	24	3	0	0	0	0	0	0	0	139
5:00	0	7	2	0	2	0	0	0	0	0	0	0	0	11	17:00	4	112	21	0	18	2	1	0	0	0	0	0	0	158
5:15	0	9	1	1	1	0	0	0	0	0	0	0	0	12	17:15	1	110	12	0	17	2	0	0	0	0	0	0	0	142
5:30	0	7	3	0	0	0	0	0	0	0	0	0	0	10	17:30	3	127	29	0	17	4	0	0	0	0	0	1	0	181
5:45	0	19	1	0	3	0	0	0	0	0	0	0	0	23	17:45	2	133	26	1	18	1	1	0	0	0	0	0	0	182
6:00	0	18	5	0	1	0	0	0	0	0	0	0	0	24	18:00	2	106	23	1	13	3	0	0	0	0	1	0	0	149
6:15	0	15	2	1	4	0	0	0	0	0	0	0	0	22	18:15	4	101	37	0	13	2	0	0	0	0	0	0	0	157
6:30	0	20	5	0	6	0	0	0	0	0	0	0	0	31	18:30	0	70	18	0	10	2	0	0	0	0	0	0	0	100
6:45	0	26	8	0	3	0	1	0	0	0	0	0	0	38	18:45	2	109	20	1	13	1	0	0	0	0	0	0	0	146
7:00	0	53	11	0	5	2	0	0	0	0	0	0	0	71	19:00	0	87	17	0	11	1	0	0	0	0	0	0	0	116
7:15	0	61	25	0	6	5	0	0	0	0	0	0	0	97	19:15	1	62	21	0	7	1	0	0	0	0	0	0	0	92
7:30	0	95	21	0	3	2	0	0	0	0	0	0	0	121	19:30	2	72	17	0	5	1	0	0	0	0	0	0	0	97
7:45	2	67	22	0	8	0	0	0	0	0	0	0	0	99	19:45	0	73	15	1	6	1	1	0	0	0	0	0	0	97
8:00	2	62	13	0	5	1	0	1	0	0	0	0	0	84	20:00	1	63	16	0	7	2	0	0	0	0	0	0	0	89
8:15	0	47	12	0	4	1	0	0	0	0	0	0	0	64	20:15	0	63	12	0	17	1	0	0	0	0	0	0	0	93
8:30	1	49	17	1	9	0	0	0	0	0	0	0	0	77	20:30	2	49	24	0	9	0	0	0	0	0	0	0	0	84
8:45	0	65	7	0	8	0	0	0	0	0	1	0	0	81	20:45	0	58	16	1	10	0	0	0	0	0	0	0	0	85
9:00	1	41	7	0	4	2	0	0	0	0	0	0	0	55	21:00	0	48	11	0	4	0	0	0	0	0	0	0	0	63
9:15	0	33	10	1	13	0	1	1	0	0	0	0	0	59	21:15	1	64	18	0	2	0	0	0	0	0	0	0	0	85
9:30	0	41	10	1	15	0	0	0	0	0	0	0	0	67	21:30	0	49	11	0	4	0	0	0	1	0	0	0	0	65
9:45	0	31	12	0	8	2	0	0	0	0	0	0	0	53	21:45	2	42	9	0	3	0	0	0	0	0	0	0	0	56
10:00	0	39	5	0	6	0	1	0	0	0	0	0	0	51	22:00	2	29	8	0	3	0	0	0	0	0	0	0	0	42
10:15	0	35	15	0	5	1	0	0	0	0	0	0	0	56	22:15	0	35	10	0	2	0	0	0	0	0	0	0	0	47
10:30	0	50	19	1	8	0	1	1	0	0	0	0	0	80	22:30	0	32	6	0	2	0	0	0	0	0	0	0	0	40
10:45	4	40	21	1	7	0	0	1	0	0	0	0	0	74	22:45	0	20	5	0	1	0	0	0	0	0	0	0	0	26
11:00	0	49	11	0	12	0	0	1	0	0	0	0	0	73	23:00	0	33	8	0	2	1	0	0	0	0	0	0	0	44
11:15	0	62	16	0	9	0	0	0	0	0	0	0	0	87	23:15	0	22	2	0	1	0	0	0	0	0	0	0	0	25
11:30	1	64	24	0	8	0	0	0	0	0	0	0	0	97	23:30	0	20	8	0	1	0	0	0	0	0	0	0	0	29
11:45	3	51	22	1	12	0	0	0	0	0	0	0	0	89	23:45	0	15	1	0	0	0	0	0	0	0	0	0	0	16
TOTAL	14	1,330	363	8	193	16	4	5	0	0	1	0	0	1,934	TOTAL	53	3,260	804	11	449	42	6	3	2	1	1	2	0	4,634

AM PEAK HOUR	7:15 AM
AM PEAK VOLUME	401

PM PEAK HOUR	5:30 PM
PM PEAK VOLUME	669

CLASS 1	Class 1 — Motorcycles	CLASS 8	3 to 4 Axles, Single Trailer
CLASS 2	Passenger Cars	CLASS 9	5 Axles, Single Trailer
CLASS 3	2 Axles, 4-Tire Single Units	CLASS 10	6 or More Axles, Single Trailer
CLASS 4	Buses	CLASS 11	5 or Less Axles, Multi-Trailers
CLASS 5	2 Axles, 6-Tire Single Units	CLASS 12	6 Axles, Multi-Trailers
CLASS 6	3 Axles, Single Unit	CLASS 13	7 or More Axles, Multi-Trailers
CLASS 7	4 or More Axles, Single Unit		

TOTAL: AM+PM	67	4,590	1,167	19	642	58	10	8	2	1	2	2	0	6,568
% OF TOTAL	1.0%	69.9%	17.8%	0.3%	9.8%	0.9%	0.2%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%
Class	1	2	3	4	5	6	7	8	9	10	11	12	13	
TOTAL: ALL	157	9,626	2,429	40	1,309	131	20	21	9	1	4	3	2	13,752
% OF TOTAL	2.4%	146.6%	37.0%	0.6%	19.9%	2.0%	0.3%	0.3%	0.1%	0.0%	0.1%	0.0%	0.0%	100.0%

24-HOUR ROADWAY SEGMENT COUNTS (WITH FHWA CLASSIFICATION)

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE: Wednesday, August 16, 2017
JOB #: SC1422

LOCATION#
CLASS6 Ironwood between Heacock and Davis

AM	WESTBOUND													
TIME	1	2	3	4	5	6	7	8	9	10	11	12	13	TOTAL
0:00	0	7	1	0	1	0	0	0	0	0	0	0	0	9
0:15	0	13	2	0	1	0	0	0	0	0	0	0	0	16
0:30	0	6	0	0	1	0	0	0	0	0	0	0	0	7
0:45	0	3	2	0	0	0	0	0	0	0	0	0	0	5
1:00	0	9	3	0	0	0	0	0	0	0	0	0	0	12
1:15	0	2	0	0	0	0	0	0	0	0	0	0	0	2
1:30	0	9	3	0	0	0	0	0	0	0	0	0	0	12
1:45	0	6	0	0	0	0	0	0	0	0	0	0	0	6
2:00	0	1	2	0	0	0	0	0	0	0	0	0	0	3
2:15	0	4	0	0	1	0	0	0	0	0	0	0	0	5
2:30	0	4	0	0	0	0	0	0	0	0	0	0	0	4
2:45	0	5	1	0	1	0	0	0	0	0	0	0	0	7
3:00	0	12	1	0	3	0	0	0	0	0	0	0	0	16
3:15	0	9	6	0	2	0	0	0	0	0	0	0	0	17
3:30	1	10	2	0	2	0	0	0	0	0	0	0	0	15
3:45	0	16	4	0	3	0	0	0	0	0	0	0	0	23
4:00	1	13	4	0	7	0	0	0	0	0	0	0	0	25
4:15	0	28	5	0	5	0	0	0	0	0	0	0	0	38
4:30	0	23	9	0	5	1	0	0	0	0	0	0	0	38
4:45	0	34	5	0	10	0	0	0	0	0	0	0	0	49
5:00	0	29	9	0	6	0	0	0	0	0	0	0	0	44
5:15	0	40	9	0	6	0	0	0	0	0	0	0	0	55
5:30	2	40	17	0	15	0	0	0	0	0	0	0	0	74
5:45	0	27	13	0	5	1	0	0	0	0	0	0	0	46
6:00	0	38	10	0	11	1	0	0	0	0	0	0	0	60
6:15	4	39	15	0	10	0	0	0	0	0	0	0	0	68
6:30	0	59	20	1	9	0	0	0	0	0	0	0	0	89
6:45	1	73	14	0	16	2	0	0	0	0	0	0	0	106
7:00	0	84	23	1	11	0	0	0	0	0	0	0	0	119
7:15	0	111	23	0	15	4	0	0	0	0	0	0	0	153
7:30	7	105	25	2	14	3	3	1	0	0	0	0	1	161
7:45	3	147	41	2	12	2	1	1	0	0	0	0	0	209
8:00	2	116	29	0	17	1	0	0	0	0	0	0	0	165
8:15	0	82	25	1	11	1	0	0	0	0	0	0	0	120
8:30	1	64	9	0	14	2	0	0	0	0	0	0	0	90
8:45	3	69	18	2	6	1	0	0	0	0	0	0	0	99
9:00	0	58	19	0	9	1	0	1	0	0	1	0	0	89
9:15	0	65	15	0	9	1	0	1	0	0	0	0	0	91
9:30	0	61	11	0	9	0	0	0	0	0	0	0	0	81
9:45	0	38	19	1	5	1	0	0	0	0	0	0	0	64
10:00	0	56	14	0	9	0	0	0	0	0	0	0	0	79
10:15	2	45	16	0	7	0	0	1	0	0	0	0	0	71
10:30	0	52	19	0	8	1	0	0	1	0	0	0	0	81
10:45	0	48	14	1	12	1	0	0	0	0	0	0	0	76
11:00	2	40	7	1	7	1	0	0	0	0	0	0	0	58
11:15	0	44	12	0	5	0	0	0	0	0	0	0	0	61
11:30	1	70	28	0	9	3	0	0	0	0	0	0	0	111
11:45	2	86	26	1	8	1	0	0	0	0	0	0	0	124
TOTAL	32	2,000	550	13	317	29	4	5	1	0	1	0	1	2,953

PM	WESTBOUND													
Time	1	2	3	4	5	6	7	8	9	10	11	12	13	TOTAL
12:00	3	46	23	1	11	1	0	0	0	0	0	0	0	85
12:15	0	79	27	0	9	1	0	0	0	0	0	0	0	116
12:30	1	74	13	0	17	1	0	0	0	0	0	0	0	106
12:45	0	73	16	0	15	2	0	0	0	0	0	0	0	106
13:00	0	73	18	0	14	2	0	0	0	0	0	0	0	107
13:15	1	58	16	1	5	2	0	0	0	0	0	0	0	83
13:30	2	66	19	0	6	0	0	1	0	0	0	0	0	94
13:45	0	69	14	0	10	1	0	0	0	0	0	0	0	94
14:00	0	63	19	0	6	1	0	1	0	0	0	0	0	90
14:15	4	72	24	1	9	0	0	0	0	0	0	0	0	110
14:30	2	85	19	0	7	1	1	1	0	0	0	0	1	117
14:45	0	65	18	0	11	2	0	0	0	0	0	0	0	96
15:00	0	70	17	0	8	1	0	0	0	0	0	0	0	96
15:15	1	62	17	0	7	1	0	0	0	0	0	0	0	88
15:30	5	63	19	1	4	4	1	1	0	0	0	0	0	98
15:45	1	73	18	0	10	1	0	0	0	0	0	0	0	103
16:00	3	67	19	0	10	0	0	0	0	0	0	0	0	99
16:15	0	99	13	0	6	0	0	0	0	0	0	0	0	118
16:30	0	73	19	1	7	0	0	0	0	0	0	0	0	100
16:45	5	76	15	0	13	0	0	1	0	0	0	0	0	110
17:00	0	81	27	0	10	0	1	0	0	0	0	0	0	119
17:15	0	65	13	0	8	1	0	0	0	0	0	0	0	87
17:30	3	85	15	0	13	1	1	1	0	0	0	0	0	119
17:45	5	79	19	0	10	0	0	0	0	0	0	0	0	113
18:00	1	88	15	0	5	1	0	0	0	0	0	0	0	110
18:15	0	70	11	0	5	2	1	0	0	0	0	0	0	89
18:30	4	77	10	0	10	1	0	0	0	0	0	0	0	102
18:45	1	75	18	0	6	0	0	1	0	0	0	0	0	101
19:00	1	67	14	0	7	1	0	0	0	0	0	0	0	90
19:15	0	54	21	0	10	1	0	0	0	0	0	0	0	86
19:30	1	54	14	0	3	1	0	0	0	0	0	1	0	74
19:45	0	66	15	1	4	0	0	0	0	0	0	0	0	86
20:00	1	53	11	0	5	1	0	0	0	0	0	0	0	71
20:15	0	59	22	0	12	2	0	1	0	0	0	0	0	96
20:30	0	94	16	0	8	2	0	0	0	0	0	0	0	120
20:45	1	73	12	1	9	1	1	0	0	0	0	0	0	98
21:00	1	76	13	0	3	1	0	0	2	0	0	0	0	96
21:15	2	62	18	0	4	0	0	0	1	0	1	0	0	88
21:30	0	72	20	0	5	3	0	0	1	0	0	0	0	101
21:45	0	57	12	1	9	1	0	0	0	0	0	0	0	80
22:00	5	46	7	0	3	1	0	0	0	0	0	0	0	62
22:15	0	39	5	0	5	0	0	0	0	0	0	0	0	49
22:30	2	27	7	0	1	1	0	0	0	0	0	0	0	38
22:45	2	31	1	0	2	0	0	0	0	0	0	0	0	36
23:00	0	19	3	0	3	0	0	0	0	0	0	0	0	25
23:15	0	22	5	0	1	1	0	0	0	0	0	0	0	29
23:30	0	15	4	0	3	0	0	0	1	0	0	0	0	23
23:45	0	24	1	0	1	0	0	0	1	0	0	0	0	27
TOTAL	58	3,036	712	8	350	44	6	8	6	0	1	1	1	4,231

AM PEAK HOUR	7:15 AM
AM PEAK VOLUME	688

PM PEAK HOUR	4:15 PM
PM PEAK VOLUME	447

CLASS 1	Class 1 — Motorcycles	CLASS 8	3 to 4 Axles, Single Trailer
CLASS 2	Passenger Cars	CLASS 9	5 Axles, Single Trailer
CLASS 3	2 Axles, 4-Tire Single Units	CLASS 10	6 or More Axles, Single Trailer
CLASS 4	Buses	CLASS 11	5 or Less Axles, Multi-Trailers
CLASS 5	2 Axles, 6-Tire Single Units	CLASS 12	6 Axles, Multi-Trailers
CLASS 6	3 Axles, Single Unit	CLASS 13	7 or More Axles, Multi-Trailers
CLASS 7	4 or More Axles, Single Unit		

TOTAL: AM+PM	90	5,036	1,262	21	667	73	10	13	7	0	2	1	2	7,184
% OF TOTAL	1.3%	70.1%	17.6%	0.3%	9.3%	1.0%	0.1%	0.2%	0.1%	0.0%	0.0%	0.0%	0.0%	100.0%

Class	1	2	3	4	5	6	7	8	9	10	11	12	13

A816

24-HOUR ROADWAY SEGMENT COUNTS (WITH FHWA CLASSIFICATION)

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE: Wednesday, August 16, 2017
JOB #: SC1422

LOCATION#
CLASS7 Ironwood east of Indian

AM	EASTBOUND														PM	EASTBOUND													
TIME	1	2	3	4	5	6	7	8	9	10	11	12	13	TOTAL	Time	1	2	3	4	5	6	7	8	9	10	11	12	13	TOTAL
0:00	0	17	0	0	0	0	0	0	0	0	0	0	0	17	12:00	2	71	11	1	2	2	0	0	0	0	0	0	0	89
0:15	0	16	1	0	0	0	0	0	0	0	0	0	0	17	12:15	0	64	6	0	3	1	0	0	1	0	0	0	0	75
0:30	0	10	1	0	0	0	0	0	0	0	0	0	0	11	12:30	0	55	6	0	3	0	1	0	0	0	0	0	0	65
0:45	0	10	0	0	0	0	0	0	0	0	0	0	0	10	12:45	0	67	4	0	3	2	0	0	0	0	0	0	0	76
1:00	0	8	0	0	0	0	0	0	0	0	0	0	0	8	13:00	1	81	9	1	1	1	1	0	0	0	0	0	0	95
1:15	0	8	1	0	0	0	0	0	0	0	0	0	0	9	13:15	0	83	12	0	7	0	0	0	0	0	0	0	0	102
1:30	0	3	0	0	0	0	0	0	0	0	0	0	0	3	13:30	4	88	5	0	5	3	0	0	0	0	0	0	0	105
1:45	1	10	0	0	0	0	0	0	0	0	0	0	0	11	13:45	2	89	8	0	2	0	0	0	1	0	0	0	0	102
2:00	0	5	0	0	0	0	0	0	0	0	0	0	0	5	14:00	1	81	15	1	3	2	0	0	0	0	0	0	0	103
2:15	0	4	1	0	0	0	0	0	0	0	0	0	0	5	14:15	2	99	10	0	2	3	0	0	0	0	0	0	0	116
2:30	0	1	0	0	0	0	0	0	0	0	0	0	0	1	14:30	0	107	9	0	5	1	0	0	0	0	0	0	0	122
2:45	0	6	0	0	0	0	0	0	0	0	0	0	0	6	14:45	0	67	12	0	2	3	0	0	0	0	0	0	0	84
3:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1	15:00	0	75	13	0	4	1	0	0	0	0	0	0	0	93
3:15	0	3	2	0	0	0	0	0	0	0	0	0	0	5	15:15	0	84	5	1	4	1	0	0	0	0	0	0	0	95
3:30	0	2	0	0	0	0	0	0	0	0	0	0	0	2	15:30	0	83	12	1	1	0	0	1	0	0	0	0	0	98
3:45	0	3	0	0	0	0	0	0	0	0	0	0	0	3	15:45	2	84	6	0	2	3	1	0	0	0	0	0	1	99
4:00	0	5	0	0	0	0	0	0	0	0	0	0	0	5	16:00	0	84	16	0	2	0	0	0	0	0	0	1	0	103
4:15	0	5	1	0	0	0	0	0	0	0	0	0	0	6	16:15	1	113	14	0	1	0	0	0	0	0	0	0	0	129
4:30	0	9	1	0	0	0	0	0	0	0	0	0	0	10	16:30	2	103	8	1	1	0	0	0	0	0	0	0	0	115
4:45	0	14	4	0	1	0	0	0	0	0	0	0	0	19	16:45	0	108	19	0	3	2	0	0	0	0	0	0	0	132
5:00	0	12	3	0	0	0	0	0	0	0	0	0	0	15	17:00	2	118	10	0	7	2	0	0	1	1	0	0	0	141
5:15	1	13	2	1	0	0	0	0	0	0	0	0	0	17	17:15	0	124	18	0	5	3	0	0	0	0	0	0	0	150
5:30	0	12	2	0	0	0	0	0	0	0	0	0	0	14	17:30	5	132	11	0	10	4	0	0	0	0	0	0	0	162
5:45	1	19	1	0	0	0	0	0	0	0	0	0	0	21	17:45	2	133	16	0	4	2	0	0	0	0	0	0	0	157
6:00	0	14	2	0	0	0	0	0	0	0	0	0	0	16	18:00	3	127	15	0	0	2	0	0	0	0	0	0	0	147
6:15	0	18	6	0	2	0	0	0	0	0	0	0	0	26	18:15	4	107	14	0	3	4	0	0	0	0	0	0	0	132
6:30	0	26	4	1	2	0	0	0	0	0	0	0	0	33	18:30	1	97	11	0	2	2	1	0	0	0	1	0	0	115
6:45	0	46	6	0	1	0	1	0	0	0	0	0	0	54	18:45	0	89	8	1	3	2	0	0	0	0	0	0	1	104
7:00	0	67	3	0	6	0	0	0	0	1	0	0	0	77	19:00	0	76	9	0	1	2	0	0	0	0	0	1	0	89
7:15	3	120	14	2	3	3	0	0	0	0	0	0	0	145	19:15	1	77	12	0	1	1	0	0	0	0	0	0	1	93
7:30	1	125	5	0	3	1	0	0	1	0	1	0	0	137	19:30	2	80	7	0	1	0	0	0	0	0	0	0	0	90
7:45	1	105	9	0	3	0	1	0	0	0	0	0	0	119	19:45	2	68	10	1	2	2	0	0	0	0	0	0	0	85
8:00	0	74	6	0	1	2	0	0	0	0	0	0	0	83	20:00	2	66	7	0	4	2	0	0	0	0	0	0	0	81
8:15	3	55	5	0	0	1	0	0	1	0	1	0	0	66	20:15	0	71	15	0	1	0	0	0	0	0	0	0	0	87
8:30	0	56	6	1	3	0	0	0	0	0	0	0	0	66	20:30	0	64	8	0	1	0	0	0	0	0	0	0	0	73
8:45	0	51	1	0	2	1	0	0	0	0	0	0	0	55	20:45	0	61	8	1	1	1	0	0	0	0	0	0	0	72
9:00	0	44	6	0	2	2	0	0	0	0	0	0	0	54	21:00	0	46	5	0	0	2	0	0	0	0	0	0	0	53
9:15	0	48	12	0	4	0	1	1	0	0	0	0	0	66	21:15	0	68	5	0	1	0	0	0	0	0	0	0	0	74
9:30	1	40	11	1	2	0	0	0	0	0	0	0	0	55	21:30	0	59	3	0	1	1	0	0	0	0	0	0	0	64
9:45	2	42	6	0	1	0	0	0	0	0	0	1	0	52	21:45	0	39	3	0	1	0	0	0	0	0	0	0	0	43
10:00	0	36	4	0	4	1	0	0	0	0	0	0	0	45	22:00	0	35	2	0	1	0	0	0	0	0	0	0	0	38
10:15	0	39	4	0	0	2	0	0	0	0	0	0	0	45	22:15	0	36	4	0	0	0	0	0	0	0	0	0	0	40
10:30	2	54	5	1	1	0	0	0	0	0	0	0	0	63	22:30	0	23	1	0	0	1	0	0	0	0	0	0	0	25
10:45	0	66	3	1	2	1	0	0	0	1	1	0	0	75	22:45	0	20	0	0	0	0	0	0	0	0	0	0	0	20
11:00	1	71	13	0	2	3	0	0	0	0	0	0	0	90	23:00	0	25	1	0	1	1	0	0	0	0	0	0	0	28
11:15	3	97	15	0	2	1	0	0	0	1	0	0	0	119	23:15	0	22	2	0	1	0	0	0	0	0	0	0	0	25
11:30	0	97	7	0	3	2	0	0	0	0	0	0	0	109	23:30	0	12	1	0	0	0	0	0	0	0	0	0	0	13
11:45	1	78	15	1	3	1	0	0	0	0	0	0	0	99	23:45	0	12	1	0	0	0	0	0	0	0	0	0	0	13
TOTAL	21	1,665	188	9	53	21	3	1	2	3	3	1	0	1,970	TOTAL	41	3,573	407	9	108	59	4	1	3	1	1	2	3	4,212

AM PEAK HOUR	7:15 AM
AM PEAK VOLUME	484

PM PEAK HOUR	5:15 PM
PM PEAK VOLUME	616

CLASS 1	Class 1 — Motorcycles	CLASS 8	3 to 4 Axles, Single Trailer
CLASS 2	Passenger Cars	CLASS 9	5 Axles, Single Trailer
CLASS 3	2 Axles, 4-Tire Single Units	CLASS 10	6 or More Axles, Single Trailer
CLASS 4	Buses	CLASS 11	5 or Less Axles, Multi-Trailers
CLASS 5	2 Axles, 6-Tire Single Units	CLASS 12	6 Axles, Multi-Trailers
CLASS 6	3 Axles, Single Unit	CLASS 13	7 or More Axles, Multi-Trailers
CLASS 7	4 or More Axles, Single Unit		

TOTAL: AM+PM	62	5,238	595	18	161	80	7	2	5	4	4	3	3	6,182
% OF TOTAL	1.0%	84.7%	9.6%	0.3%	2.6%	1.3%	0.1%	0.0%	0.1%	0.1%	0.1%	0.0%	0.0%	100.0%
Class	1	2	3	4	5	6	7	8	9	10	11	12	13	
TOTAL: ALL	96	10,700	1,499	36	493	127	23	7	14	6	7	4	4	13,016
% OF TOTAL	1.6%	173.1%	24.2%	0.6%	8.0%	2.1%	0.4%	0.1%	0.2%	0.1%	0.1%	0.1%	0.1%	100.0%

24-HOUR ROADWAY SEGMENT COUNTS (WITH FHWA CLASSIFICATION)

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE: Wednesday, August 16, 2017
JOB #: SC1422

LOCATION#
CLASS7 Ironwood east of Indian

AM TIME	WESTBOUND 1	2	3	4	5	6	7	8	9	10	11	12	13	TOTAL
0:00	0	8	2	0	0	0	0	0	0	0	0	0	0	10
0:15	0	7	0	0	0	0	0	0	0	0	0	0	0	7
0:30	0	8	0	0	0	0	0	0	0	0	0	0	0	8
0:45	0	3	0	0	0	0	0	0	0	0	0	0	0	3
1:00	0	13	0	0	0	0	0	0	0	0	0	0	0	13
1:15	0	6	1	0	0	0	0	0	0	0	0	0	0	7
1:30	0	9	1	0	0	0	0	0	0	0	0	0	0	10
1:45	0	5	0	0	0	0	0	0	0	0	0	0	0	5
2:00	0	3	1	0	0	0	0	0	0	0	0	0	0	4
2:15	0	6	0	0	1	0	0	0	0	0	0	0	0	7
2:30	0	4	0	0	0	0	0	0	0	0	0	0	0	4
2:45	0	4	0	0	0	0	0	0	0	0	0	0	0	4
3:00	0	6	2	0	0	0	0	0	0	0	0	0	0	8
3:15	0	7	3	0	0	0	0	0	0	0	0	0	0	10
3:30	0	2	0	0	0	0	0	0	0	0	0	0	0	2
3:45	0	12	6	0	0	1	0	0	0	0	0	0	0	19
4:00	0	12	4	0	2	0	0	0	0	0	0	0	0	18
4:15	0	9	2	0	0	0	0	0	0	0	0	0	0	11
4:30	0	13	2	0	0	1	0	0	0	0	0	0	0	16
4:45	0	15	4	0	1	0	0	0	0	0	0	0	0	20
5:00	0	22	4	0	0	0	0	0	0	0	0	0	0	26
5:15	0	18	7	0	2	0	0	0	0	0	0	0	0	27
5:30	0	31	15	0	3	1	0	0	0	0	0	0	0	50
5:45	0	18	5	0	2	1	0	0	0	0	0	0	0	26
6:00	0	30	5	0	3	0	0	0	0	0	0	0	0	38
6:15	0	34	8	0	3	0	0	0	0	0	0	0	0	45
6:30	0	51	12	1	3	0	0	0	0	0	0	0	0	67
6:45	0	58	10	0	10	0	0	0	0	0	0	0	0	78
7:00	0	106	15	0	9	0	0	0	0	0	0	0	0	130
7:15	2	118	16	0	6	1	0	1	0	0	0	0	0	144
7:30	1	139	23	2	7	2	1	1	0	1	0	0	1	178
7:45	4	192	31	1	13	4	0	1	0	0	0	1	0	247
8:00	0	115	24	0	9	2	3	0	0	0	0	0	0	153
8:15	0	80	10	1	6	0	0	0	0	0	0	0	0	97
8:30	1	65	12	1	6	1	0	0	0	0	0	0	0	86
8:45	0	85	11	0	4	0	0	0	0	0	0	0	0	100
9:00	2	53	11	0	5	0	0	0	0	0	1	0	0	72
9:15	0	56	7	0	5	0	1	0	0	0	0	0	0	69
9:30	0	54	9	0	2	0	1	0	0	0	0	0	0	66
9:45	2	43	14	0	2	0	0	0	0	0	0	0	0	61
10:00	0	63	9	0	2	0	0	0	0	0	0	0	0	74
10:15	0	51	14	0	2	1	0	0	0	0	0	0	0	68
10:30	0	59	10	0	5	2	0	0	0	0	0	0	0	76
10:45	0	62	16	2	2	0	1	0	0	0	0	0	0	83
11:00	0	39	10	0	3	1	0	0	0	0	0	0	0	53
11:15	0	58	5	0	5	0	1	0	0	0	0	0	0	69
11:30	2	114	24	1	9	1	0	0	0	0	0	0	0	151
11:45	1	99	17	0	2	1	1	0	0	0	0	0	0	121
TOTAL	15	2,065	382	9	134	20	9	3	0	1	1	1	1	2,641

AM PEAK HOUR	7:15 AM
AM PEAK VOLUME	722

PM Time	WESTBOUND 1	2	3	4	5	6	7	8	9	10	11	12	13	TOTAL
12:00	0	77	22	1	4	1	0	0	0	0	0	0	0	105
12:15	0	98	18	0	4	1	0	0	0	0	0	0	0	121
12:30	0	79	10	0	5	1	0	0	0	0	0	0	0	95
12:45	0	63	17	0	5	2	0	0	0	0	0	0	0	87
13:00	1	76	12	0	8	0	0	0	0	0	0	0	0	97
13:15	0	79	7	0	7	0	1	0	0	0	0	0	0	94
13:30	0	67	14	0	5	0	0	1	0	0	0	0	0	87
13:45	0	90	13	0	3	0	0	0	0	0	0	0	0	106
14:00	0	62	17	0	6	5	0	0	0	0	0	0	0	90
14:15	0	87	15	1	5	2	0	0	0	0	0	0	0	110
14:30	2	86	16	0	1	1	0	0	0	0	0	0	0	106
14:45	0	79	8	0	10	0	0	1	0	0	0	0	0	98
15:00	0	72	15	0	3	1	0	0	0	0	0	0	0	91
15:15	0	81	13	0	2	0	0	0	0	0	0	0	0	96
15:30	2	80	12	1	7	3	2	0	0	0	0	0	0	107
15:45	0	76	12	0	5	0	0	0	0	0	1	0	0	94
16:00	0	72	13	0	9	0	1	0	0	0	0	0	0	95
16:15	1	79	16	0	5	0	0	0	0	0	0	0	0	101
16:30	2	65	9	1	4	0	0	0	0	0	0	0	0	81
16:45	0	80	21	0	7	0	0	0	0	0	0	0	0	108
17:00	1	79	10	0	6	0	0	0	0	0	0	0	0	96
17:15	1	74	13	0	2	0	0	0	0	0	0	0	0	90
17:30	0	91	18	0	6	0	1	0	0	0	0	0	0	116
17:45	1	78	17	1	6	3	0	0	0	0	0	0	0	106
18:00	0	84	9	0	8	0	1	0	0	0	0	0	0	102
18:15	0	88	9	0	4	0	0	0	0	0	0	0	0	101
18:30	0	80	11	0	4	0	1	0	0	0	0	0	0	96
18:45	0	61	11	1	5	0	0	0	0	0	0	0	0	78
19:00	0	99	13	0	4	0	0	0	0	0	0	0	0	116
19:15	0	72	17	0	6	0	0	0	0	0	0	0	0	95
19:30	0	71	8	0	2	0	0	0	0	0	1	0	0	82
19:45	0	68	7	1	0	1	0	0	0	0	0	0	0	77
20:00	1	73	8	0	7	0	0	0	0	0	0	0	0	89
20:15	0	82	17	0	3	1	0	0	0	0	0	0	0	103
20:30	0	94	9	0	4	0	0	0	0	1	0	0	0	108
20:45	0	94	9	1	3	0	0	0	0	0	0	0	0	107
21:00	2	91	9	0	3	2	0	0	1	0	0	0	0	108
21:15	0	79	9	0	2	0	0	0	2	0	0	0	0	92
21:30	2	78	11	0	3	0	0	0	2	0	0	0	0	96
21:45	1	69	5	1	4	1	0	0	0	0	0	0	0	81
22:00	1	47	4	0	0	1	0	0	1	0	0	0	0	54
22:15	0	50	5	0	4	1	0	0	0	0	0	0	0	60
22:30	0	35	3	0	1	0	0	0	0	0	0	0	0	39
22:45	0	29	5	0	3	0	0	0	0	0	0	0	0	37
23:00	0	19	2	0	1	0	0	0	0	0	0	0	0	22
23:15	1	26	1	0	0	0	0	0	1	0	0	0	0	29
23:30	0	20	1	0	1	0	0	0	1	0	0	0	0	23
23:45	0	18	1	0	1	0	0	0	1	0	0	0	0	21
TOTAL	19	3,397	522	9	198	27	7	2	9	1	2	0	0	4,193

PM PEAK HOUR	8:15 PM
PM PEAK VOLUME	426

CLASS 1	Class 1 — Motorcycles	CLASS 8	3 to 4 Axles, Single Trailer
CLASS 2	Passenger Cars	CLASS 9	5 Axles, Single Trailer
CLASS 3	2 Axles, 4-Tire Single Units	CLASS 10	6 or More Axles, Single Trailer
CLASS 4	Buses	CLASS 11	5 or Less Axles, Multi-Trailers
CLASS 5	2 Axles, 6-Tire Single Units	CLASS 12	6 Axles, Multi-Trailers
CLASS 6	3 Axles, Single Unit	CLASS 13	7 or More Axles, Multi-Trailers
CLASS 7	4 or More Axles, Single Unit		

	1	2	3	4	5	6	7	8	9	10	11	12	13	
TOTAL: AM+PM	34	5,462	904	18	332	47	16	5	9	2	3	1	1	6,834
% OF TOTAL	0.5%	79.9%	13.2%	0.3%	4.9%	0.7%	0.2%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	100.0%

Class 1 2 3 4 5 6 7 8 9 10 11 12 13

A816

24-HOUR ROADWAY SEGMENT COUNTS (WITH FHWA CLASSIFICATION)

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE: Wednesday, August 16, 2017
JOB #: SC1422

LOCATION#
CLASS8 Hemlock west of Heacock

AM	EASTBOUND														PM	EASTBOUND													
TIME	1	2	3	4	5	6	7	8	9	10	11	12	13	TOTAL	Time	1	2	3	4	5	6	7	8	9	10	11	12	13	TOTAL
0:00	0	14	0	0	0	0	0	0	0	0	0	0	0	14	12:00	0	9	2	0	0	0	0	0	0	0	0	0	0	11
0:15	0	7	0	0	0	0	0	0	0	0	0	0	0	7	12:15	1	7	1	0	2	0	0	0	0	0	0	0	0	11
0:30	0	11	0	0	0	0	0	0	0	0	0	0	0	11	12:30	7	18	2	0	1	0	0	0	0	0	0	0	0	28
0:45	0	5	1	0	0	0	0	0	0	0	0	0	0	6	12:45	7	11	0	0	1	0	0	0	0	0	0	0	0	19
1:00	0	5	0	0	0	0	0	0	0	0	0	0	0	5	13:00	1	14	2	0	1	0	0	0	0	0	0	0	0	18
1:15	0	2	0	0	0	0	0	0	0	0	0	0	0	2	13:15	11	20	0	0	0	0	0	0	0	0	0	0	0	31
1:30	0	4	0	0	0	0	0	0	0	0	0	0	0	4	13:30	16	21	2	0	2	0	0	0	0	0	0	0	0	41
1:45	0	6	0	0	0	0	0	0	0	0	0	0	0	6	13:45	3	12	3	0	1	0	0	0	0	0	0	0	0	19
2:00	0	4	0	0	0	0	0	0	0	0	0	0	0	4	14:00	4	17	2	0	0	0	0	0	0	0	0	0	0	23
2:15	0	2	0	0	0	0	0	0	0	0	0	0	0	2	14:15	4	5	3	0	0	0	0	0	0	0	0	0	0	12
2:30	0	6	0	0	1	0	0	0	0	0	0	0	0	7	14:30	5	15	2	0	0	0	0	0	0	0	0	0	0	22
2:45	0	5	0	0	0	0	0	0	0	0	0	0	0	5	14:45	1	11	3	0	0	0	0	0	0	0	0	0	0	15
3:00	0	6	2	0	0	0	0	0	0	0	0	0	0	8	15:00	3	13	1	0	0	0	0	0	0	0	0	0	0	17
3:15	0	2	0	0	0	0	0	0	0	0	0	0	0	2	15:15	2	8	1	0	0	0	0	0	0	0	0	0	0	11
3:30	0	7	0	0	0	0	0	0	0	0	0	0	0	7	15:30	8	17	2	0	1	0	0	0	0	0	0	0	0	28
3:45	0	4	0	0	0	0	0	0	0	0	0	0	0	4	15:45	4	12	3	0	0	0	0	0	0	0	0	0	0	19
4:00	0	5	0	0	0	0	0	0	0	0	0	0	0	5	16:00	0	68	1	0	1	0	0	0	0	0	0	0	0	70
4:15	0	9	2	0	0	0	0	0	0	0	0	0	0	11	16:15	4	68	2	0	1	0	0	0	0	0	0	1	0	76
4:30	0	9	0	0	0	0	0	0	0	0	0	0	0	9	16:30	6	74	4	0	2	0	0	0	0	0	0	0	0	86
4:45	0	10	2	0	1	0	0	0	0	0	0	0	0	13	16:45	5	63	3	0	0	0	0	0	0	0	0	0	0	71
5:00	0	12	4	0	1	0	0	0	0	0	0	0	0	17	17:00	3	64	1	0	1	0	0	0	0	0	0	0	0	69
5:15	0	12	0	0	0	0	0	0	0	0	0	0	0	12	17:15	2	65	2	0	0	1	0	0	0	0	0	0	0	70
5:30	0	19	4	0	0	0	0	0	0	0	0	0	0	23	17:30	3	62	4	0	0	0	0	0	0	0	0	0	0	69
5:45	0	14	1	0	0	0	0	0	0	0	0	0	0	15	17:45	2	52	2	0	0	0	0	0	0	0	0	1	0	57
6:00	0	7	6	0	1	0	0	0	0	0	0	0	0	14	18:00	2	16	4	0	0	0	0	0	0	0	0	0	0	22
6:15	0	15	2	0	1	0	0	0	0	0	0	0	0	18	18:15	2	10	4	0	0	0	0	1	0	0	0	0	0	17
6:30	0	15	3	0	1	0	0	0	0	0	0	0	0	19	18:30	3	15	1	0	0	0	0	0	0	0	0	0	0	19
6:45	0	24	2	0	1	0	0	0	0	0	0	0	0	27	18:45	4	12	4	0	1	0	0	0	0	0	0	0	0	21
7:00	0	35	2	0	1	0	0	0	0	0	0	0	0	38	19:00	1	7	1	0	1	0	0	0	0	0	0	0	0	10
7:15	0	40	4	0	5	0	0	0	0	0	0	0	0	49	19:15	1	10	4	0	0	0	0	0	0	0	0	0	0	15
7:30	0	64	3	0	0	1	0	0	0	0	0	0	0	68	19:30	4	12	2	0	1	0	0	0	0	0	0	0	0	19
7:45	0	50	5	0	0	0	0	0	0	0	0	0	0	55	19:45	1	10	1	0	0	1	0	0	0	0	0	0	0	13
8:00	0	37	3	0	1	0	0	0	0	0	0	0	0	41	20:00	2	7	1	0	0	0	0	0	0	0	0	0	0	10
8:15	0	41	6	0	1	0	0	0	0	0	0	0	0	48	20:15	2	14	0	0	0	0	0	0	0	0	0	0	0	16
8:30	0	43	7	0	0	1	0	0	0	0	0	0	0	51	20:30	2	15	2	0	0	0	0	0	0	0	0	0	0	19
8:45	0	44	3	0	2	0	0	0	0	0	0	0	0	49	20:45	1	8	2	0	0	0	0	0	0	0	0	0	0	11
9:00	0	29	5	0	2	1	0	0	0	0	0	0	0	37	21:00	5	13	0	0	0	0	0	0	0	0	0	0	0	18
9:15	0	30	3	0	2	0	0	0	0	0	0	0	0	35	21:15	3	8	1	0	1	0	0	0	0	0	0	0	0	13
9:30	0	31	6	0	1	0	0	0	0	0	0	0	0	38	21:30	4	16	0	0	0	0	0	0	0	0	0	0	0	20
9:45	0	41	1	0	2	0	0	0	0	0	0	0	0	44	21:45	2	7	1	0	0	0	0	0	0	0	0	0	0	10
10:00	0	31	6	0	0	0	0	0	0	0	0	0	0	37	22:00	2	4	0	1	0	0	0	0	0	0	0	0	0	7
10:15	0	26	7	0	1	0	0	0	0	0	0	0	0	34	22:15	1	9	1	0	0	0	0	0	0	0	0	0	0	11
10:30	0	37	3	1	0	0	0	0	0	0	0	0	0	41	22:30	1	2	2	0	0	0	0	0	0	0	0	0	0	5
10:45	0	30	7	0	2	0	0	0	0	0	0	0	0	39	22:45	3	12	0	0	0	0	0	0	0	0	0	0	0	15
11:00	3	19	2	0	0	0	0	0	0	0	0	0	0	24	23:00	1	3	0	0	0	0	0	0	0	0	0	0	0	4
11:15	6	24	2	0	2	0	0	0	0	0	0	0	0	34	23:15	1	11	2	0	0	0	0	0	0	0	0	0	0	14
11:30	3	12	3	0	0	0	0	0	0	0	0	0	0	18	23:30	0	7	1	0	0	0	0	0	0	0	0	0	0	8
11:45	2	5	0	0	1	0	0	0	0	0	0	0	0	8	23:45	1	5	1	0	0	0	0	0	0	0	0	0	0	7
TOTAL	14	910	107	1	30	3	0	0	0	0	0	0	0	1,065	TOTAL	151	959	83	1	18	2	0	1	0	0	0	2	0	1,217

AM PEAK HOUR	7:15 AM
AM PEAK VOLUME	213

PM PEAK HOUR	4:00 PM
PM PEAK VOLUME	303

CLASS 1	Class 1 — Motorcycles	CLASS 8	3 to 4 Axles, Single Trailer
CLASS 2	Passenger Cars	CLASS 9	5 Axles, Single Trailer
CLASS 3	2 Axles, 4-Tire Single Units	CLASS 10	6 or More Axles, Single Trailer
CLASS 4	Buses	CLASS 11	5 or Less Axles, Multi-Trailers
CLASS 5	2 Axles, 6-Tire Single Units	CLASS 12	6 Axles, Multi-Trailers
CLASS 6	3 Axles, Single Unit	CLASS 13	7 or More Axles, Multi-Trailers
CLASS 7	4 or More Axles, Single Unit		

TOTAL: AM+PM	165	1,869	190	2	48	5	0	1	0	0	0	2	0	2,282
% OF TOTAL	7.2%	81.9%	8.3%	0.1%	2.1%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%	100.0%
Class	1	2	3	4	5	6	7	8	9	10	11	12	13	
TOTAL: ALL	193	4,645	449	4	103	29	12	1	2	0	0	2	1	5,441
% OF TOTAL	8.5%	203.5%	19.7%	0.2%	4.5%	1.3%	0.5%	0.0%	0.1%	0.0%	0.0%	0.1%	0.0%	100.0%

24-HOUR ROADWAY SEGMENT COUNTS (WITH FHWA CLASSIFICATION)

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE: Wednesday, August 16, 2017
JOB #: SC1422

LOCATION#
CLASS8 Hemlock west of Heacock

AM	WESTBOUND													
TIME	1	2	3	4	5	6	7	8	9	10	11	12	13	TOTAL
0:00	0	7	0	0	0	0	0	0	0	0	0	0	0	7
0:15	0	6	0	0	0	0	0	0	0	0	0	0	0	6
0:30	0	10	0	0	1	0	0	0	0	0	0	0	0	11
0:45	0	4	0	0	0	0	0	0	0	0	0	0	0	4
1:00	0	3	0	0	0	1	0	0	0	0	0	0	0	4
1:15	0	2	0	0	0	0	0	0	0	0	0	0	0	2
1:30	0	6	0	0	0	0	0	0	0	0	0	0	0	6
1:45	0	5	0	0	0	0	0	0	0	0	0	0	0	5
2:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
2:15	0	8	0	0	0	0	0	0	0	0	0	0	0	8
2:30	0	4	0	0	0	0	0	0	0	0	0	0	0	4
2:45	0	4	0	0	0	0	0	0	0	0	0	0	0	4
3:00	0	5	0	0	0	0	0	0	0	0	0	0	0	5
3:15	0	2	0	0	0	0	0	0	0	0	0	0	0	2
3:30	0	4	0	0	0	0	0	0	0	0	0	0	0	4
3:45	0	3	0	0	0	0	0	0	0	0	0	0	0	3
4:00	0	6	1	0	2	0	0	0	0	0	0	0	0	9
4:15	0	2	0	0	0	0	0	0	0	0	0	0	0	2
4:30	0	6	0	0	0	0	0	0	0	0	0	0	0	6
4:45	0	8	0	0	2	0	0	0	0	0	0	0	0	10
5:00	0	18	1	0	1	0	0	0	0	0	0	0	0	20
5:15	0	6	2	0	0	0	0	0	0	0	0	0	0	8
5:30	0	8	2	0	0	0	0	0	0	0	0	0	0	10
5:45	0	8	1	0	0	0	0	0	0	0	0	0	0	9
6:00	0	10	2	0	0	0	0	0	0	0	0	0	0	12
6:15	0	14	3	0	2	0	0	0	0	0	0	0	0	19
6:30	0	6	3	0	2	0	0	0	1	0	0	0	0	12
6:45	0	24	1	0	2	0	0	0	0	0	0	0	0	27
7:00	0	29	3	0	1	0	1	0	0	0	0	0	0	34
7:15	0	33	3	0	1	0	0	0	0	0	0	0	1	38
7:30	1	38	6	0	1	1	0	0	0	0	0	0	0	47
7:45	0	53	7	0	0	0	0	0	0	0	0	0	0	60
8:00	1	45	6	0	1	0	0	0	0	0	0	0	0	53
8:15	0	41	4	0	0	0	1	0	0	0	0	0	0	46
8:30	1	32	1	0	0	2	0	0	0	0	0	0	0	36
8:45	0	30	6	0	1	0	0	0	0	0	0	0	0	37
9:00	0	33	1	0	1	1	0	0	0	0	0	0	0	36
9:15	0	29	6	0	2	0	0	0	0	0	0	0	0	37
9:30	0	26	10	0	0	0	0	0	0	0	0	0	0	36
9:45	0	34	4	0	0	2	0	0	0	0	0	0	0	40
10:00	0	30	0	0	2	0	0	0	0	0	0	0	0	32
10:15	1	29	4	0	0	1	0	0	0	0	0	0	0	35
10:30	0	31	6	0	0	0	0	0	0	0	0	0	0	37
10:45	0	34	4	0	2	0	0	0	0	0	0	0	0	40
11:00	0	34	5	0	2	1	0	0	0	0	0	0	0	42
11:15	0	40	0	0	0	0	0	0	0	0	0	0	0	40
11:30	0	34	1	0	0	0	2	0	0	0	0	0	0	37
11:45	1	40	3	0	0	0	1	0	1	0	0	0	0	46
TOTAL	5	885	96	0	26	9	5	0	2	0	0	0	1	1,029

AM PEAK HOUR	7:30 AM
AM PEAK VOLUME	206

PM	WESTBOUND													
Time	1	2	3	4	5	6	7	8	9	10	11	12	13	TOTAL
12:00	0	28	4	0	1	1	0	0	0	0	0	0	0	34
12:15	0	46	3	0	2	0	0	0	0	0	0	0	0	51
12:30	1	53	3	0	3	1	2	0	0	0	0	0	0	63
12:45	1	40	7	0	2	0	1	0	0	0	0	0	0	51
13:00	1	43	6	1	0	1	0	0	0	0	0	0	0	52
13:15	0	39	5	0	1	0	0	0	0	0	0	0	0	45
13:30	1	39	2	0	0	0	0	0	0	0	0	0	0	42
13:45	0	36	5	0	2	0	0	0	0	0	0	0	0	43
14:00	0	35	2	0	0	1	0	0	0	0	0	0	0	38
14:15	1	42	5	0	0	0	0	0	0	0	0	0	0	48
14:30	1	37	2	0	1	0	0	0	0	0	0	0	0	41
14:45	0	49	7	0	0	1	0	0	0	0	0	0	0	57
15:00	0	53	5	0	0	0	0	0	0	0	0	0	0	58
15:15	1	50	2	0	0	0	0	0	0	0	0	0	0	53
15:30	0	52	7	0	2	1	1	0	0	0	0	0	0	63
15:45	1	48	3	0	0	0	0	0	0	0	0	0	0	52
16:00	1	44	2	0	0	0	0	0	0	0	0	0	0	47
16:15	1	50	3	0	1	0	0	0	0	0	0	0	0	55
16:30	1	61	4	0	0	1	0	0	0	0	0	0	0	67
16:45	0	51	4	0	1	1	0	0	0	0	0	0	0	57
17:00	0	52	4	0	1	0	0	0	0	0	0	0	0	57
17:15	2	42	6	0	0	1	0	0	0	0	0	0	0	51
17:30	0	49	5	0	0	0	0	0	0	0	0	0	0	54
17:45	1	47	3	0	1	0	0	0	0	0	0	0	0	52
18:00	0	45	1	0	1	0	1	0	0	0	0	0	0	48
18:15	3	52	2	1	0	1	0	0	0	0	0	0	0	59
18:30	0	40	1	0	0	0	0	0	0	0	0	0	0	41
18:45	1	40	5	0	1	0	0	0	0	0	0	0	0	47
19:00	1	47	7	0	0	2	1	0	0	0	0	0	0	58
19:15	0	44	3	0	3	0	0	0	0	0	0	0	0	50
19:30	1	38	6	0	0	0	0	0	0	0	0	0	0	45
19:45	0	41	2	0	1	0	0	0	0	0	0	0	0	44
20:00	0	42	4	0	0	0	0	0	0	0	0	0	0	46
20:15	1	50	5	0	1	0	0	0	0	0	0	0	0	57
20:30	0	41	6	0	0	0	0	0	0	0	0	0	0	47
20:45	0	42	5	0	2	1	0	0	0	0	0	0	0	50
21:00	0	25	0	0	0	0	0	0	0	0	0	0	0	25
21:15	1	42	1	0	0	0	0	0	0	0	0	0	0	44
21:30	0	41	2	0	0	0	0	0	0	0	0	0	0	43
21:45	0	28	3	0	0	0	0	0	0	0	0	0	0	31
22:00	0	20	1	0	0	0	0	0	0	0	0	0	0	21
22:15	0	35	4	0	0	0	0	0	0	0	0	0	0	39
22:30	0	19	0	0	0	1	0	0	0	0	0	0	0	20
22:45	0	25	1	0	0	1	0	0	0	0	0	0	0	27
23:00	0	14	2	0	0	0	1	0	0	0	0	0	0	17
23:15	0	10	1	0	1	0	0	0	0	0	0	0	0	12
23:30	1	14	2	0	1	0	0	0	0	0	0	0	0	18
23:45	0	10	0	0	0	0	0	0	0	0	0	0	0	10
TOTAL	23	1,891	163	2	29	15	7	0	0	0	0	0	0	2,130

PM PEAK HOUR	4:15 PM
PM PEAK VOLUME	236

CLASS 1	Class 1 — Motorcycles	CLASS 8	3 to 4 Axles, Single Trailer
CLASS 2	Passenger Cars	CLASS 9	5 Axles, Single Trailer
CLASS 3	2 Axles, 4-Tire Single Units	CLASS 10	6 or More Axles, Single Trailer
CLASS 4	Buses	CLASS 11	5 or Less Axles, Multi-Trailers
CLASS 5	2 Axles, 6-Tire Single Units	CLASS 12	6 Axles, Multi-Trailers
CLASS 6	3 Axles, Single Unit	CLASS 13	7 or More Axles, Multi-Trailers
CLASS 7	4 or More Axles, Single Unit		

	1	2	3	4	5	6	7	8	9	10	11	12	13	
TOTAL: AM+PM	28	2,776	259	2	55	24	12	0	2	0	0	0	1	3,159
% OF TOTAL	0.9%	87.9%	8.2%	0.1%	1.7%	0.8%	0.4%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	100.0%

Class	1	2	3	4	5	6	7	8	9	10	11	12	13

A816

24-HOUR ROADWAY SEGMENT COUNTS (WITH FHWA CLASSIFICATION)

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE: Wednesday, August 16, 2017
JOB #: SC1422

LOCATION#
CLASS9 Hemlock between Heacock and Davis

AM	EASTBOUND													
TIME	1	2	3	4	5	6	7	8	9	10	11	12	13	TOTAL
0:00	0	6	0	0	1	0	0	0	0	0	0	0	0	7
0:15	0	7	0	0	0	0	0	0	0	0	0	0	0	7
0:30	0	1	0	0	0	0	0	0	0	0	0	0	0	1
0:45	0	8	2	0	0	0	0	0	0	0	0	0	0	10
1:00	0	4	0	0	1	0	0	0	0	0	0	0	0	5
1:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:30	0	4	0	0	0	0	0	0	0	0	0	0	0	4
1:45	0	5	0	0	0	0	0	0	0	0	0	0	0	5
2:00	0	3	0	0	0	0	0	0	0	0	0	0	0	3
2:15	0	5	1	0	0	0	0	0	0	0	0	0	0	6
2:30	0	1	0	0	0	0	0	0	0	0	0	0	0	1
2:45	0	5	0	0	0	0	0	0	0	0	0	0	0	5
3:00	0	2	0	0	0	0	0	0	0	0	0	0	0	2
3:15	0	2	0	0	0	0	0	0	0	0	0	0	0	2
3:30	0	5	0	0	0	0	0	0	0	0	0	0	0	5
3:45	0	6	0	0	0	0	0	0	0	0	0	0	0	6
4:00	0	6	1	0	1	0	0	0	0	0	0	0	0	8
4:15	0	2	0	0	0	0	0	0	0	0	0	0	0	2
4:30	0	2	0	0	0	0	0	0	0	0	0	0	0	2
4:45	0	3	0	0	6	0	0	0	0	0	0	0	0	9
5:00	0	5	0	0	0	0	0	0	0	0	0	0	0	5
5:15	0	6	0	0	0	1	0	0	0	0	0	0	0	7
5:30	0	3	0	0	0	0	0	0	0	0	0	0	0	3
5:45	0	5	0	0	0	0	0	0	0	0	0	0	0	5
6:00	0	3	2	0	1	0	0	0	0	0	0	0	0	6
6:15	0	5	1	1	0	0	0	0	0	0	0	0	0	7
6:30	0	8	3	0	0	0	0	0	0	0	0	0	0	11
6:45	0	12	0	0	1	0	0	0	0	0	0	0	0	13
7:00	0	14	0	0	4	1	0	0	0	0	0	0	0	19
7:15	1	11	0	1	2	0	0	0	0	0	0	0	0	15
7:30	0	38	1	0	0	0	0	0	0	0	0	0	0	39
7:45	0	39	3	0	1	0	0	0	0	0	0	0	0	43
8:00	0	21	3	0	0	0	0	0	1	0	0	0	0	25
8:15	0	21	6	0	2	0	0	0	0	0	0	0	0	29
8:30	0	23	3	1	1	0	0	0	0	0	0	0	0	28
8:45	0	32	3	0	1	0	0	0	0	0	0	0	0	36
9:00	0	31	3	1	0	1	0	0	0	0	0	0	0	36
9:15	0	22	4	0	2	0	0	0	1	0	0	0	0	29
9:30	0	35	7	1	0	0	0	0	0	0	0	0	0	43
9:45	0	41	1	0	1	0	0	0	0	0	0	0	0	43
10:00	0	34	6	0	2	0	0	0	1	0	0	0	0	43
10:15	0	38	6	0	0	0	0	0	0	0	0	0	0	44
10:30	0	28	5	0	1	1	0	0	0	0	0	0	0	35
10:45	0	34	7	1	3	0	0	0	0	0	0	0	0	45
11:00	0	41	4	0	3	1	0	0	0	0	0	0	0	49
11:15	0	52	8	0	3	0	0	1	0	0	0	0	0	64
11:30	0	29	11	0	1	0	0	0	0	0	0	0	0	41
11:45	0	49	7	1	2	0	0	0	0	0	0	0	0	59
TOTAL	1	757	98	7	40	5	0	1	3	0	0	0	0	912

AM PEAK HOUR	11:00 AM
AM PEAK VOLUME	213

PM	EASTBOUND													
Time	1	2	3	4	5	6	7	8	9	10	11	12	13	TOTAL
12:00	1	49	4	0	2	0	0	1	0	0	0	0	0	57
12:15	0	40	2	0	3	0	0	0	0	0	0	0	0	45
12:30	0	32	7	0	2	0	0	0	0	0	0	0	0	41
12:45	0	47	5	0	0	0	0	0	0	0	0	0	0	52
13:00	0	43	7	1	4	0	0	0	0	0	0	0	0	55
13:15	0	40	6	1	2	0	0	0	0	0	0	0	0	49
13:30	0	52	7	0	4	0	0	0	0	0	0	0	0	63
13:45	0	37	5	0	1	0	0	0	1	0	0	0	0	44
14:00	0	38	8	1	2	0	0	0	0	0	0	0	0	49
14:15	1	32	5	0	2	0	0	0	0	0	0	0	0	40
14:30	0	39	5	0	2	0	0	1	0	0	0	0	0	47
14:45	0	43	3	0	0	0	0	0	0	0	0	0	0	46
15:00	0	36	4	0	1	0	0	0	0	0	0	0	0	41
15:15	1	28	5	1	0	0	0	0	0	0	0	0	0	35
15:30	0	46	5	0	3	0	0	0	0	0	0	0	0	54
15:45	0	36	3	0	1	0	0	0	0	0	0	0	0	40
16:00	0	49	8	0	2	0	0	0	0	0	0	0	0	59
16:15	1	47	6	0	4	0	0	0	0	0	0	0	0	58
16:30	1	48	5	1	3	0	0	0	1	0	0	0	0	59
16:45	0	52	6	0	3	0	0	0	0	0	0	0	0	61
17:00	0	58	6	1	1	0	0	0	0	0	0	0	0	66
17:15	0	30	5	0	1	0	0	0	1	0	0	0	0	37
17:30	0	51	5	1	2	0	0	0	0	0	0	0	0	59
17:45	0	53	9	0	1	0	0	0	0	0	0	0	0	63
18:00	2	55	4	0	0	0	0	1	1	0	0	0	0	63
18:15	0	51	7	0	1	0	0	0	0	0	0	0	0	59
18:30	0	59	6	1	1	0	0	0	0	0	0	0	0	67
18:45	0	55	5	0	0	0	0	0	2	0	0	0	0	62
19:00	0	54	3	0	1	0	0	0	0	0	0	0	0	58
19:15	0	28	6	0	1	0	0	0	0	0	0	0	0	35
19:30	0	42	4	1	1	0	0	0	0	0	0	0	0	48
19:45	0	31	2	0	1	0	0	0	0	0	0	0	0	34
20:00	0	31	3	0	1	0	0	0	0	0	0	0	0	35
20:15	0	28	1	0	0	0	0	0	0	0	0	0	0	29
20:30	0	29	3	1	2	0	0	0	0	0	0	0	0	35
20:45	0	38	6	0	1	0	0	0	0	0	0	0	0	45
21:00	0	25	2	0	2	0	0	0	0	0	0	0	0	29
21:15	0	28	3	0	1	0	0	0	0	0	0	0	0	32
21:30	0	22	5	1	0	0	0	0	0	0	0	0	0	28
21:45	0	25	2	0	0	0	0	0	0	0	0	0	0	27
22:00	0	21	0	0	0	0	0	0	1	0	0	0	0	22
22:15	0	23	3	0	1	0	0	0	0	0	0	0	0	27
22:30	0	29	2	0	0	0	0	0	0	0	0	0	0	31
22:45	0	25	1	0	0	0	0	0	0	0	0	0	0	26
23:00	0	18	0	0	0	0	0	0	0	0	0	0	0	18
23:15	0	14	3	0	2	0	0	0	0	0	0	0	0	19
23:30	1	23	2	0	0	0	0	0	0	0	0	0	0	26
23:45	0	15	5	0	1	0	0	0	0	0	0	0	0	21
TOTAL	8	1,795	209	11	63	0	0	3	7	0	0	0	0	2,096

PM PEAK HOUR	5:45 PM
PM PEAK VOLUME	252

TOTAL: AM+PM	9	2,552	307	18	103	5	0	4	10	0	0	0	0	3,008
% OF TOTAL	0.3%	84.8%	10.2%	0.6%	3.4%	0.2%	0.0%	0.1%	0.3%	0.0%	0.0%	0.0%	0.0%	100.0%
Class	1	2	3	4	5	6	7	8	9	10	11	12	13	
TOTAL: ALL	12	4,963	620	23	183	8	1	6	16	0	0	0	0	5,832
% OF TOTAL	0.4%	165.0%	20.6%	0.8%	6.1%	0.3%	0.0%	0.2%	0.5%	0.0%	0.0%	0.0%	0.0%	100.0%

CLASS 1	Class 1 — Motorcycles	CLASS 8	3 to 4 Axles, Single Trailer
CLASS 2	Passenger Cars	CLASS 9	5 Axles, Single Trailer
CLASS 3	2 Axles, 4-Tire Single Units	CLASS 10	6 or More Axles, Single Trailer
CLASS 4	Buses	CLASS 11	5 or Less Axles, Multi-Trailers
CLASS 5	2 Axles, 6-Tire Single Units	CLASS 12	6 Axles, Multi-Trailers
CLASS 6	3 Axles, Single Unit	CLASS 13	7 or More Axles, Multi-Trailers
CLASS 7	4 or More Axles, Single Unit		

24-HOUR ROADWAY SEGMENT COUNTS (WITH FHWA CLASSIFICATION)

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE: Wednesday, August 16, 2017
JOB #: SC1422

LOCATION#
CLASS9 Hemlock between Heacock and Davis

AM	WESTBOUND													
TIME	1	2	3	4	5	6	7	8	9	10	11	12	13	TOTAL
0:00	0	3	0	0	0	0	0	0	0	0	0	0	0	3
0:15	0	3	0	0	0	0	0	0	0	0	0	0	0	3
0:30	0	5	0	0	0	0	0	0	0	0	0	0	0	5
0:45	0	1	0	0	0	0	0	0	0	0	0	0	0	1
1:00	0	3	1	0	0	0	0	0	0	0	0	0	0	4
1:15	0	1	0	0	0	0	0	0	0	0	0	0	0	1
1:30	0	3	0	0	0	0	0	0	0	0	0	0	0	3
1:45	0	4	0	0	0	0	0	0	0	0	0	0	0	4
2:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
2:15	0	4	0	0	0	0	0	0	0	0	0	0	0	4
2:30	0	1	1	0	0	0	0	0	0	0	0	0	0	2
2:45	0	4	0	0	0	0	0	0	0	0	0	0	0	4
3:00	0	2	0	0	0	0	0	0	0	0	0	0	0	2
3:15	0	6	1	0	2	0	0	0	0	0	0	0	0	9
3:30	0	2	0	0	0	0	0	0	0	0	0	0	0	2
3:45	0	6	1	0	0	0	0	0	0	0	0	0	0	7
4:00	0	8	2	0	1	0	0	0	0	0	0	0	0	11
4:15	0	5	1	0	0	0	0	0	0	0	0	0	0	6
4:30	0	12	4	0	0	0	0	0	0	0	0	0	0	16
4:45	0	5	0	0	1	0	0	0	0	0	0	0	0	6
5:00	0	9	1	0	0	0	0	0	0	0	0	0	0	10
5:15	0	9	1	0	0	0	0	0	0	0	0	0	0	10
5:30	0	17	4	0	0	0	0	0	0	0	0	0	0	21
5:45	0	6	0	0	6	1	0	0	0	0	0	0	0	13
6:00	0	12	3	0	0	0	0	0	0	0	0	0	0	15
6:15	0	12	2	0	1	0	0	0	0	0	0	0	0	15
6:30	0	7	2	0	0	0	0	0	0	0	0	0	0	9
6:45	0	16	1	0	2	0	0	0	0	0	0	0	0	19
7:00	0	15	1	0	0	0	0	0	0	0	0	0	0	16
7:15	0	21	1	0	0	0	0	0	0	0	0	0	0	22
7:30	0	27	6	0	0	0	0	0	0	0	0	0	0	33
7:45	0	30	6	0	1	1	0	0	0	0	0	0	0	38
8:00	0	28	2	0	0	0	0	0	0	0	0	0	0	30
8:15	0	39	6	0	0	0	0	0	0	0	0	0	0	45
8:30	0	22	5	0	1	0	0	0	0	0	0	0	0	28
8:45	0	19	10	0	2	0	0	0	0	0	0	0	0	31
9:00	0	17	0	0	1	0	0	0	0	0	0	0	0	18
9:15	0	27	3	0	1	0	0	0	0	0	0	0	0	31
9:30	0	38	7	0	2	0	0	0	0	0	0	0	0	47
9:45	0	24	4	0	1	0	0	0	0	0	0	0	0	29
10:00	1	31	4	0	3	0	0	0	0	0	0	0	0	39
10:15	0	23	6	0	0	0	0	0	1	0	0	0	0	30
10:30	0	36	8	0	0	1	0	0	0	0	0	0	0	45
10:45	0	28	6	0	2	0	0	0	0	0	0	0	0	36
11:00	0	33	9	0	2	0	0	0	0	0	0	0	0	44
11:15	0	41	3	0	3	0	0	0	0	0	0	0	0	47
11:30	0	40	8	0	0	0	1	0	0	0	0	0	0	49
11:45	0	45	5	0	0	0	0	0	0	0	0	0	0	50
TOTAL	1	751	125	0	32	3	1	0	1	0	0	0	0	914

AM PEAK HOUR	11:00 AM
AM PEAK VOLUME	190

PM	WESTBOUND													
Time	1	2	3	4	5	6	7	8	9	10	11	12	13	TOTAL
12:00	0	41	6	0	2	0	0	0	0	0	0	0	0	49
12:15	0	35	5	0	4	0	0	0	0	0	0	0	0	44
12:30	1	53	5	0	3	0	0	1	0	0	0	0	0	63
12:45	0	43	8	0	3	0	0	0	0	0	0	0	0	54
13:00	0	44	3	1	0	0	0	0	0	0	0	0	0	48
13:15	0	42	3	0	5	0	0	0	0	0	0	0	0	50
13:30	0	39	5	0	0	0	0	0	0	0	0	0	0	44
13:45	0	36	4	0	0	0	0	0	0	0	0	0	0	40
14:00	0	33	5	0	0	0	0	0	1	0	0	0	0	39
14:15	0	45	1	1	3	0	0	0	0	0	0	0	0	50
14:30	0	24	4	0	0	0	0	0	0	0	0	0	0	28
14:45	0	28	7	0	1	0	0	0	0	0	0	0	0	36
15:00	0	46	8	0	1	0	0	0	0	0	0	0	0	55
15:15	0	40	3	0	0	0	0	0	0	0	0	0	0	43
15:30	0	41	10	1	4	0	0	0	0	0	0	0	0	56
15:45	0	23	4	1	1	0	0	0	0	0	0	0	0	29
16:00	0	32	3	0	2	0	0	0	0	0	0	0	0	37
16:15	0	36	3	0	1	0	0	0	0	0	0	0	0	40
16:30	0	37	4	0	2	0	0	0	0	0	0	0	0	43
16:45	0	39	8	0	1	0	0	0	1	0	0	0	0	49
17:00	0	38	6	1	2	0	0	0	0	0	0	0	0	47
17:15	0	33	4	0	1	0	0	0	0	0	0	0	0	38
17:30	0	28	5	0	0	0	0	0	0	0	0	0	0	33
17:45	0	46	4	0	1	0	0	0	0	0	0	0	0	51
18:00	0	42	7	0	1	0	0	0	1	0	0	0	0	51
18:15	1	35	3	0	1	0	0	0	0	0	0	0	0	40
18:30	0	27	5	0	1	0	0	0	0	0	0	0	0	33
18:45	0	33	4	0	1	0	0	0	0	0	0	0	0	38
19:00	0	42	3	0	2	0	0	0	0	0	0	0	0	47
19:15	0	28	2	0	1	0	0	0	1	0	0	0	0	32
19:30	0	34	4	0	0	0	0	0	0	0	0	0	0	38
19:45	0	40	3	0	0	0	0	0	0	0	0	0	0	43
20:00	0	32	2	0	0	0	0	0	1	0	0	0	0	35
20:15	0	52	4	0	0	0	0	0	0	0	0	0	0	56
20:30	0	34	4	0	2	0	0	0	0	0	0	0	0	40
20:45	0	30	4	0	1	0	0	0	0	0	0	0	0	35
21:00	0	32	1	0	0	0	0	0	0	0	0	0	0	33
21:15	0	42	1	0	0	0	0	0	0	0	0	0	0	43
21:30	0	44	8	0	1	0	0	0	0	0	0	0	0	53
21:45	0	35	1	0	0	0	0	0	0	0	0	0	0	36
22:00	0	27	1	0	0	0	0	0	0	0	0	0	0	28
22:15	0	28	4	0	0	0	0	0	0	0	0	0	0	32
22:30	0	31	3	0	0	0	0	0	0	0	0	0	0	34
22:45	0	25	1	0	0	0	0	0	0	0	0	0	0	26
23:00	0	24	1	0	0	0	0	0	0	0	0	0	0	25
23:15	0	15	1	0	0	0	0	1	0	0	0	0	0	17
23:30	0	11	1	0	0	0	0	0	0	0	0	0	0	12
23:45	0	15	2	0	0	0	0	0	0	0	0	0	0	17
TOTAL	2	1,660	188	5	48	0	0	2	5	0	0	0	0	1,910

PM PEAK HOUR	12:30 PM
PM PEAK VOLUME	215

TOTAL: AM+PM	3	2,411	313	5	80	3	1	2	6	0	0	0	0	2,824
% OF TOTAL	0.1%	85.4%	11.1%	0.2%	2.8%	0.1%	0.0%	0.1%	0.2%	0.0%	0.0%	0.0%	0.0%	100.0%

Class	1	2	3	4	5	6	7	8	9	10	11	12	13

CLASS 1	Class 1 — Motorcycles	CLASS 8	3 to 4 Axles, Single Trailer
CLASS 2	Passenger Cars	CLASS 9	5 Axles, Single Trailer
CLASS 3	2 Axles, 4-Tire Single Units	CLASS 10	6 or More Axles, Single Trailer
CLASS 4	Buses	CLASS 11	5 or Less Axles, Multi-Trailers
CLASS 5	2 Axles, 6-Tire Single Units	CLASS 12	6 Axles, Multi-Trailers
CLASS 6	3 Axles, Single Unit	CLASS 13	7 or More Axles, Multi-Trailers
CLASS 7	4 or More Axles, Single Unit		

A816

24-HOUR ROADWAY SEGMENT COUNTS (WITH FHWA CLASSIFICATION)

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE: Wednesday, August 16, 2017
JOB #: SC1422

LOCATION#
CLASS10 Hemlock east of Indian

AM	EASTBOUND													
TIME	1	2	3	4	5	6	7	8	9	10	11	12	13	TOTAL
0:00	0	8	2	0	1	0	0	0	0	0	0	0	0	11
0:15	0	4	0	0	0	0	0	0	0	0	0	0	0	4
0:30	0	2	0	0	0	0	0	0	0	0	0	0	0	2
0:45	0	5	0	0	0	0	0	0	0	0	0	0	0	5
1:00	0	6	0	0	1	0	0	0	0	0	0	0	0	7
1:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:30	0	4	0	0	0	0	0	0	0	0	0	0	0	4
1:45	0	2	0	0	0	0	0	0	0	0	0	0	0	2
2:00	0	6	0	0	0	0	0	0	0	0	0	0	0	6
2:15	0	3	0	0	0	0	0	0	0	0	0	0	0	3
2:30	0	1	0	0	0	0	0	0	0	0	0	0	0	1
2:45	0	4	0	0	0	0	0	0	0	0	0	0	0	4
3:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
3:15	0	2	0	0	0	0	0	0	0	0	0	0	0	2
3:30	0	2	0	0	0	0	0	0	0	0	0	0	0	2
3:45	0	6	1	0	0	0	0	0	0	0	0	0	0	7
4:00	0	3	1	0	0	1	0	0	0	0	0	0	0	5
4:15	0	1	0	0	0	0	0	0	0	0	0	0	0	1
4:30	0	4	0	0	0	0	0	0	0	0	0	0	0	4
4:45	0	3	0	0	1	0	0	0	0	0	0	0	0	4
5:00	0	2	0	0	0	0	0	0	0	0	0	0	0	2
5:15	0	5	0	0	0	0	0	0	0	0	0	0	0	5
5:30	0	2	1	0	0	0	0	0	0	0	0	0	0	3
5:45	0	8	0	0	0	0	0	0	0	0	0	0	0	8
6:00	0	2	3	0	0	0	0	0	0	0	0	0	0	5
6:15	0	4	2	1	0	0	0	0	0	0	0	0	0	7
6:30	0	11	1	0	0	0	0	0	0	0	0	0	0	12
6:45	0	6	1	0	0	0	0	0	0	0	0	0	0	7
7:00	0	18	2	0	4	1	0	0	0	0	0	0	0	25
7:15	1	25	1	1	2	0	0	0	0	0	0	0	0	30
7:30	1	37	1	0	1	0	0	0	0	0	0	0	0	40
7:45	1	41	5	0	1	0	0	0	0	0	0	0	0	48
8:00	0	34	0	0	1	0	0	0	0	0	0	0	0	35
8:15	0	24	2	0	2	0	0	0	0	0	0	0	0	28
8:30	0	20	6	1	0	0	0	0	0	0	0	0	0	27
8:45	0	24	4	0	0	0	0	0	0	0	0	0	0	28
9:00	0	19	5	1	0	0	0	0	0	0	0	0	0	25
9:15	0	14	3	0	1	0	0	0	0	0	0	0	0	18
9:30	0	26	3	1	4	0	0	0	0	0	0	0	0	34
9:45	0	26	4	0	1	0	0	0	0	0	0	0	0	31
10:00	0	28	3	0	4	0	0	0	0	0	0	0	0	35
10:15	0	19	5	0	1	0	0	0	0	0	0	0	0	25
10:30	0	29	0	0	0	0	0	0	0	0	0	0	0	29
10:45	0	21	4	1	1	0	0	0	0	0	0	0	0	27
11:00	0	43	1	0	2	0	0	0	0	0	0	0	0	46
11:15	0	34	3	0	2	0	0	1	0	0	0	0	0	40
11:30	0	30	1	0	2	1	1	0	0	0	0	0	0	35
11:45	0	39	6	0	3	0	0	0	1	0	0	0	0	49
TOTAL	3	658	71	6	35	3	1	1	1	0	0	0	0	779

AM PEAK HOUR	11:00 AM
AM PEAK VOLUME	170

PM	EASTBOUND													
Time	1	2	3	4	5	6	7	8	9	10	11	12	13	TOTAL
12:00	0	38	4	1	1	0	0	0	0	0	0	0	0	44
12:15	0	25	3	0	3	0	0	0	0	0	0	0	0	31
12:30	0	26	2	0	1	0	0	0	0	0	0	0	0	29
12:45	0	32	3	0	1	0	0	0	0	0	0	0	0	36
13:00	0	51	6	1	4	0	0	0	0	0	0	0	0	62
13:15	0	37	5	0	2	0	0	0	0	0	0	0	0	44
13:30	0	42	10	0	3	2	0	0	1	0	0	0	0	58
13:45	0	41	6	0	4	0	0	0	0	0	0	0	0	51
14:00	1	33	8	0	3	0	0	0	0	0	0	0	0	45
14:15	0	53	4	1	0	0	0	0	0	0	0	0	0	58
14:30	0	36	4	0	1	0	0	1	0	0	0	0	0	42
14:45	0	38	2	0	0	1	0	0	0	0	0	0	0	41
15:00	0	43	4	0	0	0	0	0	0	0	0	0	0	47
15:15	1	27	3	1	2	0	0	0	0	0	0	0	0	34
15:30	1	42	10	0	5	1	0	0	0	0	0	0	0	59
15:45	0	36	3	0	3	0	0	0	0	0	0	0	0	42
16:00	0	45	8	0	0	0	0	0	0	0	0	0	0	53
16:15	0	46	4	0	3	0	0	0	0	0	0	0	0	53
16:30	0	44	8	1	1	0	0	0	0	0	0	0	0	54
16:45	1	45	7	0	4	0	0	0	0	0	0	1	0	58
17:00	0	48	6	0	1	0	0	0	0	0	0	0	0	55
17:15	0	42	8	0	1	0	0	0	0	0	0	0	0	51
17:30	0	49	5	1	1	0	0	0	0	0	0	0	0	56
17:45	1	54	9	0	3	0	0	0	0	0	0	0	0	67
18:00	1	45	6	0	4	0	0	1	0	0	0	0	0	57
18:15	0	34	4	0	3	0	0	0	0	0	0	0	0	41
18:30	0	51	7	0	1	0	0	0	0	0	0	0	0	59
18:45	0	46	5	1	1	0	0	0	0	0	0	0	0	53
19:00	1	49	5	0	1	0	0	0	0	0	0	0	0	56
19:15	0	29	4	0	1	0	0	0	0	0	0	0	0	34
19:30	0	38	5	1	0	0	0	0	0	0	0	0	0	44
19:45	0	36	1	0	2	0	0	0	0	0	0	0	0	39
20:00	0	34	4	0	1	0	0	0	0	0	0	0	0	39
20:15	0	33	5	0	0	0	0	0	0	0	0	0	0	38
20:30	0	25	1	1	2	0	0	0	0	0	0	0	0	29
20:45	0	47	4	0	1	1	0	0	0	0	0	0	0	53
21:00	0	28	1	0	2	0	0	0	0	0	0	0	0	31
21:15	0	31	4	0	0	0	0	0	0	0	0	0	0	35
21:30	0	21	2	1	1	0	0	0	0	0	0	0	0	25
21:45	0	23	4	0	2	0	0	0	0	0	0	0	0	29
22:00	0	15	1	0	0	0	0	0	0	0	0	0	0	16
22:15	0	21	3	0	1	0	0	0	0	0	0	0	0	25
22:30	0	16	0	0	0	0	0	0	0	0	0	0	0	16
22:45	0	14	1	0	0	0	0	0	0	0	0	0	0	15
23:00	0	10	0	0	1	0	0	0	0	0	0	0	0	11
23:15	0	7	0	0	0	0	0	0	0	0	0	0	0	7
23:30	0	15	0	0	0	0	0	0	0	0	0	0	0	15
23:45	0	7	2	0	0	0	0	0	0	0	0	0	0	9
TOTAL	7	1,648	201	10	71	5	0	2	1	0	0	1	0	1,946

PM PEAK HOUR	5:15 PM
PM PEAK VOLUME	231

TOTAL: AM+PM	10	2,306	272	16	106	8	1	3	2	0	0	1	0	2,725
% OF TOTAL	0.4%	84.6%	10.0%	0.6%	3.9%	0.3%	0.0%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	100.0%
Class	1	2	3	4	5	6	7	8	9	10	11	12	13	
TOTAL: ALL	20	4,404	509	31	184	16	4	5	2	0	0	1	0	5,176
% OF TOTAL	0.7%	161.6%	18.7%	1.1%	6.8%	0.6%	0.1%	0.2%	0.1%	0.0%	0.0%	0.0%	0.0%	100.0%

CLASS 1	Class 1 — Motorcycles	CLASS 8	3 to 4 Axles, Single Trailer
CLASS 2	Passenger Cars	CLASS 9	5 Axles, Single Trailer
CLASS 3	2 Axles, 4-Tire Single Units	CLASS 10	6 or More Axles, Single Trailer
CLASS 4	Buses	CLASS 11	5 or Less Axles, Multi-Trailers
CLASS 5	2 Axles, 6-Tire Single Units	CLASS 12	6 Axles, Multi-Trailers
CLASS 6	3 Axles, Single Unit	CLASS 13	7 or More Axles, Multi-Trailers
CLASS 7	4 or More Axles, Single Unit		

24-HOUR ROADWAY SEGMENT COUNTS (WITH FHWA CLASSIFICATION)

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE: Wednesday, August 16, 2017
JOB #: SC1422

LOCATION#
CLASS10 Hemlock east of Indian

AM TIME	WESTBOUND 1	2	3	4	5	6	7	8	9	10	11	12	13	TOTAL
0:00	0	3	0	0	0	0	0	0	0	0	0	0	0	3
0:15	0	2	1	0	0	0	0	0	0	0	0	0	0	3
0:30	0	4	0	0	0	0	0	0	0	0	0	0	0	4
0:45	0	0	1	0	0	0	0	0	0	0	0	0	0	1
1:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:15	0	4	0	0	0	0	0	0	0	0	0	0	0	4
1:30	0	3	0	0	0	0	0	0	0	0	0	0	0	3
1:45	0	3	0	0	0	0	0	0	0	0	0	0	0	3
2:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
2:15	0	1	0	0	0	0	0	0	0	0	0	0	0	1
2:30	0	0	1	0	0	0	0	0	0	0	0	0	0	1
2:45	0	1	0	0	0	0	0	0	0	0	0	0	0	1
3:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
3:15	0	2	1	0	1	0	0	0	0	0	0	0	0	4
3:30	0	1	0	0	0	0	0	0	0	0	0	0	0	1
3:45	0	0	2	0	1	0	0	0	0	0	0	0	0	3
4:00	0	5	1	0	0	0	0	0	0	0	0	0	0	6
4:15	0	5	0	0	0	0	0	0	0	0	0	0	0	5
4:30	0	6	0	0	2	0	0	0	0	0	0	0	0	8
4:45	0	7	1	0	0	0	0	0	0	0	0	0	0	8
5:00	0	5	0	0	1	0	0	0	0	0	0	0	0	6
5:15	0	5	0	1	0	0	0	0	0	0	0	0	0	6
5:30	0	8	2	0	0	0	1	0	0	0	0	0	0	11
5:45	0	8	2	0	0	0	0	0	0	0	0	0	0	10
6:00	0	6	0	0	0	0	0	0	0	0	0	0	0	6
6:15	0	7	3	0	0	1	0	0	0	0	0	0	0	11
6:30	0	11	2	1	0	0	0	0	0	0	0	0	0	14
6:45	0	16	3	0	1	0	0	0	0	0	0	0	0	20
7:00	0	30	1	0	3	0	0	0	0	0	0	0	0	34
7:15	0	32	1	0	1	0	0	0	0	0	0	0	0	34
7:30	2	42	1	1	0	0	0	0	0	0	0	0	0	46
7:45	0	46	7	0	1	1	0	0	0	0	0	0	0	55
8:00	0	48	3	0	0	0	0	0	0	0	0	0	0	51
8:15	0	33	1	0	1	0	0	0	0	0	0	0	0	35
8:30	0	18	5	1	3	0	0	0	0	0	0	0	0	27
8:45	0	17	5	0	2	0	1	0	0	0	0	0	0	25
9:00	0	19	2	0	1	0	0	0	0	0	0	0	0	22
9:15	0	24	2	0	1	0	0	0	0	0	0	0	0	27
9:30	0	27	8	1	1	0	0	0	0	0	0	0	0	37
9:45	0	30	5	0	2	0	0	0	0	0	0	0	0	37
10:00	0	24	2	0	3	0	0	0	0	0	0	0	0	29
10:15	0	22	4	0	0	0	0	0	0	0	0	0	0	26
10:30	0	30	4	0	2	0	0	0	0	0	0	0	0	36
10:45	1	30	3	1	2	0	0	0	0	0	0	0	0	37
11:00	0	19	3	0	1	0	0	1	0	0	0	0	0	24
11:15	0	20	4	0	0	0	1	0	0	0	0	0	0	25
11:30	0	22	5	0	0	0	0	0	0	0	0	0	0	27
11:45	0	35	2	1	2	1	0	0	0	0	0	0	0	41
TOTAL	3	683	88	7	32	3	3	1	0	0	0	0	0	820

AM PEAK HOUR	7:30 AM
AM PEAK VOLUME	187

PM Time	WESTBOUND 1	2	3	4	5	6	7	8	9	10	11	12	13	TOTAL
12:00	0	19	6	0	1	0	0	0	0	0	0	0	0	26
12:15	0	30	3	0	5	0	0	1	0	0	0	0	0	39
12:30	0	32	5	0	3	1	0	0	0	0	0	0	0	41
12:45	0	35	2	0	1	0	0	0	0	0	0	0	0	38
13:00	0	31	4	1	0	0	0	0	0	0	0	0	0	36
13:15	0	24	1	0	0	0	0	0	0	0	0	0	0	25
13:30	0	37	8	0	4	0	0	0	0	0	0	0	0	49
13:45	0	34	1	0	1	0	0	0	0	0	0	0	0	36
14:00	0	38	4	0	0	0	0	0	0	0	0	0	0	42
14:15	2	38	4	1	1	3	0	0	0	0	0	0	0	49
14:30	0	28	5	0	2	0	0	0	0	0	0	0	0	35
14:45	0	24	6	0	0	0	0	0	0	0	0	0	0	30
15:00	0	29	3	0	2	0	0	0	0	0	0	0	0	34
15:15	1	26	6	1	3	0	0	0	0	0	0	0	0	37
15:30	0	41	6	1	1	0	0	0	0	0	0	0	0	49
15:45	0	28	5	0	0	0	0	0	0	0	0	0	0	33
16:00	0	27	2	0	0	0	0	0	0	0	0	0	0	29
16:15	0	37	5	0	0	0	0	0	0	0	0	0	0	42
16:30	0	33	3	1	2	0	0	0	0	0	0	0	0	39
16:45	0	28	5	0	2	0	0	0	0	0	0	0	0	35
17:00	0	30	2	0	1	0	0	0	0	0	0	0	0	33
17:15	0	25	3	0	1	0	0	0	0	0	0	0	0	29
17:30	0	23	2	0	0	0	0	0	0	0	0	0	0	25
17:45	0	36	3	1	0	0	0	0	0	0	0	0	0	40
18:00	0	32	2	0	1	0	0	0	0	0	0	0	0	35
18:15	0	33	3	0	1	0	0	0	0	0	0	0	0	37
18:30	0	27	2	0	2	0	0	0	0	0	0	0	0	31
18:45	0	33	3	1	0	0	0	0	0	0	0	0	0	37
19:00	0	30	4	0	0	0	0	0	0	0	0	0	0	34
19:15	0	22	3	0	1	1	0	0	0	0	0	0	0	27
19:30	0	30	1	0	0	0	0	0	0	0	0	0	0	31
19:45	0	34	4	1	1	0	0	0	0	0	0	0	0	40
20:00	0	30	2	0	0	0	0	0	0	0	0	0	0	32
20:15	0	36	5	0	0	0	0	0	0	0	0	0	0	41
20:30	0	27	3	0	1	0	0	0	0	0	0	0	0	31
20:45	0	39	2	0	2	0	0	0	0	0	0	0	0	43
21:00	0	29	2	0	0	0	0	0	0	0	0	0	0	31
21:15	1	35	3	0	2	0	0	0	0	0	0	0	0	41
21:30	2	38	5	0	1	0	0	0	0	0	0	0	0	46
21:45	0	42	0	0	1	0	0	0	0	0	0	0	0	43
22:00	0	40	2	0	0	0	0	0	0	0	0	0	0	42
22:15	0	19	3	0	0	0	0	0	0	0	0	0	0	22
22:30	0	28	3	0	1	0	0	0	0	0	0	0	0	32
22:45	0	23	1	0	1	0	0	0	0	0	0	0	0	25
23:00	1	20	0	0	1	0	0	0	0	0	0	0	0	22
23:15	0	13	1	0	0	0	0	0	0	0	0	0	0	14
23:30	0	10	0	0	0	0	0	0	0	0	0	0	0	10
23:45	0	12	1	0	0	0	0	0	0	0	0	0	0	13
TOTAL	7	1,415	149	8	46	5	0	1	0	0	0	0	0	1,631

PM PEAK HOUR	1:30 PM
PM PEAK VOLUME	176

TOTAL: AM+PM	10	2,098	237	15	78	8	3	2	0	0	0	0	0	2,451
% OF TOTAL	0.4%	85.6%	9.7%	0.6%	3.2%	0.3%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%

Class	1	2	3	4	5	6	7	8	9	10	11	12	13

CLASS 1	Class 1 — Motorcycles	CLASS 8	3 to 4 Axles, Single Trailer
CLASS 2	Passenger Cars	CLASS 9	5 Axles, Single Trailer
CLASS 3	2 Axles, 4-Tire Single Units	CLASS 10	6 or More Axles, Single Trailer
CLASS 4	Buses	CLASS 11	5 or Less Axles, Multi-Trailers
CLASS 5	2 Axles, 6-Tire Single Units	CLASS 12	6 Axles, Multi-Trailers
CLASS 6	3 Axles, Single Unit	CLASS 13	7 or More Axles, Multi-Trailers
CLASS 7	4 or More Axles, Single Unit		

A816

24-HOUR ROADWAY SEGMENT COUNTS (WITH FHWA CLASSIFICATION)

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE: Wednesday, August 16, 2017
JOB #: SC1422

LOCATION#
CLASS11 Ironwood between Davis and Nita

AM	EASTBOUND													
TIME	1	2	3	4	5	6	7	8	9	10	11	12	13	TOTAL
0:00	0	24	1	0	0	0	0	0	0	0	0	0	0	25
0:15	0	17	1	0	2	0	0	0	0	0	0	0	0	20
0:30	0	10	2	0	0	0	0	0	0	0	0	0	0	12
0:45	0	16	1	0	0	0	0	0	0	0	0	0	0	17
1:00	0	10	1	0	0	0	0	0	0	0	0	0	0	11
1:15	0	8	2	0	1	0	0	0	0	0	0	0	0	11
1:30	0	4	1	0	0	0	0	0	0	0	0	0	0	5
1:45	0	12	2	0	0	0	0	0	0	0	0	0	0	14
2:00	0	5	1	0	0	0	0	0	0	0	0	0	0	6
2:15	0	6	0	0	1	0	0	0	0	0	0	0	0	7
2:30	0	2	1	0	0	0	0	0	0	0	0	0	0	3
2:45	0	11	0	0	0	0	0	0	0	0	0	0	0	11
3:00	0	2	0	0	0	0	0	0	0	0	0	0	0	2
3:15	0	4	1	0	1	0	0	0	0	0	0	0	0	6
3:30	0	4	0	0	0	0	0	0	0	0	0	0	0	4
3:45	0	5	0	0	0	0	0	0	0	0	0	0	0	5
4:00	0	8	0	0	1	0	0	0	0	0	0	0	0	9
4:15	0	6	0	0	1	0	0	0	0	0	0	0	0	7
4:30	0	11	1	0	0	0	0	0	0	0	0	0	0	12
4:45	0	15	3	0	2	0	0	0	0	0	0	0	0	20
5:00	0	10	2	0	2	0	0	0	0	0	0	0	0	14
5:15	0	10	2	1	0	0	0	0	0	0	0	0	0	13
5:30	0	10	4	0	2	0	0	0	0	0	0	0	0	16
5:45	1	20	2	0	2	0	0	0	0	0	0	0	0	25
6:00	0	22	2	0	2	0	0	0	0	0	0	0	0	26
6:15	0	19	4	1	2	0	0	0	0	0	0	0	0	26
6:30	0	25	3	0	5	0	0	0	0	0	0	0	0	33
6:45	0	33	6	0	2	0	1	0	0	0	0	0	0	42
7:00	0	62	4	0	5	0	0	0	0	0	0	0	0	71
7:15	0	102	13	1	10	3	0	0	0	0	0	0	0	129
7:30	1	120	10	0	6	2	0	0	0	0	0	0	0	139
7:45	2	101	17	0	6	1	0	0	0	0	0	0	0	127
8:00	0	88	6	0	2	3	0	0	0	0	0	0	0	99
8:15	0	58	9	0	4	0	0	0	0	0	1	0	0	72
8:30	1	61	10	1	4	0	0	0	0	0	0	0	0	77
8:45	1	57	9	0	6	1	0	0	0	0	0	0	0	74
9:00	0	52	9	0	4	1	0	0	0	0	0	0	0	66
9:15	0	37	13	1	8	0	1	1	0	0	0	0	0	61
9:30	0	46	12	2	7	0	0	0	0	0	0	0	0	67
9:45	0	42	9	0	2	1	0	0	0	0	0	0	0	54
10:00	0	44	7	0	1	0	0	0	0	0	0	0	0	52
10:15	0	37	10	0	2	3	0	0	0	0	0	0	0	52
10:30	0	57	12	1	3	0	0	0	0	0	0	0	0	73
10:45	0	55	10	1	4	0	0	1	0	0	1	0	0	72
11:00	0	60	8	0	7	3	0	0	0	0	0	0	0	78
11:15	0	84	18	0	5	2	0	0	0	0	0	0	0	109
11:30	0	89	15	0	1	1	0	0	0	0	0	0	0	106
11:45	1	74	16	1	6	1	0	0	0	0	0	0	0	99
TOTAL	7	1,655	260	10	119	22	2	2	0	0	2	0	0	2,079

AM PEAK HOUR	7:15 AM
AM PEAK VOLUME	494

PM	EASTBOUND													
Time	1	2	3	4	5	6	7	8	9	10	11	12	13	TOTAL
12:00	4	73	11	0	1	2	0	0	0	0	0	1	0	92
12:15	0	65	7	1	8	0	0	0	1	0	0	0	0	82
12:30	4	58	11	0	6	0	0	0	0	0	0	0	0	79
12:45	0	72	3	0	9	0	0	0	0	0	0	0	0	84
13:00	0	88	17	1	4	1	0	0	0	0	0	0	0	111
13:15	2	97	13	0	8	1	0	0	0	0	0	0	0	121
13:30	0	82	10	1	7	0	0	1	0	0	0	0	0	101
13:45	0	88	12	2	5	1	0	0	0	0	0	0	0	108
14:00	0	83	12	1	12	1	1	0	0	0	0	0	0	110
14:15	1	137	17	0	7	2	0	0	0	0	1	0	0	165
14:30	0	105	19	0	7	3	0	0	0	0	0	0	0	134
14:45	0	78	18	0	7	0	0	0	0	0	0	0	0	103
15:00	0	79	12	0	5	1	0	0	0	0	0	0	0	97
15:15	0	83	14	1	7	2	0	0	0	0	0	0	0	107
15:30	2	78	12	1	5	1	0	0	0	0	0	0	0	99
15:45	0	80	14	0	5	1	1	0	0	0	0	0	0	101
16:00	0	89	16	0	9	1	0	0	0	0	0	0	0	115
16:15	1	110	14	0	9	0	0	0	0	0	0	0	0	134
16:30	0	97	12	1	7	3	0	0	0	0	0	0	0	120
16:45	0	98	21	0	16	3	0	0	0	0	0	0	0	138
17:00	3	114	17	0	8	3	0	0	0	0	0	0	0	145
17:15	0	111	12	0	11	2	0	0	0	0	0	0	0	136
17:30	5	130	16	0	13	1	0	0	0	0	0	1	0	166
17:45	2	134	18	0	9	0	0	0	0	0	0	0	0	163
18:00	1	117	19	0	4	3	0	0	0	0	1	1	1	147
18:15	1	121	15	0	6	0	0	0	0	0	0	0	0	143
18:30	3	100	10	0	9	2	0	0	0	0	0	0	0	124
18:45	2	107	11	1	4	2	0	0	0	0	0	0	0	127
19:00	1	85	12	0	2	2	0	0	0	0	0	0	0	102
19:15	0	84	13	0	6	0	0	0	0	0	0	0	0	103
19:30	0	84	8	0	3	1	0	0	0	0	0	0	0	96
19:45	0	77	13	0	3	2	0	0	0	0	0	0	0	95
20:00	0	83	8	0	5	0	0	0	0	0	0	0	0	96
20:15	0	63	11	0	11	0	0	0	0	0	0	0	0	85
20:30	2	55	11	0	4	1	0	0	0	0	0	0	0	73
20:45	0	71	9	1	4	1	0	0	0	0	0	0	0	86
21:00	0	59	6	0	2	0	0	0	0	0	0	0	0	67
21:15	0	71	13	0	0	0	0	0	0	0	0	0	0	84
21:30	0	50	5	0	3	1	0	0	0	0	0	0	0	59
21:45	1	44	4	0	2	0	0	0	0	0	0	0	0	51
22:00	0	33	6	0	2	1	0	0	0	0	0	0	0	42
22:15	0	41	6	0	1	0	0	0	0	0	0	0	0	48
22:30	0	36	3	0	1	0	0	0	0	0	0	0	0	40
22:45	0	19	1	0	0	1	0	0	0	0	0	0	0	21
23:00	0	32	6	0	1	1	0	0	0	0	0	0	0	40
23:15	0	24	1	0	2	0	0	0	0	0	0	0	0	27
23:30	0	21	2	0	1	0	0	0	0	0	0	0	0	24
23:45	0	13	1	0	1	0	0	0	0	0	0	0	0	15
TOTAL	35	3,719	522	11	262	47	2	1	1	0	2	3	1	4,606

PM PEAK HOUR	5:30 PM
PM PEAK VOLUME	619

CLASS 1	Class 1 — Motorcycles	CLASS 8	3 to 4 Axles, Single Trailer
CLASS 2	Passenger Cars	CLASS 9	5 Axles, Single Trailer
CLASS 3	2 Axles, 4-Tire Single Units	CLASS 10	6 or More Axles, Single Trailer
CLASS 4	Buses	CLASS 11	5 or Less Axles, Multi-Trailers
CLASS 5	2 Axles, 6-Tire Single Units	CLASS 12	6 Axles, Multi-Trailers
CLASS 6	3 Axles, Single Unit	CLASS 13	7 or More Axles, Multi-Trailers
CLASS 7	4 or More Axles, Single Unit		

TOTAL: AM+PM	42	5,374	782	21	381	69	4	3	1	0	4	3	1	6,685
% OF TOTAL	0.6%	80.4%	11.7%	0.3%	5.7%	1.0%	0.1%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	100.0%
Class	1	2	3	4	5	6	7	8	9	10	11	12	13	
TOTAL: ALL	108	11,242	1,622	41	654	154	6	6	11	1	7	7	3	13,862
% OF TOTAL	1.6%	168.2%	24.3%	0.6%	9.8%	2.3%	0.1%	0.1%	0.2%	0.0%	0.1%	0.1%	0.0%	100.0%

24-HOUR ROADWAY SEGMENT COUNTS (WITH FHWA CLASSIFICATION)

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE: Wednesday, August 16, 2017
JOB #: SC1422

LOCATION#
CLASS11 Ironwood between Davis and Nita

AM TIME	WESTBOUND 1	2	3	4	5	6	7	8	9	10	11	12	13	TOTAL
0:00	0	10	2	0	0	0	0	0	0	0	0	0	0	12
0:15	0	11	2	0	0	0	0	0	0	0	0	0	0	13
0:30	0	6	0	0	0	1	0	0	0	0	0	0	0	7
0:45	0	8	0	0	0	0	0	0	0	0	0	0	0	8
1:00	0	13	0	0	0	0	0	0	0	0	0	0	0	13
1:15	0	3	0	0	0	0	0	0	0	0	0	0	0	3
1:30	0	10	1	0	0	0	0	0	0	0	0	0	0	11
1:45	0	6	0	0	0	0	0	0	0	0	0	0	0	6
2:00	0	2	2	0	0	0	0	0	0	0	0	0	0	4
2:15	0	5	1	0	0	0	0	0	0	0	0	0	0	6
2:30	0	4	0	0	0	0	0	0	0	0	0	0	0	4
2:45	0	5	0	0	0	0	0	0	0	0	0	0	0	5
3:00	0	10	3	0	0	0	0	0	0	0	0	0	0	13
3:15	0	10	3	0	0	0	0	0	0	0	0	0	0	13
3:30	2	7	1	0	1	0	0	0	0	0	0	0	0	11
3:45	0	15	6	0	1	0	0	0	0	0	0	0	0	22
4:00	1	11	5	0	3	0	0	0	0	0	0	0	0	20
4:15	0	22	1	0	1	0	0	0	0	0	0	0	0	24
4:30	0	24	7	0	3	1	0	0	0	0	0	0	0	35
4:45	0	25	7	0	1	0	0	0	0	0	0	0	0	33
5:00	0	38	4	0	2	0	0	0	0	0	0	0	0	44
5:15	0	33	5	0	3	0	0	0	0	0	0	0	0	41
5:30	0	38	19	0	5	1	0	0	0	0	0	0	0	63
5:45	0	32	5	0	2	1	0	0	0	0	0	0	0	40
6:00	0	36	8	0	3	1	0	0	0	0	0	0	0	48
6:15	0	47	9	0	2	0	0	0	0	0	0	0	0	58
6:30	0	63	13	1	3	0	0	0	0	0	0	0	0	80
6:45	0	78	16	0	8	1	0	0	0	0	0	0	0	103
7:00	0	104	16	0	5	3	0	0	0	0	0	0	0	128
7:15	4	148	17	0	8	0	0	0	0	0	0	0	0	177
7:30	3	174	23	3	5	2	0	0	0	0	0	0	1	211
7:45	6	190	21	1	6	6	0	0	0	0	0	1	0	231
8:00	5	133	17	0	10	5	0	0	0	0	0	0	0	170
8:15	4	80	9	0	8	0	0	0	0	0	0	0	0	101
8:30	2	65	13	1	3	1	0	0	0	0	0	0	0	85
8:45	1	69	9	0	3	0	0	0	0	0	0	0	0	82
9:00	0	58	15	0	5	0	0	0	0	0	1	0	0	79
9:15	0	73	5	0	4	1	0	0	0	0	0	0	0	83
9:30	0	52	6	0	4	0	0	0	0	0	0	0	0	62
9:45	0	42	15	1	1	0	0	0	0	0	0	0	0	59
10:00	0	67	7	0	1	0	0	0	0	0	0	0	0	75
10:15	0	55	9	0	1	1	0	1	0	0	0	0	0	67
10:30	0	56	12	0	2	1	0	0	0	0	0	0	0	71
10:45	0	62	9	2	3	0	0	0	0	0	0	0	0	76
11:00	0	48	10	0	3	1	0	0	0	0	0	0	0	62
11:15	0	53	3	0	3	0	0	0	0	0	0	0	0	59
11:30	0	111	17	1	5	2	0	0	0	0	0	0	0	136
11:45	0	90	16	0	1	4	0	0	0	0	0	0	0	111
TOTAL	28	2,302	369	10	119	33	0	1	0	0	1	1	1	2,865

AM PEAK HOUR	7:15 AM
AM PEAK VOLUME	789

PM Time	WESTBOUND 1	2	3	4	5	6	7	8	9	10	11	12	13	TOTAL
12:00	0	67	16	1	3	1	0	0	0	0	0	0	0	88
12:15	0	89	15	0	3	1	0	0	0	0	0	0	0	108
12:30	0	87	14	0	8	1	0	0	0	0	0	0	0	110
12:45	0	78	18	0	4	0	0	0	1	0	0	0	0	101
13:00	0	94	9	1	7	1	0	0	0	0	0	0	0	112
13:15	0	73	8	0	4	2	0	0	0	0	0	0	0	87
13:30	0	78	11	0	6	1	0	0	0	0	0	1	0	97
13:45	0	93	10	0	4	2	0	0	0	0	0	0	1	110
14:00	0	90	20	0	3	3	0	0	0	0	1	0	0	117
14:15	0	111	10	1	3	3	0	0	0	0	0	0	0	128
14:30	1	88	8	0	6	2	0	0	0	0	0	1	0	106
14:45	0	72	14	0	11	0	0	1	0	0	0	0	0	98
15:00	2	90	14	0	1	0	0	0	0	0	0	0	0	107
15:15	1	78	6	0	1	1	0	0	0	0	0	0	0	87
15:30	4	77	13	1	1	2	1	0	0	0	0	0	0	99
15:45	2	72	16	0	3	2	0	1	0	0	0	0	0	96
16:00	1	79	13	0	2	1	0	0	0	0	0	0	0	96
16:15	0	100	13	0	4	1	0	0	0	0	0	0	0	118
16:30	0	63	13	1	4	2	0	0	0	0	0	0	0	83
16:45	0	93	14	0	8	4	0	0	0	0	0	0	0	119
17:00	2	90	15	0	4	0	0	0	0	0	0	0	0	111
17:15	0	82	13	0	3	0	0	0	0	0	0	0	0	98
17:30	2	96	11	0	8	0	1	0	0	0	0	0	0	118
17:45	2	91	12	1	3	1	0	0	0	0	0	0	0	110
18:00	0	87	7	0	4	2	0	0	0	0	0	0	0	100
18:15	0	77	8	0	1	1	0	0	0	0	0	0	0	87
18:30	2	93	10	0	1	3	0	0	0	0	0	0	0	109
18:45	0	74	13	1	4	2	0	0	0	0	0	0	0	94
19:00	2	85	8	0	2	0	0	0	0	0	0	0	0	97
19:15	0	63	13	0	8	1	0	0	0	0	0	0	0	85
19:30	0	69	12	0	1	1	0	0	0	0	1	0	0	84
19:45	0	72	10	1	1	0	0	0	0	0	0	0	0	84
20:00	2	67	9	0	1	2	0	0	0	0	0	0	0	81
20:15	0	81	13	0	4	0	0	0	1	0	0	0	0	99
20:30	2	109	7	0	2	2	0	0	0	0	0	0	0	122
20:45	3	85	8	1	3	0	0	0	0	0	0	0	0	100
21:00	3	84	8	0	1	1	0	0	1	1	0	0	0	99
21:15	0	86	6	0	2	0	0	0	1	0	0	1	0	96
21:30	0	72	8	0	3	2	0	0	2	0	0	0	0	87
21:45	5	70	5	1	3	3	0	0	0	0	0	0	0	87
22:00	2	49	4	0	1	0	0	0	1	0	0	0	0	57
22:15	0	51	8	0	1	0	0	0	0	0	0	0	0	60
22:30	0	40	4	0	2	1	0	0	0	0	0	0	0	47
22:45	0	25	1	0	0	0	0	0	0	0	0	0	0	26
23:00	0	16	2	0	2	0	0	0	0	0	0	0	0	20
23:15	0	33	0	0	0	0	0	0	1	0	0	0	0	34
23:30	0	23	1	0	3	0	0	0	1	0	0	0	0	28
23:45	0	24	0	0	0	0	0	0	1	0	0	0	0	25
TOTAL	38	3,566	471	10	154	52	2	2	10	1	2	3	1	4,312

PM PEAK HOUR	1:45 PM
PM PEAK VOLUME	461

CLASS 1	Class 1 — Motorcycles	CLASS 8	3 to 4 Axles, Single Trailer
CLASS 2	Passenger Cars	CLASS 9	5 Axles, Single Trailer
CLASS 3	2 Axles, 4-Tire Single Units	CLASS 10	6 or More Axles, Single Trailer
CLASS 4	Buses	CLASS 11	5 or Less Axles, Multi-Trailers
CLASS 5	2 Axles, 6-Tire Single Units	CLASS 12	6 Axles, Multi-Trailers
CLASS 6	3 Axles, Single Unit	CLASS 13	7 or More Axles, Multi-Trailers
CLASS 7	4 or More Axles, Single Unit		

	1	2	3	4	5	6	7	8	9	10	11	12	13	
TOTAL: AM+PM	66	5,868	840	20	273	85	2	3	10	1	3	4	2	7,177
% OF TOTAL	0.9%	81.8%	11.7%	0.3%	3.8%	1.2%	0.0%	0.0%	0.1%	0.0%	0.0%	0.1%	0.0%	100.0%
Class	1	2	3	4	5	6	7	8	9	10	11	12	13	

A816

24-HOUR ROADWAY SEGMENT COUNTS (WITH FHWA CLASSIFICATION)

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE: Wednesday, August 16, 2017
JOB #: SC1422

LOCATION#
CLASS12 Hemlock between East FMV and Nita

AM	EASTBOUND													
TIME	1	2	3	4	5	6	7	8	9	10	11	12	13	TOTAL
0:00	0	10	1	0	1	0	0	0	0	0	0	0	0	12
0:15	0	7	0	0	0	0	0	0	0	0	0	0	0	7
0:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0:45	0	8	2	0	0	0	0	0	0	0	0	0	0	10
1:00	0	2	0	0	1	0	0	0	0	0	0	0	0	3
1:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:30	0	4	0	0	0	0	0	0	0	0	0	0	0	4
1:45	0	3	0	0	0	0	0	0	0	0	0	0	0	3
2:00	0	3	0	0	0	0	0	0	0	0	0	0	0	3
2:15	0	8	1	0	0	0	0	0	0	0	0	0	0	9
2:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:45	0	4	0	0	0	0	0	0	0	0	0	0	0	4
3:00	0	2	0	0	0	0	0	0	0	0	0	0	0	2
3:15	0	3	0	0	0	0	0	0	0	0	0	0	0	3
3:30	0	4	0	0	0	0	0	0	0	0	0	0	0	4
3:45	0	7	0	0	0	0	0	0	0	0	0	0	0	7
4:00	0	5	1	0	1	0	0	0	0	0	0	0	0	7
4:15	0	3	0	0	0	0	0	0	0	0	0	0	0	3
4:30	0	2	0	0	0	0	0	0	0	0	0	0	0	2
4:45	0	4	0	0	0	0	0	0	0	0	0	0	0	4
5:00	0	5	0	0	0	0	0	0	0	0	0	0	0	5
5:15	0	6	0	0	0	0	0	0	0	0	0	0	0	6
5:30	0	4	0	0	0	0	0	0	0	0	0	0	0	4
5:45	0	7	0	0	0	0	0	0	0	0	0	0	0	7
6:00	0	2	1	0	1	0	0	0	0	0	0	0	0	4
6:15	0	2	1	1	0	0	0	0	0	0	0	0	0	4
6:30	0	8	1	0	0	0	0	0	0	0	0	0	0	9
6:45	0	8	1	0	1	0	0	0	0	0	0	0	0	10
7:00	0	10	1	0	3	1	0	0	0	0	0	0	0	15
7:15	1	11	0	1	2	0	0	0	0	0	0	0	0	15
7:30	1	34	1	0	0	0	0	0	0	0	0	0	0	36
7:45	0	32	2	0	1	0	0	0	0	0	0	0	0	35
8:00	0	12	2	0	0	0	0	0	1	0	0	0	0	15
8:15	0	13	4	0	2	0	0	0	0	0	0	0	0	19
8:30	2	16	1	1	0	0	0	0	0	0	0	0	0	20
8:45	0	26	1	0	2	0	0	0	0	0	0	0	0	29
9:00	0	22	3	1	0	0	0	0	0	0	0	0	0	26
9:15	0	7	5	0	0	0	0	0	0	0	0	0	0	12
9:30	0	20	5	1	1	0	0	0	0	0	0	0	0	27
9:45	0	30	0	0	0	0	0	0	0	0	0	0	0	30
10:00	1	23	3	0	1	0	0	0	0	0	0	0	0	28
10:15	0	27	5	0	0	0	0	0	0	0	0	0	0	32
10:30	0	21	2	0	1	0	0	0	0	0	0	0	0	24
10:45	0	31	6	1	2	0	0	0	0	0	0	0	0	40
11:00	0	36	2	0	1	0	1	0	0	0	0	0	0	40
11:15	1	35	7	0	1	0	0	0	0	0	0	0	0	44
11:30	0	25	6	0	0	0	0	0	0	0	0	0	0	31
11:45	0	38	6	1	0	0	0	0	0	0	0	0	0	45
TOTAL	6	590	71	7	22	1	1	0	1	0	0	0	0	699

AM PEAK HOUR	11:00 AM
AM PEAK VOLUME	160

PM	EASTBOUND													
Time	1	2	3	4	5	6	7	8	9	10	11	12	13	TOTAL
12:00	1	35	3	0	0	0	0	0	0	0	0	0	0	39
12:15	0	36	1	0	3	0	0	0	0	0	0	0	0	40
12:30	1	24	5	0	1	0	0	0	0	0	0	0	0	31
12:45	0	34	2	0	1	0	0	0	0	0	0	0	0	37
13:00	0	39	6	1	2	0	0	0	0	0	0	0	0	48
13:15	1	33	7	0	1	0	0	0	0	0	0	0	0	42
13:30	0	40	6	0	4	0	0	0	0	0	0	0	0	50
13:45	0	31	5	0	2	0	0	0	0	0	0	0	0	38
14:00	0	36	7	0	2	0	0	0	0	0	0	0	0	45
14:15	0	20	7	1	0	0	0	0	0	0	0	0	0	28
14:30	0	32	7	0	3	0	0	1	0	0	0	0	0	43
14:45	0	34	3	0	0	0	0	0	0	0	0	0	0	37
15:00	0	32	3	0	1	0	0	0	0	0	0	0	0	36
15:15	1	24	4	1	0	0	0	0	0	0	0	0	0	30
15:30	0	35	5	0	1	0	0	1	0	0	0	0	0	42
15:45	1	36	3	0	1	0	0	0	0	0	0	0	0	41
16:00	0	41	8	0	0	0	0	0	0	0	0	0	0	49
16:15	0	37	3	0	3	0	0	0	0	0	0	0	0	43
16:30	1	45	8	1	3	0	0	0	0	0	0	0	0	58
16:45	0	46	5	0	3	0	0	0	0	0	0	0	0	54
17:00	0	50	5	0	1	0	0	0	0	0	0	0	0	56
17:15	1	35	6	0	2	0	0	0	0	0	0	0	0	44
17:30	0	46	7	1	1	0	0	0	0	0	0	0	0	55
17:45	0	53	8	0	3	0	0	0	0	0	0	0	0	64
18:00	1	42	7	0	3	0	0	1	0	0	0	0	0	54
18:15	0	50	7	0	1	0	0	0	0	0	0	0	0	58
18:30	0	41	6	0	2	0	0	0	0	0	0	0	0	49
18:45	0	45	5	1	0	0	0	0	0	0	0	0	0	51
19:00	0	47	4	0	0	0	0	0	0	0	0	0	0	51
19:15	0	23	6	0	1	0	0	0	0	0	0	0	0	30
19:30	0	39	5	1	1	0	0	0	0	0	0	0	0	46
19:45	1	34	2	0	2	0	0	0	0	0	0	0	0	39
20:00	0	34	3	0	2	0	0	0	0	0	0	0	0	39
20:15	0	21	1	0	0	0	0	0	0	0	0	0	0	22
20:30	0	29	1	0	2	0	0	0	0	0	0	0	0	32
20:45	1	34	4	0	1	0	0	0	0	0	0	0	0	40
21:00	0	21	2	0	2	0	0	0	0	0	0	0	0	25
21:15	0	18	4	0	1	0	0	0	0	0	0	0	0	23
21:30	0	18	4	1	0	0	0	0	0	0	0	0	0	23
21:45	0	24	1	0	1	0	0	0	0	0	0	0	0	26
22:00	0	16	1	0	0	0	0	0	0	0	0	0	0	17
22:15	0	16	2	0	1	0	0	0	0	0	0	0	0	19
22:30	0	21	1	0	0	0	0	0	0	0	0	0	0	22
22:45	0	13	1	0	0	0	0	0	0	0	0	0	0	14
23:00	0	8	0	0	0	0	0	0	0	0	0	0	0	8
23:15	0	5	2	0	1	0	0	0	0	0	0	0	0	8
23:30	0	11	0	0	0	0	0	0	0	0	0	0	0	11
23:45	0	8	4	0	1	0	0	0	0	0	0	0	0	13
TOTAL	10	1,492	197	8	60	0	0	3	0	0	0	0	0	1,770

PM PEAK HOUR	5:30 PM
PM PEAK VOLUME	231

TOTAL: AM+PM	16	2,082	268	15	82	1	1	3	1	0	0	0	0	2,469
% OF TOTAL	0.6%	84.3%	10.9%	0.6%	3.3%	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%
Class	1	2	3	4	5	6	7	8	9	10	11	12	13	
TOTAL: ALL	16	3,284	379	30	106	4	1	4	1	0	0	0	0	3,825
% OF TOTAL	0.6%	133.0%	15.4%	1.2%	4.3%	0.2%	0.0%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%

CLASS 1	Class 1 — Motorcycles	CLASS 8	3 to 4 Axles, Single Trailer
CLASS 2	Passenger Cars	CLASS 9	5 Axles, Single Trailer
CLASS 3	2 Axles, 4-Tire Single Units	CLASS 10	6 or More Axles, Single Trailer
CLASS 4	Buses	CLASS 11	5 or Less Axles, Multi-Trailers
CLASS 5	2 Axles, 6-Tire Single Units	CLASS 12	6 Axles, Multi-Trailers
CLASS 6	3 Axles, Single Unit	CLASS 13	7 or More Axles, Multi-Trailers
CLASS 7	4 or More Axles, Single Unit		

24-HOUR ROADWAY SEGMENT COUNTS (WITH FHWA CLASSIFICATION)

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE: Wednesday, August 16, 2017
JOB #: SC1422

LOCATION#
CLASS12 Hemlock between East FMV and Nita

AM TIME	WESTBOUND 1	2	3	4	5	6	7	8	9	10	11	12	13	TOTAL
0:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
0:15	0	1	0	0	0	0	0	0	0	0	0	0	0	1
0:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0:45	0	1	0	0	0	0	0	0	0	0	0	0	0	1
1:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
1:15	0	2	0	0	0	0	0	0	0	0	0	0	0	2
1:30	0	1	0	0	0	0	0	0	0	0	0	0	0	1
1:45	0	1	0	0	0	0	0	0	0	0	0	0	0	1
2:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
2:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:45	0	2	0	0	0	0	0	0	0	0	0	0	0	2
3:00	0	1	0	0	1	0	0	0	0	0	0	0	0	2
3:15	0	1	1	0	0	0	0	0	0	0	0	0	0	2
3:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:45	0	3	0	0	0	0	0	0	0	0	0	0	0	3
4:00	0	7	0	0	1	0	0	0	0	0	0	0	0	8
4:15	0	2	0	0	0	0	0	0	0	0	0	0	0	2
4:30	0	4	1	0	0	0	0	0	0	0	0	0	0	5
4:45	0	2	0	0	1	0	0	0	0	0	0	0	0	3
5:00	0	3	1	0	0	0	0	0	0	0	0	0	0	4
5:15	0	6	0	0	0	0	0	0	0	0	0	0	0	6
5:30	0	7	2	1	0	0	0	0	0	0	0	0	0	10
5:45	0	4	0	0	0	0	0	0	0	0	0	0	0	4
6:00	0	11	1	0	0	0	0	0	0	0	0	0	0	12
6:15	0	6	1	0	1	0	0	0	0	0	0	0	0	8
6:30	0	4	0	1	0	0	0	0	0	0	0	0	0	5
6:45	0	6	2	0	1	0	0	0	0	0	0	0	0	9
7:00	0	18	2	0	1	0	0	0	0	0	0	0	0	21
7:15	0	16	1	0	0	0	0	0	0	0	0	0	0	17
7:30	0	26	3	1	0	0	0	0	0	0	0	0	0	30
7:45	0	34	5	0	0	1	0	0	0	0	0	0	0	40
8:00	0	38	3	0	1	0	0	0	0	0	0	0	0	42
8:15	0	38	2	0	0	0	0	0	0	0	0	0	0	40
8:30	0	24	2	1	1	0	0	0	0	0	0	0	0	28
8:45	0	18	3	0	2	0	0	0	0	0	0	0	0	23
9:00	0	14	0	0	0	0	0	0	0	0	0	0	0	14
9:15	0	24	2	0	0	0	0	0	0	0	0	0	0	26
9:30	0	14	3	1	1	0	0	0	0	0	0	0	0	19
9:45	0	12	2	0	0	0	0	0	0	0	0	0	0	14
10:00	0	12	2	0	2	0	0	0	0	0	0	0	0	16
10:15	0	6	2	0	0	0	0	0	0	0	0	0	0	8
10:30	0	8	3	0	0	0	0	0	0	0	0	0	0	11
10:45	0	15	1	1	1	0	0	0	0	0	0	0	0	18
11:00	0	16	3	0	1	1	0	0	0	0	0	0	0	21
11:15	0	15	1	0	0	0	0	0	0	0	0	0	0	16
11:30	0	14	2	0	0	0	0	0	0	0	0	0	0	16
11:45	0	15	2	1	0	0	0	0	0	0	0	0	0	18
TOTAL	0	455	53	7	15	2	0	0	0	0	0	0	0	532

AM PEAK HOUR	7:30 AM
AM PEAK VOLUME	152

PM Time	WESTBOUND 1	2	3	4	5	6	7	8	9	10	11	12	13	TOTAL
12:00	0	12	2	0	1	0	0	0	0	0	0	0	0	15
12:15	0	12	1	0	0	0	0	0	0	0	0	0	0	13
12:30	0	8	0	0	0	0	0	0	0	0	0	0	0	8
12:45	0	9	1	0	1	0	0	0	0	0	0	0	0	11
13:00	0	18	1	1	0	0	0	0	0	0	0	0	0	20
13:15	0	14	1	0	0	0	0	0	0	0	0	0	0	15
13:30	0	18	3	0	0	0	0	0	0	0	0	0	0	21
13:45	0	15	3	0	0	0	0	0	0	0	0	0	0	18
14:00	0	10	2	0	0	0	0	0	0	0	0	0	0	12
14:15	0	14	1	1	1	1	0	0	0	0	0	0	0	18
14:30	0	6	0	0	0	0	0	0	0	0	0	0	0	6
14:45	0	8	2	0	0	0	0	0	0	0	0	0	0	10
15:00	0	10	3	0	0	0	0	0	0	0	0	0	0	13
15:15	0	8	0	1	0	0	0	0	0	0	0	0	0	9
15:30	0	15	3	1	1	0	0	0	0	0	0	0	0	20
15:45	0	13	1	0	0	0	0	0	0	0	0	0	0	14
16:00	0	28	1	0	0	0	0	0	0	0	0	0	0	29
16:15	0	35	0	0	0	0	0	0	0	0	0	0	0	35
16:30	0	37	0	0	1	0	0	0	0	0	0	0	0	38
16:45	0	38	2	0	0	0	0	0	0	0	0	0	0	40
17:00	0	48	3	0	0	0	0	0	0	0	0	0	0	51
17:15	0	36	3	0	0	0	0	0	0	0	0	0	0	39
17:30	0	25	4	0	0	0	0	0	0	0	0	0	0	29
17:45	0	29	1	1	0	0	0	0	0	0	0	0	0	31
18:00	0	13	2	0	0	0	0	0	0	0	0	0	0	15
18:15	0	9	0	0	0	0	0	0	0	0	0	0	0	9
18:30	0	13	2	0	0	0	0	0	0	0	0	0	0	15
18:45	0	9	1	1	0	0	0	0	0	0	0	0	0	11
19:00	0	16	1	0	0	0	0	0	0	0	0	0	0	17
19:15	0	10	2	0	0	0	0	0	0	0	0	0	0	12
19:30	0	10	1	0	0	0	0	0	0	0	0	0	0	11
19:45	0	14	0	1	1	0	0	0	0	0	0	0	0	16
20:00	0	10	0	0	0	0	0	0	0	0	0	0	0	10
20:15	0	21	1	0	0	0	0	1	0	0	0	0	0	23
20:30	0	13	0	0	0	0	0	0	0	0	0	0	0	13
20:45	0	15	2	1	1	0	0	0	0	0	0	0	0	19
21:00	0	9	0	0	0	0	0	0	0	0	0	0	0	9
21:15	0	18	1	0	1	0	0	0	0	0	0	0	0	20
21:30	0	22	1	0	0	0	0	0	0	0	0	0	0	23
21:45	0	14	1	0	0	0	0	0	0	0	0	0	0	15
22:00	0	10	0	0	0	0	0	0	0	0	0	0	0	10
22:15	0	11	1	0	0	0	0	0	0	0	0	0	0	12
22:30	0	9	2	0	0	0	0	0	0	0	0	0	0	11
22:45	0	9	1	0	0	0	0	0	0	0	0	0	0	10
23:00	0	14	0	0	1	0	0	0	0	0	0	0	0	15
23:15	0	3	1	0	0	0	0	0	0	0	0	0	0	4
23:30	0	5	0	0	0	0	0	0	0	0	0	0	0	5
23:45	0	4	0	0	0	0	0	0	0	0	0	0	0	4
TOTAL	0	747	58	8	9	1	0	1	0	0	0	0	0	824

PM PEAK HOUR	4:30 PM
PM PEAK VOLUME	168

CLASS 1	Class 1 — Motorcycles	CLASS 8	3 to 4 Axles, Single Trailer
CLASS 2	Passenger Cars	CLASS 9	5 Axles, Single Trailer
CLASS 3	2 Axles, 4-Tire Single Units	CLASS 10	6 or More Axles, Single Trailer
CLASS 4	Buses	CLASS 11	5 or Less Axles, Multi-Trailers
CLASS 5	2 Axles, 6-Tire Single Units	CLASS 12	6 Axles, Multi-Trailers
CLASS 6	3 Axles, Single Unit	CLASS 13	7 or More Axles, Multi-Trailers
CLASS 7	4 or More Axles, Single Unit		

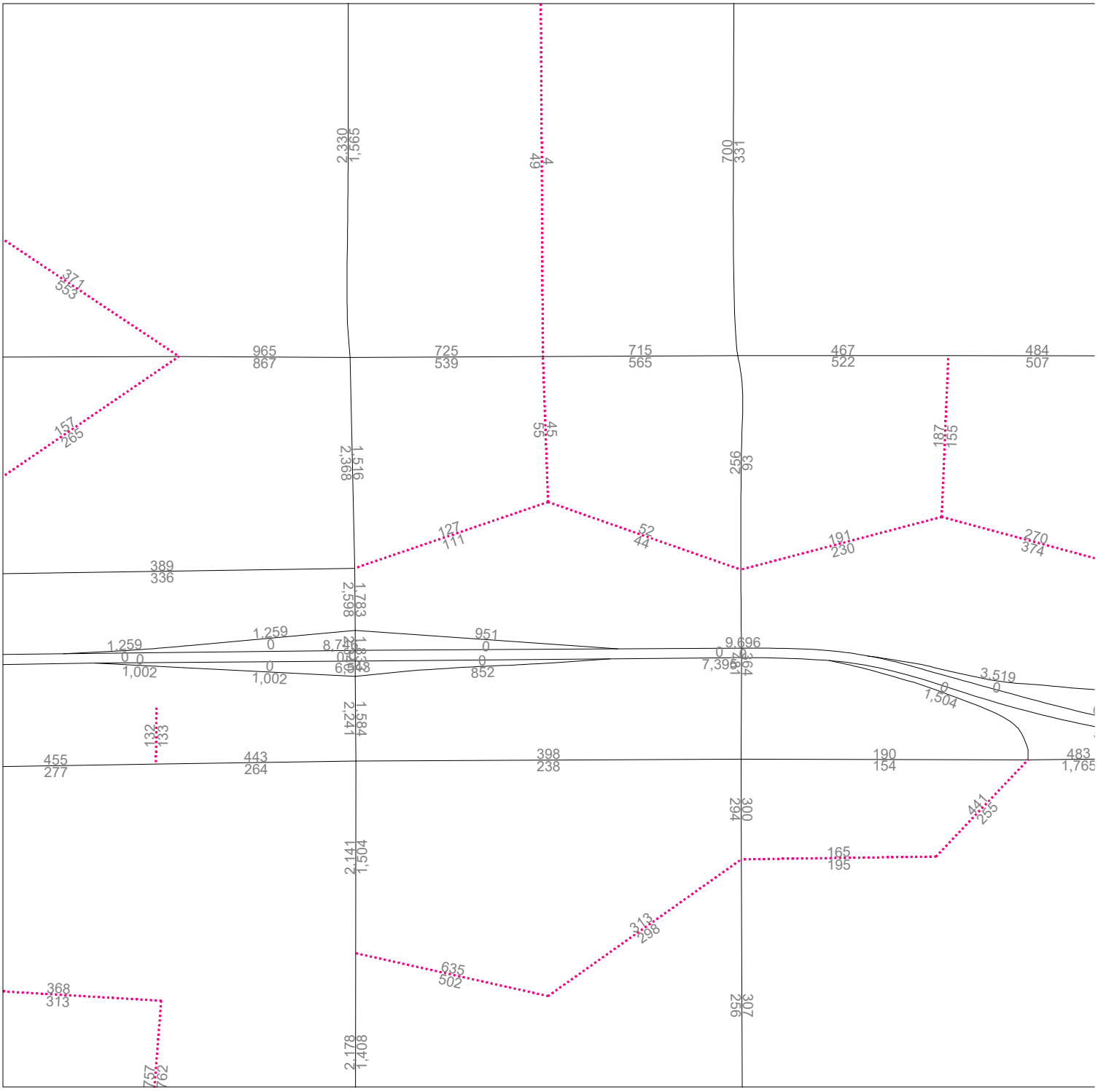
	1	2	3	4	5	6	7	8	9	10	11	12	13	
TOTAL: AM+PM	0	1,202	111	15	24	3	0	1	0	0	0	0	0	1,356
% OF TOTAL	0.0%	88.6%	8.2%	1.1%	1.8%	0.2%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%
Class	1	2	3	4	5	6	7	8	9	10	11	12	13	

Appendix C: LOS Worksheets

Appendix D: City Approved/Pending Projects List

Project	Address	APN
1. Moreno Valley Plaza (Shopping Center)	23607 Sunnymead Blvd 23935 Sunnymead Blvd	292100016
2. Olivewood Plaza (Office)	23288 Olivewood Plaza Dr.	
3. Riverside County Office Building (Office)	12625 Heacock St., 92553	
4. Sleep Inn & Suites (Hotel)	n/a	292241003
5. Econo Lodge (Hotel)	24412 Sunnymead, 92553	
6. Holiday Inn Express (Hotel)	24630 Sunnymead, 92553	
7. Best Western Hotel and Suites (Hotel)	24840 Elder Ave, 92557	
8. Tract 32710 (Single Family Residential)	n/a	475182043
9. Tract 32126 (Single Family Residential)	n/a	475060001
10. Tract 36761 (Single Family Residential)	n/a	475250067
11. Tract 31621 (Single Family Residential)	n/a	475220060
12. Tract 35956 (Single Family Residential)	TRACT NOT ON FILE	
13. PA14-0027 (Multi-Family Apartments)	23778 Hemlock Ave, 92557	292181001
14. Tract 31814 (Multi-Family Condos)	n/a	479050010
15. Tract 33771 (Multi-Family Condos)	n/a	481120020
16. PEN 16-0066 (Multi-Family Apartments)	24298 Webster Ave, 92553	
17. Tract 35663 (Multi-Family Condos)	n/a	481140024
18. Tract 35769 (Multi-Family Condos)	n/a	481270053
19. PA09-0006 (Multi-Family Apartments)	n/a	482020058

Appendix E:Transportation Analysis Model Outputs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157
265
45
55
2,368
1,516
259
93
187
155
127
111
52
44
191
230
270
374
389
336
2,598
1,783
1,259
0
1,259
951
0
9,696
0
8,746
0
7,396
3,519
0
1,504
1,002
1,002
852
2,241
1,584
132
133
455
277
443
264
398
238
190
154
483
1,765
300
294
441
255
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307
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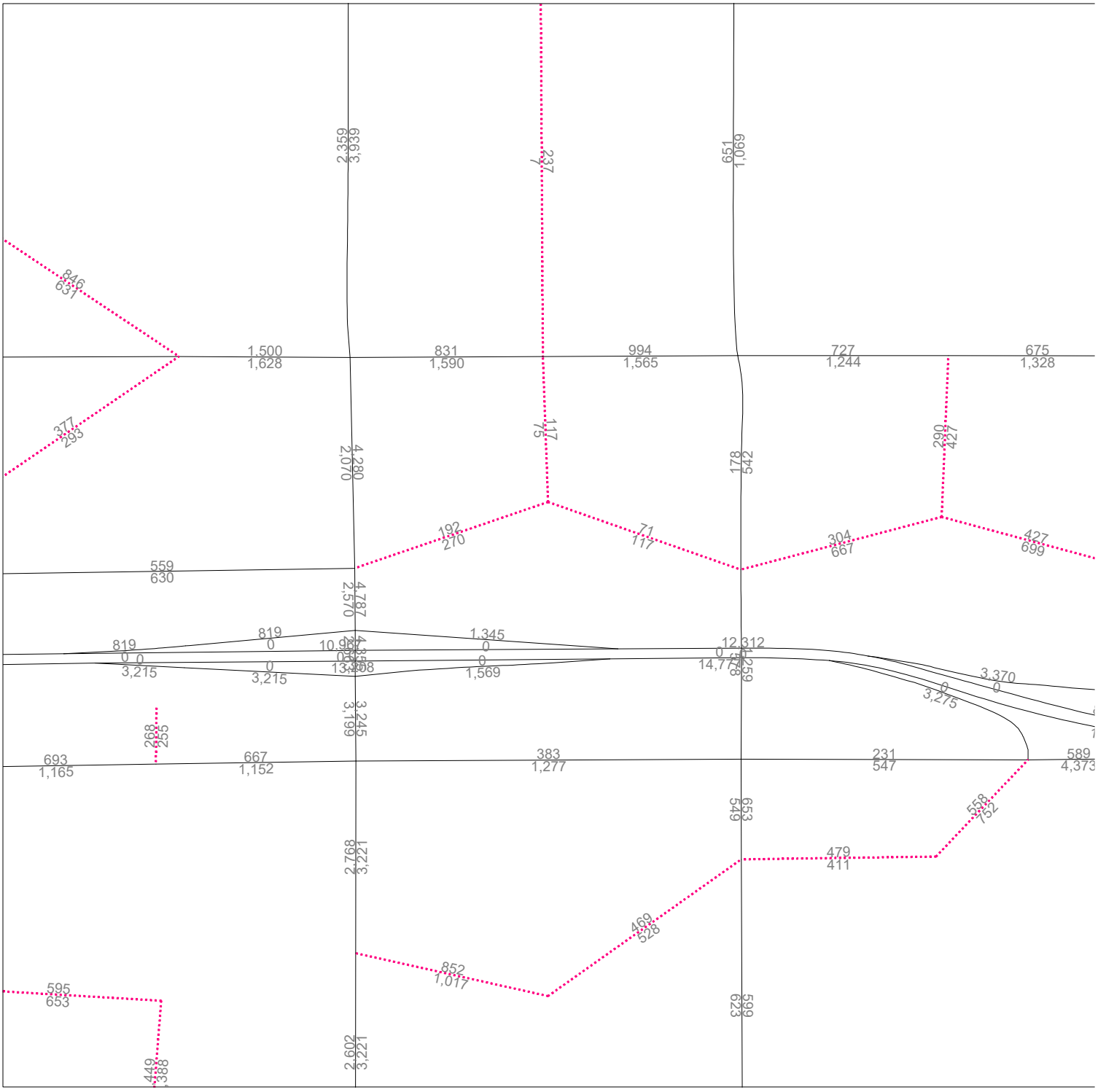
1,408
757
762

2007 AM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12,312
14,772
3,370
3,275
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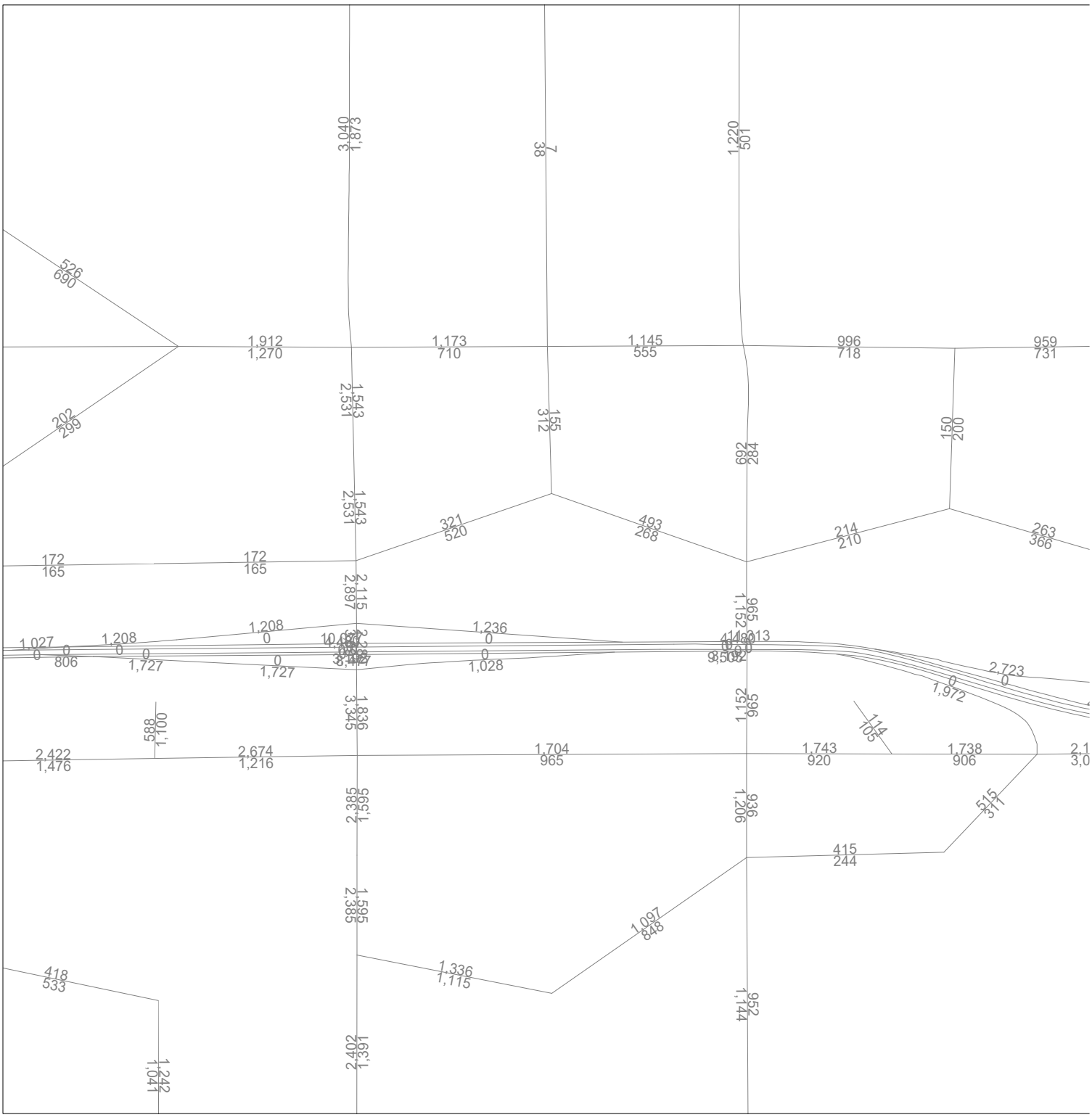
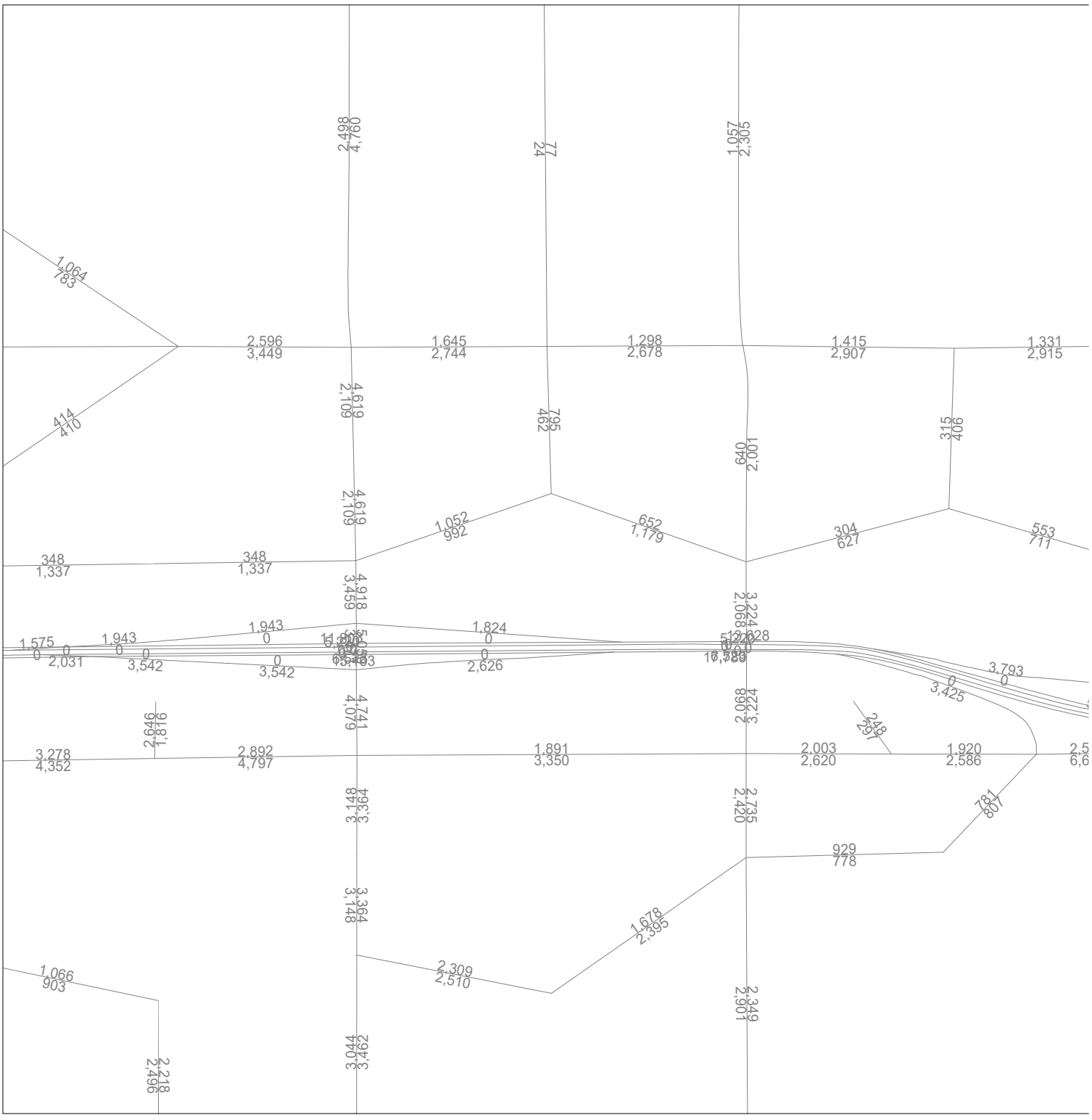
411
2007 PM



2035 AM



2035 PM

Synchro LOS Reports

Existing

HCM 2010 Signalized Intersection Summary
1: Heacock St & Ironwood Ave

Festival at Moreno Valley Mixed Use
Existing (2017) With Project Weekday AM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	133	279	125	161	534	43	107	431	92	52	555	263
Future Volume (veh/h)	133	279	125	161	534	43	107	431	92	52	555	263
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	141	297	133	171	568	46	114	459	98	55	590	280
Adj No. of Lanes	1	2	1	1	2	0	1	2	1	1	2	1
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	177	792	354	210	802	65	146	1323	779	109	1249	717
Arrive On Green	0.10	0.22	0.22	0.12	0.24	0.24	0.08	0.37	0.37	0.06	0.35	0.35
Sat Flow, veh/h	1774	3539	1583	1774	3317	268	1774	3539	1583	1774	3539	1583
Grp Volume(v), veh/h	141	297	133	171	303	311	114	459	98	55	590	280
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	1770	1815	1774	1770	1583	1774	1770	1583
Q Serve(g_s), s	6.3	5.7	5.7	7.6	12.6	12.7	5.1	7.5	2.7	2.4	10.5	9.5
Cycle Q Clear(g_c), s	6.3	5.7	5.7	7.6	12.6	12.7	5.1	7.5	2.7	2.4	10.5	9.5
Prop In Lane	1.00		1.00	1.00		0.15	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	177	792	354	210	428	439	146	1323	779	109	1249	717
V/C Ratio(X)	0.80	0.38	0.38	0.82	0.71	0.71	0.78	0.35	0.13	0.50	0.47	0.39
Avail Cap(c_a), veh/h	297	1161	520	297	581	596	297	1323	779	297	1249	717
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	35.5	26.6	26.6	34.8	28.0	28.0	36.3	18.2	11.1	36.7	20.3	14.7
Incr Delay (d2), s/veh	7.9	0.3	0.7	11.3	2.5	2.5	8.7	0.7	0.3	3.6	1.3	1.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.4	2.8	2.6	4.4	6.4	6.6	2.9	3.8	1.2	1.3	5.3	4.5
LnGrp Delay(d),s/veh	43.4	26.9	27.2	46.0	30.5	30.5	45.0	18.9	11.4	40.3	21.6	16.3
LnGrp LOS	D	C	C	D	C	C	D	B	B	D	C	B
Approach Vol, veh/h		571			785			671			925	
Approach Delay, s/veh		31.0			33.9			22.3			21.1	
Approach LOS		C			C			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.5	34.7	14.0	22.6	11.2	33.0	12.6	24.0
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	13.5	28.5	13.5	26.5	13.5	28.5	13.5	26.5
Max Q Clear Time (g_c+I1), s	4.4	9.5	9.6	7.7	7.1	12.5	8.3	14.7
Green Ext Time (p_c), s	0.1	7.9	0.2	6.1	0.1	7.3	0.1	4.9

Intersection Summary	
HCM 2010 Ctrl Delay	26.7
HCM 2010 LOS	C

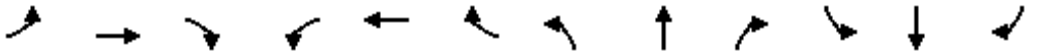
Intersection	
Int Delay, s/veh	0.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	9	620	0	0	841
Future Vol, veh/h	0	9	620	0	0	841
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	10	660	0	0	895

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1107	330	0	0	660	0
Stage 1	660	-	-	-	-	-
Stage 2	447	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	204	666	-	-	924	-
Stage 1	476	-	-	-	-	-
Stage 2	611	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	204	666	-	-	924	-
Mov Cap-2 Maneuver	335	-	-	-	-	-
Stage 1	476	-	-	-	-	-
Stage 2	611	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.5	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	666	924	-
HCM Lane V/C Ratio	-	-	0.014	-	-
HCM Control Delay (s)	-	-	10.5	0	-
HCM Lane LOS	-	-	B	A	-
HCM 95th %tile Q(veh)	-	-	0	0	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	39	61	112	57	75	18	99	602	57	18	812	41
Future Volume (veh/h)	39	61	112	57	75	18	99	602	57	18	812	41
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	40	63	115	59	77	19	102	621	59	19	837	42
Adj No. of Lanes	1	1	0	1	1	1	1	2	1	1	2	1
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	97	90	164	123	309	263	157	1701	761	55	1498	670
Arrive On Green	0.05	0.15	0.15	0.07	0.17	0.17	0.09	0.48	0.48	0.03	0.42	0.42
Sat Flow, veh/h	1774	592	1080	1774	1863	1583	1774	3539	1583	1774	3539	1583
Grp Volume(v), veh/h	40	0	178	59	77	19	102	621	59	19	837	42
Grp Sat Flow(s),veh/h/ln	1774	0	1672	1774	1863	1583	1774	1770	1583	1774	1770	1583
Q Serve(g_s), s	1.5	0.0	6.8	2.2	2.4	0.7	3.7	7.4	1.4	0.7	12.0	1.1
Cycle Q Clear(g_c), s	1.5	0.0	6.8	2.2	2.4	0.7	3.7	7.4	1.4	0.7	12.0	1.1
Prop In Lane	1.00		0.65	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	97	0	253	123	309	263	157	1701	761	55	1498	670
V/C Ratio(X)	0.41	0.00	0.70	0.48	0.25	0.07	0.65	0.36	0.08	0.34	0.56	0.06
Avail Cap(c_a), veh/h	356	0	658	356	733	623	356	1701	761	356	1498	670
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	30.8	0.0	27.1	30.2	24.4	23.7	29.7	11.0	9.4	31.9	14.7	11.5
Incr Delay (d2), s/veh	2.8	0.0	3.5	2.9	0.4	0.1	4.5	0.6	0.2	3.7	1.5	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	0.0	3.4	1.1	1.3	0.3	2.0	3.8	0.6	0.4	6.1	0.5
LnGrp Delay(d),s/veh	33.5	0.0	30.7	33.0	24.8	23.8	34.1	11.6	9.6	35.6	16.2	11.7
LnGrp LOS	C		C	C	C	C	C	B	A	D	B	B
Approach Vol, veh/h		218			155			782			898	
Approach Delay, s/veh		31.2			27.8			14.4			16.4	
Approach LOS		C			C			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	6.6	36.9	9.2	14.7	10.5	33.0	8.2	15.7
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	13.5	28.5	13.5	26.5	13.5	28.5	13.5	26.5
Max Q Clear Time (g_c+I1), s	2.7	9.4	4.2	8.8	5.7	14.0	3.5	4.4
Green Ext Time (p_c), s	0.0	10.1	0.1	1.4	0.1	8.5	0.0	1.5

Intersection Summary	
HCM 2010 Ctrl Delay	18.1
HCM 2010 LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	257	4	151	267	606	0	0	718	266
Future Volume (veh/h)	0	0	0	257	4	151	267	606	0	0	718	266
Number				3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln				1900	1863	1863	1863	1863	0	0	1863	1900
Adj Flow Rate, veh/h				268	4	157	278	631	0	0	748	277
Adj No. of Lanes				0	1	1	1	2	0	0	2	0
Peak Hour Factor				0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %				2	2	2	2	2	0	0	2	2
Cap, veh/h				342	5	309	322	2460	0	0	1161	430
Arrive On Green				0.20	0.20	0.20	0.18	0.70	0.00	0.00	0.46	0.46
Sat Flow, veh/h				1749	26	1583	1774	3632	0	0	2623	937
Grp Volume(v), veh/h				272	0	157	278	631	0	0	523	502
Grp Sat Flow(s),veh/h/ln				1775	0	1583	1774	1770	0	0	1770	1697
Q Serve(g_s), s				12.0	0.0	7.3	12.5	5.4	0.0	0.0	18.7	18.7
Cycle Q Clear(g_c), s				12.0	0.0	7.3	12.5	5.4	0.0	0.0	18.7	18.7
Prop In Lane				0.99		1.00	1.00		0.00	0.00		0.55
Lane Grp Cap(c), veh/h				347	0	309	322	2460	0	0	812	779
V/C Ratio(X)				0.78	0.00	0.51	0.86	0.26	0.00	0.00	0.64	0.64
Avail Cap(c_a), veh/h				733	0	653	451	2460	0	0	812	779
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				31.4	0.0	29.5	32.6	4.6	0.0	0.0	17.1	17.1
Incr Delay (d2), s/veh				3.9	0.0	1.3	11.8	0.3	0.0	0.0	3.9	4.1
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				6.2	0.0	3.3	7.2	2.7	0.0	0.0	9.9	9.5
LnGrp Delay(d),s/veh				35.3	0.0	30.8	44.4	4.9	0.0	0.0	21.0	21.2
LnGrp LOS				D		C	D	A			C	C
Approach Vol, veh/h					429			909			1025	
Approach Delay, s/veh					33.7			17.0			21.1	
Approach LOS					C			B			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2			5	6		8
Phs Duration (G+Y+Rc), s		61.6			19.4	42.2		20.6
Change Period (Y+Rc), s		4.5			4.5	4.5		4.5
Max Green Setting (Gmax), s		57.1			20.9	31.7		33.9
Max Q Clear Time (g_c+I1), s		7.4			14.5	20.7		14.0
Green Ext Time (p_c), s		16.4			0.4	7.4		2.1

Intersection Summary		
HCM 2010 Ctrl Delay		21.8
HCM 2010 LOS		C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	209	4	371	0	0	0	0	656	140	150	830	0
Future Volume (veh/h)	209	4	371	0	0	0	0	656	140	150	830	0
Number	7	4	14				5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863				0	1863	1900	1863	1863	0
Adj Flow Rate, veh/h	216	0	379				0	669	143	153	847	0
Adj No. of Lanes	2	0	1				0	3	0	1	2	0
Peak Hour Factor	0.98	0.98	0.98				0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Cap, veh/h	940	0	419				0	2039	430	193	2268	0
Arrive On Green	0.26	0.00	0.26				0.00	0.48	0.48	0.11	0.64	0.00
Sat Flow, veh/h	3548	0	1583				0	4376	888	1774	3632	0
Grp Volume(v), veh/h	216	0	379				0	537	275	153	847	0
Grp Sat Flow(s),veh/h/ln	1774	0	1583				0	1695	1706	1774	1770	0
Q Serve(g_s), s	4.5	0.0	22.1				0.0	9.3	9.4	8.0	10.8	0.0
Cycle Q Clear(g_c), s	4.5	0.0	22.1				0.0	9.3	9.4	8.0	10.8	0.0
Prop In Lane	1.00		1.00				0.00		0.52	1.00		0.00
Lane Grp Cap(c), veh/h	940	0	419				0	1643	827	193	2268	0
V/C Ratio(X)	0.23	0.00	0.90				0.00	0.33	0.33	0.79	0.37	0.00
Avail Cap(c_a), veh/h	1112	0	496				0	1643	827	556	2268	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	27.4	0.0	33.9				0.0	15.1	15.1	41.4	8.1	0.0
Incr Delay (d2), s/veh	0.1	0.0	17.9				0.0	0.1	0.2	7.1	0.5	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.2	0.0	11.7				0.0	4.4	4.5	4.3	5.3	0.0
LnGrp Delay(d),s/veh	27.6	0.0	51.8				0.0	15.2	15.3	48.6	8.6	0.0
LnGrp LOS	C		D					B	B	D	A	
Approach Vol, veh/h		595						812			1000	
Approach Delay, s/veh		43.0						15.2			14.7	
Approach LOS		D						B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4		6		
Phs Duration (G+Y+Rc), s	14.9	50.7		29.8		65.6		
Change Period (Y+Rc), s	4.5	4.5		4.5		4.5		
Max Green Setting (Gmax), s	29.3	26.7		29.9		61.1		
Max Q Clear Time (g_c+I1), s	10.3	11.4		24.1		12.8		
Green Ext Time (p_c), s	0.4	9.4		1.2		16.6		

Intersection Summary	
HCM 2010 Ctrl Delay	21.9
HCM 2010 LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	135	1	0	150	0	0	0	1	0	0	0
Future Vol, veh/h	0	135	1	0	150	0	0	0	1	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	91	91	91	91	91	91	91	91	91	91	91	91
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	148	1	0	165	0	0	0	1	0	0	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	165	0	0	149	0	0	231	314	75	239	314	82
Stage 1	-	-	-	-	-	-	149	149	-	165	165	-
Stage 2	-	-	-	-	-	-	82	165	-	74	149	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	1411	-	-	1430	-	-	704	600	971	695	600	961
Stage 1	-	-	-	-	-	-	838	773	-	821	761	-
Stage 2	-	-	-	-	-	-	917	761	-	927	773	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1411	-	-	1430	-	-	704	600	971	694	600	961
Mov Cap-2 Maneuver	-	-	-	-	-	-	704	600	-	694	600	-
Stage 1	-	-	-	-	-	-	838	773	-	821	761	-
Stage 2	-	-	-	-	-	-	917	761	-	926	773	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0	8.7	0
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	971	1411	-	-	1430	-	-	-
HCM Lane V/C Ratio	0.001	-	-	-	-	-	-	-
HCM Control Delay (s)	8.7	0	-	-	0	-	-	0
HCM Lane LOS	A	A	-	-	A	-	-	A
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	-

Intersection	
Int Delay, s/veh	0.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	11	126	1	0	144	1	2	0	0	0	0	6
Future Vol, veh/h	11	126	1	0	144	1	2	0	0	0	0	6
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	180	-	-	0	-	-	-	-	-	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	86	86	86	86	86	86	86	86	86	86	86	86
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	13	147	1	0	167	1	2	0	0	0	0	7

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	169	0	0	148	0	0	341	342	74	267	341	168
Stage 1	-	-	-	-	-	-	173	173	-	168	168	-
Stage 2	-	-	-	-	-	-	168	169	-	99	173	-
Critical Hdwy	4.13	-	-	4.13	-	-	7.33	6.53	6.93	7.33	6.53	6.23
Critical Hdwy Stg 1	-	-	-	-	-	-	6.53	5.53	-	6.13	5.53	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.13	5.53	-	6.53	5.53	-
Follow-up Hdwy	2.219	-	-	2.219	-	-	3.519	4.019	3.319	3.519	4.019	3.319
Pot Cap-1 Maneuver	1407	-	-	1432	-	-	601	579	973	675	580	875
Stage 1	-	-	-	-	-	-	812	755	-	833	759	-
Stage 2	-	-	-	-	-	-	833	758	-	897	755	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1407	-	-	1432	-	-	592	574	973	670	575	875
Mov Cap-2 Maneuver	-	-	-	-	-	-	592	574	-	670	575	-
Stage 1	-	-	-	-	-	-	804	748	-	825	759	-
Stage 2	-	-	-	-	-	-	826	758	-	889	748	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.6	0	11.1	9.1
HCM LOS			B	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	592	1407	-	-	1432	-	-	-	875
HCM Lane V/C Ratio	0.004	0.009	-	-	-	-	-	-	0.008
HCM Control Delay (s)	11.1	7.6	-	-	0	-	-	0	9.1
HCM Lane LOS	B	A	-	-	A	-	-	A	A
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	-	0

Intersection	
Int Delay, s/veh	0.6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	16	110	139	4	0	5
Future Vol, veh/h	16	110	139	4	0	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	84	84	84	84	84	84
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	19	131	165	5	0	6

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	170	0	-	0	337	168
Stage 1	-	-	-	-	168	-
Stage 2	-	-	-	-	169	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1407	-	-	-	658	876
Stage 1	-	-	-	-	862	-
Stage 2	-	-	-	-	861	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1407	-	-	-	648	876
Mov Cap-2 Maneuver	-	-	-	-	686	-
Stage 1	-	-	-	-	862	-
Stage 2	-	-	-	-	848	-

Approach	EB	WB	SB
HCM Control Delay, s	1	0	9.1
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1407	-	-	-	876
HCM Lane V/C Ratio	0.014	-	-	-	0.007
HCM Control Delay (s)	7.6	0	-	-	9.1
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0

Intersection	
Int Delay, s/veh	0.6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	12	99	140	18	5	4
Future Vol, veh/h	12	99	140	18	5	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	13	110	156	20	6	4

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	176	0	-	0	303	166
Stage 1	-	-	-	-	166	-
Stage 2	-	-	-	-	137	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1400	-	-	-	689	878
Stage 1	-	-	-	-	863	-
Stage 2	-	-	-	-	890	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1400	-	-	-	682	878
Mov Cap-2 Maneuver	-	-	-	-	709	-
Stage 1	-	-	-	-	863	-
Stage 2	-	-	-	-	881	-

Approach	EB	WB	SB
HCM Control Delay, s	0.8	0	9.7
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1400	-	-	-	775
HCM Lane V/C Ratio	0.01	-	-	-	0.013
HCM Control Delay (s)	7.6	-	-	-	9.7
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	103	155	6	0	1
Future Vol, veh/h	0	103	155	6	0	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	86	86	86	86	86	86
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	120	180	7	0	1

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	-	184
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.318
Pot Cap-1 Maneuver	0	-	-	-	0	858
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	858
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	9.2
HCM LOS			A

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	858
HCM Lane V/C Ratio	-	-	-	0.001
HCM Control Delay (s)	-	-	-	9.2
HCM Lane LOS	-	-	-	A
HCM 95th %tile Q(veh)	-	-	-	0

Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	104	157	4	0	6
Future Vol, veh/h	0	104	157	4	0	6
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	87	87	87	87	87	87
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	120	180	5	0	7

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	-	183
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.318
Pot Cap-1 Maneuver	0	-	-	-	0	859
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	859
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	9.2
HCM LOS			A

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	859
HCM Lane V/C Ratio	-	-	-	0.008
HCM Control Delay (s)	-	-	-	9.2
HCM Lane LOS	-	-	-	A
HCM 95th %tile Q(veh)	-	-	-	0

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	46	395	0	0	673	158	0	0	0	129	0	79
Future Volume (veh/h)	46	395	0	0	673	158	0	0	0	129	0	79
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	0	1863	1900	1900	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	52	449	0	0	765	180	0	0	0	147	0	90
Adj No. of Lanes	1	2	0	0	2	0	0	1	0	1	1	0
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	2	2	2	0	2	2	2	2	2	2	2	2
Cap, veh/h	69	1568	0	0	1018	240	0	864	0	898	0	735
Arrive On Green	0.04	0.44	0.00	0.00	0.36	0.36	0.00	0.00	0.00	0.46	0.00	0.46
Sat Flow, veh/h	1774	3632	0	0	2938	669	0	1863	0	1774	0	1583
Grp Volume(v), veh/h	52	449	0	0	476	469	0	0	0	147	0	90
Grp Sat Flow(s),veh/h/ln	1774	1770	0	0	1770	1745	0	1863	0	1774	0	1583
Q Serve(g_s), s	2.8	7.8	0.0	0.0	22.9	22.9	0.0	0.0	0.0	4.7	0.0	3.1
Cycle Q Clear(g_c), s	2.8	7.8	0.0	0.0	22.9	22.9	0.0	0.0	0.0	4.7	0.0	3.1
Prop In Lane	1.00		0.00	0.00		0.38	0.00		0.00	1.00		1.00
Lane Grp Cap(c), veh/h	69	1568	0	0	633	624	0	864	0	898	0	735
V/C Ratio(X)	0.75	0.29	0.00	0.00	0.75	0.75	0.00	0.00	0.00	0.16	0.00	0.12
Avail Cap(c_a), veh/h	91	1679	0	0	840	828	0	864	0	898	0	735
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	0.00	1.00	1.00	0.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	46.1	17.2	0.0	0.0	27.3	27.3	0.0	0.0	0.0	15.2	0.0	14.8
Incr Delay (d2), s/veh	21.7	0.1	0.0	0.0	2.7	2.7	0.0	0.0	0.0	0.4	0.0	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.8	3.8	0.0	0.0	11.6	11.4	0.0	0.0	0.0	2.4	0.0	1.4
LnGrp Delay(d),s/veh	67.8	17.3	0.0	0.0	30.0	30.1	0.0	0.0	0.0	15.6	0.0	15.1
LnGrp LOS	E	B			C	C				B		B
Approach Vol, veh/h		501			945			0			237	
Approach Delay, s/veh		22.6			30.1			0.0			15.4	
Approach LOS		C			C						B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6	7	8
Phs Duration (G+Y+Rc), s		49.5		47.5		49.5	8.3	39.2
Change Period (Y+Rc), s		4.5		4.5		4.5	4.5	4.5
Max Green Setting (Gmax), s		45.0		46.0		45.0	5.0	46.0
Max Q Clear Time (g_c+I1), s		0.0		9.8		6.7	4.8	24.9
Green Ext Time (p_c), s		0.0		12.2		1.0	0.0	9.8

Intersection Summary	
HCM 2010 Ctrl Delay	25.8
HCM 2010 LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	32	368	124	90	619	84	120	126	56	93	144	80
Future Volume (veh/h)	32	368	124	90	619	84	120	126	56	93	144	80
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	38	438	148	107	737	100	143	150	67	111	171	95
Adj No. of Lanes	1	2	0	1	2	0	1	1	1	1	1	1
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	87	688	230	137	916	124	179	675	574	142	637	541
Arrive On Green	0.05	0.26	0.26	0.08	0.29	0.29	0.10	0.36	0.36	0.08	0.34	0.34
Sat Flow, veh/h	1774	2606	873	1774	3133	425	1774	1863	1583	1774	1863	1583
Grp Volume(v), veh/h	38	296	290	107	416	421	143	150	67	111	171	95
Grp Sat Flow(s),veh/h/ln	1774	1770	1709	1774	1770	1788	1774	1863	1583	1774	1863	1583
Q Serve(g_s), s	1.7	12.3	12.5	4.9	18.1	18.2	6.6	4.7	2.3	5.1	5.5	3.5
Cycle Q Clear(g_c), s	1.7	12.3	12.5	4.9	18.1	18.2	6.6	4.7	2.3	5.1	5.5	3.5
Prop In Lane	1.00		0.51	1.00		0.24	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	87	467	451	137	517	523	179	675	574	142	637	541
V/C Ratio(X)	0.44	0.63	0.64	0.78	0.80	0.80	0.80	0.22	0.12	0.78	0.27	0.18
Avail Cap(c_a), veh/h	287	562	543	287	562	568	287	675	574	287	637	541
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	38.5	27.1	27.2	37.8	27.3	27.3	36.7	18.4	17.7	37.6	19.9	19.2
Incr Delay (d2), s/veh	3.4	1.7	1.9	9.1	7.8	7.7	8.0	0.8	0.4	8.9	1.0	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	6.2	6.1	2.8	9.9	10.0	3.6	2.5	1.1	2.8	3.0	1.6
LnGrp Delay(d),s/veh	41.9	28.8	29.1	46.8	35.1	35.0	44.7	19.2	18.1	46.5	20.9	19.9
LnGrp LOS	D	C	C	D	D	D	D	B	B	D	C	B
Approach Vol, veh/h		624			944			360			377	
Approach Delay, s/veh		29.7			36.4			29.1			28.2	
Approach LOS		C			D			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.2	34.7	11.0	26.5	12.9	33.0	8.6	28.9
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	13.5	28.5	13.5	26.5	13.5	28.5	13.5	26.5
Max Q Clear Time (g_c+I1), s	7.1	6.7	6.9	14.5	8.6	7.5	3.7	20.2
Green Ext Time (p_c), s	0.1	2.3	0.1	6.8	0.1	2.3	0.0	4.2

Intersection Summary	
HCM 2010 Ctrl Delay	32.1
HCM 2010 LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	9	73	26	51	77	59	36	210	49	43	299	22
Future Volume (veh/h)	9	73	26	51	77	59	36	210	49	43	299	22
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	11	91	32	64	96	74	45	262	61	54	374	28
Adj No. of Lanes	1	2	0	1	1	0	1	1	0	1	1	0
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	159	233	78	234	129	99	102	638	149	170	813	61
Arrive On Green	0.09	0.09	0.09	0.13	0.13	0.13	0.06	0.44	0.44	0.10	0.47	0.47
Sat Flow, veh/h	1774	2602	876	1774	977	753	1774	1462	340	1774	1712	128
Grp Volume(v), veh/h	11	61	62	64	0	170	45	0	323	54	0	402
Grp Sat Flow(s),veh/h/ln	1774	1770	1708	1774	0	1730	1774	0	1803	1774	0	1840
Q Serve(g_s), s	0.4	2.4	2.5	2.4	0.0	6.9	1.8	0.0	9.0	2.1	0.0	10.7
Cycle Q Clear(g_c), s	0.4	2.4	2.5	2.4	0.0	6.9	1.8	0.0	9.0	2.1	0.0	10.7
Prop In Lane	1.00		0.51	1.00		0.44	1.00		0.19	1.00		0.07
Lane Grp Cap(c), veh/h	159	158	153	234	0	228	102	0	787	170	0	874
V/C Ratio(X)	0.07	0.38	0.41	0.27	0.00	0.74	0.44	0.00	0.41	0.32	0.00	0.46
Avail Cap(c_a), veh/h	488	487	470	488	0	476	172	0	787	488	0	874
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	30.5	31.4	31.4	28.6	0.0	30.5	33.3	0.0	14.1	30.8	0.0	12.9
Incr Delay (d2), s/veh	0.2	1.5	1.7	0.6	0.0	4.8	3.0	0.0	1.6	1.1	0.0	1.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	1.2	1.3	1.2	0.0	3.6	1.0	0.0	4.7	1.1	0.0	5.8
LnGrp Delay(d),s/veh	30.7	32.9	33.2	29.2	0.0	35.3	36.3	0.0	15.7	31.9	0.0	14.6
LnGrp LOS	C	C	C	C		D	D		B	C		B
Approach Vol, veh/h		134			234			368			456	
Approach Delay, s/veh		32.8			33.6			18.2			16.7	
Approach LOS		C			C			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	11.5	36.4		11.0	8.7	39.2		14.2
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5
Max Green Setting (Gmax), s	20.1	21.7		20.1	7.1	34.7		20.1
Max Q Clear Time (g_c+I1), s	14.1	11.0		4.5	3.8	12.7		8.9
Green Ext Time (p_c), s	0.1	3.4		0.5	0.0	4.7		0.8

Intersection Summary	
HCM 2010 Ctrl Delay	22.3
HCM 2010 LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	50	164	67	20	222	34	82	199	59	57	225	87
Future Volume (veh/h)	50	164	67	20	222	34	82	199	59	57	225	87
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	56	184	75	22	249	38	92	224	66	64	253	98
Adj No. of Lanes	1	2	0	1	2	0	1	1	1	1	1	1
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	120	459	180	62	469	71	152	817	750	129	793	781
Arrive On Green	0.07	0.18	0.18	0.04	0.15	0.15	0.09	0.44	0.44	0.07	0.43	0.43
Sat Flow, veh/h	1774	2484	976	1774	3085	465	1774	1863	1583	1774	1863	1583
Grp Volume(v), veh/h	56	129	130	22	141	146	92	224	66	64	253	98
Grp Sat Flow(s),veh/h/ln	1774	1770	1690	1774	1770	1781	1774	1863	1583	1774	1863	1583
Q Serve(g_s), s	2.0	4.3	4.5	0.8	4.9	5.1	3.3	5.1	1.5	2.3	6.0	2.2
Cycle Q Clear(g_c), s	2.0	4.3	4.5	0.8	4.9	5.1	3.3	5.1	1.5	2.3	6.0	2.2
Prop In Lane	1.00		0.58	1.00		0.26	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	120	327	312	62	269	271	152	817	750	129	793	781
V/C Ratio(X)	0.47	0.40	0.42	0.35	0.53	0.54	0.61	0.27	0.09	0.50	0.32	0.13
Avail Cap(c_a), veh/h	358	700	669	358	700	705	358	817	750	358	793	781
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	30.0	24.0	24.1	31.6	26.2	26.2	29.5	12.0	9.7	29.9	12.8	9.2
Incr Delay (d2), s/veh	2.8	0.8	0.9	3.4	1.6	1.7	3.8	0.8	0.2	2.9	1.1	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	2.2	2.2	0.5	2.5	2.6	1.8	2.8	0.7	1.2	3.3	1.0
LnGrp Delay(d),s/veh	32.8	24.8	25.0	34.9	27.7	27.9	33.4	12.8	9.9	32.8	13.8	9.5
LnGrp LOS	C	C	C	C	C	C	C	B	A	C	B	A
Approach Vol, veh/h		315			309			382			415	
Approach Delay, s/veh		26.3			28.3			17.3			15.7	
Approach LOS		C			C			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.4	33.9	6.9	16.9	10.2	33.0	9.0	14.7
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	13.5	28.5	13.5	26.5	13.5	28.5	13.5	26.5
Max Q Clear Time (g_c+I1), s	4.3	7.1	2.8	6.5	5.3	8.0	4.0	7.1
Green Ext Time (p_c), s	0.1	3.4	0.0	3.2	0.1	3.3	0.1	3.1

Intersection Summary	
HCM 2010 Ctrl Delay	21.2
HCM 2010 LOS	C

HCM 2010 Signalized Intersection Summary
1: Heacock St & Ironwood Ave

Festival at Moreno Valley Mixed Use
Existing (2017) Weekday PM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	227	441	120	97	312	40	157	659	185	74	517	206
Future Volume (veh/h)	227	441	120	97	312	40	157	659	185	74	517	206
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	232	450	122	99	318	41	160	672	189	76	528	210
Adj No. of Lanes	1	2	1	1	2	0	1	2	1	1	2	1
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	269	905	405	134	567	72	197	1357	727	123	1210	781
Arrive On Green	0.15	0.26	0.26	0.08	0.18	0.18	0.11	0.38	0.38	0.07	0.34	0.34
Sat Flow, veh/h	1774	3539	1583	1774	3157	404	1774	3539	1583	1774	3539	1583
Grp Volume(v), veh/h	232	450	122	99	177	182	160	672	189	76	528	210
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	1770	1792	1774	1770	1583	1774	1770	1583
Q Serve(g_s), s	10.6	9.0	5.2	4.6	7.6	7.7	7.3	12.0	6.1	3.5	9.6	6.5
Cycle Q Clear(g_c), s	10.6	9.0	5.2	4.6	7.6	7.7	7.3	12.0	6.1	3.5	9.6	6.5
Prop In Lane	1.00		1.00	1.00		0.23	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	269	905	405	134	318	321	197	1357	727	123	1210	781
V/C Ratio(X)	0.86	0.50	0.30	0.74	0.56	0.57	0.81	0.50	0.26	0.62	0.44	0.27
Avail Cap(c_a), veh/h	287	1125	503	287	563	570	287	1357	727	287	1210	781
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	34.5	26.5	25.0	37.7	31.2	31.2	36.2	19.6	13.9	37.7	21.2	12.3
Incr Delay (d2), s/veh	21.7	0.4	0.4	7.7	1.5	1.6	10.7	1.3	0.9	4.9	1.1	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.8	4.5	2.3	2.5	3.8	4.0	4.2	6.1	2.8	1.9	4.9	3.0
LnGrp Delay(d),s/veh	56.2	26.9	25.4	45.5	32.7	32.8	46.9	20.9	14.7	42.6	22.4	13.2
LnGrp LOS	E	C	C	D	C	C	D	C	B	D	C	B
Approach Vol, veh/h		804			458			1021			814	
Approach Delay, s/veh		35.1			35.5			23.8			21.9	
Approach LOS		D			D			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.3	36.5	10.8	25.8	13.8	33.0	17.1	19.5
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	13.5	28.5	13.5	26.5	13.5	28.5	13.5	26.5
Max Q Clear Time (g_c+I1), s	5.5	14.0	6.6	11.0	9.3	11.6	12.6	9.7
Green Ext Time (p_c), s	0.1	7.8	0.1	5.0	0.1	8.5	0.1	5.2

Intersection Summary	
HCM 2010 Ctrl Delay	28.0
HCM 2010 LOS	C

Intersection	
Int Delay, s/veh	0

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	0	1001	0	0	733
Future Vol, veh/h	0	0	1001	0	0	733
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	98	98	98	98	98	98
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	1021	0	0	748

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1320	511	0	0	1021	0
Stage 1	1021	-	-	-	-	-
Stage 2	299	-	-	-	-	-
Critical Hdwy	6.29	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	6.04	-	-	-	-	-
Follow-up Hdwy	3.67	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	178	508	-	-	675	-
Stage 1	301	-	-	-	-	-
Stage 2	689	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	178	508	-	-	675	-
Mov Cap-2 Maneuver	178	-	-	-	-	-
Stage 1	301	-	-	-	-	-
Stage 2	689	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	0	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	-	675	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	-	-	0	0	-
HCM Lane LOS	-	-	A	A	-
HCM 95th %tile Q(veh)	-	-	-	0	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	56	89	159	82	75	30	132	966	109	24	696	44
Future Volume (veh/h)	56	89	159	82	75	30	132	966	109	24	696	44
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	57	90	161	83	76	30	133	976	110	24	703	44
Adj No. of Lanes	1	1	0	1	1	1	1	2	1	1	2	1
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	116	116	208	138	383	326	170	1582	708	65	1373	614
Arrive On Green	0.07	0.19	0.19	0.08	0.21	0.21	0.10	0.45	0.45	0.04	0.39	0.39
Sat Flow, veh/h	1774	600	1073	1774	1863	1583	1774	3539	1583	1774	3539	1583
Grp Volume(v), veh/h	57	0	251	83	76	30	133	976	110	24	703	44
Grp Sat Flow(s),veh/h/ln	1774	0	1673	1774	1863	1583	1774	1770	1583	1774	1770	1583
Q Serve(g_s), s	2.3	0.0	10.5	3.3	2.5	1.1	5.4	15.5	3.0	1.0	11.1	1.3
Cycle Q Clear(g_c), s	2.3	0.0	10.5	3.3	2.5	1.1	5.4	15.5	3.0	1.0	11.1	1.3
Prop In Lane	1.00		0.64	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	116	0	324	138	383	326	170	1582	708	65	1373	614
V/C Ratio(X)	0.49	0.00	0.78	0.60	0.20	0.09	0.78	0.62	0.16	0.37	0.51	0.07
Avail Cap(c_a), veh/h	326	0	604	326	672	571	326	1582	708	326	1373	614
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	33.1	0.0	28.1	32.8	24.2	23.6	32.5	15.5	12.1	34.5	17.2	14.1
Incr Delay (d2), s/veh	3.2	0.0	4.0	4.2	0.3	0.1	7.7	1.8	0.5	3.4	1.4	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	0.0	5.2	1.8	1.3	0.5	3.0	7.9	1.4	0.5	5.6	0.6
LnGrp Delay(d),s/veh	36.3	0.0	32.1	36.9	24.4	23.7	40.1	17.3	12.5	37.9	18.5	14.4
LnGrp LOS	D		C	D	C	C	D	B	B	D	B	B
Approach Vol, veh/h		308			189			1219			771	
Approach Delay, s/veh		32.9			29.8			19.4			18.9	
Approach LOS		C			C			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.2	37.3	10.2	18.7	11.5	33.0	9.3	19.6
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	13.5	28.5	13.5	26.5	13.5	28.5	13.5	26.5
Max Q Clear Time (g_c+I1), s	3.0	17.5	5.3	12.5	7.4	13.1	4.3	4.5
Green Ext Time (p_c), s	0.0	7.9	0.1	1.7	0.1	10.1	0.1	2.1

Intersection Summary	
HCM 2010 Ctrl Delay	21.7
HCM 2010 LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	197	4	154	342	1061	0	0	709	232
Future Volume (veh/h)	0	0	0	197	4	154	342	1061	0	0	709	232
Number				3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln				1900	1863	1863	1863	1863	0	0	1863	1900
Adj Flow Rate, veh/h				205	4	160	356	1105	0	0	739	242
Adj No. of Lanes				0	1	1	1	2	0	0	2	0
Peak Hour Factor				0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %				2	2	2	2	2	0	0	2	2
Cap, veh/h				278	5	253	399	2569	0	0	1163	381
Arrive On Green				0.16	0.16	0.16	0.23	0.73	0.00	0.00	0.44	0.44
Sat Flow, veh/h				1742	34	1583	1774	3632	0	0	2715	859
Grp Volume(v), veh/h				209	0	160	356	1105	0	0	499	482
Grp Sat Flow(s),veh/h/ln				1776	0	1583	1774	1770	0	0	1770	1711
Q Serve(g_s), s				8.8	0.0	7.4	15.3	9.8	0.0	0.0	17.2	17.2
Cycle Q Clear(g_c), s				8.8	0.0	7.4	15.3	9.8	0.0	0.0	17.2	17.2
Prop In Lane				0.98		1.00	1.00		0.00	0.00		0.50
Lane Grp Cap(c), veh/h				284	0	253	399	2569	0	0	785	759
V/C Ratio(X)				0.74	0.00	0.63	0.89	0.43	0.00	0.00	0.64	0.64
Avail Cap(c_a), veh/h				765	0	682	471	2569	0	0	785	759
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				31.5	0.0	30.9	29.6	4.3	0.0	0.0	17.0	17.0
Incr Delay (d2), s/veh				3.7	0.0	2.6	17.0	0.5	0.0	0.0	3.9	4.0
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				4.6	0.0	3.4	9.4	4.8	0.0	0.0	9.2	8.9
LnGrp Delay(d),s/veh				35.2	0.0	33.5	46.5	4.8	0.0	0.0	20.9	21.0
LnGrp LOS				D		C	D	A			C	C
Approach Vol, veh/h					369			1461			981	
Approach Delay, s/veh					34.5			15.0			20.9	
Approach LOS					C			B			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2			5	6		8
Phs Duration (G+Y+Rc), s		61.6			22.2	39.4		17.1
Change Period (Y+Rc), s		4.5			4.5	4.5		4.5
Max Green Setting (Gmax), s		57.1			20.9	31.7		33.9
Max Q Clear Time (g_c+I1), s		11.8			17.3	19.2		10.8
Green Ext Time (p_c), s		23.0			0.4	9.7		1.8

Intersection Summary		
HCM 2010 Ctrl Delay		19.6
HCM 2010 LOS		B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	472	3	334	0	0	0	0	941	252	161	751	0
Future Volume (veh/h)	472	3	334	0	0	0	0	941	252	161	751	0
Number	7	4	14				5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863				0	1863	1900	1863	1863	0
Adj Flow Rate, veh/h	494	0	348				0	980	262	168	782	0
Adj No. of Lanes	2	0	1				0	3	0	1	2	0
Peak Hour Factor	0.96	0.96	0.96				0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Cap, veh/h	903	0	403				0	1936	516	209	2300	0
Arrive On Green	0.25	0.00	0.25				0.00	0.48	0.48	0.12	0.65	0.00
Sat Flow, veh/h	3548	0	1583				0	4166	1067	1774	3632	0
Grp Volume(v), veh/h	494	0	348				0	831	411	168	782	0
Grp Sat Flow(s),veh/h/ln	1774	0	1583				0	1695	1674	1774	1770	0
Q Serve(g_s), s	11.3	0.0	19.7				0.0	15.7	15.8	8.7	9.3	0.0
Cycle Q Clear(g_c), s	11.3	0.0	19.7				0.0	15.7	15.8	8.7	9.3	0.0
Prop In Lane	1.00		1.00				0.00		0.64	1.00		0.00
Lane Grp Cap(c), veh/h	903	0	403				0	1641	811	209	2300	0
V/C Ratio(X)	0.55	0.00	0.86				0.00	0.51	0.51	0.80	0.34	0.00
Avail Cap(c_a), veh/h	1128	0	504				0	1641	811	564	2300	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	30.4	0.0	33.5				0.0	16.6	16.6	40.4	7.4	0.0
Incr Delay (d2), s/veh	0.5	0.0	12.2				0.0	0.3	0.5	7.0	0.4	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.6	0.0	10.0				0.0	7.4	7.4	4.7	4.7	0.0
LnGrp Delay(d),s/veh	30.9	0.0	45.7				0.0	16.8	17.1	47.4	7.8	0.0
LnGrp LOS	C		D					B	B	D	A	
Approach Vol, veh/h		842						1242			950	
Approach Delay, s/veh		37.0						16.9			14.8	
Approach LOS		D						B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4		6		
Phs Duration (G+Y+Rc), s	15.6	50.0		28.4		65.6		
Change Period (Y+Rc), s	4.5	4.5		4.5		4.5		
Max Green Setting (Gmax), s	29.9	26.7		29.9		61.1		
Max Q Clear Time (g_c+I1), s	10.7	17.8		21.7		11.3		
Green Ext Time (p_c), s	0.4	7.1		2.2		22.8		

Intersection Summary	
HCM 2010 Ctrl Delay	21.8
HCM 2010 LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

Intersection	
Int Delay, s/veh	0.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑			↑			↕			↕	
Traffic Vol, veh/h	0	231	17	0	193	0	0	0	22	0	0	0
Future Vol, veh/h	0	231	17	0	193	0	0	0	22	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	94	94	94	94	94	94	94	94	94	94	94	94
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	246	18	0	205	0	0	0	23	0	0	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	-	0	0	-	-	0	460	460	132	303	469	205
Stage 1	-	-	-	-	-	-	255	255	-	205	205	-
Stage 2	-	-	-	-	-	-	205	205	-	98	264	-
Critical Hdwy	-	-	-	-	-	-	6.78	6.53	7.13	6.78	6.53	6.23
Critical Hdwy Stg 1	-	-	-	-	-	-	7.33	5.53	-	6.13	5.53	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.13	5.53	-	6.73	5.53	-
Follow-up Hdwy	-	-	-	-	-	-	3.669	4.019	3.919	3.669	4.019	3.319
Pot Cap-1 Maneuver	0	-	-	0	-	0	517	497	759	645	491	835
Stage 1	0	-	-	0	-	0	663	696	-	767	731	-
Stage 2	0	-	-	0	-	0	767	731	-	858	689	-
Platoon blocked, %		-	-		-							
Mov Cap-1 Maneuver	-	-	-	-	-	-	517	497	759	625	491	835
Mov Cap-2 Maneuver	-	-	-	-	-	-	517	497	-	625	491	-
Stage 1	-	-	-	-	-	-	663	696	-	767	731	-
Stage 2	-	-	-	-	-	-	767	731	-	832	689	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0	9.9	0
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT	SBLn1
Capacity (veh/h)	759	-	-	-	-
HCM Lane V/C Ratio	0.031	-	-	-	-
HCM Control Delay (s)	9.9	-	-	-	0
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0.1	-	-	-	-

Intersection	
Int Delay, s/veh	1.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	45	208	4	4	147	5	2	2	0	7	0	35
Future Vol, veh/h	45	208	4	4	147	5	2	2	0	7	0	35
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	180	-	-	0	-	-	-	-	-	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	88	88	88	88	88	88	88	88	88	88	88	88
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	51	236	5	5	167	6	2	2	0	8	0	40

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	173	0	0	241	0	0	520	523	120	401	522	170
Stage 1	-	-	-	-	-	-	341	341	-	179	179	-
Stage 2	-	-	-	-	-	-	179	182	-	222	343	-
Critical Hdwy	4.13	-	-	4.13	-	-	7.33	6.53	6.93	7.33	6.53	6.23
Critical Hdwy Stg 1	-	-	-	-	-	-	6.53	5.53	-	6.13	5.53	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.13	5.53	-	6.53	5.53	-
Follow-up Hdwy	2.219	-	-	2.219	-	-	3.519	4.019	3.319	3.519	4.019	3.319
Pot Cap-1 Maneuver	1402	-	-	1324	-	-	453	458	909	547	459	873
Stage 1	-	-	-	-	-	-	648	638	-	822	751	-
Stage 2	-	-	-	-	-	-	822	748	-	761	637	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1402	-	-	1324	-	-	419	440	909	528	441	873
Mov Cap-2 Maneuver	-	-	-	-	-	-	419	440	-	528	441	-
Stage 1	-	-	-	-	-	-	624	615	-	792	748	-
Stage 2	-	-	-	-	-	-	782	745	-	731	614	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.3	0.2	13.5	9.7
HCM LOS			B	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	429	1402	-	-	1324	-	-	528	873
HCM Lane V/C Ratio	0.011	0.036	-	-	0.003	-	-	0.015	0.046
HCM Control Delay (s)	13.5	7.7	-	-	7.7	-	-	11.9	9.3
HCM Lane LOS	B	A	-	-	A	-	-	B	A
HCM 95th %tile Q(veh)	0	0.1	-	-	0	-	-	0	0.1

Intersection	
Int Delay, s/veh	0.7

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	11	206	147	7	10	10
Future Vol, veh/h	11	206	147	7	10	10
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	12	226	162	8	11	11

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	169	0	-	0	416	165
Stage 1	-	-	-	-	165	-
Stage 2	-	-	-	-	251	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1409	-	-	-	593	879
Stage 1	-	-	-	-	864	-
Stage 2	-	-	-	-	791	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1409	-	-	-	587	879
Mov Cap-2 Maneuver	-	-	-	-	641	-
Stage 1	-	-	-	-	864	-
Stage 2	-	-	-	-	783	-

Approach	EB	WB	SB
HCM Control Delay, s	0.4	0	10
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1409	-	-	-	741
HCM Lane V/C Ratio	0.009	-	-	-	0.03
HCM Control Delay (s)	7.6	0	-	-	10
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.1

Intersection	
Int Delay, s/veh	1.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑	↱		⋔	
Traffic Vol, veh/h	14	199	140	9	25	16
Future Vol, veh/h	14	199	140	9	25	16
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	15	219	154	10	27	18

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	164	0	-	0	408	159
Stage 1	-	-	-	-	159	-
Stage 2	-	-	-	-	249	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1414	-	-	-	599	886
Stage 1	-	-	-	-	870	-
Stage 2	-	-	-	-	792	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1414	-	-	-	592	886
Mov Cap-2 Maneuver	-	-	-	-	643	-
Stage 1	-	-	-	-	870	-
Stage 2	-	-	-	-	782	-

Approach	EB	WB	SB
HCM Control Delay, s	0.5	0	10.3
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1414	-	-	-	720
HCM Lane V/C Ratio	0.011	-	-	-	0.063
HCM Control Delay (s)	7.6	-	-	-	10.3
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.2

Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	1	224	142	20	0	7
Future Vol, veh/h	1	224	142	20	0	7
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1	241	153	22	0	8

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	174	0	-	0	-	163
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	4.12	-	-	-	-	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	2.218	-	-	-	-	3.318
Pot Cap-1 Maneuver	1403	-	-	-	0	882
Stage 1	-	-	-	-	0	-
Stage 2	-	-	-	-	0	-
Platoon blocked, %			-	-	-	
Mov Cap-1 Maneuver	1403	-	-	-	-	882
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	9.1
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1403	-	-	-	882
HCM Lane V/C Ratio	0.001	-	-	-	0.009
HCM Control Delay (s)	7.6	-	-	-	9.1
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0

Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	224	153	8	0	9
Future Vol, veh/h	0	224	153	8	0	9
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	238	163	9	0	10

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	-	167
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.318
Pot Cap-1 Maneuver	0	-	-	-	0	877
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	877
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	9.2
HCM LOS			A

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	877
HCM Lane V/C Ratio	-	-	-	0.011
HCM Control Delay (s)	-	-	-	9.2
HCM Lane LOS	-	-	-	A
HCM 95th %tile Q(veh)	-	-	-	0

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	85	611	0	0	388	48	0	0	0	65	0	47
Future Volume (veh/h)	85	611	0	0	388	48	0	0	0	65	0	47
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	0	1863	1900	1900	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	98	702	0	0	446	55	0	0	0	75	0	54
Adj No. of Lanes	1	2	0	0	2	0	0	1	0	1	1	0
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Percent Heavy Veh, %	2	2	2	0	2	2	2	2	2	2	2	2
Cap, veh/h	82	1778	0	0	1316	162	0	773	0	802	0	657
Arrive On Green	0.05	0.50	0.00	0.00	0.41	0.41	0.00	0.00	0.00	0.41	0.00	0.41
Sat Flow, veh/h	1774	3632	0	0	3267	390	0	1863	0	1774	0	1583
Grp Volume(v), veh/h	98	702	0	0	248	253	0	0	0	75	0	54
Grp Sat Flow(s),veh/h/ln	1774	1770	0	0	1770	1794	0	1863	0	1774	0	1583
Q Serve(g_s), s	5.0	13.4	0.0	0.0	10.3	10.4	0.0	0.0	0.0	2.8	0.0	2.2
Cycle Q Clear(g_c), s	5.0	13.4	0.0	0.0	10.3	10.4	0.0	0.0	0.0	2.8	0.0	2.2
Prop In Lane	1.00		0.00	0.00		0.22	0.00		0.00	1.00		1.00
Lane Grp Cap(c), veh/h	82	1778	0	0	734	744	0	773	0	802	0	657
V/C Ratio(X)	1.20	0.39	0.00	0.00	0.34	0.34	0.00	0.00	0.00	0.09	0.00	0.08
Avail Cap(c_a), veh/h	82	1778	0	0	734	744	0	773	0	802	0	657
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	0.00	1.00	1.00	0.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	51.8	16.8	0.0	0.0	21.6	21.6	0.0	0.0	0.0	19.4	0.0	19.2
Incr Delay (d2), s/veh	162.5	0.7	0.0	0.0	1.2	1.2	0.0	0.0	0.0	0.2	0.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.1	6.7	0.0	0.0	5.3	5.4	0.0	0.0	0.0	1.4	0.0	1.0
LnGrp Delay(d),s/veh	214.3	17.4	0.0	0.0	22.9	22.9	0.0	0.0	0.0	19.6	0.0	19.5
LnGrp LOS	F	B			C	C				B		B
Approach Vol, veh/h		800			501			0			129	
Approach Delay, s/veh		41.5			22.9			0.0			19.6	
Approach LOS		D			C						B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		8
Phs Duration (G+Y+Rc), s		59.0		49.5	9.5	49.5		49.5
Change Period (Y+Rc), s		4.5		4.5	4.5	4.5		4.5
Max Green Setting (Gmax), s		45.0		45.0	5.0	45.0		45.0
Max Q Clear Time (g_c+I1), s		15.4		4.8	7.0	12.4		0.0
Green Ext Time (p_c), s		9.5		0.5	0.0	9.7		0.0

Intersection Summary	
HCM 2010 Ctrl Delay	33.0
HCM 2010 LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	87	471	85	46	320	53	61	120	122	58	79	65
Future Volume (veh/h)	87	471	85	46	320	53	61	120	122	58	79	65
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	95	512	92	50	348	58	66	130	133	63	86	71
Adj No. of Lanes	1	2	0	1	2	0	1	1	1	1	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	143	750	134	107	699	115	124	711	604	121	708	602
Arrive On Green	0.08	0.25	0.25	0.06	0.23	0.23	0.07	0.38	0.38	0.07	0.38	0.38
Sat Flow, veh/h	1774	3001	537	1774	3042	502	1774	1863	1583	1774	1863	1583
Grp Volume(v), veh/h	95	301	303	50	201	205	66	130	133	63	86	71
Grp Sat Flow(s),veh/h/ln	1774	1770	1768	1774	1770	1774	1774	1863	1583	1774	1863	1583
Q Serve(g_s), s	3.9	11.5	11.6	2.0	7.4	7.5	2.7	3.5	4.3	2.6	2.3	2.2
Cycle Q Clear(g_c), s	3.9	11.5	11.6	2.0	7.4	7.5	2.7	3.5	4.3	2.6	2.3	2.2
Prop In Lane	1.00		0.30	1.00		0.28	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	143	442	442	107	407	408	124	711	604	121	708	602
V/C Ratio(X)	0.67	0.68	0.69	0.47	0.49	0.50	0.53	0.18	0.22	0.52	0.12	0.12
Avail Cap(c_a), veh/h	319	625	625	319	625	627	319	711	604	319	708	602
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	33.5	25.4	25.5	34.1	25.1	25.2	33.7	15.4	15.7	33.8	15.1	15.1
Incr Delay (d2), s/veh	5.2	1.9	1.9	3.1	0.9	1.0	3.5	0.6	0.8	3.4	0.4	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.1	5.8	5.9	1.1	3.7	3.8	1.4	1.9	2.0	1.4	1.2	1.0
LnGrp Delay(d),s/veh	38.7	27.3	27.4	37.2	26.0	26.1	37.2	16.0	16.5	37.2	15.5	15.5
LnGrp LOS	D	C	C	D	C	C	D	B	B	D	B	B
Approach Vol, veh/h		699			456			329			220	
Approach Delay, s/veh		28.9			27.3			20.5			21.7	
Approach LOS		C			C			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.6	33.1	9.0	23.2	9.7	33.0	10.5	21.7
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	13.5	28.5	13.5	26.5	13.5	28.5	13.5	26.5
Max Q Clear Time (g_c+I1), s	4.6	6.3	4.0	13.6	4.7	4.3	5.9	9.5
Green Ext Time (p_c), s	0.1	1.9	0.0	5.1	0.1	1.9	0.1	5.9

Intersection Summary		
HCM 2010 Ctrl Delay		25.9
HCM 2010 LOS		C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	37	137	52	41	70	22	50	260	86	16	189	14
Future Volume (veh/h)	37	137	52	41	70	22	50	260	86	16	189	14
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	39	144	55	43	74	23	53	274	91	17	199	15
Adj No. of Lanes	1	2	0	1	1	0	1	1	0	1	1	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	174	249	91	164	126	39	114	611	203	175	840	63
Arrive On Green	0.10	0.10	0.10	0.09	0.09	0.09	0.06	0.46	0.46	0.10	0.49	0.49
Sat Flow, veh/h	1774	2537	931	1774	1364	424	1774	1339	445	1774	1711	129
Grp Volume(v), veh/h	39	99	100	43	0	97	53	0	365	17	0	214
Grp Sat Flow(s),veh/h/ln	1774	1770	1698	1774	0	1788	1774	0	1784	1774	0	1840
Q Serve(g_s), s	1.4	3.8	4.0	1.6	0.0	3.7	2.0	0.0	9.9	0.6	0.0	4.7
Cycle Q Clear(g_c), s	1.4	3.8	4.0	1.6	0.0	3.7	2.0	0.0	9.9	0.6	0.0	4.7
Prop In Lane	1.00		0.55	1.00		0.24	1.00		0.25	1.00		0.07
Lane Grp Cap(c), veh/h	174	174	167	164	0	166	114	0	814	175	0	903
V/C Ratio(X)	0.22	0.57	0.60	0.26	0.00	0.59	0.47	0.00	0.45	0.10	0.00	0.24
Avail Cap(c_a), veh/h	504	503	483	504	0	508	178	0	814	504	0	903
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	29.4	30.5	30.6	29.8	0.0	30.8	31.9	0.0	13.1	29.0	0.0	10.4
Incr Delay (d2), s/veh	0.6	2.9	3.5	0.8	0.0	3.3	3.0	0.0	1.8	0.2	0.0	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	2.0	2.0	0.8	0.0	2.0	1.1	0.0	5.3	0.3	0.0	2.5
LnGrp Delay(d),s/veh	30.1	33.4	34.0	30.7	0.0	34.0	34.9	0.0	14.9	29.2	0.0	11.0
LnGrp LOS	C	C	C	C		C	C		B	C		B
Approach Vol, veh/h		238			140			418			231	
Approach Delay, s/veh		33.1			33.0			17.5			12.3	
Approach LOS		C			C			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	11.5	36.8		11.4	9.0	39.2		11.1
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5
Max Green Setting (Gmax), s	20.1	21.7		20.1	7.1	34.7		20.1
Max Q Clear Time (g_c+I1), s	12.6	11.9		6.0	4.0	6.7		5.7
Green Ext Time (p_c), s	0.0	2.5		1.0	0.0	3.9		0.5

Intersection Summary	
HCM 2010 Ctrl Delay	22.1
HCM 2010 LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	154	520	113	44	257	45	91	208	74	61	132	64
Future Volume (veh/h)	154	520	113	44	257	45	91	208	74	61	132	64
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	160	542	118	46	268	47	95	217	77	64	138	67
Adj No. of Lanes	1	2	0	1	2	0	1	1	1	1	1	1
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	199	746	162	101	611	106	140	713	696	120	692	766
Arrive On Green	0.11	0.26	0.26	0.06	0.20	0.20	0.08	0.38	0.38	0.07	0.37	0.37
Sat Flow, veh/h	1774	2894	628	1774	3018	522	1774	1863	1583	1774	1863	1583
Grp Volume(v), veh/h	160	331	329	46	156	159	95	217	77	64	138	67
Grp Sat Flow(s),veh/h/ln	1774	1770	1752	1774	1770	1771	1774	1863	1583	1774	1863	1583
Q Serve(g_s), s	6.8	13.1	13.2	1.9	5.9	6.1	4.0	6.2	2.2	2.7	3.9	1.8
Cycle Q Clear(g_c), s	6.8	13.1	13.2	1.9	5.9	6.1	4.0	6.2	2.2	2.7	3.9	1.8
Prop In Lane	1.00		0.36	1.00		0.29	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	199	456	452	101	358	359	140	713	696	120	692	766
V/C Ratio(X)	0.80	0.72	0.73	0.45	0.43	0.44	0.68	0.30	0.11	0.53	0.20	0.09
Avail Cap(c_a), veh/h	312	611	605	312	611	611	312	713	696	312	692	766
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	33.2	26.0	26.0	35.0	26.8	26.8	34.4	16.5	12.7	34.6	16.4	10.7
Incr Delay (d2), s/veh	8.0	2.8	3.0	3.2	0.8	0.9	5.6	1.1	0.3	3.6	0.6	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.7	6.7	6.7	1.0	3.0	3.1	2.2	3.4	1.0	1.4	2.1	0.8
LnGrp Delay(d),s/veh	41.2	28.8	29.0	38.2	27.6	27.7	39.9	17.7	13.0	38.2	17.0	10.9
LnGrp LOS	D	C	C	D	C	C	D	B	B	D	B	B
Approach Vol, veh/h		820			361			389			269	
Approach Delay, s/veh		31.3			29.0			22.2			20.5	
Approach LOS		C			C			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.7	33.9	8.9	24.3	10.6	33.0	13.1	20.0
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	13.5	28.5	13.5	26.5	13.5	28.5	13.5	26.5
Max Q Clear Time (g_c+I1), s	4.7	8.2	3.9	15.2	6.0	5.9	8.8	8.1
Green Ext Time (p_c), s	0.1	2.5	0.0	4.6	0.1	2.5	0.2	5.9

Intersection Summary		
HCM 2010 Ctrl Delay		27.3
HCM 2010 LOS		C

HCM 2010 Signalized Intersection Summary
1: Heacock St & Ironwood Ave

Festival at Moreno Valley Mixed Use
Existing (2017) With Project Weekday AM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	133	279	125	161	534	43	107	431	92	52	555	263
Future Volume (veh/h)	133	279	125	161	534	43	107	431	92	52	555	263
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	141	297	133	171	568	46	114	459	98	55	590	280
Adj No. of Lanes	1	2	1	1	2	0	1	2	1	1	2	1
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	177	792	354	210	802	65	146	1323	779	109	1249	717
Arrive On Green	0.10	0.22	0.22	0.12	0.24	0.24	0.08	0.37	0.37	0.06	0.35	0.35
Sat Flow, veh/h	1774	3539	1583	1774	3317	268	1774	3539	1583	1774	3539	1583
Grp Volume(v), veh/h	141	297	133	171	303	311	114	459	98	55	590	280
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	1770	1815	1774	1770	1583	1774	1770	1583
Q Serve(g_s), s	6.3	5.7	5.7	7.6	12.6	12.7	5.1	7.5	2.7	2.4	10.5	9.5
Cycle Q Clear(g_c), s	6.3	5.7	5.7	7.6	12.6	12.7	5.1	7.5	2.7	2.4	10.5	9.5
Prop In Lane	1.00		1.00	1.00		0.15	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	177	792	354	210	428	439	146	1323	779	109	1249	717
V/C Ratio(X)	0.80	0.38	0.38	0.82	0.71	0.71	0.78	0.35	0.13	0.50	0.47	0.39
Avail Cap(c_a), veh/h	297	1161	520	297	581	596	297	1323	779	297	1249	717
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	35.5	26.6	26.6	34.8	28.0	28.0	36.3	18.2	11.1	36.7	20.3	14.7
Incr Delay (d2), s/veh	7.9	0.3	0.7	11.3	2.5	2.5	8.7	0.7	0.3	3.6	1.3	1.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.4	2.8	2.6	4.4	6.4	6.6	2.9	3.8	1.2	1.3	5.3	4.5
LnGrp Delay(d),s/veh	43.4	26.9	27.2	46.0	30.5	30.5	45.0	18.9	11.4	40.3	21.6	16.3
LnGrp LOS	D	C	C	D	C	C	D	B	B	D	C	B
Approach Vol, veh/h		571			785			671			925	
Approach Delay, s/veh		31.0			33.9			22.3			21.1	
Approach LOS		C			C			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.5	34.7	14.0	22.6	11.2	33.0	12.6	24.0
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	13.5	28.5	13.5	26.5	13.5	28.5	13.5	26.5
Max Q Clear Time (g_c+I1), s	4.4	9.5	9.6	7.7	7.1	12.5	8.3	14.7
Green Ext Time (p_c), s	0.1	7.9	0.2	6.1	0.1	7.3	0.1	4.9

Intersection Summary	
HCM 2010 Ctrl Delay	26.7
HCM 2010 LOS	C

Intersection	
Int Delay, s/veh	0.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	9	620	0	0	841
Future Vol, veh/h	0	9	620	0	0	841
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	10	660	0	0	895

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1107	330	0	0	660	0
Stage 1	660	-	-	-	-	-
Stage 2	447	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	204	666	-	-	924	-
Stage 1	476	-	-	-	-	-
Stage 2	611	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	204	666	-	-	924	-
Mov Cap-2 Maneuver	335	-	-	-	-	-
Stage 1	476	-	-	-	-	-
Stage 2	611	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.5	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	666	924	-
HCM Lane V/C Ratio	-	-	0.014	-	-
HCM Control Delay (s)	-	-	10.5	0	-
HCM Lane LOS	-	-	B	A	-
HCM 95th %tile Q(veh)	-	-	0	0	-

HCM 2010 Signalized Intersection Summary
3: Heacock St & Hemlock Ave

Festival at Moreno Valley Mixed Use
Existing (2017) With Project Weekday AM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	39	50	112	50	64	4	99	602	78	16	812	41
Future Volume (veh/h)	39	50	112	50	64	4	99	602	78	16	812	41
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	40	52	115	52	66	4	102	621	80	16	837	42
Adj No. of Lanes	1	1	0	1	1	1	1	2	1	1	2	1
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	98	74	164	115	287	244	159	1743	780	48	1522	681
Arrive On Green	0.06	0.14	0.14	0.07	0.15	0.15	0.09	0.49	0.49	0.03	0.43	0.43
Sat Flow, veh/h	1774	517	1144	1774	1863	1583	1774	3539	1583	1774	3539	1583
Grp Volume(v), veh/h	40	0	167	52	66	4	102	621	80	16	837	42
Grp Sat Flow(s),veh/h/ln	1774	0	1661	1774	1863	1583	1774	1770	1583	1774	1770	1583
Q Serve(g_s), s	1.4	0.0	6.3	1.9	2.1	0.1	3.7	7.2	1.8	0.6	11.7	1.0
Cycle Q Clear(g_c), s	1.4	0.0	6.3	1.9	2.1	0.1	3.7	7.2	1.8	0.6	11.7	1.0
Prop In Lane	1.00		0.69	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	98	0	239	115	287	244	159	1743	780	48	1522	681
V/C Ratio(X)	0.41	0.00	0.70	0.45	0.23	0.02	0.64	0.36	0.10	0.33	0.55	0.06
Avail Cap(c_a), veh/h	361	0	664	361	745	633	361	1743	780	361	1522	681
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	30.3	0.0	27.0	29.8	24.6	23.8	29.1	10.3	9.0	31.7	14.1	11.1
Incr Delay (d2), s/veh	2.7	0.0	3.7	2.7	0.4	0.0	4.3	0.6	0.3	4.0	1.4	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	0.0	3.2	1.0	1.1	0.1	2.0	3.6	0.8	0.3	6.0	0.5
LnGrp Delay(d),s/veh	33.0	0.0	30.7	32.6	25.0	23.8	33.4	10.9	9.2	35.7	15.5	11.2
LnGrp LOS	C		C	C	C	C	C	B	A	D	B	B
Approach Vol, veh/h		207			122			803			895	
Approach Delay, s/veh		31.1			28.2			13.6			15.7	
Approach LOS		C			C			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	6.3	37.1	8.8	14.0	10.4	33.0	8.1	14.7
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	13.5	28.5	13.5	26.5	13.5	28.5	13.5	26.5
Max Q Clear Time (g_c+I1), s	2.6	9.2	3.9	8.3	5.7	13.7	3.4	4.1
Green Ext Time (p_c), s	0.0	10.2	0.1	1.2	0.1	8.7	0.0	1.3

Intersection Summary	
HCM 2010 Ctrl Delay	17.2
HCM 2010 LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	257	4	160	267	618	0	0	711	266
Future Volume (veh/h)	0	0	0	257	4	160	267	618	0	0	711	266
Number				3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln				1900	1863	1863	1863	1863	0	0	1863	1900
Adj Flow Rate, veh/h				268	4	167	278	644	0	0	741	277
Adj No. of Lanes				0	1	1	1	2	0	0	2	0
Peak Hour Factor				0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %				2	2	2	2	2	0	0	2	2
Cap, veh/h				342	5	310	322	2459	0	0	1157	432
Arrive On Green				0.20	0.20	0.20	0.18	0.69	0.00	0.00	0.46	0.46
Sat Flow, veh/h				1749	26	1583	1774	3632	0	0	2616	943
Grp Volume(v), veh/h				272	0	167	278	644	0	0	520	498
Grp Sat Flow(s),veh/h/ln				1775	0	1583	1774	1770	0	0	1770	1696
Q Serve(g_s), s				12.0	0.0	7.8	12.5	5.6	0.0	0.0	18.5	18.5
Cycle Q Clear(g_c), s				12.0	0.0	7.8	12.5	5.6	0.0	0.0	18.5	18.5
Prop In Lane				0.99		1.00	1.00		0.00	0.00		0.56
Lane Grp Cap(c), veh/h				348	0	310	322	2459	0	0	811	778
V/C Ratio(X)				0.78	0.00	0.54	0.86	0.26	0.00	0.00	0.64	0.64
Avail Cap(c_a), veh/h				732	0	653	451	2459	0	0	811	778
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				31.4	0.0	29.7	32.7	4.7	0.0	0.0	17.1	17.1
Incr Delay (d2), s/veh				3.9	0.0	1.5	11.8	0.3	0.0	0.0	3.9	4.0
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				6.2	0.0	3.5	7.2	2.8	0.0	0.0	9.8	9.5
LnGrp Delay(d),s/veh				35.3	0.0	31.2	44.5	4.9	0.0	0.0	20.9	21.1
LnGrp LOS				D		C	D	A			C	C
Approach Vol, veh/h					439			922			1018	
Approach Delay, s/veh					33.7			16.9			21.0	
Approach LOS					C			B			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2			5	6		8
Phs Duration (G+Y+Rc), s		61.6			19.4	42.2		20.6
Change Period (Y+Rc), s		4.5			4.5	4.5		4.5
Max Green Setting (Gmax), s		57.1			20.9	31.7		33.9
Max Q Clear Time (g_c+I1), s		7.6			14.5	20.5		14.0
Green Ext Time (p_c), s		16.5			0.4	7.5		2.1

Intersection Summary		
HCM 2010 Ctrl Delay		21.7
HCM 2010 LOS		C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	222	4	371	0	0	0	0	655	140	147	826	0
Future Volume (veh/h)	222	4	371	0	0	0	0	655	140	147	826	0
Number	7	4	14				5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863				0	1863	1900	1863	1863	0
Adj Flow Rate, veh/h	230	0	379				0	668	143	150	843	0
Adj No. of Lanes	2	0	1				0	3	0	1	2	0
Peak Hour Factor	0.98	0.98	0.98				0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Cap, veh/h	941	0	420				0	2045	432	190	2267	0
Arrive On Green	0.27	0.00	0.27				0.00	0.49	0.49	0.11	0.64	0.00
Sat Flow, veh/h	3548	0	1583				0	4375	889	1774	3632	0
Grp Volume(v), veh/h	230	0	379				0	536	275	150	843	0
Grp Sat Flow(s),veh/h/ln	1774	0	1583				0	1695	1706	1774	1770	0
Q Serve(g_s), s	4.9	0.0	22.1				0.0	9.2	9.4	7.9	10.7	0.0
Cycle Q Clear(g_c), s	4.9	0.0	22.1				0.0	9.2	9.4	7.9	10.7	0.0
Prop In Lane	1.00		1.00				0.00		0.52	1.00		0.00
Lane Grp Cap(c), veh/h	941	0	420				0	1648	829	190	2267	0
V/C Ratio(X)	0.24	0.00	0.90				0.00	0.33	0.33	0.79	0.37	0.00
Avail Cap(c_a), veh/h	1112	0	496				0	1648	829	556	2267	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	27.5	0.0	33.9				0.0	15.0	15.0	41.5	8.1	0.0
Incr Delay (d2), s/veh	0.1	0.0	17.8				0.0	0.1	0.2	7.1	0.5	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.4	0.0	11.7				0.0	4.3	4.5	4.2	5.3	0.0
LnGrp Delay(d),s/veh	27.7	0.0	51.7				0.0	15.1	15.2	48.6	8.6	0.0
LnGrp LOS	C		D					B	B	D	A	
Approach Vol, veh/h		609						811			993	
Approach Delay, s/veh		42.6						15.1			14.6	
Approach LOS		D						B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4		6		
Phs Duration (G+Y+Rc), s	14.7	50.9		29.8		65.6		
Change Period (Y+Rc), s	4.5	4.5		4.5		4.5		
Max Green Setting (Gmax), s	29.3	26.7		29.9		61.1		
Max Q Clear Time (g_c+I1), s	10.9	11.4		24.1		12.7		
Green Ext Time (p_c), s	0.4	9.4		1.2		16.5		

Intersection Summary	
HCM 2010 Ctrl Delay	21.9
HCM 2010 LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	143	1	0	265	0	0	0	1	0	0	0
Future Vol, veh/h	0	143	1	0	265	0	0	0	1	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	91	91	91	91	91	91	91	91	91	91	91	91
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	157	1	0	291	0	0	0	1	0	0	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	291	0	0	158	0	0	304	449	79	370	449	146
Stage 1	-	-	-	-	-	-	158	158	-	291	291	-
Stage 2	-	-	-	-	-	-	146	291	-	79	158	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	1268	-	-	1419	-	-	625	504	965	562	504	875
Stage 1	-	-	-	-	-	-	828	766	-	693	670	-
Stage 2	-	-	-	-	-	-	842	670	-	921	766	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1268	-	-	1419	-	-	625	504	965	561	504	875
Mov Cap-2 Maneuver	-	-	-	-	-	-	625	504	-	561	504	-
Stage 1	-	-	-	-	-	-	828	766	-	693	670	-
Stage 2	-	-	-	-	-	-	842	670	-	920	766	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0	8.7	0
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	965	1268	-	-	1419	-	-	-
HCM Lane V/C Ratio	0.001	-	-	-	-	-	-	-
HCM Control Delay (s)	8.7	0	-	-	0	-	-	0
HCM Lane LOS	A	A	-	-	A	-	-	A
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	-

Intersection	
Int Delay, s/veh	3.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	105	192	42	3	183	5	28	0	3	4	0	57
Future Vol, veh/h	105	192	42	3	183	5	28	0	3	4	0	57
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	180	-	-	0	-	-	-	-	-	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	86	86	86	86	86	86	86	86	86	86	86	86
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	122	223	49	3	213	6	33	0	3	5	0	66

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	219	0	0	272	0	0	715	718	136	579	739	216
Stage 1	-	-	-	-	-	-	492	492	-	223	223	-
Stage 2	-	-	-	-	-	-	223	226	-	356	516	-
Critical Hdwy	4.13	-	-	4.13	-	-	7.33	6.53	6.93	7.33	6.53	6.23
Critical Hdwy Stg 1	-	-	-	-	-	-	6.53	5.53	-	6.13	5.53	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.13	5.53	-	6.53	5.53	-
Follow-up Hdwy	2.219	-	-	2.219	-	-	3.519	4.019	3.319	3.519	4.019	3.319
Pot Cap-1 Maneuver	1349	-	-	1290	-	-	332	354	888	412	344	823
Stage 1	-	-	-	-	-	-	528	547	-	779	718	-
Stage 2	-	-	-	-	-	-	779	716	-	635	533	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1349	-	-	1290	-	-	284	321	888	381	312	823
Mov Cap-2 Maneuver	-	-	-	-	-	-	284	321	-	381	312	-
Stage 1	-	-	-	-	-	-	480	498	-	709	716	-
Stage 2	-	-	-	-	-	-	715	714	-	575	485	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	2.5	0.1	18.4	10.1
HCM LOS			C	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	304	1349	-	-	1290	-	-	381	823
HCM Lane V/C Ratio	0.119	0.091	-	-	0.003	-	-	0.012	0.081
HCM Control Delay (s)	18.4	7.9	-	-	7.8	-	-	14.6	9.8
HCM Lane LOS	C	A	-	-	A	-	-	B	A
HCM 95th %tile Q(veh)	0.4	0.3	-	-	0	-	-	0	0.3

Intersection	
Int Delay, s/veh	0.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	16	182	184	4	0	5
Future Vol, veh/h	16	182	184	4	0	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	84	84	84	84	84	84
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	19	217	219	5	0	6

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	224	0	-	0	476	221
Stage 1	-	-	-	-	221	-
Stage 2	-	-	-	-	255	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1345	-	-	-	548	819
Stage 1	-	-	-	-	816	-
Stage 2	-	-	-	-	788	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1345	-	-	-	539	819
Mov Cap-2 Maneuver	-	-	-	-	608	-
Stage 1	-	-	-	-	816	-
Stage 2	-	-	-	-	775	-

Approach	EB	WB	SB
HCM Control Delay, s	0.6	0	9.4
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1345	-	-	-	819
HCM Lane V/C Ratio	0.014	-	-	-	0.007
HCM Control Delay (s)	7.7	0	-	-	9.4
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0

Intersection	
Int Delay, s/veh	3.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	88	95	136	36	18	53
Future Vol, veh/h	88	95	136	36	18	53
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	98	106	151	40	20	59

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	191	0	-	0	472	171
Stage 1	-	-	-	-	171	-
Stage 2	-	-	-	-	301	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1383	-	-	-	551	873
Stage 1	-	-	-	-	859	-
Stage 2	-	-	-	-	751	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1383	-	-	-	510	873
Mov Cap-2 Maneuver	-	-	-	-	576	-
Stage 1	-	-	-	-	859	-
Stage 2	-	-	-	-	695	-

Approach	EB	WB	SB
HCM Control Delay, s	3.8	0	10.2
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1383	-	-	-	772
HCM Lane V/C Ratio	0.071	-	-	-	0.102
HCM Control Delay (s)	7.8	-	-	-	10.2
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0.2	-	-	-	0.3

Intersection	
Int Delay, s/veh	1.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	2	108	3	22	165	32	3	0	15	16	0	3
Future Vol, veh/h	2	108	3	22	165	32	3	0	15	16	0	3
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	86	86	86	86	86	86	86	86	86	86	86	86
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	2	126	3	26	192	37	3	0	17	19	0	3

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	229	0	0	129	0	0	395	412	127	403	396	210
Stage 1	-	-	-	-	-	-	132	132	-	262	262	-
Stage 2	-	-	-	-	-	-	263	280	-	141	134	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1339	-	-	1457	-	-	565	530	923	558	541	830
Stage 1	-	-	-	-	-	-	871	787	-	743	691	-
Stage 2	-	-	-	-	-	-	742	679	-	862	785	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1339	-	-	1457	-	-	553	518	923	538	529	830
Mov Cap-2 Maneuver	-	-	-	-	-	-	553	518	-	538	529	-
Stage 1	-	-	-	-	-	-	869	785	-	742	676	-
Stage 2	-	-	-	-	-	-	723	665	-	844	783	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	0.8	9.5	11.6
HCM LOS			A	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	830	1339	-	-	1457	-	-	570
HCM Lane V/C Ratio	0.025	0.002	-	-	0.018	-	-	0.039
HCM Control Delay (s)	9.5	7.7	0	-	7.5	0	-	11.6
HCM Lane LOS	A	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.1	0	-	-	0.1	-	-	0.1

Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑	↱			↱
Traffic Vol, veh/h	0	139	140	4	0	6
Future Vol, veh/h	0	139	140	4	0	6
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	87	87	87	87	87	87
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	160	161	5	0	7

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	-	163
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.318
Pot Cap-1 Maneuver	0	-	-	-	0	882
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	882
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	9.1
HCM LOS			A

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	882
HCM Lane V/C Ratio	-	-	-	0.008
HCM Control Delay (s)	-	-	-	9.1
HCM Lane LOS	-	-	-	A
HCM 95th %tile Q(veh)	-	-	-	0

HCM 2010 Signalized Intersection Summary
12: Driveway/Davis St & Ironwood Ave

Festival at Moreno Valley Mixed Use
Existing (2017) With Project Weekday AM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	46	394	11	11	672	158	7	0	7	129	0	79
Future Volume (veh/h)	46	394	11	11	672	158	7	0	7	129	0	79
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1900	1863	1900	1900	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	52	448	12	12	764	180	8	0	8	147	0	90
Adj No. of Lanes	1	2	0	0	2	0	0	1	0	1	1	0
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	69	1576	42	44	1004	234	361	18	323	731	0	729
Arrive On Green	0.04	0.45	0.45	0.36	0.36	0.36	0.46	0.00	0.46	0.46	0.00	0.46
Sat Flow, veh/h	1774	3522	94	16	2766	646	664	38	702	1402	0	1583
Grp Volume(v), veh/h	52	225	235	515	0	441	16	0	0	147	0	90
Grp Sat Flow(s),veh/h/ln	1774	1770	1846	1846	0	1581	1404	0	0	1402	0	1583
Q Serve(g_s), s	2.8	7.9	7.9	2.0	0.0	24.1	0.0	0.0	0.0	2.0	0.0	3.2
Cycle Q Clear(g_c), s	2.8	7.9	7.9	23.9	0.0	24.1	3.2	0.0	0.0	5.2	0.0	3.2
Prop In Lane	1.00		0.05	0.02		0.41	0.50		0.50	1.00		1.00
Lane Grp Cap(c), veh/h	69	792	826	708	0	574	701	0	0	731	0	729
V/C Ratio(X)	0.76	0.28	0.28	0.73	0.00	0.77	0.02	0.00	0.00	0.20	0.00	0.12
Avail Cap(c_a), veh/h	91	833	869	904	0	744	701	0	0	731	0	729
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	46.5	17.1	17.1	27.4	0.0	27.5	14.4	0.0	0.0	15.6	0.0	15.1
Incr Delay (d2), s/veh	22.5	0.2	0.2	2.2	0.0	3.6	0.1	0.0	0.0	0.6	0.0	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.8	3.9	4.0	12.6	0.0	11.0	0.2	0.0	0.0	2.5	0.0	1.4
LnGrp Delay(d),s/veh	69.0	17.3	17.3	29.6	0.0	31.1	14.4	0.0	0.0	16.2	0.0	15.4
LnGrp LOS	E	B	B	C		C	B			B		B
Approach Vol, veh/h		512			956			16			237	
Approach Delay, s/veh		22.5			30.3			14.4			15.9	
Approach LOS		C			C			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6	7	8
Phs Duration (G+Y+Rc), s		49.5		48.3		49.5	8.3	40.0
Change Period (Y+Rc), s		4.5		4.5		4.5	4.5	4.5
Max Green Setting (Gmax), s		45.0		46.0		45.0	5.0	46.0
Max Q Clear Time (g_c+I1), s		5.2		9.9		7.2	4.8	26.1
Green Ext Time (p_c), s		1.1		12.0		1.1	0.0	9.4

Intersection Summary	
HCM 2010 Ctrl Delay	25.9
HCM 2010 LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	32	374	124	85	614	84	120	122	51	93	143	80
Future Volume (veh/h)	32	374	124	85	614	84	120	122	51	93	143	80
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	38	445	148	101	731	100	143	145	61	111	170	95
Adj No. of Lanes	1	2	0	1	2	0	1	1	1	1	1	1
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	87	694	229	135	913	125	179	676	574	142	637	542
Arrive On Green	0.05	0.27	0.27	0.08	0.29	0.29	0.10	0.36	0.36	0.08	0.34	0.34
Sat Flow, veh/h	1774	2617	863	1774	3129	428	1774	1863	1583	1774	1863	1583
Grp Volume(v), veh/h	38	300	293	101	413	418	143	145	61	111	170	95
Grp Sat Flow(s),veh/h/ln	1774	1770	1710	1774	1770	1787	1774	1863	1583	1774	1863	1583
Q Serve(g_s), s	1.7	12.5	12.7	4.6	18.0	18.0	6.6	4.5	2.1	5.1	5.5	3.5
Cycle Q Clear(g_c), s	1.7	12.5	12.7	4.6	18.0	18.0	6.6	4.5	2.1	5.1	5.5	3.5
Prop In Lane	1.00		0.50	1.00		0.24	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	87	469	453	135	516	522	179	676	574	142	637	542
V/C Ratio(X)	0.44	0.64	0.65	0.75	0.80	0.80	0.80	0.21	0.11	0.78	0.27	0.18
Avail Cap(c_a), veh/h	288	563	544	288	563	569	288	676	574	288	637	542
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	38.5	27.1	27.2	37.7	27.3	27.3	36.6	18.3	17.6	37.6	19.8	19.2
Incr Delay (d2), s/veh	3.4	1.8	2.0	8.1	7.5	7.5	8.0	0.7	0.4	8.9	1.0	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	6.3	6.2	2.6	9.8	9.9	3.6	2.4	1.0	2.8	3.0	1.6
LnGrp Delay(d),s/veh	41.9	28.9	29.1	45.8	34.8	34.7	44.6	19.1	18.0	46.5	20.9	19.9
LnGrp LOS	D	C	C	D	C	C	D	B	B	D	C	B
Approach Vol, veh/h		631			932			349			376	
Approach Delay, s/veh		29.8			35.9			29.3			28.2	
Approach LOS		C			D			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.2	34.7	10.8	26.6	12.9	33.0	8.6	28.8
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	13.5	28.5	13.5	26.5	13.5	28.5	13.5	26.5
Max Q Clear Time (g_c+I1), s	7.1	6.5	6.6	14.7	8.6	7.5	3.7	20.0
Green Ext Time (p_c), s	0.1	2.3	0.1	6.8	0.1	2.3	0.0	4.3

Intersection Summary		
HCM 2010 Ctrl Delay		32.0
HCM 2010 LOS		C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	62	24	51	66	59	36	210	49	43	299	16
Future Volume (veh/h)	0	62	24	51	66	59	36	210	49	43	299	16
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	0	78	30	64	82	74	45	262	61	54	374	20
Adj No. of Lanes	1	2	0	1	1	0	1	1	0	1	1	0
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	153	218	80	221	112	101	102	647	151	172	845	45
Arrive On Green	0.00	0.09	0.09	0.12	0.12	0.12	0.06	0.44	0.44	0.10	0.48	0.48
Sat Flow, veh/h	1774	2539	929	1774	904	815	1774	1462	340	1774	1752	94
Grp Volume(v), veh/h	0	53	55	64	0	156	45	0	323	54	0	394
Grp Sat Flow(s),veh/h/ln	1774	1770	1699	1774	0	1719	1774	0	1803	1774	0	1846
Q Serve(g_s), s	0.0	2.0	2.2	2.4	0.0	6.3	1.8	0.0	8.8	2.0	0.0	10.1
Cycle Q Clear(g_c), s	0.0	2.0	2.2	2.4	0.0	6.3	1.8	0.0	8.8	2.0	0.0	10.1
Prop In Lane	1.00		0.55	1.00		0.47	1.00		0.19	1.00		0.05
Lane Grp Cap(c), veh/h	153	152	146	221	0	214	102	0	797	172	0	890
V/C Ratio(X)	0.00	0.35	0.38	0.29	0.00	0.73	0.44	0.00	0.41	0.31	0.00	0.44
Avail Cap(c_a), veh/h	495	494	474	495	0	480	175	0	797	495	0	890
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	31.0	31.1	28.6	0.0	30.4	32.8	0.0	13.6	30.3	0.0	12.3
Incr Delay (d2), s/veh	0.0	1.4	1.6	0.7	0.0	4.7	2.9	0.0	1.5	1.0	0.0	1.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	1.0	1.1	1.2	0.0	3.3	0.9	0.0	4.6	1.1	0.0	5.5
LnGrp Delay(d),s/veh	0.0	32.4	32.7	29.4	0.0	35.1	35.7	0.0	15.2	31.3	0.0	13.9
LnGrp LOS		C	C	C		D	D		B	C		B
Approach Vol, veh/h		108			220			368			448	
Approach Delay, s/veh		32.5			33.4			17.7			16.0	
Approach LOS		C			C			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	11.5	36.4		10.7	8.7	39.2		13.5
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5
Max Green Setting (Gmax), s	20.1	21.7		20.1	7.1	34.7		20.1
Max Q Clear Time (g_c+I1), s	14.3	10.8		4.2	3.8	12.1		8.3
Green Ext Time (p_c), s	0.1	3.4		0.4	0.0	4.7		0.8

Intersection Summary	
HCM 2010 Ctrl Delay	21.4
HCM 2010 LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	50	164	67	20	222	34	82	199	59	57	223	87
Future Volume (veh/h)	50	164	67	20	222	34	82	199	59	57	223	87
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	56	184	75	22	249	38	92	224	66	64	251	98
Adj No. of Lanes	1	2	0	1	2	0	1	1	1	1	1	1
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	120	459	180	62	469	71	152	817	750	129	793	781
Arrive On Green	0.07	0.18	0.18	0.04	0.15	0.15	0.09	0.44	0.44	0.07	0.43	0.43
Sat Flow, veh/h	1774	2484	976	1774	3085	465	1774	1863	1583	1774	1863	1583
Grp Volume(v), veh/h	56	129	130	22	141	146	92	224	66	64	251	98
Grp Sat Flow(s),veh/h/ln	1774	1770	1690	1774	1770	1781	1774	1863	1583	1774	1863	1583
Q Serve(g_s), s	2.0	4.3	4.5	0.8	4.9	5.1	3.3	5.1	1.5	2.3	6.0	2.2
Cycle Q Clear(g_c), s	2.0	4.3	4.5	0.8	4.9	5.1	3.3	5.1	1.5	2.3	6.0	2.2
Prop In Lane	1.00		0.58	1.00		0.26	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	120	327	312	62	269	271	152	817	750	129	793	781
V/C Ratio(X)	0.47	0.40	0.42	0.35	0.53	0.54	0.61	0.27	0.09	0.50	0.32	0.13
Avail Cap(c_a), veh/h	358	700	669	358	700	705	358	817	750	358	793	781
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	30.0	24.0	24.1	31.6	26.2	26.2	29.5	12.0	9.7	29.9	12.8	9.2
Incr Delay (d2), s/veh	2.8	0.8	0.9	3.4	1.6	1.7	3.8	0.8	0.2	2.9	1.0	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	2.2	2.2	0.5	2.5	2.6	1.8	2.8	0.7	1.2	3.3	1.0
LnGrp Delay(d),s/veh	32.8	24.8	25.0	34.9	27.7	27.9	33.4	12.8	9.9	32.8	13.8	9.5
LnGrp LOS	C	C	C	C	C	C	C	B	A	C	B	A
Approach Vol, veh/h		315			309			382			413	
Approach Delay, s/veh		26.3			28.3			17.3			15.7	
Approach LOS		C			C			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.4	33.9	6.9	16.9	10.2	33.0	9.0	14.7
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	13.5	28.5	13.5	26.5	13.5	28.5	13.5	26.5
Max Q Clear Time (g_c+I1), s	4.3	7.1	2.8	6.5	5.3	8.0	4.0	7.1
Green Ext Time (p_c), s	0.1	3.4	0.0	3.2	0.1	3.3	0.1	3.1

Intersection Summary	
HCM 2010 Ctrl Delay	21.2
HCM 2010 LOS	C

HCM 2010 Signalized Intersection Summary
1: Heacock St & Ironwood Ave

Festival at Moreno Valley Mixed Use
Existing (2017) With Project Weekday PM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	227	450	131	97	323	40	172	673	185	74	529	206
Future Volume (veh/h)	227	450	131	97	323	40	172	673	185	74	529	206
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	232	459	134	99	330	41	176	687	189	76	540	210
Adj No. of Lanes	1	2	1	1	2	0	1	2	1	1	2	1
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	268	916	410	132	578	71	213	1368	730	122	1186	770
Arrive On Green	0.15	0.26	0.26	0.07	0.18	0.18	0.12	0.39	0.39	0.07	0.34	0.34
Sat Flow, veh/h	1774	3539	1583	1774	3172	391	1774	3539	1583	1774	3539	1583
Grp Volume(v), veh/h	232	459	134	99	183	188	176	687	189	76	540	210
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	1770	1794	1774	1770	1583	1774	1770	1583
Q Serve(g_s), s	10.9	9.4	5.8	4.7	8.0	8.1	8.2	12.6	6.2	3.5	10.2	6.7
Cycle Q Clear(g_c), s	10.9	9.4	5.8	4.7	8.0	8.1	8.2	12.6	6.2	3.5	10.2	6.7
Prop In Lane	1.00		1.00	1.00		0.22	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	268	916	410	132	322	327	213	1368	730	122	1186	770
V/C Ratio(X)	0.87	0.50	0.33	0.75	0.57	0.58	0.83	0.50	0.26	0.62	0.46	0.27
Avail Cap(c_a), veh/h	282	1103	493	282	551	559	282	1368	730	282	1186	770
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	35.3	26.8	25.5	38.6	31.7	31.8	36.6	19.9	14.0	38.5	22.2	12.9
Incr Delay (d2), s/veh	22.7	0.4	0.5	8.3	1.6	1.6	14.0	1.3	0.9	5.1	1.3	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.0	4.6	2.6	2.6	4.1	4.2	4.9	6.4	2.9	1.9	5.2	3.1
LnGrp Delay(d),s/veh	58.0	27.3	26.0	46.9	33.3	33.4	50.6	21.2	14.9	43.7	23.5	13.8
LnGrp LOS	E	C	C	D	C	C	D	C	B	D	C	B
Approach Vol, veh/h		825			470			1052			826	
Approach Delay, s/veh		35.7			36.2			25.0			22.9	
Approach LOS		D			D			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.3	37.4	10.8	26.5	14.7	33.0	17.4	20.0
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	13.5	28.5	13.5	26.5	13.5	28.5	13.5	26.5
Max Q Clear Time (g_c+I1), s	5.5	14.6	6.7	11.4	10.2	12.2	12.9	10.1
Green Ext Time (p_c), s	0.1	7.7	0.1	5.1	0.1	8.5	0.0	5.3

Intersection Summary	
HCM 2010 Ctrl Delay	28.9
HCM 2010 LOS	C

Intersection	
Int Delay, s/veh	0.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	38	992	0	0	756
Future Vol, veh/h	0	38	992	0	0	756
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	98	98	98	98	98	98
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	39	1012	0	0	771

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1398	506	0	0	1012	0
Stage 1	1012	-	-	-	-	-
Stage 2	386	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	132	512	-	-	681	-
Stage 1	312	-	-	-	-	-
Stage 2	656	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	132	512	-	-	681	-
Mov Cap-2 Maneuver	243	-	-	-	-	-
Stage 1	312	-	-	-	-	-
Stage 2	656	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	12.6	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	512	681	-
HCM Lane V/C Ratio	-	-	0.076	-	-
HCM Control Delay (s)	-	-	12.6	0	-
HCM Lane LOS	-	-	B	A	-
HCM 95th %tile Q(veh)	-	-	0.2	0	-

HCM 2010 Signalized Intersection Summary
3: Heacock St & Hemlock Ave

Festival at Moreno Valley Mixed Use
Existing (2017) With Project Weekday PM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	56	105	159	243	97	21	132	966	236	47	696	44
Future Volume (veh/h)	56	105	159	243	97	21	132	966	236	47	696	44
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	57	106	161	245	98	21	133	976	238	47	703	44
Adj No. of Lanes	1	1	0	1	1	1	1	2	1	1	2	1
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	109	131	199	281	546	464	167	1334	597	98	1196	535
Arrive On Green	0.06	0.20	0.20	0.16	0.29	0.29	0.09	0.38	0.38	0.06	0.34	0.34
Sat Flow, veh/h	1774	668	1015	1774	1863	1583	1774	3539	1583	1774	3539	1583
Grp Volume(v), veh/h	57	0	267	245	98	21	133	976	238	47	703	44
Grp Sat Flow(s),veh/h/ln	1774	0	1684	1774	1863	1583	1774	1770	1583	1774	1770	1583
Q Serve(g_s), s	2.6	0.0	12.8	11.4	3.3	0.8	6.2	20.0	9.3	2.2	13.8	1.6
Cycle Q Clear(g_c), s	2.6	0.0	12.8	11.4	3.3	0.8	6.2	20.0	9.3	2.2	13.8	1.6
Prop In Lane	1.00		0.60	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	109	0	330	281	546	464	167	1334	597	98	1196	535
V/C Ratio(X)	0.53	0.00	0.81	0.87	0.18	0.05	0.79	0.73	0.40	0.48	0.59	0.08
Avail Cap(c_a), veh/h	284	0	529	284	585	497	284	1334	597	284	1196	535
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	38.4	0.0	32.4	34.7	22.2	21.4	37.4	22.6	19.3	38.7	23.1	19.0
Incr Delay (d2), s/veh	3.9	0.0	4.9	24.3	0.2	0.0	8.3	3.6	2.0	3.6	2.1	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	0.0	6.4	7.5	1.7	0.4	3.4	10.4	4.4	1.2	7.1	0.7
LnGrp Delay(d),s/veh	42.3	0.0	37.3	58.9	22.4	21.4	45.7	26.2	21.3	42.2	25.2	19.3
LnGrp LOS	D		D	E	C	C	D	C	C	D	C	B
Approach Vol, veh/h		324			364			1347			794	
Approach Delay, s/veh		38.1			46.9			27.2			25.9	
Approach LOS		D			D			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.2	36.3	17.8	21.0	12.5	33.0	9.7	29.2
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	13.5	28.5	13.5	26.5	13.5	28.5	13.5	26.5
Max Q Clear Time (g_c+I1), s	4.2	22.0	13.4	14.8	8.2	15.8	4.6	5.3
Green Ext Time (p_c), s	0.0	5.2	0.0	1.8	0.1	9.0	0.1	2.3

Intersection Summary	
HCM 2010 Ctrl Delay	30.6
HCM 2010 LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	197	4	210	342	1132	0	0	795	307
Future Volume (veh/h)	0	0	0	197	4	210	342	1132	0	0	795	307
Number				3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln				1900	1863	1863	1863	1863	0	0	1863	1900
Adj Flow Rate, veh/h				205	4	219	356	1179	0	0	828	320
Adj No. of Lanes				0	1	1	1	2	0	0	2	0
Peak Hour Factor				0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %				2	2	2	2	2	0	0	2	2
Cap, veh/h				314	6	286	397	2506	0	0	1070	413
Arrive On Green				0.18	0.18	0.18	0.22	0.71	0.00	0.00	0.43	0.43
Sat Flow, veh/h				1742	34	1583	1774	3632	0	0	2592	964
Grp Volume(v), veh/h				209	0	219	356	1179	0	0	586	562
Grp Sat Flow(s),veh/h/ln				1776	0	1583	1774	1770	0	0	1770	1693
Q Serve(g_s), s				8.8	0.0	10.6	15.7	11.8	0.0	0.0	22.8	22.9
Cycle Q Clear(g_c), s				8.8	0.0	10.6	15.7	11.8	0.0	0.0	22.8	22.9
Prop In Lane				0.98		1.00	1.00		0.00	0.00		0.57
Lane Grp Cap(c), veh/h				320	0	286	397	2506	0	0	758	725
V/C Ratio(X)				0.65	0.00	0.77	0.90	0.47	0.00	0.00	0.77	0.78
Avail Cap(c_a), veh/h				746	0	666	460	2506	0	0	758	725
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				30.7	0.0	31.4	30.4	5.2	0.0	0.0	19.7	19.7
Incr Delay (d2), s/veh				2.2	0.0	4.3	18.1	0.6	0.0	0.0	7.5	8.0
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				4.5	0.0	5.0	9.7	5.8	0.0	0.0	12.7	12.2
LnGrp Delay(d),s/veh				32.9	0.0	35.7	48.5	5.8	0.0	0.0	27.3	27.7
LnGrp LOS				C		D	D	A			C	C
Approach Vol, veh/h					428			1535			1148	
Approach Delay, s/veh					34.4			15.7			27.5	
Approach LOS					C			B			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2			5	6		8
Phs Duration (G+Y+Rc), s		61.6			22.6	39.0		19.1
Change Period (Y+Rc), s		4.5			4.5	4.5		4.5
Max Green Setting (Gmax), s		57.1			20.9	31.7		33.9
Max Q Clear Time (g_c+I1), s		13.8			17.7	24.9		12.6
Green Ext Time (p_c), s		26.3			0.4	6.0		1.9

Intersection Summary		
HCM 2010 Ctrl Delay		22.6
HCM 2010 LOS		C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	532	3	334	0	0	0	0	952	252	232	766	0
Future Volume (veh/h)	532	3	334	0	0	0	0	952	252	232	766	0
Number	7	4	14				5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863				0	1863	1900	1863	1863	0
Adj Flow Rate, veh/h	556	0	348				0	992	262	242	798	0
Adj No. of Lanes	2	0	1				0	3	0	1	2	0
Peak Hour Factor	0.96	0.96	0.96				0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Cap, veh/h	908	0	405				0	1767	466	284	2296	0
Arrive On Green	0.26	0.00	0.26				0.00	0.44	0.44	0.16	0.65	0.00
Sat Flow, veh/h	3548	0	1583				0	4177	1057	1774	3632	0
Grp Volume(v), veh/h	556	0	348				0	839	415	242	798	0
Grp Sat Flow(s),veh/h/ln	1774	0	1583				0	1695	1676	1774	1770	0
Q Serve(g_s), s	13.0	0.0	19.7				0.0	17.3	17.4	12.5	9.6	0.0
Cycle Q Clear(g_c), s	13.0	0.0	19.7				0.0	17.3	17.4	12.5	9.6	0.0
Prop In Lane	1.00		1.00				0.00		0.63	1.00		0.00
Lane Grp Cap(c), veh/h	908	0	405				0	1494	739	284	2296	0
V/C Ratio(X)	0.61	0.00	0.86				0.00	0.56	0.56	0.85	0.35	0.00
Avail Cap(c_a), veh/h	1126	0	503				0	1494	739	563	2296	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	30.9	0.0	33.4				0.0	19.6	19.6	38.5	7.5	0.0
Incr Delay (d2), s/veh	0.7	0.0	11.8				0.0	0.5	1.0	7.1	0.4	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.4	0.0	9.9				0.0	8.1	8.2	6.7	4.8	0.0
LnGrp Delay(d),s/veh	31.6	0.0	45.3				0.0	20.1	20.6	45.6	7.9	0.0
LnGrp LOS	C		D					C	C	D	A	
Approach Vol, veh/h		904						1254			1040	
Approach Delay, s/veh		36.9						20.2			16.7	
Approach LOS		D						C			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4		6		
Phs Duration (G+Y+Rc), s	19.6	46.0		28.6		65.6		
Change Period (Y+Rc), s	4.5	4.5		4.5		4.5		
Max Green Setting (Gmax), s	29.9	26.7		29.9		61.1		
Max Q Clear Time (g_c+I1), s	11.5	19.4		21.7		11.6		
Green Ext Time (p_c), s	0.6	6.0		2.3		23.3		

Intersection Summary	
HCM 2010 Ctrl Delay	23.8
HCM 2010 LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	397	17	0	675	0	0	0	22	0	0	0
Future Vol, veh/h	0	397	17	0	675	0	0	0	22	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	94	94	94	94	94	94	94	94	94	94	94	94
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	422	18	0	718	0	0	0	23	0	0	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	718	0	0	440	0	0	790	1149	220	929	1158	359
Stage 1	-	-	-	-	-	-	431	431	-	718	718	-
Stage 2	-	-	-	-	-	-	359	718	-	211	440	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	879	-	-	1116	-	-	281	197	784	222	195	638
Stage 1	-	-	-	-	-	-	573	581	-	386	431	-
Stage 2	-	-	-	-	-	-	632	431	-	771	576	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	879	-	-	1116	-	-	281	197	784	215	195	638
Mov Cap-2 Maneuver	-	-	-	-	-	-	281	197	-	215	195	-
Stage 1	-	-	-	-	-	-	573	581	-	386	431	-
Stage 2	-	-	-	-	-	-	632	431	-	748	576	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0	9.7	0
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	784	879	-	-	1116	-	-	-
HCM Lane V/C Ratio	0.03	-	-	-	-	-	-	-
HCM Control Delay (s)	9.7	0	-	-	0	-	-	0
HCM Lane LOS	A	A	-	-	A	-	-	A
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	-

Intersection	
Int Delay, s/veh	175.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	268	310	156	28	264	35	164	2	24	37	0	239
Future Vol, veh/h	268	310	156	28	264	35	164	2	24	37	0	239
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	180	-	-	0	-	-	-	-	-	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	88	88	88	88	88	88	88	88	88	88	88	88
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	305	352	177	32	300	40	186	2	27	42	0	272

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	340	0	0	530	0	0	1434	1453	265	1170	1523	320
Stage 1	-	-	-	-	-	-	1050	1050	-	384	384	-
Stage 2	-	-	-	-	-	-	384	403	-	786	1139	-
Critical Hdwy	4.13	-	-	4.13	-	-	7.33	6.53	6.93	7.33	6.53	6.23
Critical Hdwy Stg 1	-	-	-	-	-	-	6.53	5.53	-	6.13	5.53	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.13	5.53	-	6.53	5.53	-
Follow-up Hdwy	2.219	-	-	2.219	-	-	3.519	4.019	3.319	3.519	4.019	3.319
Pot Cap-1 Maneuver	1217	-	-	1035	-	-	~ 103	130	734	159	118	720
Stage 1	-	-	-	-	-	-	244	303	-	638	611	-
Stage 2	-	-	-	-	-	-	638	599	-	352	275	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1217	-	-	1035	-	-	~ 51	94	734	119	86	720
Mov Cap-2 Maneuver	-	-	-	-	-	-	~ 51	94	-	119	86	-
Stage 1	-	-	-	-	-	-	~ 183	227	-	478	592	-
Stage 2	-	-	-	-	-	-	385	580	-	251	206	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	3.3	0.7	$ 1371.9	18.1
HCM LOS			F	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	58	1217	-	-	1035	-	-	119	720
HCM Lane V/C Ratio	3.723	0.25	-	-	0.031	-	-	0.353	0.377
HCM Control Delay (s)	$ 1371.9	8.9	-	-	8.6	-	-	50.9	13
HCM Lane LOS	F	A	-	-	A	-	-	F	B
HCM 95th %tile Q(veh)	23.2	1	-	-	0.1	-	-	1.4	1.8

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	0.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	11	361	317	7	10	10
Future Vol, veh/h	11	361	317	7	10	10
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	12	397	348	8	11	11

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	356	0	-	0	773	352
Stage 1	-	-	-	-	352	-
Stage 2	-	-	-	-	421	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1203	-	-	-	367	692
Stage 1	-	-	-	-	712	-
Stage 2	-	-	-	-	662	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1203	-	-	-	362	692
Mov Cap-2 Maneuver	-	-	-	-	475	-
Stage 1	-	-	-	-	712	-
Stage 2	-	-	-	-	653	-

Approach	EB	WB	SB
HCM Control Delay, s	0.2	0	11.7
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1203	-	-	-	563
HCM Lane V/C Ratio	0.01	-	-	-	0.039
HCM Control Delay (s)	8	0	-	-	11.7
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.1

Intersection	
Int Delay, s/veh	8.5

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	204	164	105	79	99	221
Future Vol, veh/h	204	164	105	79	99	221
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	224	180	115	87	109	243

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	202	0	-	0	788	159
Stage 1	-	-	-	-	159	-
Stage 2	-	-	-	-	629	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1370	-	-	-	360	886
Stage 1	-	-	-	-	870	-
Stage 2	-	-	-	-	531	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1370	-	-	-	294	886
Mov Cap-2 Maneuver	-	-	-	-	371	-
Stage 1	-	-	-	-	870	-
Stage 2	-	-	-	-	434	-

Approach	EB	WB	SB
HCM Control Delay, s	4.5	0	18.1
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1370	-	-	-	620
HCM Lane V/C Ratio	0.164	-	-	-	0.567
HCM Control Delay (s)	8.1	-	-	-	18.1
HCM Lane LOS	A	-	-	-	C
HCM 95th %tile Q(veh)	0.6	-	-	-	3.6

Intersection	
Int Delay, s/veh	5.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	13	227	24	88	141	100	24	0	93	84	0	19
Future Vol, veh/h	13	227	24	88	141	100	24	0	93	84	0	19
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	93	93	93	93	93	93	93	93	93	93	93	93
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	14	244	26	95	152	108	26	0	100	90	0	20

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	259	0	0	270	0	0	690	733	257	730	693	205
Stage 1	-	-	-	-	-	-	285	285	-	395	395	-
Stage 2	-	-	-	-	-	-	405	448	-	335	298	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1306	-	-	1293	-	-	359	348	782	338	367	836
Stage 1	-	-	-	-	-	-	722	676	-	630	605	-
Stage 2	-	-	-	-	-	-	622	573	-	679	667	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1306	-	-	1293	-	-	324	314	782	272	331	836
Mov Cap-2 Maneuver	-	-	-	-	-	-	324	314	-	272	331	-
Stage 1	-	-	-	-	-	-	713	667	-	622	552	-
Stage 2	-	-	-	-	-	-	554	523	-	584	658	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.4	2.1	12.5	22.8
HCM LOS			B	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	606	1306	-	-	1293	-	-	311
HCM Lane V/C Ratio	0.208	0.011	-	-	0.073	-	-	0.356
HCM Control Delay (s)	12.5	7.8	0	-	8	0	-	22.8
HCM Lane LOS	B	A	A	-	A	A	-	C
HCM 95th %tile Q(veh)	0.8	0	-	-	0.2	-	-	1.6

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑	↱			↗
Traffic Vol, veh/h	0	404	200	8	0	9
Future Vol, veh/h	0	404	200	8	0	9
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	430	213	9	0	10

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	-	217
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.318
Pot Cap-1 Maneuver	0	-	-	-	0	823
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	823
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	9.4
HCM LOS			A

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	823
HCM Lane V/C Ratio	-	-	-	0.012
HCM Control Delay (s)	-	-	-	9.4
HCM Lane LOS	-	-	-	A
HCM 95th %tile Q(veh)	-	-	-	0

HCM 2010 Signalized Intersection Summary
12: Driveway/Davis St & Ironwood Ave

Festival at Moreno Valley Mixed Use
Existing (2017) With Project Weekday PM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	85	599	44	43	376	48	47	0	47	65	0	47
Future Volume (veh/h)	85	599	44	43	376	48	47	0	47	65	0	47
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1900	1863	1900	1900	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	98	689	51	49	432	55	54	0	54	75	0	54
Adj No. of Lanes	1	2	0	0	2	0	0	1	0	1	1	0
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	101	1292	96	101	745	93	416	19	375	784	0	809
Arrive On Green	0.06	0.39	0.39	0.28	0.28	0.28	0.51	0.00	0.51	0.51	0.00	0.51
Sat Flow, veh/h	1774	3342	247	189	2673	335	695	38	733	1345	0	1583
Grp Volume(v), veh/h	98	365	375	268	0	268	108	0	0	75	0	54
Grp Sat Flow(s),veh/h/ln	1774	1770	1819	1561	0	1636	1466	0	0	1345	0	1583
Q Serve(g_s), s	4.9	14.0	14.0	5.0	0.0	12.5	1.1	0.0	0.0	0.0	0.0	1.5
Cycle Q Clear(g_c), s	4.9	14.0	14.0	12.0	0.0	12.5	3.1	0.0	0.0	1.9	0.0	1.5
Prop In Lane	1.00		0.14	0.18		0.20	0.50		0.50	1.00		1.00
Lane Grp Cap(c), veh/h	101	684	704	484	0	456	810	0	0	784	0	809
V/C Ratio(X)	0.97	0.53	0.53	0.55	0.00	0.59	0.13	0.00	0.00	0.10	0.00	0.07
Avail Cap(c_a), veh/h	101	924	950	834	0	855	810	0	0	784	0	809
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	41.5	20.9	20.9	26.9	0.0	27.4	11.2	0.0	0.0	11.0	0.0	10.9
Incr Delay (d2), s/veh	80.6	0.6	0.6	1.0	0.0	1.2	0.3	0.0	0.0	0.2	0.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.6	6.9	7.1	5.7	0.0	5.7	1.5	0.0	0.0	1.0	0.0	0.7
LnGrp Delay(d),s/veh	122.1	21.5	21.5	27.9	0.0	28.6	11.6	0.0	0.0	11.2	0.0	11.1
LnGrp LOS	F	C	C	C		C	B			B		B
Approach Vol, veh/h		838			536			108			129	
Approach Delay, s/veh		33.3			28.2			11.6			11.2	
Approach LOS		C			C			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6	7	8
Phs Duration (G+Y+Rc), s		49.5		38.6		49.5	9.5	29.1
Change Period (Y+Rc), s		4.5		4.5		4.5	4.5	4.5
Max Green Setting (Gmax), s		45.0		46.0		45.0	5.0	46.0
Max Q Clear Time (g_c+I1), s		5.1		16.0		3.9	6.9	14.5
Green Ext Time (p_c), s		1.3		9.9		1.3	0.0	10.1

Intersection Summary	
HCM 2010 Ctrl Delay	28.4
HCM 2010 LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	87	506	85	54	328	53	61	134	132	58	90	65
Future Volume (veh/h)	87	506	85	54	328	53	61	134	132	58	90	65
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	95	550	92	59	357	58	66	146	143	63	98	71
Adj No. of Lanes	1	2	0	1	2	0	1	1	1	1	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	141	783	130	116	744	120	122	697	592	120	694	590
Arrive On Green	0.08	0.26	0.26	0.07	0.24	0.24	0.07	0.37	0.37	0.07	0.37	0.37
Sat Flow, veh/h	1774	3037	506	1774	3054	492	1774	1863	1583	1774	1863	1583
Grp Volume(v), veh/h	95	320	322	59	206	209	66	146	143	63	98	71
Grp Sat Flow(s),veh/h/ln	1774	1770	1773	1774	1770	1776	1774	1863	1583	1774	1863	1583
Q Serve(g_s), s	4.0	12.5	12.6	2.5	7.6	7.7	2.8	4.1	4.8	2.6	2.7	2.3
Cycle Q Clear(g_c), s	4.0	12.5	12.6	2.5	7.6	7.7	2.8	4.1	4.8	2.6	2.7	2.3
Prop In Lane	1.00		0.29	1.00		0.28	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	141	456	457	116	431	433	122	697	592	120	694	590
V/C Ratio(X)	0.67	0.70	0.71	0.51	0.48	0.48	0.54	0.21	0.24	0.53	0.14	0.12
Avail Cap(c_a), veh/h	313	613	614	313	613	615	313	697	592	313	694	590
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	34.3	25.7	25.8	34.6	24.7	24.8	34.4	16.3	16.5	34.5	15.9	15.8
Incr Delay (d2), s/veh	5.5	2.3	2.4	3.4	0.8	0.8	3.7	0.7	1.0	3.5	0.4	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.2	6.4	6.5	1.3	3.8	3.9	1.5	2.2	2.2	1.4	1.4	1.1
LnGrp Delay(d),s/veh	39.8	28.0	28.1	38.0	25.6	25.6	38.1	16.9	17.4	38.0	16.3	16.2
LnGrp LOS	D	C	C	D	C	C	D	B	B	D	B	B
Approach Vol, veh/h		737			474			355			232	
Approach Delay, s/veh		29.6			27.1			21.1			22.2	
Approach LOS		C			C			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.7	33.1	9.5	24.2	9.8	33.0	10.6	23.1
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	13.5	28.5	13.5	26.5	13.5	28.5	13.5	26.5
Max Q Clear Time (g_c+I1), s	4.6	6.8	4.5	14.6	4.8	4.7	6.0	9.7
Green Ext Time (p_c), s	0.1	2.1	0.1	5.1	0.1	2.1	0.1	6.1

Intersection Summary		
HCM 2010 Ctrl Delay		26.3
HCM 2010 LOS		C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	61	159	66	41	86	22	62	260	86	16	189	33
Future Volume (veh/h)	61	159	66	41	86	22	62	260	86	16	189	33
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	64	167	69	43	91	23	65	274	91	17	199	35
Adj No. of Lanes	1	2	0	1	1	0	1	1	0	1	1	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	197	275	109	164	133	34	125	606	201	171	738	130
Arrive On Green	0.11	0.11	0.11	0.09	0.09	0.09	0.07	0.45	0.45	0.10	0.48	0.48
Sat Flow, veh/h	1774	2475	984	1774	1436	363	1774	1339	445	1774	1543	271
Grp Volume(v), veh/h	64	118	118	43	0	114	65	0	365	17	0	234
Grp Sat Flow(s),veh/h/ln	1774	1770	1689	1774	0	1799	1774	0	1784	1774	0	1815
Q Serve(g_s), s	2.4	4.6	4.9	1.6	0.0	4.5	2.6	0.0	10.2	0.6	0.0	5.6
Cycle Q Clear(g_c), s	2.4	4.6	4.9	1.6	0.0	4.5	2.6	0.0	10.2	0.6	0.0	5.6
Prop In Lane	1.00		0.58	1.00		0.20	1.00		0.25	1.00		0.15
Lane Grp Cap(c), veh/h	197	197	188	164	0	166	125	0	807	171	0	868
V/C Ratio(X)	0.32	0.60	0.63	0.26	0.00	0.69	0.52	0.00	0.45	0.10	0.00	0.27
Avail Cap(c_a), veh/h	491	490	468	491	0	498	174	0	807	491	0	868
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	29.7	30.7	30.8	30.6	0.0	31.9	32.6	0.0	13.7	29.9	0.0	11.4
Incr Delay (d2), s/veh	0.9	2.9	3.5	0.8	0.0	4.9	3.3	0.0	1.8	0.3	0.0	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	2.4	2.5	0.8	0.0	2.4	1.4	0.0	5.4	0.3	0.0	3.0
LnGrp Delay(d),s/veh	30.7	33.6	34.3	31.5	0.0	36.9	35.9	0.0	15.5	30.2	0.0	12.1
LnGrp LOS	C	C	C	C		D	D		B	C		B
Approach Vol, veh/h		300			157			430			251	
Approach Delay, s/veh		33.3			35.4			18.6			13.3	
Approach LOS		C			D			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	11.5	37.3		12.6	9.6	39.2		11.2
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5
Max Green Setting (Gmax), s	20.1	21.7		20.1	7.1	34.7		20.1
Max Q Clear Time (g_c+I1), s	12.6	12.2		6.9	4.6	7.6		6.5
Green Ext Time (p_c), s	0.0	2.6		1.2	0.0	4.0		0.5

Intersection Summary	
HCM 2010 Ctrl Delay	23.6
HCM 2010 LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	154	520	113	44	257	45	91	220	74	61	146	64
Future Volume (veh/h)	154	520	113	44	257	45	91	220	74	61	146	64
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	160	542	118	46	268	47	95	229	77	64	152	67
Adj No. of Lanes	1	2	0	1	2	0	1	1	1	1	1	1
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	199	746	162	101	611	106	140	713	696	120	692	766
Arrive On Green	0.11	0.26	0.26	0.06	0.20	0.20	0.08	0.38	0.38	0.07	0.37	0.37
Sat Flow, veh/h	1774	2894	628	1774	3018	522	1774	1863	1583	1774	1863	1583
Grp Volume(v), veh/h	160	331	329	46	156	159	95	229	77	64	152	67
Grp Sat Flow(s),veh/h/ln	1774	1770	1752	1774	1770	1771	1774	1863	1583	1774	1863	1583
Q Serve(g_s), s	6.8	13.1	13.2	1.9	5.9	6.1	4.0	6.6	2.2	2.7	4.3	1.8
Cycle Q Clear(g_c), s	6.8	13.1	13.2	1.9	5.9	6.1	4.0	6.6	2.2	2.7	4.3	1.8
Prop In Lane	1.00		0.36	1.00		0.29	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	199	456	452	101	358	359	140	713	696	120	692	766
V/C Ratio(X)	0.80	0.72	0.73	0.45	0.43	0.44	0.68	0.32	0.11	0.53	0.22	0.09
Avail Cap(c_a), veh/h	312	611	605	312	611	611	312	713	696	312	692	766
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	33.2	26.0	26.0	35.0	26.8	26.8	34.4	16.7	12.7	34.6	16.5	10.7
Incr Delay (d2), s/veh	8.0	2.8	3.0	3.2	0.8	0.9	5.6	1.2	0.3	3.6	0.7	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.7	6.7	6.7	1.0	3.0	3.1	2.2	3.6	1.0	1.4	2.3	0.8
LnGrp Delay(d),s/veh	41.2	28.8	29.0	38.2	27.6	27.7	39.9	17.9	13.0	38.2	17.2	10.9
LnGrp LOS	D	C	C	D	C	C	D	B	B	D	B	B
Approach Vol, veh/h		820			361			401			283	
Approach Delay, s/veh		31.3			29.0			22.2			20.5	
Approach LOS		C			C			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.7	33.9	8.9	24.3	10.6	33.0	13.1	20.0
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	13.5	28.5	13.5	26.5	13.5	28.5	13.5	26.5
Max Q Clear Time (g_c+I1), s	4.7	8.6	3.9	15.2	6.0	6.3	8.8	8.1
Green Ext Time (p_c), s	0.1	2.6	0.0	4.6	0.1	2.7	0.2	5.9

Intersection Summary	
HCM 2010 Ctrl Delay	27.2
HCM 2010 LOS	C

Near Term Year (2022)

HCM 2010 Signalized Intersection Summary
1: Heacock St & Ironwood Ave

Festival at Moreno Valley Mixed Use
Future (2022) Without Project Weekday AM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	147	315	162	181	598	47	135	489	103	57	632	290
Future Volume (veh/h)	147	315	162	181	598	47	135	489	103	57	632	290
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	156	335	172	193	636	50	144	520	110	61	672	309
Adj No. of Lanes	1	2	1	1	2	0	1	2	1	1	2	1
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	192	823	368	230	844	66	179	1302	787	110	1165	692
Arrive On Green	0.11	0.23	0.23	0.13	0.25	0.25	0.10	0.37	0.37	0.06	0.33	0.33
Sat Flow, veh/h	1774	3539	1583	1774	3325	261	1774	3539	1583	1774	3539	1583
Grp Volume(v), veh/h	156	335	172	193	338	348	144	520	110	61	672	309
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	1770	1817	1774	1770	1583	1774	1770	1583
Q Serve(g_s), s	7.4	6.9	8.1	9.2	15.3	15.3	6.9	9.4	3.2	2.9	13.6	11.8
Cycle Q Clear(g_c), s	7.4	6.9	8.1	9.2	15.3	15.3	6.9	9.4	3.2	2.9	13.6	11.8
Prop In Lane	1.00		1.00	1.00		0.14	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	192	823	368	230	449	461	179	1302	787	110	1165	692
V/C Ratio(X)	0.81	0.41	0.47	0.84	0.75	0.75	0.80	0.40	0.14	0.55	0.58	0.45
Avail Cap(c_a), veh/h	277	1084	485	277	542	556	277	1302	787	277	1165	692
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	37.7	28.2	28.6	36.8	29.8	29.8	38.1	20.3	11.8	39.4	24.0	17.0
Incr Delay (d2), s/veh	11.4	0.3	0.9	17.4	4.8	4.7	9.3	0.9	0.4	4.3	2.1	2.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.2	3.4	3.6	5.6	8.0	8.2	3.8	4.8	1.5	1.6	7.0	5.5
LnGrp Delay(d),s/veh	49.1	28.5	29.5	54.3	34.6	34.5	47.4	21.2	12.1	43.7	26.1	19.1
LnGrp LOS	D	C	C	D	C	C	D	C	B	D	C	B
Approach Vol, veh/h		663			879			774			1042	
Approach Delay, s/veh		33.6			38.9			24.8			25.1	
Approach LOS		C			D			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.9	36.3	15.7	24.6	13.2	33.0	13.9	26.5
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	13.5	28.5	13.5	26.5	13.5	28.5	13.5	26.5
Max Q Clear Time (g_c+I1), s	4.9	11.4	11.2	10.1	8.9	15.6	9.4	17.3
Green Ext Time (p_c), s	0.1	8.6	0.1	6.6	0.1	7.2	0.1	4.7

Intersection Summary	
HCM 2010 Ctrl Delay	30.3
HCM 2010 LOS	C

Intersection	
Int Delay, s/veh	0

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	0	726	0	0	975
Future Vol, veh/h	0	0	726	0	0	975
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	772	0	0	1037

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1291	386	0	0	772	0
Stage 1	772	-	-	-	-	-
Stage 2	519	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	155	612	-	-	839	-
Stage 1	416	-	-	-	-	-
Stage 2	562	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	155	612	-	-	839	-
Mov Cap-2 Maneuver	287	-	-	-	-	-
Stage 1	416	-	-	-	-	-
Stage 2	562	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	0	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	-	839	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	-	-	0	0	-
HCM Lane LOS	-	-	A	A	-
HCM 95th %tile Q(veh)	-	-	-	0	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	45	67	156	63	83	20	124	689	63	20	940	46
Future Volume (veh/h)	45	67	156	63	83	20	124	689	63	20	940	46
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	46	69	161	65	86	21	128	710	65	21	969	47
Adj No. of Lanes	1	1	0	1	1	1	1	2	1	1	2	1
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	104	91	213	126	365	310	164	1626	727	59	1416	633
Arrive On Green	0.06	0.18	0.18	0.07	0.20	0.20	0.09	0.46	0.46	0.03	0.40	0.40
Sat Flow, veh/h	1774	497	1161	1774	1863	1583	1774	3539	1583	1774	3539	1583
Grp Volume(v), veh/h	46	0	230	65	86	21	128	710	65	21	969	47
Grp Sat Flow(s),veh/h/ln	1774	0	1658	1774	1863	1583	1774	1770	1583	1774	1770	1583
Q Serve(g_s), s	1.8	0.0	9.4	2.5	2.8	0.8	5.0	9.7	1.6	0.8	16.1	1.3
Cycle Q Clear(g_c), s	1.8	0.0	9.4	2.5	2.8	0.8	5.0	9.7	1.6	0.8	16.1	1.3
Prop In Lane	1.00		0.70	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	104	0	304	126	365	310	164	1626	727	59	1416	633
V/C Ratio(X)	0.44	0.00	0.76	0.52	0.24	0.07	0.78	0.44	0.09	0.35	0.68	0.07
Avail Cap(c_a), veh/h	336	0	617	336	693	589	336	1626	727	336	1416	633
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	32.4	0.0	27.6	31.9	24.1	23.3	31.6	13.0	10.9	33.7	17.7	13.2
Incr Delay (d2), s/veh	2.9	0.0	3.8	3.2	0.3	0.1	7.7	0.9	0.2	3.6	2.7	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	0.0	4.6	1.3	1.5	0.3	2.8	4.9	0.8	0.5	8.3	0.6
LnGrp Delay(d),s/veh	35.3	0.0	31.4	35.1	24.5	23.4	39.3	13.9	11.1	37.2	20.4	13.4
LnGrp LOS	D		C	D	C	C	D	B	B	D	C	B
Approach Vol, veh/h		276			172			903			1037	
Approach Delay, s/veh		32.1			28.4			17.3			20.4	
Approach LOS		C			C			B			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	6.9	37.2	9.6	17.6	11.1	33.0	8.7	18.5
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	13.5	28.5	13.5	26.5	13.5	28.5	13.5	26.5
Max Q Clear Time (g_c+I1), s	2.8	11.7	4.5	11.4	7.0	18.1	3.8	4.8
Green Ext Time (p_c), s	0.0	10.7	0.1	1.7	0.1	7.4	0.0	2.0

Intersection Summary	
HCM 2010 Ctrl Delay	21.1
HCM 2010 LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	342	4	168	332	707	0	0	859	327
Future Volume (veh/h)	0	0	0	342	4	168	332	707	0	0	859	327
Number				3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln				1900	1863	1863	1863	1863	0	0	1863	1900
Adj Flow Rate, veh/h				356	4	175	346	736	0	0	895	341
Adj No. of Lanes				0	1	1	1	2	0	0	2	0
Peak Hour Factor				0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %				2	2	2	2	2	0	0	2	2
Cap, veh/h				428	5	387	383	2311	0	0	969	367
Arrive On Green				0.24	0.24	0.24	0.22	0.65	0.00	0.00	0.39	0.39
Sat Flow, veh/h				1755	20	1583	1774	3632	0	0	2605	953
Grp Volume(v), veh/h				360	0	175	346	736	0	0	629	607
Grp Sat Flow(s),veh/h/ln				1775	0	1583	1774	1770	0	0	1770	1695
Q Serve(g_s), s				16.8	0.0	8.2	16.6	8.0	0.0	0.0	29.7	30.0
Cycle Q Clear(g_c), s				16.8	0.0	8.2	16.6	8.0	0.0	0.0	29.7	30.0
Prop In Lane				0.99		1.00	1.00		0.00	0.00		0.56
Lane Grp Cap(c), veh/h				433	0	387	383	2311	0	0	682	654
V/C Ratio(X)				0.83	0.00	0.45	0.90	0.32	0.00	0.00	0.92	0.93
Avail Cap(c_a), veh/h				688	0	614	424	2311	0	0	682	654
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				31.3	0.0	28.1	33.4	6.6	0.0	0.0	25.6	25.7
Incr Delay (d2), s/veh				4.8	0.0	0.8	21.1	0.4	0.0	0.0	19.9	21.4
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				8.8	0.0	3.7	10.3	4.0	0.0	0.0	18.1	17.9
LnGrp Delay(d),s/veh				36.2	0.0	28.9	54.5	7.0	0.0	0.0	45.5	47.1
LnGrp LOS				D		C	D	A			D	D
Approach Vol, veh/h					535			1082			1236	
Approach Delay, s/veh					33.8			22.2			46.3	
Approach LOS					C			C			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2			5	6		8
Phs Duration (G+Y+Rc), s		61.6			23.4	38.2		25.8
Change Period (Y+Rc), s		4.5			4.5	4.5		4.5
Max Green Setting (Gmax), s		57.1			20.9	31.7		33.9
Max Q Clear Time (g_c+I1), s		10.0			18.6	32.0		18.8
Green Ext Time (p_c), s		21.7			0.3	0.0		2.5

Intersection Summary		
HCM 2010 Ctrl Delay		34.8
HCM 2010 LOS		C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	234	4	510	0	0	0	0	796	182	171	995	0
Future Volume (veh/h)	234	4	510	0	0	0	0	796	182	171	995	0
Number	7	4	14				5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863				0	1863	1900	1863	1863	0
Adj Flow Rate, veh/h	242	0	520				0	812	186	174	1015	0
Adj No. of Lanes	2	0	1				0	3	0	1	2	0
Peak Hour Factor	0.98	0.98	0.98				0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Cap, veh/h	1061	0	473				0	1849	420	213	2162	0
Arrive On Green	0.30	0.00	0.30				0.00	0.45	0.45	0.12	0.61	0.00
Sat Flow, veh/h	3548	0	1583				0	4312	942	1774	3632	0
Grp Volume(v), veh/h	242	0	520				0	663	335	174	1015	0
Grp Sat Flow(s),veh/h/ln	1774	0	1583				0	1695	1696	1774	1770	0
Q Serve(g_s), s	5.1	0.0	29.9				0.0	13.5	13.6	9.6	15.6	0.0
Cycle Q Clear(g_c), s	5.1	0.0	29.9				0.0	13.5	13.6	9.6	15.6	0.0
Prop In Lane	1.00		1.00				0.00		0.56	1.00		0.00
Lane Grp Cap(c), veh/h	1061	0	473				0	1512	757	213	2162	0
V/C Ratio(X)	0.23	0.00	1.10				0.00	0.44	0.44	0.82	0.47	0.00
Avail Cap(c_a), veh/h	1061	0	473				0	1512	757	530	2162	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	26.4	0.0	35.0				0.0	19.1	19.1	42.9	10.6	0.0
Incr Delay (d2), s/veh	0.1	0.0	70.8				0.0	0.2	0.4	7.5	0.7	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.5	0.0	22.3				0.0	6.3	6.4	5.1	7.8	0.0
LnGrp Delay(d),s/veh	26.5	0.0	105.9				0.0	19.3	19.5	50.5	11.3	0.0
LnGrp LOS	C		F					B	B	D	B	
Approach Vol, veh/h		762						998			1189	
Approach Delay, s/veh		80.7						19.4			17.1	
Approach LOS		F						B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4		6		
Phs Duration (G+Y+Rc), s	16.5	49.1		34.4		65.6		
Change Period (Y+Rc), s	4.5	4.5		4.5		4.5		
Max Green Setting (Gmax), s	29.3	26.7		29.9		61.1		
Max Q Clear Time (g_c+I1), s	11.6	15.6		31.9		17.6		
Green Ext Time (p_c), s	0.4	8.5		0.0		21.5		

Intersection Summary	
HCM 2010 Ctrl Delay	34.3
HCM 2010 LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	149	1	0	166	0	0	0	1	0	0	0
Future Vol, veh/h	0	149	1	0	166	0	0	0	1	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	91	91	91	91	91	91	91	91	91	91	91	91
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	164	1	0	182	0	0	0	1	0	0	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	182	0	0	165	0	0	255	346	82	264	347	91
Stage 1	-	-	-	-	-	-	164	164	-	182	182	-
Stage 2	-	-	-	-	-	-	91	182	-	82	165	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	1391	-	-	1411	-	-	677	576	961	668	575	949
Stage 1	-	-	-	-	-	-	822	761	-	802	748	-
Stage 2	-	-	-	-	-	-	906	748	-	917	761	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1391	-	-	1411	-	-	677	576	961	667	575	949
Mov Cap-2 Maneuver	-	-	-	-	-	-	677	576	-	667	575	-
Stage 1	-	-	-	-	-	-	822	761	-	802	748	-
Stage 2	-	-	-	-	-	-	906	748	-	916	761	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0	8.8	0
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	961	1391	-	-	1411	-	-	-
HCM Lane V/C Ratio	0.001	-	-	-	-	-	-	-
HCM Control Delay (s)	8.8	0	-	-	0	-	-	0
HCM Lane LOS	A	A	-	-	A	-	-	A
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	-

Intersection	
Int Delay, s/veh	0.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	12	139	1	0	159	1	2	0	0	0	0	7
Future Vol, veh/h	12	139	1	0	159	1	2	0	0	0	0	7
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	180	-	-	0	-	-	-	-	-	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	86	86	86	86	86	86	86	86	86	86	86	86
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	14	162	1	0	185	1	2	0	0	0	0	8

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	186	0	0	163	0	0	375	376	81	294	376	185
Stage 1	-	-	-	-	-	-	190	190	-	185	185	-
Stage 2	-	-	-	-	-	-	185	186	-	109	191	-
Critical Hdwy	4.13	-	-	4.13	-	-	7.33	6.53	6.93	7.33	6.53	6.23
Critical Hdwy Stg 1	-	-	-	-	-	-	6.53	5.53	-	6.13	5.53	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.13	5.53	-	6.53	5.53	-
Follow-up Hdwy	2.219	-	-	2.219	-	-	3.519	4.019	3.319	3.519	4.019	3.319
Pot Cap-1 Maneuver	1387	-	-	1414	-	-	569	555	963	647	555	857
Stage 1	-	-	-	-	-	-	794	742	-	816	746	-
Stage 2	-	-	-	-	-	-	816	745	-	885	742	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1387	-	-	1414	-	-	559	549	963	642	549	857
Mov Cap-2 Maneuver	-	-	-	-	-	-	559	549	-	642	549	-
Stage 1	-	-	-	-	-	-	786	735	-	808	746	-
Stage 2	-	-	-	-	-	-	808	745	-	876	735	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.6	0	11.5	9.2
HCM LOS			B	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	559	1387	-	-	1414	-	-	-	857
HCM Lane V/C Ratio	0.004	0.01	-	-	-	-	-	-	0.009
HCM Control Delay (s)	11.5	7.6	-	-	0	-	-	0	9.2
HCM Lane LOS	B	A	-	-	A	-	-	A	A
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	-	0

Intersection	
Int Delay, s/veh	0.6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	18	121	153	4	0	6
Future Vol, veh/h	18	121	153	4	0	6
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	84	84	84	84	84	84
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	21	144	182	5	0	7

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	187	0	-	0	372	185
Stage 1	-	-	-	-	185	-
Stage 2	-	-	-	-	187	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1387	-	-	-	629	857
Stage 1	-	-	-	-	847	-
Stage 2	-	-	-	-	845	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1387	-	-	-	619	857
Mov Cap-2 Maneuver	-	-	-	-	665	-
Stage 1	-	-	-	-	847	-
Stage 2	-	-	-	-	831	-

Approach	EB	WB	SB
HCM Control Delay, s	1	0	9.2
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1387	-	-	-	857
HCM Lane V/C Ratio	0.015	-	-	-	0.008
HCM Control Delay (s)	7.6	0	-	-	9.2
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0

Intersection	
Int Delay, s/veh	0.6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	13	109	155	20	6	4
Future Vol, veh/h	13	109	155	20	6	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	14	121	172	22	7	4

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	194	0	-	0	333	183
Stage 1	-	-	-	-	183	-
Stage 2	-	-	-	-	150	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1379	-	-	-	662	859
Stage 1	-	-	-	-	848	-
Stage 2	-	-	-	-	878	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1379	-	-	-	655	859
Mov Cap-2 Maneuver	-	-	-	-	690	-
Stage 1	-	-	-	-	848	-
Stage 2	-	-	-	-	868	-

Approach	EB	WB	SB
HCM Control Delay, s	0.8	0	9.9
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1379	-	-	-	749
HCM Lane V/C Ratio	0.01	-	-	-	0.015
HCM Control Delay (s)	7.6	-	-	-	9.9
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	114	171	7	0	1
Future Vol, veh/h	0	114	171	7	0	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	86	86	86	86	86	86
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	133	199	8	0	1

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	-	203
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.318
Pot Cap-1 Maneuver	0	-	-	-	0	838
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	838
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	9.3
HCM LOS			A

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	838
HCM Lane V/C Ratio	-	-	-	0.001
HCM Control Delay (s)	-	-	-	9.3
HCM Lane LOS	-	-	-	A
HCM 95th %tile Q(veh)	-	-	-	0

Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑	↱			↱
Traffic Vol, veh/h	0	115	173	4	0	7
Future Vol, veh/h	0	115	173	4	0	7
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	87	87	87	87	87	87
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	132	199	5	0	8

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	-	201
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.318
Pot Cap-1 Maneuver	0	-	-	-	0	840
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	840
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	9.3
HCM LOS			A

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	840
HCM Lane V/C Ratio	-	-	-	0.01
HCM Control Delay (s)	-	-	-	9.3
HCM Lane LOS	-	-	-	A
HCM 95th %tile Q(veh)	-	-	-	0

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	51	437	0	0	748	174	0	0	0	142	0	87
Future Volume (veh/h)	51	437	0	0	748	174	0	0	0	142	0	87
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	0	1863	1900	1900	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	58	497	0	0	850	198	0	0	0	161	0	99
Adj No. of Lanes	1	2	0	0	2	0	0	1	0	1	1	0
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	2	2	2	0	2	2	2	2	2	2	2	2
Cap, veh/h	74	1644	0	0	1077	251	0	831	0	863	0	707
Arrive On Green	0.04	0.46	0.00	0.00	0.38	0.38	0.00	0.00	0.00	0.45	0.00	0.45
Sat Flow, veh/h	1774	3632	0	0	2944	664	0	1863	0	1774	0	1583
Grp Volume(v), veh/h	58	497	0	0	527	521	0	0	0	161	0	99
Grp Sat Flow(s),veh/h/ln	1774	1770	0	0	1770	1746	0	1863	0	1774	0	1583
Q Serve(g_s), s	3.3	8.8	0.0	0.0	26.6	26.7	0.0	0.0	0.0	5.6	0.0	3.7
Cycle Q Clear(g_c), s	3.3	8.8	0.0	0.0	26.6	26.7	0.0	0.0	0.0	5.6	0.0	3.7
Prop In Lane	1.00		0.00	0.00		0.38	0.00		0.00	1.00		1.00
Lane Grp Cap(c), veh/h	74	1644	0	0	669	659	0	831	0	863	0	707
V/C Ratio(X)	0.78	0.30	0.00	0.00	0.79	0.79	0.00	0.00	0.00	0.19	0.00	0.14
Avail Cap(c_a), veh/h	88	1644	0	0	807	796	0	831	0	863	0	707
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	0.00	1.00	1.00	0.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	47.8	16.8	0.0	0.0	27.8	27.8	0.0	0.0	0.0	17.0	0.0	16.5
Incr Delay (d2), s/veh	30.5	0.1	0.0	0.0	4.4	4.5	0.0	0.0	0.0	0.5	0.0	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.2	4.3	0.0	0.0	13.9	13.7	0.0	0.0	0.0	2.8	0.0	1.7
LnGrp Delay(d),s/veh	78.3	16.9	0.0	0.0	32.2	32.3	0.0	0.0	0.0	17.5	0.0	16.9
LnGrp LOS	E	B			C	C				B		B
Approach Vol, veh/h		555			1048			0			260	
Approach Delay, s/veh		23.3			32.2			0.0			17.3	
Approach LOS		C			C						B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6	7	8
Phs Duration (G+Y+Rc), s		49.5		51.3		49.5	8.7	42.6
Change Period (Y+Rc), s		4.5		4.5		4.5	4.5	4.5
Max Green Setting (Gmax), s		45.0		46.0		45.0	5.0	46.0
Max Q Clear Time (g_c+I1), s		0.0		10.8		7.6	5.3	28.7
Green Ext Time (p_c), s		0.0		14.0		1.1	0.0	9.4

Intersection Summary	
HCM 2010 Ctrl Delay	27.5
HCM 2010 LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	36	406	137	119	685	94	132	150	74	105	174	91
Future Volume (veh/h)	36	406	137	119	685	94	132	150	74	105	174	91
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	43	483	163	142	815	112	157	179	88	125	207	108
Adj No. of Lanes	1	2	0	1	2	0	1	1	1	1	1	1
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	92	677	227	177	961	132	193	644	548	158	608	516
Arrive On Green	0.05	0.26	0.26	0.10	0.31	0.31	0.11	0.35	0.35	0.09	0.33	0.33
Sat Flow, veh/h	1774	2605	873	1774	3127	430	1774	1863	1583	1774	1863	1583
Grp Volume(v), veh/h	43	327	319	142	461	466	157	179	88	125	207	108
Grp Sat Flow(s),veh/h/ln	1774	1770	1709	1774	1770	1787	1774	1863	1583	1774	1863	1583
Q Serve(g_s), s	2.1	14.7	14.8	6.8	21.3	21.3	7.6	6.1	3.4	6.0	7.4	4.3
Cycle Q Clear(g_c), s	2.1	14.7	14.8	6.8	21.3	21.3	7.6	6.1	3.4	6.0	7.4	4.3
Prop In Lane	1.00		0.51	1.00		0.24	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	92	460	444	177	544	549	193	644	548	158	608	516
V/C Ratio(X)	0.47	0.71	0.72	0.80	0.85	0.85	0.82	0.28	0.16	0.79	0.34	0.21
Avail Cap(c_a), veh/h	274	537	518	274	544	549	274	644	548	274	608	516
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	40.2	29.4	29.4	38.5	28.3	28.3	38.1	20.7	19.8	39.0	22.3	21.3
Incr Delay (d2), s/veh	3.6	3.6	4.0	9.3	12.0	11.9	11.9	1.1	0.6	8.6	1.5	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	7.6	7.5	3.8	12.2	12.3	4.3	3.3	1.6	3.3	4.1	2.0
LnGrp Delay(d),s/veh	43.9	33.0	33.4	47.8	40.3	40.2	50.0	21.8	20.4	47.6	23.8	22.2
LnGrp LOS	D	C	C	D	D	D	D	C	C	D	C	C
Approach Vol, veh/h		689			1069			424			440	
Approach Delay, s/veh		33.9			41.3			31.9			30.2	
Approach LOS		C			D			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.3	34.7	13.2	27.2	14.0	33.0	9.0	31.4
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	13.5	28.5	13.5	26.5	13.5	28.5	13.5	26.5
Max Q Clear Time (g_c+I1), s	9.0	8.1	8.8	16.8	9.6	9.4	4.1	23.3
Green Ext Time (p_c), s	0.1	2.8	0.1	5.9	0.1	2.8	0.0	2.4

Intersection Summary	
HCM 2010 Ctrl Delay	36.0
HCM 2010 LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	10	81	29	76	85	65	40	255	66	47	365	24
Future Volume (veh/h)	10	81	29	76	85	65	40	255	66	47	365	24
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	12	101	36	95	106	81	50	319	82	59	456	30
Adj No. of Lanes	1	2	0	1	1	0	1	1	0	1	1	0
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	159	232	79	254	140	107	107	618	159	167	805	53
Arrive On Green	0.09	0.09	0.09	0.14	0.14	0.14	0.06	0.43	0.43	0.09	0.47	0.47
Sat Flow, veh/h	1774	2592	885	1774	981	750	1774	1430	368	1774	1729	114
Grp Volume(v), veh/h	12	68	69	95	0	187	50	0	401	59	0	486
Grp Sat Flow(s),veh/h/ln	1774	1770	1707	1774	0	1730	1774	0	1798	1774	0	1843
Q Serve(g_s), s	0.5	2.7	2.9	3.6	0.0	7.7	2.0	0.0	12.2	2.3	0.0	14.3
Cycle Q Clear(g_c), s	0.5	2.7	2.9	3.6	0.0	7.7	2.0	0.0	12.2	2.3	0.0	14.3
Prop In Lane	1.00		0.52	1.00		0.43	1.00		0.20	1.00		0.06
Lane Grp Cap(c), veh/h	159	159	153	254	0	247	107	0	777	167	0	858
V/C Ratio(X)	0.08	0.43	0.45	0.37	0.00	0.76	0.47	0.00	0.52	0.35	0.00	0.57
Avail Cap(c_a), veh/h	478	477	460	478	0	467	169	0	777	478	0	858
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	31.1	32.1	32.2	28.9	0.0	30.7	33.9	0.0	15.5	31.7	0.0	14.5
Incr Delay (d2), s/veh	0.2	1.8	2.1	0.9	0.0	4.7	3.1	0.0	2.4	1.3	0.0	2.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	1.4	1.4	1.8	0.0	4.0	1.1	0.0	6.5	1.2	0.0	7.8
LnGrp Delay(d),s/veh	31.3	33.9	34.3	29.8	0.0	35.4	37.0	0.0	17.9	32.9	0.0	17.2
LnGrp LOS	C	C	C	C		D	D		B	C		B
Approach Vol, veh/h		149			282			451			545	
Approach Delay, s/veh		33.9			33.5			20.0			18.9	
Approach LOS		C			C			C			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	11.5	36.7		11.2	9.0	39.2		15.2
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5
Max Green Setting (Gmax), s	20.1	21.7		20.1	7.1	34.7		20.1
Max Q Clear Time (g_c+I1), s	14.3	14.2		4.9	4.0	16.3		9.7
Green Ext Time (p_c), s	0.1	3.3		0.6	0.0	5.6		1.0

Intersection Summary	
HCM 2010 Ctrl Delay	23.7
HCM 2010 LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	123	189	81	22	247	38	101	224	65	63	252	171
Future Volume (veh/h)	123	189	81	22	247	38	101	224	65	63	252	171
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	138	212	91	25	278	43	113	252	73	71	283	192
Adj No. of Lanes	1	2	0	1	2	0	1	1	1	1	1	1
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	176	545	226	68	500	76	155	768	714	131	743	789
Arrive On Green	0.10	0.22	0.22	0.04	0.16	0.16	0.09	0.41	0.41	0.07	0.40	0.40
Sat Flow, veh/h	1774	2441	1013	1774	3079	471	1774	1863	1583	1774	1863	1583
Grp Volume(v), veh/h	138	152	151	25	158	163	113	252	73	71	283	192
Grp Sat Flow(s),veh/h/ln	1774	1770	1684	1774	1770	1780	1774	1863	1583	1774	1863	1583
Q Serve(g_s), s	5.4	5.2	5.5	1.0	5.9	6.0	4.4	6.6	1.9	2.8	7.7	4.9
Cycle Q Clear(g_c), s	5.4	5.2	5.5	1.0	5.9	6.0	4.4	6.6	1.9	2.8	7.7	4.9
Prop In Lane	1.00		0.60	1.00		0.26	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	176	395	376	68	287	289	155	768	714	131	743	789
V/C Ratio(X)	0.78	0.38	0.40	0.37	0.55	0.56	0.73	0.33	0.10	0.54	0.38	0.24
Avail Cap(c_a), veh/h	335	656	625	335	656	660	335	768	714	335	743	789
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	31.4	23.6	23.7	33.5	27.5	27.6	31.8	14.3	11.3	31.9	15.2	10.2
Incr Delay (d2), s/veh	7.4	0.6	0.7	3.3	1.7	1.7	6.4	1.1	0.3	3.4	1.5	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.0	2.6	2.6	0.5	3.0	3.1	2.4	3.6	0.9	1.5	4.2	2.3
LnGrp Delay(d),s/veh	38.8	24.2	24.4	36.8	29.2	29.3	38.1	15.4	11.6	35.3	16.7	11.0
LnGrp LOS	D	C	C	D	C	C	D	B	B	D	B	B
Approach Vol, veh/h		441			346			438			546	
Approach Delay, s/veh		28.8			29.8			20.6			17.1	
Approach LOS		C			C			C			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.8	34.0	7.2	20.5	10.8	33.0	11.6	16.1
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	13.5	28.5	13.5	26.5	13.5	28.5	13.5	26.5
Max Q Clear Time (g_c+I1), s	7.4	8.6	3.0	7.5	6.4	9.7	7.4	8.0
Green Ext Time (p_c), s	0.1	4.1	0.0	3.6	0.1	4.0	0.2	3.6

Intersection Summary		
HCM 2010 Ctrl Delay		23.4
HCM 2010 LOS		C

HCM 2010 Signalized Intersection Summary
1: Heacock St & Ironwood Ave

Festival at Moreno Valley Mixed Use
Future (2022) Without-Project Weekday PM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	251	490	197	109	346	44	245	770	207	82	608	227
Future Volume (veh/h)	251	490	197	109	346	44	245	770	207	82	608	227
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	256	500	201	111	353	45	250	786	211	84	620	232
Adj No. of Lanes	1	2	1	1	2	0	1	2	1	1	2	1
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	264	914	409	141	597	76	264	1400	752	120	1113	734
Arrive On Green	0.15	0.26	0.26	0.08	0.19	0.19	0.15	0.40	0.40	0.07	0.31	0.31
Sat Flow, veh/h	1774	3539	1583	1774	3162	400	1774	3539	1583	1774	3539	1583
Grp Volume(v), veh/h	256	500	201	111	196	202	250	786	211	84	620	232
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	1770	1792	1774	1770	1583	1774	1770	1583
Q Serve(g_s), s	13.0	11.1	9.8	5.6	9.2	9.3	12.7	15.6	7.3	4.2	13.2	8.3
Cycle Q Clear(g_c), s	13.0	11.1	9.8	5.6	9.2	9.3	12.7	15.6	7.3	4.2	13.2	8.3
Prop In Lane	1.00		1.00	1.00		0.22	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	264	914	409	141	334	339	264	1400	752	120	1113	734
V/C Ratio(X)	0.97	0.55	0.49	0.79	0.59	0.60	0.95	0.56	0.28	0.70	0.56	0.32
Avail Cap(c_a), veh/h	264	1035	463	264	517	524	264	1400	752	264	1113	734
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	38.3	29.0	28.5	40.9	33.5	33.6	38.2	21.3	14.4	41.3	25.8	15.3
Incr Delay (d2), s/veh	46.5	0.5	0.9	9.2	1.6	1.7	40.8	1.6	0.9	7.1	2.0	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	9.7	5.5	4.4	3.1	4.6	4.7	9.2	8.0	3.4	2.3	6.8	3.9
LnGrp Delay(d),s/veh	84.9	29.5	29.5	50.2	35.2	35.3	79.0	22.9	15.3	48.4	27.8	16.4
LnGrp LOS	F	C	C	D	D	D	E	C	B	D	C	B
Approach Vol, veh/h		957			509			1247			936	
Approach Delay, s/veh		44.3			38.5			32.9			26.8	
Approach LOS		D			D			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.7	40.3	11.7	27.9	18.0	33.0	18.0	21.6
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	13.5	28.5	13.5	26.5	13.5	28.5	13.5	26.5
Max Q Clear Time (g_c+I1), s	6.2	17.6	7.6	13.1	14.7	15.2	15.0	11.3
Green Ext Time (p_c), s	0.1	7.3	0.1	5.4	0.0	8.4	0.0	5.8

Intersection Summary	
HCM 2010 Ctrl Delay	35.1
HCM 2010 LOS	D

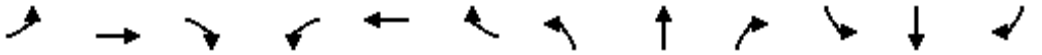
Intersection	
Int Delay, s/veh	0

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	0	1222	0	0	913
Future Vol, veh/h	0	0	1222	0	0	913
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	98	98	98	98	98	98
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	1247	0	0	932

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1620	623	0	0	1247	0
Stage 1	1247	-	-	-	-	-
Stage 2	373	-	-	-	-	-
Critical Hdwy	6.29	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	6.04	-	-	-	-	-
Follow-up Hdwy	3.67	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	118	429	-	-	554	-
Stage 1	229	-	-	-	-	-
Stage 2	631	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	118	429	-	-	554	-
Mov Cap-2 Maneuver	118	-	-	-	-	-
Stage 1	229	-	-	-	-	-
Stage 2	631	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	0	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	-	554	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	-	-	0	0	-
HCM Lane LOS	-	-	A	A	-
HCM 95th %tile Q(veh)	-	-	-	0	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	63	98	245	91	83	33	226	1183	120	26	869	52
Future Volume (veh/h)	63	98	245	91	83	33	226	1183	120	26	869	52
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	64	99	247	92	84	33	228	1195	121	26	878	53
Adj No. of Lanes	1	1	0	1	1	1	1	2	1	1	2	1
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	113	115	286	128	467	397	264	1558	697	67	1165	521
Arrive On Green	0.06	0.24	0.24	0.07	0.25	0.25	0.15	0.44	0.44	0.04	0.33	0.33
Sat Flow, veh/h	1774	473	1181	1774	1863	1583	1774	3539	1583	1774	3539	1583
Grp Volume(v), veh/h	64	0	346	92	84	33	228	1195	121	26	878	53
Grp Sat Flow(s),veh/h/ln	1774	0	1654	1774	1863	1583	1774	1770	1583	1774	1770	1583
Q Serve(g_s), s	3.0	0.0	17.3	4.4	3.1	1.4	10.9	24.7	4.0	1.2	19.2	2.0
Cycle Q Clear(g_c), s	3.0	0.0	17.3	4.4	3.1	1.4	10.9	24.7	4.0	1.2	19.2	2.0
Prop In Lane	1.00		0.71	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	113	0	401	128	467	397	264	1558	697	67	1165	521
V/C Ratio(X)	0.57	0.00	0.86	0.72	0.18	0.08	0.87	0.77	0.17	0.39	0.75	0.10
Avail Cap(c_a), veh/h	277	0	506	277	570	485	277	1558	697	277	1165	521
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	39.4	0.0	31.4	39.3	25.4	24.8	36.0	20.5	14.7	40.7	25.9	20.2
Incr Delay (d2), s/veh	4.4	0.0	11.9	7.4	0.2	0.1	23.0	3.7	0.5	3.7	4.5	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.6	0.0	9.2	2.4	1.6	0.6	7.0	12.7	1.8	0.7	10.0	0.9
LnGrp Delay(d),s/veh	43.8	0.0	43.4	46.7	25.6	24.9	59.0	24.2	15.2	44.4	30.4	20.5
LnGrp LOS	D		D	D	C	C	E	C	B	D	C	C
Approach Vol, veh/h		410			209			1544			957	
Approach Delay, s/veh		43.4			34.8			28.6			30.3	
Approach LOS		D			C			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.8	42.6	10.7	25.5	17.4	33.0	10.0	26.2
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	13.5	28.5	13.5	26.5	13.5	28.5	13.5	26.5
Max Q Clear Time (g_c+I1), s	3.2	26.7	6.4	19.3	12.9	21.2	5.0	5.1
Green Ext Time (p_c), s	0.0	1.6	0.1	1.6	0.0	6.3	0.1	2.9

Intersection Summary	
HCM 2010 Ctrl Delay	31.5
HCM 2010 LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	347	4	175	442	1362	0	0	948	396
Future Volume (veh/h)	0	0	0	347	4	175	442	1362	0	0	948	396
Number				3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln				1900	1863	1863	1863	1863	0	0	1863	1900
Adj Flow Rate, veh/h				361	4	182	460	1419	0	0	988	412
Adj No. of Lanes				0	1	1	1	2	0	0	2	0
Peak Hour Factor				0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %				2	2	2	2	2	0	0	2	2
Cap, veh/h				434	5	391	422	2302	0	0	884	364
Arrive On Green				0.25	0.25	0.25	0.24	0.65	0.00	0.00	0.36	0.36
Sat Flow, veh/h				1756	19	1583	1774	3632	0	0	2541	1007
Grp Volume(v), veh/h				365	0	182	460	1419	0	0	711	689
Grp Sat Flow(s),veh/h/ln				1775	0	1583	1774	1770	0	0	1770	1685
Q Serve(g_s), s				17.1	0.0	8.6	20.9	20.5	0.0	0.0	31.7	31.7
Cycle Q Clear(g_c), s				17.1	0.0	8.6	20.9	20.5	0.0	0.0	31.7	31.7
Prop In Lane				0.99		1.00	1.00		0.00	0.00		0.60
Lane Grp Cap(c), veh/h				438	0	391	422	2302	0	0	639	609
V/C Ratio(X)				0.83	0.00	0.47	1.09	0.62	0.00	0.00	1.11	1.13
Avail Cap(c_a), veh/h				685	0	611	422	2302	0	0	639	609
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				31.3	0.0	28.1	33.4	8.9	0.0	0.0	28.0	28.0
Incr Delay (d2), s/veh				5.1	0.0	0.9	69.9	1.2	0.0	0.0	70.4	78.9
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				8.9	0.0	3.8	18.3	10.3	0.0	0.0	27.8	27.9
LnGrp Delay(d),s/veh				36.4	0.0	29.0	103.4	10.2	0.0	0.0	98.5	106.9
LnGrp LOS				D		C	F	B			F	F
Approach Vol, veh/h					547			1879			1400	
Approach Delay, s/veh					34.0			33.0			102.6	
Approach LOS					C			C			F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2			5	6		8
Phs Duration (G+Y+Rc), s		61.6			25.4	36.2		26.2
Change Period (Y+Rc), s		4.5			4.5	4.5		4.5
Max Green Setting (Gmax), s		57.1			20.9	31.7		33.9
Max Q Clear Time (g_c+I1), s		22.5			22.9	33.7		19.1
Green Ext Time (p_c), s		27.8			0.0	0.0		2.6

Intersection Summary		
HCM 2010 Ctrl Delay		58.6
HCM 2010 LOS		E

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	530	3	548	0	0	0	0	1285	431	181	995	0
Future Volume (veh/h)	530	3	548	0	0	0	0	1285	431	181	995	0
Number	7	4	14				5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863				0	1863	1900	1863	1863	0
Adj Flow Rate, veh/h	554	0	571				0	1339	449	189	1036	0
Adj No. of Lanes	2	0	1				0	3	0	1	2	0
Peak Hour Factor	0.96	0.96	0.96				0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Cap, veh/h	1061	0	473				0	1651	551	228	2162	0
Arrive On Green	0.30	0.00	0.30				0.00	0.44	0.44	0.13	0.61	0.00
Sat Flow, veh/h	3548	0	1583				0	3940	1258	1774	3632	0
Grp Volume(v), veh/h	554	0	571				0	1203	585	189	1036	0
Grp Sat Flow(s),veh/h/ln	1774	0	1583				0	1695	1641	1774	1770	0
Q Serve(g_s), s	13.0	0.0	29.9				0.0	30.9	31.2	10.4	16.1	0.0
Cycle Q Clear(g_c), s	13.0	0.0	29.9				0.0	30.9	31.2	10.4	16.1	0.0
Prop In Lane	1.00		1.00				0.00		0.77	1.00		0.00
Lane Grp Cap(c), veh/h	1061	0	473				0	1483	718	228	2162	0
V/C Ratio(X)	0.52	0.00	1.21				0.00	0.81	0.82	0.83	0.48	0.00
Avail Cap(c_a), veh/h	1061	0	473				0	1483	718	530	2162	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	29.1	0.0	35.0				0.0	24.5	24.6	42.5	10.7	0.0
Incr Delay (d2), s/veh	0.5	0.0	111.3				0.0	3.5	7.3	7.5	0.8	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.4	0.0	27.7				0.0	15.1	15.4	5.6	8.0	0.0
LnGrp Delay(d),s/veh	29.6	0.0	146.3				0.0	28.0	31.8	50.1	11.5	0.0
LnGrp LOS	C		F					C	C	D	B	
Approach Vol, veh/h		1125						1788			1225	
Approach Delay, s/veh		88.8						29.3			17.4	
Approach LOS		F						C			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4		6		
Phs Duration (G+Y+Rc), s	17.3	48.3		34.4		65.6		
Change Period (Y+Rc), s	4.5	4.5		4.5		4.5		
Max Green Setting (Gmax), s	29.9	26.7		29.9		61.1		
Max Q Clear Time (g_c+I1), s	12.4	33.2		31.9		18.1		
Green Ext Time (p_c), s	0.5	0.0		0.0		32.7		

Intersection Summary	
HCM 2010 Ctrl Delay	42.0
HCM 2010 LOS	D

Notes

User approved volume balancing among the lanes for turning movement.

Intersection	
Int Delay, s/veh	0.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	255	19	0	213	0	0	0	24	0	0	0
Future Vol, veh/h	0	255	19	0	213	0	0	0	24	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	94	94	94	94	94	94	94	94	94	94	94	94
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	271	20	0	227	0	0	0	26	0	0	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	-	0	0	-	-	0	508	508	146	336	518	227
Stage 1	-	-	-	-	-	-	281	281	-	227	227	-
Stage 2	-	-	-	-	-	-	227	227	-	109	291	-
Critical Hdwy	-	-	-	-	-	-	6.78	6.53	7.13	6.78	6.53	6.23
Critical Hdwy Stg 1	-	-	-	-	-	-	7.33	5.53	-	6.13	5.53	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.13	5.53	-	6.73	5.53	-
Follow-up Hdwy	-	-	-	-	-	-	3.669	4.019	3.919	3.669	4.019	3.319
Pot Cap-1 Maneuver	0	-	-	0	-	0	483	467	744	615	461	812
Stage 1	0	-	-	0	-	0	637	678	-	747	716	-
Stage 2	0	-	-	0	-	0	747	716	-	846	671	-
Platoon blocked, %		-	-		-							
Mov Cap-1 Maneuver	-	-	-	-	-	-	483	467	744	594	461	812
Mov Cap-2 Maneuver	-	-	-	-	-	-	483	467	-	594	461	-
Stage 1	-	-	-	-	-	-	637	678	-	747	716	-
Stage 2	-	-	-	-	-	-	747	716	-	817	671	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0	10	0
HCM LOS			B	A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT	SBLn1
Capacity (veh/h)	744	-	-	-	-
HCM Lane V/C Ratio	0.034	-	-	-	-
HCM Control Delay (s)	10	-	-	-	0
HCM Lane LOS	B	-	-	-	A
HCM 95th %tile Q(veh)	0.1	-	-	-	-

Intersection	
Int Delay, s/veh	1.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	50	230	4	4	162	6	2	2	0	8	0	39
Future Vol, veh/h	50	230	4	4	162	6	2	2	0	8	0	39
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	180	-	-	0	-	-	-	-	-	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	88	88	88	88	88	88	88	88	88	88	88	88
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	57	261	5	5	184	7	2	2	0	9	0	44

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	191	0	0	266	0	0	574	577	133	442	577	188
Stage 1	-	-	-	-	-	-	377	377	-	197	197	-
Stage 2	-	-	-	-	-	-	197	200	-	245	380	-
Critical Hdwy	4.13	-	-	4.13	-	-	7.33	6.53	6.93	7.33	6.53	6.23
Critical Hdwy Stg 1	-	-	-	-	-	-	6.53	5.53	-	6.13	5.53	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.13	5.53	-	6.53	5.53	-
Follow-up Hdwy	2.219	-	-	2.219	-	-	3.519	4.019	3.319	3.519	4.019	3.319
Pot Cap-1 Maneuver	1381	-	-	1296	-	-	415	427	892	512	427	853
Stage 1	-	-	-	-	-	-	617	615	-	804	737	-
Stage 2	-	-	-	-	-	-	804	735	-	738	613	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1381	-	-	1296	-	-	380	408	892	492	408	853
Mov Cap-2 Maneuver	-	-	-	-	-	-	380	408	-	492	408	-
Stage 1	-	-	-	-	-	-	592	590	-	771	734	-
Stage 2	-	-	-	-	-	-	759	732	-	705	588	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.4	0.2	14.2	10
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	394	1381	-	-	1296	-	-	492	853
HCM Lane V/C Ratio	0.012	0.041	-	-	0.004	-	-	0.018	0.052
HCM Control Delay (s)	14.2	7.7	-	-	7.8	-	-	12.5	9.5
HCM Lane LOS	B	A	-	-	A	-	-	B	A
HCM 95th %tile Q(veh)	0	0.1	-	-	0	-	-	0.1	0.2

Intersection	
Int Delay, s/veh	0.7

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	12	227	162	8	11	11
Future Vol, veh/h	12	227	162	8	11	11
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	13	249	178	9	12	12

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	187	0	-	0	458	182
Stage 1	-	-	-	-	182	-
Stage 2	-	-	-	-	276	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1387	-	-	-	561	861
Stage 1	-	-	-	-	849	-
Stage 2	-	-	-	-	771	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1387	-	-	-	555	861
Mov Cap-2 Maneuver	-	-	-	-	618	-
Stage 1	-	-	-	-	849	-
Stage 2	-	-	-	-	763	-

Approach	EB	WB	SB
HCM Control Delay, s	0.4	0	10.2
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1387	-	-	-	720
HCM Lane V/C Ratio	0.01	-	-	-	0.034
HCM Control Delay (s)	7.6	0	-	-	10.2
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.1

Intersection	
Int Delay, s/veh	1.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	15	220	155	10	28	18
Future Vol, veh/h	15	220	155	10	28	18
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	16	242	170	11	31	20

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	181	0	-	0	451	176
Stage 1	-	-	-	-	176	-
Stage 2	-	-	-	-	275	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1394	-	-	-	566	867
Stage 1	-	-	-	-	855	-
Stage 2	-	-	-	-	771	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1394	-	-	-	559	867
Mov Cap-2 Maneuver	-	-	-	-	620	-
Stage 1	-	-	-	-	855	-
Stage 2	-	-	-	-	761	-

Approach	EB	WB	SB
HCM Control Delay, s	0.5	0	10.6
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1394	-	-	-	698
HCM Lane V/C Ratio	0.012	-	-	-	0.072
HCM Control Delay (s)	7.6	-	-	-	10.6
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.2

Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	1	247	157	22	0	8
Future Vol, veh/h	1	247	157	22	0	8
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1	266	169	24	0	9

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	192	0	-	0	-	181
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	4.12	-	-	-	-	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	2.218	-	-	-	-	3.318
Pot Cap-1 Maneuver	1381	-	-	-	0	862
Stage 1	-	-	-	-	0	-
Stage 2	-	-	-	-	0	-
Platoon blocked, %			-	-	-	
Mov Cap-1 Maneuver	1381	-	-	-	-	862
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	9.2
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1381	-	-	-	862
HCM Lane V/C Ratio	0.001	-	-	-	0.01
HCM Control Delay (s)	7.6	-	-	-	9.2
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0

Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑	↱			↗
Traffic Vol, veh/h	0	247	169	9	0	10
Future Vol, veh/h	0	247	169	9	0	10
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	263	180	10	0	11

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	-	185
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.318
Pot Cap-1 Maneuver	0	-	-	-	0	857
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	857
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	9.3
HCM LOS			A

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	857
HCM Lane V/C Ratio	-	-	-	0.012
HCM Control Delay (s)	-	-	-	9.3
HCM Lane LOS	-	-	-	A
HCM 95th %tile Q(veh)	-	-	-	0

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	94	682	0	0	432	53	0	0	0	72	0	52
Future Volume (veh/h)	94	682	0	0	432	53	0	0	0	72	0	52
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	0	1863	1900	1900	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	108	784	0	0	497	61	0	0	0	83	0	60
Adj No. of Lanes	1	2	0	0	2	0	0	1	0	1	1	0
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Percent Heavy Veh, %	2	2	2	0	2	2	2	2	2	2	2	2
Cap, veh/h	82	1778	0	0	1317	161	0	773	0	802	0	657
Arrive On Green	0.05	0.50	0.00	0.00	0.41	0.41	0.00	0.00	0.00	0.41	0.00	0.41
Sat Flow, veh/h	1774	3632	0	0	3269	388	0	1863	0	1774	0	1583
Grp Volume(v), veh/h	108	784	0	0	276	282	0	0	0	83	0	60
Grp Sat Flow(s),veh/h/ln	1774	1770	0	0	1770	1794	0	1863	0	1774	0	1583
Q Serve(g_s), s	5.0	15.4	0.0	0.0	11.7	11.8	0.0	0.0	0.0	3.1	0.0	2.5
Cycle Q Clear(g_c), s	5.0	15.4	0.0	0.0	11.7	11.8	0.0	0.0	0.0	3.1	0.0	2.5
Prop In Lane	1.00		0.00	0.00		0.22	0.00		0.00	1.00		1.00
Lane Grp Cap(c), veh/h	82	1778	0	0	734	744	0	773	0	802	0	657
V/C Ratio(X)	1.32	0.44	0.00	0.00	0.38	0.38	0.00	0.00	0.00	0.10	0.00	0.09
Avail Cap(c_a), veh/h	82	1778	0	0	734	744	0	773	0	802	0	657
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	0.00	1.00	1.00	0.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	51.8	17.3	0.0	0.0	22.0	22.0	0.0	0.0	0.0	19.5	0.0	19.3
Incr Delay (d2), s/veh	207.5	0.8	0.0	0.0	1.5	1.5	0.0	0.0	0.0	0.3	0.0	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.1	7.7	0.0	0.0	6.1	6.2	0.0	0.0	0.0	1.6	0.0	1.1
LnGrp Delay(d),s/veh	259.3	18.1	0.0	0.0	23.5	23.5	0.0	0.0	0.0	19.8	0.0	19.6
LnGrp LOS	F	B			C	C				B		B
Approach Vol, veh/h		892			558			0			143	
Approach Delay, s/veh		47.3			23.5			0.0			19.7	
Approach LOS		D			C						B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		8
Phs Duration (G+Y+Rc), s		59.0		49.5	9.5	49.5		49.5
Change Period (Y+Rc), s		4.5		4.5	4.5	4.5		4.5
Max Green Setting (Gmax), s		45.0		45.0	5.0	45.0		45.0
Max Q Clear Time (g_c+I1), s		17.4		5.1	7.0	13.8		0.0
Green Ext Time (p_c), s		10.6		0.6	0.0	11.1		0.0

Intersection Summary	
HCM 2010 Ctrl Delay	36.5
HCM 2010 LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	100	523	94	113	355	62	67	171	203	66	125	74
Future Volume (veh/h)	100	523	94	113	355	62	67	171	203	66	125	74
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	109	568	102	123	386	67	73	186	221	72	136	80
Adj No. of Lanes	1	2	0	1	2	0	1	1	1	1	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	141	783	140	157	815	140	124	663	564	124	662	563
Arrive On Green	0.08	0.26	0.26	0.09	0.27	0.27	0.07	0.36	0.36	0.07	0.36	0.36
Sat Flow, veh/h	1774	3000	537	1774	3021	520	1774	1863	1583	1774	1863	1583
Grp Volume(v), veh/h	109	334	336	123	225	228	73	186	221	72	136	80
Grp Sat Flow(s),veh/h/ln	1774	1770	1768	1774	1770	1771	1774	1863	1583	1774	1863	1583
Q Serve(g_s), s	4.8	13.8	13.9	5.4	8.5	8.7	3.2	5.7	8.4	3.2	4.1	2.7
Cycle Q Clear(g_c), s	4.8	13.8	13.9	5.4	8.5	8.7	3.2	5.7	8.4	3.2	4.1	2.7
Prop In Lane	1.00		0.30	1.00		0.29	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	141	462	462	157	478	478	124	663	564	124	662	563
V/C Ratio(X)	0.77	0.72	0.73	0.78	0.47	0.48	0.59	0.28	0.39	0.58	0.21	0.14
Avail Cap(c_a), veh/h	299	585	585	299	585	586	299	663	564	299	662	563
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	36.2	27.0	27.0	35.8	24.5	24.5	36.1	18.5	19.3	36.1	17.9	17.5
Incr Delay (d2), s/veh	8.6	3.3	3.4	8.3	0.7	0.7	4.3	1.1	2.0	4.3	0.7	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.7	7.1	7.1	3.0	4.2	4.3	1.7	3.1	4.0	1.7	2.2	1.3
LnGrp Delay(d),s/veh	44.7	30.2	30.4	44.1	25.2	25.3	40.5	19.5	21.4	40.4	18.6	18.0
LnGrp LOS	D	C	C	D	C	C	D	B	C	D	B	B
Approach Vol, veh/h		779			576			480			288	
Approach Delay, s/veh		32.3			29.2			23.5			23.9	
Approach LOS		C			C			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.1	33.0	11.6	25.4	10.1	33.0	10.9	26.1
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	13.5	28.5	13.5	26.5	13.5	28.5	13.5	26.5
Max Q Clear Time (g_c+I1), s	5.2	10.4	7.4	15.9	5.2	6.1	6.8	10.7
Green Ext Time (p_c), s	0.1	2.7	0.1	5.0	0.1	2.9	0.1	6.4

Intersection Summary	
HCM 2010 Ctrl Delay	28.4
HCM 2010 LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	41	151	57	107	77	24	55	394	163	18	309	15
Future Volume (veh/h)	41	151	57	107	77	24	55	394	163	18	309	15
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	43	159	60	113	81	25	58	415	172	19	325	16
Adj No. of Lanes	1	2	0	1	1	0	1	1	0	1	1	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	185	266	97	173	133	41	118	565	234	172	848	42
Arrive On Green	0.10	0.10	0.10	0.10	0.10	0.10	0.07	0.45	0.45	0.10	0.48	0.48
Sat Flow, veh/h	1774	2544	925	1774	1367	422	1774	1252	519	1774	1761	87
Grp Volume(v), veh/h	43	109	110	113	0	106	58	0	587	19	0	341
Grp Sat Flow(s),veh/h/ln	1774	1770	1700	1774	0	1788	1774	0	1771	1774	0	1847
Q Serve(g_s), s	1.6	4.2	4.5	4.4	0.0	4.1	2.3	0.0	19.6	0.7	0.0	8.5
Cycle Q Clear(g_c), s	1.6	4.2	4.5	4.4	0.0	4.1	2.3	0.0	19.6	0.7	0.0	8.5
Prop In Lane	1.00		0.54	1.00		0.24	1.00		0.29	1.00		0.05
Lane Grp Cap(c), veh/h	185	185	177	173	0	175	118	0	799	172	0	889
V/C Ratio(X)	0.23	0.59	0.62	0.65	0.00	0.61	0.49	0.00	0.73	0.11	0.00	0.38
Avail Cap(c_a), veh/h	495	494	474	495	0	499	175	0	799	495	0	889
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	29.6	30.8	30.9	31.3	0.0	31.2	32.4	0.0	16.2	29.7	0.0	11.9
Incr Delay (d2), s/veh	0.6	3.0	3.5	4.1	0.0	3.4	3.1	0.0	5.9	0.3	0.0	1.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	2.2	2.3	2.4	0.0	2.2	1.2	0.0	10.8	0.4	0.0	4.6
LnGrp Delay(d),s/veh	30.3	33.8	34.4	35.4	0.0	34.6	35.6	0.0	22.2	30.0	0.0	13.1
LnGrp LOS	C	C	C	D		C	D		C	C		B
Approach Vol, veh/h		262			219			645			360	
Approach Delay, s/veh		33.5			35.0			23.4			14.0	
Approach LOS		C			D			C			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	11.5	37.0		12.0	9.3	39.2		11.5
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5
Max Green Setting (Gmax), s	20.1	21.7		20.1	7.1	34.7		20.1
Max Q Clear Time (g_c+I1), s	12.7	21.6		6.5	4.3	10.5		6.4
Green Ext Time (p_c), s	0.0	0.1		1.1	0.0	6.8		0.7

Intersection Summary	
HCM 2010 Ctrl Delay	24.6
HCM 2010 LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	381	578	160	49	292	50	132	235	82	67	151	267
Future Volume (veh/h)	381	578	160	49	292	50	132	235	82	67	151	267
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	397	602	167	51	304	52	138	245	85	70	157	278
Adj No. of Lanes	1	2	0	1	2	0	1	1	1	1	1	1
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	283	809	224	102	587	99	173	684	673	118	627	786
Arrive On Green	0.16	0.30	0.30	0.06	0.19	0.19	0.10	0.37	0.37	0.07	0.34	0.34
Sat Flow, veh/h	1774	2740	759	1774	3030	512	1774	1863	1583	1774	1863	1583
Grp Volume(v), veh/h	397	388	381	51	176	180	138	245	85	70	157	278
Grp Sat Flow(s),veh/h/ln	1774	1770	1729	1774	1770	1772	1774	1863	1583	1774	1863	1583
Q Serve(g_s), s	13.5	16.8	16.8	2.4	7.5	7.7	6.4	8.1	2.8	3.2	5.2	9.1
Cycle Q Clear(g_c), s	13.5	16.8	16.8	2.4	7.5	7.7	6.4	8.1	2.8	3.2	5.2	9.1
Prop In Lane	1.00		0.44	1.00		0.29	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	283	523	511	102	343	343	173	684	673	118	627	786
V/C Ratio(X)	1.40	0.74	0.75	0.50	0.51	0.52	0.80	0.36	0.13	0.59	0.25	0.35
Avail Cap(c_a), veh/h	283	554	541	283	554	555	283	684	673	283	627	786
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	35.6	26.9	26.9	38.7	30.6	30.6	37.4	19.5	14.8	38.4	20.3	13.0
Incr Delay (d2), s/veh	201.3	5.1	5.3	3.7	1.2	1.2	8.2	1.5	0.4	4.6	1.0	1.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	22.3	8.9	8.8	1.3	3.8	3.9	3.5	4.4	1.3	1.7	2.8	4.2
LnGrp Delay(d),s/veh	236.8	32.0	32.2	42.4	31.8	31.9	45.5	21.0	15.2	43.0	21.3	14.3
LnGrp LOS	F	C	C	D	C	C	D	C	B	D	C	B
Approach Vol, veh/h		1166			407			468			505	
Approach Delay, s/veh		101.8			33.1			27.2			20.4	
Approach LOS		F			C			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.1	35.6	9.4	29.5	12.7	33.0	18.0	20.9
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	13.5	28.5	13.5	26.5	13.5	28.5	13.5	26.5
Max Q Clear Time (g_c+I1), s	15.2	10.1	4.4	18.8	8.4	11.1	15.5	9.7
Green Ext Time (p_c), s	0.1	3.5	0.0	4.1	0.1	3.4	0.0	6.7

Intersection Summary	
HCM 2010 Ctrl Delay	61.0
HCM 2010 LOS	E

HCM 2010 Signalized Intersection Summary
1: Heacock St & Ironwood Ave

Festival at Moreno Valley Mixed Use
Future (2022) With Project Weekday AM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	147	309	161	181	592	47	132	487	103	57	631	290
Future Volume (veh/h)	147	309	161	181	592	47	132	487	103	57	631	290
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	156	329	171	193	630	50	140	518	110	61	671	309
Adj No. of Lanes	1	2	1	1	2	0	1	2	1	1	2	1
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	192	820	367	230	841	67	175	1300	787	111	1172	696
Arrive On Green	0.11	0.23	0.23	0.13	0.25	0.25	0.10	0.37	0.37	0.06	0.33	0.33
Sat Flow, veh/h	1774	3539	1583	1774	3323	263	1774	3539	1583	1774	3539	1583
Grp Volume(v), veh/h	156	329	171	193	335	345	140	518	110	61	671	309
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	1770	1816	1774	1770	1583	1774	1770	1583
Q Serve(g_s), s	7.4	6.8	8.0	9.1	15.0	15.1	6.6	9.3	3.2	2.9	13.5	11.7
Cycle Q Clear(g_c), s	7.4	6.8	8.0	9.1	15.0	15.1	6.6	9.3	3.2	2.9	13.5	11.7
Prop In Lane	1.00		1.00	1.00		0.15	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	192	820	367	230	448	460	175	1300	787	111	1172	696
V/C Ratio(X)	0.81	0.40	0.47	0.84	0.75	0.75	0.80	0.40	0.14	0.55	0.57	0.44
Avail Cap(c_a), veh/h	278	1090	488	278	545	559	278	1300	787	278	1172	696
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	37.5	28.0	28.5	36.6	29.6	29.6	38.0	20.2	11.7	39.2	23.8	16.8
Incr Delay (d2), s/veh	11.2	0.3	0.9	17.2	4.6	4.5	8.4	0.9	0.4	4.2	2.0	2.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.2	3.3	3.6	5.6	7.9	8.1	3.7	4.7	1.5	1.5	6.9	5.5
LnGrp Delay(d),s/veh	48.7	28.3	29.4	53.8	34.2	34.1	46.4	21.1	12.1	43.4	25.8	18.9
LnGrp LOS	D	C	C	D	C	C	D	C	B	D	C	B
Approach Vol, veh/h		656			873			768			1041	
Approach Delay, s/veh		33.5			38.5			24.4			24.8	
Approach LOS		C			D			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.9	36.1	15.7	24.4	13.0	33.0	13.8	26.3
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	13.5	28.5	13.5	26.5	13.5	28.5	13.5	26.5
Max Q Clear Time (g_c+I1), s	4.9	11.3	11.1	10.0	8.6	15.5	9.4	17.1
Green Ext Time (p_c), s	0.1	8.6	0.1	6.6	0.1	7.2	0.1	4.7

Intersection Summary	
HCM 2010 Ctrl Delay	30.0
HCM 2010 LOS	C

Intersection	
Int Delay, s/veh	0.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	9	712	0	0	973
Future Vol, veh/h	0	9	712	0	0	973
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	10	757	0	0	1035

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1275	379	0	0	757	0
Stage 1	757	-	-	-	-	-
Stage 2	518	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	159	619	-	-	850	-
Stage 1	424	-	-	-	-	-
Stage 2	563	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	159	619	-	-	850	-
Mov Cap-2 Maneuver	291	-	-	-	-	-
Stage 1	424	-	-	-	-	-
Stage 2	563	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.9	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	619	850	-
HCM Lane V/C Ratio	-	-	0.015	-	-
HCM Control Delay (s)	-	-	10.9	0	-
HCM Lane LOS	-	-	B	A	-
HCM 95th %tile Q(veh)	-	-	0	0	-

HCM 2010 Signalized Intersection Summary
3: Heacock St & Hemlock Ave

Festival at Moreno Valley Mixed Use
Future (2022) With Project Weekday AM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	45	56	156	56	72	6	124	689	84	18	940	46
Future Volume (veh/h)	45	56	156	56	72	6	124	689	84	18	940	46
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	46	58	161	58	74	6	128	710	87	19	969	47
Adj No. of Lanes	1	1	0	1	1	1	1	2	1	1	2	1
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	105	77	214	120	345	293	165	1658	742	55	1438	643
Arrive On Green	0.06	0.18	0.18	0.07	0.19	0.19	0.09	0.47	0.47	0.03	0.41	0.41
Sat Flow, veh/h	1774	437	1212	1774	1863	1583	1774	3539	1583	1774	3539	1583
Grp Volume(v), veh/h	46	0	219	58	74	6	128	710	87	19	969	47
Grp Sat Flow(s),veh/h/ln	1774	0	1649	1774	1863	1583	1774	1770	1583	1774	1770	1583
Q Serve(g_s), s	1.8	0.0	8.8	2.2	2.4	0.2	4.9	9.4	2.2	0.7	15.7	1.3
Cycle Q Clear(g_c), s	1.8	0.0	8.8	2.2	2.4	0.2	4.9	9.4	2.2	0.7	15.7	1.3
Prop In Lane	1.00		0.74	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	105	0	291	120	345	293	165	1658	742	55	1438	643
V/C Ratio(X)	0.44	0.00	0.75	0.48	0.21	0.02	0.78	0.43	0.12	0.35	0.67	0.07
Avail Cap(c_a), veh/h	342	0	623	342	704	598	342	1658	742	342	1438	643
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	31.9	0.0	27.4	31.5	24.3	23.4	31.1	12.4	10.5	33.3	17.0	12.7
Incr Delay (d2), s/veh	2.9	0.0	3.9	3.0	0.3	0.0	7.7	0.8	0.3	3.7	2.5	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	0.0	4.3	1.2	1.2	0.1	2.8	4.7	1.0	0.4	8.2	0.6
LnGrp Delay(d),s/veh	34.7	0.0	31.3	34.5	24.6	23.4	38.8	13.2	10.8	37.0	19.6	13.0
LnGrp LOS	C		C	C	C	C	D	B	B	D	B	B
Approach Vol, veh/h		265			138			925			1035	
Approach Delay, s/veh		31.9			28.7			16.5			19.6	
Approach LOS		C			C			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	6.7	37.3	9.2	16.9	11.0	33.0	8.6	17.5
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	13.5	28.5	13.5	26.5	13.5	28.5	13.5	26.5
Max Q Clear Time (g_c+I1), s	2.7	11.4	4.2	10.8	6.9	17.7	3.8	4.4
Green Ext Time (p_c), s	0.0	10.9	0.1	1.6	0.1	7.7	0.0	1.8

Intersection Summary	
HCM 2010 Ctrl Delay	20.3
HCM 2010 LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	342	4	177	332	719	0	0	852	327
Future Volume (veh/h)	0	0	0	342	4	177	332	719	0	0	852	327
Number				3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln				1900	1863	1863	1863	1863	0	0	1863	1900
Adj Flow Rate, veh/h				356	4	184	346	749	0	0	888	341
Adj No. of Lanes				0	1	1	1	2	0	0	2	0
Peak Hour Factor				0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %				2	2	2	2	2	0	0	2	2
Cap, veh/h				429	5	387	383	2310	0	0	966	369
Arrive On Green				0.24	0.24	0.24	0.22	0.65	0.00	0.00	0.39	0.39
Sat Flow, veh/h				1755	20	1583	1774	3632	0	0	2599	958
Grp Volume(v), veh/h				360	0	184	346	749	0	0	626	603
Grp Sat Flow(s),veh/h/ln				1775	0	1583	1774	1770	0	0	1770	1694
Q Serve(g_s), s				16.8	0.0	8.7	16.6	8.2	0.0	0.0	29.4	29.7
Cycle Q Clear(g_c), s				16.8	0.0	8.7	16.6	8.2	0.0	0.0	29.4	29.7
Prop In Lane				0.99		1.00	1.00		0.00	0.00		0.57
Lane Grp Cap(c), veh/h				434	0	387	383	2310	0	0	682	653
V/C Ratio(X)				0.83	0.00	0.48	0.90	0.32	0.00	0.00	0.92	0.92
Avail Cap(c_a), veh/h				688	0	614	424	2310	0	0	682	653
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				31.3	0.0	28.3	33.4	6.7	0.0	0.0	25.6	25.7
Incr Delay (d2), s/veh				4.8	0.0	0.9	21.1	0.4	0.0	0.0	19.4	20.8
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				8.8	0.0	3.9	10.3	4.1	0.0	0.0	17.9	17.5
LnGrp Delay(d),s/veh				36.1	0.0	29.2	54.5	7.1	0.0	0.0	44.9	46.4
LnGrp LOS				D		C	D	A			D	D
Approach Vol, veh/h					544			1095			1229	
Approach Delay, s/veh					33.8			22.1			45.7	
Approach LOS					C			C			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2			5	6		8
Phs Duration (G+Y+Rc), s		61.6			23.4	38.2		25.9
Change Period (Y+Rc), s		4.5			4.5	4.5		4.5
Max Green Setting (Gmax), s		57.1			20.9	31.7		33.9
Max Q Clear Time (g_c+I1), s		10.2			18.6	31.7		18.8
Green Ext Time (p_c), s		21.7			0.3	0.0		2.6

Intersection Summary	
HCM 2010 Ctrl Delay	34.4
HCM 2010 LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	247	4	510	0	0	0	0	795	182	168	991	0
Future Volume (veh/h)	247	4	510	0	0	0	0	795	182	168	991	0
Number	7	4	14				5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863				0	1863	1900	1863	1863	0
Adj Flow Rate, veh/h	255	0	520				0	811	186	171	1011	0
Adj No. of Lanes	2	0	1				0	3	0	1	2	0
Peak Hour Factor	0.98	0.98	0.98				0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Cap, veh/h	1061	0	473				0	1855	422	210	2162	0
Arrive On Green	0.30	0.00	0.30				0.00	0.45	0.45	0.12	0.61	0.00
Sat Flow, veh/h	3548	0	1583				0	4311	943	1774	3632	0
Grp Volume(v), veh/h	255	0	520				0	663	334	171	1011	0
Grp Sat Flow(s),veh/h/ln	1774	0	1583				0	1695	1696	1774	1770	0
Q Serve(g_s), s	5.4	0.0	29.9				0.0	13.4	13.6	9.4	15.6	0.0
Cycle Q Clear(g_c), s	5.4	0.0	29.9				0.0	13.4	13.6	9.4	15.6	0.0
Prop In Lane	1.00		1.00				0.00		0.56	1.00		0.00
Lane Grp Cap(c), veh/h	1061	0	473				0	1518	760	210	2162	0
V/C Ratio(X)	0.24	0.00	1.10				0.00	0.44	0.44	0.82	0.47	0.00
Avail Cap(c_a), veh/h	1061	0	473				0	1518	760	530	2162	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	26.5	0.0	35.0				0.0	18.9	19.0	43.0	10.6	0.0
Incr Delay (d2), s/veh	0.1	0.0	70.8				0.0	0.2	0.4	7.5	0.7	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.7	0.0	22.3				0.0	6.3	6.4	5.0	7.8	0.0
LnGrp Delay(d),s/veh	26.6	0.0	105.9				0.0	19.1	19.4	50.6	11.3	0.0
LnGrp LOS	C		F					B	B	D	B	
Approach Vol, veh/h		775						997			1182	
Approach Delay, s/veh		79.8						19.2			17.0	
Approach LOS		E						B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4		6		
Phs Duration (G+Y+Rc), s	16.3	49.3		34.4		65.6		
Change Period (Y+Rc), s	4.5	4.5		4.5		4.5		
Max Green Setting (Gmax), s	29.9	26.7		29.9		61.1		
Max Q Clear Time (g_c+I1), s	11.4	15.6		31.9		17.6		
Green Ext Time (p_c), s	0.4	8.6		0.0		21.4		

Intersection Summary	
HCM 2010 Ctrl Delay	34.2
HCM 2010 LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	157	1	0	281	0	0	0	1	0	0	0
Future Vol, veh/h	0	157	1	0	281	0	0	0	1	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	91	91	91	91	91	91	91	91	91	91	91	91
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	173	1	0	309	0	0	0	1	0	0	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	309	0	0	174	0	0	327	482	87	395	483	154
Stage 1	-	-	-	-	-	-	173	173	-	309	309	-
Stage 2	-	-	-	-	-	-	154	309	-	86	174	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	1248	-	-	1400	-	-	602	482	954	539	482	864
Stage 1	-	-	-	-	-	-	812	755	-	676	658	-
Stage 2	-	-	-	-	-	-	833	658	-	912	754	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1248	-	-	1400	-	-	602	482	954	538	482	864
Mov Cap-2 Maneuver	-	-	-	-	-	-	602	482	-	538	482	-
Stage 1	-	-	-	-	-	-	812	755	-	676	658	-
Stage 2	-	-	-	-	-	-	833	658	-	911	754	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0	8.8	0
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	954	1248	-	-	1400	-	-	-
HCM Lane V/C Ratio	0.001	-	-	-	-	-	-	-
HCM Control Delay (s)	8.8	0	-	-	0	-	-	0
HCM Lane LOS	A	A	-	-	A	-	-	A
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	-

Intersection	
Int Delay, s/veh	3.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	106	205	42	3	198	5	28	0	3	4	0	58
Future Vol, veh/h	106	205	42	3	198	5	28	0	3	4	0	58
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	180	-	-	0	-	-	-	-	-	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	86	86	86	86	86	86	86	86	86	86	86	86
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	123	238	49	3	230	6	33	0	3	5	0	67

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	236	0	0	287	0	0	749	752	144	606	774	233
Stage 1	-	-	-	-	-	-	509	509	-	240	240	-
Stage 2	-	-	-	-	-	-	240	243	-	366	534	-
Critical Hdwy	4.13	-	-	4.13	-	-	7.33	6.53	6.93	7.33	6.53	6.23
Critical Hdwy Stg 1	-	-	-	-	-	-	6.53	5.53	-	6.13	5.53	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.13	5.53	-	6.53	5.53	-
Follow-up Hdwy	2.219	-	-	2.219	-	-	3.519	4.019	3.319	3.519	4.019	3.319
Pot Cap-1 Maneuver	1330	-	-	1274	-	-	314	338	878	395	329	805
Stage 1	-	-	-	-	-	-	516	537	-	763	706	-
Stage 2	-	-	-	-	-	-	763	704	-	627	524	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1330	-	-	1274	-	-	267	306	878	365	298	805
Mov Cap-2 Maneuver	-	-	-	-	-	-	267	306	-	365	298	-
Stage 1	-	-	-	-	-	-	468	487	-	692	704	-
Stage 2	-	-	-	-	-	-	697	702	-	567	476	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	2.4	0.1	19.4	10.2
HCM LOS			C	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	286	1330	-	-	1274	-	-	365	805
HCM Lane V/C Ratio	0.126	0.093	-	-	0.003	-	-	0.013	0.084
HCM Control Delay (s)	19.4	8	-	-	7.8	-	-	15	9.9
HCM Lane LOS	C	A	-	-	A	-	-	C	A
HCM 95th %tile Q(veh)	0.4	0.3	-	-	0	-	-	0	0.3

Intersection	
Int Delay, s/veh	0.5

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	18	193	198	4	0	6
Future Vol, veh/h	18	193	198	4	0	6
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	84	84	84	84	84	84
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	21	230	236	5	0	7

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	240	0	-	0	511	238
Stage 1	-	-	-	-	238	-
Stage 2	-	-	-	-	273	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1327	-	-	-	523	801
Stage 1	-	-	-	-	802	-
Stage 2	-	-	-	-	773	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1327	-	-	-	514	801
Mov Cap-2 Maneuver	-	-	-	-	590	-
Stage 1	-	-	-	-	802	-
Stage 2	-	-	-	-	759	-

Approach	EB	WB	SB
HCM Control Delay, s	0.7	0	9.5
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1327	-	-	-	801
HCM Lane V/C Ratio	0.016	-	-	-	0.009
HCM Control Delay (s)	7.8	0	-	-	9.5
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0

Intersection	
Int Delay, s/veh	3.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	89	105	151	38	19	53
Future Vol, veh/h	89	105	151	38	19	53
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	99	117	168	42	21	59

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	210	0	-	0	503	189
Stage 1	-	-	-	-	189	-
Stage 2	-	-	-	-	314	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1361	-	-	-	528	853
Stage 1	-	-	-	-	843	-
Stage 2	-	-	-	-	741	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1361	-	-	-	487	853
Mov Cap-2 Maneuver	-	-	-	-	560	-
Stage 1	-	-	-	-	843	-
Stage 2	-	-	-	-	683	-

Approach	EB	WB	SB
HCM Control Delay, s	3.6	0	10.4
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1361	-	-	-	750
HCM Lane V/C Ratio	0.073	-	-	-	0.107
HCM Control Delay (s)	7.9	-	-	-	10.4
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0.2	-	-	-	0.4

Intersection	
Int Delay, s/veh	1.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	2	119	3	22	181	33	3	0	15	16	0	3
Future Vol, veh/h	2	119	3	22	181	33	3	0	15	16	0	3
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	86	86	86	86	86	86	86	86	86	86	86	86
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	2	138	3	26	210	38	3	0	17	19	0	3

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	249	0	0	142	0	0	428	445	140	434	428	230
Stage 1	-	-	-	-	-	-	145	145	-	281	281	-
Stage 2	-	-	-	-	-	-	283	300	-	153	147	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1317	-	-	1441	-	-	537	508	908	532	519	809
Stage 1	-	-	-	-	-	-	858	777	-	726	678	-
Stage 2	-	-	-	-	-	-	724	666	-	849	775	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1317	-	-	1441	-	-	525	496	908	513	507	809
Mov Cap-2 Maneuver	-	-	-	-	-	-	525	496	-	513	507	-
Stage 1	-	-	-	-	-	-	856	775	-	725	664	-
Stage 2	-	-	-	-	-	-	706	652	-	831	773	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	0.7	9.6	11.9
HCM LOS			A	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	810	1317	-	-	1441	-	-	544
HCM Lane V/C Ratio	0.026	0.002	-	-	0.018	-	-	0.041
HCM Control Delay (s)	9.6	7.7	0	-	7.5	0	-	11.9
HCM Lane LOS	A	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.1	0	-	-	0.1	-	-	0.1

Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	150	156	4	0	7
Future Vol, veh/h	0	150	156	4	0	7
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	87	87	87	87	87	87
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	172	179	5	0	8

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	-	182
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.318
Pot Cap-1 Maneuver	0	-	-	-	0	861
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	861
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	9.2
HCM LOS			A

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	861
HCM Lane V/C Ratio	-	-	-	0.009
HCM Control Delay (s)	-	-	-	9.2
HCM Lane LOS	-	-	-	A
HCM 95th %tile Q(veh)	-	-	-	0

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	51	436	11	11	747	174	7	0	7	142	0	87
Future Volume (veh/h)	51	436	11	11	747	174	7	0	7	142	0	87
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1900	1863	1900	1900	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	58	495	12	12	849	198	8	0	8	161	0	99
Adj No. of Lanes	1	2	0	0	2	0	0	1	0	1	1	0
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	74	1650	40	42	1056	244	343	17	306	707	0	703
Arrive On Green	0.04	0.47	0.47	0.38	0.38	0.38	0.44	0.00	0.44	0.44	0.00	0.44
Sat Flow, veh/h	1774	3532	86	15	2773	641	652	38	690	1402	0	1583
Grp Volume(v), veh/h	58	248	259	571	0	488	16	0	0	161	0	99
Grp Sat Flow(s),veh/h/ln	1774	1770	1848	1847	0	1582	1379	0	0	1402	0	1583
Q Serve(g_s), s	3.3	8.8	8.8	4.1	0.0	28.0	0.0	0.0	0.0	2.4	0.0	3.8
Cycle Q Clear(g_c), s	3.3	8.8	8.8	27.8	0.0	28.0	3.8	0.0	0.0	6.2	0.0	3.8
Prop In Lane	1.00		0.05	0.02		0.41	0.50		0.50	1.00		1.00
Lane Grp Cap(c), veh/h	74	827	863	740	0	603	666	0	0	707	0	703
V/C Ratio(X)	0.78	0.30	0.30	0.77	0.00	0.81	0.02	0.00	0.00	0.23	0.00	0.14
Avail Cap(c_a), veh/h	88	827	863	872	0	718	666	0	0	707	0	703
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	48.1	16.7	16.7	28.0	0.0	28.1	15.8	0.0	0.0	17.3	0.0	16.7
Incr Delay (d2), s/veh	30.8	0.2	0.2	3.6	0.0	6.0	0.1	0.0	0.0	0.7	0.0	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.2	4.3	4.5	15.0	0.0	13.2	0.3	0.0	0.0	2.9	0.0	1.7
LnGrp Delay(d),s/veh	78.9	16.9	16.9	31.6	0.0	34.1	15.9	0.0	0.0	18.0	0.0	17.1
LnGrp LOS	E	B	B	C		C	B			B		B
Approach Vol, veh/h		565			1059			16			260	
Approach Delay, s/veh		23.3			32.7			15.9			17.7	
Approach LOS		C			C			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6	7	8
Phs Duration (G+Y+Rc), s		49.5		51.9		49.5	8.8	43.1
Change Period (Y+Rc), s		4.5		4.5		4.5	4.5	4.5
Max Green Setting (Gmax), s		45.0		46.0		45.0	5.0	46.0
Max Q Clear Time (g_c+I1), s		5.8		10.8		8.2	5.3	30.0
Green Ext Time (p_c), s		1.2		13.8		1.2	0.0	8.6

Intersection Summary		
HCM 2010 Ctrl Delay		27.7
HCM 2010 LOS		C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	36	412	137	114	680	94	132	146	69	105	173	91
Future Volume (veh/h)	36	412	137	114	680	94	132	146	69	105	173	91
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	43	490	163	136	810	112	157	174	82	125	206	108
Adj No. of Lanes	1	2	0	1	2	0	1	1	1	1	1	1
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	92	687	227	170	958	132	193	645	548	158	608	517
Arrive On Green	0.05	0.26	0.26	0.10	0.31	0.31	0.11	0.35	0.35	0.09	0.33	0.33
Sat Flow, veh/h	1774	2615	865	1774	3124	432	1774	1863	1583	1774	1863	1583
Grp Volume(v), veh/h	43	331	322	136	459	463	157	174	82	125	206	108
Grp Sat Flow(s),veh/h/ln	1774	1770	1710	1774	1770	1787	1774	1863	1583	1774	1863	1583
Q Serve(g_s), s	2.1	14.8	14.9	6.5	21.2	21.2	7.6	5.9	3.1	6.0	7.3	4.3
Cycle Q Clear(g_c), s	2.1	14.8	14.9	6.5	21.2	21.2	7.6	5.9	3.1	6.0	7.3	4.3
Prop In Lane	1.00		0.51	1.00		0.24	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	92	465	449	170	542	548	193	645	548	158	608	517
V/C Ratio(X)	0.47	0.71	0.72	0.80	0.85	0.85	0.82	0.27	0.15	0.79	0.34	0.21
Avail Cap(c_a), veh/h	274	537	519	274	542	548	274	645	548	274	608	517
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	40.2	29.2	29.2	38.6	28.3	28.3	38.0	20.6	19.7	39.0	22.2	21.2
Incr Delay (d2), s/veh	3.6	3.7	4.0	8.4	11.8	11.7	11.9	1.0	0.6	8.6	1.5	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	7.6	7.6	3.6	12.1	12.2	4.3	3.2	1.5	3.3	4.0	2.0
LnGrp Delay(d),s/veh	43.8	32.9	33.2	47.0	40.1	40.0	49.9	21.6	20.2	47.6	23.7	22.1
LnGrp LOS	D	C	C	D	D	D	D	C	C	D	C	C
Approach Vol, veh/h		696			1058			413			439	
Approach Delay, s/veh		33.7			41.0			32.1			30.1	
Approach LOS		C			D			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.3	34.7	12.9	27.4	14.0	33.0	9.0	31.2
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	13.5	28.5	13.5	26.5	13.5	28.5	13.5	26.5
Max Q Clear Time (g_c+I1), s	9.0	7.9	8.5	16.9	9.6	9.3	4.1	23.2
Green Ext Time (p_c), s	0.1	2.8	0.1	6.0	0.1	2.7	0.0	2.6

Intersection Summary		
HCM 2010 Ctrl Delay		35.8
HCM 2010 LOS		D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1	70	27	76	74	65	40	255	66	47	365	18
Future Volume (veh/h)	1	70	27	76	74	65	40	255	66	47	365	18
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	1	88	34	95	92	81	50	319	82	59	456	22
Adj No. of Lanes	1	2	0	1	1	0	1	1	0	1	1	0
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	155	222	82	241	124	109	108	625	161	169	831	40
Arrive On Green	0.09	0.09	0.09	0.14	0.14	0.14	0.06	0.44	0.44	0.10	0.47	0.47
Sat Flow, veh/h	1774	2535	933	1774	915	806	1774	1430	368	1774	1763	85
Grp Volume(v), veh/h	1	60	62	95	0	173	50	0	401	59	0	478
Grp Sat Flow(s),veh/h/ln	1774	1770	1698	1774	0	1721	1774	0	1798	1774	0	1848
Q Serve(g_s), s	0.0	2.4	2.5	3.6	0.0	7.1	2.0	0.0	11.9	2.3	0.0	13.6
Cycle Q Clear(g_c), s	0.0	2.4	2.5	3.6	0.0	7.1	2.0	0.0	11.9	2.3	0.0	13.6
Prop In Lane	1.00		0.55	1.00		0.47	1.00		0.20	1.00		0.05
Lane Grp Cap(c), veh/h	155	155	148	241	0	233	108	0	786	169	0	871
V/C Ratio(X)	0.01	0.39	0.42	0.39	0.00	0.74	0.46	0.00	0.51	0.35	0.00	0.55
Avail Cap(c_a), veh/h	484	483	464	484	0	470	171	0	786	484	0	871
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	30.7	31.7	31.8	29.0	0.0	30.6	33.4	0.0	15.0	31.2	0.0	13.9
Incr Delay (d2), s/veh	0.0	1.6	1.9	1.0	0.0	4.6	3.1	0.0	2.4	1.2	0.0	2.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	1.2	1.3	1.8	0.0	3.7	1.1	0.0	6.4	1.2	0.0	7.5
LnGrp Delay(d),s/veh	30.7	33.3	33.7	30.1	0.0	35.2	36.5	0.0	17.4	32.4	0.0	16.4
LnGrp LOS	C	C	C	C		D	D		B	C		B
Approach Vol, veh/h		123			268			451			537	
Approach Delay, s/veh		33.5			33.4			19.5			18.1	
Approach LOS		C			C			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	11.5	36.7		10.9	9.0	39.2		14.5
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5
Max Green Setting (Gmax), s	20.1	21.7		20.1	7.1	34.7		20.1
Max Q Clear Time (g_c+I1), s	14.3	13.9		4.5	4.0	15.6		9.1
Green Ext Time (p_c), s	0.1	3.4		0.5	0.0	5.6		0.9

Intersection Summary	
HCM 2010 Ctrl Delay	22.9
HCM 2010 LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	123	189	81	22	247	38	101	224	65	63	250	171
Future Volume (veh/h)	123	189	81	22	247	38	101	224	65	63	250	171
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	138	212	91	25	278	43	113	252	73	71	281	192
Adj No. of Lanes	1	2	0	1	2	0	1	1	1	1	1	1
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	176	545	226	68	500	76	155	768	714	131	743	789
Arrive On Green	0.10	0.22	0.22	0.04	0.16	0.16	0.09	0.41	0.41	0.07	0.40	0.40
Sat Flow, veh/h	1774	2441	1013	1774	3079	471	1774	1863	1583	1774	1863	1583
Grp Volume(v), veh/h	138	152	151	25	158	163	113	252	73	71	281	192
Grp Sat Flow(s),veh/h/ln	1774	1770	1684	1774	1770	1780	1774	1863	1583	1774	1863	1583
Q Serve(g_s), s	5.4	5.2	5.5	1.0	5.9	6.0	4.4	6.6	1.9	2.8	7.6	4.9
Cycle Q Clear(g_c), s	5.4	5.2	5.5	1.0	5.9	6.0	4.4	6.6	1.9	2.8	7.6	4.9
Prop In Lane	1.00		0.60	1.00		0.26	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	176	395	376	68	287	289	155	768	714	131	743	789
V/C Ratio(X)	0.78	0.38	0.40	0.37	0.55	0.56	0.73	0.33	0.10	0.54	0.38	0.24
Avail Cap(c_a), veh/h	335	656	625	335	656	660	335	768	714	335	743	789
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	31.4	23.6	23.7	33.5	27.5	27.6	31.8	14.3	11.3	31.9	15.2	10.2
Incr Delay (d2), s/veh	7.4	0.6	0.7	3.3	1.7	1.7	6.4	1.1	0.3	3.4	1.5	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.0	2.6	2.6	0.5	3.0	3.1	2.4	3.6	0.9	1.5	4.2	2.3
LnGrp Delay(d),s/veh	38.8	24.2	24.4	36.8	29.2	29.3	38.1	15.4	11.6	35.3	16.7	11.0
LnGrp LOS	D	C	C	D	C	C	D	B	B	D	B	B
Approach Vol, veh/h		441			346			438			544	
Approach Delay, s/veh		28.8			29.8			20.6			17.1	
Approach LOS		C			C			C			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.8	34.0	7.2	20.5	10.8	33.0	11.6	16.1
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	13.5	28.5	13.5	26.5	13.5	28.5	13.5	26.5
Max Q Clear Time (g_c+I1), s	7.4	8.6	3.0	7.5	6.4	9.6	7.4	8.0
Green Ext Time (p_c), s	0.1	4.1	0.0	3.6	0.1	4.0	0.2	3.6

Intersection Summary	
HCM 2010 Ctrl Delay	23.4
HCM 2010 LOS	C

HCM 2010 Signalized Intersection Summary
1: Heacock St & Ironwood Ave

Festival at Moreno Valley Mixed Use
Future (2022) With-Project Weekday PM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	251	499	208	109	357	44	260	784	207	82	620	227
Future Volume (veh/h)	251	499	208	109	357	44	260	784	207	82	620	227
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	256	509	212	111	364	45	265	800	211	84	633	232
Adj No. of Lanes	1	2	1	1	2	0	1	2	1	1	2	1
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	263	924	413	141	610	75	263	1394	749	120	1108	731
Arrive On Green	0.15	0.26	0.26	0.08	0.19	0.19	0.15	0.39	0.39	0.07	0.31	0.31
Sat Flow, veh/h	1774	3539	1583	1774	3174	390	1774	3539	1583	1774	3539	1583
Grp Volume(v), veh/h	256	509	212	111	202	207	265	800	211	84	633	232
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	1770	1794	1774	1770	1583	1774	1770	1583
Q Serve(g_s), s	13.1	11.3	10.4	5.6	9.5	9.6	13.5	16.1	7.4	4.2	13.6	8.4
Cycle Q Clear(g_c), s	13.1	11.3	10.4	5.6	9.5	9.6	13.5	16.1	7.4	4.2	13.6	8.4
Prop In Lane	1.00		1.00	1.00		0.22	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	263	924	413	141	340	345	263	1394	749	120	1108	731
V/C Ratio(X)	0.97	0.55	0.51	0.79	0.59	0.60	1.01	0.57	0.28	0.70	0.57	0.32
Avail Cap(c_a), veh/h	263	1031	461	263	515	522	263	1394	749	263	1108	731
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	38.6	29.0	28.7	41.1	33.5	33.6	38.8	21.6	14.6	41.5	26.1	15.5
Incr Delay (d2), s/veh	47.7	0.5	1.0	9.3	1.7	1.7	57.2	1.7	0.9	7.1	2.1	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	9.9	5.6	4.7	3.1	4.8	4.9	10.8	8.2	3.4	2.3	7.0	3.9
LnGrp Delay(d),s/veh	86.3	29.5	29.7	50.4	35.2	35.2	96.0	23.3	15.5	48.7	28.3	16.6
LnGrp LOS	F	C	C	D	D	D	F	C	B	D	C	B
Approach Vol, veh/h		977			520			1276			949	
Approach Delay, s/veh		44.4			38.4			37.1			27.2	
Approach LOS		D			D			D			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.7	40.3	11.7	28.3	18.0	33.0	18.0	22.0
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	13.5	28.5	13.5	26.5	13.5	28.5	13.5	26.5
Max Q Clear Time (g_c+I1), s	6.2	18.1	7.6	13.3	15.5	15.6	15.1	11.6
Green Ext Time (p_c), s	0.1	7.1	0.1	5.5	0.0	8.4	0.0	5.9

Intersection Summary	
HCM 2010 Ctrl Delay	36.7
HCM 2010 LOS	D

Intersection	
Int Delay, s/veh	0.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	38	1213	0	0	936
Future Vol, veh/h	0	38	1213	0	0	936
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	98	98	98	98	98	98
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	39	1238	0	0	955

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1620	619	0	0	1238	0
Stage 1	1238	-	-	-	-	-
Stage 2	382	-	-	-	-	-
Critical Hdwy	6.29	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	6.04	-	-	-	-	-
Follow-up Hdwy	3.67	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	118	432	-	-	558	-
Stage 1	232	-	-	-	-	-
Stage 2	624	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	118	432	-	-	558	-
Mov Cap-2 Maneuver	118	-	-	-	-	-
Stage 1	232	-	-	-	-	-
Stage 2	624	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	14.2	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	432	558	-
HCM Lane V/C Ratio	-	-	0.09	-	-
HCM Control Delay (s)	-	-	14.2	0	-
HCM Lane LOS	-	-	B	A	-
HCM 95th %tile Q(veh)	-	-	0.3	0	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	63	114	245	252	105	24	226	1183	247	49	869	52
Future Volume (veh/h)	63	114	245	252	105	24	226	1183	247	49	869	52
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	64	115	247	255	106	24	228	1195	249	49	878	53
Adj No. of Lanes	1	1	0	1	1	1	1	2	1	1	2	1
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	105	127	273	247	598	508	247	1348	603	94	1042	466
Arrive On Green	0.06	0.24	0.24	0.14	0.32	0.32	0.14	0.38	0.38	0.05	0.29	0.29
Sat Flow, veh/h	1774	528	1134	1774	1863	1583	1774	3539	1583	1774	3539	1583
Grp Volume(v), veh/h	64	0	362	255	106	24	228	1195	249	49	878	53
Grp Sat Flow(s),veh/h/ln	1774	0	1663	1774	1863	1583	1774	1770	1583	1774	1770	1583
Q Serve(g_s), s	3.4	0.0	20.5	13.5	4.0	1.0	12.3	30.6	11.2	2.6	22.5	2.4
Cycle Q Clear(g_c), s	3.4	0.0	20.5	13.5	4.0	1.0	12.3	30.6	11.2	2.6	22.5	2.4
Prop In Lane	1.00		0.68	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	105	0	400	247	598	508	247	1348	603	94	1042	466
V/C Ratio(X)	0.61	0.00	0.90	1.03	0.18	0.05	0.92	0.89	0.41	0.52	0.84	0.11
Avail Cap(c_a), veh/h	247	0	455	247	598	508	247	1348	603	247	1042	466
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	44.4	0.0	35.7	41.7	23.7	22.7	41.1	28.0	22.0	44.6	32.1	24.9
Incr Delay (d2), s/veh	5.5	0.0	19.8	65.4	0.1	0.0	36.7	8.9	2.1	4.4	8.3	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.8	0.0	11.6	11.0	2.1	0.4	8.5	16.6	5.2	1.4	12.2	1.1
LnGrp Delay(d),s/veh	50.0	0.0	55.4	107.1	23.8	22.7	77.9	36.9	24.1	49.1	40.3	25.4
LnGrp LOS	D		E	F	C	C	E	D	C	D	D	C
Approach Vol, veh/h		426			385			1672			980	
Approach Delay, s/veh		54.6			78.9			40.6			40.0	
Approach LOS		D			E			D			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.6	41.4	18.0	27.8	18.0	33.0	10.2	35.6
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	13.5	28.5	13.5	26.5	13.5	28.5	13.5	26.5
Max Q Clear Time (g_c+I1), s	4.6	32.6	15.5	22.5	14.3	24.5	5.4	6.0
Green Ext Time (p_c), s	0.0	0.0	0.0	0.9	0.0	3.6	0.1	3.0

Intersection Summary	
HCM 2010 Ctrl Delay	46.4
HCM 2010 LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	347	4	231	442	1433	0	0	1034	471
Future Volume (veh/h)	0	0	0	347	4	231	442	1433	0	0	1034	471
Number				3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln				1900	1863	1863	1863	1863	0	0	1863	1900
Adj Flow Rate, veh/h				361	4	241	460	1493	0	0	1077	491
Adj No. of Lanes				0	1	1	1	2	0	0	2	0
Peak Hour Factor				0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %				2	2	2	2	2	0	0	2	2
Cap, veh/h				437	5	394	421	2297	0	0	860	381
Arrive On Green				0.25	0.25	0.25	0.24	0.65	0.00	0.00	0.36	0.36
Sat Flow, veh/h				1756	19	1583	1774	3632	0	0	2481	1058
Grp Volume(v), veh/h				365	0	241	460	1493	0	0	790	778
Grp Sat Flow(s),veh/h/ln				1775	0	1583	1774	1770	0	0	1770	1676
Q Serve(g_s), s				17.1	0.0	11.9	20.9	22.5	0.0	0.0	31.7	31.7
Cycle Q Clear(g_c), s				17.1	0.0	11.9	20.9	22.5	0.0	0.0	31.7	31.7
Prop In Lane				0.99		1.00	1.00		0.00	0.00		0.63
Lane Grp Cap(c), veh/h				442	0	394	421	2297	0	0	638	604
V/C Ratio(X)				0.83	0.00	0.61	1.09	0.65	0.00	0.00	1.24	1.29
Avail Cap(c_a), veh/h				684	0	610	421	2297	0	0	638	604
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				31.3	0.0	29.3	33.5	9.4	0.0	0.0	28.1	28.1
Incr Delay (d2), s/veh				4.9	0.0	1.5	70.9	1.4	0.0	0.0	120.9	141.8
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				8.9	0.0	5.3	18.5	11.2	0.0	0.0	36.8	38.4
LnGrp Delay(d),s/veh				36.2	0.0	30.8	104.4	10.8	0.0	0.0	149.0	169.9
LnGrp LOS				D		C	F	B			F	F
Approach Vol, veh/h					606			1953			1568	
Approach Delay, s/veh					34.0			32.9			159.4	
Approach LOS					C			C			F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2			5	6		8
Phs Duration (G+Y+Rc), s		61.6			25.4	36.2		26.4
Change Period (Y+Rc), s		4.5			4.5	4.5		4.5
Max Green Setting (Gmax), s		57.1			20.9	31.7		33.9
Max Q Clear Time (g_c+I1), s		24.5			22.9	33.7		19.1
Green Ext Time (p_c), s		28.2			0.0	0.0		2.8

Intersection Summary		
HCM 2010 Ctrl Delay		81.1
HCM 2010 LOS		F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	590	3	548	0	0	0	0	1296	431	252	1010	0
Future Volume (veh/h)	590	3	548	0	0	0	0	1296	431	252	1010	0
Number	7	4	14				5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863				0	1863	1900	1863	1863	0
Adj Flow Rate, veh/h	617	0	571				0	1350	449	262	1052	0
Adj No. of Lanes	2	0	1				0	3	0	1	2	0
Peak Hour Factor	0.96	0.96	0.96				0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Cap, veh/h	1061	0	473				0	1498	495	302	2162	0
Arrive On Green	0.30	0.00	0.30				0.00	0.40	0.40	0.17	0.61	0.00
Sat Flow, veh/h	3548	0	1583				0	3949	1251	1774	3632	0
Grp Volume(v), veh/h	617	0	571				0	1209	590	262	1052	0
Grp Sat Flow(s),veh/h/ln	1774	0	1583				0	1695	1642	1774	1770	0
Q Serve(g_s), s	14.8	0.0	29.9				0.0	33.5	33.8	14.4	16.5	0.0
Cycle Q Clear(g_c), s	14.8	0.0	29.9				0.0	33.5	33.8	14.4	16.5	0.0
Prop In Lane	1.00		1.00				0.00		0.76	1.00		0.00
Lane Grp Cap(c), veh/h	1061	0	473				0	1343	650	302	2162	0
V/C Ratio(X)	0.58	0.00	1.21				0.00	0.90	0.91	0.87	0.49	0.00
Avail Cap(c_a), veh/h	1061	0	473				0	1343	650	530	2162	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	29.7	0.0	35.0				0.0	28.4	28.5	40.4	10.8	0.0
Incr Delay (d2), s/veh	0.8	0.0	111.3				0.0	8.6	16.5	7.6	0.8	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.3	0.0	27.7				0.0	17.2	18.2	7.7	8.1	0.0
LnGrp Delay(d),s/veh	30.5	0.0	146.3				0.0	37.0	44.9	48.0	11.6	0.0
LnGrp LOS	C		F					D	D	D	B	
Approach Vol, veh/h		1188						1799			1314	
Approach Delay, s/veh		86.2						39.6			18.8	
Approach LOS		F						D			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4		6		
Phs Duration (G+Y+Rc), s	21.5	44.1		34.4		65.6		
Change Period (Y+Rc), s	4.5	4.5		4.5		4.5		
Max Green Setting (Gmax), s	29.3	26.7		29.9		61.1		
Max Q Clear Time (g_c+I1), s	16.4	35.8		31.9		18.5		
Green Ext Time (p_c), s	0.6	0.0		0.0		32.7		

Intersection Summary	
HCM 2010 Ctrl Delay	46.1
HCM 2010 LOS	D

Notes

User approved volume balancing among the lanes for turning movement.

Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑			↑			⇳			⇳	
Traffic Vol, veh/h	0	421	19	0	695	0	0	0	24	0	0	0
Future Vol, veh/h	0	421	19	0	695	0	0	0	24	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	94	94	94	94	94	94	94	94	94	94	94	94
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	448	20	0	739	0	0	0	26	0	0	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	-	0	0	-	-	0	1197	1197	234	918	1207	739
Stage 1	-	-	-	-	-	-	458	458	-	739	739	-
Stage 2	-	-	-	-	-	-	739	739	-	179	468	-
Critical Hdwy	-	-	-	-	-	-	6.78	6.53	7.13	6.78	6.53	6.23
Critical Hdwy Stg 1	-	-	-	-	-	-	7.33	5.53	-	6.13	5.53	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.13	5.53	-	6.73	5.53	-
Follow-up Hdwy	-	-	-	-	-	-	3.669	4.019	3.919	3.669	4.019	3.319
Pot Cap-1 Maneuver	0	-	-	0	-	0	178	185	655	268	183	416
Stage 1	0	-	-	0	-	0	483	566	-	397	423	-
Stage 2	0	-	-	0	-	0	397	423	-	768	560	-
Platoon blocked, %		-	-		-							
Mov Cap-1 Maneuver	-	-	-	-	-	-	178	185	655	258	183	416
Mov Cap-2 Maneuver	-	-	-	-	-	-	178	185	-	258	183	-
Stage 1	-	-	-	-	-	-	483	566	-	397	423	-
Stage 2	-	-	-	-	-	-	397	423	-	738	560	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0	10.7	0
HCM LOS			B	A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT	SBLn1
Capacity (veh/h)	655	-	-	-	-
HCM Lane V/C Ratio	0.039	-	-	-	-
HCM Control Delay (s)	10.7	-	-	-	0
HCM Lane LOS	B	-	-	-	A
HCM 95th %tile Q(veh)	0.1	-	-	-	-

Intersection	
Int Delay, s/veh	200.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	273	332	156	28	279	36	164	2	24	38	0	243
Future Vol, veh/h	273	332	156	28	279	36	164	2	24	38	0	243
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	180	-	-	0	-	-	-	-	-	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	88	88	88	88	88	88	88	88	88	88	88	88
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	310	377	177	32	317	41	186	2	27	43	0	276

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	358	0	0	555	0	0	1487	1508	277	1211	1576	338
Stage 1	-	-	-	-	-	-	1086	1086	-	401	401	-
Stage 2	-	-	-	-	-	-	401	422	-	810	1175	-
Critical Hdwy	4.13	-	-	4.13	-	-	7.33	6.53	6.93	7.33	6.53	6.23
Critical Hdwy Stg 1	-	-	-	-	-	-	6.53	5.53	-	6.13	5.53	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.13	5.53	-	6.53	5.53	-
Follow-up Hdwy	2.219	-	-	2.219	-	-	3.519	4.019	3.319	3.519	4.019	3.319
Pot Cap-1 Maneuver	1199	-	-	1013	-	-	~ 94	120	721	148	109	703
Stage 1	-	-	-	-	-	-	232	292	-	625	600	-
Stage 2	-	-	-	-	-	-	625	587	-	341	265	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1199	-	-	1013	-	-	~ 45	86	721	109	78	703
Mov Cap-2 Maneuver	-	-	-	-	-	-	~ 45	86	-	109	78	-
Stage 1	-	-	-	-	-	-	~ 172	217	-	463	581	-
Stage 2	-	-	-	-	-	-	368	568	-	241	196	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	3.2	0.7	$ 1617.9	19.5
HCM LOS			F	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	51	1199	-	-	1013	-	-	109	703
HCM Lane V/C Ratio	4.234	0.259	-	-	0.031	-	-	0.396	0.393
HCM Control Delay (s)	$ 1617.9	9	-	-	8.7	-	-	58.2	13.4
HCM Lane LOS	F	A	-	-	A	-	-	F	B
HCM 95th %tile Q(veh)	24	1	-	-	0.1	-	-	1.6	1.9

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	0.5

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	12	382	332	8	11	11
Future Vol, veh/h	12	382	332	8	11	11
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	13	420	365	9	12	12

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	374	0	-	0	815	369
Stage 1	-	-	-	-	369	-
Stage 2	-	-	-	-	446	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1184	-	-	-	347	677
Stage 1	-	-	-	-	699	-
Stage 2	-	-	-	-	645	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1184	-	-	-	342	677
Mov Cap-2 Maneuver	-	-	-	-	459	-
Stage 1	-	-	-	-	699	-
Stage 2	-	-	-	-	636	-

Approach	EB	WB	SB
HCM Control Delay, s	0.2	0	11.9
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1184	-	-	-	547
HCM Lane V/C Ratio	0.011	-	-	-	0.044
HCM Control Delay (s)	8.1	0	-	-	11.9
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.1

Intersection	
Int Delay, s/veh	8.8

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	205	185	120	80	102	223
Future Vol, veh/h	205	185	120	80	102	223
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	225	203	132	88	112	245

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	220	0	-	0	830	176
Stage 1	-	-	-	-	176	-
Stage 2	-	-	-	-	654	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1349	-	-	-	340	867
Stage 1	-	-	-	-	855	-
Stage 2	-	-	-	-	517	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1349	-	-	-	276	867
Mov Cap-2 Maneuver	-	-	-	-	357	-
Stage 1	-	-	-	-	855	-
Stage 2	-	-	-	-	420	-

Approach	EB	WB	SB
HCM Control Delay, s	4.3	0	19.5
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1349	-	-	-	599
HCM Lane V/C Ratio	0.167	-	-	-	0.596
HCM Control Delay (s)	8.2	-	-	-	19.5
HCM Lane LOS	A	-	-	-	C
HCM 95th %tile Q(veh)	0.6	-	-	-	3.9

Intersection	
Int Delay, s/veh	5.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	13	250	24	88	156	102	24	0	93	84	0	20
Future Vol, veh/h	13	250	24	88	156	102	24	0	93	84	0	20
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	93	93	93	93	93	93	93	93	93	93	93	93
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	14	269	26	95	168	110	26	0	100	90	0	22

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	277	0	0	295	0	0	733	777	282	772	735	223
Stage 1	-	-	-	-	-	-	310	310	-	412	412	-
Stage 2	-	-	-	-	-	-	423	467	-	360	323	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1286	-	-	1266	-	-	336	328	757	317	347	817
Stage 1	-	-	-	-	-	-	700	659	-	617	594	-
Stage 2	-	-	-	-	-	-	609	562	-	658	650	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1286	-	-	1266	-	-	302	295	757	254	312	817
Mov Cap-2 Maneuver	-	-	-	-	-	-	302	295	-	254	312	-
Stage 1	-	-	-	-	-	-	691	650	-	609	541	-
Stage 2	-	-	-	-	-	-	540	511	-	564	642	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.4	2.1	13	24.7
HCM LOS			B	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	578	1286	-	-	1266	-	-	293
HCM Lane V/C Ratio	0.218	0.011	-	-	0.075	-	-	0.382
HCM Control Delay (s)	13	7.8	0	-	8.1	0	-	24.7
HCM Lane LOS	B	A	A	-	A	A	-	C
HCM 95th %tile Q(veh)	0.8	0	-	-	0.2	-	-	1.7

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	427	216	9	0	10
Future Vol, veh/h	0	427	216	9	0	10
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	454	230	10	0	11

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	-	235
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.318
Pot Cap-1 Maneuver	0	-	-	-	0	804
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	804
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	9.5
HCM LOS			A

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	804
HCM Lane V/C Ratio	-	-	-	0.013
HCM Control Delay (s)	-	-	-	9.5
HCM Lane LOS	-	-	-	A
HCM 95th %tile Q(veh)	-	-	-	0

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	94	670	44	43	420	53	47	0	47	72	0	52
Future Volume (veh/h)	94	670	44	43	420	53	47	0	47	72	0	52
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1900	1863	1900	1900	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	108	770	51	49	483	61	54	0	54	83	0	60
Adj No. of Lanes	1	2	0	0	2	0	0	1	0	1	1	0
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	82	1693	112	117	1095	137	334	16	300	630	0	657
Arrive On Green	0.05	0.50	0.50	0.41	0.41	0.41	0.41	0.00	0.41	0.41	0.00	0.41
Sat Flow, veh/h	1774	3370	223	189	2639	330	685	38	723	1345	0	1583
Grp Volume(v), veh/h	108	404	417	290	0	303	108	0	0	83	0	60
Grp Sat Flow(s),veh/h/ln	1774	1770	1823	1521	0	1637	1445	0	0	1345	0	1583
Q Serve(g_s), s	5.0	16.0	16.0	2.8	0.0	14.4	2.8	0.0	0.0	0.0	0.0	2.5
Cycle Q Clear(g_c), s	5.0	16.0	16.0	12.5	0.0	14.4	5.3	0.0	0.0	3.8	0.0	2.5
Prop In Lane	1.00		0.12	0.17		0.20	0.50		0.50	1.00		1.00
Lane Grp Cap(c), veh/h	82	889	916	670	0	679	649	0	0	630	0	657
V/C Ratio(X)	1.32	0.45	0.46	0.43	0.00	0.45	0.17	0.00	0.00	0.13	0.00	0.09
Avail Cap(c_a), veh/h	82	889	916	670	0	679	649	0	0	630	0	657
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	51.8	17.4	17.4	22.1	0.0	22.8	20.1	0.0	0.0	19.7	0.0	19.3
Incr Delay (d2), s/veh	207.5	1.7	1.6	2.0	0.0	2.1	0.6	0.0	0.0	0.4	0.0	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.1	8.2	8.4	6.4	0.0	6.9	2.1	0.0	0.0	1.6	0.0	1.1
LnGrp Delay(d),s/veh	259.3	19.1	19.0	24.1	0.0	24.9	20.6	0.0	0.0	20.1	0.0	19.6
LnGrp LOS	F	B	B	C		C	C			C		B
Approach Vol, veh/h		929			593			108			143	
Approach Delay, s/veh		47.0			24.5			20.6			19.9	
Approach LOS		D			C			C			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		8
Phs Duration (G+Y+Rc), s		59.0		49.5	9.5	49.5		49.5
Change Period (Y+Rc), s		4.5		4.5	4.5	4.5		4.5
Max Green Setting (Gmax), s		45.0		45.0	5.0	45.0		45.0
Max Q Clear Time (g_c+I1), s		18.0		5.8	7.0	16.4		7.3
Green Ext Time (p_c), s		10.9		1.3	0.0	11.2		1.3

Intersection Summary	
HCM 2010 Ctrl Delay	35.7
HCM 2010 LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	100	558	94	121	363	62	67	185	213	66	136	74
Future Volume (veh/h)	100	558	94	121	363	62	67	185	213	66	136	74
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	109	607	102	132	395	67	73	201	232	72	148	80
Adj No. of Lanes	1	2	0	1	2	0	1	1	1	1	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	140	812	136	167	857	144	123	650	553	122	650	552
Arrive On Green	0.08	0.27	0.27	0.09	0.28	0.28	0.07	0.35	0.35	0.07	0.35	0.35
Sat Flow, veh/h	1774	3034	509	1774	3032	510	1774	1863	1583	1774	1863	1583
Grp Volume(v), veh/h	109	354	355	132	229	233	73	201	232	72	148	80
Grp Sat Flow(s),veh/h/ln	1774	1770	1773	1774	1770	1773	1774	1863	1583	1774	1863	1583
Q Serve(g_s), s	4.9	14.9	15.0	6.0	8.7	8.9	3.3	6.4	9.1	3.2	4.6	2.8
Cycle Q Clear(g_c), s	4.9	14.9	15.0	6.0	8.7	8.9	3.3	6.4	9.1	3.2	4.6	2.8
Prop In Lane	1.00		0.29	1.00		0.29	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	140	474	475	167	500	501	123	650	553	122	650	552
V/C Ratio(X)	0.78	0.75	0.75	0.79	0.46	0.46	0.59	0.31	0.42	0.59	0.23	0.14
Avail Cap(c_a), veh/h	293	574	575	293	574	575	293	650	553	293	650	552
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	36.9	27.4	27.4	36.2	24.2	24.2	36.9	19.4	20.3	36.9	18.8	18.3
Incr Delay (d2), s/veh	8.9	4.3	4.4	8.1	0.7	0.7	4.5	1.2	2.3	4.4	0.8	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.8	7.8	7.9	3.3	4.4	4.4	1.8	3.5	4.3	1.7	2.5	1.3
LnGrp Delay(d),s/veh	45.9	31.7	31.8	44.4	24.8	24.9	41.4	20.6	22.6	41.4	19.6	18.8
LnGrp LOS	D	C	C	D	C	C	D	C	C	D	B	B
Approach Vol, veh/h		818			594			506			300	
Approach Delay, s/veh		33.6			29.2			24.5			24.6	
Approach LOS		C			C			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.1	33.0	12.2	26.4	10.2	33.0	11.0	27.6
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	13.5	28.5	13.5	26.5	13.5	28.5	13.5	26.5
Max Q Clear Time (g_c+I1), s	6.9	11.1	8.0	17.0	5.3	6.6	6.9	10.9
Green Ext Time (p_c), s	0.1	2.9	0.1	4.9	0.1	3.1	0.1	6.6

Intersection Summary	
HCM 2010 Ctrl Delay	29.1
HCM 2010 LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	65	173	71	107	93	24	67	394	163	18	309	34
Future Volume (veh/h)	65	173	71	107	93	24	67	394	163	18	309	34
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	68	182	75	113	98	25	71	415	172	19	325	36
Adj No. of Lanes	1	2	0	1	1	0	1	1	0	1	1	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	208	291	115	182	147	37	128	557	231	167	768	85
Arrive On Green	0.12	0.12	0.12	0.10	0.10	0.10	0.07	0.44	0.44	0.09	0.47	0.47
Sat Flow, veh/h	1774	2475	983	1774	1433	365	1774	1252	519	1774	1648	183
Grp Volume(v), veh/h	68	128	129	113	0	123	71	0	587	19	0	361
Grp Sat Flow(s),veh/h/ln	1774	1770	1689	1774	0	1798	1774	0	1771	1774	0	1831
Q Serve(g_s), s	2.6	5.1	5.4	4.5	0.0	4.9	2.9	0.0	20.5	0.7	0.0	9.8
Cycle Q Clear(g_c), s	2.6	5.1	5.4	4.5	0.0	4.9	2.9	0.0	20.5	0.7	0.0	9.8
Prop In Lane	1.00		0.58	1.00		0.20	1.00		0.29	1.00		0.10
Lane Grp Cap(c), veh/h	208	208	198	182	0	184	128	0	787	167	0	853
V/C Ratio(X)	0.33	0.62	0.65	0.62	0.00	0.67	0.55	0.00	0.75	0.11	0.00	0.42
Avail Cap(c_a), veh/h	479	478	456	479	0	485	169	0	787	479	0	853
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	30.2	31.3	31.4	32.0	0.0	32.2	33.4	0.0	17.2	30.9	0.0	13.2
Incr Delay (d2), s/veh	0.9	3.0	3.6	3.5	0.0	4.1	3.7	0.0	6.4	0.3	0.0	1.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.3	2.7	2.7	2.4	0.0	2.6	1.5	0.0	11.3	0.4	0.0	5.3
LnGrp Delay(d),s/veh	31.1	34.2	35.0	35.5	0.0	36.3	37.0	0.0	23.5	31.2	0.0	14.8
LnGrp LOS	C	C	C	D		D	D		C	C		B
Approach Vol, veh/h		325			236			658			380	
Approach Delay, s/veh		33.9			35.9			25.0			15.6	
Approach LOS		C			D			C			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	11.5	37.6		13.2	9.9	39.2		12.1
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5
Max Green Setting (Gmax), s	20.1	21.7		20.1	7.1	34.7		20.1
Max Q Clear Time (g_c+I1), s	12.7	22.5		7.4	4.9	11.8		6.9
Green Ext Time (p_c), s	0.0	0.0		1.3	0.0	6.8		0.8

Intersection Summary	
HCM 2010 Ctrl Delay	26.2
HCM 2010 LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	381	578	160	49	292	50	132	247	82	67	165	267
Future Volume (veh/h)	381	578	160	49	292	50	132	247	82	67	165	267
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	397	602	167	51	304	52	138	257	85	70	172	278
Adj No. of Lanes	1	2	0	1	2	0	1	1	1	1	1	1
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	283	809	224	102	587	99	173	684	673	118	627	786
Arrive On Green	0.16	0.30	0.30	0.06	0.19	0.19	0.10	0.37	0.37	0.07	0.34	0.34
Sat Flow, veh/h	1774	2740	759	1774	3030	512	1774	1863	1583	1774	1863	1583
Grp Volume(v), veh/h	397	388	381	51	176	180	138	257	85	70	172	278
Grp Sat Flow(s),veh/h/ln	1774	1770	1729	1774	1770	1772	1774	1863	1583	1774	1863	1583
Q Serve(g_s), s	13.5	16.8	16.8	2.4	7.5	7.7	6.4	8.6	2.8	3.2	5.7	9.1
Cycle Q Clear(g_c), s	13.5	16.8	16.8	2.4	7.5	7.7	6.4	8.6	2.8	3.2	5.7	9.1
Prop In Lane	1.00		0.44	1.00		0.29	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	283	523	511	102	343	343	173	684	673	118	627	786
V/C Ratio(X)	1.40	0.74	0.75	0.50	0.51	0.52	0.80	0.38	0.13	0.59	0.27	0.35
Avail Cap(c_a), veh/h	283	554	541	283	554	555	283	684	673	283	627	786
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	35.6	26.9	26.9	38.7	30.6	30.6	37.4	19.6	14.8	38.4	20.5	13.0
Incr Delay (d2), s/veh	201.3	5.1	5.3	3.7	1.2	1.2	8.2	1.6	0.4	4.6	1.1	1.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	22.3	8.9	8.8	1.3	3.8	3.9	3.5	4.7	1.3	1.7	3.1	4.2
LnGrp Delay(d),s/veh	236.8	32.0	32.2	42.4	31.8	31.9	45.5	21.2	15.2	43.0	21.6	14.3
LnGrp LOS	F	C	C	D	C	C	D	C	B	D	C	B
Approach Vol, veh/h		1166			407			480			520	
Approach Delay, s/veh		101.8			33.1			27.1			20.6	
Approach LOS		F			C			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.1	35.6	9.4	29.5	12.7	33.0	18.0	20.9
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	13.5	28.5	13.5	26.5	13.5	28.5	13.5	26.5
Max Q Clear Time (g_c+I1), s	15.2	10.6	4.4	18.8	8.4	11.1	15.5	9.7
Green Ext Time (p_c), s	0.1	3.6	0.0	4.1	0.1	3.6	0.0	6.7

Intersection Summary	
HCM 2010 Ctrl Delay	60.6
HCM 2010 LOS	E

General Plan (2035)

HCM 2010 Signalized Intersection Summary
1: Heacock St & Ironwood Ave

Festival at Moreno Valley Mixed Use
Future (2035) Without Project Weekday AM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	168	365	161	221	735	58	130	478	112	62	661	313
Future Volume (veh/h)	168	365	161	221	735	58	130	478	112	62	661	313
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	179	388	171	235	782	62	138	509	119	66	703	333
Adj No. of Lanes	1	2	1	1	2	0	1	2	1	1	2	1
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	214	880	394	261	915	73	171	1222	780	110	1101	683
Arrive On Green	0.12	0.25	0.25	0.15	0.28	0.28	0.10	0.35	0.35	0.06	0.31	0.31
Sat Flow, veh/h	1774	3539	1583	1774	3323	263	1774	3539	1583	1774	3539	1583
Grp Volume(v), veh/h	179	388	171	235	416	428	138	509	119	66	703	333
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	1770	1816	1774	1770	1583	1774	1770	1583
Q Serve(g_s), s	9.0	8.5	8.3	11.9	20.4	20.4	7.0	10.1	3.8	3.3	15.6	13.9
Cycle Q Clear(g_c), s	9.0	8.5	8.3	11.9	20.4	20.4	7.0	10.1	3.8	3.3	15.6	13.9
Prop In Lane	1.00		1.00	1.00		0.15	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	214	880	394	261	488	500	171	1222	780	110	1101	683
V/C Ratio(X)	0.84	0.44	0.43	0.90	0.85	0.85	0.81	0.42	0.15	0.60	0.64	0.49
Avail Cap(c_a), veh/h	261	1024	458	261	512	525	261	1222	780	261	1101	683
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	39.4	29.0	29.0	38.4	31.4	31.4	40.6	22.9	12.7	41.8	27.1	18.7
Incr Delay (d2), s/veh	17.7	0.3	0.8	30.7	12.8	12.6	10.2	1.0	0.4	5.1	2.8	2.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.5	4.2	3.7	8.0	11.7	12.0	3.9	5.1	1.7	1.8	8.0	6.5
LnGrp Delay(d),s/veh	57.1	29.4	29.7	69.1	44.2	44.0	50.8	24.0	13.2	47.0	30.0	21.2
LnGrp LOS	E	C	C	E	D	D	D	C	B	D	C	C
Approach Vol, veh/h		738			1079			766			1102	
Approach Delay, s/veh		36.2			49.6			27.1			28.3	
Approach LOS		D			D			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.2	36.1	18.0	27.3	13.3	33.0	15.5	29.7
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	13.5	28.5	13.5	26.5	13.5	28.5	13.5	26.5
Max Q Clear Time (g_c+I1), s	5.3	12.1	13.9	10.5	9.0	17.6	11.0	22.4
Green Ext Time (p_c), s	0.1	8.6	0.0	7.9	0.1	6.6	0.1	2.8

Intersection Summary	
HCM 2010 Ctrl Delay	35.9
HCM 2010 LOS	D

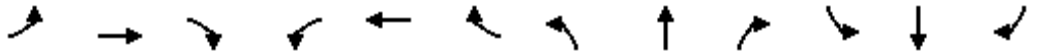
Intersection	
Int Delay, s/veh	0

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	0	719	0	0	1043
Future Vol, veh/h	0	0	719	0	0	1043
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	765	0	0	1110

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1320	382	0	0	765	0
Stage 1	765	-	-	-	-	-
Stage 2	555	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	148	616	-	-	844	-
Stage 1	420	-	-	-	-	-
Stage 2	539	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	148	616	-	-	844	-
Mov Cap-2 Maneuver	282	-	-	-	-	-
Stage 1	420	-	-	-	-	-
Stage 2	539	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	0	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	-	844	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	-	-	0	0	-
HCM Lane LOS	-	-	A	A	-
HCM 95th %tile Q(veh)	-	-	-	0	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	49	71	132	67	90	23	109	672	77	18	1012	41
Future Volume (veh/h)	49	71	132	67	90	23	109	672	77	18	1012	41
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	51	73	136	69	93	24	112	693	79	19	1043	42
Adj No. of Lanes	1	1	0	1	1	1	1	2	1	1	2	1
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	112	100	186	131	339	288	158	1650	738	55	1445	647
Arrive On Green	0.06	0.17	0.17	0.07	0.18	0.18	0.09	0.47	0.47	0.03	0.41	0.41
Sat Flow, veh/h	1774	584	1087	1774	1863	1583	1774	3539	1583	1774	3539	1583
Grp Volume(v), veh/h	51	0	209	69	93	24	112	693	79	19	1043	42
Grp Sat Flow(s),veh/h/ln	1774	0	1671	1774	1863	1583	1774	1770	1583	1774	1770	1583
Q Serve(g_s), s	1.9	0.0	8.3	2.6	3.0	0.9	4.3	9.1	2.0	0.7	17.3	1.1
Cycle Q Clear(g_c), s	1.9	0.0	8.3	2.6	3.0	0.9	4.3	9.1	2.0	0.7	17.3	1.1
Prop In Lane	1.00		0.65	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	112	0	286	131	339	288	158	1650	738	55	1445	647
V/C Ratio(X)	0.46	0.00	0.73	0.53	0.27	0.08	0.71	0.42	0.11	0.35	0.72	0.06
Avail Cap(c_a), veh/h	343	0	634	343	707	601	343	1650	738	343	1445	647
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	31.5	0.0	27.4	31.1	24.6	23.7	30.9	12.4	10.5	33.1	17.3	12.6
Incr Delay (d2), s/veh	2.9	0.0	3.6	3.2	0.4	0.1	5.8	0.8	0.3	3.7	3.2	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	0.0	4.1	1.4	1.6	0.4	2.3	4.6	0.9	0.4	9.0	0.5
LnGrp Delay(d),s/veh	34.4	0.0	31.0	34.4	25.0	23.8	36.7	13.1	10.8	36.8	20.5	12.7
LnGrp LOS	C		C	C	C	C	D	B	B	D	C	B
Approach Vol, veh/h		260			186			884			1104	
Approach Delay, s/veh		31.7			28.3			15.9			20.5	
Approach LOS		C			C			B			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	6.7	37.0	9.7	16.4	10.7	33.0	8.9	17.2
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	13.5	28.5	13.5	26.5	13.5	28.5	13.5	26.5
Max Q Clear Time (g_c+I1), s	2.7	11.1	4.6	10.3	6.3	19.3	3.9	5.0
Green Ext Time (p_c), s	0.0	11.3	0.1	1.7	0.1	6.9	0.1	1.8

Intersection Summary	
HCM 2010 Ctrl Delay	20.6
HCM 2010 LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	302	4	181	307	676	0	0	868	346
Future Volume (veh/h)	0	0	0	302	4	181	307	676	0	0	868	346
Number				3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln				1900	1863	1863	1863	1863	0	0	1863	1900
Adj Flow Rate, veh/h				315	4	189	320	704	0	0	904	360
Adj No. of Lanes				0	1	1	1	2	0	0	2	0
Peak Hour Factor				0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %				2	2	2	2	2	0	0	2	2
Cap, veh/h				390	5	352	361	2377	0	0	1030	408
Arrive On Green				0.22	0.22	0.22	0.20	0.67	0.00	0.00	0.42	0.42
Sat Flow, veh/h				1753	22	1583	1774	3632	0	0	2571	981
Grp Volume(v), veh/h				319	0	189	320	704	0	0	644	620
Grp Sat Flow(s),veh/h/ln				1775	0	1583	1774	1770	0	0	1770	1690
Q Serve(g_s), s				14.5	0.0	9.0	14.9	6.9	0.0	0.0	28.4	28.8
Cycle Q Clear(g_c), s				14.5	0.0	9.0	14.9	6.9	0.0	0.0	28.4	28.8
Prop In Lane				0.99		1.00	1.00		0.00	0.00		0.58
Lane Grp Cap(c), veh/h				395	0	352	361	2377	0	0	735	702
V/C Ratio(X)				0.81	0.00	0.54	0.89	0.30	0.00	0.00	0.88	0.88
Avail Cap(c_a), veh/h				708	0	631	436	2377	0	0	735	702
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				31.3	0.0	29.2	32.9	5.7	0.0	0.0	22.8	22.9
Incr Delay (d2), s/veh				3.9	0.0	1.3	17.2	0.3	0.0	0.0	13.8	15.1
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				7.5	0.0	4.0	9.0	3.4	0.0	0.0	16.6	16.2
LnGrp Delay(d),s/veh				35.3	0.0	30.4	50.1	6.0	0.0	0.0	36.7	38.0
LnGrp LOS				D		C	D	A			D	D
Approach Vol, veh/h					508			1024			1264	
Approach Delay, s/veh					33.5			19.8			37.3	
Approach LOS					C			B			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2			5	6		8
Phs Duration (G+Y+Rc), s		61.6			21.8	39.8		23.4
Change Period (Y+Rc), s		4.5			4.5	4.5		4.5
Max Green Setting (Gmax), s		57.1			20.9	31.7		33.9
Max Q Clear Time (g_c+I1), s		8.9			16.9	30.8		16.5
Green Ext Time (p_c), s		21.9			0.4	0.8		2.4

Intersection Summary		
HCM 2010 Ctrl Delay		30.2
HCM 2010 LOS		C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	274	4	526	0	0	0	0	701	155	180	995	0
Future Volume (veh/h)	274	4	526	0	0	0	0	701	155	180	995	0
Number	7	4	14				5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863				0	1863	1900	1863	1863	0
Adj Flow Rate, veh/h	283	0	537				0	715	158	184	1015	0
Adj No. of Lanes	2	0	1				0	3	0	1	2	0
Peak Hour Factor	0.98	0.98	0.98				0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Cap, veh/h	1061	0	473				0	1840	402	223	2162	0
Arrive On Green	0.30	0.00	0.30				0.00	0.44	0.44	0.13	0.61	0.00
Sat Flow, veh/h	3548	0	1583				0	4346	913	1774	3632	0
Grp Volume(v), veh/h	283	0	537				0	579	294	184	1015	0
Grp Sat Flow(s),veh/h/ln	1774	0	1583				0	1695	1702	1774	1770	0
Q Serve(g_s), s	6.1	0.0	29.9				0.0	11.5	11.7	10.1	15.6	0.0
Cycle Q Clear(g_c), s	6.1	0.0	29.9				0.0	11.5	11.7	10.1	15.6	0.0
Prop In Lane	1.00		1.00				0.00		0.54	1.00		0.00
Lane Grp Cap(c), veh/h	1061	0	473				0	1493	749	223	2162	0
V/C Ratio(X)	0.27	0.00	1.13				0.00	0.39	0.39	0.83	0.47	0.00
Avail Cap(c_a), veh/h	1061	0	473				0	1493	749	530	2162	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	26.7	0.0	35.0				0.0	18.9	18.9	42.7	10.6	0.0
Incr Delay (d2), s/veh	0.1	0.0	83.6				0.0	0.2	0.3	7.5	0.7	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.0	0.0	24.0				0.0	5.4	5.6	5.4	7.8	0.0
LnGrp Delay(d),s/veh	26.8	0.0	118.7				0.0	19.0	19.3	50.2	11.3	0.0
LnGrp LOS	C		F					B	B	D	B	
Approach Vol, veh/h		820						873			1199	
Approach Delay, s/veh		87.0						19.1			17.3	
Approach LOS		F						B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4		6		
Phs Duration (G+Y+Rc), s	17.1	48.5		34.4		65.6		
Change Period (Y+Rc), s	4.5	4.5		4.5		4.5		
Max Green Setting (Gmax), s	29.3	26.7		29.9		61.1		
Max Q Clear Time (g_c+I1), s	12.1	13.7		31.9		17.6		
Green Ext Time (p_c), s	0.4	9.3		0.0		19.6		

Intersection Summary	
HCM 2010 Ctrl Delay	37.6
HCM 2010 LOS	D

Notes

User approved volume balancing among the lanes for turning movement.

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	165	1	0	180	0	0	0	1	0	0	0
Future Vol, veh/h	0	165	1	0	180	0	0	0	1	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	91	91	91	91	91	91	91	91	91	91	91	91
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	181	1	0	198	0	0	0	1	0	0	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	198	0	0	182	0	0	281	380	91	289	380	99
Stage 1	-	-	-	-	-	-	182	182	-	198	198	-
Stage 2	-	-	-	-	-	-	99	198	-	91	182	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	1372	-	-	1391	-	-	649	551	949	641	551	937
Stage 1	-	-	-	-	-	-	802	748	-	785	736	-
Stage 2	-	-	-	-	-	-	896	736	-	906	748	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1372	-	-	1391	-	-	649	551	949	640	551	937
Mov Cap-2 Maneuver	-	-	-	-	-	-	649	551	-	640	551	-
Stage 1	-	-	-	-	-	-	802	748	-	785	736	-
Stage 2	-	-	-	-	-	-	896	736	-	905	748	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0	8.8	0
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	949	1372	-	-	1391	-	-	-
HCM Lane V/C Ratio	0.001	-	-	-	-	-	-	-
HCM Control Delay (s)	8.8	0	-	-	0	-	-	0
HCM Lane LOS	A	A	-	-	A	-	-	A
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	-

Intersection	
Int Delay, s/veh	0.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	11	156	1	0	174	1	2	0	0	0	0	6
Future Vol, veh/h	11	156	1	0	174	1	2	0	0	0	0	6
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	180	-	-	0	-	-	-	-	-	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	86	86	86	86	86	86	86	86	86	86	86	86
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	13	181	1	0	202	1	2	0	0	0	0	7

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	203	0	0	183	0	0	411	411	91	319	411	203
Stage 1	-	-	-	-	-	-	208	208	-	203	203	-
Stage 2	-	-	-	-	-	-	203	203	-	116	208	-
Critical Hdwy	4.13	-	-	4.13	-	-	7.33	6.53	6.93	7.33	6.53	6.23
Critical Hdwy Stg 1	-	-	-	-	-	-	6.53	5.53	-	6.13	5.53	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.13	5.53	-	6.53	5.53	-
Follow-up Hdwy	2.219	-	-	2.219	-	-	3.519	4.019	3.319	3.519	4.019	3.319
Pot Cap-1 Maneuver	1367	-	-	1391	-	-	538	530	949	622	530	837
Stage 1	-	-	-	-	-	-	775	729	-	798	733	-
Stage 2	-	-	-	-	-	-	798	733	-	877	729	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1367	-	-	1391	-	-	530	525	949	617	525	837
Mov Cap-2 Maneuver	-	-	-	-	-	-	530	525	-	617	525	-
Stage 1	-	-	-	-	-	-	768	722	-	790	733	-
Stage 2	-	-	-	-	-	-	791	733	-	869	722	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.5	0	11.8	9.3
HCM LOS			B	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	530	1367	-	-	1391	-	-	-	837
HCM Lane V/C Ratio	0.004	0.009	-	-	-	-	-	-	0.008
HCM Control Delay (s)	11.8	7.7	-	-	0	-	-	0	9.3
HCM Lane LOS	B	A	-	-	A	-	-	A	A
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	-	0

Intersection	
Int Delay, s/veh	0.6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	21	135	169	4	0	5
Future Vol, veh/h	21	135	169	4	0	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	84	84	84	84	84	84
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	25	161	201	5	0	6

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	206	0	-	0	415	204
Stage 1	-	-	-	-	204	-
Stage 2	-	-	-	-	211	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1365	-	-	-	594	837
Stage 1	-	-	-	-	830	-
Stage 2	-	-	-	-	824	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1365	-	-	-	582	837
Mov Cap-2 Maneuver	-	-	-	-	639	-
Stage 1	-	-	-	-	830	-
Stage 2	-	-	-	-	808	-

Approach	EB	WB	SB
HCM Control Delay, s	1	0	9.3
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1365	-	-	-	837
HCM Lane V/C Ratio	0.018	-	-	-	0.007
HCM Control Delay (s)	7.7	0	-	-	9.3
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0.1	-	-	-	0

Intersection	
Int Delay, s/veh	0.5

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	12	124	170	23	5	4
Future Vol, veh/h	12	124	170	23	5	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	13	138	189	26	6	4

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	214	0	-	0	366	202
Stage 1	-	-	-	-	202	-
Stage 2	-	-	-	-	164	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1356	-	-	-	634	839
Stage 1	-	-	-	-	832	-
Stage 2	-	-	-	-	865	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1356	-	-	-	628	839
Mov Cap-2 Maneuver	-	-	-	-	672	-
Stage 1	-	-	-	-	832	-
Stage 2	-	-	-	-	856	-

Approach	EB	WB	SB
HCM Control Delay, s	0.7	0	10
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1356	-	-	-	737
HCM Lane V/C Ratio	0.01	-	-	-	0.014
HCM Control Delay (s)	7.7	-	-	-	10
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	128	190	6	0	1
Future Vol, veh/h	0	128	190	6	0	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	86	86	86	86	86	86
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	149	221	7	0	1

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	-	224
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.318
Pot Cap-1 Maneuver	0	-	-	-	0	815
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	815
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	9.4
HCM LOS			A

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	815
HCM Lane V/C Ratio	-	-	-	0.001
HCM Control Delay (s)	-	-	-	9.4
HCM Lane LOS	-	-	-	A
HCM 95th %tile Q(veh)	-	-	-	0

Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑	↱			↱
Traffic Vol, veh/h	0	129	192	4	0	6
Future Vol, veh/h	0	129	192	4	0	6
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	87	87	87	87	87	87
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	148	221	5	0	7

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	-	223
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.318
Pot Cap-1 Maneuver	0	-	-	-	0	817
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	817
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	9.4
HCM LOS			A

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	817
HCM Lane V/C Ratio	-	-	-	0.008
HCM Control Delay (s)	-	-	-	9.4
HCM Lane LOS	-	-	-	A
HCM 95th %tile Q(veh)	-	-	-	0

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	71	480	0	0	913	213	0	0	0	164	0	109
Future Volume (veh/h)	71	480	0	0	913	213	0	0	0	164	0	109
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	0	1863	1900	1900	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	81	545	0	0	1038	242	0	0	0	186	0	124
Adj No. of Lanes	1	2	0	0	2	0	0	1	0	1	1	0
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	2	2	2	0	2	2	2	2	2	2	2	2
Cap, veh/h	83	1741	0	0	1149	267	0	789	0	819	0	670
Arrive On Green	0.05	0.49	0.00	0.00	0.40	0.40	0.00	0.00	0.00	0.42	0.00	0.42
Sat Flow, veh/h	1774	3632	0	0	2946	663	0	1863	0	1774	0	1583
Grp Volume(v), veh/h	81	545	0	0	642	638	0	0	0	186	0	124
Grp Sat Flow(s),veh/h/ln	1774	1770	0	0	1770	1746	0	1863	0	1774	0	1583
Q Serve(g_s), s	4.8	9.8	0.0	0.0	36.2	36.5	0.0	0.0	0.0	7.2	0.0	5.2
Cycle Q Clear(g_c), s	4.8	9.8	0.0	0.0	36.2	36.5	0.0	0.0	0.0	7.2	0.0	5.2
Prop In Lane	1.00		0.00	0.00		0.38	0.00		0.00	1.00		1.00
Lane Grp Cap(c), veh/h	83	1741	0	0	712	703	0	789	0	819	0	670
V/C Ratio(X)	0.97	0.31	0.00	0.00	0.90	0.91	0.00	0.00	0.00	0.23	0.00	0.18
Avail Cap(c_a), veh/h	83	1741	0	0	766	756	0	789	0	819	0	670
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	0.00	1.00	1.00	0.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	50.6	16.2	0.0	0.0	29.8	29.9	0.0	0.0	0.0	19.7	0.0	19.2
Incr Delay (d2), s/veh	88.4	0.1	0.0	0.0	13.3	14.1	0.0	0.0	0.0	0.6	0.0	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.4	4.8	0.0	0.0	20.3	20.3	0.0	0.0	0.0	3.7	0.0	2.4
LnGrp Delay(d),s/veh	139.0	16.3	0.0	0.0	43.1	44.0	0.0	0.0	0.0	20.4	0.0	19.8
LnGrp LOS	F	B			D	D				C		B
Approach Vol, veh/h		626			1280			0			310	
Approach Delay, s/veh		32.2			43.5			0.0			20.1	
Approach LOS		C			D						C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6	7	8
Phs Duration (G+Y+Rc), s		49.5		56.8		49.5	9.5	47.3
Change Period (Y+Rc), s		4.5		4.5		4.5	4.5	4.5
Max Green Setting (Gmax), s		45.0		46.0		45.0	5.0	46.0
Max Q Clear Time (g_c+I1), s		0.0		11.8		9.2	6.8	38.5
Green Ext Time (p_c), s		0.0		17.6		1.3	0.0	4.3

Intersection Summary		
HCM 2010 Ctrl Delay		37.1
HCM 2010 LOS		D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	37	443	164	265	829	139	170	256	116	133	204	115
Future Volume (veh/h)	37	443	164	265	829	139	170	256	116	133	204	115
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	44	527	195	315	987	165	202	305	138	158	243	137
Adj No. of Lanes	1	2	0	1	2	0	1	1	1	1	1	1
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	90	605	223	251	1001	167	235	602	512	191	556	473
Arrive On Green	0.05	0.24	0.24	0.14	0.33	0.33	0.13	0.32	0.32	0.11	0.30	0.30
Sat Flow, veh/h	1774	2534	934	1774	3036	507	1774	1863	1583	1774	1863	1583
Grp Volume(v), veh/h	44	367	355	315	575	577	202	305	138	158	243	137
Grp Sat Flow(s),veh/h/ln	1774	1770	1698	1774	1770	1773	1774	1863	1583	1774	1863	1583
Q Serve(g_s), s	2.3	19.0	19.2	13.5	30.8	30.8	10.6	12.6	6.2	8.3	10.0	6.3
Cycle Q Clear(g_c), s	2.3	19.0	19.2	13.5	30.8	30.8	10.6	12.6	6.2	8.3	10.0	6.3
Prop In Lane	1.00		0.55	1.00		0.29	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	90	423	405	251	584	585	235	602	512	191	556	473
V/C Ratio(X)	0.49	0.87	0.87	1.25	0.99	0.99	0.86	0.51	0.27	0.83	0.44	0.29
Avail Cap(c_a), veh/h	251	491	472	251	584	585	251	602	512	251	556	473
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	44.1	34.9	34.9	41.0	31.7	31.8	40.5	26.1	23.9	41.7	27.0	25.7
Incr Delay (d2), s/veh	4.1	13.9	14.9	143.0	33.4	33.7	23.8	3.0	1.3	15.7	2.5	1.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	10.9	10.6	16.5	20.4	20.5	6.8	7.0	2.9	4.9	5.5	3.0
LnGrp Delay(d),s/veh	48.2	48.7	49.9	184.0	65.1	65.5	64.3	29.1	25.2	57.4	29.5	27.2
LnGrp LOS	D	D	D	F	E	E	E	C	C	E	C	C
Approach Vol, veh/h		766			1467			645			538	
Approach Delay, s/veh		49.2			90.8			39.3			37.1	
Approach LOS		D			F			D			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	14.8	35.3	18.0	27.3	17.1	33.0	9.3	36.0
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	13.5	28.5	13.5	26.5	13.5	28.5	13.5	26.5
Max Q Clear Time (g_c+I1), s	10.3	14.6	15.5	21.2	12.6	12.0	4.3	32.8
Green Ext Time (p_c), s	0.1	3.7	0.0	1.6	0.1	3.9	0.0	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	63.3
HCM 2010 LOS	E

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	9	88	36	96	97	109	46	400	94	83	529	27
Future Volume (veh/h)	9	88	36	96	97	109	46	400	94	83	529	27
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	11	110	45	120	121	136	58	500	118	104	661	34
Adj No. of Lanes	1	2	0	1	1	0	1	1	0	1	1	0
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	153	215	84	326	147	165	113	604	142	157	771	40
Arrive On Green	0.09	0.09	0.09	0.18	0.18	0.18	0.06	0.41	0.41	0.09	0.44	0.44
Sat Flow, veh/h	1774	2490	971	1774	802	902	1774	1458	344	1774	1756	90
Grp Volume(v), veh/h	11	77	78	120	0	257	58	0	618	104	0	695
Grp Sat Flow(s),veh/h/ln	1774	1770	1691	1774	0	1704	1774	0	1802	1774	0	1847
Q Serve(g_s), s	0.5	3.3	3.5	4.7	0.0	11.5	2.5	0.0	24.2	4.5	0.0	26.8
Cycle Q Clear(g_c), s	0.5	3.3	3.5	4.7	0.0	11.5	2.5	0.0	24.2	4.5	0.0	26.8
Prop In Lane	1.00		0.57	1.00		0.53	1.00		0.19	1.00		0.05
Lane Grp Cap(c), veh/h	153	153	146	326	0	313	113	0	746	157	0	810
V/C Ratio(X)	0.07	0.50	0.54	0.37	0.00	0.82	0.51	0.00	0.83	0.66	0.00	0.86
Avail Cap(c_a), veh/h	451	450	430	451	0	433	159	0	746	451	0	810
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	33.2	34.5	34.6	28.3	0.0	31.0	35.8	0.0	20.7	34.9	0.0	20.0
Incr Delay (d2), s/veh	0.2	2.5	3.1	0.7	0.0	8.7	3.6	0.0	10.3	4.7	0.0	11.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	1.7	1.8	2.4	0.0	6.1	1.3	0.0	14.1	2.4	0.0	16.1
LnGrp Delay(d),s/veh	33.4	37.1	37.7	29.0	0.0	39.7	39.4	0.0	30.9	39.6	0.0	31.3
LnGrp LOS	C	D	D	C		D	D		C	D		C
Approach Vol, veh/h		166			377			676			799	
Approach Delay, s/veh		37.1			36.3			31.7			32.4	
Approach LOS		D			D			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	11.5	37.2		11.3	9.5	39.2		19.0
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5
Max Green Setting (Gmax), s	20.1	21.7		20.1	7.1	34.7		20.1
Max Q Clear Time (g_c+I1), s	13.5	26.2		5.5	4.5	28.8		13.5
Green Ext Time (p_c), s	0.2	0.0		0.7	0.0	4.0		1.0

Intersection Summary			
HCM 2010 Ctrl Delay		33.3	
HCM 2010 LOS		C	

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	100	404	167	40	462	59	172	369	124	102	400	152
Future Volume (veh/h)	100	404	167	40	462	59	172	369	124	102	400	152
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	112	454	188	45	519	66	193	415	139	115	449	171
Adj No. of Lanes	1	2	0	1	2	0	1	1	1	1	1	1
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	143	659	271	96	766	97	230	712	691	147	625	659
Arrive On Green	0.08	0.27	0.27	0.05	0.24	0.24	0.13	0.38	0.38	0.08	0.34	0.34
Sat Flow, veh/h	1774	2449	1006	1774	3161	401	1774	1863	1583	1774	1863	1583
Grp Volume(v), veh/h	112	327	315	45	290	295	193	415	139	115	449	171
Grp Sat Flow(s),veh/h/ln	1774	1770	1685	1774	1770	1792	1774	1863	1583	1774	1863	1583
Q Serve(g_s), s	5.3	14.1	14.3	2.1	12.6	12.7	9.0	15.0	4.6	5.4	17.9	6.0
Cycle Q Clear(g_c), s	5.3	14.1	14.3	2.1	12.6	12.7	9.0	15.0	4.6	5.4	17.9	6.0
Prop In Lane	1.00		0.60	1.00		0.22	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	143	476	454	96	429	434	230	712	691	147	625	659
V/C Ratio(X)	0.78	0.69	0.69	0.47	0.68	0.68	0.84	0.58	0.20	0.78	0.72	0.26
Avail Cap(c_a), veh/h	282	552	525	282	552	559	282	712	691	282	625	659
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	38.3	27.8	27.9	39.0	29.2	29.2	36.1	20.9	14.8	38.2	24.7	16.2
Incr Delay (d2), s/veh	8.9	2.9	3.3	3.6	2.2	2.3	16.6	3.5	0.7	8.8	7.0	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.9	7.3	7.1	1.1	6.4	6.5	5.5	8.4	2.1	3.0	10.4	2.8
LnGrp Delay(d),s/veh	47.3	30.8	31.2	42.6	31.4	31.5	52.7	24.3	15.5	47.1	31.7	17.2
LnGrp LOS	D	C	C	D	C	C	D	C	B	D	C	B
Approach Vol, veh/h		754			630			747			735	
Approach Delay, s/veh		33.4			32.2			30.0			30.7	
Approach LOS		C			C			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.5	37.0	9.1	27.4	15.5	33.0	11.4	25.1
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	13.5	28.5	13.5	26.5	13.5	28.5	13.5	26.5
Max Q Clear Time (g_c+I1), s	7.4	17.0	4.1	16.3	11.0	19.9	7.3	14.7
Green Ext Time (p_c), s	0.1	5.1	0.0	5.4	0.1	4.2	0.1	5.9

Intersection Summary	
HCM 2010 Ctrl Delay	31.6
HCM 2010 LOS	C

HCM 2010 Signalized Intersection Summary
1: Heacock St & Ironwood Ave

Festival at Moreno Valley Mixed Use
Future (2035) Without-Project Weekday PM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	267	841	170	137	497	60	167	694	195	79	537	216
Future Volume (veh/h)	267	841	170	137	497	60	167	694	195	79	537	216
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	272	858	173	140	507	61	170	708	199	81	548	220
Adj No. of Lanes	1	2	1	1	2	0	1	2	1	1	2	1
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	258	1016	454	173	761	91	204	1259	718	117	1086	716
Arrive On Green	0.15	0.29	0.29	0.10	0.24	0.24	0.12	0.36	0.36	0.07	0.31	0.31
Sat Flow, veh/h	1774	3539	1583	1774	3183	382	1774	3539	1583	1774	3539	1583
Grp Volume(v), veh/h	272	858	173	140	281	287	170	708	199	81	548	220
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	1770	1795	1774	1770	1583	1774	1770	1583
Q Serve(g_s), s	13.5	21.2	8.1	7.2	13.3	13.4	8.7	15.0	7.3	4.2	11.8	8.2
Cycle Q Clear(g_c), s	13.5	21.2	8.1	7.2	13.3	13.4	8.7	15.0	7.3	4.2	11.8	8.2
Prop In Lane	1.00		1.00	1.00		0.21	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	258	1016	454	173	423	429	204	1259	718	117	1086	716
V/C Ratio(X)	1.06	0.84	0.38	0.81	0.66	0.67	0.83	0.56	0.28	0.69	0.50	0.31
Avail Cap(c_a), veh/h	258	1016	454	258	505	512	258	1259	718	258	1086	716
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	39.7	31.2	26.5	41.1	32.0	32.0	40.2	24.1	15.9	42.5	26.4	16.2
Incr Delay (d2), s/veh	71.3	6.7	0.5	11.1	2.5	2.6	16.7	1.8	1.0	7.1	1.7	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	11.7	11.3	3.6	4.1	6.8	6.9	5.2	7.6	3.4	2.3	6.0	3.8
LnGrp Delay(d),s/veh	111.0	37.8	27.0	52.2	34.5	34.6	57.0	25.9	16.8	49.5	28.1	17.3
LnGrp LOS	F	D	C	D	C	C	E	C	B	D	C	B
Approach Vol, veh/h		1303			708			1077			849	
Approach Delay, s/veh		51.7			38.0			29.1			27.3	
Approach LOS		D			D			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.6	37.6	13.6	31.2	15.2	33.0	18.0	26.7
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	13.5	28.5	13.5	26.5	13.5	28.5	13.5	26.5
Max Q Clear Time (g_c+I1), s	6.2	17.0	9.2	23.2	10.7	13.8	15.5	15.4
Green Ext Time (p_c), s	0.1	7.0	0.1	2.5	0.1	8.2	0.0	6.8

Intersection Summary	
HCM 2010 Ctrl Delay	37.8
HCM 2010 LOS	D

Intersection	
Int Delay, s/veh	0

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	0	1056	0	0	843
Future Vol, veh/h	0	0	1056	0	0	843
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	98	98	98	98	98	98
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	1078	0	0	860

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1422	539	0	0	1078	0
Stage 1	1078	-	-	-	-	-
Stage 2	344	-	-	-	-	-
Critical Hdwy	6.29	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	6.04	-	-	-	-	-
Follow-up Hdwy	3.67	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	155	487	-	-	643	-
Stage 1	281	-	-	-	-	-
Stage 2	653	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	155	487	-	-	643	-
Mov Cap-2 Maneuver	155	-	-	-	-	-
Stage 1	281	-	-	-	-	-
Stage 2	653	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	0	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	-	643	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	-	-	0	0	-
HCM Lane LOS	-	-	A	A	-
HCM 95th %tile Q(veh)	-	-	-	0	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	91	144	259	97	90	35	162	981	134	24	806	44
Future Volume (veh/h)	91	144	259	97	90	35	162	981	134	24	806	44
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	92	145	262	98	91	35	164	991	135	24	814	44
Adj No. of Lanes	1	1	0	1	1	1	1	2	1	1	2	1
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	128	162	294	131	510	434	200	1447	647	63	1173	525
Arrive On Green	0.07	0.27	0.27	0.07	0.27	0.27	0.11	0.41	0.41	0.04	0.33	0.33
Sat Flow, veh/h	1774	596	1077	1774	1863	1583	1774	3539	1583	1774	3539	1583
Grp Volume(v), veh/h	92	0	407	98	91	35	164	991	135	24	814	44
Grp Sat Flow(s),veh/h/ln	1774	0	1673	1774	1863	1583	1774	1770	1583	1774	1770	1583
Q Serve(g_s), s	4.4	0.0	20.1	4.7	3.2	1.4	7.8	19.8	4.7	1.1	17.2	1.6
Cycle Q Clear(g_c), s	4.4	0.0	20.1	4.7	3.2	1.4	7.8	19.8	4.7	1.1	17.2	1.6
Prop In Lane	1.00		0.64	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	128	0	456	131	510	434	200	1447	647	63	1173	525
V/C Ratio(X)	0.72	0.00	0.89	0.75	0.18	0.08	0.82	0.68	0.21	0.38	0.69	0.08
Avail Cap(c_a), veh/h	279	0	516	279	574	488	279	1447	647	279	1173	525
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	39.0	0.0	30.1	39.1	23.8	23.2	37.3	20.9	16.4	40.5	24.9	19.8
Incr Delay (d2), s/veh	7.2	0.0	16.4	8.4	0.2	0.1	12.5	2.7	0.7	3.7	3.4	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.4	0.0	11.3	2.6	1.7	0.6	4.5	10.2	2.2	0.6	8.9	0.8
LnGrp Delay(d),s/veh	46.3	0.0	46.4	47.4	24.0	23.3	49.8	23.5	17.2	44.3	28.3	20.1
LnGrp LOS	D		D	D	C	C	D	C	B	D	C	C
Approach Vol, veh/h		499			224			1290			882	
Approach Delay, s/veh		46.4			34.1			26.2			28.4	
Approach LOS		D			C			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.6	39.7	10.8	27.9	14.2	33.0	10.7	28.0
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	13.5	28.5	13.5	26.5	13.5	28.5	13.5	26.5
Max Q Clear Time (g_c+I1), s	3.1	21.8	6.7	22.1	9.8	19.2	6.4	5.2
Green Ext Time (p_c), s	0.0	5.5	0.1	1.3	0.1	7.2	0.1	3.4

Intersection Summary	
HCM 2010 Ctrl Delay	30.9
HCM 2010 LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	242	4	189	377	1096	0	0	874	292
Future Volume (veh/h)	0	0	0	242	4	189	377	1096	0	0	874	292
Number				3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln				1900	1863	1863	1863	1863	0	0	1863	1900
Adj Flow Rate, veh/h				252	4	197	393	1142	0	0	910	304
Adj No. of Lanes				0	1	1	1	2	0	0	2	0
Peak Hour Factor				0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %				2	2	2	2	2	0	0	2	2
Cap, veh/h				328	5	298	430	2483	0	0	1054	351
Arrive On Green				0.19	0.19	0.19	0.24	0.70	0.00	0.00	0.40	0.40
Sat Flow, veh/h				1748	28	1583	1774	3632	0	0	2703	869
Grp Volume(v), veh/h				256	0	197	393	1142	0	0	616	598
Grp Sat Flow(s),veh/h/ln				1775	0	1583	1774	1770	0	0	1770	1709
Q Serve(g_s), s				11.1	0.0	9.4	17.5	11.6	0.0	0.0	25.9	26.1
Cycle Q Clear(g_c), s				11.1	0.0	9.4	17.5	11.6	0.0	0.0	25.9	26.1
Prop In Lane				0.98		1.00	1.00		0.00	0.00		0.51
Lane Grp Cap(c), veh/h				334	0	298	430	2483	0	0	714	690
V/C Ratio(X)				0.77	0.00	0.66	0.91	0.46	0.00	0.00	0.86	0.87
Avail Cap(c_a), veh/h				739	0	659	456	2483	0	0	714	690
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				31.4	0.0	30.7	30.0	5.4	0.0	0.0	22.2	22.3
Incr Delay (d2), s/veh				3.7	0.0	2.5	22.1	0.6	0.0	0.0	13.0	13.8
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				5.8	0.0	4.3	11.2	5.8	0.0	0.0	15.2	14.9
LnGrp Delay(d),s/veh				35.1	0.0	33.2	52.1	6.0	0.0	0.0	35.2	36.1
LnGrp LOS				D		C	D	A			D	D
Approach Vol, veh/h					453			1535			1214	
Approach Delay, s/veh					34.2			17.8			35.6	
Approach LOS					C			B			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2			5	6		8
Phs Duration (G+Y+Rc), s		61.6			24.2	37.4		19.8
Change Period (Y+Rc), s		4.5			4.5	4.5		4.5
Max Green Setting (Gmax), s		57.1			20.9	31.7		33.9
Max Q Clear Time (g_c+I1), s		13.6			19.5	28.1		13.1
Green Ext Time (p_c), s		26.8			0.2	3.3		2.2

Intersection Summary		
HCM 2010 Ctrl Delay		26.9
HCM 2010 LOS		C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	502	3	354	0	0	0	0	981	322	191	931	0
Future Volume (veh/h)	502	3	354	0	0	0	0	981	322	191	931	0
Number	7	4	14				5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863				0	1863	1900	1863	1863	0
Adj Flow Rate, veh/h	525	0	369				0	1022	335	199	970	0
Adj No. of Lanes	2	0	1				0	3	0	1	2	0
Peak Hour Factor	0.96	0.96	0.96				0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Cap, veh/h	942	0	420				0	1736	569	240	2266	0
Arrive On Green	0.27	0.00	0.27				0.00	0.46	0.46	0.14	0.64	0.00
Sat Flow, veh/h	3548	0	1583				0	3959	1242	1774	3632	0
Grp Volume(v), veh/h	525	0	369				0	914	443	199	970	0
Grp Sat Flow(s),veh/h/ln	1774	0	1583				0	1695	1644	1774	1770	0
Q Serve(g_s), s	12.2	0.0	21.3				0.0	19.1	19.1	10.4	13.0	0.0
Cycle Q Clear(g_c), s	12.2	0.0	21.3				0.0	19.1	19.1	10.4	13.0	0.0
Prop In Lane	1.00		1.00				0.00		0.76	1.00		0.00
Lane Grp Cap(c), veh/h	942	0	420				0	1552	752	240	2266	0
V/C Ratio(X)	0.56	0.00	0.88				0.00	0.59	0.59	0.83	0.43	0.00
Avail Cap(c_a), veh/h	1112	0	496				0	1552	752	556	2266	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	30.2	0.0	33.6				0.0	19.2	19.2	40.2	8.5	0.0
Incr Delay (d2), s/veh	0.5	0.0	14.5				0.0	0.6	1.2	7.2	0.6	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.0	0.0	11.0				0.0	9.0	8.9	5.6	6.5	0.0
LnGrp Delay(d),s/veh	30.7	0.0	48.1				0.0	19.8	20.4	47.4	9.1	0.0
LnGrp LOS	C		D					B	C	D	A	
Approach Vol, veh/h		894						1357			1169	
Approach Delay, s/veh		37.9						20.0			15.6	
Approach LOS		D						C			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4		6		
Phs Duration (G+Y+Rc), s	17.4	48.2		29.8		65.6		
Change Period (Y+Rc), s	4.5	4.5		4.5		4.5		
Max Green Setting (Gmax), s	29.3	26.7		29.9		61.1		
Max Q Clear Time (g_c+I1), s	12.4	21.1		23.3		15.0		
Green Ext Time (p_c), s	0.5	5.0		2.0		27.1		

Intersection Summary	
HCM 2010 Ctrl Delay	23.2
HCM 2010 LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

Intersection	
Int Delay, s/veh	0.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑			↑			⇳			⇳	
Traffic Vol, veh/h	0	306	22	0	228	0	0	0	22	0	0	0
Future Vol, veh/h	0	306	22	0	228	0	0	0	22	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	94	94	94	94	94	94	94	94	94	94	94	94
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	326	23	0	243	0	0	0	23	0	0	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	-	0	0	-	-	0	580	580	174	373	592	243
Stage 1	-	-	-	-	-	-	337	337	-	243	243	-
Stage 2	-	-	-	-	-	-	243	243	-	130	349	-
Critical Hdwy	-	-	-	-	-	-	6.78	6.53	7.13	6.78	6.53	6.23
Critical Hdwy Stg 1	-	-	-	-	-	-	7.33	5.53	-	6.13	5.53	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.13	5.53	-	6.73	5.53	-
Follow-up Hdwy	-	-	-	-	-	-	3.669	4.019	3.919	3.669	4.019	3.319
Pot Cap-1 Maneuver	0	-	-	0	-	0	436	425	714	584	418	795
Stage 1	0	-	-	0	-	0	584	640	-	732	704	-
Stage 2	0	-	-	0	-	0	732	704	-	822	633	-
Platoon blocked, %		-	-		-							
Mov Cap-1 Maneuver	-	-	-	-	-	-	436	425	714	565	418	795
Mov Cap-2 Maneuver	-	-	-	-	-	-	436	425	-	565	418	-
Stage 1	-	-	-	-	-	-	584	640	-	732	704	-
Stage 2	-	-	-	-	-	-	732	704	-	795	633	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0	10.2	0
HCM LOS			B	A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT	SBLn1
Capacity (veh/h)	714	-	-	-	-
HCM Lane V/C Ratio	0.033	-	-	-	-
HCM Control Delay (s)	10.2	-	-	-	0
HCM Lane LOS	B	-	-	-	A
HCM 95th %tile Q(veh)	0.1	-	-	-	-

Intersection	
Int Delay, s/veh	1.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	55	273	4	4	182	5	2	2	0	7	0	35
Future Vol, veh/h	55	273	4	4	182	5	2	2	0	7	0	35
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	180	-	-	0	-	-	-	-	-	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	88	88	88	88	88	88	88	88	88	88	88	88
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	63	310	5	5	207	6	2	2	0	8	0	40

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	213	0	0	315	0	0	657	660	157	500	659	210
Stage 1	-	-	-	-	-	-	438	438	-	219	219	-
Stage 2	-	-	-	-	-	-	219	222	-	281	440	-
Critical Hdwy	4.13	-	-	4.13	-	-	7.33	6.53	6.93	7.33	6.53	6.23
Critical Hdwy Stg 1	-	-	-	-	-	-	6.53	5.53	-	6.13	5.53	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.13	5.53	-	6.53	5.53	-
Follow-up Hdwy	2.219	-	-	2.219	-	-	3.519	4.019	3.319	3.519	4.019	3.319
Pot Cap-1 Maneuver	1356	-	-	1244	-	-	364	382	861	467	383	830
Stage 1	-	-	-	-	-	-	568	578	-	783	721	-
Stage 2	-	-	-	-	-	-	783	719	-	703	577	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1356	-	-	1244	-	-	333	363	861	447	364	830
Mov Cap-2 Maneuver	-	-	-	-	-	-	333	363	-	447	364	-
Stage 1	-	-	-	-	-	-	542	551	-	747	718	-
Stage 2	-	-	-	-	-	-	742	716	-	668	550	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.3	0.2	15.5	10.2
HCM LOS			C	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	347	1356	-	-	1244	-	-	447	830
HCM Lane V/C Ratio	0.013	0.046	-	-	0.004	-	-	0.018	0.048
HCM Control Delay (s)	15.5	7.8	-	-	7.9	-	-	13.2	9.6
HCM Lane LOS	C	A	-	-	A	-	-	B	A
HCM 95th %tile Q(veh)	0	0.1	-	-	0	-	-	0.1	0.2

Intersection	
Int Delay, s/veh	0.6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	11	271	182	7	10	10
Future Vol, veh/h	11	271	182	7	10	10
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	12	298	200	8	11	11

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	208	0	-	0	526	204
Stage 1	-	-	-	-	204	-
Stage 2	-	-	-	-	322	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1363	-	-	-	512	837
Stage 1	-	-	-	-	830	-
Stage 2	-	-	-	-	735	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1363	-	-	-	506	837
Mov Cap-2 Maneuver	-	-	-	-	582	-
Stage 1	-	-	-	-	830	-
Stage 2	-	-	-	-	727	-

Approach	EB	WB	SB
HCM Control Delay, s	0.3	0	10.4
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1363	-	-	-	687
HCM Lane V/C Ratio	0.009	-	-	-	0.032
HCM Control Delay (s)	7.7	0	-	-	10.4
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.1

Intersection	
Int Delay, s/veh	1.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	19	259	175	9	25	16
Future Vol, veh/h	19	259	175	9	25	16
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	21	285	192	10	27	18

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	202	0	-	0	523	197
Stage 1	-	-	-	-	197	-
Stage 2	-	-	-	-	326	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1370	-	-	-	514	844
Stage 1	-	-	-	-	836	-
Stage 2	-	-	-	-	731	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1370	-	-	-	505	844
Mov Cap-2 Maneuver	-	-	-	-	579	-
Stage 1	-	-	-	-	836	-
Stage 2	-	-	-	-	718	-

Approach	EB	WB	SB
HCM Control Delay, s	0.5	0	10.9
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1370	-	-	-	660
HCM Lane V/C Ratio	0.015	-	-	-	0.068
HCM Control Delay (s)	7.7	-	-	-	10.9
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.2

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑	↱			↱
Traffic Vol, veh/h	1	284	177	25	0	7
Future Vol, veh/h	1	284	177	25	0	7
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1	305	190	27	0	8

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	217	0	-	0	-	204
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	4.12	-	-	-	-	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	2.218	-	-	-	-	3.318
Pot Cap-1 Maneuver	1353	-	-	-	0	837
Stage 1	-	-	-	-	0	-
Stage 2	-	-	-	-	0	-
Platoon blocked, %			-	-	-	
Mov Cap-1 Maneuver	1353	-	-	-	-	837
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	9.3
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1353	-	-	-	837
HCM Lane V/C Ratio	0.001	-	-	-	0.009
HCM Control Delay (s)	7.7	-	-	-	9.3
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0

Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	284	193	8	0	9
Future Vol, veh/h	0	284	193	8	0	9
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	302	205	9	0	10

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	-	210
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.318
Pot Cap-1 Maneuver	0	-	-	-	0	830
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	830
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	9.4
HCM LOS			A

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	830
HCM Lane V/C Ratio	-	-	-	0.012
HCM Control Delay (s)	-	-	-	9.4
HCM Lane LOS	-	-	-	A
HCM 95th %tile Q(veh)	-	-	-	0

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	120	991	0	0	618	58	0	0	0	85	0	62
Future Volume (veh/h)	120	991	0	0	618	58	0	0	0	85	0	62
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	0	1863	1900	1900	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	138	1139	0	0	710	67	0	0	0	98	0	71
Adj No. of Lanes	1	2	0	0	2	0	0	1	0	1	1	0
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Percent Heavy Veh, %	2	2	2	0	2	2	2	2	2	2	2	2
Cap, veh/h	82	1778	0	0	1356	128	0	773	0	802	0	657
Arrive On Green	0.05	0.50	0.00	0.00	0.41	0.41	0.00	0.00	0.00	0.41	0.00	0.41
Sat Flow, veh/h	1774	3632	0	0	3363	308	0	1863	0	1774	0	1583
Grp Volume(v), veh/h	138	1139	0	0	384	393	0	0	0	98	0	71
Grp Sat Flow(s),veh/h/ln	1774	1770	0	0	1770	1808	0	1863	0	1774	0	1583
Q Serve(g_s), s	5.0	25.6	0.0	0.0	17.6	17.6	0.0	0.0	0.0	3.7	0.0	3.0
Cycle Q Clear(g_c), s	5.0	25.6	0.0	0.0	17.6	17.6	0.0	0.0	0.0	3.7	0.0	3.0
Prop In Lane	1.00		0.00	0.00		0.17	0.00		0.00	1.00		1.00
Lane Grp Cap(c), veh/h	82	1778	0	0	734	750	0	773	0	802	0	657
V/C Ratio(X)	1.69	0.64	0.00	0.00	0.52	0.52	0.00	0.00	0.00	0.12	0.00	0.11
Avail Cap(c_a), veh/h	82	1778	0	0	734	750	0	773	0	802	0	657
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	0.00	1.00	1.00	0.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	51.8	19.8	0.0	0.0	23.7	23.7	0.0	0.0	0.0	19.7	0.0	19.5
Incr Delay (d2), s/veh	356.5	1.8	0.0	0.0	2.7	2.6	0.0	0.0	0.0	0.3	0.0	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	10.5	12.9	0.0	0.0	9.1	9.3	0.0	0.0	0.0	1.9	0.0	1.4
LnGrp Delay(d),s/veh	408.3	21.6	0.0	0.0	26.4	26.3	0.0	0.0	0.0	20.0	0.0	19.8
LnGrp LOS	F	C			C	C				B		B
Approach Vol, veh/h		1277			777			0			169	
Approach Delay, s/veh		63.4			26.4			0.0			19.9	
Approach LOS		E			C						B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		8
Phs Duration (G+Y+Rc), s		59.0		49.5	9.5	49.5		49.5
Change Period (Y+Rc), s		4.5		4.5	4.5	4.5		4.5
Max Green Setting (Gmax), s		45.0		45.0	5.0	45.0		45.0
Max Q Clear Time (g_c+I1), s		27.6		5.7	7.0	19.6		0.0
Green Ext Time (p_c), s		12.0		0.7	0.0	15.6		0.0

Intersection Summary	
HCM 2010 Ctrl Delay	47.1
HCM 2010 LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	122	801	120	86	475	83	121	250	242	78	184	90
Future Volume (veh/h)	122	801	120	86	475	83	121	250	242	78	184	90
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	133	871	130	93	516	90	132	272	263	85	200	98
Adj No. of Lanes	1	2	0	1	2	0	1	1	1	1	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	167	934	139	127	845	147	166	652	554	124	608	517
Arrive On Green	0.09	0.30	0.30	0.07	0.28	0.28	0.09	0.35	0.35	0.07	0.33	0.33
Sat Flow, veh/h	1774	3090	461	1774	3016	524	1774	1863	1583	1774	1863	1583
Grp Volume(v), veh/h	133	499	502	93	302	304	132	272	263	85	200	98
Grp Sat Flow(s),veh/h/ln	1774	1770	1781	1774	1770	1770	1774	1863	1583	1774	1863	1583
Q Serve(g_s), s	6.4	23.9	23.9	4.5	12.9	13.0	6.4	9.7	11.3	4.1	7.1	3.9
Cycle Q Clear(g_c), s	6.4	23.9	23.9	4.5	12.9	13.0	6.4	9.7	11.3	4.1	7.1	3.9
Prop In Lane	1.00		0.26	1.00		0.30	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	167	535	539	127	496	496	166	652	554	124	608	517
V/C Ratio(X)	0.80	0.93	0.93	0.73	0.61	0.61	0.80	0.42	0.47	0.68	0.33	0.19
Avail Cap(c_a), veh/h	274	537	541	274	537	537	274	652	554	274	608	517
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	38.7	29.6	29.6	39.7	27.3	27.3	38.8	21.6	22.1	39.7	22.2	21.1
Incr Delay (d2), s/veh	8.4	23.3	23.2	7.8	1.8	1.8	8.4	2.0	2.9	6.5	1.4	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.5	15.1	15.2	2.5	6.5	6.6	3.5	5.3	5.4	2.2	3.9	1.8
LnGrp Delay(d),s/veh	47.2	52.9	52.8	47.5	29.0	29.1	47.2	23.6	25.0	46.2	23.6	21.9
LnGrp LOS	D	D	D	D	C	C	D	C	C	D	C	C
Approach Vol, veh/h		1134			699			667			383	
Approach Delay, s/veh		52.2			31.5			28.8			28.2	
Approach LOS		D			C			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.6	35.0	10.8	30.9	12.7	33.0	12.7	29.0
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	13.5	28.5	13.5	26.5	13.5	28.5	13.5	26.5
Max Q Clear Time (g_c+I1), s	6.1	13.3	6.5	25.9	8.4	9.1	8.4	15.0
Green Ext Time (p_c), s	0.1	3.7	0.1	0.5	0.1	4.0	0.1	7.4

Intersection Summary		
HCM 2010 Ctrl Delay		38.6
HCM 2010 LOS		D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	42	172	72	86	85	107	65	480	156	36	339	24
Future Volume (veh/h)	42	172	72	86	85	107	65	480	156	36	339	24
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	44	181	76	91	89	113	68	505	164	38	357	25
Adj No. of Lanes	1	2	0	1	1	0	1	1	0	1	1	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	202	280	113	269	113	144	122	564	183	157	754	53
Arrive On Green	0.11	0.11	0.11	0.15	0.15	0.15	0.07	0.42	0.42	0.09	0.44	0.44
Sat Flow, veh/h	1774	2461	995	1774	747	948	1774	1348	438	1774	1721	121
Grp Volume(v), veh/h	44	128	129	91	0	202	68	0	669	38	0	382
Grp Sat Flow(s),veh/h/ln	1774	1770	1687	1774	0	1695	1774	0	1786	1774	0	1841
Q Serve(g_s), s	1.8	5.5	5.8	3.6	0.0	9.1	2.9	0.0	27.6	1.6	0.0	11.6
Cycle Q Clear(g_c), s	1.8	5.5	5.8	3.6	0.0	9.1	2.9	0.0	27.6	1.6	0.0	11.6
Prop In Lane	1.00		0.59	1.00		0.56	1.00		0.25	1.00		0.07
Lane Grp Cap(c), veh/h	202	202	192	269	0	257	122	0	747	157	0	807
V/C Ratio(X)	0.22	0.64	0.67	0.34	0.00	0.79	0.56	0.00	0.90	0.24	0.00	0.47
Avail Cap(c_a), veh/h	450	449	428	450	0	430	159	0	747	450	0	807
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	31.9	33.5	33.6	30.0	0.0	32.3	35.7	0.0	21.4	33.6	0.0	15.8
Incr Delay (d2), s/veh	0.5	3.3	4.0	0.7	0.0	5.2	4.0	0.0	15.5	0.8	0.0	2.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	2.9	2.9	1.8	0.0	4.6	1.6	0.0	16.8	0.8	0.0	6.3
LnGrp Delay(d),s/veh	32.4	36.8	37.6	30.8	0.0	37.6	39.7	0.0	36.9	34.4	0.0	17.7
LnGrp LOS	C	D	D	C		D	D		D	C		B
Approach Vol, veh/h		301			293			737			420	
Approach Delay, s/veh		36.5			35.5			37.2			19.2	
Approach LOS		D			D			D			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	11.5	37.6		13.5	9.9	39.2		16.5
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5
Max Green Setting (Gmax), s	20.1	21.7		20.1	7.1	34.7		20.1
Max Q Clear Time (g_c+I1), s	13.6	29.6		7.8	4.9	13.6		11.1
Green Ext Time (p_c), s	0.0	0.0		1.2	0.0	7.5		0.9

Intersection Summary		
HCM 2010 Ctrl Delay	32.5	
HCM 2010 LOS	C	

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	234	965	208	99	567	85	231	393	184	111	242	119
Future Volume (veh/h)	234	965	208	99	567	85	231	393	184	111	242	119
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	244	1005	217	103	591	89	241	409	192	116	252	124
Adj No. of Lanes	1	2	0	1	2	0	1	1	1	1	1	1
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	251	858	185	131	705	106	251	668	685	146	557	698
Arrive On Green	0.14	0.30	0.30	0.07	0.23	0.23	0.14	0.36	0.36	0.08	0.30	0.30
Sat Flow, veh/h	1774	2898	624	1774	3087	464	1774	1863	1583	1774	1863	1583
Grp Volume(v), veh/h	244	613	609	103	338	342	241	409	192	116	252	124
Grp Sat Flow(s),veh/h/ln	1774	1770	1753	1774	1770	1781	1774	1863	1583	1774	1863	1583
Q Serve(g_s), s	13.0	28.2	28.2	5.4	17.4	17.5	12.9	17.2	7.5	6.1	10.4	4.5
Cycle Q Clear(g_c), s	13.0	28.2	28.2	5.4	17.4	17.5	12.9	17.2	7.5	6.1	10.4	4.5
Prop In Lane	1.00		0.36	1.00		0.26	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	251	524	519	131	404	407	251	668	685	146	557	698
V/C Ratio(X)	0.97	1.17	1.17	0.78	0.84	0.84	0.96	0.61	0.28	0.79	0.45	0.18
Avail Cap(c_a), veh/h	251	524	519	251	492	495	251	668	685	251	557	698
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	40.7	33.5	33.5	43.4	35.1	35.1	40.6	25.1	17.5	42.9	27.1	16.2
Incr Delay (d2), s/veh	48.4	95.1	97.0	9.8	10.2	10.4	45.2	4.2	1.0	9.3	2.6	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	9.8	27.5	27.5	3.0	9.6	9.7	9.5	9.6	3.5	3.4	5.8	2.1
LnGrp Delay(d),s/veh	89.1	128.6	130.5	53.2	45.3	45.5	85.8	29.3	18.5	52.2	29.7	16.7
LnGrp LOS	F	F	F	D	D	D	F	C	B	D	C	B
Approach Vol, veh/h		1466			783			842			492	
Approach Delay, s/veh		122.8			46.4			43.0			31.7	
Approach LOS		F			D			D			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.3	38.7	11.5	32.7	18.0	33.0	18.0	26.3
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	13.5	28.5	13.5	26.5	13.5	28.5	13.5	26.5
Max Q Clear Time (g_c+I1), s	9.1	19.2	7.4	30.2	14.9	12.4	15.0	19.5
Green Ext Time (p_c), s	0.1	3.6	0.1	0.0	0.0	4.8	0.0	2.3

Intersection Summary	
HCM 2010 Ctrl Delay	74.9
HCM 2010 LOS	E

HCM 2010 Signalized Intersection Summary
1: Heacock St & Ironwood Ave

Festival at Moreno Valley Mixed Use
Future (2022) With-Project Weekday PM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	251	499	208	109	357	44	260	784	207	82	620	227
Future Volume (veh/h)	251	499	208	109	357	44	260	784	207	82	620	227
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	256	509	212	111	364	45	265	800	211	84	633	232
Adj No. of Lanes	1	2	1	1	2	0	1	2	1	1	2	1
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	263	924	413	141	610	75	263	1394	749	120	1108	731
Arrive On Green	0.15	0.26	0.26	0.08	0.19	0.19	0.15	0.39	0.39	0.07	0.31	0.31
Sat Flow, veh/h	1774	3539	1583	1774	3174	390	1774	3539	1583	1774	3539	1583
Grp Volume(v), veh/h	256	509	212	111	202	207	265	800	211	84	633	232
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	1770	1794	1774	1770	1583	1774	1770	1583
Q Serve(g_s), s	13.1	11.3	10.4	5.6	9.5	9.6	13.5	16.1	7.4	4.2	13.6	8.4
Cycle Q Clear(g_c), s	13.1	11.3	10.4	5.6	9.5	9.6	13.5	16.1	7.4	4.2	13.6	8.4
Prop In Lane	1.00		1.00	1.00		0.22	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	263	924	413	141	340	345	263	1394	749	120	1108	731
V/C Ratio(X)	0.97	0.55	0.51	0.79	0.59	0.60	1.01	0.57	0.28	0.70	0.57	0.32
Avail Cap(c_a), veh/h	263	1031	461	263	515	522	263	1394	749	263	1108	731
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	38.6	29.0	28.7	41.1	33.5	33.6	38.8	21.6	14.6	41.5	26.1	15.5
Incr Delay (d2), s/veh	47.7	0.5	1.0	9.3	1.7	1.7	57.2	1.7	0.9	7.1	2.1	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	9.9	5.6	4.7	3.1	4.8	4.9	10.8	8.2	3.4	2.3	7.0	3.9
LnGrp Delay(d),s/veh	86.3	29.5	29.7	50.4	35.2	35.2	96.0	23.3	15.5	48.7	28.3	16.6
LnGrp LOS	F	C	C	D	D	D	F	C	B	D	C	B
Approach Vol, veh/h		977			520			1276			949	
Approach Delay, s/veh		44.4			38.4			37.1			27.2	
Approach LOS		D			D			D			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.7	40.3	11.7	28.3	18.0	33.0	18.0	22.0
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	13.5	28.5	13.5	26.5	13.5	28.5	13.5	26.5
Max Q Clear Time (g_c+I1), s	6.2	18.1	7.6	13.3	15.5	15.6	15.1	11.6
Green Ext Time (p_c), s	0.1	7.1	0.1	5.5	0.0	8.4	0.0	5.9

Intersection Summary	
HCM 2010 Ctrl Delay	36.7
HCM 2010 LOS	D

Intersection	
Int Delay, s/veh	0.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	38	1213	0	0	936
Future Vol, veh/h	0	38	1213	0	0	936
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	98	98	98	98	98	98
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	39	1238	0	0	955

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1620	619	0	0	1238	0
Stage 1	1238	-	-	-	-	-
Stage 2	382	-	-	-	-	-
Critical Hdwy	6.29	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	6.04	-	-	-	-	-
Follow-up Hdwy	3.67	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	118	432	-	-	558	-
Stage 1	232	-	-	-	-	-
Stage 2	624	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	118	432	-	-	558	-
Mov Cap-2 Maneuver	118	-	-	-	-	-
Stage 1	232	-	-	-	-	-
Stage 2	624	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	14.2	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	432	558	-
HCM Lane V/C Ratio	-	-	0.09	-	-
HCM Control Delay (s)	-	-	14.2	0	-
HCM Lane LOS	-	-	B	A	-
HCM 95th %tile Q(veh)	-	-	0.3	0	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	63	114	245	252	105	24	226	1183	247	49	869	52
Future Volume (veh/h)	63	114	245	252	105	24	226	1183	247	49	869	52
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	64	115	247	255	106	24	228	1195	249	49	878	53
Adj No. of Lanes	1	1	0	1	1	1	1	2	1	1	2	1
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	105	127	273	247	598	508	247	1348	603	94	1042	466
Arrive On Green	0.06	0.24	0.24	0.14	0.32	0.32	0.14	0.38	0.38	0.05	0.29	0.29
Sat Flow, veh/h	1774	528	1134	1774	1863	1583	1774	3539	1583	1774	3539	1583
Grp Volume(v), veh/h	64	0	362	255	106	24	228	1195	249	49	878	53
Grp Sat Flow(s),veh/h/ln	1774	0	1663	1774	1863	1583	1774	1770	1583	1774	1770	1583
Q Serve(g_s), s	3.4	0.0	20.5	13.5	4.0	1.0	12.3	30.6	11.2	2.6	22.5	2.4
Cycle Q Clear(g_c), s	3.4	0.0	20.5	13.5	4.0	1.0	12.3	30.6	11.2	2.6	22.5	2.4
Prop In Lane	1.00		0.68	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	105	0	400	247	598	508	247	1348	603	94	1042	466
V/C Ratio(X)	0.61	0.00	0.90	1.03	0.18	0.05	0.92	0.89	0.41	0.52	0.84	0.11
Avail Cap(c_a), veh/h	247	0	455	247	598	508	247	1348	603	247	1042	466
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	44.4	0.0	35.7	41.7	23.7	22.7	41.1	28.0	22.0	44.6	32.1	24.9
Incr Delay (d2), s/veh	5.5	0.0	19.8	65.4	0.1	0.0	36.7	8.9	2.1	4.4	8.3	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.8	0.0	11.6	11.0	2.1	0.4	8.5	16.6	5.2	1.4	12.2	1.1
LnGrp Delay(d),s/veh	50.0	0.0	55.4	107.1	23.8	22.7	77.9	36.9	24.1	49.1	40.3	25.4
LnGrp LOS	D		E	F	C	C	E	D	C	D	D	C
Approach Vol, veh/h		426			385			1672			980	
Approach Delay, s/veh		54.6			78.9			40.6			40.0	
Approach LOS		D			E			D			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.6	41.4	18.0	27.8	18.0	33.0	10.2	35.6
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	13.5	28.5	13.5	26.5	13.5	28.5	13.5	26.5
Max Q Clear Time (g_c+I1), s	4.6	32.6	15.5	22.5	14.3	24.5	5.4	6.0
Green Ext Time (p_c), s	0.0	0.0	0.0	0.9	0.0	3.6	0.1	3.0

Intersection Summary	
HCM 2010 Ctrl Delay	46.4
HCM 2010 LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	347	4	231	442	1433	0	0	1034	471
Future Volume (veh/h)	0	0	0	347	4	231	442	1433	0	0	1034	471
Number				3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln				1900	1863	1863	1863	1863	0	0	1863	1900
Adj Flow Rate, veh/h				361	4	241	460	1493	0	0	1077	491
Adj No. of Lanes				0	1	1	1	2	0	0	2	0
Peak Hour Factor				0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %				2	2	2	2	2	0	0	2	2
Cap, veh/h				437	5	394	421	2297	0	0	860	381
Arrive On Green				0.25	0.25	0.25	0.24	0.65	0.00	0.00	0.36	0.36
Sat Flow, veh/h				1756	19	1583	1774	3632	0	0	2481	1058
Grp Volume(v), veh/h				365	0	241	460	1493	0	0	790	778
Grp Sat Flow(s),veh/h/ln				1775	0	1583	1774	1770	0	0	1770	1676
Q Serve(g_s), s				17.1	0.0	11.9	20.9	22.5	0.0	0.0	31.7	31.7
Cycle Q Clear(g_c), s				17.1	0.0	11.9	20.9	22.5	0.0	0.0	31.7	31.7
Prop In Lane				0.99		1.00	1.00		0.00	0.00		0.63
Lane Grp Cap(c), veh/h				442	0	394	421	2297	0	0	638	604
V/C Ratio(X)				0.83	0.00	0.61	1.09	0.65	0.00	0.00	1.24	1.29
Avail Cap(c_a), veh/h				684	0	610	421	2297	0	0	638	604
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				31.3	0.0	29.3	33.5	9.4	0.0	0.0	28.1	28.1
Incr Delay (d2), s/veh				4.9	0.0	1.5	70.9	1.4	0.0	0.0	120.9	141.8
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				8.9	0.0	5.3	18.5	11.2	0.0	0.0	36.8	38.4
LnGrp Delay(d),s/veh				36.2	0.0	30.8	104.4	10.8	0.0	0.0	149.0	169.9
LnGrp LOS				D		C	F	B			F	F
Approach Vol, veh/h					606			1953			1568	
Approach Delay, s/veh					34.0			32.9			159.4	
Approach LOS					C			C			F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2			5	6		8
Phs Duration (G+Y+Rc), s		61.6			25.4	36.2		26.4
Change Period (Y+Rc), s		4.5			4.5	4.5		4.5
Max Green Setting (Gmax), s		57.1			20.9	31.7		33.9
Max Q Clear Time (g_c+I1), s		24.5			22.9	33.7		19.1
Green Ext Time (p_c), s		28.2			0.0	0.0		2.8

Intersection Summary		
HCM 2010 Ctrl Delay		81.1
HCM 2010 LOS		F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	590	3	548	0	0	0	0	1296	431	252	1010	0
Future Volume (veh/h)	590	3	548	0	0	0	0	1296	431	252	1010	0
Number	7	4	14				5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863				0	1863	1900	1863	1863	0
Adj Flow Rate, veh/h	617	0	571				0	1350	449	262	1052	0
Adj No. of Lanes	2	0	1				0	3	0	1	2	0
Peak Hour Factor	0.96	0.96	0.96				0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Cap, veh/h	1061	0	473				0	1498	495	302	2162	0
Arrive On Green	0.30	0.00	0.30				0.00	0.40	0.40	0.17	0.61	0.00
Sat Flow, veh/h	3548	0	1583				0	3949	1251	1774	3632	0
Grp Volume(v), veh/h	617	0	571				0	1209	590	262	1052	0
Grp Sat Flow(s),veh/h/ln	1774	0	1583				0	1695	1642	1774	1770	0
Q Serve(g_s), s	14.8	0.0	29.9				0.0	33.5	33.8	14.4	16.5	0.0
Cycle Q Clear(g_c), s	14.8	0.0	29.9				0.0	33.5	33.8	14.4	16.5	0.0
Prop In Lane	1.00		1.00				0.00		0.76	1.00		0.00
Lane Grp Cap(c), veh/h	1061	0	473				0	1343	650	302	2162	0
V/C Ratio(X)	0.58	0.00	1.21				0.00	0.90	0.91	0.87	0.49	0.00
Avail Cap(c_a), veh/h	1061	0	473				0	1343	650	530	2162	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	29.7	0.0	35.0				0.0	28.4	28.5	40.4	10.8	0.0
Incr Delay (d2), s/veh	0.8	0.0	111.3				0.0	8.6	16.5	7.6	0.8	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.3	0.0	27.7				0.0	17.2	18.2	7.7	8.1	0.0
LnGrp Delay(d),s/veh	30.5	0.0	146.3				0.0	37.0	44.9	48.0	11.6	0.0
LnGrp LOS	C		F					D	D	D	B	
Approach Vol, veh/h		1188						1799			1314	
Approach Delay, s/veh		86.2						39.6			18.8	
Approach LOS		F						D			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4		6		
Phs Duration (G+Y+Rc), s	31.5	44.1		34.4		65.6		
Change Period (Y+Rc), s	4.5	4.5		4.5		4.5		
Max Green Setting (Gmax), s	29.3	26.7		29.9		61.1		
Max Q Clear Time (g_c+I1), s	16.4	35.8		31.9		18.5		
Green Ext Time (p_c), s	0.6	0.0		0.0		32.7		

Intersection Summary	
HCM 2010 Ctrl Delay	46.1
HCM 2010 LOS	D

Notes

User approved volume balancing among the lanes for turning movement.

Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑			↑			⇳			⇳	
Traffic Vol, veh/h	0	421	19	0	695	0	0	0	24	0	0	0
Future Vol, veh/h	0	421	19	0	695	0	0	0	24	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	94	94	94	94	94	94	94	94	94	94	94	94
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	448	20	0	739	0	0	0	26	0	0	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	-	0	0	-	-	0	1197	1197	234	918	1207	739
Stage 1	-	-	-	-	-	-	458	458	-	739	739	-
Stage 2	-	-	-	-	-	-	739	739	-	179	468	-
Critical Hdwy	-	-	-	-	-	-	6.78	6.53	7.13	6.78	6.53	6.23
Critical Hdwy Stg 1	-	-	-	-	-	-	7.33	5.53	-	6.13	5.53	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.13	5.53	-	6.73	5.53	-
Follow-up Hdwy	-	-	-	-	-	-	3.669	4.019	3.919	3.669	4.019	3.319
Pot Cap-1 Maneuver	0	-	-	0	-	0	178	185	655	268	183	416
Stage 1	0	-	-	0	-	0	483	566	-	397	423	-
Stage 2	0	-	-	0	-	0	397	423	-	768	560	-
Platoon blocked, %		-	-		-							
Mov Cap-1 Maneuver	-	-	-	-	-	-	178	185	655	258	183	416
Mov Cap-2 Maneuver	-	-	-	-	-	-	178	185	-	258	183	-
Stage 1	-	-	-	-	-	-	483	566	-	397	423	-
Stage 2	-	-	-	-	-	-	397	423	-	738	560	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0	10.7	0
HCM LOS			B	A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT	SBLn1
Capacity (veh/h)	655	-	-	-	-
HCM Lane V/C Ratio	0.039	-	-	-	-
HCM Control Delay (s)	10.7	-	-	-	0
HCM Lane LOS	B	-	-	-	A
HCM 95th %tile Q(veh)	0.1	-	-	-	-

Intersection	
Int Delay, s/veh	200.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	273	332	156	28	279	36	164	2	24	38	0	243
Future Vol, veh/h	273	332	156	28	279	36	164	2	24	38	0	243
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	180	-	-	0	-	-	-	-	-	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	88	88	88	88	88	88	88	88	88	88	88	88
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	310	377	177	32	317	41	186	2	27	43	0	276

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	358	0	0	555	0	0	1487	1508	277	1211	1576	338
Stage 1	-	-	-	-	-	-	1086	1086	-	401	401	-
Stage 2	-	-	-	-	-	-	401	422	-	810	1175	-
Critical Hdwy	4.13	-	-	4.13	-	-	7.33	6.53	6.93	7.33	6.53	6.23
Critical Hdwy Stg 1	-	-	-	-	-	-	6.53	5.53	-	6.13	5.53	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.13	5.53	-	6.53	5.53	-
Follow-up Hdwy	2.219	-	-	2.219	-	-	3.519	4.019	3.319	3.519	4.019	3.319
Pot Cap-1 Maneuver	1199	-	-	1013	-	-	~ 94	120	721	148	109	703
Stage 1	-	-	-	-	-	-	232	292	-	625	600	-
Stage 2	-	-	-	-	-	-	625	587	-	341	265	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1199	-	-	1013	-	-	~ 45	86	721	109	78	703
Mov Cap-2 Maneuver	-	-	-	-	-	-	~ 45	86	-	109	78	-
Stage 1	-	-	-	-	-	-	~ 172	217	-	463	581	-
Stage 2	-	-	-	-	-	-	368	568	-	241	196	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	3.2	0.7	$ 1617.9	19.5
HCM LOS			F	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	51	1199	-	-	1013	-	-	109	703
HCM Lane V/C Ratio	4.234	0.259	-	-	0.031	-	-	0.396	0.393
HCM Control Delay (s)	$ 1617.9	9	-	-	8.7	-	-	58.2	13.4
HCM Lane LOS	F	A	-	-	A	-	-	F	B
HCM 95th %tile Q(veh)	24	1	-	-	0.1	-	-	1.6	1.9

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	0.5

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	12	382	332	8	11	11
Future Vol, veh/h	12	382	332	8	11	11
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	13	420	365	9	12	12

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	374	0	-	0	815	369
Stage 1	-	-	-	-	369	-
Stage 2	-	-	-	-	446	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1184	-	-	-	347	677
Stage 1	-	-	-	-	699	-
Stage 2	-	-	-	-	645	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1184	-	-	-	342	677
Mov Cap-2 Maneuver	-	-	-	-	459	-
Stage 1	-	-	-	-	699	-
Stage 2	-	-	-	-	636	-

Approach	EB	WB	SB
HCM Control Delay, s	0.2	0	11.9
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1184	-	-	-	547
HCM Lane V/C Ratio	0.011	-	-	-	0.044
HCM Control Delay (s)	8.1	0	-	-	11.9
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.1

Intersection	
Int Delay, s/veh	8.8

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	205	185	120	80	102	223
Future Vol, veh/h	205	185	120	80	102	223
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	225	203	132	88	112	245

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	220	0	-	0	830	176
Stage 1	-	-	-	-	176	-
Stage 2	-	-	-	-	654	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1349	-	-	-	340	867
Stage 1	-	-	-	-	855	-
Stage 2	-	-	-	-	517	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1349	-	-	-	276	867
Mov Cap-2 Maneuver	-	-	-	-	357	-
Stage 1	-	-	-	-	855	-
Stage 2	-	-	-	-	420	-

Approach	EB	WB	SB
HCM Control Delay, s	4.3	0	19.5
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1349	-	-	-	599
HCM Lane V/C Ratio	0.167	-	-	-	0.596
HCM Control Delay (s)	8.2	-	-	-	19.5
HCM Lane LOS	A	-	-	-	C
HCM 95th %tile Q(veh)	0.6	-	-	-	3.9

Intersection	
Int Delay, s/veh	5.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	13	250	24	88	156	102	24	0	93	84	0	20
Future Vol, veh/h	13	250	24	88	156	102	24	0	93	84	0	20
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	93	93	93	93	93	93	93	93	93	93	93	93
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	14	269	26	95	168	110	26	0	100	90	0	22

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	277	0	0	295	0	0	733	777	282	772	735	223
Stage 1	-	-	-	-	-	-	310	310	-	412	412	-
Stage 2	-	-	-	-	-	-	423	467	-	360	323	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1286	-	-	1266	-	-	336	328	757	317	347	817
Stage 1	-	-	-	-	-	-	700	659	-	617	594	-
Stage 2	-	-	-	-	-	-	609	562	-	658	650	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1286	-	-	1266	-	-	302	295	757	254	312	817
Mov Cap-2 Maneuver	-	-	-	-	-	-	302	295	-	254	312	-
Stage 1	-	-	-	-	-	-	691	650	-	609	541	-
Stage 2	-	-	-	-	-	-	540	511	-	564	642	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.4	2.1	13	24.7
HCM LOS			B	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	578	1286	-	-	1266	-	-	293
HCM Lane V/C Ratio	0.218	0.011	-	-	0.075	-	-	0.382
HCM Control Delay (s)	13	7.8	0	-	8.1	0	-	24.7
HCM Lane LOS	B	A	A	-	A	A	-	C
HCM 95th %tile Q(veh)	0.8	0	-	-	0.2	-	-	1.7

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	427	216	9	0	10
Future Vol, veh/h	0	427	216	9	0	10
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	454	230	10	0	11

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	-	235
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.318
Pot Cap-1 Maneuver	0	-	-	-	0	804
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	804
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	9.5
HCM LOS			A

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	804
HCM Lane V/C Ratio	-	-	-	0.013
HCM Control Delay (s)	-	-	-	9.5
HCM Lane LOS	-	-	-	A
HCM 95th %tile Q(veh)	-	-	-	0

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	94	670	44	43	420	53	47	0	47	72	0	52
Future Volume (veh/h)	94	670	44	43	420	53	47	0	47	72	0	52
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1900	1863	1900	1900	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	108	770	51	49	483	61	54	0	54	83	0	60
Adj No. of Lanes	1	2	0	0	2	0	0	1	0	1	1	0
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	82	1693	112	117	1095	137	334	16	300	630	0	657
Arrive On Green	0.05	0.50	0.50	0.41	0.41	0.41	0.41	0.00	0.41	0.41	0.00	0.41
Sat Flow, veh/h	1774	3370	223	189	2639	330	685	38	723	1345	0	1583
Grp Volume(v), veh/h	108	404	417	290	0	303	108	0	0	83	0	60
Grp Sat Flow(s),veh/h/ln	1774	1770	1823	1521	0	1637	1445	0	0	1345	0	1583
Q Serve(g_s), s	5.0	16.0	16.0	2.8	0.0	14.4	2.8	0.0	0.0	0.0	0.0	2.5
Cycle Q Clear(g_c), s	5.0	16.0	16.0	12.5	0.0	14.4	5.3	0.0	0.0	3.8	0.0	2.5
Prop In Lane	1.00		0.12	0.17		0.20	0.50		0.50	1.00		1.00
Lane Grp Cap(c), veh/h	82	889	916	670	0	679	649	0	0	630	0	657
V/C Ratio(X)	1.32	0.45	0.46	0.43	0.00	0.45	0.17	0.00	0.00	0.13	0.00	0.09
Avail Cap(c_a), veh/h	82	889	916	670	0	679	649	0	0	630	0	657
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	51.8	17.4	17.4	22.1	0.0	22.8	20.1	0.0	0.0	19.7	0.0	19.3
Incr Delay (d2), s/veh	207.5	1.7	1.6	2.0	0.0	2.1	0.6	0.0	0.0	0.4	0.0	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.1	8.2	8.4	6.4	0.0	6.9	2.1	0.0	0.0	1.6	0.0	1.1
LnGrp Delay(d),s/veh	259.3	19.1	19.0	24.1	0.0	24.9	20.6	0.0	0.0	20.1	0.0	19.6
LnGrp LOS	F	B	B	C		C	C			C		B
Approach Vol, veh/h		929			593			108			143	
Approach Delay, s/veh		47.0			24.5			20.6			19.9	
Approach LOS		D			C			C			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		8
Phs Duration (G+Y+Rc), s		59.0		49.5	9.5	49.5		49.5
Change Period (Y+Rc), s		4.5		4.5	4.5	4.5		4.5
Max Green Setting (Gmax), s		45.0		45.0	5.0	45.0		45.0
Max Q Clear Time (g_c+I1), s		18.0		5.8	7.0	16.4		7.3
Green Ext Time (p_c), s		10.9		1.3	0.0	11.2		1.3

Intersection Summary	
HCM 2010 Ctrl Delay	35.7
HCM 2010 LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	100	558	94	121	363	62	67	185	213	66	136	74
Future Volume (veh/h)	100	558	94	121	363	62	67	185	213	66	136	74
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	109	607	102	132	395	67	73	201	232	72	148	80
Adj No. of Lanes	1	2	0	1	2	0	1	1	1	1	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	140	812	136	167	857	144	123	650	553	122	650	552
Arrive On Green	0.08	0.27	0.27	0.09	0.28	0.28	0.07	0.35	0.35	0.07	0.35	0.35
Sat Flow, veh/h	1774	3034	509	1774	3032	510	1774	1863	1583	1774	1863	1583
Grp Volume(v), veh/h	109	354	355	132	229	233	73	201	232	72	148	80
Grp Sat Flow(s),veh/h/ln	1774	1770	1773	1774	1770	1773	1774	1863	1583	1774	1863	1583
Q Serve(g_s), s	4.9	14.9	15.0	6.0	8.7	8.9	3.3	6.4	9.1	3.2	4.6	2.8
Cycle Q Clear(g_c), s	4.9	14.9	15.0	6.0	8.7	8.9	3.3	6.4	9.1	3.2	4.6	2.8
Prop In Lane	1.00		0.29	1.00		0.29	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	140	474	475	167	500	501	123	650	553	122	650	552
V/C Ratio(X)	0.78	0.75	0.75	0.79	0.46	0.46	0.59	0.31	0.42	0.59	0.23	0.14
Avail Cap(c_a), veh/h	293	574	575	293	574	575	293	650	553	293	650	552
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	36.9	27.4	27.4	36.2	24.2	24.2	36.9	19.4	20.3	36.9	18.8	18.3
Incr Delay (d2), s/veh	8.9	4.3	4.4	8.1	0.7	0.7	4.5	1.2	2.3	4.4	0.8	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.8	7.8	7.9	3.3	4.4	4.4	1.8	3.5	4.3	1.7	2.5	1.3
LnGrp Delay(d),s/veh	45.9	31.7	31.8	44.4	24.8	24.9	41.4	20.6	22.6	41.4	19.6	18.8
LnGrp LOS	D	C	C	D	C	C	D	C	C	D	B	B
Approach Vol, veh/h		818			594			506			300	
Approach Delay, s/veh		33.6			29.2			24.5			24.6	
Approach LOS		C			C			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.1	33.0	12.2	26.4	10.2	33.0	11.0	27.6
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	13.5	28.5	13.5	26.5	13.5	28.5	13.5	26.5
Max Q Clear Time (g_c+I1), s	6.9	11.1	8.0	17.0	5.3	6.6	6.9	10.9
Green Ext Time (p_c), s	0.1	2.9	0.1	4.9	0.1	3.1	0.1	6.6

Intersection Summary	
HCM 2010 Ctrl Delay	29.1
HCM 2010 LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	65	173	71	107	93	24	67	394	163	18	309	34
Future Volume (veh/h)	65	173	71	107	93	24	67	394	163	18	309	34
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	68	182	75	113	98	25	71	415	172	19	325	36
Adj No. of Lanes	1	2	0	1	1	0	1	1	0	1	1	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	208	291	115	182	147	37	128	557	231	167	768	85
Arrive On Green	0.12	0.12	0.12	0.10	0.10	0.10	0.07	0.44	0.44	0.09	0.47	0.47
Sat Flow, veh/h	1774	2475	983	1774	1433	365	1774	1252	519	1774	1648	183
Grp Volume(v), veh/h	68	128	129	113	0	123	71	0	587	19	0	361
Grp Sat Flow(s),veh/h/ln	1774	1770	1689	1774	0	1798	1774	0	1771	1774	0	1831
Q Serve(g_s), s	2.6	5.1	5.4	4.5	0.0	4.9	2.9	0.0	20.5	0.7	0.0	9.8
Cycle Q Clear(g_c), s	2.6	5.1	5.4	4.5	0.0	4.9	2.9	0.0	20.5	0.7	0.0	9.8
Prop In Lane	1.00		0.58	1.00		0.20	1.00		0.29	1.00		0.10
Lane Grp Cap(c), veh/h	208	208	198	182	0	184	128	0	787	167	0	853
V/C Ratio(X)	0.33	0.62	0.65	0.62	0.00	0.67	0.55	0.00	0.75	0.11	0.00	0.42
Avail Cap(c_a), veh/h	479	478	456	479	0	485	169	0	787	479	0	853
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	30.2	31.3	31.4	32.0	0.0	32.2	33.4	0.0	17.2	30.9	0.0	13.2
Incr Delay (d2), s/veh	0.9	3.0	3.6	3.5	0.0	4.1	3.7	0.0	6.4	0.3	0.0	1.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.3	2.7	2.7	2.4	0.0	2.6	1.5	0.0	11.3	0.4	0.0	5.3
LnGrp Delay(d),s/veh	31.1	34.2	35.0	35.5	0.0	36.3	37.0	0.0	23.5	31.2	0.0	14.8
LnGrp LOS	C	C	C	D		D	D		C	C		B
Approach Vol, veh/h		325			236			658			380	
Approach Delay, s/veh		33.9			35.9			25.0			15.6	
Approach LOS		C			D			C			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	11.5	37.6		13.2	9.9	39.2		12.1
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5
Max Green Setting (Gmax), s	20.1	21.7		20.1	7.1	34.7		20.1
Max Q Clear Time (g_c+I1), s	12.7	22.5		7.4	4.9	11.8		6.9
Green Ext Time (p_c), s	0.0	0.0		1.3	0.0	6.8		0.8

Intersection Summary		
HCM 2010 Ctrl Delay	26.2	
HCM 2010 LOS	C	

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	381	578	160	49	292	50	132	247	82	67	165	267
Future Volume (veh/h)	381	578	160	49	292	50	132	247	82	67	165	267
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	397	602	167	51	304	52	138	257	85	70	172	278
Adj No. of Lanes	1	2	0	1	2	0	1	1	1	1	1	1
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	283	809	224	102	587	99	173	684	673	118	627	786
Arrive On Green	0.16	0.30	0.30	0.06	0.19	0.19	0.10	0.37	0.37	0.07	0.34	0.34
Sat Flow, veh/h	1774	2740	759	1774	3030	512	1774	1863	1583	1774	1863	1583
Grp Volume(v), veh/h	397	388	381	51	176	180	138	257	85	70	172	278
Grp Sat Flow(s),veh/h/ln	1774	1770	1729	1774	1770	1772	1774	1863	1583	1774	1863	1583
Q Serve(g_s), s	13.5	16.8	16.8	2.4	7.5	7.7	6.4	8.6	2.8	3.2	5.7	9.1
Cycle Q Clear(g_c), s	13.5	16.8	16.8	2.4	7.5	7.7	6.4	8.6	2.8	3.2	5.7	9.1
Prop In Lane	1.00		0.44	1.00		0.29	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	283	523	511	102	343	343	173	684	673	118	627	786
V/C Ratio(X)	1.40	0.74	0.75	0.50	0.51	0.52	0.80	0.38	0.13	0.59	0.27	0.35
Avail Cap(c_a), veh/h	283	554	541	283	554	555	283	684	673	283	627	786
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	35.6	26.9	26.9	38.7	30.6	30.6	37.4	19.6	14.8	38.4	20.5	13.0
Incr Delay (d2), s/veh	201.3	5.1	5.3	3.7	1.2	1.2	8.2	1.6	0.4	4.6	1.1	1.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	22.3	8.9	8.8	1.3	3.8	3.9	3.5	4.7	1.3	1.7	3.1	4.2
LnGrp Delay(d),s/veh	236.8	32.0	32.2	42.4	31.8	31.9	45.5	21.2	15.2	43.0	21.6	14.3
LnGrp LOS	F	C	C	D	C	C	D	C	B	D	C	B
Approach Vol, veh/h		1166			407			480			520	
Approach Delay, s/veh		101.8			33.1			27.1			20.6	
Approach LOS		F			C			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.1	35.6	9.4	29.5	12.7	33.0	18.0	20.9
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	13.5	28.5	13.5	26.5	13.5	28.5	13.5	26.5
Max Q Clear Time (g_c+I1), s	15.2	10.6	4.4	18.8	8.4	11.1	15.5	9.7
Green Ext Time (p_c), s	0.1	3.6	0.0	4.1	0.1	3.6	0.0	6.7

Intersection Summary		
HCM 2010 Ctrl Delay		60.6
HCM 2010 LOS		E

General Plan (2035)

HCM 2010 Signalized Intersection Summary
1: Heacock St & Ironwood Ave

Festival at Moreno Valley Mixed Use
Future (2035) Without Project Weekday AM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	168	365	161	221	735	58	130	478	112	62	661	313
Future Volume (veh/h)	168	365	161	221	735	58	130	478	112	62	661	313
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	179	388	171	235	782	62	138	509	119	66	703	333
Adj No. of Lanes	1	2	1	1	2	0	1	2	1	1	2	1
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	214	880	394	261	915	73	171	1222	780	110	1101	683
Arrive On Green	0.12	0.25	0.25	0.15	0.28	0.28	0.10	0.35	0.35	0.06	0.31	0.31
Sat Flow, veh/h	1774	3539	1583	1774	3323	263	1774	3539	1583	1774	3539	1583
Grp Volume(v), veh/h	179	388	171	235	416	428	138	509	119	66	703	333
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	1770	1816	1774	1770	1583	1774	1770	1583
Q Serve(g_s), s	9.0	8.5	8.3	11.9	20.4	20.4	7.0	10.1	3.8	3.3	15.6	13.9
Cycle Q Clear(g_c), s	9.0	8.5	8.3	11.9	20.4	20.4	7.0	10.1	3.8	3.3	15.6	13.9
Prop In Lane	1.00		1.00	1.00		0.15	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	214	880	394	261	488	500	171	1222	780	110	1101	683
V/C Ratio(X)	0.84	0.44	0.43	0.90	0.85	0.85	0.81	0.42	0.15	0.60	0.64	0.49
Avail Cap(c_a), veh/h	261	1024	458	261	512	525	261	1222	780	261	1101	683
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	39.4	29.0	29.0	38.4	31.4	31.4	40.6	22.9	12.7	41.8	27.1	18.7
Incr Delay (d2), s/veh	17.7	0.3	0.8	30.7	12.8	12.6	10.2	1.0	0.4	5.1	2.8	2.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.5	4.2	3.7	8.0	11.7	12.0	3.9	5.1	1.7	1.8	8.0	6.5
LnGrp Delay(d),s/veh	57.1	29.4	29.7	69.1	44.2	44.0	50.8	24.0	13.2	47.0	30.0	21.2
LnGrp LOS	E	C	C	E	D	D	D	C	B	D	C	C
Approach Vol, veh/h		738			1079			766			1102	
Approach Delay, s/veh		36.2			49.6			27.1			28.3	
Approach LOS		D			D			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.2	36.1	18.0	27.3	13.3	33.0	15.5	29.7
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	13.5	28.5	13.5	26.5	13.5	28.5	13.5	26.5
Max Q Clear Time (g_c+I1), s	5.3	12.1	13.9	10.5	9.0	17.6	11.0	22.4
Green Ext Time (p_c), s	0.1	8.6	0.0	7.9	0.1	6.6	0.1	2.8

Intersection Summary	
HCM 2010 Ctrl Delay	35.9
HCM 2010 LOS	D

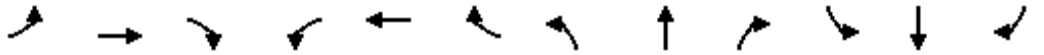
Intersection	
Int Delay, s/veh	0

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	0	719	0	0	1043
Future Vol, veh/h	0	0	719	0	0	1043
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	765	0	0	1110

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1320	382	0	0	765	0
Stage 1	765	-	-	-	-	-
Stage 2	555	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	148	616	-	-	844	-
Stage 1	420	-	-	-	-	-
Stage 2	539	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	148	616	-	-	844	-
Mov Cap-2 Maneuver	282	-	-	-	-	-
Stage 1	420	-	-	-	-	-
Stage 2	539	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	0	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	-	844	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	-	-	0	0	-
HCM Lane LOS	-	-	A	A	-
HCM 95th %tile Q(veh)	-	-	-	0	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	49	71	132	67	90	23	109	672	77	18	1012	41
Future Volume (veh/h)	49	71	132	67	90	23	109	672	77	18	1012	41
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	51	73	136	69	93	24	112	693	79	19	1043	42
Adj No. of Lanes	1	1	0	1	1	1	1	2	1	1	2	1
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	112	100	186	131	339	288	158	1650	738	55	1445	647
Arrive On Green	0.06	0.17	0.17	0.07	0.18	0.18	0.09	0.47	0.47	0.03	0.41	0.41
Sat Flow, veh/h	1774	584	1087	1774	1863	1583	1774	3539	1583	1774	3539	1583
Grp Volume(v), veh/h	51	0	209	69	93	24	112	693	79	19	1043	42
Grp Sat Flow(s),veh/h/ln	1774	0	1671	1774	1863	1583	1774	1770	1583	1774	1770	1583
Q Serve(g_s), s	1.9	0.0	8.3	2.6	3.0	0.9	4.3	9.1	2.0	0.7	17.3	1.1
Cycle Q Clear(g_c), s	1.9	0.0	8.3	2.6	3.0	0.9	4.3	9.1	2.0	0.7	17.3	1.1
Prop In Lane	1.00		0.65	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	112	0	286	131	339	288	158	1650	738	55	1445	647
V/C Ratio(X)	0.46	0.00	0.73	0.53	0.27	0.08	0.71	0.42	0.11	0.35	0.72	0.06
Avail Cap(c_a), veh/h	343	0	634	343	707	601	343	1650	738	343	1445	647
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	31.5	0.0	27.4	31.1	24.6	23.7	30.9	12.4	10.5	33.1	17.3	12.6
Incr Delay (d2), s/veh	2.9	0.0	3.6	3.2	0.4	0.1	5.8	0.8	0.3	3.7	3.2	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	0.0	4.1	1.4	1.6	0.4	2.3	4.6	0.9	0.4	9.0	0.5
LnGrp Delay(d),s/veh	34.4	0.0	31.0	34.4	25.0	23.8	36.7	13.1	10.8	36.8	20.5	12.7
LnGrp LOS	C		C	C	C	C	D	B	B	D	C	B
Approach Vol, veh/h		260			186			884			1104	
Approach Delay, s/veh		31.7			28.3			15.9			20.5	
Approach LOS		C			C			B			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	6.7	37.0	9.7	16.4	10.7	33.0	8.9	17.2
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	13.5	28.5	13.5	26.5	13.5	28.5	13.5	26.5
Max Q Clear Time (g_c+I1), s	2.7	11.1	4.6	10.3	6.3	19.3	3.9	5.0
Green Ext Time (p_c), s	0.0	11.3	0.1	1.7	0.1	6.9	0.1	1.8

Intersection Summary	
HCM 2010 Ctrl Delay	20.6
HCM 2010 LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	302	4	181	307	676	0	0	868	346
Future Volume (veh/h)	0	0	0	302	4	181	307	676	0	0	868	346
Number				3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln				1900	1863	1863	1863	1863	0	0	1863	1900
Adj Flow Rate, veh/h				315	4	189	320	704	0	0	904	360
Adj No. of Lanes				0	1	1	1	2	0	0	2	0
Peak Hour Factor				0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %				2	2	2	2	2	0	0	2	2
Cap, veh/h				390	5	352	361	2377	0	0	1030	408
Arrive On Green				0.22	0.22	0.22	0.20	0.67	0.00	0.00	0.42	0.42
Sat Flow, veh/h				1753	22	1583	1774	3632	0	0	2571	981
Grp Volume(v), veh/h				319	0	189	320	704	0	0	644	620
Grp Sat Flow(s),veh/h/ln				1775	0	1583	1774	1770	0	0	1770	1690
Q Serve(g_s), s				14.5	0.0	9.0	14.9	6.9	0.0	0.0	28.4	28.8
Cycle Q Clear(g_c), s				14.5	0.0	9.0	14.9	6.9	0.0	0.0	28.4	28.8
Prop In Lane				0.99		1.00	1.00		0.00	0.00		0.58
Lane Grp Cap(c), veh/h				395	0	352	361	2377	0	0	735	702
V/C Ratio(X)				0.81	0.00	0.54	0.89	0.30	0.00	0.00	0.88	0.88
Avail Cap(c_a), veh/h				708	0	631	436	2377	0	0	735	702
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				31.3	0.0	29.2	32.9	5.7	0.0	0.0	22.8	22.9
Incr Delay (d2), s/veh				3.9	0.0	1.3	17.2	0.3	0.0	0.0	13.8	15.1
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				7.5	0.0	4.0	9.0	3.4	0.0	0.0	16.6	16.2
LnGrp Delay(d),s/veh				35.3	0.0	30.4	50.1	6.0	0.0	0.0	36.7	38.0
LnGrp LOS				D		C	D	A			D	D
Approach Vol, veh/h					508			1024			1264	
Approach Delay, s/veh					33.5			19.8			37.3	
Approach LOS					C			B			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2			5	6		8
Phs Duration (G+Y+Rc), s		61.6			21.8	39.8		23.4
Change Period (Y+Rc), s		4.5			4.5	4.5		4.5
Max Green Setting (Gmax), s		57.1			20.9	31.7		33.9
Max Q Clear Time (g_c+I1), s		8.9			16.9	30.8		16.5
Green Ext Time (p_c), s		21.9			0.4	0.8		2.4

Intersection Summary		
HCM 2010 Ctrl Delay		30.2
HCM 2010 LOS		C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	274	4	526	0	0	0	0	701	155	180	995	0
Future Volume (veh/h)	274	4	526	0	0	0	0	701	155	180	995	0
Number	7	4	14				5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863				0	1863	1900	1863	1863	0
Adj Flow Rate, veh/h	283	0	537				0	715	158	184	1015	0
Adj No. of Lanes	2	0	1				0	3	0	1	2	0
Peak Hour Factor	0.98	0.98	0.98				0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Cap, veh/h	1061	0	473				0	1840	402	223	2162	0
Arrive On Green	0.30	0.00	0.30				0.00	0.44	0.44	0.13	0.61	0.00
Sat Flow, veh/h	3548	0	1583				0	4346	913	1774	3632	0
Grp Volume(v), veh/h	283	0	537				0	579	294	184	1015	0
Grp Sat Flow(s),veh/h/ln	1774	0	1583				0	1695	1702	1774	1770	0
Q Serve(g_s), s	6.1	0.0	29.9				0.0	11.5	11.7	10.1	15.6	0.0
Cycle Q Clear(g_c), s	6.1	0.0	29.9				0.0	11.5	11.7	10.1	15.6	0.0
Prop In Lane	1.00		1.00				0.00		0.54	1.00		0.00
Lane Grp Cap(c), veh/h	1061	0	473				0	1493	749	223	2162	0
V/C Ratio(X)	0.27	0.00	1.13				0.00	0.39	0.39	0.83	0.47	0.00
Avail Cap(c_a), veh/h	1061	0	473				0	1493	749	530	2162	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	26.7	0.0	35.0				0.0	18.9	18.9	42.7	10.6	0.0
Incr Delay (d2), s/veh	0.1	0.0	83.6				0.0	0.2	0.3	7.5	0.7	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.0	0.0	24.0				0.0	5.4	5.6	5.4	7.8	0.0
LnGrp Delay(d),s/veh	26.8	0.0	118.7				0.0	19.0	19.3	50.2	11.3	0.0
LnGrp LOS	C		F					B	B	D	B	
Approach Vol, veh/h		820						873			1199	
Approach Delay, s/veh		87.0						19.1			17.3	
Approach LOS		F						B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4		6		
Phs Duration (G+Y+Rc), s	17.1	48.5		34.4		65.6		
Change Period (Y+Rc), s	4.5	4.5		4.5		4.5		
Max Green Setting (Gmax), s	29.9	26.7		29.9		61.1		
Max Q Clear Time (g_c+I1), s	12.1	13.7		31.9		17.6		
Green Ext Time (p_c), s	0.4	9.3		0.0		19.6		

Intersection Summary	
HCM 2010 Ctrl Delay	37.6
HCM 2010 LOS	D

Notes

User approved volume balancing among the lanes for turning movement.

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	165	1	0	180	0	0	0	1	0	0	0
Future Vol, veh/h	0	165	1	0	180	0	0	0	1	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	91	91	91	91	91	91	91	91	91	91	91	91
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	181	1	0	198	0	0	0	1	0	0	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	198	0	0	182	0	0	281	380	91	289	380	99
Stage 1	-	-	-	-	-	-	182	182	-	198	198	-
Stage 2	-	-	-	-	-	-	99	198	-	91	182	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	1372	-	-	1391	-	-	649	551	949	641	551	937
Stage 1	-	-	-	-	-	-	802	748	-	785	736	-
Stage 2	-	-	-	-	-	-	896	736	-	906	748	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1372	-	-	1391	-	-	649	551	949	640	551	937
Mov Cap-2 Maneuver	-	-	-	-	-	-	649	551	-	640	551	-
Stage 1	-	-	-	-	-	-	802	748	-	785	736	-
Stage 2	-	-	-	-	-	-	896	736	-	905	748	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0	8.8	0
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	949	1372	-	-	1391	-	-	-
HCM Lane V/C Ratio	0.001	-	-	-	-	-	-	-
HCM Control Delay (s)	8.8	0	-	-	0	-	-	0
HCM Lane LOS	A	A	-	-	A	-	-	A
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	-

Intersection	
Int Delay, s/veh	0.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	11	156	1	0	174	1	2	0	0	0	0	6
Future Vol, veh/h	11	156	1	0	174	1	2	0	0	0	0	6
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	180	-	-	0	-	-	-	-	-	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	86	86	86	86	86	86	86	86	86	86	86	86
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	13	181	1	0	202	1	2	0	0	0	0	7

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	203	0	0	183	0	0	411	411	91	319	411	203
Stage 1	-	-	-	-	-	-	208	208	-	203	203	-
Stage 2	-	-	-	-	-	-	203	203	-	116	208	-
Critical Hdwy	4.13	-	-	4.13	-	-	7.33	6.53	6.93	7.33	6.53	6.23
Critical Hdwy Stg 1	-	-	-	-	-	-	6.53	5.53	-	6.13	5.53	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.13	5.53	-	6.53	5.53	-
Follow-up Hdwy	2.219	-	-	2.219	-	-	3.519	4.019	3.319	3.519	4.019	3.319
Pot Cap-1 Maneuver	1367	-	-	1391	-	-	538	530	949	622	530	837
Stage 1	-	-	-	-	-	-	775	729	-	798	733	-
Stage 2	-	-	-	-	-	-	798	733	-	877	729	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1367	-	-	1391	-	-	530	525	949	617	525	837
Mov Cap-2 Maneuver	-	-	-	-	-	-	530	525	-	617	525	-
Stage 1	-	-	-	-	-	-	768	722	-	790	733	-
Stage 2	-	-	-	-	-	-	791	733	-	869	722	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.5	0	11.8	9.3
HCM LOS			B	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	530	1367	-	-	1391	-	-	-	837
HCM Lane V/C Ratio	0.004	0.009	-	-	-	-	-	-	0.008
HCM Control Delay (s)	11.8	7.7	-	-	0	-	-	0	9.3
HCM Lane LOS	B	A	-	-	A	-	-	A	A
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	-	0

Intersection	
Int Delay, s/veh	0.6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	21	135	169	4	0	5
Future Vol, veh/h	21	135	169	4	0	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	84	84	84	84	84	84
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	25	161	201	5	0	6

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	206	0	-	0	415	204
Stage 1	-	-	-	-	204	-
Stage 2	-	-	-	-	211	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1365	-	-	-	594	837
Stage 1	-	-	-	-	830	-
Stage 2	-	-	-	-	824	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1365	-	-	-	582	837
Mov Cap-2 Maneuver	-	-	-	-	639	-
Stage 1	-	-	-	-	830	-
Stage 2	-	-	-	-	808	-

Approach	EB	WB	SB
HCM Control Delay, s	1	0	9.3
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1365	-	-	-	837
HCM Lane V/C Ratio	0.018	-	-	-	0.007
HCM Control Delay (s)	7.7	0	-	-	9.3
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0.1	-	-	-	0

Intersection	
Int Delay, s/veh	0.5

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	12	124	170	23	5	4
Future Vol, veh/h	12	124	170	23	5	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	13	138	189	26	6	4

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	214	0	-	0	366	202
Stage 1	-	-	-	-	202	-
Stage 2	-	-	-	-	164	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1356	-	-	-	634	839
Stage 1	-	-	-	-	832	-
Stage 2	-	-	-	-	865	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1356	-	-	-	628	839
Mov Cap-2 Maneuver	-	-	-	-	672	-
Stage 1	-	-	-	-	832	-
Stage 2	-	-	-	-	856	-

Approach	EB	WB	SB
HCM Control Delay, s	0.7	0	10
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1356	-	-	-	737
HCM Lane V/C Ratio	0.01	-	-	-	0.014
HCM Control Delay (s)	7.7	-	-	-	10
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	128	190	6	0	1
Future Vol, veh/h	0	128	190	6	0	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	86	86	86	86	86	86
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	149	221	7	0	1

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	-	224
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.318
Pot Cap-1 Maneuver	0	-	-	-	0	815
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	815
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	9.4
HCM LOS			A

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	815
HCM Lane V/C Ratio	-	-	-	0.001
HCM Control Delay (s)	-	-	-	9.4
HCM Lane LOS	-	-	-	A
HCM 95th %tile Q(veh)	-	-	-	0

Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑	↱			↗
Traffic Vol, veh/h	0	129	192	4	0	6
Future Vol, veh/h	0	129	192	4	0	6
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	87	87	87	87	87	87
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	148	221	5	0	7

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	-	223
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.318
Pot Cap-1 Maneuver	0	-	-	-	0	817
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	817
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	9.4
HCM LOS			A

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	817
HCM Lane V/C Ratio	-	-	-	0.008
HCM Control Delay (s)	-	-	-	9.4
HCM Lane LOS	-	-	-	A
HCM 95th %tile Q(veh)	-	-	-	0

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	71	480	0	0	913	213	0	0	0	164	0	109
Future Volume (veh/h)	71	480	0	0	913	213	0	0	0	164	0	109
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	0	1863	1900	1900	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	81	545	0	0	1038	242	0	0	0	186	0	124
Adj No. of Lanes	1	2	0	0	2	0	0	1	0	1	1	0
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	2	2	2	0	2	2	2	2	2	2	2	2
Cap, veh/h	83	1741	0	0	1149	267	0	789	0	819	0	670
Arrive On Green	0.05	0.49	0.00	0.00	0.40	0.40	0.00	0.00	0.00	0.42	0.00	0.42
Sat Flow, veh/h	1774	3632	0	0	2946	663	0	1863	0	1774	0	1583
Grp Volume(v), veh/h	81	545	0	0	642	638	0	0	0	186	0	124
Grp Sat Flow(s),veh/h/ln	1774	1770	0	0	1770	1746	0	1863	0	1774	0	1583
Q Serve(g_s), s	4.8	9.8	0.0	0.0	36.2	36.5	0.0	0.0	0.0	7.2	0.0	5.2
Cycle Q Clear(g_c), s	4.8	9.8	0.0	0.0	36.2	36.5	0.0	0.0	0.0	7.2	0.0	5.2
Prop In Lane	1.00		0.00	0.00		0.38	0.00		0.00	1.00		1.00
Lane Grp Cap(c), veh/h	83	1741	0	0	712	703	0	789	0	819	0	670
V/C Ratio(X)	0.97	0.31	0.00	0.00	0.90	0.91	0.00	0.00	0.00	0.23	0.00	0.18
Avail Cap(c_a), veh/h	83	1741	0	0	766	756	0	789	0	819	0	670
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	0.00	1.00	1.00	0.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	50.6	16.2	0.0	0.0	29.8	29.9	0.0	0.0	0.0	19.7	0.0	19.2
Incr Delay (d2), s/veh	88.4	0.1	0.0	0.0	13.3	14.1	0.0	0.0	0.0	0.6	0.0	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.4	4.8	0.0	0.0	20.3	20.3	0.0	0.0	0.0	3.7	0.0	2.4
LnGrp Delay(d),s/veh	139.0	16.3	0.0	0.0	43.1	44.0	0.0	0.0	0.0	20.4	0.0	19.8
LnGrp LOS	F	B			D	D				C		B
Approach Vol, veh/h		626			1280			0			310	
Approach Delay, s/veh		32.2			43.5			0.0			20.1	
Approach LOS		C			D						C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6	7	8
Phs Duration (G+Y+Rc), s		49.5		56.8		49.5	9.5	47.3
Change Period (Y+Rc), s		4.5		4.5		4.5	4.5	4.5
Max Green Setting (Gmax), s		45.0		46.0		45.0	5.0	46.0
Max Q Clear Time (g_c+I1), s		0.0		11.8		9.2	6.8	38.5
Green Ext Time (p_c), s		0.0		17.6		1.3	0.0	4.3

Intersection Summary	
HCM 2010 Ctrl Delay	37.1
HCM 2010 LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	37	443	164	265	829	139	170	256	116	133	204	115
Future Volume (veh/h)	37	443	164	265	829	139	170	256	116	133	204	115
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	44	527	195	315	987	165	202	305	138	158	243	137
Adj No. of Lanes	1	2	0	1	2	0	1	1	1	1	1	1
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	90	605	223	251	1001	167	235	602	512	191	556	473
Arrive On Green	0.05	0.24	0.24	0.14	0.33	0.33	0.13	0.32	0.32	0.11	0.30	0.30
Sat Flow, veh/h	1774	2534	934	1774	3036	507	1774	1863	1583	1774	1863	1583
Grp Volume(v), veh/h	44	367	355	315	575	577	202	305	138	158	243	137
Grp Sat Flow(s),veh/h/ln	1774	1770	1698	1774	1770	1773	1774	1863	1583	1774	1863	1583
Q Serve(g_s), s	2.3	19.0	19.2	13.5	30.8	30.8	10.6	12.6	6.2	8.3	10.0	6.3
Cycle Q Clear(g_c), s	2.3	19.0	19.2	13.5	30.8	30.8	10.6	12.6	6.2	8.3	10.0	6.3
Prop In Lane	1.00		0.55	1.00		0.29	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	90	423	405	251	584	585	235	602	512	191	556	473
V/C Ratio(X)	0.49	0.87	0.87	1.25	0.99	0.99	0.86	0.51	0.27	0.83	0.44	0.29
Avail Cap(c_a), veh/h	251	491	472	251	584	585	251	602	512	251	556	473
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	44.1	34.9	34.9	41.0	31.7	31.8	40.5	26.1	23.9	41.7	27.0	25.7
Incr Delay (d2), s/veh	4.1	13.9	14.9	143.0	33.4	33.7	23.8	3.0	1.3	15.7	2.5	1.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	10.9	10.6	16.5	20.4	20.5	6.8	7.0	2.9	4.9	5.5	3.0
LnGrp Delay(d),s/veh	48.2	48.7	49.9	184.0	65.1	65.5	64.3	29.1	25.2	57.4	29.5	27.2
LnGrp LOS	D	D	D	F	E	E	E	C	C	E	C	C
Approach Vol, veh/h		766			1467			645			538	
Approach Delay, s/veh		49.2			90.8			39.3			37.1	
Approach LOS		D			F			D			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	14.8	35.3	18.0	27.3	17.1	33.0	9.3	36.0
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	13.5	28.5	13.5	26.5	13.5	28.5	13.5	26.5
Max Q Clear Time (g_c+I1), s	10.3	14.6	15.5	21.2	12.6	12.0	4.3	32.8
Green Ext Time (p_c), s	0.1	3.7	0.0	1.6	0.1	3.9	0.0	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	63.3
HCM 2010 LOS	E

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	9	88	36	96	97	109	46	400	94	83	529	27
Future Volume (veh/h)	9	88	36	96	97	109	46	400	94	83	529	27
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	11	110	45	120	121	136	58	500	118	104	661	34
Adj No. of Lanes	1	2	0	1	1	0	1	1	0	1	1	0
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	153	215	84	326	147	165	113	604	142	157	771	40
Arrive On Green	0.09	0.09	0.09	0.18	0.18	0.18	0.06	0.41	0.41	0.09	0.44	0.44
Sat Flow, veh/h	1774	2490	971	1774	802	902	1774	1458	344	1774	1756	90
Grp Volume(v), veh/h	11	77	78	120	0	257	58	0	618	104	0	695
Grp Sat Flow(s),veh/h/ln	1774	1770	1691	1774	0	1704	1774	0	1802	1774	0	1847
Q Serve(g_s), s	0.5	3.3	3.5	4.7	0.0	11.5	2.5	0.0	24.2	4.5	0.0	26.8
Cycle Q Clear(g_c), s	0.5	3.3	3.5	4.7	0.0	11.5	2.5	0.0	24.2	4.5	0.0	26.8
Prop In Lane	1.00		0.57	1.00		0.53	1.00		0.19	1.00		0.05
Lane Grp Cap(c), veh/h	153	153	146	326	0	313	113	0	746	157	0	810
V/C Ratio(X)	0.07	0.50	0.54	0.37	0.00	0.82	0.51	0.00	0.83	0.66	0.00	0.86
Avail Cap(c_a), veh/h	451	450	430	451	0	433	159	0	746	451	0	810
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	33.2	34.5	34.6	28.3	0.0	31.0	35.8	0.0	20.7	34.9	0.0	20.0
Incr Delay (d2), s/veh	0.2	2.5	3.1	0.7	0.0	8.7	3.6	0.0	10.3	4.7	0.0	11.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	1.7	1.8	2.4	0.0	6.1	1.3	0.0	14.1	2.4	0.0	16.1
LnGrp Delay(d),s/veh	33.4	37.1	37.7	29.0	0.0	39.7	39.4	0.0	30.9	39.6	0.0	31.3
LnGrp LOS	C	D	D	C		D	D		C	D		C
Approach Vol, veh/h		166			377			676			799	
Approach Delay, s/veh		37.1			36.3			31.7			32.4	
Approach LOS		D			D			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	11.5	37.2		11.3	9.5	39.2		19.0
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5
Max Green Setting (Gmax), s	20.1	21.7		20.1	7.1	34.7		20.1
Max Q Clear Time (g_c+I1), s	13.5	26.2		5.5	4.5	28.8		13.5
Green Ext Time (p_c), s	0.2	0.0		0.7	0.0	4.0		1.0

Intersection Summary		
HCM 2010 Ctrl Delay	33.3	
HCM 2010 LOS	C	

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	100	404	167	40	462	59	172	369	124	102	400	152
Future Volume (veh/h)	100	404	167	40	462	59	172	369	124	102	400	152
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	112	454	188	45	519	66	193	415	139	115	449	171
Adj No. of Lanes	1	2	0	1	2	0	1	1	1	1	1	1
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	143	659	271	96	766	97	230	712	691	147	625	659
Arrive On Green	0.08	0.27	0.27	0.05	0.24	0.24	0.13	0.38	0.38	0.08	0.34	0.34
Sat Flow, veh/h	1774	2449	1006	1774	3161	401	1774	1863	1583	1774	1863	1583
Grp Volume(v), veh/h	112	327	315	45	290	295	193	415	139	115	449	171
Grp Sat Flow(s),veh/h/ln	1774	1770	1685	1774	1770	1792	1774	1863	1583	1774	1863	1583
Q Serve(g_s), s	5.3	14.1	14.3	2.1	12.6	12.7	9.0	15.0	4.6	5.4	17.9	6.0
Cycle Q Clear(g_c), s	5.3	14.1	14.3	2.1	12.6	12.7	9.0	15.0	4.6	5.4	17.9	6.0
Prop In Lane	1.00		0.60	1.00		0.22	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	143	476	454	96	429	434	230	712	691	147	625	659
V/C Ratio(X)	0.78	0.69	0.69	0.47	0.68	0.68	0.84	0.58	0.20	0.78	0.72	0.26
Avail Cap(c_a), veh/h	282	552	525	282	552	559	282	712	691	282	625	659
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	38.3	27.8	27.9	39.0	29.2	29.2	36.1	20.9	14.8	38.2	24.7	16.2
Incr Delay (d2), s/veh	8.9	2.9	3.3	3.6	2.2	2.3	16.6	3.5	0.7	8.8	7.0	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.9	7.3	7.1	1.1	6.4	6.5	5.5	8.4	2.1	3.0	10.4	2.8
LnGrp Delay(d),s/veh	47.3	30.8	31.2	42.6	31.4	31.5	52.7	24.3	15.5	47.1	31.7	17.2
LnGrp LOS	D	C	C	D	C	C	D	C	B	D	C	B
Approach Vol, veh/h		754			630			747			735	
Approach Delay, s/veh		33.4			32.2			30.0			30.7	
Approach LOS		C			C			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.5	37.0	9.1	27.4	15.5	33.0	11.4	25.1
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	13.5	28.5	13.5	26.5	13.5	28.5	13.5	26.5
Max Q Clear Time (g_c+I1), s	7.4	17.0	4.1	16.3	11.0	19.9	7.3	14.7
Green Ext Time (p_c), s	0.1	5.1	0.0	5.4	0.1	4.2	0.1	5.9

Intersection Summary	
HCM 2010 Ctrl Delay	31.6
HCM 2010 LOS	C

HCM 2010 Signalized Intersection Summary
1: Heacock St & Ironwood Ave

Festival at Moreno Valley Mixed Use
Future (2035) Without-Project Weekday PM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	267	841	170	137	497	60	167	694	195	79	537	216
Future Volume (veh/h)	267	841	170	137	497	60	167	694	195	79	537	216
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	272	858	173	140	507	61	170	708	199	81	548	220
Adj No. of Lanes	1	2	1	1	2	0	1	2	1	1	2	1
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	258	1016	454	173	761	91	204	1259	718	117	1086	716
Arrive On Green	0.15	0.29	0.29	0.10	0.24	0.24	0.12	0.36	0.36	0.07	0.31	0.31
Sat Flow, veh/h	1774	3539	1583	1774	3183	382	1774	3539	1583	1774	3539	1583
Grp Volume(v), veh/h	272	858	173	140	281	287	170	708	199	81	548	220
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	1770	1795	1774	1770	1583	1774	1770	1583
Q Serve(g_s), s	13.5	21.2	8.1	7.2	13.3	13.4	8.7	15.0	7.3	4.2	11.8	8.2
Cycle Q Clear(g_c), s	13.5	21.2	8.1	7.2	13.3	13.4	8.7	15.0	7.3	4.2	11.8	8.2
Prop In Lane	1.00		1.00	1.00		0.21	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	258	1016	454	173	423	429	204	1259	718	117	1086	716
V/C Ratio(X)	1.06	0.84	0.38	0.81	0.66	0.67	0.83	0.56	0.28	0.69	0.50	0.31
Avail Cap(c_a), veh/h	258	1016	454	258	505	512	258	1259	718	258	1086	716
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	39.7	31.2	26.5	41.1	32.0	32.0	40.2	24.1	15.9	42.5	26.4	16.2
Incr Delay (d2), s/veh	71.3	6.7	0.5	11.1	2.5	2.6	16.7	1.8	1.0	7.1	1.7	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	11.7	11.3	3.6	4.1	6.8	6.9	5.2	7.6	3.4	2.3	6.0	3.8
LnGrp Delay(d),s/veh	111.0	37.8	27.0	52.2	34.5	34.6	57.0	25.9	16.8	49.5	28.1	17.3
LnGrp LOS	F	D	C	D	C	C	E	C	B	D	C	B
Approach Vol, veh/h		1303			708			1077			849	
Approach Delay, s/veh		51.7			38.0			29.1			27.3	
Approach LOS		D			D			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.6	37.6	13.6	31.2	15.2	33.0	18.0	26.7
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	13.5	28.5	13.5	26.5	13.5	28.5	13.5	26.5
Max Q Clear Time (g_c+I1), s	6.2	17.0	9.2	23.2	10.7	13.8	15.5	15.4
Green Ext Time (p_c), s	0.1	7.0	0.1	2.5	0.1	8.2	0.0	6.8

Intersection Summary	
HCM 2010 Ctrl Delay	37.8
HCM 2010 LOS	D

Intersection	
Int Delay, s/veh	0

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	0	1056	0	0	843
Future Vol, veh/h	0	0	1056	0	0	843
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	98	98	98	98	98	98
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	1078	0	0	860

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1422	539	0	0	1078	0
Stage 1	1078	-	-	-	-	-
Stage 2	344	-	-	-	-	-
Critical Hdwy	6.29	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	6.04	-	-	-	-	-
Follow-up Hdwy	3.67	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	155	487	-	-	643	-
Stage 1	281	-	-	-	-	-
Stage 2	653	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	155	487	-	-	643	-
Mov Cap-2 Maneuver	155	-	-	-	-	-
Stage 1	281	-	-	-	-	-
Stage 2	653	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	0	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	-	643	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	-	-	0	0	-
HCM Lane LOS	-	-	A	A	-
HCM 95th %tile Q(veh)	-	-	-	0	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	91	144	259	97	90	35	162	981	134	24	806	44
Future Volume (veh/h)	91	144	259	97	90	35	162	981	134	24	806	44
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	92	145	262	98	91	35	164	991	135	24	814	44
Adj No. of Lanes	1	1	0	1	1	1	1	2	1	1	2	1
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	128	162	294	131	510	434	200	1447	647	63	1173	525
Arrive On Green	0.07	0.27	0.27	0.07	0.27	0.27	0.11	0.41	0.41	0.04	0.33	0.33
Sat Flow, veh/h	1774	596	1077	1774	1863	1583	1774	3539	1583	1774	3539	1583
Grp Volume(v), veh/h	92	0	407	98	91	35	164	991	135	24	814	44
Grp Sat Flow(s),veh/h/ln	1774	0	1673	1774	1863	1583	1774	1770	1583	1774	1770	1583
Q Serve(g_s), s	4.4	0.0	20.1	4.7	3.2	1.4	7.8	19.8	4.7	1.1	17.2	1.6
Cycle Q Clear(g_c), s	4.4	0.0	20.1	4.7	3.2	1.4	7.8	19.8	4.7	1.1	17.2	1.6
Prop In Lane	1.00		0.64	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	128	0	456	131	510	434	200	1447	647	63	1173	525
V/C Ratio(X)	0.72	0.00	0.89	0.75	0.18	0.08	0.82	0.68	0.21	0.38	0.69	0.08
Avail Cap(c_a), veh/h	279	0	516	279	574	488	279	1447	647	279	1173	525
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	39.0	0.0	30.1	39.1	23.8	23.2	37.3	20.9	16.4	40.5	24.9	19.8
Incr Delay (d2), s/veh	7.2	0.0	16.4	8.4	0.2	0.1	12.5	2.7	0.7	3.7	3.4	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.4	0.0	11.3	2.6	1.7	0.6	4.5	10.2	2.2	0.6	8.9	0.8
LnGrp Delay(d),s/veh	46.3	0.0	46.4	47.4	24.0	23.3	49.8	23.5	17.2	44.3	28.3	20.1
LnGrp LOS	D		D	D	C	C	D	C	B	D	C	C
Approach Vol, veh/h		499			224			1290			882	
Approach Delay, s/veh		46.4			34.1			26.2			28.4	
Approach LOS		D			C			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.6	39.7	10.8	27.9	14.2	33.0	10.7	28.0
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	13.5	28.5	13.5	26.5	13.5	28.5	13.5	26.5
Max Q Clear Time (g_c+I1), s	3.1	21.8	6.7	22.1	9.8	19.2	6.4	5.2
Green Ext Time (p_c), s	0.0	5.5	0.1	1.3	0.1	7.2	0.1	3.4

Intersection Summary	
HCM 2010 Ctrl Delay	30.9
HCM 2010 LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	242	4	189	377	1096	0	0	874	292
Future Volume (veh/h)	0	0	0	242	4	189	377	1096	0	0	874	292
Number				3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln				1900	1863	1863	1863	1863	0	0	1863	1900
Adj Flow Rate, veh/h				252	4	197	393	1142	0	0	910	304
Adj No. of Lanes				0	1	1	1	2	0	0	2	0
Peak Hour Factor				0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %				2	2	2	2	2	0	0	2	2
Cap, veh/h				328	5	298	430	2483	0	0	1054	351
Arrive On Green				0.19	0.19	0.19	0.24	0.70	0.00	0.00	0.40	0.40
Sat Flow, veh/h				1748	28	1583	1774	3632	0	0	2703	869
Grp Volume(v), veh/h				256	0	197	393	1142	0	0	616	598
Grp Sat Flow(s),veh/h/ln				1775	0	1583	1774	1770	0	0	1770	1709
Q Serve(g_s), s				11.1	0.0	9.4	17.5	11.6	0.0	0.0	25.9	26.1
Cycle Q Clear(g_c), s				11.1	0.0	9.4	17.5	11.6	0.0	0.0	25.9	26.1
Prop In Lane				0.98		1.00	1.00		0.00	0.00		0.51
Lane Grp Cap(c), veh/h				334	0	298	430	2483	0	0	714	690
V/C Ratio(X)				0.77	0.00	0.66	0.91	0.46	0.00	0.00	0.86	0.87
Avail Cap(c_a), veh/h				739	0	659	456	2483	0	0	714	690
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				31.4	0.0	30.7	30.0	5.4	0.0	0.0	22.2	22.3
Incr Delay (d2), s/veh				3.7	0.0	2.5	22.1	0.6	0.0	0.0	13.0	13.8
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				5.8	0.0	4.3	11.2	5.8	0.0	0.0	15.2	14.9
LnGrp Delay(d),s/veh				35.1	0.0	33.2	52.1	6.0	0.0	0.0	35.2	36.1
LnGrp LOS				D		C	D	A			D	D
Approach Vol, veh/h					453			1535			1214	
Approach Delay, s/veh					34.2			17.8			35.6	
Approach LOS					C			B			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2			5	6		8
Phs Duration (G+Y+Rc), s		61.6			24.2	37.4		19.8
Change Period (Y+Rc), s		4.5			4.5	4.5		4.5
Max Green Setting (Gmax), s		57.1			20.9	31.7		33.9
Max Q Clear Time (g_c+I1), s		13.6			19.5	28.1		13.1
Green Ext Time (p_c), s		26.8			0.2	3.3		2.2

Intersection Summary		
HCM 2010 Ctrl Delay		26.9
HCM 2010 LOS		C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	502	3	354	0	0	0	0	981	322	191	931	0
Future Volume (veh/h)	502	3	354	0	0	0	0	981	322	191	931	0
Number	7	4	14				5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863				0	1863	1900	1863	1863	0
Adj Flow Rate, veh/h	525	0	369				0	1022	335	199	970	0
Adj No. of Lanes	2	0	1				0	3	0	1	2	0
Peak Hour Factor	0.96	0.96	0.96				0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Cap, veh/h	942	0	420				0	1736	569	240	2266	0
Arrive On Green	0.27	0.00	0.27				0.00	0.46	0.46	0.14	0.64	0.00
Sat Flow, veh/h	3548	0	1583				0	3959	1242	1774	3632	0
Grp Volume(v), veh/h	525	0	369				0	914	443	199	970	0
Grp Sat Flow(s),veh/h/ln	1774	0	1583				0	1695	1644	1774	1770	0
Q Serve(g_s), s	12.2	0.0	21.3				0.0	19.1	19.1	10.4	13.0	0.0
Cycle Q Clear(g_c), s	12.2	0.0	21.3				0.0	19.1	19.1	10.4	13.0	0.0
Prop In Lane	1.00		1.00				0.00		0.76	1.00		0.00
Lane Grp Cap(c), veh/h	942	0	420				0	1552	752	240	2266	0
V/C Ratio(X)	0.56	0.00	0.88				0.00	0.59	0.59	0.83	0.43	0.00
Avail Cap(c_a), veh/h	1112	0	496				0	1552	752	556	2266	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	30.2	0.0	33.6				0.0	19.2	19.2	40.2	8.5	0.0
Incr Delay (d2), s/veh	0.5	0.0	14.5				0.0	0.6	1.2	7.2	0.6	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.0	0.0	11.0				0.0	9.0	8.9	5.6	6.5	0.0
LnGrp Delay(d),s/veh	30.7	0.0	48.1				0.0	19.8	20.4	47.4	9.1	0.0
LnGrp LOS	C		D					B	C	D	A	
Approach Vol, veh/h		894						1357			1169	
Approach Delay, s/veh		37.9						20.0			15.6	
Approach LOS		D						C			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4		6		
Phs Duration (G+Y+Rc), s	17.4	48.2		29.8		65.6		
Change Period (Y+Rc), s	4.5	4.5		4.5		4.5		
Max Green Setting (Gmax), s	29.3	26.7		29.9		61.1		
Max Q Clear Time (g_c+I1), s	12.4	21.1		23.3		15.0		
Green Ext Time (p_c), s	0.5	5.0		2.0		27.1		

Intersection Summary	
HCM 2010 Ctrl Delay	23.2
HCM 2010 LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

Intersection	
Int Delay, s/veh	0.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑			↑			⇳			⇳	
Traffic Vol, veh/h	0	306	22	0	228	0	0	0	22	0	0	0
Future Vol, veh/h	0	306	22	0	228	0	0	0	22	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	94	94	94	94	94	94	94	94	94	94	94	94
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	326	23	0	243	0	0	0	23	0	0	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	-	0	0	-	-	0	580	580	174	373	592	243
Stage 1	-	-	-	-	-	-	337	337	-	243	243	-
Stage 2	-	-	-	-	-	-	243	243	-	130	349	-
Critical Hdwy	-	-	-	-	-	-	6.78	6.53	7.13	6.78	6.53	6.23
Critical Hdwy Stg 1	-	-	-	-	-	-	7.33	5.53	-	6.13	5.53	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.13	5.53	-	6.73	5.53	-
Follow-up Hdwy	-	-	-	-	-	-	3.669	4.019	3.919	3.669	4.019	3.319
Pot Cap-1 Maneuver	0	-	-	0	-	0	436	425	714	584	418	795
Stage 1	0	-	-	0	-	0	584	640	-	732	704	-
Stage 2	0	-	-	0	-	0	732	704	-	822	633	-
Platoon blocked, %		-	-		-							
Mov Cap-1 Maneuver	-	-	-	-	-	-	436	425	714	565	418	795
Mov Cap-2 Maneuver	-	-	-	-	-	-	436	425	-	565	418	-
Stage 1	-	-	-	-	-	-	584	640	-	732	704	-
Stage 2	-	-	-	-	-	-	732	704	-	795	633	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0	10.2	0
HCM LOS			B	A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT	SBLn1
Capacity (veh/h)	714	-	-	-	-
HCM Lane V/C Ratio	0.033	-	-	-	-
HCM Control Delay (s)	10.2	-	-	-	0
HCM Lane LOS	B	-	-	-	A
HCM 95th %tile Q(veh)	0.1	-	-	-	-

Intersection	
Int Delay, s/veh	1.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	55	273	4	4	182	5	2	2	0	7	0	35
Future Vol, veh/h	55	273	4	4	182	5	2	2	0	7	0	35
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	180	-	-	0	-	-	-	-	-	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	88	88	88	88	88	88	88	88	88	88	88	88
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	63	310	5	5	207	6	2	2	0	8	0	40

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	213	0	0	315	0	0	657	660	157	500	659	210
Stage 1	-	-	-	-	-	-	438	438	-	219	219	-
Stage 2	-	-	-	-	-	-	219	222	-	281	440	-
Critical Hdwy	4.13	-	-	4.13	-	-	7.33	6.53	6.93	7.33	6.53	6.23
Critical Hdwy Stg 1	-	-	-	-	-	-	6.53	5.53	-	6.13	5.53	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.13	5.53	-	6.53	5.53	-
Follow-up Hdwy	2.219	-	-	2.219	-	-	3.519	4.019	3.319	3.519	4.019	3.319
Pot Cap-1 Maneuver	1356	-	-	1244	-	-	364	382	861	467	383	830
Stage 1	-	-	-	-	-	-	568	578	-	783	721	-
Stage 2	-	-	-	-	-	-	783	719	-	703	577	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1356	-	-	1244	-	-	333	363	861	447	364	830
Mov Cap-2 Maneuver	-	-	-	-	-	-	333	363	-	447	364	-
Stage 1	-	-	-	-	-	-	542	551	-	747	718	-
Stage 2	-	-	-	-	-	-	742	716	-	668	550	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.3	0.2	15.5	10.2
HCM LOS			C	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	347	1356	-	-	1244	-	-	447	830
HCM Lane V/C Ratio	0.013	0.046	-	-	0.004	-	-	0.018	0.048
HCM Control Delay (s)	15.5	7.8	-	-	7.9	-	-	13.2	9.6
HCM Lane LOS	C	A	-	-	A	-	-	B	A
HCM 95th %tile Q(veh)	0	0.1	-	-	0	-	-	0.1	0.2

Intersection	
Int Delay, s/veh	0.6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	11	271	182	7	10	10
Future Vol, veh/h	11	271	182	7	10	10
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	12	298	200	8	11	11

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	208	0	-	0	526	204
Stage 1	-	-	-	-	204	-
Stage 2	-	-	-	-	322	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1363	-	-	-	512	837
Stage 1	-	-	-	-	830	-
Stage 2	-	-	-	-	735	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1363	-	-	-	506	837
Mov Cap-2 Maneuver	-	-	-	-	582	-
Stage 1	-	-	-	-	830	-
Stage 2	-	-	-	-	727	-

Approach	EB	WB	SB
HCM Control Delay, s	0.3	0	10.4
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1363	-	-	-	687
HCM Lane V/C Ratio	0.009	-	-	-	0.032
HCM Control Delay (s)	7.7	0	-	-	10.4
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.1

Intersection	
Int Delay, s/veh	1.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	19	259	175	9	25	16
Future Vol, veh/h	19	259	175	9	25	16
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	21	285	192	10	27	18

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	202	0	-	0	523	197
Stage 1	-	-	-	-	197	-
Stage 2	-	-	-	-	326	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1370	-	-	-	514	844
Stage 1	-	-	-	-	836	-
Stage 2	-	-	-	-	731	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1370	-	-	-	505	844
Mov Cap-2 Maneuver	-	-	-	-	579	-
Stage 1	-	-	-	-	836	-
Stage 2	-	-	-	-	718	-

Approach	EB	WB	SB
HCM Control Delay, s	0.5	0	10.9
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1370	-	-	-	660
HCM Lane V/C Ratio	0.015	-	-	-	0.068
HCM Control Delay (s)	7.7	-	-	-	10.9
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.2

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	1	284	177	25	0	7
Future Vol, veh/h	1	284	177	25	0	7
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1	305	190	27	0	8

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	217	0	-	0	-	204
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	4.12	-	-	-	-	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	2.218	-	-	-	-	3.318
Pot Cap-1 Maneuver	1353	-	-	-	0	837
Stage 1	-	-	-	-	0	-
Stage 2	-	-	-	-	0	-
Platoon blocked, %			-	-	-	
Mov Cap-1 Maneuver	1353	-	-	-	-	837
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	9.3
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1353	-	-	-	837
HCM Lane V/C Ratio	0.001	-	-	-	0.009
HCM Control Delay (s)	7.7	-	-	-	9.3
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0

Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	284	193	8	0	9
Future Vol, veh/h	0	284	193	8	0	9
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	302	205	9	0	10

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	-	210
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.318
Pot Cap-1 Maneuver	0	-	-	-	0	830
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	830
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	9.4
HCM LOS			A

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	830
HCM Lane V/C Ratio	-	-	-	0.012
HCM Control Delay (s)	-	-	-	9.4
HCM Lane LOS	-	-	-	A
HCM 95th %tile Q(veh)	-	-	-	0

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	120	991	0	0	618	58	0	0	0	85	0	62
Future Volume (veh/h)	120	991	0	0	618	58	0	0	0	85	0	62
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	0	1863	1900	1900	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	138	1139	0	0	710	67	0	0	0	98	0	71
Adj No. of Lanes	1	2	0	0	2	0	0	1	0	1	1	0
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Percent Heavy Veh, %	2	2	2	0	2	2	2	2	2	2	2	2
Cap, veh/h	82	1778	0	0	1356	128	0	773	0	802	0	657
Arrive On Green	0.05	0.50	0.00	0.00	0.41	0.41	0.00	0.00	0.00	0.41	0.00	0.41
Sat Flow, veh/h	1774	3632	0	0	3363	308	0	1863	0	1774	0	1583
Grp Volume(v), veh/h	138	1139	0	0	384	393	0	0	0	98	0	71
Grp Sat Flow(s),veh/h/ln	1774	1770	0	0	1770	1808	0	1863	0	1774	0	1583
Q Serve(g_s), s	5.0	25.6	0.0	0.0	17.6	17.6	0.0	0.0	0.0	3.7	0.0	3.0
Cycle Q Clear(g_c), s	5.0	25.6	0.0	0.0	17.6	17.6	0.0	0.0	0.0	3.7	0.0	3.0
Prop In Lane	1.00		0.00	0.00		0.17	0.00		0.00	1.00		1.00
Lane Grp Cap(c), veh/h	82	1778	0	0	734	750	0	773	0	802	0	657
V/C Ratio(X)	1.69	0.64	0.00	0.00	0.52	0.52	0.00	0.00	0.00	0.12	0.00	0.11
Avail Cap(c_a), veh/h	82	1778	0	0	734	750	0	773	0	802	0	657
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	0.00	1.00	1.00	0.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	51.8	19.8	0.0	0.0	23.7	23.7	0.0	0.0	0.0	19.7	0.0	19.5
Incr Delay (d2), s/veh	356.5	1.8	0.0	0.0	2.7	2.6	0.0	0.0	0.0	0.3	0.0	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	10.5	12.9	0.0	0.0	9.1	9.3	0.0	0.0	0.0	1.9	0.0	1.4
LnGrp Delay(d),s/veh	408.3	21.6	0.0	0.0	26.4	26.3	0.0	0.0	0.0	20.0	0.0	19.8
LnGrp LOS	F	C			C	C				B		B
Approach Vol, veh/h		1277			777			0			169	
Approach Delay, s/veh		63.4			26.4			0.0			19.9	
Approach LOS		E			C						B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		8
Phs Duration (G+Y+Rc), s		59.0		49.5	9.5	49.5		49.5
Change Period (Y+Rc), s		4.5		4.5	4.5	4.5		4.5
Max Green Setting (Gmax), s		45.0		45.0	5.0	45.0		45.0
Max Q Clear Time (g_c+I1), s		27.6		5.7	7.0	19.6		0.0
Green Ext Time (p_c), s		12.0		0.7	0.0	15.6		0.0

Intersection Summary	
HCM 2010 Ctrl Delay	47.1
HCM 2010 LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	122	801	120	86	475	83	121	250	242	78	184	90
Future Volume (veh/h)	122	801	120	86	475	83	121	250	242	78	184	90
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	133	871	130	93	516	90	132	272	263	85	200	98
Adj No. of Lanes	1	2	0	1	2	0	1	1	1	1	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	167	934	139	127	845	147	166	652	554	124	608	517
Arrive On Green	0.09	0.30	0.30	0.07	0.28	0.28	0.09	0.35	0.35	0.07	0.33	0.33
Sat Flow, veh/h	1774	3090	461	1774	3016	524	1774	1863	1583	1774	1863	1583
Grp Volume(v), veh/h	133	499	502	93	302	304	132	272	263	85	200	98
Grp Sat Flow(s),veh/h/ln	1774	1770	1781	1774	1770	1770	1774	1863	1583	1774	1863	1583
Q Serve(g_s), s	6.4	23.9	23.9	4.5	12.9	13.0	6.4	9.7	11.3	4.1	7.1	3.9
Cycle Q Clear(g_c), s	6.4	23.9	23.9	4.5	12.9	13.0	6.4	9.7	11.3	4.1	7.1	3.9
Prop In Lane	1.00		0.26	1.00		0.30	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	167	535	539	127	496	496	166	652	554	124	608	517
V/C Ratio(X)	0.80	0.93	0.93	0.73	0.61	0.61	0.80	0.42	0.47	0.68	0.33	0.19
Avail Cap(c_a), veh/h	274	537	541	274	537	537	274	652	554	274	608	517
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	38.7	29.6	29.6	39.7	27.3	27.3	38.8	21.6	22.1	39.7	22.2	21.1
Incr Delay (d2), s/veh	8.4	23.3	23.2	7.8	1.8	1.8	8.4	2.0	2.9	6.5	1.4	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.5	15.1	15.2	2.5	6.5	6.6	3.5	5.3	5.4	2.2	3.9	1.8
LnGrp Delay(d),s/veh	47.2	52.9	52.8	47.5	29.0	29.1	47.2	23.6	25.0	46.2	23.6	21.9
LnGrp LOS	D	D	D	D	C	C	D	C	C	D	C	C
Approach Vol, veh/h		1134			699			667			383	
Approach Delay, s/veh		52.2			31.5			28.8			28.2	
Approach LOS		D			C			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.6	35.0	10.8	30.9	12.7	33.0	12.7	29.0
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	13.5	28.5	13.5	26.5	13.5	28.5	13.5	26.5
Max Q Clear Time (g_c+I1), s	6.1	13.3	6.5	25.9	8.4	9.1	8.4	15.0
Green Ext Time (p_c), s	0.1	3.7	0.1	0.5	0.1	4.0	0.1	7.4

Intersection Summary	
HCM 2010 Ctrl Delay	38.6
HCM 2010 LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	42	172	72	86	85	107	65	480	156	36	339	24
Future Volume (veh/h)	42	172	72	86	85	107	65	480	156	36	339	24
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	44	181	76	91	89	113	68	505	164	38	357	25
Adj No. of Lanes	1	2	0	1	1	0	1	1	0	1	1	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	202	280	113	269	113	144	122	564	183	157	754	53
Arrive On Green	0.11	0.11	0.11	0.15	0.15	0.15	0.07	0.42	0.42	0.09	0.44	0.44
Sat Flow, veh/h	1774	2461	995	1774	747	948	1774	1348	438	1774	1721	121
Grp Volume(v), veh/h	44	128	129	91	0	202	68	0	669	38	0	382
Grp Sat Flow(s),veh/h/ln	1774	1770	1687	1774	0	1695	1774	0	1786	1774	0	1841
Q Serve(g_s), s	1.8	5.5	5.8	3.6	0.0	9.1	2.9	0.0	27.6	1.6	0.0	11.6
Cycle Q Clear(g_c), s	1.8	5.5	5.8	3.6	0.0	9.1	2.9	0.0	27.6	1.6	0.0	11.6
Prop In Lane	1.00		0.59	1.00		0.56	1.00		0.25	1.00		0.07
Lane Grp Cap(c), veh/h	202	202	192	269	0	257	122	0	747	157	0	807
V/C Ratio(X)	0.22	0.64	0.67	0.34	0.00	0.79	0.56	0.00	0.90	0.24	0.00	0.47
Avail Cap(c_a), veh/h	450	449	428	450	0	430	159	0	747	450	0	807
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	31.9	33.5	33.6	30.0	0.0	32.3	35.7	0.0	21.4	33.6	0.0	15.8
Incr Delay (d2), s/veh	0.5	3.3	4.0	0.7	0.0	5.2	4.0	0.0	15.5	0.8	0.0	2.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	2.9	2.9	1.8	0.0	4.6	1.6	0.0	16.8	0.8	0.0	6.3
LnGrp Delay(d),s/veh	32.4	36.8	37.6	30.8	0.0	37.6	39.7	0.0	36.9	34.4	0.0	17.7
LnGrp LOS	C	D	D	C		D	D		D	C		B
Approach Vol, veh/h		301			293			737			420	
Approach Delay, s/veh		36.5			35.5			37.2			19.2	
Approach LOS		D			D			D			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	11.5	37.6		13.5	9.9	39.2		16.5
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5
Max Green Setting (Gmax), s	20.1	21.7		20.1	7.1	34.7		20.1
Max Q Clear Time (g_c+I1), s	13.6	29.6		7.8	4.9	13.6		11.1
Green Ext Time (p_c), s	0.0	0.0		1.2	0.0	7.5		0.9

Intersection Summary		
HCM 2010 Ctrl Delay	32.5	
HCM 2010 LOS	C	

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	234	965	208	99	567	85	231	393	184	111	242	119
Future Volume (veh/h)	234	965	208	99	567	85	231	393	184	111	242	119
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	244	1005	217	103	591	89	241	409	192	116	252	124
Adj No. of Lanes	1	2	0	1	2	0	1	1	1	1	1	1
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	251	858	185	131	705	106	251	668	685	146	557	698
Arrive On Green	0.14	0.30	0.30	0.07	0.23	0.23	0.14	0.36	0.36	0.08	0.30	0.30
Sat Flow, veh/h	1774	2898	624	1774	3087	464	1774	1863	1583	1774	1863	1583
Grp Volume(v), veh/h	244	613	609	103	338	342	241	409	192	116	252	124
Grp Sat Flow(s),veh/h/ln	1774	1770	1753	1774	1770	1781	1774	1863	1583	1774	1863	1583
Q Serve(g_s), s	13.0	28.2	28.2	5.4	17.4	17.5	12.9	17.2	7.5	6.1	10.4	4.5
Cycle Q Clear(g_c), s	13.0	28.2	28.2	5.4	17.4	17.5	12.9	17.2	7.5	6.1	10.4	4.5
Prop In Lane	1.00		0.36	1.00		0.26	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	251	524	519	131	404	407	251	668	685	146	557	698
V/C Ratio(X)	0.97	1.17	1.17	0.78	0.84	0.84	0.96	0.61	0.28	0.79	0.45	0.18
Avail Cap(c_a), veh/h	251	524	519	251	492	495	251	668	685	251	557	698
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	40.7	33.5	33.5	43.4	35.1	35.1	40.6	25.1	17.5	42.9	27.1	16.2
Incr Delay (d2), s/veh	48.4	95.1	97.0	9.8	10.2	10.4	45.2	4.2	1.0	9.3	2.6	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	9.8	27.5	27.5	3.0	9.6	9.7	9.5	9.6	3.5	3.4	5.8	2.1
LnGrp Delay(d),s/veh	89.1	128.6	130.5	53.2	45.3	45.5	85.8	29.3	18.5	52.2	29.7	16.7
LnGrp LOS	F	F	F	D	D	D	F	C	B	D	C	B
Approach Vol, veh/h		1466			783			842			492	
Approach Delay, s/veh		122.8			46.4			43.0			31.7	
Approach LOS		F			D			D			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.3	38.7	11.5	32.7	18.0	33.0	18.0	26.3
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	13.5	28.5	13.5	26.5	13.5	28.5	13.5	26.5
Max Q Clear Time (g_c+I1), s	9.1	19.2	7.4	30.2	14.9	12.4	15.0	19.5
Green Ext Time (p_c), s	0.1	3.6	0.1	0.0	0.0	4.8	0.0	2.3

Intersection Summary	
HCM 2010 Ctrl Delay	74.9
HCM 2010 LOS	E

HCM 2010 Signalized Intersection Summary
1: Heacock St & Ironwood Ave

Festival at Moreno Valley Mixed Use
Future (2035) With Project Weekday AM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	168	359	160	221	729	58	127	476	112	62	660	313
Future Volume (veh/h)	168	359	160	221	729	58	127	476	112	62	660	313
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	179	382	170	235	776	62	135	506	119	66	702	333
Adj No. of Lanes	1	2	1	1	2	0	1	2	1	1	2	1
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	214	877	392	262	914	73	168	1220	780	111	1105	685
Arrive On Green	0.12	0.25	0.25	0.15	0.28	0.28	0.09	0.34	0.34	0.06	0.31	0.31
Sat Flow, veh/h	1774	3539	1583	1774	3320	265	1774	3539	1583	1774	3539	1583
Grp Volume(v), veh/h	179	382	170	235	413	425	135	506	119	66	702	333
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	1770	1816	1774	1770	1583	1774	1770	1583
Q Serve(g_s), s	9.0	8.3	8.3	11.9	20.2	20.2	6.8	10.0	3.8	3.3	15.5	13.8
Cycle Q Clear(g_c), s	9.0	8.3	8.3	11.9	20.2	20.2	6.8	10.0	3.8	3.3	15.5	13.8
Prop In Lane	1.00		1.00	1.00		0.15	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	214	877	392	262	487	500	168	1220	780	111	1105	685
V/C Ratio(X)	0.84	0.44	0.43	0.90	0.85	0.85	0.80	0.41	0.15	0.60	0.64	0.49
Avail Cap(c_a), veh/h	262	1028	460	262	514	527	262	1220	780	262	1105	685
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	39.2	28.9	28.9	38.2	31.3	31.3	40.5	22.9	12.7	41.7	26.9	18.6
Incr Delay (d2), s/veh	17.5	0.3	0.8	30.0	12.2	12.0	9.5	1.0	0.4	5.1	2.8	2.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.5	4.1	3.7	8.0	11.5	11.8	3.8	5.0	1.7	1.8	8.0	6.5
LnGrp Delay(d),s/veh	56.8	29.3	29.7	68.2	43.5	43.3	50.0	23.9	13.1	46.7	29.7	21.0
LnGrp LOS	E	C	C	E	D	D	D	C	B	D	C	C
Approach Vol, veh/h		731			1073			760			1101	
Approach Delay, s/veh		36.1			48.8			26.8			28.1	
Approach LOS		D			D			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.2	36.0	18.0	27.1	13.1	33.0	15.5	29.6
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	13.5	28.5	13.5	26.5	13.5	28.5	13.5	26.5
Max Q Clear Time (g_c+I1), s	5.3	12.0	13.9	10.3	8.8	17.5	11.0	22.2
Green Ext Time (p_c), s	0.1	8.6	0.0	7.8	0.1	6.6	0.1	2.9

Intersection Summary	
HCM 2010 Ctrl Delay	35.5
HCM 2010 LOS	D

Intersection	
Int Delay, s/veh	0.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	9	705	0	0	1041
Future Vol, veh/h	0	9	705	0	0	1041
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	10	750	0	0	1107

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1304	375	0	0	750	0
Stage 1	750	-	-	-	-	-
Stage 2	554	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	152	623	-	-	855	-
Stage 1	427	-	-	-	-	-
Stage 2	539	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	152	623	-	-	855	-
Mov Cap-2 Maneuver	285	-	-	-	-	-
Stage 1	427	-	-	-	-	-
Stage 2	539	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.9	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	623	855	-
HCM Lane V/C Ratio	-	-	0.015	-	-
HCM Control Delay (s)	-	-	10.9	0	-
HCM Lane LOS	-	-	B	A	-
HCM 95th %tile Q(veh)	-	-	0	0	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	49	60	132	60	79	9	109	672	98	16	1012	41
Future Volume (veh/h)	49	60	132	60	79	9	109	672	98	16	1012	41
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	51	62	136	62	81	9	112	693	101	16	1043	42
Adj No. of Lanes	1	1	0	1	1	1	1	2	1	1	2	1
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	112	85	187	125	319	271	159	1689	756	48	1466	656
Arrive On Green	0.06	0.16	0.16	0.07	0.17	0.17	0.09	0.48	0.48	0.03	0.41	0.41
Sat Flow, veh/h	1774	520	1141	1774	1863	1583	1774	3539	1583	1774	3539	1583
Grp Volume(v), veh/h	51	0	198	62	81	9	112	693	101	16	1043	42
Grp Sat Flow(s),veh/h/ln	1774	0	1661	1774	1863	1583	1774	1770	1583	1774	1770	1583
Q Serve(g_s), s	1.9	0.0	7.8	2.3	2.6	0.3	4.2	8.8	2.5	0.6	16.8	1.1
Cycle Q Clear(g_c), s	1.9	0.0	7.8	2.3	2.6	0.3	4.2	8.8	2.5	0.6	16.8	1.1
Prop In Lane	1.00		0.69	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	112	0	272	125	319	271	159	1689	756	48	1466	656
V/C Ratio(X)	0.45	0.00	0.73	0.49	0.25	0.03	0.70	0.41	0.13	0.34	0.71	0.06
Avail Cap(c_a), veh/h	348	0	640	348	717	610	348	1689	756	348	1466	656
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	31.1	0.0	27.3	30.8	24.7	23.8	30.4	11.7	10.0	32.9	16.7	12.1
Incr Delay (d2), s/veh	2.8	0.0	3.7	3.0	0.4	0.0	5.6	0.7	0.4	4.1	3.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	0.0	3.9	1.2	1.4	0.1	2.3	4.4	1.1	0.4	8.7	0.5
LnGrp Delay(d),s/veh	33.9	0.0	31.0	33.8	25.1	23.8	36.0	12.4	10.4	37.0	19.7	12.3
LnGrp LOS	C		C	C	C	C	D	B	B	D	B	B
Approach Vol, veh/h		249			152			906			1101	
Approach Delay, s/veh		31.6			28.6			15.1			19.7	
Approach LOS		C			C			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	6.3	37.3	9.4	15.8	10.7	33.0	8.9	16.3
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	13.5	28.5	13.5	26.5	13.5	28.5	13.5	26.5
Max Q Clear Time (g_c+I1), s	2.6	10.8	4.3	9.8	6.2	18.8	3.9	4.6
Green Ext Time (p_c), s	0.0	11.5	0.1	1.5	0.1	7.2	0.1	1.7

Intersection Summary	
HCM 2010 Ctrl Delay	19.8
HCM 2010 LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	302	4	190	307	688	0	0	861	346
Future Volume (veh/h)	0	0	0	302	4	190	307	688	0	0	861	346
Number				3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln				1900	1863	1863	1863	1863	0	0	1863	1900
Adj Flow Rate, veh/h				315	4	198	320	717	0	0	897	360
Adj No. of Lanes				0	1	1	1	2	0	0	2	0
Peak Hour Factor				0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %				2	2	2	2	2	0	0	2	2
Cap, veh/h				391	5	353	360	2376	0	0	1026	410
Arrive On Green				0.22	0.22	0.22	0.20	0.67	0.00	0.00	0.42	0.42
Sat Flow, veh/h				1753	22	1583	1774	3632	0	0	2565	986
Grp Volume(v), veh/h				319	0	198	320	717	0	0	641	616
Grp Sat Flow(s),veh/h/ln				1775	0	1583	1774	1770	0	0	1770	1689
Q Serve(g_s), s				14.5	0.0	9.4	14.9	7.1	0.0	0.0	28.2	28.6
Cycle Q Clear(g_c), s				14.5	0.0	9.4	14.9	7.1	0.0	0.0	28.2	28.6
Prop In Lane				0.99		1.00	1.00		0.00	0.00		0.58
Lane Grp Cap(c), veh/h				396	0	353	360	2376	0	0	735	701
V/C Ratio(X)				0.81	0.00	0.56	0.89	0.30	0.00	0.00	0.87	0.88
Avail Cap(c_a), veh/h				708	0	631	436	2376	0	0	735	701
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				31.3	0.0	29.4	32.9	5.8	0.0	0.0	22.8	22.9
Incr Delay (d2), s/veh				3.9	0.0	1.4	17.2	0.3	0.0	0.0	13.5	14.7
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				7.5	0.0	4.3	9.0	3.5	0.0	0.0	16.5	16.0
LnGrp Delay(d),s/veh				35.2	0.0	30.8	50.1	6.1	0.0	0.0	36.3	37.6
LnGrp LOS				D		C	D	A			D	D
Approach Vol, veh/h					517			1037			1257	
Approach Delay, s/veh					33.5			19.7			36.9	
Approach LOS					C			B			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2			5	6		8
Phs Duration (G+Y+Rc), s		61.6			21.8	39.8		23.5
Change Period (Y+Rc), s		4.5			4.5	4.5		4.5
Max Green Setting (Gmax), s		57.1			20.9	31.7		33.9
Max Q Clear Time (g_c+I1), s		9.1			16.9	30.6		16.5
Green Ext Time (p_c), s		21.9			0.4	1.0		2.5

Intersection Summary		
HCM 2010 Ctrl Delay		29.9
HCM 2010 LOS		C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	287	4	526	0	0	0	0	700	155	177	991	0
Future Volume (veh/h)	287	4	526	0	0	0	0	700	155	177	991	0
Number	7	4	14				5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863				0	1863	1900	1863	1863	0
Adj Flow Rate, veh/h	296	0	537				0	714	158	181	1011	0
Adj No. of Lanes	2	0	1				0	3	0	1	2	0
Peak Hour Factor	0.98	0.98	0.98				0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Cap, veh/h	1061	0	473				0	1847	404	220	2162	0
Arrive On Green	0.30	0.00	0.30				0.00	0.44	0.44	0.12	0.61	0.00
Sat Flow, veh/h	3548	0	1583				0	4345	914	1774	3632	0
Grp Volume(v), veh/h	296	0	537				0	578	294	181	1011	0
Grp Sat Flow(s),veh/h/ln	1774	0	1583				0	1695	1701	1774	1770	0
Q Serve(g_s), s	6.4	0.0	29.9				0.0	11.5	11.7	10.0	15.6	0.0
Cycle Q Clear(g_c), s	6.4	0.0	29.9				0.0	11.5	11.7	10.0	15.6	0.0
Prop In Lane	1.00		1.00				0.00		0.54	1.00		0.00
Lane Grp Cap(c), veh/h	1061	0	473				0	1499	752	220	2162	0
V/C Ratio(X)	0.28	0.00	1.13				0.00	0.39	0.39	0.82	0.47	0.00
Avail Cap(c_a), veh/h	1061	0	473				0	1499	752	530	2162	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	26.8	0.0	35.0				0.0	18.8	18.8	42.7	10.6	0.0
Incr Delay (d2), s/veh	0.1	0.0	83.6				0.0	0.2	0.3	7.5	0.7	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.1	0.0	24.0				0.0	5.4	5.5	5.3	7.8	0.0
LnGrp Delay(d),s/veh	26.9	0.0	118.7				0.0	18.9	19.1	50.3	11.3	0.0
LnGrp LOS	C		F					B	B	D	B	
Approach Vol, veh/h		833						872			1192	
Approach Delay, s/veh		86.1						19.0			17.2	
Approach LOS		F						B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4		6		
Phs Duration (G+Y+Rc), s	16.9	48.7		34.4		65.6		
Change Period (Y+Rc), s	4.5	4.5		4.5		4.5		
Max Green Setting (Gmax), s	29.9	26.7		29.9		61.1		
Max Q Clear Time (g_c+I1), s	12.0	13.7		31.9		17.6		
Green Ext Time (p_c), s	0.4	9.3		0.0		19.6		

Intersection Summary	
HCM 2010 Ctrl Delay	37.6
HCM 2010 LOS	D

Notes

User approved volume balancing among the lanes for turning movement.

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	173	1	0	295	0	0	0	1	0	0	0
Future Vol, veh/h	0	173	1	0	295	0	0	0	1	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	91	91	91	91	91	91	91	91	91	91	91	91
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	190	1	0	324	0	0	0	1	0	0	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	324	0	0	191	0	0	353	515	96	419	515	162
Stage 1	-	-	-	-	-	-	191	191	-	324	324	-
Stage 2	-	-	-	-	-	-	162	324	-	95	191	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	1233	-	-	1380	-	-	577	462	942	518	462	854
Stage 1	-	-	-	-	-	-	792	741	-	662	648	-
Stage 2	-	-	-	-	-	-	824	648	-	901	741	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1233	-	-	1380	-	-	577	462	942	517	462	854
Mov Cap-2 Maneuver	-	-	-	-	-	-	577	462	-	517	462	-
Stage 1	-	-	-	-	-	-	792	741	-	662	648	-
Stage 2	-	-	-	-	-	-	824	648	-	900	741	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0	8.8	0
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	942	1233	-	-	1380	-	-	-
HCM Lane V/C Ratio	0.001	-	-	-	-	-	-	-
HCM Control Delay (s)	8.8	0	-	-	0	-	-	0
HCM Lane LOS	A	A	-	-	A	-	-	A
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	-

Intersection	
Int Delay, s/veh	3.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	105	222	42	3	213	5	28	0	3	4	0	57
Future Vol, veh/h	105	222	42	3	213	5	28	0	3	4	0	57
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	180	-	-	0	-	-	-	-	-	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	86	86	86	86	86	86	86	86	86	86	86	86
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	122	258	49	3	248	6	33	0	3	5	0	66

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	253	0	0	307	0	0	785	787	153	631	809	251
Stage 1	-	-	-	-	-	-	527	527	-	258	258	-
Stage 2	-	-	-	-	-	-	258	260	-	373	551	-
Critical Hdwy	4.13	-	-	4.13	-	-	7.33	6.53	6.93	7.33	6.53	6.23
Critical Hdwy Stg 1	-	-	-	-	-	-	6.53	5.53	-	6.13	5.53	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.13	5.53	-	6.53	5.53	-
Follow-up Hdwy	2.219	-	-	2.219	-	-	3.519	4.019	3.319	3.519	4.019	3.319
Pot Cap-1 Maneuver	1311	-	-	1252	-	-	296	323	866	379	314	787
Stage 1	-	-	-	-	-	-	503	527	-	746	694	-
Stage 2	-	-	-	-	-	-	746	692	-	621	514	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1311	-	-	1252	-	-	251	292	866	350	284	787
Mov Cap-2 Maneuver	-	-	-	-	-	-	251	292	-	350	284	-
Stage 1	-	-	-	-	-	-	456	478	-	677	692	-
Stage 2	-	-	-	-	-	-	682	690	-	561	466	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	2.3	0.1	20.4	10.4
HCM LOS			C	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	270	1311	-	-	1252	-	-	350	787
HCM Lane V/C Ratio	0.134	0.093	-	-	0.003	-	-	0.013	0.084
HCM Control Delay (s)	20.4	8	-	-	7.9	-	-	15.4	10
HCM Lane LOS	C	A	-	-	A	-	-	C	B
HCM 95th %tile Q(veh)	0.5	0.3	-	-	0	-	-	0	0.3

Intersection	
Int Delay, s/veh	0.5

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	21	207	214	4	0	5
Future Vol, veh/h	21	207	214	4	0	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	84	84	84	84	84	84
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	25	246	255	5	0	6

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	260	0	-	0	553	257
Stage 1	-	-	-	-	257	-
Stage 2	-	-	-	-	296	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1304	-	-	-	494	782
Stage 1	-	-	-	-	786	-
Stage 2	-	-	-	-	755	-
Platoon blocked, %			-	-	-	
Mov Cap-1 Maneuver	1304	-	-	-	483	782
Mov Cap-2 Maneuver	-	-	-	-	567	-
Stage 1	-	-	-	-	786	-
Stage 2	-	-	-	-	738	-

Approach	EB	WB	SB
HCM Control Delay, s	0.7	0	9.6
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1304	-	-	-	782
HCM Lane V/C Ratio	0.019	-	-	-	0.008
HCM Control Delay (s)	7.8	0	-	-	9.6
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0.1	-	-	-	0

Intersection	
Int Delay, s/veh	2.9

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	88	120	166	41	18	53
Future Vol, veh/h	88	120	166	41	18	53
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	98	133	184	46	20	59

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	230	0	-	0	536	207
Stage 1	-	-	-	-	207	-
Stage 2	-	-	-	-	329	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1338	-	-	-	505	833
Stage 1	-	-	-	-	828	-
Stage 2	-	-	-	-	729	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1338	-	-	-	465	833
Mov Cap-2 Maneuver	-	-	-	-	544	-
Stage 1	-	-	-	-	828	-
Stage 2	-	-	-	-	671	-

Approach	EB	WB	SB
HCM Control Delay, s	3.3	0	10.5
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1338	-	-	-	734
HCM Lane V/C Ratio	0.073	-	-	-	0.107
HCM Control Delay (s)	7.9	-	-	-	10.5
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0.2	-	-	-	0.4

Intersection	
Int Delay, s/veh	1.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	2	133	3	22	200	32	3	0	15	16	0	3
Future Vol, veh/h	2	133	3	22	200	32	3	0	15	16	0	3
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	86	86	86	86	86	86	86	86	86	86	86	86
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	2	155	3	26	233	37	3	0	17	19	0	3

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	270	0	0	158	0	0	465	482	156	472	465	251
Stage 1	-	-	-	-	-	-	161	161	-	302	302	-
Stage 2	-	-	-	-	-	-	304	321	-	170	163	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1293	-	-	1422	-	-	508	484	890	502	495	788
Stage 1	-	-	-	-	-	-	841	765	-	707	664	-
Stage 2	-	-	-	-	-	-	705	652	-	832	763	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1293	-	-	1422	-	-	497	472	890	483	483	788
Mov Cap-2 Maneuver	-	-	-	-	-	-	497	472	-	483	483	-
Stage 1	-	-	-	-	-	-	839	763	-	706	649	-
Stage 2	-	-	-	-	-	-	686	638	-	814	761	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	0.7	9.7	12.3
HCM LOS			A	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	786	1293	-	-	1422	-	-	514
HCM Lane V/C Ratio	0.027	0.002	-	-	0.018	-	-	0.043
HCM Control Delay (s)	9.7	7.8	0	-	7.6	0	-	12.3
HCM Lane LOS	A	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.1	0	-	-	0.1	-	-	0.1

Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑	↱			↱
Traffic Vol, veh/h	0	164	175	4	0	6
Future Vol, veh/h	0	164	175	4	0	6
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	87	87	87	87	87	87
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	189	201	5	0	7

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	-	203
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.318
Pot Cap-1 Maneuver	0	-	-	-	0	838
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	838
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	9.3
HCM LOS			A

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	838
HCM Lane V/C Ratio	-	-	-	0.008
HCM Control Delay (s)	-	-	-	9.3
HCM Lane LOS	-	-	-	A
HCM 95th %tile Q(veh)	-	-	-	0

HCM 2010 Signalized Intersection Summary
12: Driveway/Davis St & Ironwood Ave

Festival at Moreno Valley Mixed Use
Future (2035) With Project Weekday AM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	71	479	11	11	912	213	7	0	7	164	0	109
Future Volume (veh/h)	71	479	11	11	912	213	7	0	7	164	0	109
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1900	1863	1900	1900	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	81	544	12	12	1036	242	8	0	8	186	0	124
Adj No. of Lanes	1	2	0	0	2	0	0	1	0	1	1	0
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	83	1757	39	39	1132	262	311	16	276	658	0	665
Arrive On Green	0.05	0.50	0.50	0.41	0.41	0.41	0.42	0.00	0.42	0.42	0.00	0.42
Sat Flow, veh/h	1774	3541	78	12	2776	642	620	38	658	1402	0	1583
Grp Volume(v), veh/h	81	272	284	693	0	597	16	0	0	186	0	124
Grp Sat Flow(s),veh/h/ln	1774	1770	1849	1848	0	1582	1316	0	0	1402	0	1583
Q Serve(g_s), s	4.9	9.8	9.8	11.3	0.0	38.5	0.0	0.0	0.0	4.0	0.0	5.3
Cycle Q Clear(g_c), s	4.9	9.8	9.8	38.0	0.0	38.5	5.3	0.0	0.0	9.3	0.0	5.3
Prop In Lane	1.00		0.04	0.02		0.41	0.50		0.50	1.00		1.00
Lane Grp Cap(c), veh/h	83	878	918	787	0	645	603	0	0	658	0	665
V/C Ratio(X)	0.98	0.31	0.31	0.88	0.00	0.93	0.03	0.00	0.00	0.28	0.00	0.19
Avail Cap(c_a), veh/h	83	878	918	827	0	679	603	0	0	658	0	665
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	51.0	16.1	16.1	30.0	0.0	30.2	18.3	0.0	0.0	20.7	0.0	19.6
Incr Delay (d2), s/veh	91.6	0.2	0.2	10.5	0.0	18.2	0.1	0.0	0.0	1.1	0.0	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.5	4.8	5.0	21.6	0.0	20.0	0.3	0.0	0.0	3.9	0.0	2.4
LnGrp Delay(d),s/veh	142.7	16.3	16.3	40.5	0.0	48.4	18.3	0.0	0.0	21.8	0.0	20.2
LnGrp LOS	F	B	B	D		D	B			C		C
Approach Vol, veh/h		637			1290			16			310	
Approach Delay, s/veh		32.3			44.2			18.3			21.2	
Approach LOS		C			D			B			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6	7	8
Phs Duration (G+Y+Rc), s		49.5		57.7		49.5	9.5	48.2
Change Period (Y+Rc), s		4.5		4.5		4.5	4.5	4.5
Max Green Setting (Gmax), s		45.0		46.0		45.0	5.0	46.0
Max Q Clear Time (g_c+I1), s		7.3		11.8		11.3	6.9	40.5
Green Ext Time (p_c), s		1.5		17.4		1.4	0.0	3.2

Intersection Summary	
HCM 2010 Ctrl Delay	37.5
HCM 2010 LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	37	449	164	260	824	139	170	252	111	133	203	115
Future Volume (veh/h)	37	449	164	260	824	139	170	252	111	133	203	115
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	44	535	195	310	981	165	202	300	132	158	242	137
Adj No. of Lanes	1	2	0	1	2	0	1	1	1	1	1	1
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	89	612	222	250	1004	169	235	601	511	191	555	472
Arrive On Green	0.05	0.24	0.24	0.14	0.33	0.33	0.13	0.32	0.32	0.11	0.30	0.30
Sat Flow, veh/h	1774	2545	924	1774	3033	510	1774	1863	1583	1774	1863	1583
Grp Volume(v), veh/h	44	371	359	310	572	574	202	300	132	158	242	137
Grp Sat Flow(s),veh/h/ln	1774	1770	1700	1774	1770	1773	1774	1863	1583	1774	1863	1583
Q Serve(g_s), s	2.3	19.3	19.4	13.5	30.6	30.6	10.7	12.4	5.9	8.3	10.0	6.4
Cycle Q Clear(g_c), s	2.3	19.3	19.4	13.5	30.6	30.6	10.7	12.4	5.9	8.3	10.0	6.4
Prop In Lane	1.00		0.54	1.00		0.29	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	89	425	409	250	586	587	235	601	511	191	555	472
V/C Ratio(X)	0.49	0.87	0.88	1.24	0.98	0.98	0.86	0.50	0.26	0.83	0.44	0.29
Avail Cap(c_a), veh/h	250	490	471	250	586	587	250	601	511	250	555	472
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	44.2	34.9	35.0	41.1	31.6	31.6	40.6	26.2	23.9	41.8	27.1	25.8
Incr Delay (d2), s/veh	4.1	14.4	15.5	136.5	31.1	31.5	23.9	2.9	1.2	15.8	2.5	1.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	11.1	10.8	16.0	20.0	20.1	6.8	6.9	2.7	4.9	5.6	3.0
LnGrp Delay(d),s/veh	48.3	49.3	50.4	177.5	62.7	63.1	64.5	29.1	25.2	57.6	29.6	27.4
LnGrp LOS	D	D	D	F	E	E	E	C	C	E	C	C
Approach Vol, veh/h		774			1456			634			537	
Approach Delay, s/veh		49.8			87.3			39.6			37.2	
Approach LOS		D			F			D			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	14.8	35.4	18.0	27.5	17.2	33.0	9.3	36.2
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	13.5	28.5	13.5	26.5	13.5	28.5	13.5	26.5
Max Q Clear Time (g_c+I1), s	10.3	14.4	15.5	21.4	12.7	12.0	4.3	32.6
Green Ext Time (p_c), s	0.1	3.6	0.0	1.6	0.0	3.9	0.0	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	62.0
HCM 2010 LOS	E

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	77	34	96	86	109	46	400	94	83	529	21
Future Volume (veh/h)	0	77	34	96	86	109	46	400	94	83	529	21
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	0	96	42	120	108	136	58	500	118	104	661	26
Adj No. of Lanes	1	2	0	1	1	0	1	1	0	1	1	0
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	151	207	86	315	133	168	114	610	144	159	790	31
Arrive On Green	0.00	0.09	0.09	0.18	0.18	0.18	0.06	0.42	0.42	0.09	0.44	0.44
Sat Flow, veh/h	1774	2441	1013	1774	751	945	1774	1458	344	1774	1780	70
Grp Volume(v), veh/h	0	68	70	120	0	244	58	0	618	104	0	687
Grp Sat Flow(s),veh/h/ln	1774	1770	1684	1774	0	1696	1774	0	1802	1774	0	1850
Q Serve(g_s), s	0.0	2.9	3.1	4.7	0.0	10.8	2.5	0.0	23.8	4.4	0.0	25.7
Cycle Q Clear(g_c), s	0.0	2.9	3.1	4.7	0.0	10.8	2.5	0.0	23.8	4.4	0.0	25.7
Prop In Lane	1.00		0.60	1.00		0.56	1.00		0.19	1.00		0.04
Lane Grp Cap(c), veh/h	151	150	143	315	0	301	114	0	753	159	0	821
V/C Ratio(X)	0.00	0.45	0.49	0.38	0.00	0.81	0.51	0.00	0.82	0.66	0.00	0.84
Avail Cap(c_a), veh/h	456	455	433	456	0	436	161	0	753	456	0	821
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	34.1	34.2	28.4	0.0	30.9	35.4	0.0	20.2	34.5	0.0	19.3
Incr Delay (d2), s/veh	0.0	2.1	2.6	0.8	0.0	7.3	3.5	0.0	9.7	4.5	0.0	9.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	1.5	1.5	2.3	0.0	5.7	1.3	0.0	13.7	2.4	0.0	15.2
LnGrp Delay(d),s/veh	0.0	36.2	36.7	29.2	0.0	38.3	38.9	0.0	29.9	39.0	0.0	29.2
LnGrp LOS		D	D	C		D	D		C	D		C
Approach Vol, veh/h		138			364			676			791	
Approach Delay, s/veh		36.5			35.3			30.7			30.5	
Approach LOS		D			D			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	11.5	37.2		11.2	9.5	39.2		18.4
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5
Max Green Setting (Gmax), s	20.1	21.7		20.1	7.1	34.7		20.1
Max Q Clear Time (g_c+I1), s	6.4	25.8		5.1	4.5	27.7		12.8
Green Ext Time (p_c), s	0.2	0.0		0.6	0.0	4.5		1.1

Intersection Summary	
HCM 2010 Ctrl Delay	31.9
HCM 2010 LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	100	404	167	40	462	59	172	369	124	102	398	152
Future Volume (veh/h)	100	404	167	40	462	59	172	369	124	102	398	152
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	112	454	188	45	519	66	193	415	139	115	447	171
Adj No. of Lanes	1	2	0	1	2	0	1	1	1	1	1	1
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	143	659	271	96	766	97	230	712	691	147	625	659
Arrive On Green	0.08	0.27	0.27	0.05	0.24	0.24	0.13	0.38	0.38	0.08	0.34	0.34
Sat Flow, veh/h	1774	2449	1006	1774	3161	401	1774	1863	1583	1774	1863	1583
Grp Volume(v), veh/h	112	327	315	45	290	295	193	415	139	115	447	171
Grp Sat Flow(s),veh/h/ln	1774	1770	1685	1774	1770	1792	1774	1863	1583	1774	1863	1583
Q Serve(g_s), s	5.3	14.1	14.3	2.1	12.6	12.7	9.0	15.0	4.6	5.4	17.8	6.0
Cycle Q Clear(g_c), s	5.3	14.1	14.3	2.1	12.6	12.7	9.0	15.0	4.6	5.4	17.8	6.0
Prop In Lane	1.00		0.60	1.00		0.22	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	143	476	454	96	429	434	230	712	691	147	625	659
V/C Ratio(X)	0.78	0.69	0.69	0.47	0.68	0.68	0.84	0.58	0.20	0.78	0.72	0.26
Avail Cap(c_a), veh/h	282	552	525	282	552	559	282	712	691	282	625	659
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	38.3	27.8	27.9	39.0	29.2	29.2	36.1	20.9	14.8	38.2	24.7	16.2
Incr Delay (d2), s/veh	8.9	2.9	3.3	3.6	2.2	2.3	16.6	3.5	0.7	8.8	6.9	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.9	7.3	7.1	1.1	6.4	6.5	5.5	8.4	2.1	3.0	10.4	2.8
LnGrp Delay(d),s/veh	47.3	30.8	31.2	42.6	31.4	31.5	52.7	24.3	15.5	47.1	31.6	17.2
LnGrp LOS	D	C	C	D	C	C	D	C	B	D	C	B
Approach Vol, veh/h		754			630			747			733	
Approach Delay, s/veh		33.4			32.2			30.0			30.7	
Approach LOS		C			C			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.5	37.0	9.1	27.4	15.5	33.0	11.4	25.1
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	13.5	28.5	13.5	26.5	13.5	28.5	13.5	26.5
Max Q Clear Time (g_c+I1), s	7.4	17.0	4.1	16.3	11.0	19.8	7.3	14.7
Green Ext Time (p_c), s	0.1	5.1	0.0	5.4	0.1	4.2	0.1	5.9

Intersection Summary	
HCM 2010 Ctrl Delay	31.6
HCM 2010 LOS	C

HCM 2010 Signalized Intersection Summary
1: Heacock St & Ironwood Ave

Festival at Moreno Valley Mixed Use
Future (2035) With-Project Weekday PM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	267	850	181	137	508	60	182	708	195	79	549	216
Future Volume (veh/h)	267	850	181	137	508	60	182	708	195	79	549	216
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	272	867	185	140	518	61	186	722	199	81	560	220
Adj No. of Lanes	1	2	1	1	2	0	1	2	1	1	2	1
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	255	1007	450	173	760	89	220	1279	726	116	1072	707
Arrive On Green	0.14	0.28	0.28	0.10	0.24	0.24	0.12	0.36	0.36	0.07	0.30	0.30
Sat Flow, veh/h	1774	3539	1583	1774	3192	375	1774	3539	1583	1774	3539	1583
Grp Volume(v), veh/h	272	867	185	140	286	293	186	722	199	81	560	220
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	1770	1797	1774	1770	1583	1774	1770	1583
Q Serve(g_s), s	13.5	21.8	8.9	7.3	13.8	13.9	9.7	15.4	7.3	4.2	12.3	8.4
Cycle Q Clear(g_c), s	13.5	21.8	8.9	7.3	13.8	13.9	9.7	15.4	7.3	4.2	12.3	8.4
Prop In Lane	1.00		1.00	1.00		0.21	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	255	1007	450	173	422	428	220	1279	726	116	1072	707
V/C Ratio(X)	1.07	0.86	0.41	0.81	0.68	0.68	0.85	0.56	0.27	0.70	0.52	0.31
Avail Cap(c_a), veh/h	255	1007	450	255	499	506	255	1279	726	255	1072	707
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	40.3	31.9	27.3	41.6	32.6	32.6	40.3	24.1	15.8	43.0	27.1	16.7
Incr Delay (d2), s/veh	75.6	7.7	0.6	11.6	3.0	3.0	20.2	1.8	0.9	7.3	1.8	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	11.9	11.7	3.9	4.1	7.1	7.3	6.0	7.8	3.4	2.3	6.3	3.9
LnGrp Delay(d),s/veh	115.9	39.6	27.9	53.2	35.5	35.6	60.5	25.9	16.7	50.4	29.0	17.9
LnGrp LOS	F	D	C	D	D	D	E	C	B	D	C	B
Approach Vol, veh/h		1324			719			1107			861	
Approach Delay, s/veh		53.7			39.0			30.1			28.1	
Approach LOS		D			D			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.7	38.5	13.7	31.3	16.1	33.0	18.0	26.9
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	13.5	28.5	13.5	26.5	13.5	28.5	13.5	26.5
Max Q Clear Time (g_c+I1), s	6.2	17.4	9.3	23.8	11.7	14.3	15.5	15.9
Green Ext Time (p_c), s	0.1	6.9	0.1	2.1	0.1	8.2	0.0	6.5

Intersection Summary	
HCM 2010 Ctrl Delay	39.0
HCM 2010 LOS	D

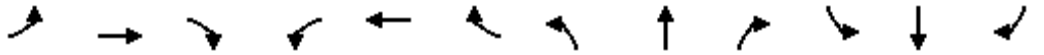
Intersection	
Int Delay, s/veh	0.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	38	1047	0	0	866
Future Vol, veh/h	0	38	1047	0	0	866
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	98	98	98	98	98	98
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	39	1068	0	0	884

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1421	534	0	0	1068	0
Stage 1	1068	-	-	-	-	-
Stage 2	353	-	-	-	-	-
Critical Hdwy	6.29	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	6.04	-	-	-	-	-
Follow-up Hdwy	3.67	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	155	491	-	-	648	-
Stage 1	285	-	-	-	-	-
Stage 2	646	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	155	491	-	-	648	-
Mov Cap-2 Maneuver	155	-	-	-	-	-
Stage 1	285	-	-	-	-	-
Stage 2	646	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	13	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	491	648	-
HCM Lane V/C Ratio	-	-	0.079	-	-
HCM Control Delay (s)	-	-	13	0	-
HCM Lane LOS	-	-	B	A	-
HCM 95th %tile Q(veh)	-	-	0.3	0	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	91	160	259	258	112	26	162	981	261	47	806	44
Future Volume (veh/h)	91	160	259	258	112	26	162	981	261	47	806	44
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	92	162	262	261	113	26	164	991	264	47	814	44
Adj No. of Lanes	1	1	0	1	1	1	1	2	1	1	2	1
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	118	173	279	247	637	542	197	1251	560	92	1042	466
Arrive On Green	0.07	0.27	0.27	0.14	0.34	0.34	0.11	0.35	0.35	0.05	0.29	0.29
Sat Flow, veh/h	1774	642	1038	1774	1863	1583	1774	3539	1583	1774	3539	1583
Grp Volume(v), veh/h	92	0	424	261	113	26	164	991	264	47	814	44
Grp Sat Flow(s),veh/h/ln	1774	0	1680	1774	1863	1583	1774	1770	1583	1774	1770	1583
Q Serve(g_s), s	4.9	0.0	23.9	13.5	4.1	1.1	8.8	24.3	12.5	2.5	20.4	2.0
Cycle Q Clear(g_c), s	4.9	0.0	23.9	13.5	4.1	1.1	8.8	24.3	12.5	2.5	20.4	2.0
Prop In Lane	1.00		0.62	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	118	0	452	247	637	542	197	1251	560	92	1042	466
V/C Ratio(X)	0.78	0.00	0.94	1.06	0.18	0.05	0.83	0.79	0.47	0.51	0.78	0.09
Avail Cap(c_a), veh/h	247	0	460	247	637	542	247	1251	560	247	1042	466
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	44.5	0.0	34.6	41.7	22.3	21.3	42.2	28.1	24.3	44.7	31.3	24.8
Incr Delay (d2), s/veh	10.5	0.0	26.8	72.4	0.1	0.0	17.5	5.2	2.8	4.3	5.8	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.8	0.0	14.4	11.5	2.1	0.5	5.2	12.7	5.9	1.3	10.8	0.9
LnGrp Delay(d),s/veh	55.0	0.0	61.4	114.1	22.4	21.3	59.6	33.3	27.1	49.0	37.1	25.2
LnGrp LOS	D		E	F	C	C	E	C	C	D	D	C
Approach Vol, veh/h		516			400			1419			905	
Approach Delay, s/veh		60.3			82.2			35.2			37.2	
Approach LOS		E			F			D			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.5	38.7	18.0	30.6	15.2	33.0	10.9	37.6
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	13.5	28.5	13.5	26.5	13.5	28.5	13.5	26.5
Max Q Clear Time (g_c+I1), s	4.5	26.3	15.5	25.9	10.8	22.4	6.9	6.1
Green Ext Time (p_c), s	0.0	1.9	0.0	0.2	0.1	5.1	0.1	3.6

Intersection Summary	
HCM 2010 Ctrl Delay	45.5
HCM 2010 LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	242	4	245	377	1167	0	0	960	367
Future Volume (veh/h)	0	0	0	242	4	245	377	1167	0	0	960	367
Number				3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln				1900	1863	1863	1863	1863	0	0	1863	1900
Adj Flow Rate, veh/h				252	4	255	393	1216	0	0	1000	382
Adj No. of Lanes				0	1	1	1	2	0	0	2	0
Peak Hour Factor				0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %				2	2	2	2	2	0	0	2	2
Cap, veh/h				358	6	324	429	2431	0	0	984	372
Arrive On Green				0.20	0.20	0.20	0.24	0.69	0.00	0.00	0.39	0.39
Sat Flow, veh/h				1748	28	1583	1774	3632	0	0	2608	950
Grp Volume(v), veh/h				256	0	255	393	1216	0	0	700	682
Grp Sat Flow(s),veh/h/ln				1775	0	1583	1774	1770	0	0	1770	1695
Q Serve(g_s), s				11.1	0.0	12.7	17.9	13.6	0.0	0.0	32.5	32.5
Cycle Q Clear(g_c), s				11.1	0.0	12.7	17.9	13.6	0.0	0.0	32.5	32.5
Prop In Lane				0.98		1.00	1.00		0.00	0.00		0.56
Lane Grp Cap(c), veh/h				364	0	324	429	2431	0	0	692	663
V/C Ratio(X)				0.70	0.00	0.79	0.92	0.50	0.00	0.00	1.01	1.03
Avail Cap(c_a), veh/h				724	0	646	446	2431	0	0	692	663
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				30.7	0.0	31.3	30.7	6.2	0.0	0.0	25.3	25.3
Incr Delay (d2), s/veh				2.5	0.0	4.2	23.3	0.7	0.0	0.0	37.1	42.3
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				5.7	0.0	5.9	11.5	6.8	0.0	0.0	22.9	22.9
LnGrp Delay(d),s/veh				33.2	0.0	35.5	54.0	6.9	0.0	0.0	62.5	67.6
LnGrp LOS				C		D	D	A			F	F
Approach Vol, veh/h					511			1609			1382	
Approach Delay, s/veh					34.4			18.4			65.0	
Approach LOS					C			B			E	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2			5	6		8
Phs Duration (G+Y+Rc), s		61.6			24.6	37.0		21.5
Change Period (Y+Rc), s		4.5			4.5	4.5		4.5
Max Green Setting (Gmax), s		57.1			20.9	31.7		33.9
Max Q Clear Time (g_c+I1), s		15.6			19.9	34.5		14.7
Green Ext Time (p_c), s		29.5			0.1	0.0		2.3

Intersection Summary		
HCM 2010 Ctrl Delay		39.1
HCM 2010 LOS		D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	562	3	354	0	0	0	0	992	322	262	946	0
Future Volume (veh/h)	562	3	354	0	0	0	0	992	322	262	946	0
Number	7	4	14				5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863				0	1863	1900	1863	1863	0
Adj Flow Rate, veh/h	587	0	369				0	1033	335	273	985	0
Adj No. of Lanes	2	0	1				0	3	0	1	2	0
Peak Hour Factor	0.96	0.96	0.96				0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Cap, veh/h	946	0	422				0	1577	511	315	2262	0
Arrive On Green	0.27	0.00	0.27				0.00	0.41	0.41	0.18	0.64	0.00
Sat Flow, veh/h	3548	0	1583				0	3970	1233	1774	3632	0
Grp Volume(v), veh/h	587	0	369				0	921	447	273	985	0
Grp Sat Flow(s),veh/h/ln	1774	0	1583				0	1695	1645	1774	1770	0
Q Serve(g_s), s	13.9	0.0	21.3				0.0	20.9	20.9	14.3	13.3	0.0
Cycle Q Clear(g_c), s	13.9	0.0	21.3				0.0	20.9	20.9	14.3	13.3	0.0
Prop In Lane	1.00		1.00				0.00		0.75	1.00		0.00
Lane Grp Cap(c), veh/h	946	0	422				0	1406	682	315	2262	0
V/C Ratio(X)	0.62	0.00	0.87				0.00	0.65	0.66	0.87	0.44	0.00
Avail Cap(c_a), veh/h	1110	0	495				0	1406	682	555	2262	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	30.8	0.0	33.5				0.0	22.5	22.5	38.2	8.6	0.0
Incr Delay (d2), s/veh	0.8	0.0	14.2				0.0	1.1	2.3	7.2	0.6	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.9	0.0	11.0				0.0	9.9	9.9	7.6	6.6	0.0
LnGrp Delay(d),s/veh	31.6	0.0	47.7				0.0	23.6	24.8	45.5	9.2	0.0
LnGrp LOS	C		D					C	C	D	A	
Approach Vol, veh/h		956						1368			1258	
Approach Delay, s/veh		37.8						24.0			17.1	
Approach LOS		D						C			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4		6		
Phs Duration (G+Y+Rc), s	21.5	44.1		30.0		65.6		
Change Period (Y+Rc), s	4.5	4.5		4.5		4.5		
Max Green Setting (Gmax), s	29.3	26.7		29.9		61.1		
Max Q Clear Time (g_c+I1), s	16.3	22.9		23.3		15.3		
Green Ext Time (p_c), s	0.7	3.5		2.2		27.4		

Intersection Summary	
HCM 2010 Ctrl Delay	25.3
HCM 2010 LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑			↑			↕			↕	
Traffic Vol, veh/h	0	472	22	0	710	0	0	0	22	0	0	0
Future Vol, veh/h	0	472	22	0	710	0	0	0	22	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	94	94	94	94	94	94	94	94	94	94	94	94
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	502	23	0	755	0	0	0	23	0	0	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	-	0	0	-	-	0	1269	1269	263	956	1281	755
Stage 1	-	-	-	-	-	-	514	514	-	755	755	-
Stage 2	-	-	-	-	-	-	755	755	-	201	526	-
Critical Hdwy	-	-	-	-	-	-	6.78	6.53	7.13	6.78	6.53	6.23
Critical Hdwy Stg 1	-	-	-	-	-	-	7.33	5.53	-	6.13	5.53	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.13	5.53	-	6.73	5.53	-
Follow-up Hdwy	-	-	-	-	-	-	3.669	4.019	3.919	3.669	4.019	3.319
Pot Cap-1 Maneuver	0	-	-	0	-	0	160	168	627	254	165	408
Stage 1	0	-	-	0	-	0	443	534	-	389	416	-
Stage 2	0	-	-	0	-	0	389	416	-	745	528	-
Platoon blocked, %		-	-		-							
Mov Cap-1 Maneuver	-	-	-	-	-	-	160	168	627	245	165	408
Mov Cap-2 Maneuver	-	-	-	-	-	-	160	168	-	245	165	-
Stage 1	-	-	-	-	-	-	443	534	-	389	416	-
Stage 2	-	-	-	-	-	-	389	416	-	717	528	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0	11	0
HCM LOS			B	A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT	SBLn1
Capacity (veh/h)	627	-	-	-	-
HCM Lane V/C Ratio	0.037	-	-	-	-
HCM Control Delay (s)	11	-	-	-	0
HCM Lane LOS	B	-	-	-	A
HCM 95th %tile Q(veh)	0.1	-	-	-	-

Intersection	
Int Delay, s/veh	237.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	278	375	156	28	299	35	164	2	24	37	0	239
Future Vol, veh/h	278	375	156	28	299	35	164	2	24	37	0	239
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	180	-	-	0	-	-	-	-	-	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	88	88	88	88	88	88	88	88	88	88	88	88
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	316	426	177	32	340	40	186	2	27	42	0	272

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	380	0	0	603	0	0	1570	1590	302	1269	1658	360
Stage 1	-	-	-	-	-	-	1147	1147	-	423	423	-
Stage 2	-	-	-	-	-	-	423	443	-	846	1235	-
Critical Hdwy	4.13	-	-	4.13	-	-	7.33	6.53	6.93	7.33	6.53	6.23
Critical Hdwy Stg 1	-	-	-	-	-	-	6.53	5.53	-	6.13	5.53	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.13	5.53	-	6.53	5.53	-
Follow-up Hdwy	2.219	-	-	2.219	-	-	3.519	4.019	3.319	3.519	4.019	3.319
Pot Cap-1 Maneuver	1177	-	-	973	-	-	~ 82	107	695	135	97	684
Stage 1	-	-	-	-	-	-	212	273	-	608	587	-
Stage 2	-	-	-	-	-	-	608	575	-	324	248	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1177	-	-	973	-	-	~ 38	76	695	98	69	684
Mov Cap-2 Maneuver	-	-	-	-	-	-	~ 38	76	-	98	69	-
Stage 1	-	-	-	-	-	-	~ 155	200	-	445	568	-
Stage 2	-	-	-	-	-	-	355	556	-	225	181	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	3.2	0.7	$ 1997.3	20.8
HCM LOS			F	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	43	1177	-	-	973	-	-	98	684
HCM Lane V/C Ratio	5.021	0.268	-	-	0.033	-	-	0.429	0.397
HCM Control Delay (s)	$ 1997.3	9.2	-	-	8.8	-	-	66.9	13.7
HCM Lane LOS	F	A	-	-	A	-	-	F	B
HCM 95th %tile Q(veh)	24.9	1.1	-	-	0.1	-	-	1.8	1.9

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	0.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	11	426	352	7	10	10
Future Vol, veh/h	11	426	352	7	10	10
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	12	468	387	8	11	11

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	395	0	-	0	883	391
Stage 1	-	-	-	-	391	-
Stage 2	-	-	-	-	492	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1164	-	-	-	316	658
Stage 1	-	-	-	-	683	-
Stage 2	-	-	-	-	615	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1164	-	-	-	312	658
Mov Cap-2 Maneuver	-	-	-	-	435	-
Stage 1	-	-	-	-	683	-
Stage 2	-	-	-	-	606	-

Approach	EB	WB	SB
HCM Control Delay, s	0.2	0	12.2
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1164	-	-	-	524
HCM Lane V/C Ratio	0.01	-	-	-	0.042
HCM Control Delay (s)	8.1	0	-	-	12.2
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.1

Intersection	
Int Delay, s/veh	8.7

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	209	224	140	79	99	221
Future Vol, veh/h	209	224	140	79	99	221
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	230	246	154	87	109	243

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	241	0	-	0	902	197
Stage 1	-	-	-	-	197	-
Stage 2	-	-	-	-	705	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1326	-	-	-	308	844
Stage 1	-	-	-	-	836	-
Stage 2	-	-	-	-	490	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1326	-	-	-	246	844
Mov Cap-2 Maneuver	-	-	-	-	331	-
Stage 1	-	-	-	-	836	-
Stage 2	-	-	-	-	392	-

Approach	EB	WB	SB
HCM Control Delay, s	4	0	20.9
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1326	-	-	-	570
HCM Lane V/C Ratio	0.173	-	-	-	0.617
HCM Control Delay (s)	8.3	-	-	-	20.9
HCM Lane LOS	A	-	-	-	C
HCM 95th %tile Q(veh)	0.6	-	-	-	4.2

Intersection	
Int Delay, s/veh	5.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	13	287	24	88	176	105	24	0	93	84	0	19
Future Vol, veh/h	13	287	24	88	176	105	24	0	93	84	0	19
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	93	93	93	93	93	93	93	93	93	93	93	93
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	14	309	26	95	189	113	26	0	100	90	0	20

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	302	0	0	334	0	0	794	840	322	834	797	246
Stage 1	-	-	-	-	-	-	349	349	-	435	435	-
Stage 2	-	-	-	-	-	-	445	491	-	399	362	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1259	-	-	1225	-	-	306	302	719	288	319	793
Stage 1	-	-	-	-	-	-	667	633	-	600	580	-
Stage 2	-	-	-	-	-	-	592	548	-	627	625	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1259	-	-	1225	-	-	274	269	719	227	285	793
Mov Cap-2 Maneuver	-	-	-	-	-	-	274	269	-	227	285	-
Stage 1	-	-	-	-	-	-	658	624	-	592	525	-
Stage 2	-	-	-	-	-	-	522	496	-	532	616	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.3	2	13.7	28.6
HCM LOS			B	D

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	539	1259	-	-	1225	-	-	261
HCM Lane V/C Ratio	0.233	0.011	-	-	0.077	-	-	0.424
HCM Control Delay (s)	13.7	7.9	0	-	8.2	0	-	28.6
HCM Lane LOS	B	A	A	-	A	A	-	D
HCM 95th %tile Q(veh)	0.9	0	-	-	0.3	-	-	2

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑	↱			↱
Traffic Vol, veh/h	0	464	240	8	0	9
Future Vol, veh/h	0	464	240	8	0	9
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	494	255	9	0	10

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	-	260
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.318
Pot Cap-1 Maneuver	0	-	-	-	0	779
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	779
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	9.7
HCM LOS			A

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	779
HCM Lane V/C Ratio	-	-	-	0.012
HCM Control Delay (s)	-	-	-	9.7
HCM Lane LOS	-	-	-	A
HCM 95th %tile Q(veh)	-	-	-	0

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	120	979	44	43	606	58	47	0	47	85	0	62
Future Volume (veh/h)	120	979	44	43	606	58	47	0	47	85	0	62
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1900	1863	1900	1900	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	138	1125	51	49	697	67	54	0	54	98	0	71
Adj No. of Lanes	1	2	0	0	2	0	0	1	0	1	1	0
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	82	1732	79	82	1093	108	329	16	295	626	0	657
Arrive On Green	0.05	0.50	0.50	0.41	0.41	0.41	0.41	0.00	0.41	0.41	0.00	0.41
Sat Flow, veh/h	1774	3448	156	108	2635	260	673	38	711	1345	0	1583
Grp Volume(v), veh/h	138	577	599	388	0	425	108	0	0	98	0	71
Grp Sat Flow(s),veh/h/ln	1774	1770	1835	1355	0	1649	1423	0	0	1345	0	1583
Q Serve(g_s), s	5.0	26.1	26.2	9.0	0.0	22.0	2.8	0.0	0.0	0.0	0.0	3.0
Cycle Q Clear(g_c), s	5.0	26.1	26.2	25.7	0.0	22.0	5.8	0.0	0.0	4.8	0.0	3.0
Prop In Lane	1.00		0.09	0.13		0.16	0.50		0.50	1.00		1.00
Lane Grp Cap(c), veh/h	82	889	922	599	0	684	640	0	0	626	0	657
V/C Ratio(X)	1.69	0.65	0.65	0.65	0.00	0.62	0.17	0.00	0.00	0.16	0.00	0.11
Avail Cap(c_a), veh/h	82	889	922	599	0	684	640	0	0	626	0	657
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	51.8	19.9	19.9	24.9	0.0	25.0	20.2	0.0	0.0	20.0	0.0	19.5
Incr Delay (d2), s/veh	356.5	3.7	3.5	5.4	0.0	4.2	0.6	0.0	0.0	0.5	0.0	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	10.5	13.6	14.0	10.4	0.0	10.8	2.2	0.0	0.0	1.9	0.0	1.4
LnGrp Delay(d),s/veh	408.3	23.6	23.5	30.2	0.0	29.2	20.8	0.0	0.0	20.5	0.0	19.8
LnGrp LOS	F	C	C	C		C	C			C		B
Approach Vol, veh/h		1314			813			108			169	
Approach Delay, s/veh		64.0			29.7			20.8			20.2	
Approach LOS		E			C			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		8
Phs Duration (G+Y+Rc), s		59.0		49.5	9.5	49.5		49.5
Change Period (Y+Rc), s		4.5		4.5	4.5	4.5		4.5
Max Green Setting (Gmax), s		45.0		45.0	5.0	45.0		45.0
Max Q Clear Time (g_c+I1), s		28.2		6.8	7.0	27.7		7.8
Green Ext Time (p_c), s		12.0		1.5	0.0	12.3		1.5

Intersection Summary	
HCM 2010 Ctrl Delay	47.4
HCM 2010 LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	122	836	120	94	483	83	121	264	252	78	195	90
Future Volume (veh/h)	122	836	120	94	483	83	121	264	252	78	195	90
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	133	909	130	102	525	90	132	287	274	85	212	98
Adj No. of Lanes	1	2	0	1	2	0	1	1	1	1	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	167	940	134	131	854	146	166	649	552	124	606	515
Arrive On Green	0.09	0.30	0.30	0.07	0.28	0.28	0.09	0.35	0.35	0.07	0.33	0.33
Sat Flow, veh/h	1774	3109	445	1774	3025	517	1774	1863	1583	1774	1863	1583
Grp Volume(v), veh/h	133	517	522	102	306	309	132	287	274	85	212	98
Grp Sat Flow(s),veh/h/ln	1774	1770	1784	1774	1770	1772	1774	1863	1583	1774	1863	1583
Q Serve(g_s), s	6.4	25.3	25.3	5.0	13.2	13.3	6.4	10.4	11.9	4.1	7.6	3.9
Cycle Q Clear(g_c), s	6.4	25.3	25.3	5.0	13.2	13.3	6.4	10.4	11.9	4.1	7.6	3.9
Prop In Lane	1.00		0.25	1.00		0.29	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	167	535	539	131	499	500	166	649	552	124	606	515
V/C Ratio(X)	0.80	0.97	0.97	0.78	0.61	0.62	0.80	0.44	0.50	0.69	0.35	0.19
Avail Cap(c_a), veh/h	273	535	539	273	535	536	273	649	552	273	606	515
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	38.9	30.1	30.1	39.9	27.3	27.3	38.9	22.0	22.5	39.8	22.5	21.3
Incr Delay (d2), s/veh	8.4	30.5	30.4	9.5	1.9	1.9	8.5	2.2	3.2	6.6	1.6	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.5	16.9	17.0	2.8	6.6	6.8	3.5	5.7	5.7	2.2	4.2	1.8
LnGrp Delay(d),s/veh	47.3	60.7	60.6	49.4	29.2	29.3	47.4	24.2	25.7	46.4	24.1	22.1
LnGrp LOS	D	E	E	D	C	C	D	C	C	D	C	C
Approach Vol, veh/h		1172			717			693			395	
Approach Delay, s/veh		59.1			32.1			29.2			28.4	
Approach LOS		E			C			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.6	35.1	11.0	31.0	12.7	33.0	12.7	29.2
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	13.5	28.5	13.5	26.5	13.5	28.5	13.5	26.5
Max Q Clear Time (g_c+I1), s	10.1	13.9	7.0	27.3	8.4	9.6	8.4	15.3
Green Ext Time (p_c), s	0.1	3.8	0.1	0.0	0.1	4.2	0.1	7.5

Intersection Summary	
HCM 2010 Ctrl Delay	41.6
HCM 2010 LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	66	194	86	86	101	107	77	480	156	36	339	43
Future Volume (veh/h)	66	194	86	86	101	107	77	480	156	36	339	43
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	69	204	91	91	106	113	81	505	164	38	357	45
Adj No. of Lanes	1	2	0	1	1	0	1	1	0	1	1	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	223	304	131	283	132	140	128	552	179	151	687	87
Arrive On Green	0.13	0.13	0.13	0.16	0.16	0.16	0.07	0.41	0.41	0.09	0.42	0.42
Sat Flow, veh/h	1774	2411	1038	1774	826	881	1774	1348	438	1774	1622	204
Grp Volume(v), veh/h	69	148	147	91	0	219	81	0	669	38	0	402
Grp Sat Flow(s),veh/h/ln	1774	1770	1680	1774	0	1707	1774	0	1786	1774	0	1827
Q Serve(g_s), s	2.9	6.5	6.9	3.7	0.0	10.1	3.6	0.0	29.0	1.6	0.0	13.3
Cycle Q Clear(g_c), s	2.9	6.5	6.9	3.7	0.0	10.1	3.6	0.0	29.0	1.6	0.0	13.3
Prop In Lane	1.00		0.62	1.00		0.52	1.00		0.25	1.00		0.11
Lane Grp Cap(c), veh/h	223	223	211	283	0	272	128	0	732	151	0	773
V/C Ratio(X)	0.31	0.66	0.70	0.32	0.00	0.80	0.64	0.00	0.91	0.25	0.00	0.52
Avail Cap(c_a), veh/h	435	434	412	435	0	419	154	0	732	435	0	773
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	32.6	34.2	34.3	30.5	0.0	33.2	37.0	0.0	22.8	35.0	0.0	17.5
Incr Delay (d2), s/veh	0.8	3.4	4.1	0.7	0.0	6.4	6.1	0.0	17.9	0.9	0.0	2.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.5	3.4	3.4	1.9	0.0	5.3	2.0	0.0	17.8	0.8	0.0	7.2
LnGrp Delay(d),s/veh	33.4	37.5	38.4	31.2	0.0	39.6	43.1	0.0	40.8	35.9	0.0	20.0
LnGrp LOS	C	D	D	C		D	D		D	D		B
Approach Vol, veh/h		364			310			750			440	
Approach Delay, s/veh		37.1			37.1			41.0			21.4	
Approach LOS		D			D			D			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	11.5	38.1		14.8	10.4	39.2		17.6
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5
Max Green Setting (Gmax), s	20.1	21.7		20.1	7.1	34.7		20.1
Max Q Clear Time (g_c+I1), s	12.6	31.0		8.9	5.6	15.3		12.1
Green Ext Time (p_c), s	0.0	0.0		1.4	0.0	7.4		0.9

Intersection Summary		
HCM 2010 Ctrl Delay	35.0	
HCM 2010 LOS	C	

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	234	965	208	99	567	85	231	405	184	111	256	119
Future Volume (veh/h)	234	965	208	99	567	85	231	405	184	111	256	119
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	244	1005	217	103	591	89	241	422	192	116	267	124
Adj No. of Lanes	1	2	0	1	2	0	1	1	1	1	1	1
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	251	858	185	131	705	106	251	668	685	146	557	698
Arrive On Green	0.14	0.30	0.30	0.07	0.23	0.23	0.14	0.36	0.36	0.08	0.30	0.30
Sat Flow, veh/h	1774	2898	624	1774	3087	464	1774	1863	1583	1774	1863	1583
Grp Volume(v), veh/h	244	613	609	103	338	342	241	422	192	116	267	124
Grp Sat Flow(s),veh/h/ln	1774	1770	1753	1774	1770	1781	1774	1863	1583	1774	1863	1583
Q Serve(g_s), s	13.0	28.2	28.2	5.4	17.4	17.5	12.9	17.9	7.5	6.1	11.2	4.5
Cycle Q Clear(g_c), s	13.0	28.2	28.2	5.4	17.4	17.5	12.9	17.9	7.5	6.1	11.2	4.5
Prop In Lane	1.00		0.36	1.00		0.26	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	251	524	519	131	404	407	251	668	685	146	557	698
V/C Ratio(X)	0.97	1.17	1.17	0.78	0.84	0.84	0.96	0.63	0.28	0.79	0.48	0.18
Avail Cap(c_a), veh/h	251	524	519	251	492	495	251	668	685	251	557	698
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	40.7	33.5	33.5	43.4	35.1	35.1	40.6	25.3	17.5	42.9	27.3	16.2
Incr Delay (d2), s/veh	48.4	95.1	97.0	9.8	10.2	10.4	45.2	4.5	1.0	9.3	2.9	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	9.8	27.5	27.5	3.0	9.6	9.7	9.5	10.0	3.5	3.4	6.2	2.1
LnGrp Delay(d),s/veh	89.1	128.6	130.5	53.2	45.3	45.5	85.8	29.8	18.5	52.2	30.2	16.7
LnGrp LOS	F	F	F	D	D	D	F	C	B	D	C	B
Approach Vol, veh/h		1466			783			855			507	
Approach Delay, s/veh		122.8			46.4			43.1			32.0	
Approach LOS		F			D			D			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.3	38.7	11.5	32.7	18.0	33.0	18.0	26.3
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	13.5	28.5	13.5	26.5	13.5	28.5	13.5	26.5
Max Q Clear Time (g_c+I1), s	9.1	19.9	7.4	30.2	14.9	13.2	15.0	19.5
Green Ext Time (p_c), s	0.1	3.5	0.1	0.0	0.0	4.9	0.0	2.3

Intersection Summary	
HCM 2010 Ctrl Delay	74.6
HCM 2010 LOS	E

Synchro Queue Reports

Existing

Queues
1: Heacock St & Ironwood Ave

Festival at Moreno Valley Mixed Use
Existing (2017) Weekday AM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	141	303	134	171	620	117	461	98	55	591	280
v/c Ratio	0.62	0.37	0.28	0.70	0.73	0.54	0.37	0.11	0.31	0.50	0.31
Control Delay	51.5	30.6	7.1	55.2	36.7	48.9	24.5	5.1	45.6	28.2	7.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	51.5	30.6	7.1	55.2	36.7	48.9	24.5	5.1	45.6	28.2	7.8
Queue Length 50th (ft)	79	79	0	97	175	66	106	6	31	151	38
Queue Length 95th (ft)	149	120	44	#201	244	127	170	34	70	226	98
Internal Link Dist (ft)		1991			1226		695			1447	
Turn Bay Length (ft)	90		65	135		140		45	100		95
Base Capacity (vph)	278	1091	580	278	1085	278	1258	927	278	1174	929
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.51	0.28	0.23	0.62	0.57	0.42	0.37	0.11	0.20	0.50	0.30

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Queues
3: Heacock St & Hemlock Ave

Festival at Moreno Valley Mixed Use
Existing (2017) Weekday AM Peak Hour

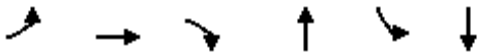
Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	40	178	59	77	19	102	621	59	19	837	42
v/c Ratio	0.20	0.56	0.28	0.27	0.06	0.41	0.30	0.06	0.10	0.52	0.05
Control Delay	35.4	23.7	35.5	31.2	0.3	36.0	10.6	0.5	35.6	19.2	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	35.4	23.7	35.5	31.2	0.3	36.0	10.6	0.5	35.6	19.2	0.1
Queue Length 50th (ft)	17	38	25	32	0	44	68	0	8	156	0
Queue Length 95th (ft)	50	103	66	74	0	98	175	4	31	277	0
Internal Link Dist (ft)		2085		364			354			592	
Turn Bay Length (ft)	70		360		200	100		50	95		
Base Capacity (vph)	351	709	351	725	686	351	2092	983	351	1615	784
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.11	0.25	0.17	0.11	0.03	0.29	0.30	0.06	0.05	0.52	0.05

Intersection Summary

Lane Group	WBT	WBR	NBL	NBT	SBT
Lane Group Flow (vph)	272	157	278	631	1025
v/c Ratio	0.70	0.39	0.77	0.26	0.71
Control Delay	40.7	18.7	46.8	6.5	24.7
Queue Delay	0.0	0.0	0.2	0.5	0.4
Total Delay	40.7	18.7	47.0	7.0	25.0
Queue Length 50th (ft)	134	39	137	58	220
Queue Length 95th (ft)	213	90	#246	114	#394
Internal Link Dist (ft)	1003			225	354
Turn Bay Length (ft)		30	200		
Base Capacity (vph)	712	676	437	2390	1446
Starvation Cap Reductn	0	0	12	1270	101
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.38	0.23	0.65	0.56	0.76

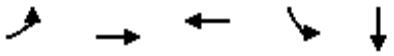
Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Lane Group	EBL	EBT	EBR	NBT	SBL	SBT
Lane Group Flow (vph)	109	108	379	812	153	847
v/c Ratio	0.31	0.31	0.81	0.33	0.59	0.35
Control Delay	31.1	31.0	31.0	15.3	46.0	7.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.9
Total Delay	31.1	31.0	31.0	15.3	46.0	8.0
Queue Length 50th (ft)	54	53	108	90	81	87
Queue Length 95th (ft)	101	100	211	168	150	172
Internal Link Dist (ft)		711		649		225
Turn Bay Length (ft)					190	
Base Capacity (vph)	567	570	651	2466	597	2442
Starvation Cap Reductn	0	0	0	0	0	1218
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.19	0.19	0.58	0.33	0.26	0.69

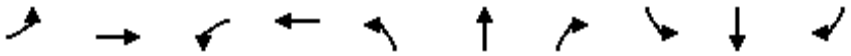
Intersection Summary



Lane Group	EBL	EBT	WBT	SBL	SBT
Lane Group Flow (vph)	52	449	945	147	90
v/c Ratio	0.55	0.30	0.78	0.22	0.10
Control Delay	70.5	17.8	31.5	18.4	0.2
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	70.5	17.8	31.5	18.4	0.2
Queue Length 50th (ft)	32	90	263	53	0
Queue Length 95th (ft)	#96	119	323	111	0
Internal Link Dist (ft)		1226	1262		1473
Turn Bay Length (ft)	150			40	
Base Capacity (vph)	94	2093	1701	676	860
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.55	0.21	0.56	0.22	0.10

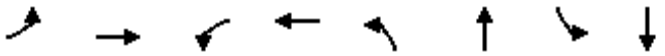
Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



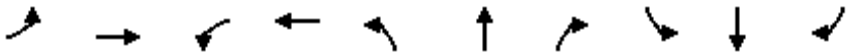
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	38	586	107	837	143	150	67	111	171	95
v/c Ratio	0.24	0.66	0.51	0.78	0.63	0.22	0.10	0.52	0.28	0.16
Control Delay	44.7	32.5	47.9	34.5	51.7	25.3	1.5	48.2	26.7	4.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	44.7	32.5	47.9	34.5	51.7	25.3	1.5	48.2	26.7	4.4
Queue Length 50th (ft)	22	152	60	239	80	65	0	63	77	0
Queue Length 95th (ft)	51	199	109	298	140	118	4	113	133	21
Internal Link Dist (ft)		1262		2351		1355			1475	
Turn Bay Length (ft)	95		100		110		50	80		50
Base Capacity (vph)	275	1071	275	1149	275	690	659	275	612	597
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.14	0.55	0.39	0.73	0.52	0.22	0.10	0.40	0.28	0.16

Intersection Summary



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	11	124	64	170	45	324	54	402
v/c Ratio	0.06	0.31	0.24	0.57	0.26	0.36	0.27	0.43
Control Delay	34.4	27.7	31.5	32.2	39.3	17.0	37.0	17.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	34.4	27.7	31.5	32.2	39.3	17.0	37.0	17.0
Queue Length 50th (ft)	5	22	28	62	21	102	25	135
Queue Length 95th (ft)	19	43	57	107	50	179	55	212
Internal Link Dist (ft)		299		2291		1240		1355
Turn Bay Length (ft)	150		80		145		100	
Base Capacity (vph)	495	974	495	512	174	893	495	933
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.02	0.13	0.13	0.33	0.26	0.36	0.11	0.43

Intersection Summary



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	56	259	22	287	92	224	66	64	253	98
v/c Ratio	0.26	0.41	0.12	0.51	0.38	0.28	0.07	0.29	0.32	0.10
Control Delay	36.0	23.6	35.5	31.5	36.5	18.2	3.2	36.1	19.6	3.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	36.0	23.6	35.5	31.5	36.5	18.2	3.2	36.1	19.6	3.3
Queue Length 50th (ft)	24	43	10	62	40	69	0	28	82	2
Queue Length 95th (ft)	62	81	33	107	89	143	19	68	168	24
Internal Link Dist (ft)		683		1025		879			1240	
Turn Bay Length (ft)	90		100		145		105	90		60
Base Capacity (vph)	354	1366	354	1371	354	812	1119	354	786	1106
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.16	0.19	0.06	0.21	0.26	0.28	0.06	0.18	0.32	0.09

Intersection Summary

Queues
1: Heacock St & Ironwood Ave

Festival at Moreno Valley Mixed Use
Existing (2017) Weekday PM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	232	450	122	99	359	160	672	189	76	528	210
v/c Ratio	0.85	0.59	0.28	0.49	0.57	0.67	0.49	0.21	0.40	0.46	0.22
Control Delay	66.2	34.9	8.6	45.9	35.4	51.6	24.4	6.7	44.5	26.2	2.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	66.2	34.9	8.6	45.9	35.4	51.6	24.4	6.7	44.5	26.2	2.7
Queue Length 50th (ft)	126	121	3	52	94	83	146	22	40	120	0
Queue Length 95th (ft)	#292	176	47	108	137	#176	253	69	88	195	37
Internal Link Dist (ft)		1991			1226		585			1447	
Turn Bay Length (ft)	90		65	135		140		45	100		95
Base Capacity (vph)	273	1074	560	273	1066	273	1361	976	273	1155	941
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.85	0.42	0.22	0.36	0.34	0.59	0.49	0.19	0.28	0.46	0.22

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Queues
3: Heacock St & Hemlock Ave

Festival at Moreno Valley Mixed Use
Existing (2017) Weekday PM Peak Hour

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	57	251	83	76	30	133	976	110	24	703	44
v/c Ratio	0.28	0.67	0.37	0.18	0.07	0.52	0.55	0.13	0.13	0.50	0.06
Control Delay	40.0	30.5	40.3	28.6	0.3	42.9	18.8	4.4	39.7	23.4	0.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.0	0.0	0.0	0.0
Total Delay	40.0	30.5	40.3	28.6	0.3	42.9	19.3	4.4	39.7	23.4	0.2
Queue Length 50th (ft)	27	77	40	33	0	63	149	0	11	147	0
Queue Length 95th (ft)	70	164	92	73	0	136	355	32	39	258	0
Internal Link Dist (ft)		2085		313			354			702	
Turn Bay Length (ft)	70		360		200	100		50	95		
Base Capacity (vph)	335	682	335	693	661	335	1774	851	335	1416	702
Starvation Cap Reductn	0	0	0	0	0	0	375	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.17	0.37	0.25	0.11	0.05	0.40	0.70	0.13	0.07	0.50	0.06

Intersection Summary

Queues
4: Heacock St & SR 60 WB Ramp

Festival at Moreno Valley Mixed Use
Existing (2017) Weekday PM Peak Hour

Lane Group	WBT	WBR	NBL	NBT	SBT
Lane Group Flow (vph)	209	160	356	1105	981
v/c Ratio	0.65	0.45	0.79	0.44	0.71
Control Delay	40.1	18.8	43.9	6.3	23.8
Queue Delay	0.0	0.0	3.2	1.3	0.2
Total Delay	40.1	18.8	47.1	7.5	24.0
Queue Length 50th (ft)	99	34	167	103	204
Queue Length 95th (ft)	166	87	#336	186	314
Internal Link Dist (ft)	1003			225	354
Turn Bay Length (ft)		30	200		
Base Capacity (vph)	743	711	457	2497	1379
Starvation Cap Reductn	0	0	43	1099	59
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.28	0.23	0.86	0.79	0.74

Intersection Summary

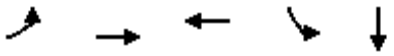
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Queues
5: Heacock St & SR 60 EB Ramp

Festival at Moreno Valley Mixed Use
Existing (2017) Weekday PM Peak Hour

Lane Group	EBL	EBT	EBR	NBT	SBL	SBT
Lane Group Flow (vph)	246	249	348	1243	168	782
v/c Ratio	0.64	0.65	0.67	0.53	0.62	0.33
Control Delay	39.6	39.8	19.5	19.0	46.8	7.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.9
Total Delay	39.6	39.8	19.5	19.0	46.8	8.4
Queue Length 50th (ft)	134	136	71	168	92	88
Queue Length 95th (ft)	215	218	163	282	160	156
Internal Link Dist (ft)		711		649		225
Turn Bay Length (ft)					190	
Base Capacity (vph)	553	555	658	2351	583	2382
Starvation Cap Reductn	0	0	0	0	0	1226
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.44	0.45	0.53	0.53	0.29	0.68

Intersection Summary

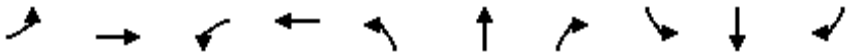


Lane Group	EBL	EBT	WBT	SBL	SBT
Lane Group Flow (vph)	98	702	501	75	54
v/c Ratio	1.21	0.40	0.34	0.13	0.06
Control Delay	211.7	17.6	21.8	20.5	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	211.7	17.6	21.8	20.5	0.1
Queue Length 50th (ft)	~83	153	118	32	0
Queue Length 95th (ft)	#183	190	154	61	0
Internal Link Dist (ft)		1226	1262		1473
Turn Bay Length (ft)	150			40	
Base Capacity (vph)	81	1777	1453	584	861
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	1.21	0.40	0.34	0.13	0.06

Intersection Summary

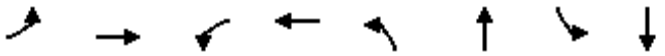
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	95	604	50	406	66	130	133	63	86	71
v/c Ratio	0.42	0.64	0.26	0.53	0.32	0.18	0.19	0.31	0.12	0.10
Control Delay	41.7	29.4	40.7	30.0	40.9	22.6	5.5	40.9	22.2	1.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	41.7	29.4	40.7	30.0	40.9	22.6	5.5	40.9	22.2	1.8
Queue Length 50th (ft)	47	146	25	94	33	47	0	31	30	0
Queue Length 95th (ft)	103	222	64	152	78	107	41	75	75	11
Internal Link Dist (ft)		1262		2351		1355			1475	
Turn Bay Length (ft)	95		100		110		50	80		50
Base Capacity (vph)	324	1259	324	1260	324	724	697	324	722	684
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.29	0.48	0.15	0.32	0.20	0.18	0.19	0.19	0.12	0.10

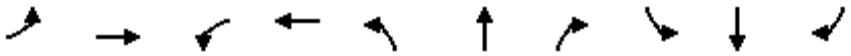
Intersection Summary



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	39	199	43	97	53	365	17	214
v/c Ratio	0.18	0.43	0.19	0.41	0.31	0.35	0.10	0.23
Control Delay	33.5	26.6	33.1	33.2	39.4	12.0	35.7	13.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	33.5	26.6	33.1	33.2	39.4	12.0	35.7	13.9
Queue Length 50th (ft)	17	35	19	38	24	76	8	61
Queue Length 95th (ft)	46	70	49	85	63	214	28	122
Internal Link Dist (ft)		299		2291		1240		1355
Turn Bay Length (ft)	150		80		145		100	
Base Capacity (vph)	495	986	495	512	174	1032	495	949
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.08	0.20	0.09	0.19	0.30	0.35	0.03	0.23

Intersection Summary

Queues
15: Indian St & Sunnymead Blvd



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	160	660	46	315	95	217	77	64	138	67
v/c Ratio	0.64	0.67	0.26	0.45	0.44	0.32	0.09	0.34	0.21	0.07
Control Delay	49.2	31.3	42.7	30.3	44.3	24.1	3.9	43.2	24.3	3.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	49.2	31.3	42.7	30.3	44.3	24.1	3.9	43.2	24.3	3.8
Queue Length 50th (ft)	83	166	24	75	50	87	0	33	54	0
Queue Length 95th (ft)	#175	247	61	120	104	169	24	77	114	22
Internal Link Dist (ft)		683		1025		879			1240	
Turn Bay Length (ft)	90		100		145		105	90		60
Base Capacity (vph)	297	1152	297	1153	297	684	967	297	660	943
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.54	0.57	0.15	0.27	0.32	0.32	0.08	0.22	0.21	0.07

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Queues
1: Heacock St & Ironwood Ave

Festival at Moreno Valley Mixed Use
Existing (2017) With Project Weekday AM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	141	297	133	171	614	114	459	98	55	590	280
v/c Ratio	0.62	0.36	0.28	0.70	0.72	0.53	0.36	0.11	0.31	0.50	0.31
Control Delay	51.3	30.5	7.1	55.0	36.5	48.4	24.4	5.1	45.5	28.0	7.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	51.3	30.5	7.1	55.0	36.5	48.4	24.4	5.1	45.5	28.0	7.6
Queue Length 50th (ft)	78	77	0	96	172	63	105	6	31	149	35
Queue Length 95th (ft)	149	117	44	#201	242	124	168	34	70	226	96
Internal Link Dist (ft)		1991			1226		695			1447	
Turn Bay Length (ft)	90		65	135		140		45	100		95
Base Capacity (vph)	278	1094	581	278	1088	278	1259	928	278	1177	934
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.51	0.27	0.23	0.62	0.56	0.41	0.36	0.11	0.20	0.50	0.30

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Queues
3: Heacock St & Hemlock Ave

Festival at Moreno Valley Mixed Use
Existing (2017) With Project Weekday AM Peak Hour

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	40	167	52	66	4	102	621	80	16	837	42
v/c Ratio	0.20	0.54	0.25	0.26	0.01	0.41	0.29	0.08	0.09	0.51	0.05
Control Delay	34.4	19.6	34.5	31.8	0.0	35.0	9.8	1.7	34.5	18.1	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	34.4	19.6	34.5	31.8	0.0	35.0	9.8	1.7	34.5	18.1	0.1
Queue Length 50th (ft)	17	24	22	27	0	42	63	0	7	148	0
Queue Length 95th (ft)	49	84	59	66	0	95	165	13	27	264	0
Internal Link Dist (ft)		2085		364			354			592	
Turn Bay Length (ft)	70		360		200	100		50	95		
Base Capacity (vph)	352	718	352	727	688	352	2139	1002	352	1652	800
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.11	0.23	0.15	0.09	0.01	0.29	0.29	0.08	0.05	0.51	0.05

Intersection Summary

Queues
4: Heacock St & SR 60 WB Ramp

Festival at Moreno Valley Mixed Use
Existing (2017) With Project Weekday AM Peak Hour

Lane Group	WBT	WBR	NBL	NBT	SBT
Lane Group Flow (vph)	272	167	278	644	1018
v/c Ratio	0.70	0.41	0.77	0.27	0.70
Control Delay	40.7	18.8	46.8	6.5	24.5
Queue Delay	0.0	0.0	0.2	0.6	0.4
Total Delay	40.7	18.8	47.0	7.0	24.9
Queue Length 50th (ft)	134	41	137	60	217
Queue Length 95th (ft)	213	94	#246	116	#374
Internal Link Dist (ft)	1003			225	354
Turn Bay Length (ft)		30	200		
Base Capacity (vph)	712	679	437	2390	1446
Starvation Cap Reductn	0	0	12	1264	101
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.38	0.25	0.65	0.57	0.76

Intersection Summary

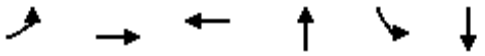
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Queues
5: Heacock St & SR 60 EB Ramp

Festival at Moreno Valley Mixed Use
Existing (2017) With Project Weekday AM Peak Hour

Lane Group	EBL	EBT	EBR	NBT	SBL	SBT
Lane Group Flow (vph)	116	115	379	811	150	843
v/c Ratio	0.33	0.33	0.81	0.33	0.59	0.34
Control Delay	31.6	31.5	30.7	15.2	45.8	7.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.9
Total Delay	31.6	31.5	30.7	15.2	45.8	7.9
Queue Length 50th (ft)	58	57	107	89	80	86
Queue Length 95th (ft)	106	105	210	167	147	171
Internal Link Dist (ft)		711		649		225
Turn Bay Length (ft)					190	
Base Capacity (vph)	568	570	653	2476	598	2444
Starvation Cap Reductn	0	0	0	0	0	1220
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.20	0.20	0.58	0.33	0.25	0.69

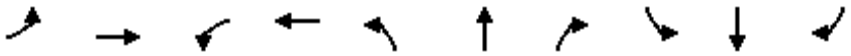
Intersection Summary



Lane Group	EBL	EBT	WBT	NBT	SBL	SBT
Lane Group Flow (vph)	52	461	957	16	147	90
v/c Ratio	0.57	0.30	0.80	0.02	0.22	0.11
Control Delay	72.9	17.4	32.6	0.1	19.3	0.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	72.9	17.4	32.6	0.1	19.3	0.3
Queue Length 50th (ft)	33	92	274	0	55	0
Queue Length 95th (ft)	#96	122	337	0	112	0
Internal Link Dist (ft)		1226	1262	148		1473
Turn Bay Length (ft)	150				40	
Base Capacity (vph)	92	2046	1582	784	654	848
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.57	0.23	0.60	0.02	0.22	0.11

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	38	593	101	831	143	145	61	111	170	95
v/c Ratio	0.24	0.67	0.49	0.78	0.63	0.21	0.09	0.52	0.28	0.16
Control Delay	44.7	32.7	47.4	34.4	51.6	25.2	0.8	48.1	26.6	4.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	44.7	32.7	47.4	34.4	51.6	25.2	0.8	48.1	26.6	4.4
Queue Length 50th (ft)	22	154	57	236	80	62	0	63	76	0
Queue Length 95th (ft)	51	202	104	295	140	115	0	113	132	21
Internal Link Dist (ft)		1262		2351		1355			1475	
Turn Bay Length (ft)	95		100		110		50	80		50
Base Capacity (vph)	275	1073	275	1149	275	692	660	275	613	598
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.14	0.55	0.37	0.72	0.52	0.21	0.09	0.40	0.28	0.16

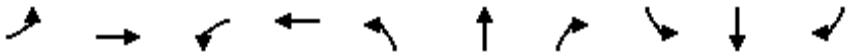
Intersection Summary

Lane Group	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	108	64	157	45	324	54	394
v/c Ratio	0.28	0.25	0.55	0.26	0.36	0.27	0.41
Control Delay	27.2	32.0	30.7	38.7	16.3	36.4	16.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	27.2	32.0	30.7	38.7	16.3	36.4	16.1
Queue Length 50th (ft)	18	28	53	21	99	25	127
Queue Length 95th (ft)	38	57	96	50	173	53	201
Internal Link Dist (ft)	299		2291		1240		1355
Turn Bay Length (ft)		80		145		100	
Base Capacity (vph)	962	490	508	173	911	490	953
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.11	0.13	0.31	0.26	0.36	0.11	0.41

Intersection Summary

Queues
15: Indian St & Sunnymead Blvd

Festival at Moreno Valley Mixed Use
Existing (2017) With Project Weekday AM Peak Hour



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	56	259	22	287	92	224	66	64	251	98
v/c Ratio	0.26	0.41	0.12	0.51	0.38	0.28	0.07	0.29	0.32	0.10
Control Delay	36.0	23.6	35.5	31.5	36.5	18.2	3.2	36.1	19.6	3.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	36.0	23.6	35.5	31.5	36.5	18.2	3.2	36.1	19.6	3.3
Queue Length 50th (ft)	24	43	10	62	40	69	0	28	81	2
Queue Length 95th (ft)	62	81	33	107	89	143	19	68	167	24
Internal Link Dist (ft)		683		1025		879			1240	
Turn Bay Length (ft)	90		100		145		105	90		60
Base Capacity (vph)	354	1366	354	1371	354	812	1119	354	786	1106
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.16	0.19	0.06	0.21	0.26	0.28	0.06	0.18	0.32	0.09

Intersection Summary

Queues
1: Heacock St & Ironwood Ave

Festival at Moreno Valley Mixed Use
Existing (2017) With Project Weekday PM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	232	459	134	99	371	176	687	189	76	540	210
v/c Ratio	0.86	0.60	0.31	0.49	0.59	0.72	0.50	0.21	0.40	0.47	0.22
Control Delay	67.5	35.1	10.1	46.3	35.8	54.7	24.7	6.9	44.8	26.6	2.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	67.5	35.1	10.1	46.3	35.8	54.7	24.7	6.9	44.8	26.6	2.8
Queue Length 50th (ft)	126	123	9	52	98	93	152	23	40	123	1
Queue Length 95th (ft)	#294	180	55	108	142	#203	260	70	88	201	38
Internal Link Dist (ft)		1991			1226		695			1447	
Turn Bay Length (ft)	90		65	135		140		45	100		95
Base Capacity (vph)	271	1065	556	271	1056	271	1365	974	271	1145	934
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.86	0.43	0.24	0.37	0.35	0.65	0.50	0.19	0.28	0.47	0.22

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Queues
3: Heacock St & Hemlock Ave

Festival at Moreno Valley Mixed Use
Existing (2017) With Project Weekday PM Peak Hour

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	57	267	245	98	21	133	976	238	47	703	44
v/c Ratio	0.33	0.74	0.89	0.20	0.04	0.59	0.66	0.33	0.28	0.60	0.07
Control Delay	43.8	36.7	71.5	28.4	0.1	48.6	25.7	12.6	43.3	28.4	0.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0
Total Delay	43.8	36.7	71.5	28.4	0.1	48.6	26.0	12.6	43.3	28.4	0.2
Queue Length 50th (ft)	30	101	134	43	0	70	240	45	25	169	0
Queue Length 95th (ft)	71	186	#310	89	0	138	#406	122	62	266	0
Internal Link Dist (ft)		2085		364			354			592	
Turn Bay Length (ft)	70		360		200	100		50	95		
Base Capacity (vph)	276	570	276	571	565	276	1488	732	276	1167	598
Starvation Cap Reductn	0	0	0	0	0	0	102	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.21	0.47	0.89	0.17	0.04	0.48	0.70	0.33	0.17	0.60	0.07

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Queues
4: Heacock St & SR 60 WB Ramp

Festival at Moreno Valley Mixed Use
Existing (2017) With Project Weekday PM Peak Hour

Lane Group	WBT	WBR	NBL	NBT	SBT
Lane Group Flow (vph)	209	219	356	1179	1148
v/c Ratio	0.63	0.62	0.80	0.47	0.84
Control Delay	39.3	28.5	44.6	6.8	29.0
Queue Delay	0.0	0.0	3.3	1.6	0.6
Total Delay	39.3	28.5	47.9	8.3	29.6
Queue Length 50th (ft)	99	69	167	114	256
Queue Length 95th (ft)	166	139	#341	212	#439
Internal Link Dist (ft)	1003			225	354
Turn Bay Length (ft)		30	200		
Base Capacity (vph)	740	700	455	2486	1373
Starvation Cap Reductn	0	0	43	1060	51
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.28	0.31	0.86	0.83	0.87

Intersection Summary

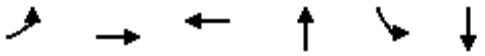
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Queues
5: Heacock St & SR 60 EB Ramp

Festival at Moreno Valley Mixed Use
Existing (2017) With Project Weekday PM Peak Hour

Lane Group	EBL	EBT	EBR	NBT	SBL	SBT
Lane Group Flow (vph)	277	280	348	1255	242	798
v/c Ratio	0.68	0.68	0.65	0.60	0.71	0.34
Control Delay	40.5	40.7	19.1	23.4	46.9	8.2
Queue Delay	0.0	0.0	0.0	0.0	0.1	1.0
Total Delay	40.5	40.7	19.1	23.4	47.0	9.1
Queue Length 50th (ft)	155	156	76	199	136	101
Queue Length 95th (ft)	243	246	168	311	212	160
Internal Link Dist (ft)		711		649		225
Turn Bay Length (ft)					190	
Base Capacity (vph)	542	544	644	2099	571	2335
Starvation Cap Reductn	0	0	0	0	34	1192
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.51	0.51	0.54	0.60	0.45	0.70

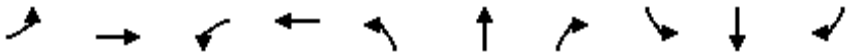
Intersection Summary



Lane Group	EBL	EBT	WBT	NBT	SBL	SBT
Lane Group Flow (vph)	98	740	536	108	75	54
v/c Ratio	0.94	0.58	0.74	0.13	0.11	0.05
Control Delay	117.6	23.4	35.3	6.3	11.8	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	117.6	23.4	35.3	6.3	11.8	0.1
Queue Length 50th (ft)	53	162	134	12	19	0
Queue Length 95th (ft)	#154	205	181	40	46	0
Internal Link Dist (ft)		1226	1262	148		1473
Turn Bay Length (ft)	150				40	
Base Capacity (vph)	104	2306	1565	827	682	1014
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.94	0.32	0.34	0.13	0.11	0.05

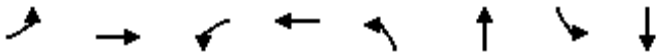
Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	95	642	59	415	66	146	143	63	98	71
v/c Ratio	0.42	0.72	0.30	0.50	0.33	0.21	0.21	0.32	0.14	0.11
Control Delay	43.0	32.9	42.0	29.0	42.1	23.7	5.5	42.1	23.4	1.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	43.0	32.9	42.0	29.0	42.1	23.7	5.5	42.1	23.4	1.9
Queue Length 50th (ft)	48	160	30	96	34	56	0	32	37	0
Queue Length 95th (ft)	104	241	72	155	78	119	43	76	85	11
Internal Link Dist (ft)		1262		2351		1355			1475	
Turn Bay Length (ft)	95		100		110		50	80		50
Base Capacity (vph)	316	1226	316	1226	316	705	688	316	702	668
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.30	0.52	0.19	0.34	0.21	0.21	0.21	0.20	0.14	0.11

Intersection Summary

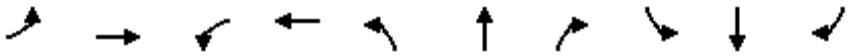


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	64	236	43	114	65	365	17	234
v/c Ratio	0.28	0.48	0.18	0.46	0.38	0.36	0.10	0.27
Control Delay	35.6	28.0	33.6	36.3	43.4	13.0	37.1	15.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	35.6	28.0	33.6	36.3	43.4	13.0	37.1	15.7
Queue Length 50th (ft)	29	44	19	48	31	82	8	68
Queue Length 95th (ft)	68	82	50	101	76	230	29	141
Internal Link Dist (ft)		299		2291		1240		1355
Turn Bay Length (ft)	150		80		145		100	
Base Capacity (vph)	481	962	481	499	170	1026	481	883
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.13	0.25	0.09	0.23	0.38	0.36	0.04	0.27

Intersection Summary

Queues
15: Indian St & Sunnymead Blvd

Festival at Moreno Valley Mixed Use
Existing (2017) With Project Weekday PM Peak Hour



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	160	660	46	315	95	229	77	64	152	67
v/c Ratio	0.64	0.67	0.26	0.45	0.44	0.33	0.09	0.34	0.23	0.07
Control Delay	49.2	31.3	42.7	30.3	44.3	24.4	3.9	43.2	24.4	3.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	49.2	31.3	42.7	30.3	44.3	24.4	3.9	43.2	24.4	3.8
Queue Length 50th (ft)	83	166	24	75	50	93	0	33	61	0
Queue Length 95th (ft)	#175	247	61	120	104	179	24	77	125	22
Internal Link Dist (ft)		683		1025		879			1240	
Turn Bay Length (ft)	90		100		145		105	90		60
Base Capacity (vph)	297	1152	297	1153	297	684	967	297	660	943
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.54	0.57	0.15	0.27	0.32	0.33	0.08	0.22	0.23	0.07

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Near Term Year (2022)

Queues
1: Heacock St & Ironwood Ave

Festival at Moreno Valley Mixed Use
Future (2022) Without Project Weekday AM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	156	335	172	193	686	144	520	110	61	672	309
v/c Ratio	0.69	0.40	0.34	0.79	0.79	0.66	0.40	0.12	0.36	0.62	0.37
Control Delay	57.1	31.6	6.6	64.9	40.1	55.1	25.8	5.8	47.4	32.1	11.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	57.1	31.6	6.6	64.9	40.1	55.1	25.8	5.8	47.4	32.1	11.2
Queue Length 50th (ft)	94	91	0	120	207	87	133	10	37	195	70
Queue Length 95th (ft)	#176	131	50	#237	274	152	194	40	76	261	136
Internal Link Dist (ft)		1991			1226		695			1447	
Turn Bay Length (ft)	90		65	135		140		45	100		95
Base Capacity (vph)	256	1008	574	256	1003	256	1286	915	256	1084	851
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.61	0.33	0.30	0.75	0.68	0.56	0.40	0.12	0.24	0.62	0.36

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Queues
3: Heacock St & Hemlock Ave

Festival at Moreno Valley Mixed Use
Future (2022) Without Project Weekday AM Peak Hour

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	46	230	65	86	21	128	710	65	21	969	47
v/c Ratio	0.23	0.64	0.31	0.23	0.05	0.50	0.38	0.07	0.12	0.66	0.06
Control Delay	37.7	25.5	38.0	29.7	0.2	40.1	14.7	1.0	37.5	24.5	0.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	37.7	25.5	38.0	29.7	0.2	40.1	14.7	1.0	37.5	24.5	0.2
Queue Length 50th (ft)	21	52	29	37	0	57	86	0	9	205	0
Queue Length 95th (ft)	57	129	73	80	0	124	219	7	34	#382	0
Internal Link Dist (ft)		2085		364			354			592	
Turn Bay Length (ft)	70		360		200	100		50	95		
Base Capacity (vph)	342	704	342	708	673	342	1845	880	342	1477	727
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.13	0.33	0.19	0.12	0.03	0.37	0.38	0.07	0.06	0.66	0.06

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	WBT	WBR	NBL	NBT	SBT
Lane Group Flow (vph)	360	175	346	736	1236
v/c Ratio	0.77	0.38	0.87	0.33	0.98
Control Delay	42.0	18.5	57.9	8.9	50.7
Queue Delay	0.0	0.0	6.9	0.8	8.3
Total Delay	42.0	18.5	64.8	9.8	59.0
Queue Length 50th (ft)	189	49	189	91	~354
Queue Length 95th (ft)	284	103	#390	164	#598
Internal Link Dist (ft)	1003			225	354
Turn Bay Length (ft)		30	200		
Base Capacity (vph)	670	638	412	2251	1260
Starvation Cap Reductn	0	0	39	1141	44
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.54	0.27	0.93	0.66	1.02

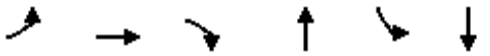
Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Queues
5: Heacock St & SR 60 EB Ramp

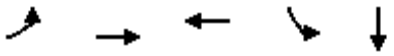
Festival at Moreno Valley Mixed Use
Future (2022) Without Project Weekday AM Peak Hour



Lane Group	EBL	EBT	EBR	NBT	SBL	SBT
Lane Group Flow (vph)	122	121	520	998	174	1015
v/c Ratio	0.25	0.25	0.95	0.47	0.65	0.46
Control Delay	28.3	28.3	56.2	21.4	50.3	11.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	3.2
Total Delay	28.3	28.3	56.2	21.4	50.3	14.4
Queue Length 50th (ft)	62	61	256	157	106	171
Queue Length 95th (ft)	111	110	#466	218	165	217
Internal Link Dist (ft)		711		649		225
Turn Bay Length (ft)					190	
Base Capacity (vph)	508	510	564	2110	536	2190
Starvation Cap Reductn	0	0	0	0	0	1045
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.24	0.24	0.92	0.47	0.32	0.89

Intersection Summary

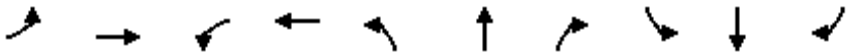
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Lane Group	EBL	EBT	WBT	SBL	SBT
Lane Group Flow (vph)	58	497	1048	161	99
v/c Ratio	0.64	0.31	0.80	0.25	0.12
Control Delay	81.6	17.5	32.1	20.2	0.3
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	81.6	17.5	32.1	20.2	0.3
Queue Length 50th (ft)	38	101	306	64	0
Queue Length 95th (ft)	#108	132	372	122	0
Internal Link Dist (ft)		1226	1262		1473
Turn Bay Length (ft)	150			40	
Base Capacity (vph)	90	2010	1636	649	822
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.64	0.25	0.64	0.25	0.12

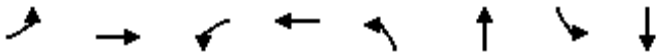
Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



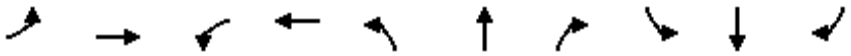
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	43	646	142	927	157	179	88	125	207	108
v/c Ratio	0.27	0.77	0.65	0.80	0.69	0.30	0.15	0.59	0.36	0.19
Control Delay	46.2	37.3	54.2	35.8	56.2	27.7	3.5	51.8	28.9	5.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	46.2	37.3	54.2	35.8	56.2	27.7	3.5	51.8	28.9	5.7
Queue Length 50th (ft)	25	180	84	280	93	84	0	74	101	0
Queue Length 95th (ft)	56	223	139	341	152	138	17	124	158	29
Internal Link Dist (ft)		1262		2351		1355			1475	
Turn Bay Length (ft)	95		100		110		50	80		50
Base Capacity (vph)	261	1018	261	1153	261	597	586	261	580	572
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.16	0.63	0.54	0.80	0.60	0.30	0.15	0.48	0.36	0.19

Intersection Summary



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	13	137	95	187	50	402	59	486
v/c Ratio	0.07	0.34	0.33	0.60	0.30	0.53	0.30	0.56
Control Delay	35.1	28.0	32.8	33.6	41.1	22.0	38.0	20.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	35.1	28.0	32.8	33.6	41.1	22.0	38.0	20.4
Queue Length 50th (ft)	6	25	43	72	24	140	28	178
Queue Length 95th (ft)	21	47	77	119	55	237	59	275
Internal Link Dist (ft)		299		2291		1240		1355
Turn Bay Length (ft)	150		80		145		100	
Base Capacity (vph)	477	944	477	495	168	753	477	862
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.03	0.15	0.20	0.38	0.30	0.53	0.12	0.56

Intersection Summary



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	138	303	25	321	113	252	73	71	283	192
v/c Ratio	0.56	0.35	0.15	0.57	0.48	0.35	0.08	0.35	0.41	0.20
Control Delay	42.9	22.3	38.8	34.3	41.4	21.4	3.6	39.9	23.4	3.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	42.9	22.3	38.8	34.3	41.4	21.4	3.6	39.9	23.4	3.6
Queue Length 50th (ft)	66	54	12	76	54	91	0	34	108	8
Queue Length 95th (ft)	130	93	38	122	110	174	21	77	202	41
Internal Link Dist (ft)		683		1025		879			1240	
Turn Bay Length (ft)	90		100		145		105	90		60
Base Capacity (vph)	312	1214	312	1212	312	725	1016	312	694	1022
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.44	0.25	0.08	0.26	0.36	0.35	0.07	0.23	0.41	0.19

Intersection Summary

Queues
1: Heacock St & Ironwood Ave

Festival at Moreno Valley Mixed Use
Future (2022) Without-Project Weekday PM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	256	500	201	111	398	250	786	211	84	620	232
v/c Ratio	0.98	0.63	0.44	0.54	0.58	0.96	0.58	0.23	0.44	0.56	0.26
Control Delay	92.7	35.9	14.2	49.2	35.5	87.4	27.4	8.1	46.8	29.5	5.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	92.7	35.9	14.2	49.2	35.5	87.4	27.4	8.1	46.8	29.5	5.9
Queue Length 50th (ft)	148	138	31	61	106	144	193	32	46	154	21
Queue Length 95th (ft)	#338	196	93	122	152	#328	314	87	96	238	71
Internal Link Dist (ft)		1991			1226		585			1447	
Turn Bay Length (ft)	90		65	135		140		45	100		95
Base Capacity (vph)	261	1028	555	261	1020	261	1347	955	261	1106	884
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.98	0.49	0.36	0.43	0.39	0.96	0.58	0.22	0.32	0.56	0.26

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Queues
3: Heacock St & Hemlock Ave

Festival at Moreno Valley Mixed Use
Future (2022) Without-Project Weekday PM Peak Hour

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	64	346	92	84	33	228	1195	121	26	878	53
v/c Ratio	0.35	0.80	0.45	0.21	0.08	0.80	0.67	0.14	0.17	0.73	0.09
Control Delay	44.3	35.6	45.5	29.4	0.4	60.0	23.7	5.6	43.1	31.7	0.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	1.3	0.0	0.0	0.0	0.0
Total Delay	44.3	35.6	45.5	29.4	0.4	60.0	25.0	5.6	43.1	31.7	0.3
Queue Length 50th (ft)	34	119	48	38	0	124	232	2	14	227	0
Queue Length 95th (ft)	79	226	104	79	0	#293	#560	41	42	#385	0
Internal Link Dist (ft)		2085		313			354			702	
Turn Bay Length (ft)	70		360		200	100		50	95		
Base Capacity (vph)	285	610	285	594	583	285	1781	853	285	1206	615
Starvation Cap Reductn	0	0	0	0	0	0	352	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.22	0.57	0.32	0.14	0.06	0.80	0.84	0.14	0.09	0.73	0.09

Intersection Summary

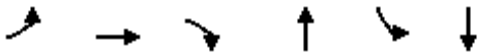
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	WBT	WBR	NBL	NBT	SBT
Lane Group Flow (vph)	365	182	460	1419	1401
v/c Ratio	0.77	0.39	1.12	0.63	1.13
Control Delay	42.3	18.9	116.6	12.8	99.5
Queue Delay	0.0	0.0	0.9	16.0	0.1
Total Delay	42.3	18.9	117.4	28.9	99.6
Queue Length 50th (ft)	192	53	~306	235	~483
Queue Length 95th (ft)	290	108	#560	398	#716
Internal Link Dist (ft)	1003			225	354
Turn Bay Length (ft)		30	200		
Base Capacity (vph)	668	636	410	2245	1235
Starvation Cap Reductn	0	0	34	844	39
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.55	0.29	1.22	1.01	1.17

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

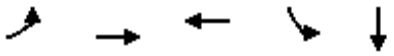


Lane Group	EBL	EBT	EBR	NBT	SBL	SBT
Lane Group Flow (vph)	276	279	571	1788	189	1036
v/c Ratio	0.55	0.55	1.03	0.88	0.67	0.48
Control Delay	34.4	34.5	75.3	33.2	50.5	11.6
Queue Delay	0.0	0.0	0.0	0.0	0.1	4.6
Total Delay	34.4	34.5	75.3	33.2	50.6	16.2
Queue Length 50th (ft)	154	156	~336	363	115	176
Queue Length 95th (ft)	243	246	#547	#531	176	223
Internal Link Dist (ft)		711		649		225
Turn Bay Length (ft)					190	
Base Capacity (vph)	502	504	554	2034	529	2162
Starvation Cap Reductn	0	0	0	0	18	1035
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.55	0.55	1.03	0.88	0.37	0.92

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

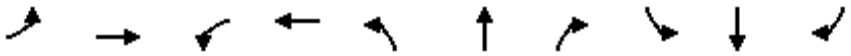


Lane Group	EBL	EBT	WBT	SBL	SBT
Lane Group Flow (vph)	108	784	558	83	60
v/c Ratio	1.33	0.44	0.38	0.14	0.07
Control Delay	253.6	18.3	22.4	20.6	0.2
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	253.6	18.3	22.4	20.6	0.2
Queue Length 50th (ft)	~98	176	135	35	0
Queue Length 95th (ft)	#201	215	173	66	0
Internal Link Dist (ft)		1226	1262		1473
Turn Bay Length (ft)	150			40	
Base Capacity (vph)	81	1777	1453	584	840
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	1.33	0.44	0.38	0.14	0.07

Intersection Summary

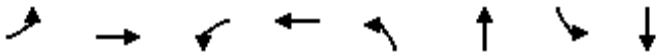
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	109	670	123	453	73	186	221	72	136	80
v/c Ratio	0.49	0.73	0.53	0.48	0.36	0.28	0.33	0.36	0.20	0.13
Control Delay	46.6	34.4	47.7	28.6	44.6	26.4	8.6	44.7	25.9	2.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	46.6	34.4	47.7	28.6	44.6	26.4	8.6	44.7	25.9	2.7
Queue Length 50th (ft)	60	180	68	110	40	81	17	40	58	0
Queue Length 95th (ft)	119	262	132	171	86	154	77	85	116	17
Internal Link Dist (ft)		1262		2351		1355			1475	
Turn Bay Length (ft)	95		100		110		50	80		50
Base Capacity (vph)	299	1160	299	1164	299	665	680	299	664	638
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.36	0.58	0.41	0.39	0.24	0.28	0.33	0.24	0.20	0.13

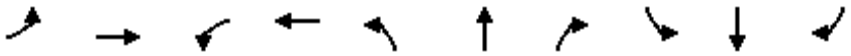
Intersection Summary



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	43	219	113	106	58	587	19	341
v/c Ratio	0.19	0.46	0.46	0.41	0.35	0.66	0.11	0.39
Control Delay	34.2	28.3	38.1	32.6	41.7	21.3	37.0	17.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	34.2	28.3	38.1	32.6	41.7	21.3	37.0	17.0
Queue Length 50th (ft)	20	42	53	43	28	160	9	112
Queue Length 95th (ft)	51	79	106	93	69	#467	31	210
Internal Link Dist (ft)		299		2291		1240		1355
Turn Bay Length (ft)	150		80		145		100	
Base Capacity (vph)	480	957	480	498	169	892	480	868
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.09	0.23	0.24	0.21	0.34	0.66	0.04	0.39

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	397	769	51	356	138	245	85	70	157	278
v/c Ratio	1.49	0.75	0.31	0.49	0.62	0.36	0.10	0.39	0.27	0.29
Control Delay	271.9	34.5	45.1	32.2	51.3	25.5	3.8	45.8	26.4	3.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	271.9	34.5	45.1	32.2	51.3	25.5	3.8	45.8	26.4	3.3
Queue Length 50th (ft)	~335	210	29	91	78	109	0	40	70	5
Queue Length 95th (ft)	#538	296	66	135	143	193	25	83	129	49
Internal Link Dist (ft)		683		1025		879			1240	
Turn Bay Length (ft)	90		100		145		105	90		60
Base Capacity (vph)	266	1044	266	1036	266	690	941	266	592	945
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.49	0.74	0.19	0.34	0.52	0.36	0.09	0.26	0.27	0.29

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Queues
1: Heacock St & Ironwood Ave

Festival at Moreno Valley Mixed Use
Future (2022) With Project Weekday AM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	156	329	171	193	680	140	518	110	61	671	309
v/c Ratio	0.69	0.39	0.34	0.79	0.78	0.64	0.40	0.12	0.36	0.62	0.37
Control Delay	56.9	31.5	6.7	64.6	39.8	54.4	25.8	5.8	47.4	31.9	10.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	56.9	31.5	6.7	64.6	39.8	54.4	25.8	5.8	47.4	31.9	10.9
Queue Length 50th (ft)	94	88	0	119	204	84	132	10	37	193	67
Queue Length 95th (ft)	#176	129	50	#237	271	148	193	40	76	261	133
Internal Link Dist (ft)		1991			1226		695			1447	
Turn Bay Length (ft)	90		65	135		140		45	100		95
Base Capacity (vph)	257	1011	574	257	1006	257	1286	916	257	1088	856
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.61	0.33	0.30	0.75	0.68	0.54	0.40	0.12	0.24	0.62	0.36

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Queues
3: Heacock St & Hemlock Ave

Festival at Moreno Valley Mixed Use
Future (2022) With Project Weekday AM Peak Hour

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	46	219	58	74	6	128	710	87	19	969	47
v/c Ratio	0.22	0.61	0.27	0.26	0.02	0.48	0.36	0.09	0.10	0.62	0.06
Control Delay	35.9	21.0	35.9	31.5	0.2	37.4	12.9	2.3	36.2	21.6	0.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	35.9	21.0	35.9	31.5	0.2	37.4	12.9	2.3	36.2	21.6	0.2
Queue Length 50th (ft)	20	36	25	31	0	55	81	0	8	195	0
Queue Length 95th (ft)	56	108	65	72	0	120	207	18	31	#345	0
Internal Link Dist (ft)		2085		364			354			592	
Turn Bay Length (ft)	70		360		200	100		50	95		
Base Capacity (vph)	358	741	358	741	699	358	1975	934	358	1573	767
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.13	0.30	0.16	0.10	0.01	0.36	0.36	0.09	0.05	0.62	0.06

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Queues
4: Heacock St & SR 60 WB Ramp

Festival at Moreno Valley Mixed Use
Future (2022) With Project Weekday AM Peak Hour

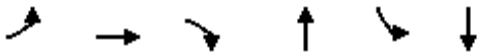
Lane Group	WBT	WBR	NBL	NBT	SBT
Lane Group Flow (vph)	360	184	346	749	1229
v/c Ratio	0.77	0.40	0.87	0.33	0.98
Control Delay	42.0	19.2	57.9	9.0	49.6
Queue Delay	0.0	0.0	6.9	0.9	7.6
Total Delay	42.0	19.2	64.8	9.9	57.1
Queue Length 50th (ft)	189	54	189	93	348
Queue Length 95th (ft)	284	109	#390	166	#593
Internal Link Dist (ft)	1003			225	354
Turn Bay Length (ft)		30	200		
Base Capacity (vph)	670	638	412	2251	1260
Starvation Cap Reductn	0	0	39	1135	44
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.54	0.29	0.93	0.67	1.01

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Queues
5: Heacock St & SR 60 EB Ramp

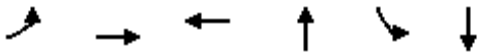
Festival at Moreno Valley Mixed Use
Future (2022) With Project Weekday AM Peak Hour



Lane Group	EBL	EBT	EBR	NBT	SBL	SBT
Lane Group Flow (vph)	129	127	520	997	171	1011
v/c Ratio	0.27	0.26	0.95	0.47	0.64	0.46
Control Delay	28.6	28.5	55.9	21.3	50.2	11.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	3.2
Total Delay	28.6	28.5	55.9	21.3	50.2	14.2
Queue Length 50th (ft)	65	64	256	157	104	170
Queue Length 95th (ft)	116	114	#465	217	162	216
Internal Link Dist (ft)		711		649		225
Turn Bay Length (ft)					190	
Base Capacity (vph)	509	511	565	2118	536	2191
Starvation Cap Reductn	0	0	0	0	0	1047
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.25	0.25	0.92	0.47	0.32	0.88

Intersection Summary

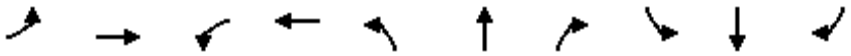
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Lane Group	EBL	EBT	WBT	NBT	SBL	SBT
Lane Group Flow (vph)	58	508	1060	16	161	99
v/c Ratio	0.66	0.31	0.83	0.02	0.26	0.12
Control Delay	84.2	17.1	33.7	0.1	21.1	0.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	84.2	17.1	33.7	0.1	21.1	0.3
Queue Length 50th (ft)	39	103	319	0	68	0
Queue Length 95th (ft)	#108	134	389	0	122	0
Internal Link Dist (ft)		1226	1262	148		1473
Turn Bay Length (ft)	150				40	
Base Capacity (vph)	88	1966	1521	754	628	810
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.66	0.26	0.70	0.02	0.26	0.12

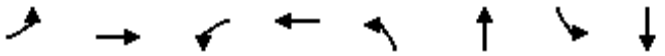
Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	43	653	136	922	157	174	82	125	206	108
v/c Ratio	0.27	0.77	0.63	0.80	0.69	0.29	0.14	0.59	0.36	0.19
Control Delay	46.2	37.5	53.2	35.6	56.2	27.5	2.9	51.8	28.8	5.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	46.2	37.5	53.2	35.6	56.2	27.5	2.9	51.8	28.8	5.7
Queue Length 50th (ft)	25	182	80	278	93	81	0	74	100	0
Queue Length 95th (ft)	56	226	134	338	152	135	14	124	158	29
Internal Link Dist (ft)		1262		2351		1355			1475	
Turn Bay Length (ft)	95		100		110		50	80		50
Base Capacity (vph)	261	1019	261	1152	261	598	587	261	580	572
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.16	0.64	0.52	0.80	0.60	0.29	0.14	0.48	0.36	0.19

Intersection Summary

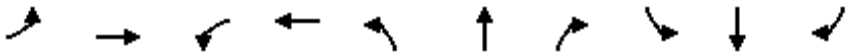


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	1	122	95	174	50	402	59	479
v/c Ratio	0.01	0.30	0.34	0.57	0.29	0.46	0.29	0.52
Control Delay	34.0	27.5	33.3	31.5	39.9	18.7	37.1	18.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	34.0	27.5	33.3	31.5	39.9	18.7	37.1	18.6
Queue Length 50th (ft)	0	21	43	62	24	135	27	170
Queue Length 95th (ft)	5	42	77	108	54	228	58	262
Internal Link Dist (ft)		299		2291		1240		1355
Turn Bay Length (ft)	150		80		145		100	
Base Capacity (vph)	500	982	500	517	176	880	500	928
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.00	0.12	0.19	0.34	0.28	0.46	0.12	0.52

Intersection Summary

Queues
15: Indian St & Sunnymead Blvd

Festival at Moreno Valley Mixed Use
Future (2022) With Project Weekday AM Peak Hour



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	138	303	25	321	113	252	73	71	281	192
v/c Ratio	0.56	0.35	0.15	0.57	0.48	0.35	0.08	0.35	0.40	0.20
Control Delay	42.9	22.3	38.8	34.3	41.4	21.4	3.6	39.9	23.4	3.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	42.9	22.3	38.8	34.3	41.4	21.4	3.6	39.9	23.4	3.5
Queue Length 50th (ft)	66	54	12	76	54	91	0	34	108	8
Queue Length 95th (ft)	130	93	38	122	110	174	21	77	200	41
Internal Link Dist (ft)		683		1025		879			1240	
Turn Bay Length (ft)	90		100		145		105	90		60
Base Capacity (vph)	312	1214	312	1212	312	725	1016	312	694	1023
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.44	0.25	0.08	0.26	0.36	0.35	0.07	0.23	0.40	0.19

Intersection Summary

Queues
1: Heacock St & Ironwood Ave

Festival at Moreno Valley Mixed Use
Future (2022) With-Project Weekday PM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	256	509	212	111	409	265	800	211	84	633	232
v/c Ratio	0.98	0.63	0.45	0.54	0.59	1.02	0.60	0.23	0.44	0.57	0.26
Control Delay	93.4	36.0	14.7	49.3	35.7	101.7	27.8	8.3	46.9	29.9	6.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	93.4	36.0	14.7	49.3	35.7	101.7	27.8	8.3	46.9	29.9	6.5
Queue Length 50th (ft)	148	141	35	61	110	~156	198	32	46	158	24
Queue Length 95th (ft)	#338	200	99	122	156	#352	320	88	96	244	76
Internal Link Dist (ft)		1991			1226		585			1447	
Turn Bay Length (ft)	90		65	135		140		45	100		95
Base Capacity (vph)	261	1025	557	261	1017	261	1343	952	261	1103	877
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.98	0.50	0.38	0.43	0.40	1.02	0.60	0.22	0.32	0.57	0.26

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Queues
3: Heacock St & Hemlock Ave

Festival at Moreno Valley Mixed Use
Future (2022) With-Project Weekday PM Peak Hour

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	64	362	255	106	24	228	1195	249	49	878	53
v/c Ratio	0.37	0.84	1.00	0.20	0.05	0.89	0.82	0.34	0.31	0.81	0.09
Control Delay	46.9	41.9	97.8	28.1	0.2	75.8	33.2	14.0	46.2	37.9	0.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	1.2	0.0	0.0	0.0	0.0
Total Delay	46.9	41.9	97.8	28.1	0.2	75.8	34.4	14.0	46.2	37.9	0.3
Queue Length 50th (ft)	36	148	~154	49	0	135	354	55	28	253	0
Queue Length 95th (ft)	79	254	#337	96	0	#293	#586	136	65	#385	0
Internal Link Dist (ft)		2085		313			354			702	
Turn Bay Length (ft)	70		360		200	100		50	95		
Base Capacity (vph)	256	551	256	552	550	256	1465	722	256	1084	565
Starvation Cap Reductn	0	0	0	0	0	0	107	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.25	0.66	1.00	0.19	0.04	0.89	0.88	0.34	0.19	0.81	0.09

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Queues
4: Heacock St & SR 60 WB Ramp

Festival at Moreno Valley Mixed Use
Future (2022) With-Project Weekday PM Peak Hour

Lane Group	WBT	WBR	NBL	NBT	SBT
Lane Group Flow (vph)	365	241	460	1493	1568
v/c Ratio	0.77	0.51	1.12	0.67	1.27
Control Delay	41.9	23.7	117.6	13.6	155.3
Queue Delay	0.0	0.0	0.9	26.9	0.1
Total Delay	41.9	23.7	118.5	40.4	155.4
Queue Length 50th (ft)	192	83	~306	257	~588
Queue Length 95th (ft)	290	153	#560	435	#834
Internal Link Dist (ft)	1003			225	354
Turn Bay Length (ft)		30	200		
Base Capacity (vph)	667	635	409	2239	1235
Starvation Cap Reductn	0	0	34	812	33
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.55	0.38	1.23	1.05	1.30

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Queues
5: Heacock St & SR 60 EB Ramp

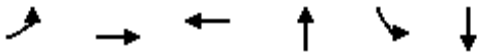
Festival at Moreno Valley Mixed Use
Future (2022) With-Project Weekday PM Peak Hour

Lane Group	EBL	EBT	EBR	NBT	SBL	SBT
Lane Group Flow (vph)	307	311	571	1799	263	1052
v/c Ratio	0.61	0.62	1.04	0.98	0.74	0.49
Control Delay	36.3	36.4	77.2	48.0	49.6	11.7
Queue Delay	0.0	0.0	0.0	0.0	0.4	5.0
Total Delay	36.3	36.4	77.2	48.0	50.1	16.7
Queue Length 50th (ft)	175	178	~340	395	158	180
Queue Length 95th (ft)	272	276	#551	#597	226	228
Internal Link Dist (ft)		711		649		225
Turn Bay Length (ft)					190	
Base Capacity (vph)	502	504	551	1838	529	2162
Starvation Cap Reductn	0	0	0	0	59	1028
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.61	0.62	1.04	0.98	0.56	0.93

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Lane Group	EBL	EBT	WBT	NBT	SBL	SBT
Lane Group Flow (vph)	108	821	593	108	83	60
v/c Ratio	1.33	0.46	0.50	0.17	0.15	0.07
Control Delay	253.6	18.4	24.6	10.4	20.9	0.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	253.6	18.4	24.6	10.4	20.9	0.2
Queue Length 50th (ft)	~98	185	153	20	35	0
Queue Length 95th (ft)	#201	226	196	52	66	0
Internal Link Dist (ft)		1226	1262	148		1473
Turn Bay Length (ft)	150				40	
Base Capacity (vph)	81	1766	1191	647	539	846
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	1.33	0.46	0.50	0.17	0.15	0.07

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
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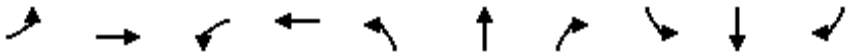
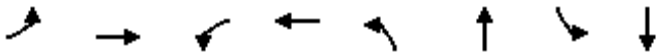
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	109	709	132	462	73	201	232	72	148	80
v/c Ratio	0.51	0.78	0.59	0.44	0.38	0.32	0.36	0.38	0.24	0.13
Control Delay	47.8	37.3	50.0	27.7	45.7	27.1	9.8	45.7	26.3	2.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	47.8	37.3	50.0	27.7	45.7	27.1	9.8	45.7	26.3	2.7
Queue Length 50th (ft)	61	196	74	113	41	92	25	41	66	0
Queue Length 95th (ft)	119	280	140	174	86	166	89	85	125	17
Internal Link Dist (ft)		1262		2351		1355			1475	
Turn Bay Length (ft)	95		100		110		50	80		50
Base Capacity (vph)	279	1083	279	1089	279	621	643	279	620	603
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.39	0.65	0.47	0.42	0.26	0.32	0.36	0.26	0.24	0.13

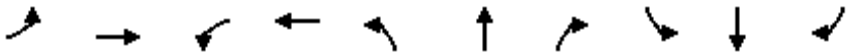
Intersection Summary



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	68	257	113	123	71	587	19	361
v/c Ratio	0.29	0.52	0.48	0.49	0.44	0.65	0.12	0.44
Control Delay	35.9	29.6	40.2	37.1	46.3	21.6	38.0	18.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	35.9	29.6	40.2	37.1	46.3	21.6	38.0	18.9
Queue Length 50th (ft)	32	50	54	53	35	164	9	122
Queue Length 95th (ft)	72	91	109	110	#85	#489	32	233
Internal Link Dist (ft)		299		2291		1240		1355
Turn Bay Length (ft)	150		80		145		100	
Base Capacity (vph)	459	918	459	477	162	908	459	825
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.15	0.28	0.25	0.26	0.44	0.65	0.04	0.44

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	397	769	51	356	138	257	85	70	172	278
v/c Ratio	1.49	0.75	0.31	0.49	0.62	0.37	0.10	0.39	0.29	0.29
Control Delay	271.9	34.5	45.1	32.2	51.3	25.7	3.8	45.8	26.7	3.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	271.9	34.5	45.1	32.2	51.3	25.7	3.8	45.8	26.7	3.3
Queue Length 50th (ft)	~335	210	29	91	78	115	0	40	78	5
Queue Length 95th (ft)	#538	296	66	135	143	203	25	83	140	49
Internal Link Dist (ft)		683		1025		879			1240	
Turn Bay Length (ft)	90		100		145		105	90		60
Base Capacity (vph)	266	1044	266	1036	266	690	941	266	592	945
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.49	0.74	0.19	0.34	0.52	0.37	0.09	0.26	0.29	0.29

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

General Plan (2035)

Queues
1: Heacock St & Ironwood Ave

Festival at Moreno Valley Mixed Use
Future (2035) Without Project Weekday AM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	179	388	171	235	844	138	509	119	66	703	333
v/c Ratio	0.77	0.43	0.33	0.95	0.90	0.65	0.41	0.13	0.39	0.67	0.41
Control Delay	64.1	31.8	8.9	89.6	48.6	55.8	27.1	5.7	48.5	34.4	12.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	64.1	31.8	8.9	89.6	48.6	55.8	27.1	5.7	48.5	34.4	12.9
Queue Length 50th (ft)	111	106	11	151	269	84	132	11	40	208	86
Queue Length 95th (ft)	#214	151	62	#304	#386	147	191	42	80	275	157
Internal Link Dist (ft)		1991			1226		695			1447	
Turn Bay Length (ft)	90		65	135		140		45	100		95
Base Capacity (vph)	247	973	543	247	969	247	1227	884	247	1047	821
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.72	0.40	0.31	0.95	0.87	0.56	0.41	0.13	0.27	0.67	0.41

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Queues
3: Heacock St & Hemlock Ave

Festival at Moreno Valley Mixed Use
Future (2035) Without Project Weekday AM Peak Hour

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	51	209	69	93	24	112	693	79	19	1043	42
v/c Ratio	0.25	0.62	0.32	0.25	0.06	0.46	0.38	0.09	0.10	0.70	0.06
Control Delay	37.5	26.8	37.8	30.0	0.3	39.1	14.6	1.9	37.1	25.4	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	37.5	26.8	37.8	30.0	0.3	39.1	14.6	1.9	37.1	25.4	0.1
Queue Length 50th (ft)	23	52	31	40	0	50	84	0	8	224	0
Queue Length 95th (ft)	62	127	76	86	0	110	212	14	32	#428	0
Internal Link Dist (ft)		2085		364			354			592	
Turn Bay Length (ft)	70		360		200	100		50	95		
Base Capacity (vph)	341	692	341	704	670	341	1844	880	341	1491	733
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.15	0.30	0.20	0.13	0.04	0.33	0.38	0.09	0.06	0.70	0.06

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Queues
4: Heacock St & SR 60 WB Ramp

Festival at Moreno Valley Mixed Use
Future (2035) Without Project Weekday AM Peak Hour

Lane Group	WBT	WBR	NBL	NBT	SBT
Lane Group Flow (vph)	319	189	320	704	1264
v/c Ratio	0.74	0.43	0.82	0.30	0.95
Control Delay	41.3	19.7	52.1	7.8	42.6
Queue Delay	0.0	0.0	2.7	0.7	3.8
Total Delay	41.3	19.7	54.9	8.5	46.4
Queue Length 50th (ft)	162	53	165	78	347
Queue Length 95th (ft)	250	111	#336	144	#593
Internal Link Dist (ft)	1003			225	354
Turn Bay Length (ft)		30	200		
Base Capacity (vph)	688	657	423	2314	1334
Starvation Cap Reductn	0	0	40	1186	43
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.46	0.29	0.84	0.62	0.98

Intersection Summary

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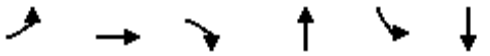

Lane Group	EBL	EBT	EBR	NBT	SBL	SBT
Lane Group Flow (vph)	143	141	537	873	184	1015
v/c Ratio	0.29	0.28	0.97	0.42	0.66	0.47
Control Delay	28.9	28.8	60.1	21.2	50.4	11.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	3.7
Total Delay	28.9	28.8	60.1	21.2	50.4	15.0
Queue Length 50th (ft)	73	72	272	134	112	171
Queue Length 95th (ft)	128	126	#491	189	172	217
Internal Link Dist (ft)		711		649		225
Turn Bay Length (ft)					190	
Base Capacity (vph)	505	507	560	2063	532	2174
Starvation Cap Reductn	0	0	0	0	16	1045
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.28	0.28	0.96	0.42	0.36	0.90

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
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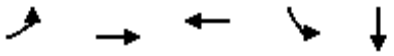

Lane Group	EBL	EBT	WBT	SBL	SBT
Lane Group Flow (vph)	81	545	1280	186	124
v/c Ratio	1.00	0.31	0.89	0.32	0.17
Control Delay	152.2	16.5	38.1	23.5	3.0
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	152.2	16.5	38.1	23.5	3.0
Queue Length 50th (ft)	~58	113	416	87	0
Queue Length 95th (ft)	#155	145	497	140	25
Internal Link Dist (ft)		1226	1262		1473
Turn Bay Length (ft)	150			40	
Base Capacity (vph)	81	1821	1485	588	743
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	1.00	0.30	0.86	0.32	0.17

Intersection Summary

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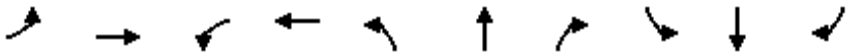

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	44	722	315	1152	202	305	138	158	243	137
v/c Ratio	0.29	0.82	1.29	0.94	0.85	0.54	0.25	0.71	0.45	0.25
Control Delay	47.5	40.5	192.3	47.0	73.0	33.7	8.8	60.0	31.9	8.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	47.5	40.5	192.3	47.0	73.0	33.7	8.8	60.0	31.9	8.8
Queue Length 50th (ft)	27	208	~261	~410	127	166	11	97	127	10
Queue Length 95th (ft)	56	252	#390	#514	#223	233	48	153	184	48
Internal Link Dist (ft)		1262		2351		1355			1475	
Turn Bay Length (ft)	95		100		110		50	80		50
Base Capacity (vph)	245	962	245	1229	245	563	559	245	545	545
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.18	0.75	1.29	0.94	0.82	0.54	0.25	0.64	0.45	0.25

Intersection Summary

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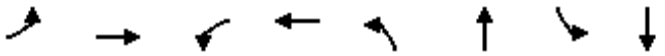
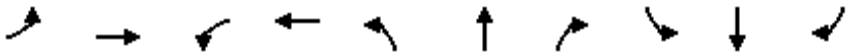


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	11	155	120	257	58	618	104	695
v/c Ratio	0.06	0.39	0.37	0.73	0.37	0.85	0.46	0.86
Control Delay	36.1	28.8	33.4	38.1	45.4	39.7	41.4	36.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	36.1	28.8	33.4	38.1	45.4	39.7	41.4	36.4
Queue Length 50th (ft)	5	28	55	102	29	293	51	328
Queue Length 95th (ft)	19	52	93	158	63	#510	91	#507
Internal Link Dist (ft)		299		2291		1240		1355
Turn Bay Length (ft)	150		80		145		100	
Base Capacity (vph)	446	886	446	470	157	723	446	806
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.02	0.17	0.27	0.55	0.37	0.85	0.23	0.86

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	112	642	45	585	193	415	139	115	449	171
v/c Ratio	0.54	0.71	0.28	0.73	0.78	0.61	0.16	0.55	0.77	0.21
Control Delay	49.4	32.4	45.5	37.8	61.2	32.2	5.1	49.6	40.3	8.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	49.4	32.4	45.5	37.8	61.2	32.2	5.1	49.6	40.3	8.3
Queue Length 50th (ft)	62	160	25	163	109	206	7	64	237	26
Queue Length 95th (ft)	121	225	61	224	#233	#377	41	124	#428	67
Internal Link Dist (ft)		683		1025		879			1240	
Turn Bay Length (ft)	90		100		145		105	90		60
Base Capacity (vph)	263	1069	263	1027	263	683	946	263	586	855
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.43	0.60	0.17	0.57	0.73	0.61	0.15	0.44	0.77	0.20

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Queues
1: Heacock St & Ironwood Ave

Festival at Moreno Valley Mixed Use
Future (2035) Without-Project Weekday PM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	272	858	173	140	568	170	708	199	81	548	220
v/c Ratio	1.10	0.90	0.34	0.66	0.65	0.75	0.58	0.23	0.45	0.52	0.27
Control Delay	128.2	48.8	13.1	56.2	35.6	62.2	30.0	8.2	49.2	31.3	7.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	128.2	48.8	13.1	56.2	35.6	62.2	30.0	8.2	49.2	31.3	7.8
Queue Length 50th (ft)	~202	277	28	85	163	105	198	32	49	154	32
Queue Length 95th (ft)	#364	#395	84	148	221	#199	277	78	94	208	77
Internal Link Dist (ft)		1991			1226		585			1447	
Turn Bay Length (ft)	90		65	135		140		45	100		95
Base Capacity (vph)	247	971	518	247	965	247	1229	892	247	1045	828
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.10	0.88	0.33	0.57	0.59	0.69	0.58	0.22	0.33	0.52	0.27

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Queues
3: Heacock St & Hemlock Ave

Festival at Moreno Valley Mixed Use
Future (2035) Without-Project Weekday PM Peak Hour

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	92	407	98	91	35	164	991	135	24	814	44
v/c Ratio	0.45	0.85	0.48	0.20	0.07	0.68	0.60	0.17	0.16	0.70	0.07
Control Delay	47.4	43.7	47.9	29.2	0.3	54.9	23.8	6.8	44.6	32.4	0.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.8	0.0	0.0	0.0	0.0
Total Delay	47.4	43.7	47.9	29.2	0.3	54.9	24.6	6.8	44.6	32.4	0.2
Queue Length 50th (ft)	53	183	57	43	0	95	215	6	14	234	0
Queue Length 95th (ft)	104	#342	109	86	0	#189	#390	50	40	327	0
Internal Link Dist (ft)		2085		313			354			702	
Turn Bay Length (ft)	70		360		200	100		50	95		
Base Capacity (vph)	277	579	277	574	568	277	1655	801	277	1171	601
Starvation Cap Reductn	0	0	0	0	0	0	356	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.33	0.70	0.35	0.16	0.06	0.59	0.76	0.17	0.09	0.70	0.07

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Queues
4: Heacock St & SR 60 WB Ramp

Festival at Moreno Valley Mixed Use
Future (2035) Without-Project Weekday PM Peak Hour

Lane Group	WBT	WBR	NBL	NBT	SBT
Lane Group Flow (vph)	256	197	393	1142	1214
v/c Ratio	0.69	0.50	0.89	0.47	0.92
Control Delay	40.4	21.8	56.0	7.7	37.6
Queue Delay	0.0	0.0	11.4	1.7	2.7
Total Delay	40.4	21.8	67.4	9.5	40.3
Queue Length 50th (ft)	125	55	197	123	298
Queue Length 95th (ft)	200	116	#412	229	#517
Internal Link Dist (ft)	1003			225	354
Turn Bay Length (ft)		30	200		
Base Capacity (vph)	719	686	442	2415	1320
Starvation Cap Reductn	0	0	40	1044	51
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.36	0.29	0.98	0.83	0.96

Intersection Summary

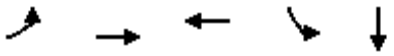
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Queues
5: Heacock St & SR 60 EB Ramp

Festival at Moreno Valley Mixed Use
Future (2035) Without-Project Weekday PM Peak Hour

Lane Group	EBL	EBT	EBR	NBT	SBL	SBT
Lane Group Flow (vph)	261	265	369	1357	199	970
v/c Ratio	0.65	0.65	0.76	0.61	0.66	0.41
Control Delay	39.1	39.4	31.2	22.0	47.3	8.8
Queue Delay	0.0	0.0	0.0	0.0	0.1	1.5
Total Delay	39.1	39.4	31.2	22.0	47.3	10.3
Queue Length 50th (ft)	145	147	129	208	112	129
Queue Length 95th (ft)	228	232	233	326	182	204
Internal Link Dist (ft)		711		649		225
Turn Bay Length (ft)					190	
Base Capacity (vph)	544	546	603	2216	573	2341
Starvation Cap Reductn	0	0	0	0	21	1115
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.48	0.49	0.61	0.61	0.36	0.79

Intersection Summary



Lane Group	EBL	EBT	WBT	SBL	SBT
Lane Group Flow (vph)	138	1139	777	98	71
v/c Ratio	1.70	0.64	0.53	0.17	0.09
Control Delay	396.1	21.9	25.2	21.0	0.2
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	396.1	21.9	25.2	21.0	0.2
Queue Length 50th (ft)	~141	294	206	42	0
Queue Length 95th (ft)	#256	347	253	76	0
Internal Link Dist (ft)		1226	1262		1473
Turn Bay Length (ft)	150			40	
Base Capacity (vph)	81	1777	1455	584	780
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	1.70	0.64	0.53	0.17	0.09

Intersection Summary

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95th percentile volume exceeds capacity, queue may be longer.
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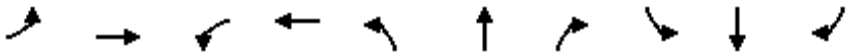

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	133	1001	93	606	132	272	263	85	200	98
v/c Ratio	0.62	0.98	0.48	0.69	0.61	0.41	0.40	0.45	0.35	0.17
Control Delay	53.0	58.7	48.7	35.5	52.7	28.3	14.3	48.1	28.7	4.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	53.0	58.7	48.7	35.5	52.7	28.3	14.3	48.1	28.7	4.7
Queue Length 50th (ft)	77	~341	54	169	77	130	52	50	95	0
Queue Length 95th (ft)	142	#502	105	235	141	226	133	97	167	29
Internal Link Dist (ft)		1262		2351		1355			1475	
Turn Bay Length (ft)	95		100		110		50	80		50
Base Capacity (vph)	261	1019	261	1015	261	662	657	261	579	572
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.51	0.98	0.36	0.60	0.51	0.41	0.40	0.33	0.35	0.17

Intersection Summary

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95th percentile volume exceeds capacity, queue may be longer.
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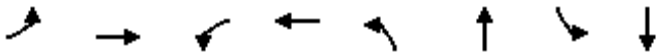

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	44	257	91	202	68	669	38	382
v/c Ratio	0.19	0.53	0.33	0.65	0.43	0.81	0.22	0.47
Control Delay	35.8	30.6	35.1	33.7	48.1	32.3	40.6	21.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	35.8	30.6	35.1	33.7	48.1	32.3	40.6	21.2
Queue Length 50th (ft)	21	51	43	71	34	304	19	139
Queue Length 95th (ft)	54	95	89	146	#89	#674	52	273
Internal Link Dist (ft)		299		2291		1240		1355
Turn Bay Length (ft)	150		80		145		100	
Base Capacity (vph)	447	899	447	474	158	828	447	807
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.10	0.29	0.20	0.43	0.43	0.81	0.09	0.47

Intersection Summary

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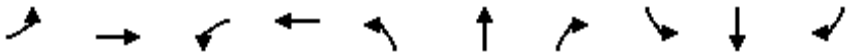

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	244	1222	103	680	241	409	192	116	252	124
v/c Ratio	1.00	1.26	0.53	0.78	0.99	0.69	0.24	0.58	0.46	0.16
Control Delay	101.8	158.2	51.4	40.7	98.7	37.9	6.9	53.0	32.2	7.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	101.8	158.2	51.4	40.7	98.7	37.9	6.9	53.0	32.2	7.7
Queue Length 50th (ft)	~159	~502	62	203	154	229	23	70	131	18
Queue Length 95th (ft)	#318	#663	114	268	#314	#377	64	126	209	51
Internal Link Dist (ft)		683		1025		879			1240	
Turn Bay Length (ft)	90		100		145		105	90		60
Base Capacity (vph)	244	968	244	953	244	590	855	244	543	791
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.00	1.26	0.42	0.71	0.99	0.69	0.22	0.48	0.46	0.16

Intersection Summary

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Queues
1: Heacock St & Ironwood Ave

Festival at Moreno Valley Mixed Use
Future (2035) With Project Weekday AM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	179	382	170	235	838	135	506	119	66	702	333
v/c Ratio	0.77	0.42	0.33	0.95	0.90	0.64	0.41	0.13	0.39	0.67	0.41
Control Delay	64.0	31.7	8.7	89.0	48.0	55.2	27.1	5.7	48.5	34.3	12.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	64.0	31.7	8.7	89.0	48.0	55.2	27.1	5.7	48.5	34.3	12.7
Queue Length 50th (ft)	110	104	10	150	265	82	131	11	40	207	85
Queue Length 95th (ft)	#214	150	61	#304	#382	144	189	42	80	275	156
Internal Link Dist (ft)		1991			1226		695			1447	
Turn Bay Length (ft)	90		65	135		140		45	100		95
Base Capacity (vph)	248	975	544	248	970	248	1227	884	248	1049	823
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.72	0.39	0.31	0.95	0.86	0.54	0.41	0.13	0.27	0.67	0.40

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
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Queues
3: Heacock St & Hemlock Ave

Festival at Moreno Valley Mixed Use
Future (2035) With Project Weekday AM Peak Hour

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	51	198	62	81	9	112	693	101	16	1043	42
v/c Ratio	0.25	0.59	0.29	0.29	0.03	0.44	0.33	0.10	0.09	0.66	0.05
Control Delay	35.9	22.9	36.0	31.8	0.1	36.8	11.1	3.0	36.1	22.5	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	35.9	22.9	36.0	31.8	0.1	36.8	11.1	3.0	36.1	22.5	0.1
Queue Length 50th (ft)	22	39	27	34	0	48	79	0	7	214	0
Queue Length 95th (ft)	60	108	69	77	0	108	200	24	28	#410	0
Internal Link Dist (ft)		2085		364			354			592	
Turn Bay Length (ft)	70		360		200	100		50	95		
Base Capacity (vph)	355	724	355	734	694	355	2074	975	355	1586	773
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.14	0.27	0.17	0.11	0.01	0.32	0.33	0.10	0.05	0.66	0.05

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Queues
4: Heacock St & SR 60 WB Ramp

Festival at Moreno Valley Mixed Use
Future (2035) With Project Weekday AM Peak Hour

Lane Group	WBT	WBR	NBL	NBT	SBT
Lane Group Flow (vph)	319	198	320	717	1257
v/c Ratio	0.74	0.45	0.82	0.31	0.94
Control Delay	41.3	20.0	52.1	7.8	41.7
Queue Delay	0.0	0.0	2.7	0.7	3.2
Total Delay	41.3	20.0	54.9	8.5	44.9
Queue Length 50th (ft)	162	56	165	80	344
Queue Length 95th (ft)	250	116	#336	147	#588
Internal Link Dist (ft)	1003			225	354
Turn Bay Length (ft)		30	200		
Base Capacity (vph)	688	659	423	2314	1335
Starvation Cap Reductn	0	0	40	1180	42
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.46	0.30	0.84	0.63	0.97

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
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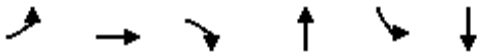
Queues
5: Heacock St & SR 60 EB Ramp

Festival at Moreno Valley Mixed Use
Future (2035) With Project Weekday AM Peak Hour



Lane Group	EBL	EBT	EBR	NBT	SBL	SBT
Lane Group Flow (vph)	149	148	537	872	181	1011
v/c Ratio	0.30	0.30	0.97	0.42	0.66	0.46
Control Delay	29.1	29.0	59.8	21.0	50.4	11.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	3.6
Total Delay	29.1	29.0	59.8	21.0	50.4	14.9
Queue Length 50th (ft)	76	75	271	134	110	170
Queue Length 95th (ft)	132	131	#490	188	170	216
Internal Link Dist (ft)		711		649		225
Turn Bay Length (ft)					190	
Base Capacity (vph)	505	507	562	2073	532	2175
Starvation Cap Reductn	0	0	0	0	0	1047
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.30	0.29	0.96	0.42	0.34	0.90

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
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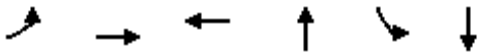

Lane Group	EBL	EBT	WBT	NBT	SBL	SBT
Lane Group Flow (vph)	81	557	1291	16	186	124
v/c Ratio	1.00	0.31	0.94	0.02	0.32	0.17
Control Delay	155.2	16.4	43.7	0.1	23.8	3.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	155.2	16.4	43.7	0.1	23.8	3.0
Queue Length 50th (ft)	~58	115	437	0	87	0
Queue Length 95th (ft)	#155	148	#564	0	141	25
Internal Link Dist (ft)		1226	1262	148		1473
Turn Bay Length (ft)	150				40	
Base Capacity (vph)	81	1798	1394	689	574	737
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	1.00	0.31	0.93	0.02	0.32	0.17

Intersection Summary

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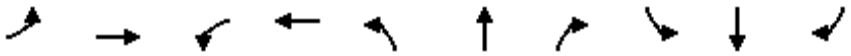


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	44	730	310	1146	202	300	132	158	242	137
v/c Ratio	0.29	0.82	1.27	0.93	0.85	0.53	0.24	0.72	0.44	0.25
Control Delay	47.5	40.9	185.5	46.2	73.2	33.5	8.2	60.1	31.9	8.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	47.5	40.9	185.5	46.2	73.2	33.5	8.2	60.1	31.9	8.8
Queue Length 50th (ft)	27	212	~254	~393	127	163	8	97	127	10
Queue Length 95th (ft)	56	255	#384	#510	#223	229	44	153	184	48
Internal Link Dist (ft)		1262		2351		1355			1475	
Turn Bay Length (ft)	95		100		110		50	80		50
Base Capacity (vph)	245	961	245	1230	245	562	558	245	544	544
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.18	0.76	1.27	0.93	0.82	0.53	0.24	0.64	0.44	0.25

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

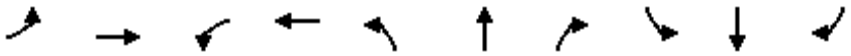
Lane Group	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	139	120	244	58	618	104	687
v/c Ratio	0.36	0.39	0.71	0.37	0.84	0.46	0.84
Control Delay	28.1	33.7	35.9	44.6	38.0	40.7	34.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	28.1	33.7	35.9	44.6	38.0	40.7	34.0
Queue Length 50th (ft)	24	55	91	29	283	50	313
Queue Length 95th (ft)	47	93	145	63	#505	90	#492
Internal Link Dist (ft)	299		2291		1240		1355
Turn Bay Length (ft)		80		145		100	
Base Capacity (vph)	893	451	478	159	732	451	817
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.16	0.27	0.51	0.36	0.84	0.23	0.84

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Queues
15: Indian St & Sunnymead Blvd

Festival at Moreno Valley Mixed Use
Future (2035) With Project Weekday AM Peak Hour



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	112	642	45	585	193	415	139	115	447	171
v/c Ratio	0.54	0.71	0.28	0.73	0.78	0.61	0.16	0.55	0.76	0.21
Control Delay	49.4	32.4	45.5	37.8	61.2	32.2	5.1	49.6	40.1	8.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	49.4	32.4	45.5	37.8	61.2	32.2	5.1	49.6	40.1	8.3
Queue Length 50th (ft)	62	160	25	163	109	206	7	64	236	26
Queue Length 95th (ft)	121	225	61	224	#233	#377	41	124	#425	67
Internal Link Dist (ft)		683		1025		879			1240	
Turn Bay Length (ft)	90		100		145		105	90		60
Base Capacity (vph)	263	1069	263	1027	263	683	946	263	586	855
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.43	0.60	0.17	0.57	0.73	0.61	0.15	0.44	0.76	0.20

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Queues
1: Heacock St & Ironwood Ave

Festival at Moreno Valley Mixed Use
Future (2035) With-Project Weekday PM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	272	867	185	140	579	186	722	199	81	560	220
v/c Ratio	1.11	0.91	0.36	0.66	0.66	0.80	0.59	0.23	0.45	0.54	0.27
Control Delay	130.6	50.1	14.4	56.5	36.1	66.9	30.2	8.3	49.4	31.7	8.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	130.6	50.1	14.4	56.5	36.1	66.9	30.2	8.3	49.4	31.7	8.7
Queue Length 50th (ft)	~202	282	34	85	167	116	204	33	49	158	38
Queue Length 95th (ft)	#364	#402	93	148	225	#226	283	79	94	214	84
Internal Link Dist (ft)		1991			1226		585			1447	
Turn Bay Length (ft)	90		65	135		140		45	100		95
Base Capacity (vph)	245	966	516	245	959	245	1234	892	245	1039	817
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.11	0.90	0.36	0.57	0.60	0.76	0.59	0.22	0.33	0.54	0.27

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Queues
3: Heacock St & Hemlock Ave

Festival at Moreno Valley Mixed Use
Future (2035) With-Project Weekday PM Peak Hour

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	92	424	261	113	26	164	991	264	47	814	44
v/c Ratio	0.49	0.90	1.05	0.20	0.05	0.73	0.72	0.38	0.31	0.77	0.08
Control Delay	50.1	51.4	112.9	28.3	0.2	60.5	31.0	15.6	47.5	37.5	0.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.0	0.0	0.0	0.0
Total Delay	50.1	51.4	112.9	28.3	0.2	60.5	31.6	15.6	47.5	37.5	0.3
Queue Length 50th (ft)	56	212	~189	54	0	101	302	69	29	253	0
Queue Length 95th (ft)	104	#376	#345	103	0	#189	#436	148	64	327	0
Internal Link Dist (ft)		2085		313			354			702	
Turn Bay Length (ft)	70		360		200	100		50	95		
Base Capacity (vph)	249	524	249	570	565	249	1377	686	249	1054	552
Starvation Cap Reductn	0	0	0	0	0	0	113	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.37	0.81	1.05	0.20	0.05	0.66	0.78	0.38	0.19	0.77	0.08

Intersection Summary

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Queue shown is maximum after two cycles.

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Queue shown is maximum after two cycles.

Queues
4: Heacock St & SR 60 WB Ramp

Festival at Moreno Valley Mixed Use
Future (2035) With-Project Weekday PM Peak Hour

Lane Group	WBT	WBR	NBL	NBT	SBT
Lane Group Flow (vph)	256	255	393	1216	1382
v/c Ratio	0.68	0.66	0.89	0.50	1.05
Control Delay	40.0	30.8	56.4	8.2	65.3
Queue Delay	0.0	0.0	11.3	2.1	14.0
Total Delay	40.0	30.8	67.7	10.2	79.2
Queue Length 50th (ft)	125	91	201	142	~414
Queue Length 95th (ft)	200	167	#412	251	#628
Internal Link Dist (ft)	1003			225	354
Turn Bay Length (ft)		30	200		
Base Capacity (vph)	717	678	441	2410	1319
Starvation Cap Reductn	0	0	39	1000	43
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.36	0.38	0.98	0.86	1.08

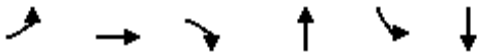
Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Queues
5: Heacock St & SR 60 EB Ramp

Festival at Moreno Valley Mixed Use
Future (2035) With-Project Weekday PM Peak Hour



Lane Group	EBL	EBT	EBR	NBT	SBL	SBT
Lane Group Flow (vph)	292	296	369	1368	273	985
v/c Ratio	0.69	0.70	0.75	0.69	0.74	0.43
Control Delay	40.8	41.1	30.3	26.8	47.1	9.3
Queue Delay	0.0	0.0	0.0	0.0	0.3	1.7
Total Delay	40.8	41.1	30.3	26.8	47.4	11.0
Queue Length 50th (ft)	166	168	132	235	155	138
Queue Length 95th (ft)	257	261	236	#387	232	209
Internal Link Dist (ft)		711		649		225
Turn Bay Length (ft)					190	
Base Capacity (vph)	536	538	593	1983	565	2309
Starvation Cap Reductn	0	0	0	0	57	1097
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.54	0.55	0.62	0.69	0.54	0.81

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBL	EBT	WBT	NBT	SBL	SBT
Lane Group Flow (vph)	138	1176	813	108	98	71
v/c Ratio	1.70	0.67	0.73	0.17	0.18	0.09
Control Delay	396.1	22.4	31.1	10.5	21.3	0.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	396.1	22.4	31.1	10.5	21.3	0.2
Queue Length 50th (ft)	~141	308	242	20	42	0
Queue Length 95th (ft)	#256	362	302	52	77	0
Internal Link Dist (ft)		1226	1262	148		1473
Turn Bay Length (ft)	150				40	
Base Capacity (vph)	81	1768	1108	644	539	782
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	1.70	0.67	0.73	0.17	0.18	0.09

Intersection Summary

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95th percentile volume exceeds capacity, queue may be longer.
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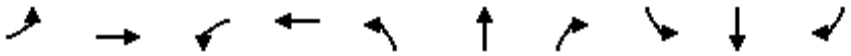

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	133	1039	102	615	132	287	274	85	212	98
v/c Ratio	0.62	1.02	0.51	0.70	0.61	0.43	0.42	0.45	0.37	0.17
Control Delay	53.1	69.2	49.6	35.7	52.9	28.9	15.2	48.2	29.2	4.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	53.1	69.2	49.6	35.7	52.9	28.9	15.2	48.2	29.2	4.7
Queue Length 50th (ft)	78	~371	60	172	77	139	58	50	103	0
Queue Length 95th (ft)	142	#530	113	239	141	238	143	97	176	29
Internal Link Dist (ft)		1262		2351		1355			1475	
Turn Bay Length (ft)	95		100		110		50	80		50
Base Capacity (vph)	260	1014	260	1012	260	660	654	260	578	570
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.51	1.02	0.39	0.61	0.51	0.43	0.42	0.33	0.37	0.17

Intersection Summary

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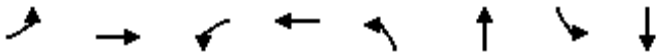

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	69	295	91	219	81	669	38	402
v/c Ratio	0.29	0.57	0.31	0.68	0.53	0.83	0.22	0.51
Control Delay	37.4	31.7	35.0	37.6	53.8	34.7	41.7	22.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	37.4	31.7	35.0	37.6	53.8	34.7	41.7	22.8
Queue Length 50th (ft)	34	61	43	86	42	320	19	155
Queue Length 95th (ft)	76	108	91	169	#114	#688	53	295
Internal Link Dist (ft)		299		2291		1240		1355
Turn Bay Length (ft)	150		80		145		100	
Base Capacity (vph)	438	883	438	461	154	810	438	786
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.16	0.33	0.21	0.48	0.53	0.83	0.09	0.51

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
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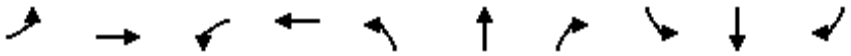

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	244	1222	103	680	241	422	192	116	267	124
v/c Ratio	1.00	1.26	0.53	0.78	0.99	0.72	0.24	0.58	0.49	0.16
Control Delay	101.8	158.2	51.4	40.7	98.7	38.9	6.9	53.0	32.8	7.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	101.8	158.2	51.4	40.7	98.7	38.9	6.9	53.0	32.8	7.7
Queue Length 50th (ft)	~159	~502	62	203	154	238	23	70	140	18
Queue Length 95th (ft)	#318	#663	114	268	#314	#397	64	126	221	51
Internal Link Dist (ft)		683		1025		879			1240	
Turn Bay Length (ft)	90		100		145		105	90		60
Base Capacity (vph)	244	968	244	953	244	590	855	244	543	791
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.00	1.26	0.42	0.71	0.99	0.72	0.22	0.48	0.49	0.16

Intersection Summary

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Queue shown is maximum after two cycles.

SimTraffic Queue Reports

Existing

SimTraffic Performance Report
Existing (2017) Weekday AM Peak Hour 12/04/2017

1: Heacock St & Ironwood Ave Performance by lane

Lane	EB	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	SB
Movements Served	L	T	T	R	L	T	TR	L	T	T	R	L
Vehicles Entered	0	393	149	0	0	398	345	0	274	340	0	0
Vehicles Exited	125	155	131	125	152	271	325	113	184	230	88	49
Hourly Exit Rate	125	155	131	125	152	271	325	113	184	230	88	49

1: Heacock St & Ironwood Ave Performance by lane

Lane	SB	SB	SB	All
Movements Served	T	T	R	
Vehicles Entered	526	349	0	2773
Vehicles Exited	310	245	275	2776
Hourly Exit Rate	310	245	275	2776

2: Heacock St & New Project Access Performance by lane

Lane	NB	NB	SB	SB	All
Movements Served	T	TR	LT	T	
Vehicles Entered	297	333	399	433	1461
Vehicles Exited	282	350	332	495	1460
Hourly Exit Rate	282	350	332	495	1460

3: Heacock St & Hemlock Ave Performance by lane

Lane	EB	EB	WB	WB	WB	NB	NB	NB	NB	SB	SB	SB
Movements Served	L	TR	L	T	R	L	T	T	R	L	T	T
Vehicles Entered	137	75	1	145	1	0	357	380	0	0	348	463
Vehicles Exited	39	171	50	79	17	95	267	308	63	17	359	439
Hourly Exit Rate	39	171	50	79	17	95	267	308	63	17	359	439

3: Heacock St & Hemlock Ave Performance by lane

Lane	SB	All
Movements Served	R	
Vehicles Entered	45	1954
Vehicles Exited	45	1949
Hourly Exit Rate	45	1949

4: Heacock St & SR 60 WB Ramp Performance by lane

Lane	WB	WB	NB	NB	NB	SB	SB	All
Movements Served	LT	R	L	T	T	T	TR	
Vehicles Entered	422	0	1	646	222	406	554	2251
Vehicles Exited	268	155	285	328	252	459	494	2240
Hourly Exit Rate	268	155	285	328	252	459	494	2240

5: Heacock St & SR 60 EB Ramp Performance by lane

Lane	EB	EB	EB	NB	NB	NB	SB	SB	SB	All
Movements Served	L	LT	R	T	T	TR	L	T	T	
Vehicles Entered	183	42	365	505	137	156	1	619	334	2342
Vehicles Exited	168	47	374	473	160	164	145	422	387	2338
Hourly Exit Rate	168	47	374	473	160	164	145	422	387	2338

6: Hemlock Ave & New Project Access Performance by lane

Lane	EB	EB	WB	WB	NB	All
Movements Served	LT	TR	LT	TR	LTR	
Vehicles Entered	71	72	122	25	1	291
Vehicles Exited	64	79	122	24	1	290
Hourly Exit Rate	64	79	122	24	1	290

7: Davis St & Hemlock Ave Performance by lane

Lane	EB	EB	EB	WB	WB	NB	SB	All
Movements Served	L	T	TR	L	TR	LTR	R	
Vehicles Entered	0	66	77	0	142	1	4	291
Vehicles Exited	10	57	78	0	142	1	4	293
Hourly Exit Rate	10	57	78	0	142	1	4	293

8: Hemlock Ave & IHOP Access Performance by lane

Lane	EB	WB	SB	All
Movements Served	LT	TR	LR	
Vehicles Entered	132	143	5	280
Vehicles Exited	132	144	5	280
Hourly Exit Rate	132	144	5	280

9: Hemlock Ave & Middle Access Performance by lane

Lane	EB	WB	SB	All
Movements Served	LT	TR	LR	
Vehicles Entered	114	156	10	278
Vehicles Exited	114	156	9	278
Hourly Exit Rate	114	156	9	278

10: Hemlock Ave & West Access Performance by lane

Lane	EB	WB	SB	All
Movements Served	T	TR	R	
Vehicles Entered	104	158	1	263
Vehicles Exited	104	158	1	263
Hourly Exit Rate	104	158	1	263

11: Hemlock Ave & Nita Dr Performance by lane

Lane	EB	WB	SB	All
Movements Served	T	TR	R	
Vehicles Entered	103	157	7	267
Vehicles Exited	102	157	7	266
Hourly Exit Rate	102	157	7	266

12: Driveway/Davis St & Ironwood Ave Performance by lane

Lane	EB	EB	EB	WB	WB	SB	SB	All
Movements Served	L	T	TR	T	TR	L	TR	
Vehicles Entered	0	209	231	404	422	0	213	1480
Vehicles Exited	45	170	228	386	433	131	84	1478
Hourly Exit Rate	45	170	228	386	433	131	84	1478

13: Indian St & Ironwood Ave Performance by lane

Lane	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Movements Served	L	T	TR	L	T	TR	L	T	R	L	T	R
Vehicles Entered	0	254	280	0	598	195	0	300	0	0	308	0
Vehicles Exited	30	208	294	90	319	384	122	128	50	89	147	71
Hourly Exit Rate	30	208	294	90	319	384	122	128	50	89	147	71

13: Indian St & Ironwood Ave Performance by lane

Lane	All
Movements Served	
Vehicles Entered	1935
Vehicles Exited	1932
Hourly Exit Rate	1932

14: Indian St & Hemlock Ave Performance by lane

Lane	EB	EB	EB	WB	WB	NB	NB	SB	SB	All
Movements Served	L	T	TR	L	TR	L	TR	L	TR	
Vehicles Entered	0	77	30	0	191	0	294	0	368	960
Vehicles Exited	8	45	53	53	138	33	259	35	335	957
Hourly Exit Rate	8	45	53	53	138	33	259	35	335	957

15: Indian St & Sunnymead Blvd Performance by lane

Lane	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Movements Served	L	T	TR	L	T	TR	L	T	R	L	T	R
Vehicles Entered	0	183	88	0	217	65	0	345	0	0	398	0
Vehicles Exited	48	126	96	22	164	98	82	200	63	60	254	86
Hourly Exit Rate	48	126	96	22	164	98	82	200	63	60	254	86

15: Indian St & Sunnymead Blvd Performance by lane

Lane	All
Movements Served	
Vehicles Entered	1295
Vehicles Exited	1299
Hourly Exit Rate	1299

Total Network Performance

Vehicles Entered	6077
Vehicles Exited	6053
Hourly Exit Rate	6053
Input Volume	24251
% of Volume	25

Queuing and Blocking Report
Existing (2017) Weekday AM Peak Hour

12/04/2017

Intersection: 1: Heacock St & Ironwood Ave

Movement	EB	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	SB
Directions Served	L	T	T	R	L	T	TR	L	T	T	R	L
Maximum Queue (ft)	115	176	150	90	160	268	266	161	181	200	70	124
Average Queue (ft)	74	79	68	45	106	143	152	76	74	98	39	49
95th Queue (ft)	120	148	132	98	178	258	257	139	148	171	88	111
Link Distance (ft)		2012	2012			1213	1213		694	694		
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	90			65	135			140			45	100
Storage Blk Time (%)	10	5	11	1	7	12		2	1	31	2	1
Queuing Penalty (veh)	15	7	14	2	19	20		4	1	29	5	2

Intersection: 1: Heacock St & Ironwood Ave

Movement	SB	SB	SB
Directions Served	T	T	R
Maximum Queue (ft)	219	275	120
Average Queue (ft)	128	137	99
95th Queue (ft)	204	242	145
Link Distance (ft)	1480	1480	
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			95
Storage Blk Time (%)	18	13	8
Queuing Penalty (veh)	9	34	23

Intersection: 2: Heacock St & New Project Access

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Queuing and Blocking Report
Existing (2017) Weekday AM Peak Hour

12/04/2017

Intersection: 3: Heacock St & Hemlock Ave

Movement	EB	EB	WB	WB	WB	NB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	T	R	L	T	T	R	L	T	T
Maximum Queue (ft)	71	142	80	99	20	123	190	199	75	89	251	279
Average Queue (ft)	25	63	31	37	7	57	70	79	26	17	111	139
95th Queue (ft)	57	116	68	79	22	113	148	155	70	56	210	238
Link Distance (ft)	2106	2106		357			350	350			592	592
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)			360		200	100			50	95		
Storage Blk Time (%)						1	3	14	0		10	
Queuing Penalty (veh)						3	3	8	0		2	

Intersection: 3: Heacock St & Hemlock Ave

Movement	SB
Directions Served	R
Maximum Queue (ft)	44
Average Queue (ft)	12
95th Queue (ft)	33
Link Distance (ft)	592
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 4: Heacock St & SR 60 WB Ramp

Movement	WB	WB	NB	NB	NB	SB	SB
Directions Served	LT	R	L	T	T	T	TR
Maximum Queue (ft)	316	58	224	298	259	344	360
Average Queue (ft)	179	49	167	123	85	190	223
95th Queue (ft)	295	65	239	261	181	310	343
Link Distance (ft)	1034			257	257	350	350
Upstream Blk Time (%)				2	0	0	1
Queuing Penalty (veh)				11	1	0	2
Storage Bay Dist (ft)		30	200				
Storage Blk Time (%)	55	11	7	0			
Queuing Penalty (veh)	83	28	22	1			

Intersection: 5: Heacock St & SR 60 EB Ramp

Movement	EB	EB	EB	NB	NB	NB	SB	SB	SB
Directions Served	L	LT	R	T	T	TR	L	T	T
Maximum Queue (ft)	177	138	208	282	240	113	186	176	198
Average Queue (ft)	96	33	101	143	68	31	89	74	72
95th Queue (ft)	157	92	173	242	164	77	158	149	157
Link Distance (ft)	742	742	742	685	685	685		257	257
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (ft)							190		
Storage Blk Time (%)							0	0	
Queuing Penalty (veh)							2	0	

Intersection: 6: Hemlock Ave & New Project Access

Movement	NB
Directions Served	LTR
Maximum Queue (ft)	17
Average Queue (ft)	1
95th Queue (ft)	9
Link Distance (ft)	255
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 7: Davis St & Hemlock Ave

Movement	EB	NB	SB
Directions Served	L	LTR	R
Maximum Queue (ft)	20	17	25
Average Queue (ft)	1	1	3
95th Queue (ft)	10	8	17
Link Distance (ft)		157	573
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)	180		
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 8: Hemlock Ave & IHOP Access

Movement	EB	SB
Directions Served	LT	LR
Maximum Queue (ft)	31	28
Average Queue (ft)	2	4
95th Queue (ft)	15	20
Link Distance (ft)	284	380
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 9: Hemlock Ave & Middle Access

Movement	EB	SB
Directions Served	LT	LR
Maximum Queue (ft)	23	31
Average Queue (ft)	2	9
95th Queue (ft)	15	31
Link Distance (ft)	542	236
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 10: Hemlock Ave & West Access

Movement	SB
Directions Served	R
Maximum Queue (ft)	9
Average Queue (ft)	1
95th Queue (ft)	7
Link Distance (ft)	328
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 11: Hemlock Ave & Nita Dr

Movement	SB
Directions Served	R
Maximum Queue (ft)	31
Average Queue (ft)	6
95th Queue (ft)	26
Link Distance (ft)	253
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 12: Driveway/Davis St & Ironwood Ave

Movement	EB	EB	EB	WB	WB	SB	SB
Directions Served	L	T	TR	T	TR	L	TR
Maximum Queue (ft)	110	137	160	294	322	64	141
Average Queue (ft)	42	68	83	174	198	44	45
95th Queue (ft)	88	126	144	275	305	74	116
Link Distance (ft)		1213	1213	1261	1261		1507
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)	150					40	
Storage Blk Time (%)	0	0				14	3
Queuing Penalty (veh)	0	0				11	4

Intersection: 13: Indian St & Ironwood Ave

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	TR	L	T	TR	L	T	R	L	T	R
Maximum Queue (ft)	83	198	207	124	271	296	132	206	74	105	219	75
Average Queue (ft)	25	85	107	70	131	155	83	75	29	62	88	37
95th Queue (ft)	69	160	189	131	221	242	139	161	72	111	182	78
Link Distance (ft)		1261	1261		2384	2384		1353			1508	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	95			100			110		50	80		50
Storage Blk Time (%)	0	6		2	14		7	16	1	10	20	1
Queuing Penalty (veh)	0	2		7	12		12	27	2	22	36	3

Queuing and Blocking Report
Existing (2017) Weekday AM Peak Hour

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Intersection: 14: Indian St & Hemlock Ave

Movement	EB	EB	EB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	TR	L	TR	L	TR	L	TR
Maximum Queue (ft)	33	65	72	99	141	88	204	113	216
Average Queue (ft)	6	30	28	39	65	29	80	32	95
95th Queue (ft)	25	57	58	81	118	65	155	78	181
Link Distance (ft)		318	318		2337		1227		1353
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (ft)	150			80		145		100	
Storage Blk Time (%)				1	6		1		8
Queuing Penalty (veh)				2	3		0		4

Intersection: 15: Indian St & Sunnymead Blvd

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	TR	L	T	TR	L	T	R	L	T	R
Maximum Queue (ft)	93	138	96	60	131	122	113	170	107	114	269	85
Average Queue (ft)	32	54	28	17	72	44	56	69	24	47	93	37
95th Queue (ft)	67	105	64	46	117	92	97	130	64	98	194	93
Link Distance (ft)		715	715		1059	1059		913			1227	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	90			100			145		105	90		60
Storage Blk Time (%)	1	2			2		0	2	0	1	12	1
Queuing Penalty (veh)	0	1			0		0	3	0	3	18	4

Network Summary

Network wide Queuing Penalty: 527

1: Heacock St & Ironwood Ave Performance by lane

Lane	EB	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	SB
Movements Served	L	T	T	R	L	T	TR	L	T	T	R	L
Denied Del/Veh (s)												
Total Del/Veh (s)	43.6	52.1	33.0	3.1	38.6	34.6	32.5	42.0	25.3	34.1	5.6	40.3
Vehicles Entered	0	562	217	0	0	238	228	0	432	552	0	0
Vehicles Exited	225	200	241	121	103	163	209	144	334	315	183	71
Hourly Exit Rate	225	200	241	121	103	163	209	144	334	315	183	71

1: Heacock St & Ironwood Ave Performance by lane

Lane	SB	SB	SB	All
Movements Served	T	T	R	
Denied Del/Veh (s)				0.5
Total Del/Veh (s)	28.1	28.8	9.5	30.0
Vehicles Entered	501	299	0	3029
Vehicles Exited	279	233	212	3034
Hourly Exit Rate	279	233	212	3034

2: Heacock St & New Project Access Performance by lane

Lane	NB	NB	SB	SB	SB	All
Movements Served	T	TR	LT	T	T	
Denied Del/Veh (s)						0.0
Total Del/Veh (s)	2.6	2.6	2.7	1.8	2.8	2.5
Vehicles Entered	484	553	339	237	162	1775
Vehicles Exited	459	580	294	397	48	1778
Hourly Exit Rate	459	580	294	397	48	1778

3: Heacock St & Hemlock Ave Performance by lane

Lane	EB	EB	WB	WB	WB	NB	NB	NB	NB	SB	SB	SB
Movements Served	L	TR	L	T	R	L	T	T	R	L	T	T
Denied Del/Veh (s)												
Total Del/Veh (s)	35.1	20.7	30.9	24.7	7.9	34.5	17.8	17.9	1.2	37.6	20.1	21.2
Vehicles Entered	178	115	0	190	0	0	539	667	0	0	315	407
Vehicles Exited	50	243	68	88	32	134	450	515	109	20	320	388
Hourly Exit Rate	50	243	68	88	32	134	450	515	109	20	320	388

3: Heacock St & Hemlock Ave Performance by lane

Lane	SB	All
Movements Served	R	
Denied Del/Veh (s)		0.0
Total Del/Veh (s)	3.3	19.9
Vehicles Entered	48	2458
Vehicles Exited	45	2463
Hourly Exit Rate	45	2463

4: Heacock St & SR 60 WB Ramp Performance by lane

Lane	WB	WB	NB	NB	NB	SB	SB	All
Movements Served	LT	R	L	T	T	T	TR	
Denied Del/Veh (s)								0.2
Total Del/Veh (s)	39.3	5.3	39.5	12.4	9.5	22.8	25.2	21.0
Vehicles Entered	339	0	0	869	551	384	547	2689
Vehicles Exited	190	148	354	521	543	443	487	2686
Hourly Exit Rate	190	148	354	521	543	443	487	2686

5: Heacock St & SR 60 EB Ramp Performance by lane

Lane	EB	EB	EB	NB	NB	NB	SB	SB	SB	All
Movements Served	L	LT	R	T	T	TR	L	T	T	
Denied Del/Veh (s)										0.2
Total Del/Veh (s)	46.1	27.7	11.5	28.8	19.8	10.6	39.7	10.4	10.1	21.4
Vehicles Entered	357	123	323	661	256	297	1	565	333	2916
Vehicles Exited	298	178	331	571	312	326	158	381	356	2910
Hourly Exit Rate	298	178	331	571	312	326	158	381	356	2910

6: Hemlock Ave & New Project Access Performance by lane

Lane	EB	EB	EB	WB	NB	All
Movements Served	T	T	TR	T	LTR	
Denied Del/Veh (s)						0.0
Total Del/Veh (s)	1.5	1.4	0.5	0.3	2.8	0.8
Vehicles Entered	114	31	105	190	24	464
Vehicles Exited	107	36	108	190	24	465
Hourly Exit Rate	107	36	108	190	24	465

7: Davis St & Hemlock Ave Performance by lane

Lane	EB	EB	EB	WB	WB	NB	SB	SB	All
Movements Served	L	T	TR	L	TR	LTR	LT	R	
Denied Del/Veh (s)									0.0
Total Del/Veh (s)	2.0	0.2	0.2	1.8	0.4	8.1	5.6	2.7	0.8
Vehicles Entered	2	116	145	7	147	3	6	38	462
Vehicles Exited	48	70	145	7	146	3	6	38	463
Hourly Exit Rate	48	70	145	7	146	3	6	38	463

8: Hemlock Ave & IHOP Access Performance by lane

Lane	EB	WB	SB	All
Movements Served	LT	TR	LR	
Denied Del/Veh (s)				0.0
Total Del/Veh (s)	0.3	0.5	3.9	0.6
Vehicles Entered	216	152	18	387
Vehicles Exited	216	151	18	385
Hourly Exit Rate	216	151	18	385

9: Hemlock Ave & Middle Access Performance by lane

Lane	EB	WB	SB	All
Movements Served	LT	TR	LR	
Denied Del/Veh (s)				0.0
Total Del/Veh (s)	0.5	0.5	5.0	1.0
Vehicles Entered	214	148	41	403
Vehicles Exited	214	147	40	402
Hourly Exit Rate	214	147	40	402

10: Hemlock Ave & West Access Performance by lane

Lane	EB	WB	SB	All
Movements Served	LT	TR	R	
Denied Del/Veh (s)				0.0
Total Del/Veh (s)	0.5	0.3	2.0	0.4
Vehicles Entered	229	160	8	398
Vehicles Exited	229	161	8	398
Hourly Exit Rate	229	161	8	398

11: Hemlock Ave & Nita Dr Performance by lane

Lane	EB	WB	SB	All
Movements Served	T	TR	R	
Denied Del/Veh (s)				0.0
Total Del/Veh (s)	0.1	1.6	2.5	0.8
Vehicles Entered	227	163	8	398
Vehicles Exited	227	163	8	398
Hourly Exit Rate	227	163	8	398

12: Driveway/Davis St & Ironwood Ave Performance by lane

Lane	EB	EB	EB	WB	WB	SB	SB	All
Movements Served	L	T	TR	T	TR	L	TR	
Denied Del/Veh (s)								0.2
Total Del/Veh (s)	100.0	20.4	18.1	20.9	21.6	17.5	7.5	24.2
Vehicles Entered	0	281	435	220	238	0	111	1285
Vehicles Exited	75	269	366	216	237	62	49	1274
Hourly Exit Rate	75	269	366	216	237	62	49	1274

13: Indian St & Ironwood Ave Performance by lane

Lane	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Movements Served	L	T	TR	L	T	TR	L	T	R	L	T	R
Denied Del/Veh (s)												
Total Del/Veh (s)	37.2	26.2	26.9	38.5	25.7	22.5	35.5	22.5	3.9	37.0	20.8	2.8
Vehicles Entered	0	310	364	0	346	73	0	317	0	0	213	0
Vehicles Exited	92	263	325	47	171	202	63	133	119	58	85	69
Hourly Exit Rate	92	263	325	47	171	202	63	133	119	58	85	69

13: Indian St & Ironwood Ave Performance by lane

Lane	All
Movements Served	
Denied Del/Veh (s)	0.3
Total Del/Veh (s)	24.4
Vehicles Entered	1624
Vehicles Exited	1628
Hourly Exit Rate	1628

14: Indian St & Hemlock Ave Performance by lane

Lane	EB	EB	EB	WB	WB	NB	NB	SB	SB	All
Movements Served	L	T	TR	L	TR	L	TR	L	TR	
Denied Del/Veh (s)										0.1
Total Del/Veh (s)	26.3	32.3	16.7	26.8	25.9	34.1	12.1	41.6	12.2	18.3
Vehicles Entered	0	177	53	0	128	0	408	0	231	997
Vehicles Exited	33	82	113	40	88	51	358	17	216	999
Hourly Exit Rate	33	82	113	40	88	51	358	17	216	999

15: Indian St & Sunnymead Blvd Performance by lane

Lane	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Movements Served	L	T	TR	L	T	TR	L	T	R	L	T	R
Denied Del/Veh (s)												
Total Del/Veh (s)	40.4	30.9	21.9	40.6	31.4	20.7	38.7	20.7	10.1	39.3	22.0	7.9
Vehicles Entered	0	529	263	0	263	82	0	375	0	0	291	0
Vehicles Exited	154	333	306	43	178	125	88	209	76	60	166	64
Hourly Exit Rate	154	333	306	43	178	125	88	209	76	60	166	64

15: Indian St & Sunnymead Blvd Performance by lane

Lane	All
Movements Served	
Denied Del/Veh (s)	0.8
Total Del/Veh (s)	26.7
Vehicles Entered	1803
Vehicles Exited	1802
Hourly Exit Rate	1802

Total Network Performance

Denied Del/Veh (s)	0.7
Total Del/Veh (s)	58.4
Vehicles Entered	6950
Vehicles Exited	6943
Hourly Exit Rate	6943
Input Volume	27855
% of Volume	25

Intersection: 1: Heacock St & Ironwood Ave

Movement	EB	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	SB
Directions Served	L	T	T	R	L	T	TR	L	T	T	R	L
Maximum Queue (ft)	114	364	368	90	157	191	204	164	274	310	70	125
Average Queue (ft)	110	196	170	61	67	85	103	104	145	176	54	63
95th Queue (ft)	126	332	296	114	128	157	173	175	259	295	94	117
Link Distance (ft)		2012	2012			1213	1213		586	586		
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	90			65	135			140			45	100
Storage Blk Time (%)	47	11	31	1	1	3		3	10	37	8	2
Queuing Penalty (veh)	103	25	37	1	2	3		10	16	69	25	6

Intersection: 1: Heacock St & Ironwood Ave

Movement	SB	SB	SB
Directions Served	T	T	R
Maximum Queue (ft)	231	242	120
Average Queue (ft)	126	118	81
95th Queue (ft)	198	206	141
Link Distance (ft)	1480	1480	
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			95
Storage Blk Time (%)	16	11	3
Queuing Penalty (veh)	12	23	9

Intersection: 2: Heacock St & New Project Access

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 3: Heacock St & Hemlock Ave

Movement	EB	EB	WB	WB	WB	NB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	T	R	L	T	T	R	L	T	T
Maximum Queue (ft)	78	200	104	108	56	124	349	340	75	98	268	284
Average Queue (ft)	32	93	42	40	14	78	149	165	42	20	125	141
95th Queue (ft)	66	168	85	84	39	136	289	298	93	62	241	246
Link Distance (ft)	2106	2106		306			337	337			702	702
Upstream Blk Time (%)							0	0				
Queuing Penalty (veh)							3	2				
Storage Bay Dist (ft)			360		200	100			50	95		
Storage Blk Time (%)						4	13	30	1		14	
Queuing Penalty (veh)						20	17	33	3		3	

Intersection: 3: Heacock St & Hemlock Ave

Movement	SB
Directions Served	R
Maximum Queue (ft)	49
Average Queue (ft)	13
95th Queue (ft)	35
Link Distance (ft)	702
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 4: Heacock St & SR 60 WB Ramp

Movement	WB	WB	NB	NB	NB	SB	SB
Directions Served	LT	R	L	T	T	T	TR
Maximum Queue (ft)	253	64	224	319	273	316	334
Average Queue (ft)	140	50	187	185	125	163	192
95th Queue (ft)	230	67	256	347	247	280	317
Link Distance (ft)	1034			257	257	337	337
Upstream Blk Time (%)				7	0	0	0
Queuing Penalty (veh)				50	3	0	1
Storage Bay Dist (ft)		30	200				
Storage Blk Time (%)	55	18	16	2			
Queuing Penalty (veh)	84	37	84	5			

Intersection: 5: Heacock St & SR 60 EB Ramp

Movement	EB	EB	EB	NB	NB	NB	SB	SB	SB
Directions Served	L	LT	R	T	T	TR	L	T	T
Maximum Queue (ft)	386	341	195	441	329	212	188	239	225
Average Queue (ft)	191	131	90	232	160	88	100	92	91
95th Queue (ft)	317	266	162	382	292	178	168	191	186
Link Distance (ft)	742	742	742	685	685	685		257	257
Upstream Blk Time (%)								0	0
Queuing Penalty (veh)								0	0
Storage Bay Dist (ft)							190		
Storage Blk Time (%)							0	1	
Queuing Penalty (veh)							1	1	

Intersection: 6: Hemlock Ave & New Project Access

Movement	NB
Directions Served	LTR
Maximum Queue (ft)	40
Average Queue (ft)	14
95th Queue (ft)	36
Link Distance (ft)	238
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 7: Davis St & Hemlock Ave

Movement	EB	WB	NB	SB	SB
Directions Served	L	L	LTR	LT	R
Maximum Queue (ft)	48	20	24	26	49
Average Queue (ft)	5	1	2	5	16
95th Queue (ft)	26	9	12	20	35
Link Distance (ft)		285	155	572	572
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)	180				
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 8: Hemlock Ave & IHOP Access

Movement	EB	SB
Directions Served	LT	LR
Maximum Queue (ft)	29	33
Average Queue (ft)	2	12
95th Queue (ft)	14	35
Link Distance (ft)	285	380
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 9: Hemlock Ave & Middle Access

Movement	EB	SB
Directions Served	LT	LR
Maximum Queue (ft)	34	39
Average Queue (ft)	3	23
95th Queue (ft)	19	45
Link Distance (ft)	542	236
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 10: Hemlock Ave & West Access

Movement	EB	SB
Directions Served	LT	R
Maximum Queue (ft)	10	23
Average Queue (ft)	1	5
95th Queue (ft)	8	21
Link Distance (ft)	622	328
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 11: Hemlock Ave & Nita Dr

Movement	SB
Directions Served	R
Maximum Queue (ft)	31
Average Queue (ft)	7
95th Queue (ft)	28
Link Distance (ft)	253
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 12: Driveway/Davis St & Ironwood Ave

Movement	EB	EB	EB	WB	WB	SB	SB
Directions Served	L	T	TR	T	TR	L	TR
Maximum Queue (ft)	174	270	252	176	197	63	88
Average Queue (ft)	86	117	130	88	96	31	27
95th Queue (ft)	162	222	221	153	163	66	67
Link Distance (ft)		1213	1213	1261	1261		1507
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)	150					40	
Storage Blk Time (%)	5	3				8	2
Queuing Penalty (veh)	16	3				4	1

Intersection: 13: Indian St & Ironwood Ave

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	TR	L	T	TR	L	T	R	L	T	R
Maximum Queue (ft)	119	231	240	97	152	161	116	173	75	99	146	75
Average Queue (ft)	69	123	140	33	71	82	47	59	45	44	46	31
95th Queue (ft)	122	215	229	73	117	135	95	134	84	85	104	70
Link Distance (ft)		1261	1261		2384	2384		1353			1508	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	95			100			110		50	80		50
Storage Blk Time (%)	2	13		0	2		0	12	3	3	8	1
Queuing Penalty (veh)	4	11		0	1		1	23	6	4	10	1

Intersection: 14: Indian St & Hemlock Ave

Movement	EB	EB	EB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	TR	L	TR	L	TR	L	TR
Maximum Queue (ft)	70	93	97	81	115	120	206	56	153
Average Queue (ft)	23	47	50	29	52	43	94	17	69
95th Queue (ft)	58	79	87	67	96	91	179	46	127
Link Distance (ft)		318	318		2337		1227		1353
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (ft)	150			80		145		100	
Storage Blk Time (%)				0	3		2		3
Queuing Penalty (veh)				0	1		1		0

Intersection: 15: Indian St & Sunnymead Blvd

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	TR	L	T	TR	L	T	R	L	T	R
Maximum Queue (ft)	115	313	263	113	176	147	152	187	130	109	195	85
Average Queue (ft)	97	173	135	34	87	57	66	89	40	50	73	37
95th Queue (ft)	136	279	230	82	142	116	115	156	98	97	139	93
Link Distance (ft)		715	715		1059	1059		913			1227	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	90			100			145		105	90		60
Storage Blk Time (%)	21	24		0	6		0	5	0	2	12	1
Queuing Penalty (veh)	55	37		0	3		0	8	0	3	15	2

Network Summary

Network wide Queuing Penalty: 900

1: Heacock St & Ironwood Ave Performance by lane

Lane	EB	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	SB
Movements Served	L	T	T	R	L	T	TR	L	T	T	R	L
Denied Del/Veh (s)												
Total Del/Veh (s)	38.0	32.2	30.7	6.4	40.5	33.1	33.3	37.6	21.5	25.6	6.6	43.5
Vehicles Entered	0	410	156	0	0	415	347	0	281	341	0	0
Vehicles Exited	136	153	144	129	167	274	323	101	196	228	98	47
Hourly Exit Rate	136	153	144	129	167	274	323	101	196	228	98	47

1: Heacock St & Ironwood Ave Performance by lane

Lane	SB	SB	SB	All
Movements Served	T	T	R	
Denied Del/Veh (s)				0.5
Total Del/Veh (s)	26.0	32.4	10.2	27.4
Vehicles Entered	535	354	0	2838
Vehicles Exited	322	251	269	2838
Hourly Exit Rate	322	251	269	2838

2: Heacock St & New Project Access Performance by lane

Lane	WB	NB	NB	SB	SB	All
Movements Served	LR	T	TR	LT	T	
Denied Del/Veh (s)						0.0
Total Del/Veh (s)	4.3	1.8	1.8	2.9	2.1	2.1
Vehicles Entered	8	312	332	419	450	1521
Vehicles Exited	8	293	349	347	521	1517
Hourly Exit Rate	8	293	349	347	521	1517

3: Heacock St & Hemlock Ave Performance by lane

Lane	EB	EB	WB	WB	WB	NB	NB	NB	NB	SB	SB	SB
Movements Served	L	TR	L	T	R	L	T	T	R	L	T	T
Denied Del/Veh (s)												
Total Del/Veh (s)	31.0	16.7	30.0	7.4	3.3	29.6	10.3	10.2	1.2	34.9	13.7	16.0
Vehicles Entered	132	70	0	258	0	0	366	408	0	0	363	484
Vehicles Exited	38	162	44	211	3	93	285	320	79	15	368	461
Hourly Exit Rate	38	162	44	211	3	93	285	320	79	15	368	461

3: Heacock St & Hemlock Ave Performance by lane

Lane	SB	All
Movements Served	R	
Denied Del/Veh (s)		0.0
Total Del/Veh (s)	2.0	13.6
Vehicles Entered	45	2127
Vehicles Exited	44	2123
Hourly Exit Rate	44	2123

4: Heacock St & SR 60 WB Ramp Performance by lane

Lane	WB	WB	NB	NB	NB	SB	SB	All
Movements Served	LT	R	L	T	T	T	TR	
Denied Del/Veh (s)								0.3
Total Del/Veh (s)	39.7	2.4	37.9	11.2	8.9	25.5	28.2	23.4
Vehicles Entered	416	0	2	622	237	410	576	2262
Vehicles Exited	251	163	254	337	271	469	521	2265
Hourly Exit Rate	251	163	254	337	271	469	521	2265

5: Heacock St & SR 60 EB Ramp Performance by lane

Lane	EB	EB	EB	NB	NB	NB	SB	SB	SB	All
Movements Served	L	LT	R	T	T	TR	L	T	T	
Denied Del/Veh (s)										0.1
Total Del/Veh (s)	32.9	26.5	12.5	15.7	11.4	4.3	37.2	8.3	7.7	14.4
Vehicles Entered	183	49	353	483	139	144	1	624	353	2327
Vehicles Exited	166	56	361	452	167	153	155	432	392	2333
Hourly Exit Rate	166	56	361	452	167	153	155	432	392	2333

6: Hemlock Ave & New Project Access Performance by lane

Lane	EB	EB	WB	WB	NB	All
Movements Served	LT	TR	LT	TR	LTR	
Denied Del/Veh (s)						0.0
Total Del/Veh (s)	1.5	0.6	0.2	0.3	2.8	0.5
Vehicles Entered	76	74	169	96	1	416
Vehicles Exited	76	75	174	91	1	416
Hourly Exit Rate	76	75	174	91	1	416

7: Davis St & Hemlock Ave Performance by lane

Lane	EB	EB	EB	WB	WB	NB	SB	SB	All
Movements Served	L	T	TR	L	TR	LTR	LT	R	
Denied Del/Veh (s)									0.1
Total Del/Veh (s)	2.3	0.5	0.3	1.6	0.2	5.6	6.1	2.7	1.1
Vehicles Entered	54	183	105	3	190	31	3	53	622
Vehicles Exited	97	137	107	3	189	31	3	53	620
Hourly Exit Rate	97	137	107	3	189	31	3	53	620

8: Hemlock Ave & IHOP Access Performance by lane

Lane	EB	WB	SB	All
Movements Served	LT	TR	LR	
Denied Del/Veh (s)				0.0
Total Del/Veh (s)	0.5	0.4	2.7	0.5
Vehicles Entered	205	194	4	403
Vehicles Exited	205	195	4	402
Hourly Exit Rate	205	195	4	402

9: Hemlock Ave & Middle Access Performance by lane

Lane	EB	WB	SB	All
Movements Served	LT	TR	LR	
Denied Del/Veh (s)				0.0
Total Del/Veh (s)	1.8	0.7	4.2	1.8
Vehicles Entered	191	171	75	436
Vehicles Exited	189	171	75	435
Hourly Exit Rate	189	171	75	435

10: Hemlock Ave & West Access Performance by lane

Lane	EB	WB	NB	SB	All
Movements Served	LTR	LTR	LTR	LTR	
Denied Del/Veh (s)					0.1
Total Del/Veh (s)	0.4	0.7	3.6	4.8	1.0
Vehicles Entered	112	210	16	20	358
Vehicles Exited	112	210	16	20	358
Hourly Exit Rate	112	210	16	20	358

11: Hemlock Ave & Nita Dr Performance by lane

Lane	EB	WB	SB	All
Movements Served	T	TR	R	
Denied Del/Veh (s)				0.0
Total Del/Veh (s)	0.2	1.4	2.3	0.8
Vehicles Entered	137	137	6	280
Vehicles Exited	138	136	6	280
Hourly Exit Rate	138	136	6	280

12: Driveway/Davis St & Ironwood Ave Performance by lane

Lane	EB	EB	EB	WB	WB	NB	SB	SB	All
Movements Served	L	T	TR	LT	TR	LTR	L	TR	
Denied Del/Veh (s)									0.3
Total Del/Veh (s)	54.4	17.1	17.9	27.0	28.1	7.4	12.5	12.5	23.4
Vehicles Entered	0	211	257	421	435	17	0	212	1554
Vehicles Exited	45	179	249	407	446	17	128	82	1554
Hourly Exit Rate	45	179	249	407	446	17	128	82	1554

13: Indian St & Ironwood Ave Performance by lane

Lane	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Movements Served	L	T	TR	L	T	TR	L	T	R	L	T	R
Denied Del/Veh (s)												
Total Del/Veh (s)	47.0	24.7	24.9	42.7	26.6	26.6	37.8	27.5	2.4	39.6	26.0	4.9
Vehicles Entered	0	267	296	0	593	196	0	306	0	0	300	0
Vehicles Exited	32	222	307	85	327	376	122	129	55	75	146	80
Hourly Exit Rate	32	222	307	85	327	376	122	129	55	75	146	80

13: Indian St & Ironwood Ave Performance by lane

Lane	All
Movements Served	
Denied Del/Veh (s)	0.4
Total Del/Veh (s)	26.8
Vehicles Entered	1957
Vehicles Exited	1956
Hourly Exit Rate	1956

14: Indian St & Hemlock Ave Performance by lane

Lane	EB	EB	WB	WB	NB	NB	SB	SB	All
Movements Served	T	TR	L	TR	L	TR	L	TR	
Denied Del/Veh (s)									0.1
Total Del/Veh (s)	14.7	14.1	24.9	20.5	30.2	12.1	29.7	11.9	15.6
Vehicles Entered	109	28	0	176	0	293	0	363	967
Vehicles Exited	91	47	47	128	33	261	47	315	969
Hourly Exit Rate	91	47	47	128	33	261	47	315	969

15: Indian St & Sunnymead Blvd Performance by lane

Lane	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Movements Served	L	T	TR	L	T	TR	L	T	R	L	T	R
Denied Del/Veh (s)												
Total Del/Veh (s)	33.6	23.5	10.7	35.1	26.0	15.6	29.4	14.2	6.2	34.1	19.5	6.3
Vehicles Entered	0	191	91	0	226	59	0	340	0	0	374	0
Vehicles Exited	48	134	100	22	165	97	74	202	64	52	235	88
Hourly Exit Rate	48	134	100	22	165	97	74	202	64	52	235	88

15: Indian St & Sunnymead Blvd Performance by lane

Lane	All
Movements Served	
Denied Del/Veh (s)	0.7
Total Del/Veh (s)	19.4
Vehicles Entered	1282
Vehicles Exited	1281
Hourly Exit Rate	1281

Total Network Performance

Denied Del/Veh (s)	0.7
Total Del/Veh (s)	51.0
Vehicles Entered	6519
Vehicles Exited	6515
Hourly Exit Rate	6515
Input Volume	25503
% of Volume	26

Intersection: 1: Heacock St & Ironwood Ave

Movement	EB	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	SB
Directions Served	L	T	T	R	L	T	TR	L	T	T	R	L
Maximum Queue (ft)	115	222	179	90	160	298	293	162	191	217	71	124
Average Queue (ft)	80	86	76	51	109	149	159	69	84	109	43	48
95th Queue (ft)	128	162	144	101	180	272	271	128	156	192	93	108
Link Distance (ft)		2012	2012			1213	1213		694	694		
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	90			65	135			140			45	100
Storage Blk Time (%)	13	6	16	2	9	10		1	1	30	5	1
Queuing Penalty (veh)	18	7	20	3	23	16		1	2	28	12	3

Intersection: 1: Heacock St & Ironwood Ave

Movement	SB	SB	SB
Directions Served	T	T	R
Maximum Queue (ft)	225	264	120
Average Queue (ft)	132	141	95
95th Queue (ft)	199	231	148
Link Distance (ft)	1480	1480	
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			95
Storage Blk Time (%)	18	14	7
Queuing Penalty (veh)	10	37	19

Intersection: 2: Heacock St & New Project Access

Movement	WB
Directions Served	LR
Maximum Queue (ft)	31
Average Queue (ft)	7
95th Queue (ft)	27
Link Distance (ft)	461
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 3: Heacock St & Hemlock Ave

Movement	EB	EB	WB	WB	WB	NB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	T	R	L	T	T	R	L	T	T
Maximum Queue (ft)	58	146	61	86	20	119	190	190	75	69	259	292
Average Queue (ft)	25	60	29	30	1	54	69	81	30	13	113	139
95th Queue (ft)	53	114	59	65	10	108	145	159	76	43	209	241
Link Distance (ft)	2106	2106		357			350	350			592	592
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)			360		200	100			50	95		
Storage Blk Time (%)						1	2	14	0		8	
Queuing Penalty (veh)						4	2	11	1		1	

Intersection: 3: Heacock St & Hemlock Ave

Movement	SB
Directions Served	R
Maximum Queue (ft)	35
Average Queue (ft)	9
95th Queue (ft)	26
Link Distance (ft)	592
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 4: Heacock St & SR 60 WB Ramp

Movement	WB	WB	NB	NB	NB	SB	SB
Directions Served	LT	R	L	T	T	T	TR
Maximum Queue (ft)	319	57	222	284	198	352	374
Average Queue (ft)	181	49	148	107	76	200	231
95th Queue (ft)	294	63	230	226	156	336	358
Link Distance (ft)	1034			257	257	350	350
Upstream Blk Time (%)				1	0	0	1
Queuing Penalty (veh)				6	0	1	4
Storage Bay Dist (ft)		30	200				
Storage Blk Time (%)	55	11	5	0			
Queuing Penalty (veh)	88	29	15	0			

Intersection: 5: Heacock St & SR 60 EB Ramp

Movement	EB	EB	EB	NB	NB	NB	SB	SB	SB
Directions Served	L	LT	R	T	T	TR	L	T	T
Maximum Queue (ft)	168	133	203	291	216	100	185	208	204
Average Queue (ft)	92	40	94	137	67	27	96	87	82
95th Queue (ft)	150	96	161	234	154	62	157	180	176
Link Distance (ft)	742	742	742	685	685	685		257	257
Upstream Blk Time (%)								0	0
Queuing Penalty (veh)								0	0
Storage Bay Dist (ft)							190		
Storage Blk Time (%)							0	0	
Queuing Penalty (veh)							1	1	

Intersection: 6: Hemlock Ave & New Project Access

Movement	NB
Directions Served	LTR
Maximum Queue (ft)	17
Average Queue (ft)	1
95th Queue (ft)	10
Link Distance (ft)	255
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 7: Davis St & Hemlock Ave

Movement	EB	EB	EB	WB	WB	NB	SB	SB
Directions Served	L	T	TR	L	TR	LTR	LT	R
Maximum Queue (ft)	60	9	11	5	2	48	28	52
Average Queue (ft)	12	0	0	0	0	15	3	23
95th Queue (ft)	39	7	8	4	2	36	17	43
Link Distance (ft)		222	222	284	284	157	573	573
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)	180							
Storage Blk Time (%)								
Queuing Penalty (veh)								

Intersection: 8: Hemlock Ave & IHOP Access

Movement	EB	SB
Directions Served	LT	LR
Maximum Queue (ft)	44	27
Average Queue (ft)	3	3
95th Queue (ft)	21	18
Link Distance (ft)	284	380
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 9: Hemlock Ave & Middle Access

Movement	EB	WB	SB
Directions Served	LT	TR	LR
Maximum Queue (ft)	69	4	62
Average Queue (ft)	15	0	31
95th Queue (ft)	48	3	52
Link Distance (ft)	542	620	236
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 10: Hemlock Ave & West Access

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	12	38	35	28
Average Queue (ft)	1	4	13	12
95th Queue (ft)	8	23	38	31
Link Distance (ft)	620	105	225	328
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 11: Hemlock Ave & Nita Dr

Movement	SB
Directions Served	R
Maximum Queue (ft)	31
Average Queue (ft)	5
95th Queue (ft)	24
Link Distance (ft)	253
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 12: Driveway/Davis St & Ironwood Ave

Movement	EB	EB	EB	WB	WB	NB	SB	SB
Directions Served	L	T	TR	LT	TR	LTR	L	TR
Maximum Queue (ft)	118	156	174	336	372	44	64	152
Average Queue (ft)	39	65	91	184	204	8	44	41
95th Queue (ft)	82	131	159	300	331	31	74	109
Link Distance (ft)		1213	1213	1261	1261	182		1507
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)	150						40	
Storage Blk Time (%)	0	0					14	4
Queuing Penalty (veh)	0	0					11	5

Intersection: 13: Indian St & Ironwood Ave

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	TR	L	T	TR	L	T	R	L	T	R
Maximum Queue (ft)	114	206	218	124	298	322	134	251	76	105	238	76
Average Queue (ft)	28	91	116	65	137	156	82	79	27	58	77	40
95th Queue (ft)	75	175	197	125	241	258	140	171	73	102	164	83
Link Distance (ft)		1261	1261		2384	2384		1353			1508	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	95			100			110		50	80		50
Storage Blk Time (%)	0	9		2	14		7	17	1	6	19	2
Queuing Penalty (veh)	1	3		6	12		12	29	1	13	34	5

Intersection: 14: Indian St & Hemlock Ave

Movement	EB	EB	WB	WB	NB	NB	SB	SB
Directions Served	T	TR	L	TR	L	TR	L	TR
Maximum Queue (ft)	56	65	90	176	96	185	123	204
Average Queue (ft)	28	24	33	65	29	71	40	90
95th Queue (ft)	53	53	70	126	74	151	90	167
Link Distance (ft)	318	318		2337		1227		1353
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)			80		145		100	
Storage Blk Time (%)			1	5		1	0	7
Queuing Penalty (veh)			1	3		1	1	3

Intersection: 15: Indian St & Sunnymead Blvd

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	TR	L	T	TR	L	T	R	L	T	R
Maximum Queue (ft)	79	122	86	86	157	133	102	188	111	104	273	85
Average Queue (ft)	31	57	30	20	72	41	53	73	27	44	93	39
95th Queue (ft)	65	104	64	61	130	95	92	145	81	91	195	93
Link Distance (ft)		715	715		1059	1059		913			1227	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	90			100			145		105	90		60
Storage Blk Time (%)	0	2		0	3			3	0	1	13	1
Queuing Penalty (veh)	0	1		0	1			4	0	3	19	4

Network Summary

Network wide Queuing Penalty: 537

1: Heacock St & Ironwood Ave Performance by lane

Lane	EB	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	SB
Movements Served	L	T	T	R	L	T	TR	L	T	T	R	L
Denied Del/Veh (s)												
Total Del/Veh (s)	46.3	73.6	36.4	4.5	44.7	29.2	28.0	44.8	29.4	40.2	4.6	42.4
Vehicles Entered	0	578	224	0	0	213	246	0	489	561	0	0
Vehicles Exited	228	197	245	132	91	161	215	172	353	325	194	71
Hourly Exit Rate	228	197	245	132	91	161	215	172	353	325	194	71

1: Heacock St & Ironwood Ave Performance by lane

Lane	SB	SB	SB	All
Movements Served	T	T	R	
Denied Del/Veh (s)				0.5
Total Del/Veh (s)	28.9	30.9	10.5	33.0
Vehicles Entered	510	299	0	3121
Vehicles Exited	294	235	207	3120
Hourly Exit Rate	294	235	207	3120

2: Heacock St & New Project Access Performance by lane

Lane	WB	NB	NB	SB	SB	All
Movements Served	LR	T	TR	LT	T	
Denied Del/Veh (s)						0.0
Total Del/Veh (s)	9.0	3.0	2.8	2.8	2.2	2.8
Vehicles Entered	33	563	503	361	392	1851
Vehicles Exited	32	514	558	330	425	1859
Hourly Exit Rate	32	514	558	330	425	1859

3: Heacock St & Hemlock Ave Performance by lane

Lane	EB	EB	WB	WB	WB	NB	NB	NB	NB	SB	SB	SB
Movements Served	L	TR	L	T	R	L	T	T	R	L	T	T
Denied Del/Veh (s)												
Total Del/Veh (s)	32.7	28.2	72.8	10.3	9.5	46.0	32.8	41.5	1.5	43.0	29.0	32.1
Vehicles Entered	208	122	0	662	0	0	584	774	0	0	353	387
Vehicles Exited	64	267	245	398	18	125	528	467	237	48	324	370
Hourly Exit Rate	64	267	245	398	18	125	528	467	237	48	324	370

3: Heacock St & Hemlock Ave Performance by lane

Lane	SB	All
Movements Served	R	
Denied Del/Veh (s)		0.0
Total Del/Veh (s)	3.3	31.4
Vehicles Entered	48	3138
Vehicles Exited	47	3137
Hourly Exit Rate	47	3137

4: Heacock St & SR 60 WB Ramp Performance by lane

Lane	WB	WB	NB	NB	NB	SB	SB	All
Movements Served	LT	R	L	T	T	T	TR	
Denied Del/Veh (s)								0.3
Total Del/Veh (s)	48.0	8.3	45.0	16.8	16.0	34.8	37.9	28.5
Vehicles Entered	408	0	0	829	672	495	618	3021
Vehicles Exited	201	209	342	559	598	549	561	3021
Hourly Exit Rate	201	209	342	559	598	549	561	3021

5: Heacock St & SR 60 EB Ramp Performance by lane

Lane	EB	EB	EB	NB	NB	NB	SB	SB	SB	All
Movements Served	L	LT	R	T	T	TR	L	T	T	
Denied Del/Veh (s)										0.2
Total Del/Veh (s)	64.2	43.9	11.7	45.9	36.0	21.5	37.6	12.6	11.2	31.0
Vehicles Entered	376	164	321	624	295	305	2	677	325	3087
Vehicles Exited	297	227	333	531	343	357	236	391	375	3090
Hourly Exit Rate	297	227	333	531	343	357	236	391	375	3090

6: Hemlock Ave & New Project Access Performance by lane

Lane	EB	EB	WB	WB	NB	All
Movements Served	LT	TR	LT	TR	LTR	
Denied Del/Veh (s)						0.0
Total Del/Veh (s)	1.2	0.8	6.6	8.4	3.6	4.9
Vehicles Entered	197	221	351	328	22	1118
Vehicles Exited	199	218	414	260	22	1114
Hourly Exit Rate	199	218	414	260	22	1114

7: Davis St & Hemlock Ave Performance by lane

Lane	EB	EB	EB	WB	WB	NB	SB	SB	All
Movements Served	L	T	TR	L	TR	LTR	LT	R	
Denied Del/Veh (s)									2.1
Total Del/Veh (s)	3.7	0.8	0.7	3.7	1.6	51.5	21.5	7.8	9.5
Vehicles Entered	111	326	298	32	295	192	38	237	1530
Vehicles Exited	272	173	291	33	294	189	34	241	1528
Hourly Exit Rate	272	173	291	33	294	189	34	241	1528

8: Hemlock Ave & IHOP Access Performance by lane

Lane	EB	WB	SB	All
Movements Served	LT	TR	LR	
Denied Del/Veh (s)				0.0
Total Del/Veh (s)	0.7	0.5	6.7	0.8
Vehicles Entered	364	322	20	706
Vehicles Exited	364	321	20	705
Hourly Exit Rate	364	321	20	705

9: Hemlock Ave & Middle Access Performance by lane

Lane	EB	WB	SB	All
Movements Served	LT	TR	LR	
Denied Del/Veh (s)				0.1
Total Del/Veh (s)	2.8	1.4	11.2	5.6
Vehicles Entered	361	189	320	868
Vehicles Exited	360	189	320	868
Hourly Exit Rate	360	189	320	868

10: Hemlock Ave & West Access Performance by lane

Lane	EB	WB	NB	SB	All
Movements Served	LTR	LTR	LTR	LTR	
Denied Del/Veh (s)					0.1
Total Del/Veh (s)	1.2	1.6	5.6	8.6	2.9
Vehicles Entered	260	338	115	99	812
Vehicles Exited	261	338	115	100	813
Hourly Exit Rate	261	338	115	100	813

11: Hemlock Ave & Nita Dr Performance by lane

Lane	EB	WB	SB	All
Movements Served	T	TR	R	
Denied Del/Veh (s)				0.0
Total Del/Veh (s)	0.4	1.7	4.3	0.9
Vehicles Entered	398	213	11	622
Vehicles Exited	397	214	10	620
Hourly Exit Rate	397	214	10	620

12: Driveway/Davis St & Ironwood Ave Performance by lane

Lane	EB	EB	EB	WB	WB	NB	SB	SB	All
Movements Served	L	T	TR	LT	TR	LTR	L	TR	
Denied Del/Veh (s)									0.2
Total Del/Veh (s)	67.4	18.9	20.1	31.9	24.2	8.1	10.8	6.1	23.4
Vehicles Entered	0	277	455	229	219	97	0	110	1387
Vehicles Exited	83	289	352	202	243	97	58	52	1375
Hourly Exit Rate	83	289	352	202	243	97	58	52	1375

13: Indian St & Ironwood Ave Performance by lane

Lane	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Movements Served	L	T	TR	L	T	TR	L	T	R	L	T	R
Denied Del/Veh (s)												
Total Del/Veh (s)	41.1	24.3	25.1	39.1	25.3	23.8	36.9	25.0	4.0	37.3	19.5	3.0
Vehicles Entered	0	336	363	0	355	74	0	334	0	0	206	0
Vehicles Exited	86	277	339	50	179	202	54	152	127	59	89	57
Hourly Exit Rate	86	277	339	50	179	202	54	152	127	59	89	57

13: Indian St & Ironwood Ave Performance by lane

Lane	All
Movements Served	
Denied Del/Veh (s)	0.3
Total Del/Veh (s)	24.3
Vehicles Entered	1667
Vehicles Exited	1670
Hourly Exit Rate	1670

14: Indian St & Hemlock Ave Performance by lane

Lane	EB	EB	EB	WB	WB	NB	NB	SB	SB	All
Movements Served	L	T	TR	L	TR	L	TR	L	TR	
Denied Del/Veh (s)										0.1
Total Del/Veh (s)	25.3	15.7	15.8	26.6	29.3	35.4	14.5	34.4	12.9	18.3
Vehicles Entered	0	286	111	0	143	0	417	0	226	1183
Vehicles Exited	60	187	150	35	109	62	356	18	208	1184
Hourly Exit Rate	60	187	150	35	109	62	356	18	208	1184

15: Indian St & Sunnymead Blvd Performance by lane

Lane	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Movements Served	L	T	TR	L	T	TR	L	T	R	L	T	R
Denied Del/Veh (s)												
Total Del/Veh (s)	40.9	30.6	20.4	41.1	29.9	19.7	38.7	20.9	9.5	40.8	20.2	8.0
Vehicles Entered	0	520	274	0	271	85	0	376	0	0	275	0
Vehicles Exited	158	320	314	43	187	128	91	212	71	57	157	61
Hourly Exit Rate	158	320	314	43	187	128	91	212	71	57	157	61

15: Indian St & Sunnymead Blvd Performance by lane

Lane	All
Movements Served	
Denied Del/Veh (s)	0.8
Total Del/Veh (s)	26.2
Vehicles Entered	1801
Vehicles Exited	1799
Hourly Exit Rate	1799

Total Network Performance

Denied Del/Veh (s)	1.0
Total Del/Veh (s)	64.5
Vehicles Entered	8673
Vehicles Exited	8670
Hourly Exit Rate	8670
Input Volume	34011
% of Volume	25

Intersection: 1: Heacock St & Ironwood Ave

Movement	EB	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	SB
Directions Served	L	T	T	R	L	T	TR	L	T	T	R	L
Maximum Queue (ft)	115	462	425	90	150	188	197	165	314	335	71	125
Average Queue (ft)	109	233	187	63	62	81	95	124	165	194	50	67
95th Queue (ft)	128	450	387	116	124	154	167	188	301	333	96	130
Link Distance (ft)		2012	2012			1213	1213		694	694		
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	90			65	135			140			45	100
Storage Blk Time (%)	51	9	32	1	1	1		9	14	40	6	2
Queuing Penalty (veh)	114	20	42	2	2	1		32	23	75	21	5

Intersection: 1: Heacock St & Ironwood Ave

Movement	SB	SB	SB
Directions Served	T	T	R
Maximum Queue (ft)	230	272	120
Average Queue (ft)	132	128	87
95th Queue (ft)	211	226	145
Link Distance (ft)	1480	1480	
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			95
Storage Blk Time (%)	19	14	5
Queuing Penalty (veh)	14	30	12

Intersection: 2: Heacock St & New Project Access

Movement	WB
Directions Served	LR
Maximum Queue (ft)	59
Average Queue (ft)	22
95th Queue (ft)	51
Link Distance (ft)	461
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 3: Heacock St & Hemlock Ave

Movement	EB	EB	WB	WB	WB	NB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	T	R	L	T	T	R	L	T	T
Maximum Queue (ft)	114	244	306	274	33	124	371	388	75	120	289	326
Average Queue (ft)	38	119	188	109	8	95	272	292	60	49	159	171
95th Queue (ft)	83	203	337	328	25	149	416	416	99	116	276	288
Link Distance (ft)	2106	2106		357			350	350			592	592
Upstream Blk Time (%)			1	6			4	5				
Queuing Penalty (veh)			0	38			24	34				
Storage Bay Dist (ft)			360		200	100			50	95		
Storage Blk Time (%)			1			9	29	46	3	1	22	
Queuing Penalty (veh)			1			42	39	107	14	4	10	

Intersection: 3: Heacock St & Hemlock Ave

Movement	SB
Directions Served	R
Maximum Queue (ft)	48
Average Queue (ft)	13
95th Queue (ft)	33
Link Distance (ft)	592
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 4: Heacock St & SR 60 WB Ramp

Movement	WB	WB	NB	NB	NB	SB	SB
Directions Served	LT	R	L	T	T	T	TR
Maximum Queue (ft)	329	61	225	321	280	371	377
Average Queue (ft)	181	52	198	219	178	261	280
95th Queue (ft)	288	64	262	372	314	390	405
Link Distance (ft)	1034			257	257	350	350
Upstream Blk Time (%)				11	3	2	4
Queuing Penalty (veh)				80	20	12	24
Storage Bay Dist (ft)		30	200				
Storage Blk Time (%)	49	36	18	5			
Queuing Penalty (veh)	102	72	104	17			

Intersection: 5: Heacock St & SR 60 EB Ramp

Movement	EB	EB	EB	NB	NB	NB	SB	SB	SB
Directions Served	L	LT	R	T	T	TR	L	T	T
Maximum Queue (ft)	401	361	210	505	478	319	214	294	264
Average Queue (ft)	227	175	85	294	219	140	143	110	104
95th Queue (ft)	423	369	152	461	403	268	225	244	228
Link Distance (ft)	742	742	742	685	685	685		257	257
Upstream Blk Time (%)								1	0
Queuing Penalty (veh)								5	2
Storage Bay Dist (ft)							190		
Storage Blk Time (%)							4	1	
Queuing Penalty (veh)							15	4	

Intersection: 6: Hemlock Ave & New Project Access

Movement	WB	WB	NB
Directions Served	LT	TR	LTR
Maximum Queue (ft)	74	67	35
Average Queue (ft)	25	25	15
95th Queue (ft)	137	138	39
Link Distance (ft)	222	222	255
Upstream Blk Time (%)	3	3	
Queuing Penalty (veh)	10	8	
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 7: Davis St & Hemlock Ave

Movement	EB	EB	WB	WB	NB	SB	SB
Directions Served	L	TR	L	TR	LTR	LT	R
Maximum Queue (ft)	98	11	38	42	191	67	135
Average Queue (ft)	38	0	9	7	107	24	55
95th Queue (ft)	77	5	30	46	196	52	103
Link Distance (ft)		222	284	284	157	573	573
Upstream Blk Time (%)					21		
Queuing Penalty (veh)					0		
Storage Bay Dist (ft)	180						
Storage Blk Time (%)							
Queuing Penalty (veh)							

Intersection: 8: Hemlock Ave & IHOP Access

Movement	EB	SB
Directions Served	LT	LR
Maximum Queue (ft)	44	32
Average Queue (ft)	4	14
95th Queue (ft)	22	37
Link Distance (ft)	284	380
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 9: Hemlock Ave & Middle Access

Movement	EB	WB	SB
Directions Served	LT	TR	LR
Maximum Queue (ft)	98	18	218
Average Queue (ft)	37	1	85
95th Queue (ft)	78	9	164
Link Distance (ft)	542	620	236
Upstream Blk Time (%)			0
Queuing Penalty (veh)			0
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 10: Hemlock Ave & West Access

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	36	99	85	76
Average Queue (ft)	3	29	40	34
95th Queue (ft)	17	77	69	62
Link Distance (ft)	620	105	225	328
Upstream Blk Time (%)		0		
Queuing Penalty (veh)		0		
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 11: Hemlock Ave & Nita Dr

Movement	SB
Directions Served	R
Maximum Queue (ft)	40
Average Queue (ft)	9
95th Queue (ft)	33
Link Distance (ft)	253
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 12: Driveway/Davis St & Ironwood Ave

Movement	EB	EB	EB	WB	WB	NB	SB	SB
Directions Served	L	T	TR	LT	TR	LTR	L	TR
Maximum Queue (ft)	163	271	237	217	218	90	62	82
Average Queue (ft)	78	109	122	110	112	33	23	21
95th Queue (ft)	146	205	199	180	187	71	55	56
Link Distance (ft)		1213	1213	1261	1261	182		1507
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)	150						40	
Storage Blk Time (%)	1	2					3	1
Queuing Penalty (veh)	4	2					1	1

Intersection: 13: Indian St & Ironwood Ave

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	TR	L	T	TR	L	T	R	L	T	R
Maximum Queue (ft)	119	211	225	117	169	185	128	220	75	98	124	74
Average Queue (ft)	61	105	126	38	75	85	44	76	52	45	46	29
95th Queue (ft)	116	197	216	88	133	151	98	164	91	83	94	71
Link Distance (ft)		1261	1261		2384	2384		1353			1508	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	95			100			110		50	80		50
Storage Blk Time (%)	4	13		0	3		0	17	4	3	8	1
Queuing Penalty (veh)	10	11		0	2		1	33	8	4	10	1

Intersection: 14: Indian St & Hemlock Ave

Movement	EB	EB	EB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	TR	L	TR	L	TR	L	TR
Maximum Queue (ft)	92	100	139	97	154	169	278	66	180
Average Queue (ft)	37	51	59	32	68	51	109	18	71
95th Queue (ft)	74	86	106	80	127	111	214	50	137
Link Distance (ft)		318	318		2337		1227		1353
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (ft)	150			80		145		100	
Storage Blk Time (%)				0	8	0	4		3
Queuing Penalty (veh)				0	3	0	2		1

Intersection: 15: Indian St & Sunnymead Blvd

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	TR	L	T	TR	L	T	R	L	T	R
Maximum Queue (ft)	115	314	288	119	189	144	150	234	130	106	174	83
Average Queue (ft)	93	173	131	35	90	58	67	91	34	47	65	36
95th Queue (ft)	138	276	232	83	152	115	127	168	91	92	130	89
Link Distance (ft)		715	715		1059	1059		913			1227	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	90			100			145		105	90		60
Storage Blk Time (%)	21	23		0	6		0	5	0	2	10	1
Queuing Penalty (veh)	53	35		0	3		1	8	0	4	12	2

Network Summary

Network wide Queuing Penalty: 1397

Near Term Year (2022)

1: Heacock St & Ironwood Ave Performance by lane

Lane	EB	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	SB
Movements Served	L	T	T	R	L	T	TR	L	T	T	R	L
Denied Del/Veh (s)												
Total Del/Veh (s)	39.7	32.6	31.6	6.8	49.1	35.4	35.0	43.4	24.4	27.7	5.8	44.7
Vehicles Entered	0	426	183	0	0	467	384	0	322	408	0	0
Vehicles Exited	145	161	147	154	185	308	355	125	239	266	100	60
Hourly Exit Rate	145	161	147	154	185	308	355	125	239	266	100	60

1: Heacock St & Ironwood Ave Performance by lane

Lane	SB	SB	SB	All
Movements Served	T	T	R	
Denied Del/Veh (s)				0.5
Total Del/Veh (s)	30.1	37.7	10.3	30.2
Vehicles Entered	596	407	0	3193
Vehicles Exited	357	299	291	3191
Hourly Exit Rate	357	299	291	3191

2: Heacock St & New Project Access Performance by lane

Lane	NB	NB	SB	SB	All
Movements Served	T	TR	LT	T	
Denied Del/Veh (s)					0.0
Total Del/Veh (s)	2.4	2.2	6.4	6.1	4.5
Vehicles Entered	347	413	466	530	1756
Vehicles Exited	333	427	415	574	1750
Hourly Exit Rate	333	427	415	574	1750

3: Heacock St & Hemlock Ave Performance by lane

Lane	EB	EB	WB	WB	WB	NB	NB	NB	NB	SB	SB	SB
Movements Served	L	TR	L	T	R	L	T	T	R	L	T	T
Denied Del/Veh (s)												
Total Del/Veh (s)	33.8	37.6	76.6	25.3	4.8	34.7	18.6	17.2	1.4	40.0	66.8	74.5
Vehicles Entered	163	99	1	168	0	0	402	490	0	0	431	534
Vehicles Exited	42	220	53	91	25	122	315	380	69	17	463	471
Hourly Exit Rate	42	220	53	91	25	122	315	380	69	17	463	471

3: Heacock St & Hemlock Ave Performance by lane

Lane	SB	All
Movements Served	R	
Denied Del/Veh (s)		2.5
Total Del/Veh (s)	5.1	43.3
Vehicles Entered	51	2339
Vehicles Exited	50	2318
Hourly Exit Rate	50	2318

4: Heacock St & SR 60 WB Ramp Performance by lane

Lane	WB	WB	NB	NB	NB	SB	SB	All
Movements Served	LT	R	L	T	T	T	TR	
Denied Del/Veh (s)								0.6
Total Del/Veh (s)	47.5	3.3	45.9	19.8	13.8	48.1	52.3	37.7
Vehicles Entered	522	0	2	707	342	520	644	2738
Vehicles Exited	353	172	333	365	352	580	573	2727
Hourly Exit Rate	353	172	333	365	352	580	573	2727

5: Heacock St & SR 60 EB Ramp Performance by lane

Lane	EB	EB	EB	NB	NB	NB	SB	SB	SB	All
Movements Served	L	LT	R	T	T	TR	L	T	T	
Denied Del/Veh (s)										0.2
Total Del/Veh (s)	48.5	25.8	21.7	34.0	18.7	8.2	45.5	9.7	8.6	21.6
Vehicles Entered	200	58	483	610	177	202	0	779	397	2907
Vehicles Exited	172	67	502	531	239	218	176	532	472	2909
Hourly Exit Rate	172	67	502	531	239	218	176	532	472	2909

6: Hemlock Ave & New Project Access Performance by lane

Lane	EB	EB	WB	WB	NB	All
Movements Served	LT	TR	LT	TR	LTR	
Denied Del/Veh (s)						0.0
Total Del/Veh (s)	2.1	0.7	0.1	0.2	2.7	0.7
Vehicles Entered	71	82	135	34	2	324
Vehicles Exited	67	87	138	31	2	325
Hourly Exit Rate	67	87	138	31	2	325

7: Davis St & Hemlock Ave Performance by lane

Lane	EB	EB	EB	WB	WB	NB	SB	All
Movements Served	L	T	TR	L	TR	LTR	R	
Denied Del/Veh (s)								0.0
Total Del/Veh (s)	2.3	0.1	0.1	0.0	0.2	5.1	2.1	0.3
Vehicles Entered	0	67	86	1	156	3	9	321
Vehicles Exited	12	56	86	1	156	3	9	322
Hourly Exit Rate	12	56	86	1	156	3	9	322

8: Hemlock Ave & IHOP Access Performance by lane

Lane	EB	WB	SB	All
Movements Served	LT	TR	LR	
Denied Del/Veh (s)				0.0
Total Del/Veh (s)	0.6	0.4	2.7	0.5
Vehicles Entered	140	159	6	305
Vehicles Exited	140	159	6	305
Hourly Exit Rate	140	159	6	305

9: Hemlock Ave & Middle Access Performance by lane

Lane	EB	WB	SB	All
Movements Served	LT	TR	LR	
Denied Del/Veh (s)				0.0
Total Del/Veh (s)	0.4	0.6	4.8	0.6
Vehicles Entered	124	174	9	308
Vehicles Exited	124	174	9	308
Hourly Exit Rate	124	174	9	308

10: Hemlock Ave & West Access Performance by lane

Lane	EB	WB	SB	All
Movements Served	T	TR	R	
Denied Del/Veh (s)				0.0
Total Del/Veh (s)	0.3	0.2	1.7	0.2
Vehicles Entered	115	179	1	296
Vehicles Exited	115	179	1	295
Hourly Exit Rate	115	179	1	295

11: Hemlock Ave & Nita Dr Performance by lane

Lane	EB	WB	SB	All
Movements Served	T	TR	R	
Denied Del/Veh (s)				0.0
Total Del/Veh (s)	0.1	1.4	2.7	1.0
Vehicles Entered	113	177	7	297
Vehicles Exited	113	176	7	296
Hourly Exit Rate	113	176	7	296

12: Driveway/Davis St & Ironwood Ave Performance by lane

Lane	EB	EB	EB	WB	WB	SB	SB	All
Movements Served	L	T	TR	T	TR	L	TR	
Denied Del/Veh (s)								0.3
Total Del/Veh (s)	53.5	18.3	16.8	28.0	31.0	12.9	13.4	24.9
Vehicles Entered	0	219	263	463	465	0	226	1636
Vehicles Exited	53	177	253	452	474	140	89	1637
Hourly Exit Rate	53	177	253	452	474	140	89	1637

13: Indian St & Ironwood Ave Performance by lane

Lane	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Movements Served	L	T	TR	L	T	TR	L	T	R	L	T	R
Denied Del/Veh (s)												
Total Del/Veh (s)	44.3	24.8	26.6	43.7	29.0	30.2	41.3	28.4	3.4	41.9	32.7	4.7
Vehicles Entered	0	271	309	0	660	226	0	337	0	0	381	0
Vehicles Exited	36	237	307	107	370	412	126	143	67	103	189	89
Hourly Exit Rate	36	237	307	107	370	412	126	143	67	103	189	89

13: Indian St & Ironwood Ave Performance by lane

Lane	All
Movements Served	
Denied Del/Veh (s)	0.4
Total Del/Veh (s)	29.3
Vehicles Entered	2185
Vehicles Exited	2186
Hourly Exit Rate	2186

14: Indian St & Hemlock Ave Performance by lane

Lane	EB	EB	EB	WB	WB	NB	NB	SB	SB	All
Movements Served	L	T	TR	L	TR	L	TR	L	TR	
Denied Del/Veh (s)										0.1
Total Del/Veh (s)	29.5	33.7	14.8	23.8	24.9	33.0	14.6	36.9	15.7	19.3
Vehicles Entered	0	86	33	0	223	0	377	0	436	1157
Vehicles Exited	8	49	63	77	145	42	335	47	386	1153
Hourly Exit Rate	8	49	63	77	145	42	335	47	386	1153

15: Indian St & Sunnymead Blvd Performance by lane

Lane	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Movements Served	L	T	TR	L	T	TR	L	T	R	L	T	R
Denied Del/Veh (s)												
Total Del/Veh (s)	32.9	23.2	12.3	39.6	29.8	18.6	33.7	16.3	8.8	38.4	27.5	6.3
Vehicles Entered	0	266	129	0	241	66	0	380	0	0	497	0
Vehicles Exited	115	142	139	22	177	108	97	218	64	61	265	171
Hourly Exit Rate	115	142	139	22	177	108	97	218	64	61	265	171

15: Indian St & Sunnymead Blvd Performance by lane

Lane	All
Movements Served	
Denied Del/Veh (s)	0.8
Total Del/Veh (s)	22.2
Vehicles Entered	1579
Vehicles Exited	1578
Hourly Exit Rate	1578

Total Network Performance

Denied Del/Veh (s)	1.7
Total Del/Veh (s)	74.2
Vehicles Entered	7198
Vehicles Exited	7168
Hourly Exit Rate	7168
Input Volume	28411
% of Volume	25

Intersection: 1: Heacock St & Ironwood Ave

Movement	EB	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	SB
Directions Served	L	T	T	R	L	T	TR	L	T	T	R	L
Maximum Queue (ft)	115	196	198	90	160	352	340	164	261	275	70	125
Average Queue (ft)	84	94	85	57	126	164	173	93	104	117	37	63
95th Queue (ft)	128	172	165	105	187	308	304	161	212	224	88	131
Link Distance (ft)		2012	2012			1213	1213		694	694		
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	90			65	135			140			45	100
Storage Blk Time (%)	16	6	15	2	14	13		4	5	32	4	2
Queuing Penalty (veh)	25	9	25	3	41	23		9	7	33	9	6

Intersection: 1: Heacock St & Ironwood Ave

Movement	SB	SB	SB
Directions Served	T	T	R
Maximum Queue (ft)	294	351	120
Average Queue (ft)	160	182	105
95th Queue (ft)	251	298	148
Link Distance (ft)	1480	1480	
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			95
Storage Blk Time (%)	25	22	9
Queuing Penalty (veh)	15	65	27

Intersection: 2: Heacock St & New Project Access

Movement	SB	SB
Directions Served	LT	T
Maximum Queue (ft)	152	161
Average Queue (ft)	25	29
95th Queue (ft)	133	153
Link Distance (ft)	694	694
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 3: Heacock St & Hemlock Ave

Movement	EB	EB	WB	WB	WB	NB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	T	R	L	T	T	R	L	T	T
Maximum Queue (ft)	73	256	127	106	32	124	277	284	76	119	519	545
Average Queue (ft)	30	114	50	44	9	79	122	130	36	19	335	357
95th Queue (ft)	65	233	120	87	26	134	249	248	87	71	644	656
Link Distance (ft)	2106	2106		357			350	350			592	592
Upstream Blk Time (%)							0	0			5	7
Queuing Penalty (veh)							1	0			17	23
Storage Bay Dist (ft)			360		200	100			50	95		
Storage Blk Time (%)						5	9	25	1	0	45	
Queuing Penalty (veh)						18	11	16	2	1	9	

Intersection: 3: Heacock St & Hemlock Ave

Movement	SB
Directions Served	R
Maximum Queue (ft)	62
Average Queue (ft)	16
95th Queue (ft)	47
Link Distance (ft)	592
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 4: Heacock St & SR 60 WB Ramp

Movement	WB	WB	NB	NB	NB	SB	SB
Directions Served	LT	R	L	T	T	T	TR
Maximum Queue (ft)	488	61	225	324	275	380	376
Average Queue (ft)	263	48	201	220	144	322	340
95th Queue (ft)	415	64	254	370	268	416	418
Link Distance (ft)	1034			257	257	350	350
Upstream Blk Time (%)				11	1	11	20
Queuing Penalty (veh)				59	3	65	116
Storage Bay Dist (ft)		30	200				
Storage Blk Time (%)	55	14	22	2			
Queuing Penalty (veh)	93	47	76	6			

Intersection: 5: Heacock St & SR 60 EB Ramp

Movement	EB	EB	EB	NB	NB	NB	SB	SB	SB
Directions Served	L	LT	R	T	T	TR	L	T	T
Maximum Queue (ft)	211	180	315	393	365	163	208	251	223
Average Queue (ft)	115	59	176	242	158	55	117	100	93
95th Queue (ft)	215	157	285	368	308	118	191	208	201
Link Distance (ft)	742	742	742	685	685	685		257	257
Upstream Blk Time (%)								0	0
Queuing Penalty (veh)								1	0
Storage Bay Dist (ft)							190		
Storage Blk Time (%)							1	1	
Queuing Penalty (veh)							4	2	

Intersection: 6: Hemlock Ave & New Project Access

Movement	NB
Directions Served	LTR
Maximum Queue (ft)	24
Average Queue (ft)	2
95th Queue (ft)	14
Link Distance (ft)	255
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 7: Davis St & Hemlock Ave

Movement	EB	NB	SB
Directions Served	L	LTR	R
Maximum Queue (ft)	21	22	26
Average Queue (ft)	2	2	6
95th Queue (ft)	11	12	24
Link Distance (ft)		157	573
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)	180		
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 8: Hemlock Ave & IHOP Access

Movement	EB	SB
Directions Served	LT	LR
Maximum Queue (ft)	35	28
Average Queue (ft)	2	5
95th Queue (ft)	16	22
Link Distance (ft)	284	380
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 9: Hemlock Ave & Middle Access

Movement	EB	SB
Directions Served	LT	LR
Maximum Queue (ft)	12	31
Average Queue (ft)	1	9
95th Queue (ft)	8	32
Link Distance (ft)	542	236
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 10: Hemlock Ave & West Access

Movement	SB
Directions Served	R
Maximum Queue (ft)	9
Average Queue (ft)	0
95th Queue (ft)	6
Link Distance (ft)	328
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 11: Hemlock Ave & Nita Dr

Movement	SB
Directions Served	R
Maximum Queue (ft)	31
Average Queue (ft)	6
95th Queue (ft)	26
Link Distance (ft)	253
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 12: Driveway/Davis St & Ironwood Ave

Movement	EB	EB	EB	WB	WB	SB	SB
Directions Served	L	T	TR	T	TR	L	TR
Maximum Queue (ft)	105	174	181	357	366	64	164
Average Queue (ft)	46	69	89	210	228	46	47
95th Queue (ft)	92	141	156	330	345	76	117
Link Distance (ft)		1213	1213	1261	1261		1507
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)	150					40	
Storage Blk Time (%)	0	1				17	4
Queuing Penalty (veh)	0	0				15	5

Intersection: 13: Indian St & Ironwood Ave

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	TR	L	T	TR	L	T	R	L	T	R
Maximum Queue (ft)	119	206	245	124	318	329	133	229	75	104	361	75
Average Queue (ft)	34	95	122	85	167	182	85	81	33	74	122	42
95th Queue (ft)	87	178	212	147	271	284	137	173	77	118	260	86
Link Distance (ft)		1261	1261		2384	2384		1353			1508	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	95			100			110		50	80		50
Storage Blk Time (%)	0	10		5	20		6	19	1	16	26	2
Queuing Penalty (veh)	0	4		20	24		13	39	3	44	51	6

Intersection: 14: Indian St & Hemlock Ave

Movement	EB	EB	EB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	TR	L	TR	L	TR	L	TR
Maximum Queue (ft)	43	56	94	104	178	168	273	124	303
Average Queue (ft)	6	32	33	51	78	39	104	42	123
95th Queue (ft)	27	55	72	97	141	101	216	95	233
Link Distance (ft)		318	318		2337		1227		1353
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (ft)	150			80		145		100	
Storage Blk Time (%)				2	10		4	1	11
Queuing Penalty (veh)				2	8		2	2	6

Intersection: 15: Indian St & Sunnymead Blvd

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	TR	L	T	TR	L	T	R	L	T	R
Maximum Queue (ft)	112	168	117	93	155	141	162	199	112	114	308	85
Average Queue (ft)	63	64	43	20	85	50	68	85	29	57	129	63
95th Queue (ft)	111	128	88	56	139	103	123	158	78	111	246	109
Link Distance (ft)		715	715		1059	1059		913			1227	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	90			100			145		105	90		60
Storage Blk Time (%)	7	2			5		0	3	0	1	19	4
Queuing Penalty (veh)	6	3			1		1	6	0	5	44	13

Network Summary

Network wide Queuing Penalty: 1190

1: Heacock St & Ironwood Ave Performance by lane

Lane	EB	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	SB
Movements Served	L	T	T	R	L	T	TR	L	T	T	R	L
Denied Del/Veh (s)												
Total Del/Veh (s)	49.9	106.0	105.8	11.7	90.1	92.1	33.6	51.0	30.5	39.9	4.2	46.4
Vehicles Entered	0	632	293	0	0	252	264	0	437	490	0	0
Vehicles Exited	238	227	264	173	102	168	234	186	298	282	168	70
Hourly Exit Rate	238	227	264	173	102	168	234	186	298	282	168	70

1: Heacock St & Ironwood Ave Performance by lane

Lane	SB	SB	SB	All
Movements Served	T	T	R	
Denied Del/Veh (s)				12.8
Total Del/Veh (s)	161.6	168.1	9.0	73.2
Vehicles Entered	531	330	0	3228
Vehicles Exited	278	268	197	3154
Hourly Exit Rate	278	268	197	3154

2: Heacock St & New Project Access Performance by lane

Lane	NB	NB	SB	SB	SB	All
Movements Served	T	TR	LT	T	T	
Denied Del/Veh (s)						0.0
Total Del/Veh (s)	3.3	3.5	106.7	123.2	119.9	54.9
Vehicles Entered	487	482	334	269	218	1790
Vehicles Exited	460	513	335	316	137	1762
Hourly Exit Rate	460	513	335	316	137	1762

3: Heacock St & Hemlock Ave Performance by lane

Lane	EB	EB	WB	WB	WB	NB	NB	NB	NB	SB	SB	SB
Movements Served	L	TR	L	T	R	L	T	T	R	L	T	T
Denied Del/Veh (s)												
Total Del/Veh (s)	231.7	239.7	1085.0	308.0	7.3	56.3	47.1	49.9	0.9	57.2	228.1	247.6
Vehicles Entered	238	139	0	82	0	0	520	651	0	0	344	322
Vehicles Exited	59	264	28	32	11	163	453	459	96	25	351	338
Hourly Exit Rate	59	264	28	32	11	163	453	459	96	25	351	338

3: Heacock St & Hemlock Ave Performance by lane

Lane	SB	All
Movements Served	R	
Denied Del/Veh (s)		12.8
Total Del/Veh (s)	143.6	156.4
Vehicles Entered	140	2437
Vehicles Exited	48	2328
Hourly Exit Rate	48	2328

4: Heacock St & SR 60 WB Ramp Performance by lane

Lane	WB	WB	NB	NB	NB	SB	SB	All
Movements Served	LT	R	L	T	T	T	TR	
Denied Del/Veh (s)								26.8
Total Del/Veh (s)	137.0	10.7	71.1	38.2	31.9	72.4	74.5	63.1
Vehicles Entered	477	0	0	665	660	449	578	2829
Vehicles Exited	301	163	314	486	526	518	511	2819
Hourly Exit Rate	301	163	314	486	526	518	511	2819

5: Heacock St & SR 60 EB Ramp Performance by lane

Lane	EB	EB	EB	NB	NB	NB	SB	SB	SB	All
Movements Served	L	LT	R	T	T	TR	L	T	T	
Denied Del/Veh (s)										246.6
Total Del/Veh (s)	310.3	209.9	39.5	183.8	153.0	143.2	75.8	24.0	24.0	117.4
Vehicles Entered	270	188	391	454	395	402	0	693	316	3108
Vehicles Exited	215	186	420	450	349	438	135	463	405	3061
Hourly Exit Rate	215	186	420	450	349	438	135	463	405	3061

6: Hemlock Ave & New Project Access Performance by lane

Lane	EB	EB	EB	WB	NB	All
Movements Served	T	T	TR	T	LTR	
Denied Del/Veh (s)						14.7
Total Del/Veh (s)	1.7	1.5	0.6	363.1	2.8	98.6
Vehicles Entered	115	27	94	95	23	354
Vehicles Exited	109	33	95	83	23	343
Hourly Exit Rate	109	33	95	83	23	343

7: Davis St & Hemlock Ave Performance by lane

Lane	EB	EB	EB	WB	WB	NB	SB	SB	All
Movements Served	L	T	TR	L	TR	LTR	LT	R	
Denied Del/Veh (s)									7.0
Total Del/Veh (s)	2.0	0.2	0.2	2.3	307.3	467.3	46.1	790.8	149.8
Vehicles Entered	1	119	129	3	94	4	10	34	393
Vehicles Exited	41	79	128	3	82	2	8	12	355
Hourly Exit Rate	41	79	128	3	82	2	8	12	355

8: Hemlock Ave & IHOP Access Performance by lane

Lane	EB	WB	SB	All
Movements Served	LT	TR	LR	
Denied Del/Veh (s)				0.0
Total Del/Veh (s)	0.4	367.0	487.5	156.1
Vehicles Entered	215	121	23	359
Vehicles Exited	215	97	13	326
Hourly Exit Rate	215	97	13	326

9: Hemlock Ave & Middle Access Performance by lane

Lane	EB	WB	SB	All
Movements Served	LT	TR	LR	
Denied Del/Veh (s)				5.3
Total Del/Veh (s)	0.5	198.4	218.8	95.0
Vehicles Entered	209	135	44	388
Vehicles Exited	209	112	38	358
Hourly Exit Rate	209	112	38	358

10: Hemlock Ave & West Access Performance by lane

Lane	EB	WB	SB	All
Movements Served	LT	TR	R	
Denied Del/Veh (s)				0.0
Total Del/Veh (s)	0.5	18.3	60.2	8.7
Vehicles Entered	221	153	7	380
Vehicles Exited	221	150	7	379
Hourly Exit Rate	221	150	7	379

11: Hemlock Ave & Nita Dr Performance by lane

Lane	EB	WB	SB	All
Movements Served	T	TR	R	
Denied Del/Veh (s)				2.2
Total Del/Veh (s)	0.1	34.3	62.0	15.8
Vehicles Entered	221	156	12	389
Vehicles Exited	221	149	10	381
Hourly Exit Rate	221	149	10	381

12: Driveway/Davis St & Ironwood Ave Performance by lane

Lane	EB	EB	EB	WB	WB	SB	SB	All
Movements Served	L	T	TR	T	TR	L	TR	
Denied Del/Veh (s)								0.2
Total Del/Veh (s)	162.4	33.5	17.8	22.2	21.9	17.8	8.1	31.5
Vehicles Entered	0	307	446	237	258	0	128	1375
Vehicles Exited	88	274	392	232	264	70	58	1378
Hourly Exit Rate	88	274	392	232	264	70	58	1378

13: Indian St & Ironwood Ave Performance by lane

Lane	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Movements Served	L	T	TR	L	T	TR	L	T	R	L	T	R
Denied Del/Veh (s)												
Total Del/Veh (s)	41.2	28.1	29.7	39.1	26.3	23.2	39.4	30.0	4.9	38.7	27.7	3.2
Vehicles Entered	0	317	397	0	430	96	0	390	0	0	255	0
Vehicles Exited	100	281	334	104	189	232	57	162	172	60	123	68
Hourly Exit Rate	100	281	334	104	189	232	57	162	172	60	123	68

13: Indian St & Ironwood Ave Performance by lane

Lane	All
Movements Served	
Denied Del/Veh (s)	0.3
Total Del/Veh (s)	26.7
Vehicles Entered	1887
Vehicles Exited	1881
Hourly Exit Rate	1881

14: Indian St & Hemlock Ave Performance by lane

Lane	EB	EB	EB	WB	WB	NB	NB	SB	SB	All
Movements Served	L	T	TR	L	TR	L	TR	L	TR	
Denied Del/Veh (s)										0.3
Total Del/Veh (s)	26.4	32.2	17.9	26.1	68.0	59.9	18.6	39.1	38.8	30.5
Vehicles Entered	0	171	51	0	214	0	574	0	328	1336
Vehicles Exited	31	80	109	108	93	43	520	16	306	1306
Hourly Exit Rate	31	80	109	108	93	43	520	16	306	1306

15: Indian St & Sunnymead Blvd Performance by lane

Lane	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Movements Served	L	T	TR	L	T	TR	L	T	R	L	T	R
Denied Del/Veh (s)												
Total Del/Veh (s)	55.0	636.1	73.0	40.0	32.5	22.4	39.8	22.3	10.5	41.4	43.4	8.3
Vehicles Entered	0	353	486	0	293	105	0	449	0	0	457	0
Vehicles Exited	278	117	440	42	205	151	129	240	86	57	146	256
Hourly Exit Rate	278	117	440	42	205	151	129	240	86	57	146	256

15: Indian St & Sunnymead Blvd Performance by lane

Lane	All
Movements Served	
Denied Del/Veh (s)	212.9
Total Del/Veh (s)	79.4
Vehicles Entered	2144
Vehicles Exited	2147
Hourly Exit Rate	2147

Total Network Performance

Denied Del/Veh (s)	176.1
Total Del/Veh (s)	212.5
Vehicles Entered	8021
Vehicles Exited	7623
Hourly Exit Rate	7623
Input Volume	35589
% of Volume	21

Intersection: 1: Heacock St & Ironwood Ave

Movement	EB	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	SB
Directions Served	L	T	T	R	L	T	TR	L	T	T	R	L
Maximum Queue (ft)	115	842	840	90	160	476	414	165	350	330	71	125
Average Queue (ft)	111	395	368	71	102	201	177	124	154	161	48	75
95th Queue (ft)	132	854	857	118	174	545	441	208	323	323	95	149
Link Distance (ft)		2012	2012			1213	1213		586	586		
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	90			65	135			140			45	100
Storage Blk Time (%)	63	11	41	12	21	12		14	11	35	5	4
Queuing Penalty (veh)	153	27	81	28	36	13		55	28	72	21	13

Intersection: 1: Heacock St & Ironwood Ave

Movement	SB	SB	SB
Directions Served	T	T	R
Maximum Queue (ft)	855	897	120
Average Queue (ft)	421	434	93
95th Queue (ft)	1174	1186	163
Link Distance (ft)	1480	1480	
Upstream Blk Time (%)	7	7	
Queuing Penalty (veh)	0	0	
Storage Bay Dist (ft)			95
Storage Blk Time (%)	45	42	5
Queuing Penalty (veh)	37	95	15

Intersection: 2: Heacock St & New Project Access

Movement	SB	SB	SB
Directions Served	LT	T	T
Maximum Queue (ft)	536	541	519
Average Queue (ft)	305	310	271
95th Queue (ft)	722	723	690
Link Distance (ft)	586	586	586
Upstream Blk Time (%)	16	15	12
Queuing Penalty (veh)	48	46	38
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 3: Heacock St & Hemlock Ave

Movement	EB	EB	WB	WB	WB	NB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	T	R	L	T	T	R	L	T	T
Maximum Queue (ft)	943	1201	305	356	122	125	363	378	75	120	740	747
Average Queue (ft)	245	563	264	286	7	102	296	300	35	34	661	666
95th Queue (ft)	1090	1481	354	453	43	170	476	484	92	100	843	843
Link Distance (ft)	2106	2106		306			337	337			702	702
Upstream Blk Time (%)	3	4	28	80			16	17			44	51
Queuing Penalty (veh)	0	0	0	170			120	132			135	156
Storage Bay Dist (ft)			360		200	100			50	95		
Storage Blk Time (%)			28	0		28	27	44	0	1	78	
Queuing Penalty (veh)			32	0		166	61	53	2	3	20	

Intersection: 3: Heacock St & Hemlock Ave

Movement	SB
Directions Served	R
Maximum Queue (ft)	733
Average Queue (ft)	433
95th Queue (ft)	954
Link Distance (ft)	702
Upstream Blk Time (%)	8
Queuing Penalty (veh)	23
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 4: Heacock St & SR 60 WB Ramp

Movement	WB	WB	NB	NB	NB	SB	SB
Directions Served	LT	R	L	T	T	T	TR
Maximum Queue (ft)	731	59	225	321	311	376	376
Average Queue (ft)	421	45	219	283	220	360	365
95th Queue (ft)	854	74	246	354	377	388	380
Link Distance (ft)	1034			257	257	337	337
Upstream Blk Time (%)	11			39	17	44	48
Queuing Penalty (veh)	0			356	158	265	290
Storage Bay Dist (ft)		30	200				
Storage Blk Time (%)	61	35	45	18			
Queuing Penalty (veh)	106	123	304	81			

Intersection: 5: Heacock St & SR 60 EB Ramp

Movement	EB	EB	EB	NB	NB	NB	SB	SB	SB
Directions Served	L	LT	R	T	T	TR	L	T	T
Maximum Queue (ft)	671	664	684	736	721	720	201	254	236
Average Queue (ft)	530	423	368	659	626	587	119	149	140
95th Queue (ft)	974	945	854	825	825	856	210	294	278
Link Distance (ft)	742	742	742	685	685	685		257	257
Upstream Blk Time (%)	50	25	13	59	22	27		12	12
Queuing Penalty (veh)	0	0	0	0	0	0		80	75
Storage Bay Dist (ft)							190		
Storage Blk Time (%)							13	14	
Queuing Penalty (veh)							64	26	

Intersection: 6: Hemlock Ave & New Project Access

Movement	WB	NB
Directions Served	T	LTR
Maximum Queue (ft)	296	34
Average Queue (ft)	220	16
95th Queue (ft)	397	38
Link Distance (ft)	272	238
Upstream Blk Time (%)	67	
Queuing Penalty (veh)	137	
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 7: Davis St & Hemlock Ave

Movement	EB	WB	WB	NB	SB	SB
Directions Served	L	L	TR	LTR	LT	R
Maximum Queue (ft)	23	5	295	46	249	509
Average Queue (ft)	2	0	190	11	22	191
95th Queue (ft)	13	3	406	44	177	497
Link Distance (ft)		285	285	155	572	572
Upstream Blk Time (%)			57		1	6
Queuing Penalty (veh)			49		0	0
Storage Bay Dist (ft)	180					
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 8: Hemlock Ave & IHOP Access

Movement	EB	WB	SB
Directions Served	LT	TR	LR
Maximum Queue (ft)	19	553	253
Average Queue (ft)	1	291	84
95th Queue (ft)	11	712	242
Link Distance (ft)	285	542	380
Upstream Blk Time (%)		39	
Queuing Penalty (veh)		65	
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 9: Hemlock Ave & Middle Access

Movement	EB	WB	SB
Directions Served	LT	TR	LR
Maximum Queue (ft)	29	544	232
Average Queue (ft)	1	187	87
95th Queue (ft)	13	603	229
Link Distance (ft)	542	622	236
Upstream Blk Time (%)		16	16
Queuing Penalty (veh)		26	0
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 10: Hemlock Ave & West Access

Movement	WB	SB
Directions Served	TR	R
Maximum Queue (ft)	71	45
Average Queue (ft)	21	6
95th Queue (ft)	90	25
Link Distance (ft)	106	328
Upstream Blk Time (%)	14	
Queuing Penalty (veh)	25	
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 11: Hemlock Ave & Nita Dr

Movement	WB	SB
Directions Served	TR	R
Maximum Queue (ft)	199	62
Average Queue (ft)	39	13
95th Queue (ft)	199	46
Link Distance (ft)	318	253
Upstream Blk Time (%)	6	
Queuing Penalty (veh)	9	
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 12: Driveway/Davis St & Ironwood Ave

Movement	EB	EB	EB	WB	WB	SB	SB
Directions Served	L	T	TR	T	TR	L	TR
Maximum Queue (ft)	174	335	302	190	215	60	81
Average Queue (ft)	123	170	160	98	110	30	26
95th Queue (ft)	209	368	329	179	202	63	66
Link Distance (ft)		1213	1213	1261	1261		1507
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)	150					40	
Storage Blk Time (%)	32	3				9	2
Queuing Penalty (veh)	111	3				5	1

Intersection: 13: Indian St & Ironwood Ave

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	TR	L	T	TR	L	T	R	L	T	R
Maximum Queue (ft)	120	259	274	124	189	205	123	229	75	95	227	74
Average Queue (ft)	74	131	144	68	84	94	50	91	58	46	67	33
95th Queue (ft)	136	237	243	118	152	163	107	188	92	90	163	75
Link Distance (ft)		1261	1261		2384	2384		1353			1508	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	95			100			110		50	80		50
Storage Blk Time (%)	6	16		4	4		1	17	8	3	18	1
Queuing Penalty (veh)	16	16		7	4		2	47	20	7	25	2

Intersection: 14: Indian St & Hemlock Ave

Movement	EB	EB	EB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	TR	L	TR	L	TR	L	TR
Maximum Queue (ft)	62	108	130	104	340	168	488	98	466
Average Queue (ft)	22	47	50	61	92	54	160	17	153
95th Queue (ft)	54	86	96	107	333	129	386	60	524
Link Distance (ft)		318	318		2337		1227		1353
Upstream Blk Time (%)							0		2
Queuing Penalty (veh)							2		6
Storage Bay Dist (ft)	150			80		145		100	
Storage Blk Time (%)		0		6	9	3	8	0	14
Queuing Penalty (veh)		0		6	9	18	4	0	2

Intersection: 15: Indian St & Sunnymead Blvd

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	TR	L	T	TR	L	T	R	L	T	R
Maximum Queue (ft)	115	767	734	118	185	173	163	232	130	114	323	85
Average Queue (ft)	114	732	681	37	100	71	91	107	47	49	124	71
95th Queue (ft)	115	778	876	90	163	141	157	202	118	103	257	110
Link Distance (ft)		715	715		1059	1059		913			1227	
Upstream Blk Time (%)		95	11									
Queuing Penalty (veh)		0	0									
Storage Bay Dist (ft)	90			100			145		105	90		60
Storage Blk Time (%)	86	2		0	10		1	7	0	2	12	13
Queuing Penalty (veh)	248	8		0	5		4	16	1	10	40	29

Network Summary

Network wide Queuing Penalty: 4793

1: Heacock St & Ironwood Ave Performance by lane

Lane	EB	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	SB
Movements Served	L	T	T	R	L	T	TR	L	T	T	R	L
Denied Del/Veh (s)												
Total Del/Veh (s)	39.0	32.3	31.4	6.7	46.3	35.2	33.4	45.1	21.9	24.1	5.9	45.6
Vehicles Entered	0	437	183	0	0	466	390	0	321	393	0	0
Vehicles Exited	145	159	150	161	182	307	361	134	213	262	98	56
Hourly Exit Rate	145	159	150	161	182	307	361	134	213	262	98	56

1: Heacock St & Ironwood Ave Performance by lane

Lane	SB	SB	SB	All
Movements Served	T	T	R	
Denied Del/Veh (s)				0.5
Total Del/Veh (s)	31.2	37.7	10.9	29.5
Vehicles Entered	581	402	0	3174
Vehicles Exited	346	291	294	3160
Hourly Exit Rate	346	291	294	3160

2: Heacock St & New Project Access Performance by lane

Lane	WB	NB	NB	SB	SB	All
Movements Served	LR	T	TR	LT	T	
Denied Del/Veh (s)						0.0
Total Del/Veh (s)	5.3	2.3	2.2	3.5	2.7	2.7
Vehicles Entered	10	352	382	456	524	1724
Vehicles Exited	9	331	402	383	591	1715
Hourly Exit Rate	9	331	402	383	591	1715

3: Heacock St & Hemlock Ave Performance by lane

Lane	EB	EB	WB	WB	WB	NB	NB	NB	NB	SB	SB	SB
Movements Served	L	TR	L	T	R	L	T	T	R	L	T	T
Denied Del/Veh (s)												
Total Del/Veh (s)	33.0	29.9	76.1	8.4	3.8	35.2	19.4	18.9	1.2	38.2	43.8	51.0
Vehicles Entered	157	85	0	273	0	0	403	487	0	0	397	547
Vehicles Exited	42	201	52	215	7	125	319	368	83	18	454	476
Hourly Exit Rate	42	201	52	215	7	125	319	368	83	18	454	476

3: Heacock St & Hemlock Ave Performance by lane

Lane	SB	All
Movements Served	R	
Denied Del/Veh (s)		0.2
Total Del/Veh (s)	3.6	31.4
Vehicles Entered	55	2406
Vehicles Exited	54	2415
Hourly Exit Rate	54	2415

4: Heacock St & SR 60 WB Ramp Performance by lane

Lane	WB	WB	NB	NB	NB	SB	SB	All
Movements Served	LT	R	L	T	T	T	TR	
Denied Del/Veh (s)								0.6
Total Del/Veh (s)	53.2	3.2	46.7	21.1	15.7	45.7	49.7	37.9
Vehicles Entered	534	0	3	708	340	520	640	2743
Vehicles Exited	360	178	337	367	342	581	578	2743
Hourly Exit Rate	360	178	337	367	342	581	578	2743

5: Heacock St & SR 60 EB Ramp Performance by lane

Lane	EB	EB	EB	NB	NB	NB	SB	SB	SB	All
Movements Served	L	LT	R	T	T	TR	L	T	T	
Denied Del/Veh (s)										0.2
Total Del/Veh (s)	45.2	25.5	24.9	35.7	18.4	7.6	42.1	8.6	7.7	21.6
Vehicles Entered	210	65	494	597	175	199	0	784	405	2929
Vehicles Exited	187	66	520	515	238	216	176	541	472	2929
Hourly Exit Rate	187	66	520	515	238	216	176	541	472	2929

6: Hemlock Ave & New Project Access Performance by lane

Lane	EB	EB	WB	WB	NB	All
Movements Served	LT	TR	LT	TR	LTR	
Denied Del/Veh (s)						0.0
Total Del/Veh (s)	1.5	0.6	0.2	0.2	1.9	0.5
Vehicles Entered	73	80	177	103	1	434
Vehicles Exited	72	81	183	97	1	434
Hourly Exit Rate	72	81	183	97	1	434

7: Davis St & Hemlock Ave Performance by lane

Lane	EB	EB	EB	WB	WB	NB	SB	SB	All
Movements Served	L	T	TR	L	TR	LTR	LT	R	
Denied Del/Veh (s)									0.1
Total Del/Veh (s)	2.1	0.5	0.2	1.7	0.3	7.1	6.7	2.6	1.1
Vehicles Entered	55	185	107	4	201	30	4	54	641
Vehicles Exited	95	143	108	4	201	30	4	54	640
Hourly Exit Rate	95	143	108	4	201	30	4	54	640

8: Hemlock Ave & IHOP Access Performance by lane

Lane	EB	WB	SB	All
Movements Served	LT	TR	LR	
Denied Del/Veh (s)				0.0
Total Del/Veh (s)	0.6	0.4	2.7	0.5
Vehicles Entered	217	202	5	424
Vehicles Exited	217	203	5	425
Hourly Exit Rate	217	203	5	425

9: Hemlock Ave & Middle Access Performance by lane

Lane	EB	WB	SB	All
Movements Served	LT	TR	LR	
Denied Del/Veh (s)				0.0
Total Del/Veh (s)	1.8	0.8	4.3	1.8
Vehicles Entered	199	186	73	459
Vehicles Exited	198	186	74	458
Hourly Exit Rate	198	186	74	458

10: West Access/West Access & Hemlock Ave Performance by lane

Lane	EB	WB	NB	SB	All
Movements Served	LTR	LTR	LTR	LTR	
Denied Del/Veh (s)					0.1
Total Del/Veh (s)	0.5	0.7	3.3	5.1	1.0
Vehicles Entered	129	230	17	21	397
Vehicles Exited	129	230	17	21	397
Hourly Exit Rate	129	230	17	21	397

11: Hemlock Ave & Nita Dr Performance by lane

Lane	EB	WB	SB	All
Movements Served	T	TR	R	
Denied Del/Veh (s)				0.0
Total Del/Veh (s)	0.2	1.6	2.7	0.9
Vehicles Entered	155	153	7	315
Vehicles Exited	155	154	7	316
Hourly Exit Rate	155	154	7	316

12: Driveway/Davis St & Ironwood Ave Performance by lane

Lane	EB	EB	EB	WB	WB	NB	SB	SB	All
Movements Served	L	T	TR	LT	TR	LTR	L	TR	
Denied Del/Veh (s)									0.3
Total Del/Veh (s)	58.4	18.7	17.8	28.6	30.2	8.3	14.4	17.7	25.3
Vehicles Entered	0	222	268	471	474	15	0	252	1702
Vehicles Exited	50	182	259	460	491	15	155	94	1705
Hourly Exit Rate	50	182	259	460	491	15	155	94	1705

13: Indian St & Ironwood Ave Performance by lane

Lane	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Movements Served	L	T	TR	L	T	TR	L	T	R	L	T	R
Denied Del/Veh (s)												
Total Del/Veh (s)	48.4	26.1	27.0	44.2	29.0	29.9	40.4	32.2	3.4	40.4	31.0	5.2
Vehicles Entered	0	283	321	0	656	243	0	350	0	0	359	0
Vehicles Exited	40	242	327	116	369	419	134	149	67	100	166	94
Hourly Exit Rate	40	242	327	116	369	419	134	149	67	100	166	94

13: Indian St & Ironwood Ave Performance by lane

Lane	All
Movements Served	
Denied Del/Veh (s)	0.4
Total Del/Veh (s)	29.5
Vehicles Entered	2211
Vehicles Exited	2223
Hourly Exit Rate	2223

14: Indian St & Hemlock Ave Performance by lane

Lane	EB	EB	EB	WB	WB	NB	NB	SB	SB	All
Movements Served	L	T	TR	L	TR	L	TR	L	TR	
Denied Del/Veh (s)										0.1
Total Del/Veh (s)		14.7	14.0	25.9	23.7	33.2	13.2	35.4	13.5	17.1
Vehicles Entered	0	121	33	0	212	0	387	0	438	1189
Vehicles Exited	0	101	54	73	138	41	347	45	395	1193
Hourly Exit Rate	0	101	54	73	138	41	347	45	395	1193

15: Indian St & Sunnymead Blvd Performance by lane

Lane	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Movements Served	L	T	TR	L	T	TR	L	T	R	L	T	R
Denied Del/Veh (s)												
Total Del/Veh (s)	32.4	23.3	12.5	38.3	29.9	17.4	35.7	18.4	10.6	39.0	31.2	6.6
Vehicles Entered	0	272	142	0	242	68	0	384	0	0	500	0
Vehicles Exited	119	146	148	24	180	107	102	221	63	63	268	167
Hourly Exit Rate	119	146	148	24	180	107	102	221	63	63	268	167

15: Indian St & Sunnymead Blvd Performance by lane

Lane	All
Movements Served	
Denied Del/Veh (s)	0.8
Total Del/Veh (s)	23.5
Vehicles Entered	1607
Vehicles Exited	1607
Hourly Exit Rate	1607

Total Network Performance

Denied Del/Veh (s)	0.9
Total Del/Veh (s)	66.5
Vehicles Entered	7702
Vehicles Exited	7715
Hourly Exit Rate	7715
Input Volume	29889
% of Volume	26

Intersection: 1: Heacock St & Ironwood Ave

Movement	EB	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	SB
Directions Served	L	T	T	R	L	T	TR	L	T	T	R	L
Maximum Queue (ft)	115	210	178	90	160	291	297	164	258	231	70	125
Average Queue (ft)	84	93	79	59	123	158	165	94	94	108	39	58
95th Queue (ft)	129	173	151	106	187	277	273	163	197	197	90	124
Link Distance (ft)		2012	2012			1213	1213		694	694		
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	90			65	135			140			45	100
Storage Blk Time (%)	15	6	16	2	14	12		5	2	30	4	3
Queuing Penalty (veh)	24	9	25	4	43	22		12	3	31	11	8

Intersection: 1: Heacock St & Ironwood Ave

Movement	SB	SB	SB
Directions Served	T	T	R
Maximum Queue (ft)	292	358	120
Average Queue (ft)	161	178	108
95th Queue (ft)	249	291	144
Link Distance (ft)	1480	1480	
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			95
Storage Blk Time (%)	25	20	10
Queuing Penalty (veh)	15	58	33

Intersection: 2: Heacock St & New Project Access

Movement	WB	SB	SB
Directions Served	LR	LT	T
Maximum Queue (ft)	31	24	57
Average Queue (ft)	8	1	3
95th Queue (ft)	30	22	42
Link Distance (ft)	461	694	694
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 3: Heacock St & Hemlock Ave

Movement	EB	EB	WB	WB	WB	NB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	T	R	L	T	T	R	L	T	T
Maximum Queue (ft)	85	228	158	101	20	124	320	321	75	119	501	524
Average Queue (ft)	29	92	46	38	3	80	131	141	35	22	246	276
95th Queue (ft)	66	188	119	79	14	142	268	266	88	76	486	510
Link Distance (ft)	2106	2106		357			350	350			592	592
Upstream Blk Time (%)							0	0			0	1
Queuing Penalty (veh)							1	0			1	2
Storage Bay Dist (ft)			360		200	100			50	95		
Storage Blk Time (%)						7	10	25	0	0	36	
Queuing Penalty (veh)						24	12	21	2	1	7	

Intersection: 3: Heacock St & Hemlock Ave

Movement	SB
Directions Served	R
Maximum Queue (ft)	155
Average Queue (ft)	19
95th Queue (ft)	80
Link Distance (ft)	592
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 4: Heacock St & SR 60 WB Ramp

Movement	WB	WB	NB	NB	NB	SB	SB
Directions Served	LT	R	L	T	T	T	TR
Maximum Queue (ft)	542	58	225	321	268	390	378
Average Queue (ft)	280	48	205	227	146	317	336
95th Queue (ft)	460	65	260	373	266	422	415
Link Distance (ft)	1034			257	257	350	350
Upstream Blk Time (%)				12	0	11	16
Queuing Penalty (veh)				62	2	64	94
Storage Bay Dist (ft)		30	200				
Storage Blk Time (%)	58	13	23	3			
Queuing Penalty (veh)	103	46	82	9			

Intersection: 5: Heacock St & SR 60 EB Ramp

Movement	EB	EB	EB	NB	NB	NB	SB	SB	SB
Directions Served	L	LT	R	T	T	TR	L	T	T
Maximum Queue (ft)	253	207	437	460	362	172	199	242	215
Average Queue (ft)	124	53	193	241	154	54	106	87	77
95th Queue (ft)	212	148	349	408	309	129	175	188	173
Link Distance (ft)	742	742	742	685	685	685		257	257
Upstream Blk Time (%)								0	0
Queuing Penalty (veh)								0	0
Storage Bay Dist (ft)							190		
Storage Blk Time (%)							0	1	
Queuing Penalty (veh)							2	1	

Intersection: 6: Hemlock Ave & New Project Access

Movement	NB
Directions Served	LTR
Maximum Queue (ft)	17
Average Queue (ft)	1
95th Queue (ft)	9
Link Distance (ft)	255
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 7: Davis St & Hemlock Ave

Movement	EB	WB	WB	NB	SB	SB
Directions Served	L	L	TR	LTR	LT	R
Maximum Queue (ft)	45	10	3	46	28	54
Average Queue (ft)	12	0	0	14	3	24
95th Queue (ft)	34	5	2	36	17	42
Link Distance (ft)		284	284	157	573	573
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)	180					
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 8: Hemlock Ave & IHOP Access

Movement	EB	SB
Directions Served	LT	LR
Maximum Queue (ft)	44	28
Average Queue (ft)	3	4
95th Queue (ft)	21	21
Link Distance (ft)	284	380
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 9: Hemlock Ave & Middle Access

Movement	EB	SB
Directions Served	LT	LR
Maximum Queue (ft)	69	57
Average Queue (ft)	14	30
95th Queue (ft)	47	52
Link Distance (ft)	542	236
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 10: West Access/West Access & Hemlock Ave

Movement	WB	NB	SB
Directions Served	LTR	LTR	LTR
Maximum Queue (ft)	41	34	28
Average Queue (ft)	3	12	12
95th Queue (ft)	22	37	31
Link Distance (ft)	105	235	328
Upstream Blk Time (%)	0		
Queuing Penalty (veh)	0		
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 11: Hemlock Ave & Nita Dr

Movement	SB
Directions Served	R
Maximum Queue (ft)	31
Average Queue (ft)	6
95th Queue (ft)	26
Link Distance (ft)	253
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 12: Driveway/Davis St & Ironwood Ave

Movement	EB	EB	EB	WB	WB	NB	SB	SB
Directions Served	L	T	TR	LT	TR	LTR	L	TR
Maximum Queue (ft)	144	174	198	352	373	35	64	211
Average Queue (ft)	48	77	94	213	233	7	50	62
95th Queue (ft)	102	150	168	341	361	29	75	153
Link Distance (ft)		1213	1213	1261	1261	182		1507
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)	150						40	
Storage Blk Time (%)	0	1					22	5
Queuing Penalty (veh)	0	0					19	7

Intersection: 13: Indian St & Ironwood Ave

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	TR	L	T	TR	L	T	R	L	T	R
Maximum Queue (ft)	120	201	239	124	292	313	134	233	75	105	294	75
Average Queue (ft)	40	102	128	88	172	185	89	95	41	72	106	47
95th Queue (ft)	102	182	213	145	268	280	147	196	91	118	223	91
Link Distance (ft)		1261	1261		2384	2384		1353			1508	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	95			100			110		50	80		50
Storage Blk Time (%)	1	11		7	20		8	24	1	14	24	3
Queuing Penalty (veh)	1	4		23	24		18	49	3	38	47	10

Intersection: 14: Indian St & Hemlock Ave

Movement	EB	EB	EB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	TR	L	TR	L	TR	L	TR
Maximum Queue (ft)	6	67	71	105	187	144	244	124	226
Average Queue (ft)	0	31	27	49	67	38	99	43	117
95th Queue (ft)	4	59	59	96	130	90	201	100	209
Link Distance (ft)		318	318		2337		1227		1353
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (ft)	150			80		145		100	
Storage Blk Time (%)				3	8		3	1	10
Queuing Penalty (veh)				4	6		1	2	5

Intersection: 15: Indian St & Sunnymead Blvd

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	TR	L	T	TR	L	T	R	L	T	R
Maximum Queue (ft)	110	178	126	124	168	136	132	187	130	114	334	85
Average Queue (ft)	66	66	47	23	86	46	68	91	35	61	156	62
95th Queue (ft)	111	139	96	70	145	102	116	162	91	117	293	114
Link Distance (ft)		715	715		1059	1059		913			1227	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	90			100			145		105	90		60
Storage Blk Time (%)	7	2			6		0	5	0	2	24	5
Queuing Penalty (veh)	7	3			1		0	8	0	9	58	15

Network Summary

Network wide Queuing Penalty: 1197

1: Heacock St & Ironwood Ave Performance by lane

Lane	EB	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	SB
Movements Served	L	T	T	R	L	T	TR	L	T	T	R	L
Denied Del/Veh (s)												
Total Del/Veh (s)	51.9	176.8	73.5	3.7	48.5	36.2	33.3	60.4	38.7	34.1	4.0	47.5
Vehicles Entered	0	649	294	0	0	244	288	0	475	537	0	0
Vehicles Exited	253	186	304	194	107	185	237	225	298	332	163	77
Hourly Exit Rate	253	186	304	194	107	185	237	225	298	332	163	77

1: Heacock St & Ironwood Ave Performance by lane

Lane	SB	SB	SB	All
Movements Served	T	T	R	
Denied Del/Veh (s)				0.6
Total Del/Veh (s)	88.6	95.4	9.8	56.3
Vehicles Entered	576	363	0	3427
Vehicles Exited	315	291	224	3389
Hourly Exit Rate	315	291	224	3389

2: Heacock St & New Project Access Performance by lane

Lane	WB	NB	NB	SB	SB	SB	All
Movements Served	LR	T	TR	LT	T	T	
Denied Del/Veh (s)							0.0
Total Del/Veh (s)	11.5	3.4	3.3	70.4	74.0	72.9	35.3
Vehicles Entered	40	528	494	389	283	236	1969
Vehicles Exited	40	489	528	373	378	131	1938
Hourly Exit Rate	40	489	528	373	378	131	1938

3: Heacock St & Hemlock Ave Performance by lane

Lane	EB	EB	WB	WB	WB	NB	NB	NB	NB	SB	SB	SB
Movements Served	L	TR	L	T	R	L	T	T	R	L	T	T
Denied Del/Veh (s)												
Total Del/Veh (s)	527.5	509.2	643.4	122.0	3.9	54.2	45.7	50.2	1.5	58.2	172.8	188.1
Vehicles Entered	357	64	0	163	0	0	599	747	0	0	388	381
Vehicles Exited	50	255	59	91	7	178	501	479	190	42	402	388
Hourly Exit Rate	50	255	59	91	7	178	501	479	190	42	402	388

3: Heacock St & Hemlock Ave Performance by lane

Lane	SB	All
Movements Served	R	
Denied Del/Veh (s)		5.3
Total Del/Veh (s)	91.0	171.6
Vehicles Entered	136	2833
Vehicles Exited	53	2696
Hourly Exit Rate	53	2696

4: Heacock St & SR 60 WB Ramp Performance by lane

Lane	WB	WB	NB	NB	NB	SB	SB	All
Movements Served	LT	R	L	T	T	T	TR	
Denied Del/Veh (s)								3.0
Total Del/Veh (s)	166.5	11.2	51.9	29.8	31.4	62.6	66.0	59.2
Vehicles Entered	580	0	0	721	738	526	631	3196
Vehicles Exited	345	227	335	553	566	587	573	3187
Hourly Exit Rate	345	227	335	553	566	587	573	3187

5: Heacock St & SR 60 EB Ramp Performance by lane

Lane	EB	EB	EB	NB	NB	NB	SB	SB	SB	All
Movements Served	L	LT	R	T	T	TR	L	T	T	
Denied Del/Veh (s)										303.3
Total Del/Veh (s)	72.5	47.1	23.6	209.9	191.7	170.3	41.2	8.2	6.4	85.1
Vehicles Entered	617	407	109	364	409	391	0	785	362	3444
Vehicles Exited	288	284	546	432	326	408	222	483	439	3429
Hourly Exit Rate	288	284	546	432	326	408	222	483	439	3429

6: Hemlock Ave & New Project Access Performance by lane

Lane	EB	EB	EB	WB	NB	All
Movements Served	LT	T	TR	TR	LTR	
Denied Del/Veh (s)						34.5
Total Del/Veh (s)	1.2	1.6	0.6	236.8	3.3	76.9
Vehicles Entered	162	45	139	169	27	541
Vehicles Exited	164	44	137	165	27	537
Hourly Exit Rate	164	44	137	165	27	537

7: Davis St & Hemlock Ave Performance by lane

Lane	EB	EB	EB	WB	WB	NB	SB	SB	All
Movements Served	L	T	TR	L	TR	LTR	LT	R	
Denied Del/Veh (s)									541.1
Total Del/Veh (s)	4.7	0.6	0.6	13.7	253.3	1211.9	993.7	2054.8	178.8
Vehicles Entered	106	310	251	16	155	15	14	29	897
Vehicles Exited	238	182	247	15	151	14	8	15	869
Hourly Exit Rate	238	182	247	15	151	14	8	15	869

8: Hemlock Ave & IHOP Access Performance by lane

Lane	EB	EB	WB	SB	All
Movements Served	LT	T	TR	LR	
Denied Del/Veh (s)					0.1
Total Del/Veh (s)	4.1	5.3	355.2	849.6	165.7
Vehicles Entered	190	114	187	20	512
Vehicles Exited	186	117	172	11	487
Hourly Exit Rate	186	117	172	11	487

9: Hemlock Ave & Middle Access Performance by lane

Lane	EB	WB	SB	All
Movements Served	LT	TR	LR	
Denied Del/Veh (s)				352.1
Total Del/Veh (s)	4.7	274.1	207.9	128.4
Vehicles Entered	298	178	140	615
Vehicles Exited	296	163	133	592
Hourly Exit Rate	296	163	133	592

10: West Access/West Access & Hemlock Ave Performance by lane

Lane	EB	WB	NB	SB	All
Movements Served	LTR	LTR	LTR	LTR	
Denied Del/Veh (s)					73.5
Total Del/Veh (s)	1.3	19.4	102.2	150.2	47.5
Vehicles Entered	181	317	119	105	720
Vehicles Exited	181	315	115	102	712
Hourly Exit Rate	181	315	115	102	712

11: Hemlock Ave & Nita Dr Performance by lane

Lane	EB	WB	SB	All
Movements Served	T	TR	R	
Denied Del/Veh (s)				7.8
Total Del/Veh (s)	0.6	68.0	155.1	28.1
Vehicles Entered	332	201	8	540
Vehicles Exited	332	197	9	538
Hourly Exit Rate	332	197	9	538

12: Driveway/Davis St & Ironwood Ave Performance by lane

Lane	EB	EB	EB	WB	WB	NB	SB	SB	All
Movements Served	L	T	TR	LT	TR	LTR	L	TR	
Denied Del/Veh (s)									0.2
Total Del/Veh (s)	163.8	29.5	19.2	31.2	23.8	13.0	17.4	7.9	31.5
Vehicles Entered	0	269	492	241	271	99	0	122	1494
Vehicles Exited	87	277	394	229	282	100	67	55	1492
Hourly Exit Rate	87	277	394	229	282	100	67	55	1492

13: Indian St & Ironwood Ave Performance by lane

Lane	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Movements Served	L	T	TR	L	T	TR	L	T	R	L	T	R
Denied Del/Veh (s)												
Total Del/Veh (s)	44.2	28.8	33.4	47.3	40.0	25.1	40.7	33.4	4.2	39.7	31.7	3.0
Vehicles Entered	0	328	410	0	448	114	0	392	0	0	278	0
Vehicles Exited	96	302	340	129	191	238	56	162	174	66	134	79
Hourly Exit Rate	96	302	340	129	191	238	56	162	174	66	134	79

13: Indian St & Ironwood Ave Performance by lane

Lane	All
Movements Served	
Denied Del/Veh (s)	0.3
Total Del/Veh (s)	30.3
Vehicles Entered	1969
Vehicles Exited	1967
Hourly Exit Rate	1967

14: Indian St & Hemlock Ave Performance by lane

Lane	EB	EB	EB	WB	WB	NB	NB	SB	SB	All
Movements Served	L	T	TR	L	TR	L	TR	L	TR	
Denied Del/Veh (s)										0.7
Total Del/Veh (s)	30.6	16.6	18.6	28.3	161.9	136.4	58.7	39.6	104.7	69.3
Vehicles Entered	0	232	98	0	215	0	544	0	362	1452
Vehicles Exited	52	153	125	101	109	52	481	19	330	1423
Hourly Exit Rate	52	153	125	101	109	52	481	19	330	1423

15: Indian St & Sunnymead Blvd Performance by lane

Lane	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Movements Served	L	T	TR	L	T	TR	L	T	R	L	T	R
Denied Del/Veh (s)												
Total Del/Veh (s)	57.2	1037.4	311.9	43.4	29.4	30.4	40.9	52.8	9.0	43.5	62.8	7.9
Vehicles Entered	0	619	369	0	328	70	0	453	0	0	467	0
Vehicles Exited	260	147	486	49	161	187	132	230	87	68	153	245
Hourly Exit Rate	260	147	486	49	161	187	132	230	87	68	153	245

15: Indian St & Sunnymead Blvd Performance by lane

Lane	All
Movements Served	
Denied Del/Veh (s)	37.8
Total Del/Veh (s)	203.5
Vehicles Entered	2307
Vehicles Exited	2205
Hourly Exit Rate	2205

Total Network Performance

Denied Del/Veh (s)	221.1
Total Del/Veh (s)	235.4
Vehicles Entered	9570
Vehicles Exited	9115
Hourly Exit Rate	9115
Input Volume	41743
% of Volume	22

Intersection: 1: Heacock St & Ironwood Ave

Movement	EB	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	SB
Directions Served	L	T	T	R	L	T	TR	L	T	T	R	L
Maximum Queue (ft)	115	689	672	90	159	251	229	165	378	384	71	125
Average Queue (ft)	114	415	385	68	84	103	113	145	195	180	45	79
95th Queue (ft)	117	713	685	119	153	197	190	194	388	356	94	146
Link Distance (ft)		2012	2012			1213	1213		586	586		
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	90			65	135			140			45	100
Storage Blk Time (%)	72	5	45	4	5	5		31	7	36	5	5
Queuing Penalty (veh)	181	12	94	9	8	5		123	18	75	18	16

Intersection: 1: Heacock St & Ironwood Ave

Movement	SB	SB	SB
Directions Served	T	T	R
Maximum Queue (ft)	652	663	120
Average Queue (ft)	302	311	101
95th Queue (ft)	908	904	155
Link Distance (ft)	1480	1480	
Upstream Blk Time (%)	2	2	
Queuing Penalty (veh)	0	0	
Storage Bay Dist (ft)			95
Storage Blk Time (%)	35	32	5
Queuing Penalty (veh)	29	71	15

Intersection: 2: Heacock St & New Project Access

Movement	WB	SB	SB	SB
Directions Served	LR	LT	T	T
Maximum Queue (ft)	57	408	408	389
Average Queue (ft)	25	231	233	209
95th Queue (ft)	53	664	663	623
Link Distance (ft)	602	586	586	586
Upstream Blk Time (%)		3	3	1
Queuing Penalty (veh)		9	8	2
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 3: Heacock St & Hemlock Ave

Movement	EB	EB	WB	WB	WB	NB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	T	R	L	T	T	R	L	T	T
Maximum Queue (ft)	1804	2131	306	377	28	125	367	383	75	120	708	713
Average Queue (ft)	756	1199	288	332	2	109	333	337	58	58	604	615
95th Queue (ft)	2333	2651	327	406	13	151	402	408	99	131	861	867
Link Distance (ft)	2940	2940		306			336	336			702	702
Upstream Blk Time (%)	3	3	52	89			16	18			29	35
Queuing Penalty (veh)	0	0	0	617			131	149			91	108
Storage Bay Dist (ft)			360		200	100			50	95		
Storage Blk Time (%)			52	2		28	30	48	2	2	71	
Queuing Penalty (veh)			68	5		163	68	118	12	9	35	

Intersection: 3: Heacock St & Hemlock Ave

Movement	SB
Directions Served	R
Maximum Queue (ft)	603
Average Queue (ft)	319
95th Queue (ft)	853
Link Distance (ft)	702
Upstream Blk Time (%)	8
Queuing Penalty (veh)	25
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 4: Heacock St & SR 60 WB Ramp

Movement	WB	WB	NB	NB	NB	SB	SB
Directions Served	LT	R	L	T	T	T	TR
Maximum Queue (ft)	1186	70	225	323	298	376	382
Average Queue (ft)	601	53	217	281	259	359	368
95th Queue (ft)	1192	64	264	330	325	379	379
Link Distance (ft)	2390			259	259	336	336
Upstream Blk Time (%)				22	15	37	46
Queuing Penalty (veh)				212	144	255	314
Storage Bay Dist (ft)		30	200				
Storage Blk Time (%)	57	48	25	16			
Queuing Penalty (veh)	131	170	182	71			

Intersection: 5: Heacock St & SR 60 EB Ramp

Movement	EB	EB	EB	NB	NB	NB	SB	SB	SB
Directions Served	L	LT	R	T	T	TR	L	T	T
Maximum Queue (ft)	481	456	410	743	725	722	210	240	242
Average Queue (ft)	232	200	190	703	687	632	128	84	69
95th Queue (ft)	530	460	346	724	754	807	210	206	177
Link Distance (ft)	2919	2919	2919	684	684	684		259	259
Upstream Blk Time (%)				87	36	24		1	0
Queuing Penalty (veh)				0	0	0		6	0
Storage Bay Dist (ft)							190		
Storage Blk Time (%)							4	0	
Queuing Penalty (veh)							18	1	

Intersection: 6: Hemlock Ave & New Project Access

Movement	WB	NB
Directions Served	TR	LTR
Maximum Queue (ft)	302	38
Average Queue (ft)	274	16
95th Queue (ft)	343	38
Link Distance (ft)	272	238
Upstream Blk Time (%)	84	
Queuing Penalty (veh)	579	
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 7: Davis St & Hemlock Ave

Movement	EB	EB	EB	WB	WB	NB	SB	SB
Directions Served	L	T	TR	L	TR	LTR	LT	R
Maximum Queue (ft)	121	5	8	67	313	172	476	592
Average Queue (ft)	32	0	0	8	277	154	410	547
95th Queue (ft)	91	4	5	40	390	183	824	722
Link Distance (ft)		272	272	295	295	157	572	572
Upstream Blk Time (%)					77	96	70	89
Queuing Penalty (veh)					133	0	0	0
Storage Bay Dist (ft)	180							
Storage Blk Time (%)	0							
Queuing Penalty (veh)	0							

Intersection: 8: Hemlock Ave & IHOP Access

Movement	EB	EB	WB	SB
Directions Served	LT	T	TR	LR
Maximum Queue (ft)	102	79	558	226
Average Queue (ft)	9	7	453	111
95th Queue (ft)	73	64	758	288
Link Distance (ft)	295	295	542	380
Upstream Blk Time (%)	0	0	62	3
Queuing Penalty (veh)	0	0	215	0
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 9: Hemlock Ave & Middle Access

Movement	EB	WB	SB
Directions Served	LT	TR	LR
Maximum Queue (ft)	244	568	268
Average Queue (ft)	31	350	209
95th Queue (ft)	148	799	322
Link Distance (ft)	542	620	236
Upstream Blk Time (%)	0	32	74
Queuing Penalty (veh)	0	64	0
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 10: West Access/West Access & Hemlock Ave

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	57	126	210	258
Average Queue (ft)	3	59	109	124
95th Queue (ft)	24	142	252	343
Link Distance (ft)	620	105	214	328
Upstream Blk Time (%)		30	29	20
Queuing Penalty (veh)		68	0	0
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 11: Hemlock Ave & Nita Dr

Movement	WB	SB
Directions Served	TR	R
Maximum Queue (ft)	263	65
Average Queue (ft)	106	15
95th Queue (ft)	341	56
Link Distance (ft)	318	253
Upstream Blk Time (%)	19	
Queuing Penalty (veh)	37	
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 12: Driveway/Davis St & Ironwood Ave

Movement	EB	EB	EB	WB	WB	NB	SB	SB
Directions Served	L	T	TR	LT	TR	LTR	L	TR
Maximum Queue (ft)	174	374	374	225	243	102	61	96
Average Queue (ft)	125	175	164	118	121	42	31	26
95th Queue (ft)	210	350	313	205	216	88	63	64
Link Distance (ft)		1213	1213	1260	1260	1123		1507
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)	150						40	
Storage Blk Time (%)	34	4					8	2
Queuing Penalty (veh)	113	4					4	1

Intersection: 13: Indian St & Ironwood Ave

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	TR	L	T	TR	L	T	R	L	T	R
Maximum Queue (ft)	120	303	329	124	332	305	132	231	75	102	280	75
Average Queue (ft)	77	147	165	84	116	114	49	97	56	53	82	40
95th Queue (ft)	137	263	276	135	308	289	110	209	95	97	209	80
Link Distance (ft)		1260	1260		2384	2384		1353			1508	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	95			100			110		50	80		50
Storage Blk Time (%)	7	16		13	3		0	21	7	3	19	1
Queuing Penalty (veh)	19	16		23	4		2	59	18	7	27	2

Intersection: 14: Indian St & Hemlock Ave

Movement	EB	EB	EB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	TR	L	TR	L	TR	L	TR
Maximum Queue (ft)	103	112	173	105	598	170	894	110	971
Average Queue (ft)	36	48	54	61	183	84	328	25	342
95th Queue (ft)	80	92	119	118	565	185	955	84	1024
Link Distance (ft)		318	318		2337		1228		1353
Upstream Blk Time (%)							6		3
Queuing Penalty (veh)							40		11
Storage Bay Dist (ft)	150			80		145		100	
Storage Blk Time (%)	0	0		9	27	17	11		32
Queuing Penalty (veh)	0	0		10	28	91	8		6

Intersection: 15: Indian St & Sunnymead Blvd

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	TR	L	T	TR	L	T	R	L	T	R
Maximum Queue (ft)	115	2470	2474	117	152	159	163	550	130	114	513	85
Average Queue (ft)	113	1844	1811	40	79	93	97	165	47	56	162	68
95th Queue (ft)	124	2842	2834	87	130	146	167	490	121	116	449	113
Link Distance (ft)		2433	2433		2328	2328		913			1228	
Upstream Blk Time (%)		32	23					1				
Queuing Penalty (veh)		0	0					0				
Storage Bay Dist (ft)	90			100			145		105	90		60
Storage Blk Time (%)	85	6		0	3		2	13	0	5	14	12
Queuing Penalty (veh)	246	21		0	1		5	29	0	23	48	29

Network Summary

Network wide Queuing Penalty: 5786

General Plan (2035)

1: Heacock St & Ironwood Ave Performance by lane

Lane	EB	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	SB
Movements Served	L	T	T	R	L	T	TR	L	T	T	R	L
Denied Del/Veh (s)												
Total Del/Veh (s)	41.8	35.0	34.2	6.7	51.6	42.6	42.4	41.1	23.8	29.4	7.3	44.5
Vehicles Entered	0	481	200	0	0	552	440	0	320	401	0	0
Vehicles Exited	165	184	169	162	211	373	409	130	227	248	112	60
Hourly Exit Rate	165	184	169	162	211	373	409	130	227	248	112	60

1: Heacock St & Ironwood Ave Performance by lane

Lane	SB	SB	SB	All
Movements Served	T	T	R	
Denied Del/Veh (s)				0.5
Total Del/Veh (s)	33.1	42.2	10.1	33.2
Vehicles Entered	602	426	0	3421
Vehicles Exited	359	297	314	3419
Hourly Exit Rate	359	297	314	3419

2: Heacock St & New Project Access Performance by lane

Lane	NB	NB	SB	SB	All
Movements Served	T	TR	LT	T	
Denied Del/Veh (s)					0.0
Total Del/Veh (s)	2.2	2.2	3.6	2.8	2.7
Vehicles Entered	353	396	482	546	1778
Vehicles Exited	334	415	410	620	1778
Hourly Exit Rate	334	415	410	620	1778

3: Heacock St & Hemlock Ave Performance by lane

Lane	EB	EB	WB	WB	WB	NB	NB	NB	NB	SB	SB	SB
Movements Served	L	TR	L	T	R	L	T	T	R	L	T	T
Denied Del/Veh (s)												
Total Del/Veh (s)	29.5	27.7	50.7	24.6	5.1	33.4	17.6	17.3	1.2	40.4	39.4	47.4
Vehicles Entered	155	88	1	187	1	0	396	462	0	0	429	588
Vehicles Exited	44	201	66	99	22	110	322	363	72	17	490	514
Hourly Exit Rate	44	201	66	99	22	110	322	363	72	17	490	514

3: Heacock St & Hemlock Ave Performance by lane

Lane	SB	All
Movements Served	R	
Denied Del/Veh (s)		0.1
Total Del/Veh (s)	4.1	31.0
Vehicles Entered	45	2352
Vehicles Exited	44	2362
Hourly Exit Rate	44	2362

4: Heacock St & SR 60 WB Ramp Performance by lane

Lane	WB	WB	NB	NB	NB	SB	SB	All
Movements Served	LT	R	L	T	T	T	TR	
Denied Del/Veh (s)								0.4
Total Del/Veh (s)	45.3	2.7	40.3	15.5	12.1	43.4	46.1	33.8
Vehicles Entered	483	0	3	698	280	549	663	2676
Vehicles Exited	306	176	301	365	314	599	610	2672
Hourly Exit Rate	306	176	301	365	314	599	610	2672

5: Heacock St & SR 60 EB Ramp Performance by lane

Lane	EB	EB	EB	NB	NB	NB	SB	SB	SB	All
Movements Served	L	LT	R	T	T	TR	L	T	T	
Denied Del/Veh (s)										0.2
Total Del/Veh (s)	30.9	22.1	26.1	25.4	15.6	6.1	42.0	10.8	9.8	19.8
Vehicles Entered	227	69	514	542	149	164	1	778	387	2831
Vehicles Exited	208	64	536	487	194	172	175	523	470	2828
Hourly Exit Rate	208	64	536	487	194	172	175	523	470	2828

6: Hemlock Ave & New Project Access Performance by lane

Lane	EB	EB	WB	WB	NB	All
Movements Served	LT	TR	LT	TR	LTR	
Denied Del/Veh (s)						0.0
Total Del/Veh (s)	2.0	0.6	0.1	0.2	2.3	0.6
Vehicles Entered	70	83	154	36	1	345
Vehicles Exited	64	90	155	35	1	345
Hourly Exit Rate	64	90	155	35	1	345

7: Davis St & Hemlock Ave Performance by lane

Lane	EB	EB	EB	WB	WB	NB	SB	All
Movements Served	L	T	TR	L	TR	LTR	R	
Denied Del/Veh (s)								0.0
Total Del/Veh (s)	2.3	0.1	0.1	0.1	0.3	5.0	2.2	0.3
Vehicles Entered	0	67	85	1	183	1	5	342
Vehicles Exited	9	58	86	1	184	1	5	344
Hourly Exit Rate	9	58	86	1	184	1	5	344

8: Hemlock Ave & IHOP Access Performance by lane

Lane	EB	WB	SB	All
Movements Served	LT	TR	LR	
Denied Del/Veh (s)				0.0
Total Del/Veh (s)	0.5	0.5	2.6	0.5
Vehicles Entered	142	189	5	336
Vehicles Exited	142	188	5	335
Hourly Exit Rate	142	188	5	335

9: Hemlock Ave & Middle Access Performance by lane

Lane	EB	WB	SB	All
Movements Served	LT	TR	LR	
Denied Del/Veh (s)				0.0
Total Del/Veh (s)	0.5	0.6	4.1	0.6
Vehicles Entered	126	209	9	344
Vehicles Exited	126	209	9	344
Hourly Exit Rate	126	209	9	344

10: Hemlock Ave & West Access Performance by lane

Lane	EB	WB	SB	All
Movements Served	T	TR	R	
Denied Del/Veh (s)				0.0
Total Del/Veh (s)	0.3	0.1	2.0	0.2
Vehicles Entered	120	211	2	333
Vehicles Exited	120	211	2	333
Hourly Exit Rate	120	211	2	333

11: Hemlock Ave & Nita Dr Performance by lane

Lane	EB	WB	SB	All
Movements Served	T	TR	R	
Denied Del/Veh (s)				0.0
Total Del/Veh (s)	0.1	1.5	3.0	1.0
Vehicles Entered	119	207	7	333
Vehicles Exited	119	208	7	334
Hourly Exit Rate	119	208	7	334

12: Driveway/Davis St & Ironwood Ave Performance by lane

Lane	EB	EB	EB	WB	WB	SB	SB	All
Movements Served	L	T	TR	T	TR	L	TR	
Denied Del/Veh (s)								0.3
Total Del/Veh (s)	88.6	18.2	16.6	29.9	34.5	14.7	21.3	28.4
Vehicles Entered	0	243	295	518	575	0	284	1915
Vehicles Exited	72	190	278	541	551	172	111	1916
Hourly Exit Rate	72	190	278	541	551	172	111	1916

13: Indian St & Ironwood Ave Performance by lane

Lane	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Movements Served	L	T	TR	L	T	TR	L	T	R	L	T	R
Denied Del/Veh (s)												
Total Del/Veh (s)	44.4	28.9	30.8	61.1	229.1	170.9	46.6	55.5	2.1	43.2	43.7	5.6
Vehicles Entered	0	296	350	0	853	380	0	554	0	0	447	0
Vehicles Exited	40	262	344	242	404	522	171	263	123	134	199	109
Hourly Exit Rate	40	262	344	242	404	522	171	263	123	134	199	109

13: Indian St & Ironwood Ave Performance by lane

Lane	All
Movements Served	
Denied Del/Veh (s)	0.5
Total Del/Veh (s)	93.5
Vehicles Entered	2879
Vehicles Exited	2813
Hourly Exit Rate	2813

14: Indian St & Hemlock Ave Performance by lane

Lane	EB	EB	EB	WB	WB	NB	NB	SB	SB	All
Movements Served	L	T	TR	L	TR	L	TR	L	TR	
Denied Del/Veh (s)										0.4
Total Del/Veh (s)	32.3	33.4	18.3	23.6	26.1	37.1	41.9	37.0	22.0	30.5
Vehicles Entered	0	90	34	0	311	0	552	0	615	1602
Vehicles Exited	7	54	62	93	217	45	507	84	531	1601
Hourly Exit Rate	7	54	62	93	217	45	507	84	531	1601

15: Indian St & Sunnymead Blvd Performance by lane

Lane	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Movements Served	L	T	TR	L	T	TR	L	T	R	L	T	R
Denied Del/Veh (s)												
Total Del/Veh (s)	40.0	28.2	18.5	40.5	31.3	22.2	45.3	35.2	11.5	44.8	56.2	5.8
Vehicles Entered	0	404	272	0	401	147	0	652	0	0	640	0
Vehicles Exited	98	277	301	35	283	227	166	368	118	90	402	150
Hourly Exit Rate	98	277	301	35	283	227	166	368	118	90	402	150

15: Indian St & Sunnymead Blvd Performance by lane

Lane	All
Movements Served	
Denied Del/Veh (s)	0.8
Total Del/Veh (s)	32.7
Vehicles Entered	2515
Vehicles Exited	2515
Hourly Exit Rate	2515

Total Network Performance

Denied Del/Veh (s)	0.9
Total Del/Veh (s)	92.7
Vehicles Entered	8518
Vehicles Exited	8462
Hourly Exit Rate	8462
Input Volume	32688
% of Volume	26

Intersection: 1: Heacock St & Ironwood Ave

Movement	EB	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	SB
Directions Served	L	T	T	R	L	T	TR	L	T	T	R	L
Maximum Queue (ft)	115	243	233	90	160	429	441	164	232	245	70	125
Average Queue (ft)	92	117	101	63	142	237	237	95	109	134	42	63
95th Queue (ft)	133	209	192	111	188	421	408	168	200	226	91	132
Link Distance (ft)		2012	2012			1213	1213		694	694		
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	90			65	135			140			45	100
Storage Blk Time (%)	23	10	20	2	22	19		3	4	33	6	2
Queuing Penalty (veh)	42	17	33	4	81	43		8	5	36	14	5

Intersection: 1: Heacock St & Ironwood Ave

Movement	SB	SB	SB
Directions Served	T	T	R
Maximum Queue (ft)	311	366	120
Average Queue (ft)	173	196	103
95th Queue (ft)	270	315	149
Link Distance (ft)	1480	1480	
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			95
Storage Blk Time (%)	29	24	9
Queuing Penalty (veh)	18	74	31

Intersection: 2: Heacock St & New Project Access

Movement	SB	SB
Directions Served	LT	T
Maximum Queue (ft)	26	31
Average Queue (ft)	2	3
95th Queue (ft)	25	33
Link Distance (ft)	694	694
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 3: Heacock St & Hemlock Ave

Movement	EB	EB	WB	WB	WB	NB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	T	R	L	T	T	R	L	T	T
Maximum Queue (ft)	77	233	127	114	29	124	284	285	75	119	472	478
Average Queue (ft)	28	94	50	47	9	72	121	133	30	20	263	288
95th Queue (ft)	65	182	104	98	26	132	242	251	79	71	472	488
Link Distance (ft)	2106	2106		357			350	350			592	592
Upstream Blk Time (%)								0			1	1
Queuing Penalty (veh)								0			2	3
Storage Bay Dist (ft)			360		200	100			50	95		
Storage Blk Time (%)						3	9	23	0	0	39	
Queuing Penalty (veh)						11	10	18	1	0	7	

Intersection: 3: Heacock St & Hemlock Ave

Movement	SB
Directions Served	R
Maximum Queue (ft)	107
Average Queue (ft)	17
95th Queue (ft)	81
Link Distance (ft)	592
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 4: Heacock St & SR 60 WB Ramp

Movement	WB	WB	NB	NB	NB	SB	SB
Directions Served	LT	R	L	T	T	T	TR
Maximum Queue (ft)	390	60	225	314	250	379	382
Average Queue (ft)	229	49	179	170	108	320	339
95th Queue (ft)	354	65	258	318	209	424	420
Link Distance (ft)	1034			257	257	350	350
Upstream Blk Time (%)				3	0	8	13
Queuing Penalty (veh)				15	0	51	80
Storage Bay Dist (ft)		30	200				
Storage Blk Time (%)	56	13	11	2			
Queuing Penalty (veh)	101	39	36	6			

Intersection: 5: Heacock St & SR 60 EB Ramp

Movement	EB	EB	EB	NB	NB	NB	SB	SB	SB
Directions Served	L	LT	R	T	T	TR	L	T	T
Maximum Queue (ft)	209	174	422	320	252	142	214	264	252
Average Queue (ft)	113	45	201	182	102	35	117	117	107
95th Queue (ft)	183	116	358	283	216	83	194	237	233
Link Distance (ft)	742	742	742	685	685	685		257	257
Upstream Blk Time (%)								0	0
Queuing Penalty (veh)								2	1
Storage Bay Dist (ft)							190		
Storage Blk Time (%)							1	2	
Queuing Penalty (veh)							3	4	

Intersection: 6: Hemlock Ave & New Project Access

Movement	NB
Directions Served	LTR
Maximum Queue (ft)	12
Average Queue (ft)	1
95th Queue (ft)	7
Link Distance (ft)	255
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 7: Davis St & Hemlock Ave

Movement	EB	NB	SB
Directions Served	L	LTR	R
Maximum Queue (ft)	20	13	26
Average Queue (ft)	1	1	4
95th Queue (ft)	8	8	19
Link Distance (ft)		157	573
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)	180		
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 8: Hemlock Ave & IHOP Access

Movement	EB	SB
Directions Served	LT	LR
Maximum Queue (ft)	30	28
Average Queue (ft)	3	4
95th Queue (ft)	18	21
Link Distance (ft)	284	380
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 9: Hemlock Ave & Middle Access

Movement	EB	SB
Directions Served	LT	LR
Maximum Queue (ft)	25	31
Average Queue (ft)	1	8
95th Queue (ft)	10	29
Link Distance (ft)	542	236
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 10: Hemlock Ave & West Access

Movement	SB
Directions Served	R
Maximum Queue (ft)	18
Average Queue (ft)	1
95th Queue (ft)	10
Link Distance (ft)	328
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 11: Hemlock Ave & Nita Dr

Movement	SB
Directions Served	R
Maximum Queue (ft)	31
Average Queue (ft)	5
95th Queue (ft)	23
Link Distance (ft)	253
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 12: Driveway/Davis St & Ironwood Ave

Movement	EB	EB	EB	WB	WB	SB	SB
Directions Served	L	T	TR	T	TR	L	TR
Maximum Queue (ft)	147	200	207	382	428	64	246
Average Queue (ft)	72	77	95	257	281	52	77
95th Queue (ft)	138	173	175	386	414	73	184
Link Distance (ft)		1213	1213	1261	1261		1507
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)	150					40	
Storage Blk Time (%)	4	1				23	7
Queuing Penalty (veh)	10	0				25	11

Intersection: 13: Indian St & Ironwood Ave

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	TR	L	T	TR	L	T	R	L	T	R
Maximum Queue (ft)	119	258	294	124	1574	1558	134	539	75	105	378	75
Average Queue (ft)	34	114	142	123	908	893	114	234	47	87	162	51
95th Queue (ft)	85	204	246	137	1801	1761	162	437	95	125	318	97
Link Distance (ft)		1261	1261		2384	2384		1353			1508	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	95			100			110		50	80		50
Storage Blk Time (%)	0	13		66	23		21	36	1	24	33	4
Queuing Penalty (veh)	1	5		273	62		78	105	5	79	83	15

Intersection: 14: Indian St & Hemlock Ave

Movement	EB	EB	EB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	TR	L	TR	L	TR	L	TR
Maximum Queue (ft)	39	78	93	105	244	169	762	125	388
Average Queue (ft)	7	35	34	60	106	62	268	71	200
95th Queue (ft)	28	62	71	114	202	164	624	134	335
Link Distance (ft)		318	318		2337		1227		1353
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (ft)	150			80		145		100	
Storage Blk Time (%)				4	16	0	25	2	25
Queuing Penalty (veh)				9	16	0	12	12	21

Intersection: 15: Indian St & Sunnymead Blvd

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	TR	L	T	TR	L	T	R	L	T	R
Maximum Queue (ft)	115	258	210	124	234	213	170	496	130	114	560	85
Average Queue (ft)	70	129	109	40	138	111	125	207	76	82	298	56
95th Queue (ft)	123	222	191	106	210	190	195	411	157	133	509	115
Link Distance (ft)		715	715		1059	1059		913			1227	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	90			100			145		105	90		60
Storage Blk Time (%)	7	20		0	19		7	22	0	7	46	3
Queuing Penalty (veh)	15	20		0	8		36	67	2	41	118	12

Network Summary

Network wide Queuing Penalty: 1943

1: Heacock St & Ironwood Ave Performance by lane

Lane	EB	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	SB
Movements Served	L	T	T	R	L	T	TR	L	T	T	R	L
Denied Del/Veh (s)												
Total Del/Veh (s)	53.1	452.0	358.1	1.8	44.2	37.4	37.3	48.9	31.6	43.5	4.9	46.0
Vehicles Entered	0	770	456	0	0	354	343	0	478	579	0	0
Vehicles Exited	231	323	407	151	124	265	305	165	371	331	196	83
Hourly Exit Rate	231	323	407	151	124	265	305	165	371	331	196	83

1: Heacock St & Ironwood Ave Performance by lane

Lane	SB	SB	SB	All
Movements Served	T	T	R	
Denied Del/Veh (s)				6.8
Total Del/Veh (s)	32.2	33.0	11.4	116.6
Vehicles Entered	535	317	0	3835
Vehicles Exited	296	260	215	3723
Hourly Exit Rate	296	260	215	3723

2: Heacock St & New Project Access Performance by lane

Lane	NB	NB	SB	SB	SB	All
Movements Served	T	TR	LT	T	T	
Denied Del/Veh (s)						0.0
Total Del/Veh (s)	3.0	3.0	2.8	1.9	2.7	2.7
Vehicles Entered	535	565	363	277	191	1931
Vehicles Exited	502	602	319	465	47	1935
Hourly Exit Rate	502	602	319	465	47	1935

3: Heacock St & Hemlock Ave Performance by lane

Lane	EB	EB	WB	WB	WB	NB	NB	NB	NB	SB	SB	SB
Movements Served	L	TR	L	T	R	L	T	T	R	L	T	T
Denied Del/Veh (s)												
Total Del/Veh (s)	37.2	69.6	62.3	27.8	7.1	47.4	27.7	29.7	1.5	47.7	39.1	44.5
Vehicles Entered	296	187	1	220	0	0	554	726	0	0	339	476
Vehicles Exited	93	390	94	95	32	158	483	504	133	25	376	406
Hourly Exit Rate	93	390	94	95	32	158	483	504	133	25	376	406

3: Heacock St & Hemlock Ave Performance by lane

Lane	SB	All
Movements Served	R	
Denied Del/Veh (s)		0.1
Total Del/Veh (s)	5.3	38.8
Vehicles Entered	47	2846
Vehicles Exited	43	2830
Hourly Exit Rate	43	2830

4: Heacock St & SR 60 WB Ramp Performance by lane

Lane	WB	WB	NB	NB	NB	SB	SB	All
Movements Served	LT	R	L	T	T	T	TR	
Denied Del/Veh (s)								0.3
Total Del/Veh (s)	53.2	6.9	48.3	17.5	13.6	40.2	44.3	32.0
Vehicles Entered	436	0	0	818	645	474	656	3028
Vehicles Exited	234	193	373	518	571	561	569	3019
Hourly Exit Rate	234	193	373	518	571	561	569	3019

5: Heacock St & SR 60 EB Ramp Performance by lane

Lane	EB	EB	EB	NB	NB	NB	SB	SB	SB	All
Movements Served	L	LT	R	T	T	TR	L	T	T	
Denied Del/Veh (s)										0.2
Total Del/Veh (s)	68.8	33.4	14.0	53.9	31.3	19.1	46.3	13.8	12.3	31.0
Vehicles Entered	378	133	354	655	274	350	1	697	374	3216
Vehicles Exited	289	206	367	529	356	405	182	460	428	3221
Hourly Exit Rate	289	206	367	529	356	405	182	460	428	3221

6: Hemlock Ave & New Project Access Performance by lane

Lane	EB	EB	EB	WB	NB	All
Movements Served	T	T	TR	T	LTR	
Denied Del/Veh (s)						0.0
Total Del/Veh (s)	1.9	1.9	0.6	0.3	2.9	1.0
Vehicles Entered	142	48	136	221	24	571
Vehicles Exited	130	54	141	221	24	571
Hourly Exit Rate	130	54	141	221	24	571

7: Davis St & Hemlock Ave Performance by lane

Lane	EB	EB	EB	WB	WB	NB	SB	SB	All
Movements Served	L	T	TR	L	TR	LTR	LT	R	
Denied Del/Veh (s)									0.0
Total Del/Veh (s)	2.2	0.2	0.2	2.0	0.4	7.7	7.4	2.9	0.8
Vehicles Entered	1	140	196	5	178	5	5	38	568
Vehicles Exited	53	88	196	5	178	5	5	38	568
Hourly Exit Rate	53	88	196	5	178	5	5	38	568

8: Hemlock Ave & IHOP Access Performance by lane

Lane	EB	WB	SB	All
Movements Served	LT	TR	LR	
Denied Del/Veh (s)				0.0
Total Del/Veh (s)	0.4	0.5	5.0	0.6
Vehicles Entered	285	180	18	483
Vehicles Exited	285	181	18	483
Hourly Exit Rate	285	181	18	483

9: Hemlock Ave & Middle Access Performance by lane

Lane	EB	WB	SB	All
Movements Served	LT	TR	LR	
Denied Del/Veh (s)				0.0
Total Del/Veh (s)	0.7	0.5	5.3	1.0
Vehicles Entered	282	175	39	496
Vehicles Exited	282	174	39	495
Hourly Exit Rate	282	174	39	495

10: Hemlock Ave & West Access Performance by lane

Lane	EB	WB	SB	All
Movements Served	LT	TR	R	
Denied Del/Veh (s)				0.0
Total Del/Veh (s)	0.6	0.3	2.5	0.5
Vehicles Entered	283	191	10	484
Vehicles Exited	283	191	10	484
Hourly Exit Rate	283	191	10	484

11: Hemlock Ave & Nita Dr Performance by lane

Lane	EB	WB	SB	All
Movements Served	T	TR	R	
Denied Del/Veh (s)				0.0
Total Del/Veh (s)	0.1	1.4	2.8	0.7
Vehicles Entered	283	190	7	480
Vehicles Exited	283	190	7	480
Hourly Exit Rate	283	190	7	480

12: Driveway/Davis St & Ironwood Ave Performance by lane

Lane	EB	EB	EB	WB	WB	SB	SB	All
Movements Served	L	T	TR	T	TR	L	TR	
Denied Del/Veh (s)								1.5
Total Del/Veh (s)	216.0	122.8	49.6	24.3	25.8	18.7	11.5	61.7
Vehicles Entered	0	413	625	337	351	0	150	1875
Vehicles Exited	98	354	559	328	354	89	60	1843
Hourly Exit Rate	98	354	559	328	354	89	60	1843

13: Indian St & Ironwood Ave Performance by lane

Lane	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Movements Served	L	T	TR	L	T	TR	L	T	R	L	T	R
Denied Del/Veh (s)												
Total Del/Veh (s)	49.2	39.4	43.3	41.7	28.1	27.5	44.1	40.0	5.1	43.4	30.7	3.8
Vehicles Entered	0	407	560	0	506	138	0	589	0	0	355	0
Vehicles Exited	111	423	439	86	257	304	108	259	222	73	187	95
Hourly Exit Rate	111	423	439	86	257	304	108	259	222	73	187	95

13: Indian St & Ironwood Ave Performance by lane

Lane	All
Movements Served	
Denied Del/Veh (s)	0.3
Total Del/Veh (s)	33.5
Vehicles Entered	2554
Vehicles Exited	2564
Hourly Exit Rate	2564

14: Indian St & Hemlock Ave Performance by lane

Lane	EB	EB	EB	WB	WB	NB	NB	SB	SB	All
Movements Served	L	T	TR	L	TR	L	TR	L	TR	
Denied Del/Veh (s)										0.1
Total Del/Veh (s)	30.3	32.7	19.6	27.9	27.7	40.5	27.1	42.3	19.1	26.0
Vehicles Entered	0	209	75	0	286	0	654	0	381	1603
Vehicles Exited	45	97	143	93	193	60	588	32	351	1602
Hourly Exit Rate	45	97	143	93	193	60	588	32	351	1602

15: Indian St & Sunnymead Blvd Performance by lane

Lane	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Movements Served	L	T	TR	L	T	TR	L	T	R	L	T	R
Denied Del/Veh (s)												
Total Del/Veh (s)	56.9	185.7	177.6	44.3	35.9	27.8	62.3	105.1	8.9	45.7	38.3	10.5
Vehicles Entered	0	614	521	0	521	223	0	790	0	0	491	0
Vehicles Exited	188	452	503	104	332	312	223	386	172	99	265	122
Hourly Exit Rate	188	452	503	104	332	312	223	386	172	99	265	122

15: Indian St & Sunnymead Blvd Performance by lane

Lane	All
Movements Served	
Denied Del/Veh (s)	166.0
Total Del/Veh (s)	90.2
Vehicles Entered	3162
Vehicles Exited	3157
Hourly Exit Rate	3157

Total Network Performance

Denied Del/Veh (s)	61.0
Total Del/Veh (s)	132.4
Vehicles Entered	9609
Vehicles Exited	9456
Hourly Exit Rate	9456
Input Volume	37764
% of Volume	25

Intersection: 1: Heacock St & Ironwood Ave

Movement	EB	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	SB
Directions Served	L	T	T	R	L	T	TR	L	T	T	R	L
Maximum Queue (ft)	115	2058	2053	90	160	299	287	165	356	372	70	125
Average Queue (ft)	112	1479	1455	61	101	144	160	125	184	208	50	74
95th Queue (ft)	129	2370	2333	121	174	263	268	194	333	360	96	135
Link Distance (ft)		2012	2012			1213	1213		586	586		
Upstream Blk Time (%)		20	16									
Queuing Penalty (veh)		0	0									
Storage Bay Dist (ft)	90			65	135			140			45	100
Storage Blk Time (%)	66	18	67	1	5	14		7	16	44	7	5
Queuing Penalty (veh)	279	48	113	4	13	20		23	27	85	25	13

Intersection: 1: Heacock St & Ironwood Ave

Movement	SB	SB	SB
Directions Served	T	T	R
Maximum Queue (ft)	240	254	120
Average Queue (ft)	146	144	90
95th Queue (ft)	227	238	147
Link Distance (ft)	1480	1480	
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			95
Storage Blk Time (%)	23	18	5
Queuing Penalty (veh)	18	38	13

Intersection: 2: Heacock St & New Project Access

Movement	SB
Directions Served	T
Maximum Queue (ft)	6
Average Queue (ft)	0
95th Queue (ft)	4
Link Distance (ft)	586
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 3: Heacock St & Hemlock Ave

Movement	EB	EB	WB	WB	WB	NB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	T	R	L	T	T	R	L	T	T
Maximum Queue (ft)	194	619	204	155	46	125	361	365	75	119	367	387
Average Queue (ft)	61	286	76	50	12	99	227	238	56	31	201	223
95th Queue (ft)	137	595	166	117	34	156	382	383	98	91	385	403
Link Distance (ft)	2106	2106		306			337	337			702	702
Upstream Blk Time (%)							2	3			0	0
Queuing Penalty (veh)							13	18			0	0
Storage Bay Dist (ft)			360		200	100			50	95		
Storage Blk Time (%)						17	20	42	1	0	33	
Queuing Penalty (veh)						86	32	57	6	0	8	

Intersection: 3: Heacock St & Hemlock Ave

Movement	SB
Directions Served	R
Maximum Queue (ft)	146
Average Queue (ft)	19
95th Queue (ft)	111
Link Distance (ft)	702
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 4: Heacock St & SR 60 WB Ramp

Movement	WB	WB	NB	NB	NB	SB	SB
Directions Served	LT	R	L	T	T	T	TR
Maximum Queue (ft)	474	59	225	320	278	368	379
Average Queue (ft)	203	50	210	249	169	286	309
95th Queue (ft)	391	67	256	378	306	419	432
Link Distance (ft)	1034			257	257	337	337
Upstream Blk Time (%)	0			17	1	6	13
Queuing Penalty (veh)	0			125	10	34	75
Storage Bay Dist (ft)		30	200				
Storage Blk Time (%)	55	28	29	3			
Queuing Penalty (veh)	103	70	160	11			

Intersection: 5: Heacock St & SR 60 EB Ramp

Movement	EB	EB	EB	NB	NB	NB	SB	SB	SB
Directions Served	L	LT	R	T	T	TR	L	T	T
Maximum Queue (ft)	434	385	223	606	544	312	214	285	271
Average Queue (ft)	235	178	106	318	248	137	135	134	123
95th Queue (ft)	424	362	187	539	464	283	222	274	250
Link Distance (ft)	742	742	742	685	685	685		257	257
Upstream Blk Time (%)				1	0			3	0
Queuing Penalty (veh)				0	0			16	2
Storage Bay Dist (ft)							190		
Storage Blk Time (%)							5	3	
Queuing Penalty (veh)							25	6	

Intersection: 6: Hemlock Ave & New Project Access

Movement	NB
Directions Served	LTR
Maximum Queue (ft)	35
Average Queue (ft)	15
95th Queue (ft)	36
Link Distance (ft)	238
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 7: Davis St & Hemlock Ave

Movement	EB	WB	WB	NB	SB	SB
Directions Served	L	L	TR	LTR	LT	R
Maximum Queue (ft)	32	21	3	23	30	41
Average Queue (ft)	6	1	0	3	4	16
95th Queue (ft)	24	11	2	15	21	35
Link Distance (ft)		285	285	155	572	572
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)	180					
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 8: Hemlock Ave & IHOP Access

Movement	EB	SB
Directions Served	LT	LR
Maximum Queue (ft)	32	32
Average Queue (ft)	2	14
95th Queue (ft)	21	37
Link Distance (ft)	285	380
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 9: Hemlock Ave & Middle Access

Movement	EB	SB
Directions Served	LT	LR
Maximum Queue (ft)	48	49
Average Queue (ft)	4	23
95th Queue (ft)	23	46
Link Distance (ft)	542	236
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 10: Hemlock Ave & West Access

Movement	SB
Directions Served	R
Maximum Queue (ft)	24
Average Queue (ft)	6
95th Queue (ft)	23
Link Distance (ft)	328
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 11: Hemlock Ave & Nita Dr

Movement	SB
Directions Served	R
Maximum Queue (ft)	31
Average Queue (ft)	5
95th Queue (ft)	24
Link Distance (ft)	253
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 12: Driveway/Davis St & Ironwood Ave

Movement	EB	EB	EB	WB	WB	SB	SB
Directions Served	L	T	TR	T	TR	L	TR
Maximum Queue (ft)	174	883	880	269	279	63	120
Average Queue (ft)	158	487	481	143	159	40	33
95th Queue (ft)	212	1043	1039	244	262	71	85
Link Distance (ft)		1213	1213	1261	1261		1507
Upstream Blk Time (%)		1	1				
Queuing Penalty (veh)		6	7				
Storage Bay Dist (ft)	150					40	
Storage Blk Time (%)	69	5				14	2
Queuing Penalty (veh)	342	6				9	2

Intersection: 13: Indian St & Ironwood Ave

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	TR	L	T	TR	L	T	R	L	T	R
Maximum Queue (ft)	120	440	444	124	219	228	134	375	75	104	272	75
Average Queue (ft)	86	230	240	70	116	131	88	176	64	59	115	45
95th Queue (ft)	145	401	412	129	187	201	148	317	94	111	220	88
Link Distance (ft)		1261	1261		2384	2384		1353			1508	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	95			100			110		50	80		50
Storage Blk Time (%)	12	31		2	11		5	32	11	9	29	2
Queuing Penalty (veh)	49	38		4	9		23	117	39	23	49	5

Intersection: 14: Indian St & Hemlock Ave

Movement	EB	EB	EB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	TR	L	TR	L	TR	L	TR
Maximum Queue (ft)	84	109	108	105	202	170	467	125	262
Average Queue (ft)	31	53	62	62	101	73	238	36	129
95th Queue (ft)	67	89	106	114	183	164	416	96	220
Link Distance (ft)		318	318		2337		1227		1353
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (ft)	150			80		145		100	
Storage Blk Time (%)				7	15	0	23	0	14
Queuing Penalty (veh)				13	13	0	15	2	5

Intersection: 15: Indian St & Sunnymead Blvd

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	TR	L	T	TR	L	T	R	L	T	R
Maximum Queue (ft)	115	762	762	124	308	267	170	820	130	114	330	85
Average Queue (ft)	111	733	734	94	185	158	159	516	85	86	170	65
95th Queue (ft)	124	747	748	151	273	243	197	975	171	138	291	112
Link Distance (ft)		715	715		1059	1059		913			1227	
Upstream Blk Time (%)		76	77					10				
Queuing Penalty (veh)		0	0					0				
Storage Bay Dist (ft)	90			100			145		105	90		60
Storage Blk Time (%)	53	47		5	29		34	32	1	11	31	4
Queuing Penalty (veh)	254	110		14	29		194	131	6	40	70	15

Network Summary

Network wide Queuing Penalty: 3215

1: Heacock St & Ironwood Ave Performance by lane

Lane	EB	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	SB
Movements Served	L	T	T	R	L	T	TR	L	T	T	R	L
Denied Del/Veh (s)												
Total Del/Veh (s)	42.5	37.2	32.8	7.2	52.1	44.7	43.9	43.2	24.5	28.0	6.0	47.4
Vehicles Entered	0	478	193	0	0	540	428	0	316	375	0	0
Vehicles Exited	166	177	176	154	205	362	401	126	209	241	112	59
Hourly Exit Rate	166	177	176	154	205	362	401	126	209	241	112	59

1: Heacock St & Ironwood Ave Performance by lane

Lane	SB	SB	SB	All
Movements Served	T	T	R	
Denied Del/Veh (s)				0.5
Total Del/Veh (s)	33.1	40.0	10.3	33.8
Vehicles Entered	613	411	0	3352
Vehicles Exited	360	307	297	3353
Hourly Exit Rate	360	307	297	3353

2: Heacock St & New Project Access Performance by lane

Lane	WB	NB	NB	SB	SB	All
Movements Served	LR	T	TR	LT	T	
Denied Del/Veh (s)						0.0
Total Del/Veh (s)	4.5	2.4	2.3	11.8	10.4	7.5
Vehicles Entered	10	341	361	478	548	1737
Vehicles Exited	10	322	379	438	588	1738
Hourly Exit Rate	10	322	379	438	588	1738

3: Heacock St & Hemlock Ave Performance by lane

Lane	EB	EB	WB	WB	WB	NB	NB	NB	NB	SB	SB	SB
Movements Served	L	TR	L	T	R	L	T	T	R	L	T	T
Denied Del/Veh (s)												
Total Del/Veh (s)	34.7	33.8	65.7	9.0	5.6	33.5	17.9	18.1	1.4	36.1	65.0	71.9
Vehicles Entered	148	90	0	288	0	0	383	467	0	0	454	557
Vehicles Exited	45	190	61	214	11	106	307	340	96	14	490	500
Hourly Exit Rate	45	190	61	214	11	106	307	340	96	14	490	500

3: Heacock St & Hemlock Ave Performance by lane

Lane	SB	All
Movements Served	R	
Denied Del/Veh (s)		2.1
Total Del/Veh (s)	4.3	40.6
Vehicles Entered	44	2430
Vehicles Exited	43	2419
Hourly Exit Rate	43	2419

4: Heacock St & SR 60 WB Ramp Performance by lane

Lane	WB	WB	NB	NB	NB	SB	SB	All
Movements Served	LT	R	L	T	T	T	TR	
Denied Del/Veh (s)								0.4
Total Del/Veh (s)	50.0	2.9	41.4	14.9	11.4	45.2	50.0	35.4
Vehicles Entered	485	0	2	669	291	539	648	2635
Vehicles Exited	295	190	305	345	311	596	588	2630
Hourly Exit Rate	295	190	305	345	311	596	588	2630

5: Heacock St & SR 60 EB Ramp Performance by lane

Lane	EB	EB	EB	NB	NB	NB	SB	SB	SB	All
Movements Served	L	LT	R	T	T	TR	L	T	T	
Denied Del/Veh (s)										0.2
Total Del/Veh (s)	31.8	24.5	22.9	26.6	17.4	6.9	42.6	10.6	9.5	19.6
Vehicles Entered	230	73	502	508	154	171	1	768	368	2774
Vehicles Exited	209	73	527	458	194	179	170	511	452	2772
Hourly Exit Rate	209	73	527	458	194	179	170	511	452	2772

6: Hemlock Ave & New Project Access Performance by lane

Lane	EB	EB	WB	WB	NB	All
Movements Served	LT	TR	LT	TR	LTR	
Denied Del/Veh (s)						0.0
Total Del/Veh (s)	1.5	0.6	0.2	0.3	3.5	0.5
Vehicles Entered	80	90	183	113	1	466
Vehicles Exited	81	89	192	103	1	466
Hourly Exit Rate	81	89	192	103	1	466

7: Davis St & Hemlock Ave Performance by lane

Lane	EB	EB	EB	WB	WB	NB	SB	SB	All
Movements Served	L	T	TR	L	TR	LTR	LT	R	
Denied Del/Veh (s)									0.1
Total Del/Veh (s)	2.1	0.5	0.3	0.9	0.2	7.7	8.1	2.8	1.2
Vehicles Entered	63	195	115	4	210	32	4	59	682
Vehicles Exited	111	146	116	4	211	32	4	59	683
Hourly Exit Rate	111	146	116	4	211	32	4	59	683

8: Hemlock Ave & IHOP Access Performance by lane

Lane	EB	WB	SB	All
Movements Served	LT	TR	LR	
Denied Del/Veh (s)				0.0
Total Del/Veh (s)	0.6	0.4	3.0	0.5
Vehicles Entered	228	214	6	448
Vehicles Exited	227	214	6	447
Hourly Exit Rate	227	214	6	447

9: Hemlock Ave & Middle Access Performance by lane

Lane	EB	WB	SB	All
Movements Served	LT	TR	LR	
Denied Del/Veh (s)				0.0
Total Del/Veh (s)	1.7	0.9	4.6	1.8
Vehicles Entered	210	204	68	482
Vehicles Exited	211	204	68	483
Hourly Exit Rate	211	204	68	483

10: West Access/West Access & Hemlock Ave Performance by lane

Lane	EB	WB	NB	SB	All
Movements Served	LTR	LTR	LTR	LTR	
Denied Del/Veh (s)					0.1
Total Del/Veh (s)	0.5	0.7	2.9	5.1	0.9
Vehicles Entered	139	253	16	16	425
Vehicles Exited	139	254	16	16	425
Hourly Exit Rate	139	254	16	16	425

11: Hemlock Ave & Nita Dr Performance by lane

Lane	EB	WB	SB	All
Movements Served	T	TR	R	
Denied Del/Veh (s)				0.0
Total Del/Veh (s)	0.2	1.5	3.0	0.9
Vehicles Entered	158	180	6	344
Vehicles Exited	157	179	6	342
Hourly Exit Rate	157	179	6	342

12: Driveway/Davis St & Ironwood Ave Performance by lane

Lane	EB	EB	EB	WB	WB	NB	SB	SB	All
Movements Served	L	T	TR	LT	TR	LTR	L	TR	
Denied Del/Veh (s)									0.3
Total Del/Veh (s)	89.2	19.2	17.6	29.2	34.0	8.2	15.8	19.1	28.4
Vehicles Entered	0	245	306	506	577	14	0	264	1913
Vehicles Exited	74	201	273	533	539	13	161	103	1897
Hourly Exit Rate	74	201	273	533	539	13	161	103	1897

13: Indian St & Ironwood Ave Performance by lane

Lane	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Movements Served	L	T	TR	L	T	TR	L	T	R	L	T	R
Denied Del/Veh (s)												
Total Del/Veh (s)	49.0	28.9	31.0	63.0	322.3	224.7	48.7	56.5	2.7	43.4	46.5	6.2
Vehicles Entered	0	302	339	0	846	398	0	544	0	0	434	0
Vehicles Exited	34	270	342	251	385	525	165	253	124	126	190	116
Hourly Exit Rate	34	270	342	251	385	525	165	253	124	126	190	116

13: Indian St & Ironwood Ave Performance by lane

Lane	All
Movements Served	
Denied Del/Veh (s)	0.5
Total Del/Veh (s)	119.2
Vehicles Entered	2863
Vehicles Exited	2780
Hourly Exit Rate	2780

14: Indian St & Hemlock Ave Performance by lane

Lane	EB	EB	WB	WB	NB	NB	SB	SB	All
Movements Served	T	TR	L	TR	L	TR	L	TR	
Denied Del/Veh (s)									0.1
Total Del/Veh (s)	16.8	18.2	22.7	24.5	33.6	28.7	35.3	22.3	25.1
Vehicles Entered	122	35	0	289	0	562	0	615	1623
Vehicles Exited	100	58	94	195	46	514	84	532	1623
Hourly Exit Rate	100	58	94	195	46	514	84	532	1623

15: Indian St & Sunnymead Blvd Performance by lane

Lane	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Movements Served	L	T	TR	L	T	TR	L	T	R	L	T	R
Denied Del/Veh (s)												
Total Del/Veh (s)	44.5	29.8	19.4	43.3	31.6	22.9	44.3	33.0	10.7	47.7	68.3	6.4
Vehicles Entered	0	416	256	0	413	145	0	672	0	0	643	0
Vehicles Exited	102	279	290	40	289	231	174	375	125	92	420	133
Hourly Exit Rate	102	279	290	40	289	231	174	375	125	92	420	133

15: Indian St & Sunnymead Blvd Performance by lane

Lane	All
Movements Served	
Denied Del/Veh (s)	0.8
Total Del/Veh (s)	35.4
Vehicles Entered	2544
Vehicles Exited	2551
Hourly Exit Rate	2551

Total Network Performance

Denied Del/Veh (s)	1.4
Total Del/Veh (s)	100.4
Vehicles Entered	8947
Vehicles Exited	8847
Hourly Exit Rate	8847
Input Volume	33934
% of Volume	26

Intersection: 1: Heacock St & Ironwood Ave

Movement	EB	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	SB
Directions Served	L	T	T	R	L	T	TR	L	T	T	R	L
Maximum Queue (ft)	115	254	235	90	160	428	446	159	189	221	70	125
Average Queue (ft)	92	121	104	63	137	229	230	86	93	118	46	62
95th Queue (ft)	135	224	194	113	189	402	402	153	175	211	94	125
Link Distance (ft)		2012	2012			1213	1213		694	694		
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	90			65	135			140			45	100
Storage Blk Time (%)	24	8	21	3	24	22		3	3	32	5	1
Queuing Penalty (veh)	44	14	34	6	88	48		8	4	36	12	5

Intersection: 1: Heacock St & Ironwood Ave

Movement	SB	SB	SB
Directions Served	T	T	R
Maximum Queue (ft)	314	354	120
Average Queue (ft)	175	194	106
95th Queue (ft)	272	313	150
Link Distance (ft)	1480	1480	
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			95
Storage Blk Time (%)	28	24	9
Queuing Penalty (veh)	18	77	30

Intersection: 2: Heacock St & New Project Access

Movement	WB	SB	SB
Directions Served	LR	LT	T
Maximum Queue (ft)	35	179	191
Average Queue (ft)	9	50	53
95th Queue (ft)	31	226	239
Link Distance (ft)	461	694	694
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 3: Heacock St & Hemlock Ave

Movement	EB	EB	WB	WB	WB	NB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	T	R	L	T	T	R	L	T	T
Maximum Queue (ft)	72	237	154	96	20	124	289	292	75	103	519	534
Average Queue (ft)	31	90	51	39	5	70	117	125	38	20	337	362
95th Queue (ft)	63	185	123	80	18	130	238	238	87	74	639	646
Link Distance (ft)	2106	2106		357			350	350			592	592
Upstream Blk Time (%)							0	0			8	11
Queuing Penalty (veh)							0	0			29	37
Storage Bay Dist (ft)			360		200	100			50	95		
Storage Blk Time (%)						3	9	24	1	0	44	
Queuing Penalty (veh)						10	10	24	2	0	7	

Intersection: 3: Heacock St & Hemlock Ave

Movement	SB
Directions Served	R
Maximum Queue (ft)	103
Average Queue (ft)	14
95th Queue (ft)	59
Link Distance (ft)	592
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 4: Heacock St & SR 60 WB Ramp

Movement	WB	WB	NB	NB	NB	SB	SB
Directions Served	LT	R	L	T	T	T	TR
Maximum Queue (ft)	476	66	225	305	256	375	374
Average Queue (ft)	234	50	178	153	109	319	334
95th Queue (ft)	413	64	257	316	222	428	423
Link Distance (ft)	1034			257	257	350	350
Upstream Blk Time (%)				5	0	11	18
Queuing Penalty (veh)				23	1	64	106
Storage Bay Dist (ft)		30	200				
Storage Blk Time (%)	55	14	12	1			
Queuing Penalty (veh)	104	43	42	4			

Intersection: 5: Heacock St & SR 60 EB Ramp

Movement	EB	EB	EB	NB	NB	NB	SB	SB	SB
Directions Served	L	LT	R	T	T	TR	L	T	T
Maximum Queue (ft)	210	170	343	335	264	142	213	261	254
Average Queue (ft)	114	52	186	182	103	41	123	116	103
95th Queue (ft)	183	121	313	304	218	94	209	241	229
Link Distance (ft)	742	742	742	685	685	685		257	257
Upstream Blk Time (%)								1	0
Queuing Penalty (veh)								4	2
Storage Bay Dist (ft)							190		
Storage Blk Time (%)							1	2	
Queuing Penalty (veh)							4	4	

Intersection: 6: Hemlock Ave & New Project Access

Movement	NB
Directions Served	LTR
Maximum Queue (ft)	23
Average Queue (ft)	1
95th Queue (ft)	11
Link Distance (ft)	255
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 7: Davis St & Hemlock Ave

Movement	EB	WB	WB	NB	SB	SB
Directions Served	L	L	TR	LTR	LT	R
Maximum Queue (ft)	53	5	3	54	33	51
Average Queue (ft)	13	0	0	17	4	24
95th Queue (ft)	37	4	2	41	19	41
Link Distance (ft)		284	284	157	573	573
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)	180					
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 8: Hemlock Ave & IHOP Access

Movement	EB	SB
Directions Served	LT	LR
Maximum Queue (ft)	49	28
Average Queue (ft)	6	5
95th Queue (ft)	29	22
Link Distance (ft)	284	380
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 9: Hemlock Ave & Middle Access

Movement	EB	WB	SB
Directions Served	LT	TR	LR
Maximum Queue (ft)	58	4	55
Average Queue (ft)	17	0	30
95th Queue (ft)	47	3	51
Link Distance (ft)	542	620	236
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 10: West Access/West Access & Hemlock Ave

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	6	48	34	29
Average Queue (ft)	0	5	13	9
95th Queue (ft)	4	27	37	28
Link Distance (ft)	620	105	235	328
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 11: Hemlock Ave & Nita Dr

Movement	SB
Directions Served	R
Maximum Queue (ft)	31
Average Queue (ft)	5
95th Queue (ft)	23
Link Distance (ft)	253
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 12: Driveway/Davis St & Ironwood Ave

Movement	EB	EB	EB	WB	WB	NB	SB	SB
Directions Served	L	T	TR	LT	TR	LTR	L	TR
Maximum Queue (ft)	172	198	203	428	434	44	64	203
Average Queue (ft)	79	86	98	252	275	7	51	70
95th Queue (ft)	155	172	181	390	422	31	76	158
Link Distance (ft)		1213	1213	1261	1261	182		1507
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)	150						40	
Storage Blk Time (%)	2	1					24	6
Queuing Penalty (veh)	6	1					26	10

Intersection: 13: Indian St & Ironwood Ave

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	TR	L	T	TR	L	T	R	L	T	R
Maximum Queue (ft)	119	263	284	124	1899	1866	134	477	75	105	409	75
Average Queue (ft)	36	129	155	124	1205	1183	114	228	48	84	165	48
95th Queue (ft)	94	225	258	128	2238	2196	160	444	95	122	346	90
Link Distance (ft)		1261	1261		2384	2384		1353			1508	
Upstream Blk Time (%)					2	0						
Queuing Penalty (veh)					0	0						
Storage Bay Dist (ft)	95			100			110		50	80		50
Storage Blk Time (%)	0	15		74	20		22	36	2	24	31	5
Queuing Penalty (veh)	1	6		303	54		83	102	9	78	78	16

Intersection: 14: Indian St & Hemlock Ave

Movement	EB	EB	WB	WB	NB	NB	SB	SB
Directions Served	T	TR	L	TR	L	TR	L	TR
Maximum Queue (ft)	76	84	105	276	169	490	125	441
Average Queue (ft)	34	32	57	94	55	222	73	192
95th Queue (ft)	62	65	107	190	142	421	137	350
Link Distance (ft)	318	318		2337		1227		1353
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)			80		145		100	
Storage Blk Time (%)			3	12	0	20	2	23
Queuing Penalty (veh)			7	12	0	10	9	20

Intersection: 15: Indian St & Sunnymead Blvd

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	TR	L	T	TR	L	T	R	L	T	R
Maximum Queue (ft)	115	238	204	124	225	198	170	462	130	114	749	85
Average Queue (ft)	75	137	112	42	139	112	128	214	78	81	351	56
95th Queue (ft)	132	213	190	107	204	187	194	389	159	131	664	115
Link Distance (ft)		715	715		1059	1059		913			1227	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	90			100			145		105	90		60
Storage Blk Time (%)	9	23		0	21		6	22	1	8	50	3
Queuing Penalty (veh)	20	23		0	8		31	67	4	42	127	14

Network Summary

Network wide Queuing Penalty: 2111

1: Heacock St & Ironwood Ave Performance by lane

Lane	EB	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	SB
Movements Served	L	T	T	R	L	T	TR	L	T	T	R	L
Denied Del/Veh (s)												
Total Del/Veh (s)	53.9	500.1	395.6	2.8	46.7	36.1	34.7	56.8	25.1	32.9	3.5	44.7
Vehicles Entered	0	709	502	0	0	318	426	0	464	540	0	0
Vehicles Exited	230	317	405	150	141	269	326	164	334	331	176	75
Hourly Exit Rate	230	317	405	150	141	269	326	164	334	331	176	75

1: Heacock St & Ironwood Ave Performance by lane

Lane	SB	SB	SB	All
Movements Served	T	T	R	
Denied Del/Veh (s)				13.4
Total Del/Veh (s)	39.4	40.6	11.0	126.7
Vehicles Entered	519	310	0	3787
Vehicles Exited	287	249	210	3666
Hourly Exit Rate	287	249	210	3666

2: Heacock St & New Project Access Performance by lane

Lane	WB	NB	NB	SB	SB	SB	All
Movements Served	LR	T	TR	LT	T	T	
Denied Del/Veh (s)							0.0
Total Del/Veh (s)	9.9	3.3	3.2	15.7	13.0	23.7	8.5
Vehicles Entered	36	539	479	369	268	189	1881
Vehicles Exited	36	484	534	333	425	58	1870
Hourly Exit Rate	36	484	534	333	425	58	1870

3: Heacock St & Hemlock Ave Performance by lane

Lane	EB	EB	WB	WB	WB	NB	NB	NB	NB	SB	SB	SB
Movements Served	L	TR	L	T	R	L	T	T	R	L	T	T
Denied Del/Veh (s)												
Total Del/Veh (s)	362.9	496.7	197.6	33.7	7.0	55.5	45.7	55.7	1.9	48.9	65.1	68.6
Vehicles Entered	303	184	0	521	0	0	560	765	0	0	348	436
Vehicles Exited	81	330	184	317	16	140	495	439	256	46	355	381
Hourly Exit Rate	81	330	184	317	16	140	495	439	256	46	355	381

3: Heacock St & Hemlock Ave Performance by lane

Lane	SB	All
Movements Served	R	
Denied Del/Veh (s)		4.2
Total Del/Veh (s)	13.9	123.2
Vehicles Entered	59	3175
Vehicles Exited	48	3087
Hourly Exit Rate	48	3087

4: Heacock St & SR 60 WB Ramp Performance by lane

Lane	WB	WB	NB	NB	NB	SB	SB	All
Movements Served	LT	R	L	T	T	T	TR	
Denied Del/Veh (s)								1.5
Total Del/Veh (s)	125.1	10.8	55.1	27.1	25.7	56.9	57.0	47.8
Vehicles Entered	486	0	0	723	707	502	635	3052
Vehicles Exited	234	242	343	521	564	550	578	3033
Hourly Exit Rate	234	242	343	521	564	550	578	3033

5: Heacock St & SR 60 EB Ramp Performance by lane

Lane	EB	EB	EB	NB	NB	NB	SB	SB	SB	All
Movements Served	L	LT	R	T	T	TR	L	T	T	
Denied Del/Veh (s)										24.7
Total Del/Veh (s)	111.4	72.5	17.8	149.5	131.8	113.9	42.9	13.2	10.7	75.2
Vehicles Entered	375	188	349	517	336	355	2	693	352	3168
Vehicles Exited	303	248	365	421	341	412	224	419	402	3135
Hourly Exit Rate	303	248	365	421	341	412	224	419	402	3135

6: Hemlock Ave & New Project Access Performance by lane

Lane	EB	EB	EB	WB	NB	All
Movements Served	T	T	TR	T	LTR	
Denied Del/Veh (s)						1.1
Total Del/Veh (s)	1.3	1.7	0.6	41.9	3.4	22.8
Vehicles Entered	203	60	190	538	22	1013
Vehicles Exited	201	63	190	530	22	1007
Hourly Exit Rate	201	63	190	530	22	1007

7: Davis St & Hemlock Ave Performance by lane

Lane	EB	EB	EB	WB	WB	NB	SB	SB	All
Movements Served	L	T	TR	L	TR	LTR	LT	R	
Denied Del/Veh (s)									165.2
Total Del/Veh (s)	6.0	0.9	0.7	5.0	35.1	252.0	151.4	280.2	67.3
Vehicles Entered	110	336	315	28	317	94	52	165	1415
Vehicles Exited	273	191	296	28	309	91	27	163	1378
Hourly Exit Rate	273	191	296	28	309	91	27	163	1378

8: Hemlock Ave & IHOP Access Performance by lane

Lane	EB	WB	SB	All
Movements Served	LT	TR	LR	
Denied Del/Veh (s)				0.0
Total Del/Veh (s)	0.8	28.9	82.9	16.1
Vehicles Entered	386	353	21	759
Vehicles Exited	387	343	20	750
Hourly Exit Rate	387	343	20	750

9: Hemlock Ave & Middle Access Performance by lane

Lane	EB	WB	SB	All
Movements Served	LT	TR	LR	
Denied Del/Veh (s)				11.8
Total Del/Veh (s)	2.9	11.6	22.5	11.8
Vehicles Entered	382	219	319	918
Vehicles Exited	382	217	318	917
Hourly Exit Rate	382	217	318	917

10: West Access/West Access & Hemlock Ave Performance by lane

Lane	EB	WB	NB	SB	All
Movements Served	LTR	LTR	LTR	LTR	
Denied Del/Veh (s)					0.1
Total Del/Veh (s)	1.4	1.8	6.0	9.7	3.1
Vehicles Entered	298	372	117	98	884
Vehicles Exited	299	371	117	98	884
Hourly Exit Rate	299	371	117	98	884

11: Hemlock Ave & Nita Dr Performance by lane

Lane	EB	WB	SB	All
Movements Served	T	TR	R	
Denied Del/Veh (s)				0.0
Total Del/Veh (s)	0.4	1.8	4.0	0.9
Vehicles Entered	444	249	8	701
Vehicles Exited	444	248	8	700
Hourly Exit Rate	444	248	8	700

12: Driveway/Davis St & Ironwood Ave Performance by lane

Lane	EB	EB	EB	WB	WB	NB	SB	SB	All
Movements Served	L	T	TR	LT	TR	LTR	L	TR	
Denied Del/Veh (s)									0.3
Total Del/Veh (s)	190.0	102.2	42.9	44.1	26.0	15.5	17.4	11.1	54.9
Vehicles Entered	0	411	606	357	356	93	0	142	1965
Vehicles Exited	94	371	540	296	416	94	83	60	1955
Hourly Exit Rate	94	371	540	296	416	94	83	60	1955

13: Indian St & Ironwood Ave Performance by lane

Lane	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Movements Served	L	T	TR	L	T	TR	L	T	R	L	T	R
Denied Del/Veh (s)												
Total Del/Veh (s)	50.0	38.7	43.3	42.9	27.2	26.7	45.0	44.0	4.8	43.4	31.8	4.0
Vehicles Entered	0	430	553	0	523	148	0	601	0	0	361	0
Vehicles Exited	99	432	453	94	272	306	114	256	233	77	194	88
Hourly Exit Rate	99	432	453	94	272	306	114	256	233	77	194	88

13: Indian St & Ironwood Ave Performance by lane

Lane	All
Movements Served	
Denied Del/Veh (s)	0.3
Total Del/Veh (s)	33.8
Vehicles Entered	2613
Vehicles Exited	2618
Hourly Exit Rate	2618

14: Indian St & Hemlock Ave Performance by lane

Lane	EB	EB	EB	WB	WB	NB	NB	SB	SB	All
Movements Served	L	T	TR	L	TR	L	TR	L	TR	
Denied Del/Veh (s)										0.1
Total Del/Veh (s)	30.4	16.6	19.6	27.3	32.3	46.7	30.7	42.8	20.7	26.8
Vehicles Entered	0	311	130	0	297	0	664	0	403	1804
Vehicles Exited	66	200	176	86	211	68	588	31	370	1796
Hourly Exit Rate	66	200	176	86	211	68	588	31	370	1796

15: Indian St & Sunnymead Blvd Performance by lane

Lane	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Movements Served	L	T	TR	L	T	TR	L	T	R	L	T	R
Denied Del/Veh (s)												
Total Del/Veh (s)	56.7	184.6	179.3	48.6	36.2	28.3	64.0	139.1	8.6	46.9	42.8	8.8
Vehicles Entered	0	607	524	0	528	223	0	833	0	0	492	0
Vehicles Exited	184	453	494	98	338	319	230	395	192	105	276	111
Hourly Exit Rate	184	453	494	98	338	319	230	395	192	105	276	111

15: Indian St & Sunnymead Blvd Performance by lane

Lane	All
Movements Served	
Denied Del/Veh (s)	151.2
Total Del/Veh (s)	94.6
Vehicles Entered	3208
Vehicles Exited	3195
Hourly Exit Rate	3195

Total Network Performance

Denied Del/Veh (s)	82.0
Total Del/Veh (s)	175.3
Vehicles Entered	11003
Vehicles Exited	10640
Hourly Exit Rate	10640
Input Volume	43914
% of Volume	24

Intersection: 1: Heacock St & Ironwood Ave

Movement	EB	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	SB
Directions Served	L	T	T	R	L	T	TR	L	T	T	R	L
Maximum Queue (ft)	115	2062	2050	90	160	334	308	164	269	281	71	125
Average Queue (ft)	113	1595	1574	59	106	149	161	117	113	125	39	72
95th Queue (ft)	120	2408	2394	117	180	278	273	182	239	243	92	135
Link Distance (ft)		2012	2012			1213	1213		586	586		
Upstream Blk Time (%)		39	34									
Queuing Penalty (veh)		0	0									
Storage Bay Dist (ft)	90			65	135			140			45	100
Storage Blk Time (%)	68	16	67	2	6	13		12	6	45	4	2
Queuing Penalty (veh)	288	44	121	11	16	17		42	11	88	15	6

Intersection: 1: Heacock St & Ironwood Ave

Movement	SB	SB	SB
Directions Served	T	T	R
Maximum Queue (ft)	361	383	120
Average Queue (ft)	159	161	95
95th Queue (ft)	295	313	150
Link Distance (ft)	1480	1480	
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			95
Storage Blk Time (%)	27	20	6
Queuing Penalty (veh)	21	44	16

Intersection: 2: Heacock St & New Project Access

Movement	WB	SB	SB	SB
Directions Served	LR	LT	T	T
Maximum Queue (ft)	68	128	133	127
Average Queue (ft)	26	36	36	31
95th Queue (ft)	56	258	258	238
Link Distance (ft)	602	586	586	586
Upstream Blk Time (%)		2	1	1
Queuing Penalty (veh)		5	3	2
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 3: Heacock St & Hemlock Ave

Movement	EB	EB	WB	WB	WB	NB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	T	R	L	T	T	R	L	T	T
Maximum Queue (ft)	1896	1973	306	371	111	125	375	377	75	120	543	546
Average Queue (ft)	885	1402	276	297	8	98	321	333	65	55	284	299
95th Queue (ft)	2080	2357	350	464	54	157	416	403	97	125	544	551
Link Distance (ft)	2106	2106		306			337	337			702	702
Upstream Blk Time (%)	12	18	21	50			13	16			5	6
Queuing Penalty (veh)	0	0	0	355			89	116			14	16
Storage Bay Dist (ft)			360		200	100			50	95		
Storage Blk Time (%)			21	1		18	33	50	4	1	45	
Queuing Penalty (veh)			29	2		88	54	131	19	5	21	

Intersection: 3: Heacock St & Hemlock Ave

Movement	SB
Directions Served	R
Maximum Queue (ft)	181
Average Queue (ft)	55
95th Queue (ft)	313
Link Distance (ft)	702
Upstream Blk Time (%)	1
Queuing Penalty (veh)	2
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 4: Heacock St & SR 60 WB Ramp

Movement	WB	WB	NB	NB	NB	SB	SB
Directions Served	LT	R	L	T	T	T	TR
Maximum Queue (ft)	686	63	225	319	291	374	386
Average Queue (ft)	353	52	218	279	224	349	363
95th Queue (ft)	766	68	251	355	345	386	394
Link Distance (ft)	1034			257	257	337	337
Upstream Blk Time (%)	4			26	10	20	28
Queuing Penalty (veh)	0			202	77	132	187
Storage Bay Dist (ft)		30	200				
Storage Blk Time (%)	50	49	33	11			
Queuing Penalty (veh)	124	120	194	40			

Intersection: 5: Heacock St & SR 60 EB Ramp

Movement	EB	EB	EB	NB	NB	NB	SB	SB	SB
Directions Served	L	LT	R	T	T	TR	L	T	T
Maximum Queue (ft)	575	530	338	724	710	659	212	277	255
Average Queue (ft)	330	268	132	549	507	437	133	110	96
95th Queue (ft)	680	624	361	851	856	848	218	264	227
Link Distance (ft)	742	742	742	685	685	685		257	257
Upstream Blk Time (%)	9	4	1	32	18	18		6	1
Queuing Penalty (veh)	0	0	0	0	0	0		34	5
Storage Bay Dist (ft)							190		
Storage Blk Time (%)							8	2	
Queuing Penalty (veh)							36	6	

Intersection: 6: Hemlock Ave & New Project Access

Movement	WB	NB
Directions Served	T	LTR
Maximum Queue (ft)	299	36
Average Queue (ft)	205	14
95th Queue (ft)	396	36
Link Distance (ft)	272	238
Upstream Blk Time (%)	33	
Queuing Penalty (veh)	236	
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 7: Davis St & Hemlock Ave

Movement	EB	EB	EB	WB	WB	NB	SB	SB
Directions Served	L	T	TR	L	TR	LTR	LT	R
Maximum Queue (ft)	151	9	20	34	285	188	590	595
Average Queue (ft)	48	0	1	9	109	161	269	370
95th Queue (ft)	105	6	9	30	307	196	724	756
Link Distance (ft)		272	272	285	285	155	572	572
Upstream Blk Time (%)					15	85	39	45
Queuing Penalty (veh)					27	0	0	0
Storage Bay Dist (ft)	180							
Storage Blk Time (%)	0							
Queuing Penalty (veh)	0							

Intersection: 8: Hemlock Ave & IHOP Access

Movement	EB	WB	SB
Directions Served	LT	TR	LR
Maximum Queue (ft)	69	364	67
Average Queue (ft)	6	83	24
95th Queue (ft)	40	379	75
Link Distance (ft)	285	542	380
Upstream Blk Time (%)		6	
Queuing Penalty (veh)		22	
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 9: Hemlock Ave & Middle Access

Movement	EB	WB	SB
Directions Served	LT	TR	LR
Maximum Queue (ft)	87	177	226
Average Queue (ft)	34	24	105
95th Queue (ft)	76	172	217
Link Distance (ft)	542	620	236
Upstream Blk Time (%)			11
Queuing Penalty (veh)			0
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 10: West Access/West Access & Hemlock Ave

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	59	107	100	70
Average Queue (ft)	4	31	41	32
95th Queue (ft)	25	85	74	59
Link Distance (ft)	620	105	214	328
Upstream Blk Time (%)		0		
Queuing Penalty (veh)		1		
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 11: Hemlock Ave & Nita Dr

Movement	WB	SB
Directions Served	TR	R
Maximum Queue (ft)	15	31
Average Queue (ft)	1	7
95th Queue (ft)	15	28
Link Distance (ft)	318	253
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 12: Driveway/Davis St & Ironwood Ave

Movement	EB	EB	EB	WB	WB	NB	SB	SB
Directions Served	L	T	TR	LT	TR	LTR	L	TR
Maximum Queue (ft)	174	688	705	299	316	92	63	116
Average Queue (ft)	149	425	425	177	182	42	39	31
95th Queue (ft)	219	913	903	289	294	87	69	80
Link Distance (ft)		1213	1213	1261	1261	182		1507
Upstream Blk Time (%)		0	0					
Queuing Penalty (veh)		1	2					
Storage Bay Dist (ft)	150						40	
Storage Blk Time (%)	54	8					11	3
Queuing Penalty (veh)	267	9					7	2

Intersection: 13: Indian St & Ironwood Ave

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	TR	L	T	TR	L	T	R	L	T	R
Maximum Queue (ft)	120	438	444	122	223	225	134	391	75	105	300	75
Average Queue (ft)	81	234	254	73	119	132	96	186	63	64	119	49
95th Queue (ft)	144	412	434	137	193	202	158	350	94	114	222	92
Link Distance (ft)		1261	1261		2384	2384		1353			1508	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	95			100			110		50	80		50
Storage Blk Time (%)	8	31		5	10		7	32	11	9	31	2
Queuing Penalty (veh)	33	38		11	10		34	120	41	26	53	6

Intersection: 14: Indian St & Hemlock Ave

Movement	EB	EB	EB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	TR	L	TR	L	TR	L	TR
Maximum Queue (ft)	103	121	148	105	271	170	462	124	297
Average Queue (ft)	41	57	71	63	118	82	258	33	145
95th Queue (ft)	83	95	121	119	219	177	438	85	253
Link Distance (ft)		318	318		2337		1227		1353
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (ft)	150			80		145		100	
Storage Blk Time (%)		0		4	22	0	26	0	19
Queuing Penalty (veh)		0		9	19	1	20	0	7

Intersection: 15: Indian St & Sunnymead Blvd

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	TR	L	T	TR	L	T	R	L	T	R
Maximum Queue (ft)	115	772	770	124	279	266	170	951	130	114	385	85
Average Queue (ft)	109	735	736	87	184	160	161	651	82	81	193	60
95th Queue (ft)	130	752	754	152	261	230	195	1114	174	132	343	112
Link Distance (ft)		715	715		1059	1059		913			1227	
Upstream Blk Time (%)		76	76					19				
Queuing Penalty (veh)		0	0					0				
Storage Bay Dist (ft)	90			100			145		105	90		60
Storage Blk Time (%)	50	47		5	31		37	32	2	13	34	2
Queuing Penalty (veh)	240	110		14	31		215	132	11	50	78	8

Network Summary

Network wide Queuing Penalty: 4736

Intersection Warrant Analysis

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Warrants Summary

Information			
Analyst	Transpo	Intersection	Heacock St/Project Access
Agency/Co	City of Moreno Valley	Jurisdiction	Moreno Valley
Date Performed	12/4/2017	Units	U.S. Customary
Project ID	Festival at Moreno Valley	Time Period Analyzed	PM Peak Hour
East/West Street	Project Access	North/South Street	Heacock St
File Name	Heacock St & Project Access.xhy	Major Street	North-South

Project Description *Festival at Moreno Valley*

General				Roadway Network	
Major Street Speed (mph)	30	☐	Population < 10,000	Two Major Routes	☐
Nearest Signal (ft)	775	☐	Coordinated Signal System	Weekend Count	☐
Crashes (per year)	0	☐	Adequate Trials of Alternatives	5-yr Growth Factor	2

Geometry and Traffic	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of lanes, N	0	0	0	0	0	1	0	1	0	0	1	0
Lane usage						R		TR			LT	
Vehicle Volume Averages (vph)	196	239	112	26	201	26	119	850	0	0	668	174
Peds (ped/h) / Gaps (gaps/h)	--	0 / 0	--	--	0 / 0	--	--	0 / 0	--	--	0 / 0	--
Delay (s/veh) / (veh-hr)	--	0 / 0	--	--	0 / 0	--	--	0 / 0	--	--	0 / 0	--

Warrant 1: Eight-Hour Vehicular Volume	☐
1 A. Minimum Vehicular Volumes (Both major approaches --and-- higher minor approach) --or--	☐
1 B. Interruption of Continuous Traffic (Both major approaches --and-- higher minor approach) --or--	☐
1 (80%) Vehicular --and-- Interruption Volumes (Both major approaches --and-- higher minor approach)	☐
Warrant 2: Four-Hour Vehicular Volume	☐
2 A. Four-Hour Vehicular Volumes (Both major approaches --and-- higher minor approach)	☐
Warrant 3: Peak Hour	☐
3 A. Peak-Hour Conditions (Minor delay --and-- minor volume --and-- total volume) --or--	☐
3 B. Peak- Hour Vehicular Volumes (Both major approaches --and-- higher minor approach)	☐
Warrant 4: Pedestrian Volume	☐
4 A. Four Hour Volumes --or--	☐
4 B. One-Hour Volumes	☐
Warrant 5: School Crossing	☐
5. Student Volumes --and--	☐
5. Gaps Same Period	☐
Warrant 6: Coordinated Signal System	☐
6. Degree of Platooning (Predominant direction or both directions)	☐
Warrant 7: Crash Experience	☐
7 A. Adequate trials of alternatives, observance and enforcement failed --and--	☐
7 B. Reported crashes susceptible to correction by signal (12-month period) --and--	☐

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7 C. (80%) Volumes for Warrants 1A, 1B --or-- 4 are satisfied	☑
Warrant 8: Roadway Network	☐
8 A. Weekday Volume (Peak hour total --and-- projected warrants 1, 2 or 3) --or--	☐
8 B. Weekend Volume (Five hours total)	☐
Warrant 9: Grade Crossing	☐
9 A. Grade Crossing within 140 ft --and--	☐
9 B. Peak-Hour Vehicular Volumes	☐

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Warrants Volume

Information

Analyst	Transpo	Intersection	Heacock St/Project Access
Agency/Co	City of Moreno Valley	Jurisdiction	Moreno Valley
Date Performed	12/4/2017	Units	U.S. Customary
Project ID	Festival at Moreno Valley	Time Period Analyzed	PM Peak Hour
East/West Street	Project Access	North/South Street	Heacock St
File Name	Heacock St & Project Access.xhy	Major Street	North-South

Project Description *Festival at Moreno Valley*

Warrant 1

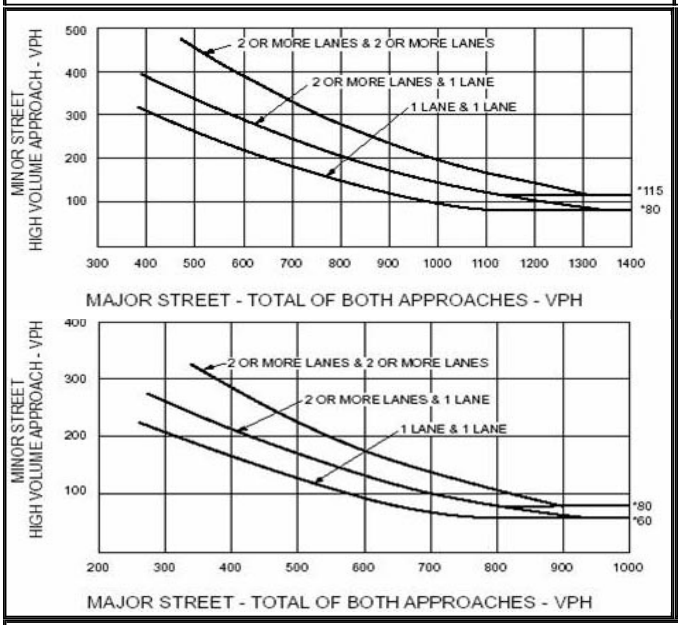
Condition A—Minimum Vehicular Volume

Number of lanes for moving traffic on each approach		Vehicles per hour on major street (total of both approaches)				Vehicles per hour on higher-volume minor-street approach (one direction only)			
Major Street	Minor Street	100%	80%	70%	56%	100%	80%	70%	56%
1	1	500	400	350	280	150	120	105	84
2 or more	1	600	480	420	336	150	120	105	84
2 or more	2 or more	600	480	420	336	200	160	140	112
1	2 or more	500	400	350	280	200	160	140	112

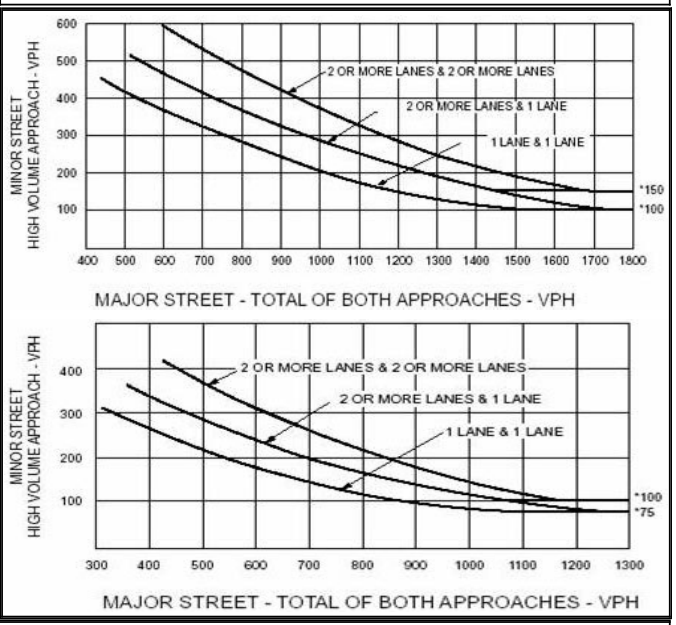
Condition B—Interruption of Continuous Traffic

Number of lanes for moving traffic on each approach		Vehicles per hour on major street (total of both approaches)				Vehicles per hour on higher-volume minor-street approach (one direction only)			
Major Street	Minor Street	100%	80%	70%	56%	100%	80%	70%	56%
1	1	750	600	525	420	75	60	53	42
2 or more	1	900	720	630	504	75	60	53	42
2 or more	2 or more	900	720	630	504	100	80	70	56
1	2 or more	750	600	525	420	100	80	70	56

Warrant 2



Warrant 3



Volume Summary

Major Street Lanes 1 **Minor Street Lanes** 1 **Speed** 30 **Population** 10000+

Hours	Major Volume	Minor Volume	Total Volume	1A (100%)	1A (80%)	1B (100%)	1B (80%)	2 (100%)	3A (100%)	3B (100%)
07-08	1695	30	1725	No	No	No	No	No	No	No
08-09	1261	22	1283	No	No	No	No	No	No	No
09-10	1064	16	1080	No	No	No	No	No	No	No
10-11	1123	20	1143	No	No	No	No	No	No	No
11-12	1306	23	1329	No	No	No	No	No	No	No
12-13	1712	30	1742	No	No	No	No	No	No	No
13-14	1469	26	1495	No	No	No	No	No	No	No
14-15	1611	28	1639	No	No	No	No	No	No	No
15-16	2089	37	2126	No	No	No	No	No	No	No
16-17	2125	38	2163	No	No	No	No	No	No	No
17-18	1573	28	1601	No	No	No	No	No	No	No
18-19	1203	21	1224	No	No	No	No	No	No	No
Totals	18231	319	18550	0	0	0	0	0	0	0

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Warrants Summary

Information			
Analyst	Transpo	Intersection	Project Access/Hemlock Ave
Agency/Co	City of Moreno Valley	Jurisdiction	Moreno Valley
Date Performed	12/4/2017	Units	U.S. Customary
Project ID	Festival at Moreno Valley	Time Period Analyzed	PM Peak Hour
East/West Street	Hemlock Ave	North/South Street	Project Access (Int 6)
File Name	Project Access & Hemlock Ave.xhy	Major Street	East-West

Project Description *Festival at Moreno Valley*

General				Roadway Network	
Major Street Speed (mph)	30	☐	Population < 10,000	Two Major Routes	☐
Nearest Signal (ft)	400	☐	Coordinated Signal System	Weekend Count	☐
Crashes (per year)	0	☐	Adequate Trials of Alternatives	5-yr Growth Factor	2

Geometry and Traffic	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of lanes, N	0	3	0	0	1	0	0	1	0	0	1	0
Lane usage		LTR			LTR			LTR			LTR	
Vehicle Volume Averages (vph)	0	310	14	0	522	0	0	0	18	0	0	0
Peds (ped/h) / Gaps (gaps/h)	--	0 / 0	--	--	0 / 0	--	--	0 / 0	--	--	0 / 0	--
Delay (s/veh) / (veh-hr)	--	0 / 0	--	--	0 / 0	--	--	0 / 0	--	--	0 / 0	--

Warrant 1: Eight-Hour Vehicular Volume	☐
1 A. Minimum Vehicular Volumes (Both major approaches --and-- higher minor approach) --or--	☐
1 B. Interruption of Continuous Traffic (Both major approaches --and-- higher minor approach) --or--	☐
1 (80%) Vehicular --and-- Interruption Volumes (Both major approaches --and-- higher minor approach)	☐
Warrant 2: Four-Hour Vehicular Volume	☐
2 A. Four-Hour Vehicular Volumes (Both major approaches --and-- higher minor approach)	☐
Warrant 3: Peak Hour	☐
3 A. Peak-Hour Conditions (Minor delay --and-- minor volume --and-- total volume) --or--	☐
3 B. Peak- Hour Vehicular Volumes (Both major approaches --and-- higher minor approach)	☐
Warrant 4: Pedestrian Volume	☐
4 A. Four Hour Volumes --or--	☐
4 B. One-Hour Volumes	☐
Warrant 5: School Crossing	☐
5. Student Volumes --and--	☐
5. Gaps Same Period	☐
Warrant 6: Coordinated Signal System	☐
6. Degree of Platooning (Predominant direction or both directions)	☐
Warrant 7: Crash Experience	☐
7 A. Adequate trials of alternatives, observance and enforcement failed --and--	☐
7 B. Reported crashes susceptible to correction by signal (12-month period) --and--	☐

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7 C. (80%) Volumes for Warrants 1A, 1B --or-- 4 are satisfied	☐
Warrant 8: Roadway Network	☐
8 A. Weekday Volume (Peak hour total --and-- projected warrants 1, 2 or 3) --or--	☐
8 B. Weekend Volume (Five hours total)	☐
Warrant 9: Grade Crossing	☐
9 A. Grade Crossing within 140 ft --and--	☐
9 B. Peak-Hour Vehicular Volumes	☐

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Warrants Volume

Information

Analyst	Transpo	Intersection	Project Access/Hemlock Ave
Agency/Co	City of Moreno Valley	Jurisdiction	Moreno Valley
Date Performed	12/4/2017	Units	U.S. Customary
Project ID	Festival at Moreno Valley	Time Period Analyzed	PM Peak Hour
East/West Street	Hemlock Ave	North/South Street	Project Access (Int 6)
File Name	Project Access & Hemlock Ave.xhy	Major Street	East-West

Project Description *Festival at Moreno Valley*

Warrant 1

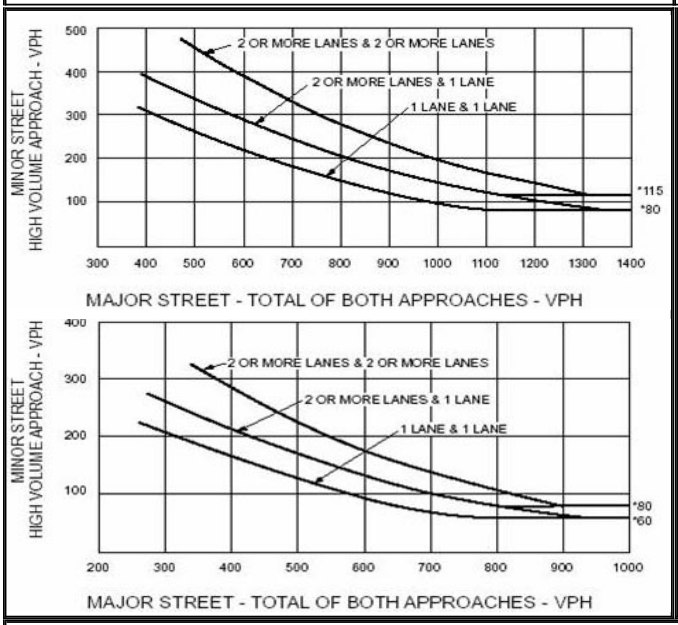
Condition A—Minimum Vehicular Volume

Number of lanes for moving traffic on each approach		Vehicles per hour on major street (total of both approaches)				Vehicles per hour on higher-volume minor-street approach (one direction only)			
Major Street	Minor Street	100%	80%	70%	56%	100%	80%	70%	56%
1	1	500	400	350	280	150	120	105	84
2 or more	1	600	480	420	336	150	120	105	84
2 or more	2 or more	600	480	420	336	200	160	140	112
1	2 or more	500	400	350	280	200	160	140	112

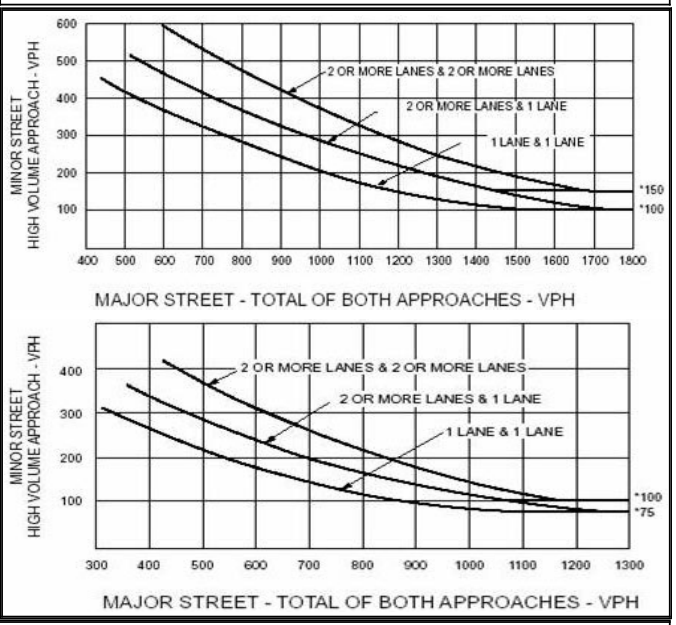
Condition B—Interruption of Continuous Traffic

Number of lanes for moving traffic on each approach		Vehicles per hour on major street (total of both approaches)				Vehicles per hour on higher-volume minor-street approach (one direction only)			
Major Street	Minor Street	100%	80%	70%	56%	100%	80%	70%	56%
1	1	750	600	525	420	75	60	53	42
2 or more	1	900	720	630	504	75	60	53	42
2 or more	2 or more	900	720	630	504	100	80	70	56
1	2 or more	750	600	525	420	100	80	70	56

Warrant 2



Warrant 3



Volume Summary

Major Street Lanes 2+ **Minor Street Lanes** 1 **Speed** 30 **Population** 10000+

Hours	Major Volume	Minor Volume	Total Volume	1A (100%)	1A (80%)	1B (100%)	1B (80%)	2 (100%)	3A (100%)	3B (100%)
07-08	895	19	914	No	No	No	No	No	No	No
08-09	666	14	680	No	No	No	No	No	No	No
09-10	595	14	609	No	No	No	No	No	No	No
10-11	593	13	606	No	No	No	No	No	No	No
11-12	690	15	705	No	No	No	No	No	No	No
12-13	904	19	923	No	No	No	No	No	No	No
13-14	776	16	792	No	No	No	No	No	No	No
14-15	851	18	869	No	No	No	No	No	No	No
15-16	1103	23	1126	No	No	No	No	No	No	No
16-17	1135	24	1159	No	No	No	No	No	No	No
17-18	1122	24	1146	No	No	No	No	No	No	No
18-19	831	18	849	No	No	No	No	No	No	No
Totals	10161	217	10378	0	0	0	0	0	0	0

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Warrants Summary

Information			
Analyst	Transpo	Intersection	Davis Street/Hemlock Avenue
Agency/Co	City of Moreno Valley		
Date Performed	11/20/2017	Jurisdiction	Moreno Valley
Project ID	Festival at Moreno Valley	Units	U.S. Customary
East/West Street	Hemlock Avenue	Time Period Analyzed	PM Peak Hour
File Name	Hemlock Ave & Davis St.xhy	North/South Street	Davis Street
		Major Street	East-West

Project Description *Festival at Moreno Valley*

General				Roadway Network	
Major Street Speed (mph)	30	☐	Population < 10,000	Two Major Routes	☐
Nearest Signal (ft)	600	☐	Coordinated Signal System	Weekend Count	☐
Crashes (per year)	0	☐	Adequate Trials of Alternatives	5-yr Growth Factor	2

Geometry and Traffic	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of lanes, N	1	2	0	1	1	0	0	1	0	0	1	0
Lane usage	L	TR		L	TR			LTR			LTR	
Vehicle Volume Averages (vph)	196	239	112	20	201	26	119	1	17	27	0	174
Peds (ped/h) / Gaps (gaps/h)	--	0 / 0	--	--	0 / 0	--	--	0 / 0	--	--	0 / 0	--
Delay (s/veh) / (veh-hr)	--	0 / 0	--	--	0 / 0	--	--	0 / 0	--	--	0 / 0	--

Warrant 1: Eight-Hour Vehicular Volume	☑
1 A. Minimum Vehicular Volumes (Both major approaches --and-- higher minor approach) --or--	☑
1 B. Interruption of Continuous Traffic (Both major approaches --and-- higher minor approach) --or--	☐
1 (80%) Vehicular --and-- Interruption Volumes (Both major approaches --and-- higher minor approach)	☐
Warrant 2: Four-Hour Vehicular Volume	☑
2 A. Four-Hour Vehicular Volumes (Both major approaches --and-- higher minor approach)	☑
Warrant 3: Peak Hour	☑
3 A. Peak-Hour Conditions (Minor delay --and-- minor volume --and-- total volume) --or--	☐
3 B. Peak- Hour Vehicular Volumes (Both major approaches --and-- higher minor approach)	☑
Warrant 4: Pedestrian Volume	☐
4 A. Four Hour Volumes --or--	☐
4 B. One-Hour Volumes	☐
Warrant 5: School Crossing	☐
5. Student Volumes --and--	☐
5. Gaps Same Period	☐
Warrant 6: Coordinated Signal System	☐
6. Degree of Platooning (Predominant direction or both directions)	☐
Warrant 7: Crash Experience	☐
7 A. Adequate trials of alternatives, observance and enforcement failed --and--	☐
7 B. Reported crashes susceptible to correction by signal (12-month period) --and--	☐

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7 C. (80%) Volumes for Warrants 1A, 1B --or-- 4 are satisfied	☑
Warrant 8: Roadway Network	☐
8 A. Weekday Volume (Peak hour total --and-- projected warrants 1, 2 or 3) --or--	☐
8 B. Weekend Volume (Five hours total)	☐
Warrant 9: Grade Crossing	☐
9 A. Grade Crossing within 140 ft --and--	☐
9 B. Peak-Hour Vehicular Volumes	☐

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Warrants Summary

Information			
Analyst	Transpo	Intersection	Davis Street/Hemlock Avenue
Agency/Co	City of Moreno Valley		
Date Performed	11/20/2017	Jurisdiction	Moreno Valley
Project ID	Festival at Moreno Valley	Units	U.S. Customary
East/West Street	Hemlock Avenue	Time Period Analyzed	PM Peak Hour
File Name	Hemlock Ave & Davis St.xhy	North/South Street	Davis Street
		Major Street	East-West

Project Description *Festival at Moreno Valley*

General				Roadway Network	
Major Street Speed (mph)	30	☐	Population < 10,000	Two Major Routes	☐
Nearest Signal (ft)	600	☐	Coordinated Signal System	Weekend Count	☐
Crashes (per year)	0	☐	Adequate Trials of Alternatives	5-yr Growth Factor	2

Geometry and Traffic	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of lanes, N	1	2	0	1	1	0	0	1	0	0	1	0
Lane usage	L	TR		L	TR			LTR			LTR	
Vehicle Volume Averages (vph)	196	239	112	20	201	26	119	1	17	27	0	174
Peds (ped/h) / Gaps (gaps/h)	--	0 / 0	--	--	0 / 0	--	--	0 / 0	--	--	0 / 0	--
Delay (s/veh) / (veh-hr)	--	0 / 0	--	--	0 / 0	--	--	0 / 0	--	--	0 / 0	--

Warrant 1: Eight-Hour Vehicular Volume	☑
1 A. Minimum Vehicular Volumes (Both major approaches --and-- higher minor approach) --or--	☑
1 B. Interruption of Continuous Traffic (Both major approaches --and-- higher minor approach) --or--	☐
1 (80%) Vehicular --and-- Interruption Volumes (Both major approaches --and-- higher minor approach)	☐
Warrant 2: Four-Hour Vehicular Volume	☑
2 A. Four-Hour Vehicular Volumes (Both major approaches --and-- higher minor approach)	☑
Warrant 3: Peak Hour	☑
3 A. Peak-Hour Conditions (Minor delay --and-- minor volume --and-- total volume) --or--	☐
3 B. Peak- Hour Vehicular Volumes (Both major approaches --and-- higher minor approach)	☑
Warrant 4: Pedestrian Volume	☐
4 A. Four Hour Volumes --or--	☐
4 B. One-Hour Volumes	☐
Warrant 5: School Crossing	☐
5. Student Volumes --and--	☐
5. Gaps Same Period	☐
Warrant 6: Coordinated Signal System	☐
6. Degree of Platooning (Predominant direction or both directions)	☐
Warrant 7: Crash Experience	☐
7 A. Adequate trials of alternatives, observance and enforcement failed --and--	☐
7 B. Reported crashes susceptible to correction by signal (12-month period) --and--	☐

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7 C. (80%) Volumes for Warrants 1A, 1B --or-- 4 are satisfied	☑
Warrant 8: Roadway Network	☐
8 A. Weekday Volume (Peak hour total --and-- projected warrants 1, 2 or 3) --or--	☐
8 B. Weekend Volume (Five hours total)	☐
Warrant 9: Grade Crossing	☐
9 A. Grade Crossing within 140 ft --and--	☐
9 B. Peak-Hour Vehicular Volumes	☐

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Warrants Volume

Information

Analyst	Transpo	Intersection	Davis Street/Hemlock Avenue
Agency/Co	City of Moreno Valley	Jurisdiction	Moreno Valley
Date Performed	11/20/2017	Units	U.S. Customary
Project ID	Festival at Moreno Valley	Time Period Analyzed	PM Peak Hour
East/West Street	Hemlock Avenue	North/South Street	Davis Street
File Name	Hemlock Ave & Davis St.xhy	Major Street	East-West

Project Description *Festival at Moreno Valley*

Warrant 1

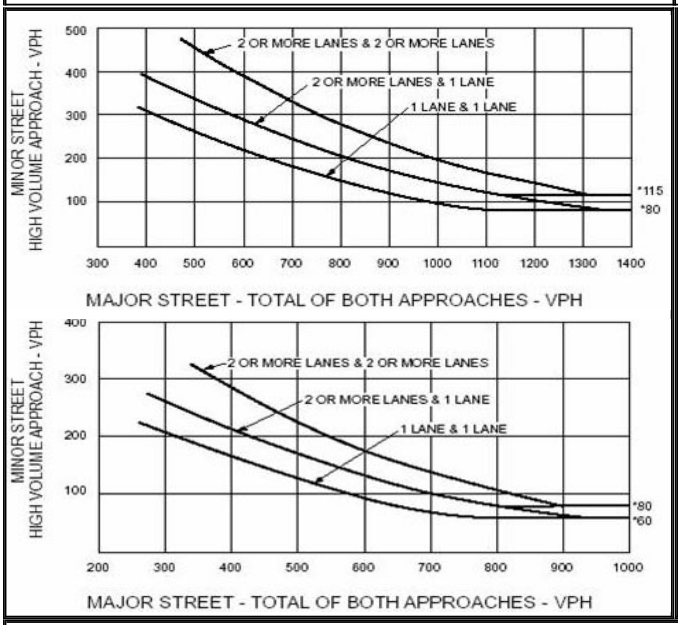
Condition A—Minimum Vehicular Volume

Number of lanes for moving traffic on each approach		Vehicles per hour on major street (total of both approaches)				Vehicles per hour on higher-volume minor-street approach (one direction only)			
Major Street	Minor Street	100%	80%	70%	56%	100%	80%	70%	56%
1	1	500	400	350	280	150	120	105	84
2 or more	1	600	480	420	336	150	120	105	84
2 or more	2 or more	600	480	420	336	200	160	140	112
1	2 or more	500	400	350	280	200	160	140	112

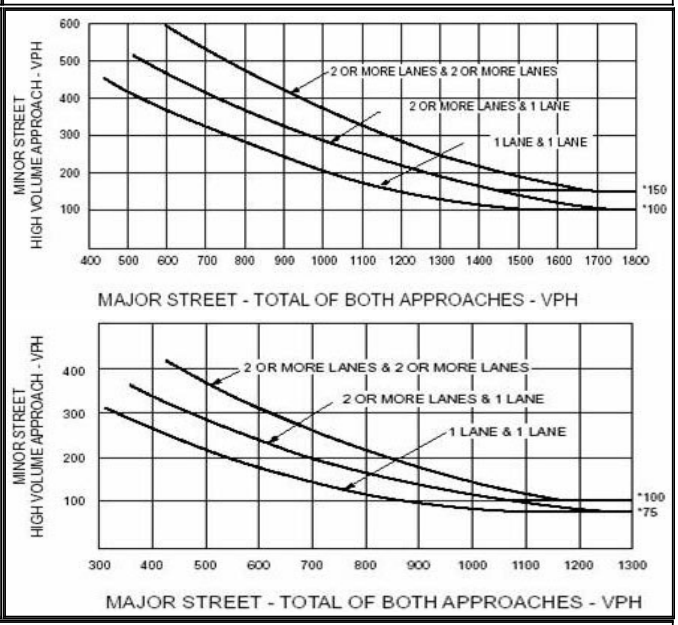
Condition B—Interruption of Continuous Traffic

Number of lanes for moving traffic on each approach		Vehicles per hour on major street (total of both approaches)				Vehicles per hour on higher-volume minor-street approach (one direction only)			
Major Street	Minor Street	100%	80%	70%	56%	100%	80%	70%	56%
1	1	750	600	525	420	75	60	53	42
2 or more	1	900	720	630	504	75	60	53	42
2 or more	2 or more	900	720	630	504	100	80	70	56
1	2 or more	750	600	525	420	100	80	70	56

Warrant 2



Warrant 3



Volume Summary

Major Street Lanes 2+ **Minor Street Lanes** 1 **Speed** 30 **Population** 10000+

Hours	Major Volume	Minor Volume	Total Volume	1A (100%)	1A (80%)	1B (100%)	1B (80%)	2 (100%)	3A (100%)	3B (100%)
07-08	868	221	1240	Yes	Yes	No	Yes	Yes	No	No
08-09	646	164	922	Yes	Yes	No	No	No	No	No
09-10	467	119	667	No	No	No	No	No	No	No
10-11	577	147	824	No	Yes	No	No	No	No	No
11-12	670	170	956	Yes	Yes	No	No	No	No	No
12-13	877	223	1252	Yes	Yes	No	Yes	Yes	No	No
13-14	753	191	1074	Yes	Yes	No	Yes	No	No	No
14-15	825	209	1177	Yes	Yes	No	Yes	Yes	No	No
15-16	1070	272	1527	Yes	Yes	Yes	Yes	Yes	No	Yes
16-17	1101	277	1569	Yes	Yes	Yes	Yes	Yes	No	Yes
17-18	1089	277	1555	Yes	Yes	Yes	Yes	Yes	No	Yes
18-19	616	156	878	Yes	Yes	No	No	No	No	No
Totals	9559	2426	13641	10	11	3	7	6	0	3

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Warrants Volume

Information

Analyst	Transpo	Intersection	Davis Street/Hemlock Avenue
Agency/Co	City of Moreno Valley	Jurisdiction	Moreno Valley
Date Performed	11/20/2017	Units	U.S. Customary
Project ID	Festival at Moreno Valley	Time Period Analyzed	PM Peak Hour
East/West Street	Hemlock Avenue	North/South Street	Davis Street
File Name	Hemlock Ave & Davis St.xhy	Major Street	East-West

Project Description *Festival at Moreno Valley*

Warrant 1

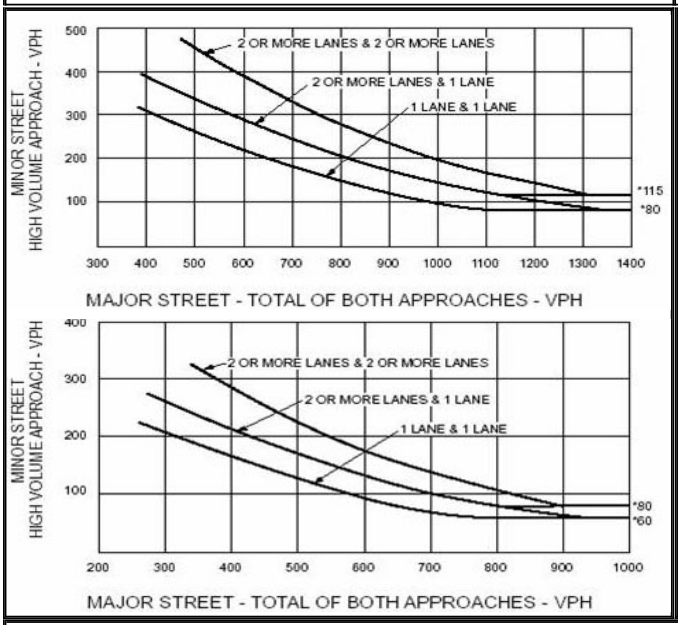
Condition A—Minimum Vehicular Volume

Number of lanes for moving traffic on each approach		Vehicles per hour on major street (total of both approaches)				Vehicles per hour on higher-volume minor-street approach (one direction only)			
Major Street	Minor Street	100%	80%	70%	56%	100%	80%	70%	56%
1	1	500	400	350	280	150	120	105	84
2 or more	1	600	480	420	336	150	120	105	84
2 or more	2 or more	600	480	420	336	200	160	140	112
1	2 or more	500	400	350	280	200	160	140	112

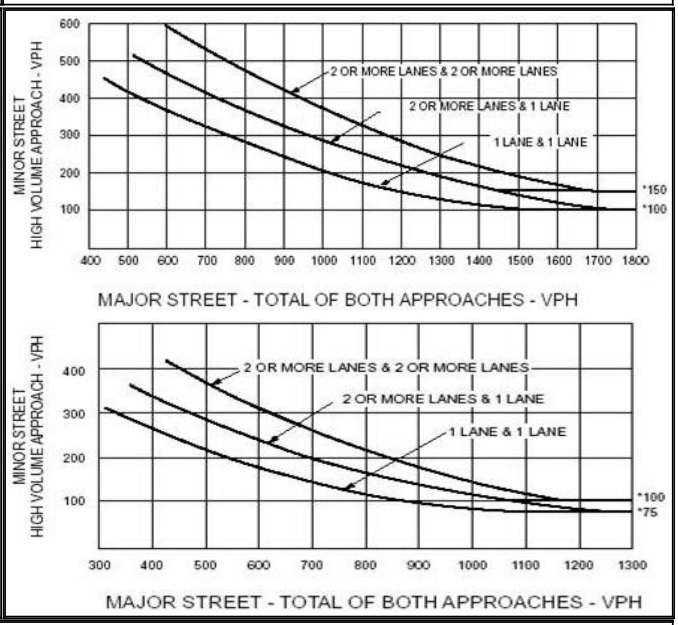
Condition B—Interruption of Continuous Traffic

Number of lanes for moving traffic on each approach		Vehicles per hour on major street (total of both approaches)				Vehicles per hour on higher-volume minor-street approach (one direction only)			
Major Street	Minor Street	100%	80%	70%	56%	100%	80%	70%	56%
1	1	750	600	525	420	75	60	53	42
2 or more	1	900	720	630	504	75	60	53	42
2 or more	2 or more	900	720	630	504	100	80	70	56
1	2 or more	750	600	525	420	100	80	70	56

Warrant 2



Warrant 3



Volume Summary

Major Street Lanes 2+ **Minor Street Lanes** 1 **Speed** 30 **Population** 10000+

Hours	Major Volume	Minor Volume	Total Volume	1A (100%)	1A (80%)	1B (100%)	1B (80%)	2 (100%)	3A (100%)	3B (100%)
07-08	868	221	1240	Yes	Yes	No	Yes	Yes	No	No
08-09	646	164	922	Yes	Yes	No	No	No	No	No
09-10	467	119	667	No	No	No	No	No	No	No
10-11	577	147	824	No	Yes	No	No	No	No	No
11-12	670	170	956	Yes	Yes	No	No	No	No	No
12-13	877	223	1252	Yes	Yes	No	Yes	Yes	No	No
13-14	753	191	1074	Yes	Yes	No	Yes	No	No	No
14-15	825	209	1177	Yes	Yes	No	Yes	Yes	No	No
15-16	1070	272	1527	Yes	Yes	Yes	Yes	Yes	No	Yes
16-17	1101	277	1569	Yes	Yes	Yes	Yes	Yes	No	Yes
17-18	1089	277	1555	Yes	Yes	Yes	Yes	Yes	No	Yes
18-19	616	156	878	Yes	Yes	No	No	No	No	No
Totals	9559	2426	13641	10	11	3	7	6	0	3

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Warrants Summary

Information			
Analyst	Transpo	Intersection	Project Access/Hemlock Ave
Agency/Co	City of Moreno Valley	Jurisdiction	Moreno Valley
Date Performed	12/4/2017	Units	U.S. Customary
Project ID	Festival at Moreno Valley	Time Period Analyzed	PM Peak Hour
East/West Street	Hemlock Ave	North/South Street	Project Access (IHOP - Int 8)
File Name	8_Project Access & Hemlock.xhy	Major Street	East-West

Project Description *Festival at Moreno Valley*

General				Roadway Network	
Major Street Speed (mph)	30	☐	Population < 10,000	Two Major Routes	☐
Nearest Signal (ft)	400	☐	Coordinated Signal System	Weekend Count	☐
Crashes (per year)	0	☐	Adequate Trials of Alternatives	5-yr Growth Factor	2

Geometry and Traffic	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of lanes, N	0	1	0	0	1	0	0	0	0	0	0	0
Lane usage		LT			TR						LR	
Vehicle Volume Averages (vph)	8	281	0	0	245	5	0	0	0	8	0	8
Peds (ped/h) / Gaps (gaps/h)	--	0 / 0	--	--	0 / 0	--	--	0 / 0	--	--	0 / 0	--
Delay (s/veh) / (veh-hr)	--	0 / 0	--	--	0 / 0	--	--	0 / 0	--	--	0 / 0	--

Warrant 1: Eight-Hour Vehicular Volume	☐
1 A. Minimum Vehicular Volumes (Both major approaches --and-- higher minor approach) --or--	☐
1 B. Interruption of Continuous Traffic (Both major approaches --and-- higher minor approach) --or--	☐
1 (80%) Vehicular --and-- Interruption Volumes (Both major approaches --and-- higher minor approach)	☐
Warrant 2: Four-Hour Vehicular Volume	☐
2 A. Four-Hour Vehicular Volumes (Both major approaches --and-- higher minor approach)	☐
Warrant 3: Peak Hour	☐
3 A. Peak-Hour Conditions (Minor delay --and-- minor volume --and-- total volume) --or--	☐
3 B. Peak- Hour Vehicular Volumes (Both major approaches --and-- higher minor approach)	☐
Warrant 4: Pedestrian Volume	☐
4 A. Four Hour Volumes --or--	☐
4 B. One-Hour Volumes	☐
Warrant 5: School Crossing	☐
5. Student Volumes --and--	☐
5. Gaps Same Period	☐
Warrant 6: Coordinated Signal System	☐
6. Degree of Platooning (Predominant direction or both directions)	☐
Warrant 7: Crash Experience	☐
7 A. Adequate trials of alternatives, observance and enforcement failed --and--	☐
7 B. Reported crashes susceptible to correction by signal (12-month period) --and--	☐

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7 C. (80%) Volumes for Warrants 1A, 1B --or-- 4 are satisfied	☐
Warrant 8: Roadway Network	☐
8 A. Weekday Volume (Peak hour total --and-- projected warrants 1, 2 or 3) --or--	☐
8 B. Weekend Volume (Five hours total)	☐
Warrant 9: Grade Crossing	☐
9 A. Grade Crossing within 140 ft --and--	☐
9 B. Peak-Hour Vehicular Volumes	☐

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Warrants Volume

Information

Analyst	Transpo	Intersection	Project Access/Hemlock Ave
Agency/Co	City of Moreno Valley	Jurisdiction	Moreno Valley
Date Performed	12/4/2017	Units	U.S. Customary
Project ID	Festival at Moreno Valley	Time Period Analyzed	PM Peak Hour
East/West Street	Hemlock Ave	North/South Street	Project Access (IHOP - Int 8)
File Name	8_Project Access & Hemlock.xhy	Major Street	East-West

Project Description *Festival at Moreno Valley*

Warrant 1

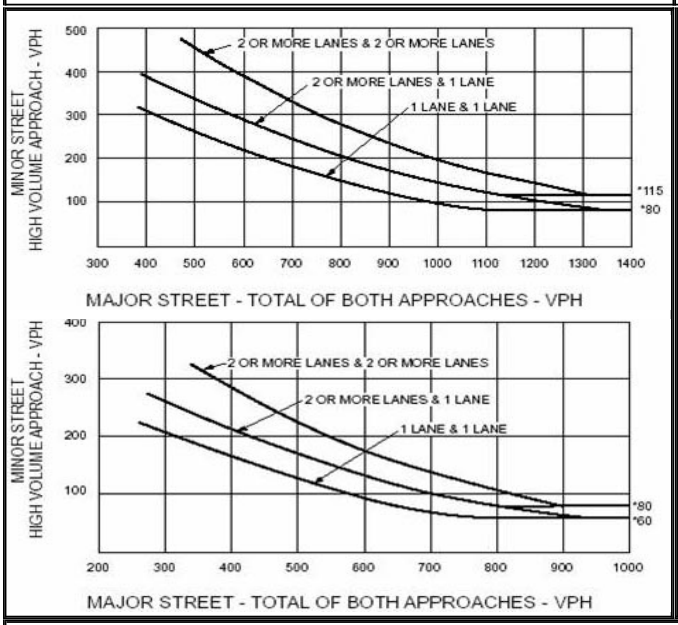
Condition A—Minimum Vehicular Volume

Number of lanes for moving traffic on each approach		Vehicles per hour on major street (total of both approaches)				Vehicles per hour on higher-volume minor-street approach (one direction only)			
Major Street	Minor Street	100%	80%	70%	56%	100%	80%	70%	56%
1	1	500	400	350	280	150	120	105	84
2 or more	1	600	480	420	336	150	120	105	84
2 or more	2 or more	600	480	420	336	200	160	140	112
1	2 or more	500	400	350	280	200	160	140	112

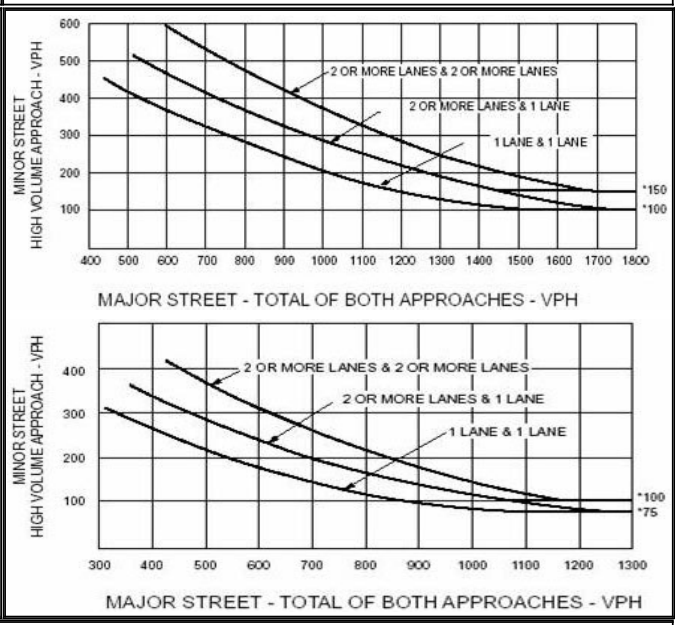
Condition B—Interruption of Continuous Traffic

Number of lanes for moving traffic on each approach		Vehicles per hour on major street (total of both approaches)				Vehicles per hour on higher-volume minor-street approach (one direction only)			
Major Street	Minor Street	100%	80%	70%	56%	100%	80%	70%	56%
1	1	750	600	525	420	75	60	53	42
2 or more	1	900	720	630	504	75	60	53	42
2 or more	2 or more	900	720	630	504	100	80	70	56
1	2 or more	750	600	525	420	100	80	70	56

Warrant 2



Warrant 3



Volume Summary

Major Street Lanes 1 **Minor Street Lanes** 1 **Speed** 30 **Population** 10000+

Hours	Major Volume	Minor Volume	Total Volume	1A (100%)	1A (80%)	1B (100%)	1B (80%)	2 (100%)	3A (100%)	3B (100%)
07-08	578	18	596	No	No	No	No	No	No	No
08-09	431	12	443	No	No	No	No	No	No	No
09-10	311	10	321	No	No	No	No	No	No	No
10-11	384	12	396	No	No	No	No	No	No	No
11-12	446	14	460	No	No	No	No	No	No	No
12-13	584	18	602	No	No	No	No	No	No	No
13-14	501	16	517	No	No	No	No	No	No	No
14-15	550	16	566	No	No	No	No	No	No	No
15-16	714	22	736	No	No	No	No	No	No	No
16-17	734	22	756	No	No	No	No	No	No	No
17-18	726	16	742	No	No	No	No	No	No	No
18-19	538	16	554	No	No	No	No	No	No	No
Totals	6497	192	6689	0	0	0	0	0	0	0

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Warrants Summary

Information			
Analyst	Transpo	Intersection	MiddProject Access/Hemlock Ave
Agency/Co	City of Moreno Valley	Jurisdiction	Moreno Valley
Date Performed	12/4/2017	Units	U.S. Customary
Project ID	Festival at Moreno Valley	Time Period Analyzed	PM Peak Hour
East/West Street	Hemlock Ave	North/South Street	Middle Project Access (Int 9)
File Name	9_Middle Project Access & Hemlock.xhy	Major Street	East-West

Project Description *Festival at Moreno Valley*

General				Roadway Network	
Major Street Speed (mph)	30	☐	Population < 10,000	Two Major Routes	☐
Nearest Signal (ft)	1700	☐	Coordinated Signal System	Weekend Count	☐
Crashes (per year)	0	☐	Adequate Trials of Alternatives	5-yr Growth Factor	2

Geometry and Traffic	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of lanes, N	0	1	0	0	1	0	0	0	0	0	0	0
Lane usage		LT			TR						LR	
Vehicle Volume Averages (vph)	151	136	0	0	88	75	0	0	0	75	0	164
Peds (ped/h) / Gaps (gaps/h)	--	0 / 0	--	--	0 / 0	--	--	0 / 0	--	--	0 / 0	--
Delay (s/veh) / (veh-hr)	--	0 / 0	--	--	0 / 0	--	--	0 / 0	--	--	0 / 0	--

Warrant 1: Eight-Hour Vehicular Volume	☐
1 A. Minimum Vehicular Volumes (Both major approaches --and-- higher minor approach) --or--	☐
1 B. Interruption of Continuous Traffic (Both major approaches --and-- higher minor approach) --or--	☐
1 (80%) Vehicular --and-- Interruption Volumes (Both major approaches --and-- higher minor approach)	☐
Warrant 2: Four-Hour Vehicular Volume	☐
2 A. Four-Hour Vehicular Volumes (Both major approaches --and-- higher minor approach)	☐
Warrant 3: Peak Hour	☐
3 A. Peak-Hour Conditions (Minor delay --and-- minor volume --and-- total volume) --or--	☐
3 B. Peak- Hour Vehicular Volumes (Both major approaches --and-- higher minor approach)	☐
Warrant 4: Pedestrian Volume	☐
4 A. Four Hour Volumes --or--	☐
4 B. One-Hour Volumes	☐
Warrant 5: School Crossing	☐
5. Student Volumes --and--	☐
5. Gaps Same Period	☐
Warrant 6: Coordinated Signal System	☐
6. Degree of Platooning (Predominant direction or both directions)	☐
Warrant 7: Crash Experience	☐
7 A. Adequate trials of alternatives, observance and enforcement failed --and--	☐
7 B. Reported crashes susceptible to correction by signal (12-month period) --and--	☐

F.2.v

7 C. (80%) Volumes for Warrants 1A, 1B --or-- 4 are satisfied	☑
Warrant 8: Roadway Network	☐
8 A. Weekday Volume (Peak hour total --and-- projected warrants 1, 2 or 3) --or--	☐
8 B. Weekend Volume (Five hours total)	☐
Warrant 9: Grade Crossing	☐
9 A. Grade Crossing within 140 ft --and--	☐
9 B. Peak-Hour Vehicular Volumes	☐

 HCS7™ Warrants Version 7.2.1 Generated: 12/4/2017 8:25 PM

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Warrants Volume

Information

Analyst	Transpo	Intersection	MiddProject Access/Hemlock Ave
Agency/Co	City of Moreno Valley	Jurisdiction	Moreno Valley
Date Performed	12/4/2017	Units	U.S. Customary
Project ID	Festival at Moreno Valley	Time Period Analyzed	PM Peak Hour
East/West Street	Hemlock Ave	North/South Street	Middle Project Access (Int 9)
File Name	9_Middle Project Access & Hemlock.xhy	Major Street	East-West

Project Description *Festival at Moreno Valley*

Warrant 1

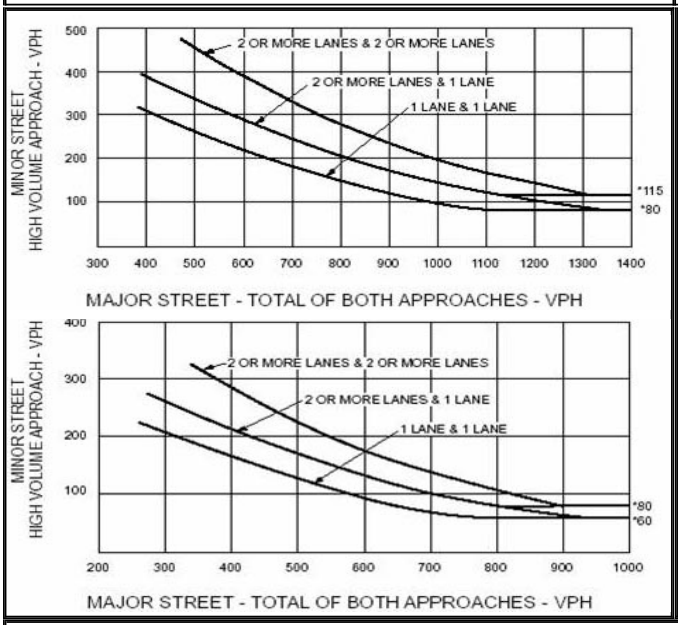
Condition A—Minimum Vehicular Volume

Number of lanes for moving traffic on each approach		Vehicles per hour on major street (total of both approaches)				Vehicles per hour on higher-volume minor-street approach (one direction only)			
Major Street	Minor Street	100%	80%	70%	56%	100%	80%	70%	56%
1	1	500	400	350	280	150	120	105	84
2 or more	1	600	480	420	336	150	120	105	84
2 or more	2 or more	600	480	420	336	200	160	140	112
1	2 or more	500	400	350	280	200	160	140	112

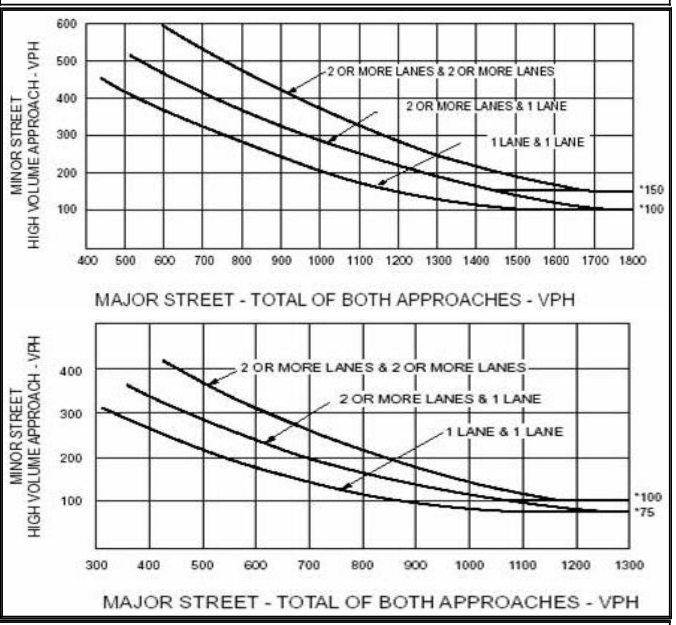
Condition B—Interruption of Continuous Traffic

Number of lanes for moving traffic on each approach		Vehicles per hour on major street (total of both approaches)				Vehicles per hour on higher-volume minor-street approach (one direction only)			
Major Street	Minor Street	100%	80%	70%	56%	100%	80%	70%	56%
1	1	750	600	525	420	75	60	53	42
2 or more	1	900	720	630	504	75	60	53	42
2 or more	2 or more	900	720	630	504	100	80	70	56
1	2 or more	750	600	525	420	100	80	70	56

Warrant 2



Warrant 3



Volume Summary

Major Street Lanes 1 **Minor Street Lanes** 1 **Speed** 30 **Population** 10000+

Hours	Major Volume	Minor Volume	Total Volume	1A (100%)	1A (80%)	1B (100%)	1B (80%)	2 (100%)	3A (100%)	3B (100%)
07-08	466	256	722	No	Yes	No	No	No	No	No
08-09	346	191	537	No	No	No	No	No	No	No
09-10	251	138	389	No	No	No	No	No	No	No
10-11	309	170	479	No	No	No	No	No	No	No
11-12	432	198	630	No	Yes	No	No	No	No	No
12-13	470	259	729	No	Yes	No	No	No	No	No
13-14	404	222	626	No	Yes	No	No	No	No	No
14-15	443	243	686	No	Yes	No	No	No	No	No
15-16	574	316	890	Yes	Yes	No	No	Yes	No	No
16-17	590	325	915	Yes	Yes	No	No	Yes	No	No
17-18	703	322	1025	Yes	Yes	No	Yes	Yes	No	No
18-19	432	238	670	No	Yes	No	No	No	No	No
Totals	5420	2878	8298	3	9	0	1	3	0	0

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Warrants Summary

Information			
Analyst	Transpo	Intersection	West Access/Hemlock Avenue
Agency/Co	City of Moreno Valley		
Date Performed	12/4/2017	Jurisdiction	Moreno Valley
Project ID	Festival at Moreno Valley	Units	U.S. Customary
East/West Street	Hemlock Avenue	Time Period Analyzed	PM Peak Hour
File Name	10_West Project Access & Hemlock.xhy	North/South Street	West Project Access
		Major Street	East-West

Project Description *Festival at Moreno Valley*

General				Roadway Network	
Major Street Speed (mph)	30	☐	Population < 10,000	Two Major Routes	☐
Nearest Signal (ft)	500	☐	Coordinated Signal System	Weekend Count	☐
Crashes (per year)	0	☐	Adequate Trials of Alternatives	5-yr Growth Factor	2

Geometry and Traffic	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of lanes, N	0	1	0	0	1	0	0	1	0	0	1	0
Lane usage		LTR			LTR			LTR			LTR	
Vehicle Volume Averages (vph)	35	158	46	64	115	75	17	0	68	61	0	14
Peds (ped/h) / Gaps (gaps/h)	--	0 / 0	--	--	0 / 0	--	--	0 / 0	--	--	0 / 0	--
Delay (s/veh) / (veh-hr)	--	0 / 0	--	--	0 / 0	--	--	0 / 0	--	--	0 / 0	--

Warrant 1: Eight-Hour Vehicular Volume	☐
1 A. Minimum Vehicular Volumes (Both major approaches --and-- higher minor approach) --or--	☐
1 B. Interruption of Continuous Traffic (Both major approaches --and-- higher minor approach) --or--	☐
1 (80%) Vehicular --and-- Interruption Volumes (Both major approaches --and-- higher minor approach)	☐
Warrant 2: Four-Hour Vehicular Volume	☐
2 A. Four-Hour Vehicular Volumes (Both major approaches --and-- higher minor approach)	☐
Warrant 3: Peak Hour	☐
3 A. Peak-Hour Conditions (Minor delay --and-- minor volume --and-- total volume) --or--	☐
3 B. Peak- Hour Vehicular Volumes (Both major approaches --and-- higher minor approach)	☐
Warrant 4: Pedestrian Volume	☐
4 A. Four Hour Volumes --or--	☐
4 B. One-Hour Volumes	☐
Warrant 5: School Crossing	☐
5. Student Volumes --and--	☐
5. Gaps Same Period	☐
Warrant 6: Coordinated Signal System	☐
6. Degree of Platooning (Predominant direction or both directions)	☐
Warrant 7: Crash Experience	☐
7 A. Adequate trials of alternatives, observance and enforcement failed --and--	☐
7 B. Reported crashes susceptible to correction by signal (12-month period) --and--	☐

F.2.v

7 C. (80%) Volumes for Warrants 1A, 1B --or-- 4 are satisfied	☐
Warrant 8: Roadway Network	☐
8 A. Weekday Volume (Peak hour total --and-- projected warrants 1, 2 or 3) --or--	☐
8 B. Weekend Volume (Five hours total)	☐
Warrant 9: Grade Crossing	☐
9 A. Grade Crossing within 140 ft --and--	☐
9 B. Peak-Hour Vehicular Volumes	☐

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Warrants Volume

Information

Analyst	Transpo	Intersection	West Access/Hemlock Avenue
Agency/Co	City of Moreno Valley	Jurisdiction	Moreno Valley
Date Performed	12/4/2017	Units	U.S. Customary
Project ID	Festival at Moreno Valley	Time Period Analyzed	PM Peak Hour
East/West Street	Hemlock Avenue	North/South Street	West Project Access
File Name	10_West Project Access & Hemlock.xhy	Major Street	East-West

Project Description *Festival at Moreno Valley*

Warrant 1

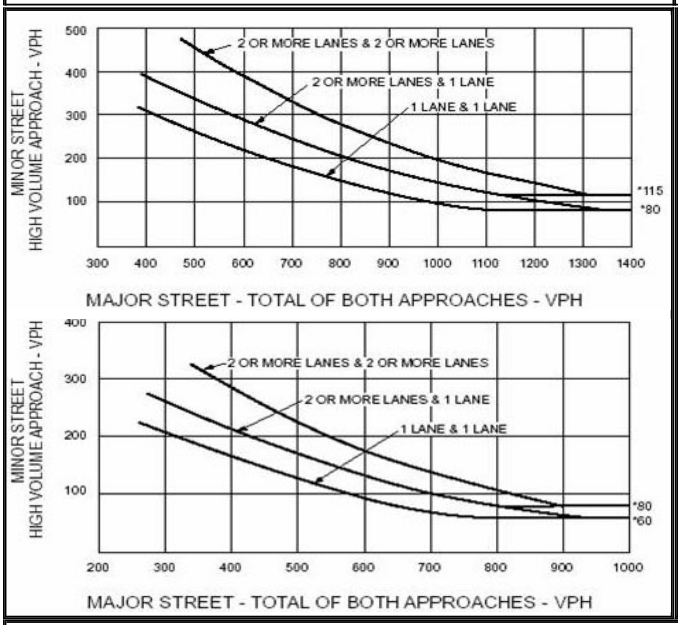
Condition A—Minimum Vehicular Volume

Number of lanes for moving traffic on each approach		Vehicles per hour on major street (total of both approaches)				Vehicles per hour on higher-volume minor-street approach (one direction only)			
Major Street	Minor Street	100%	80%	70%	56%	100%	80%	70%	56%
1	1	500	400	350	280	150	120	105	84
2 or more	1	600	480	420	336	150	120	105	84
2 or more	2 or more	600	480	420	336	200	160	140	112
1	2 or more	500	400	350	280	200	160	140	112

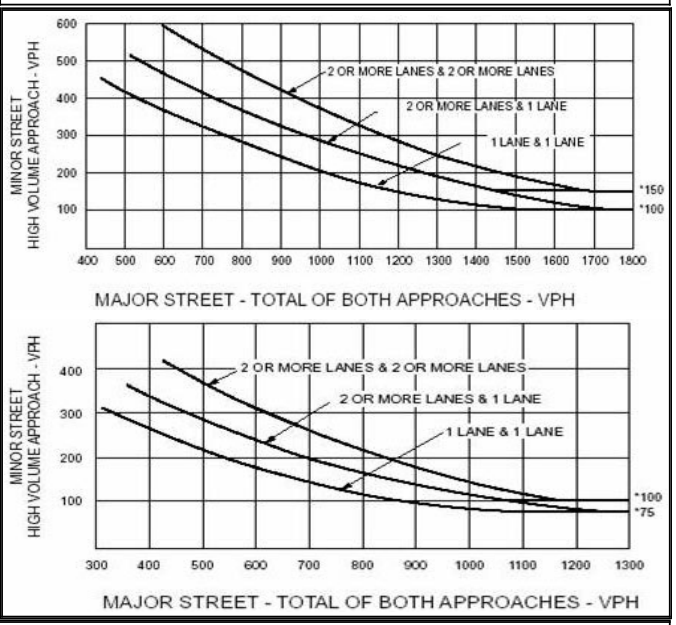
Condition B—Interruption of Continuous Traffic

Number of lanes for moving traffic on each approach		Vehicles per hour on major street (total of both approaches)				Vehicles per hour on higher-volume minor-street approach (one direction only)			
Major Street	Minor Street	100%	80%	70%	56%	100%	80%	70%	56%
1	1	750	600	525	420	75	60	53	42
2 or more	1	900	720	630	504	75	60	53	42
2 or more	2 or more	900	720	630	504	100	80	70	56
1	2 or more	750	600	525	420	100	80	70	56

Warrant 2



Warrant 3



Volume Summary

Major Street Lanes 1 **Minor Street Lanes** 1 **Speed** 30 **Population** 10000+

Hours	Major Volume	Minor Volume	Total Volume	1A (100%)	1A (80%)	1B (100%)	1B (80%)	2 (100%)	3A (100%)	3B (100%)
07-08	498	92	672	No	No	No	No	No	No	No
08-09	534	69	664	No	No	No	No	No	No	No
09-10	268	49	361	No	No	No	No	No	No	No
10-11	332	62	448	No	No	No	No	No	No	No
11-12	503	93	679	No	No	No	No	No	No	No
12-13	433	80	584	No	No	No	No	No	No	No
13-14	474	88	640	No	No	No	No	No	No	No
14-15	623	117	844	No	No	No	Yes	No	No	No
15-16	633	117	853	No	No	No	Yes	No	No	No
16-17	630	116	849	No	No	No	Yes	No	No	No
17-18	665	86	827	No	No	No	Yes	No	No	No
18-19	353	65	476	No	No	No	No	No	No	No
Totals	5946	1034	7897	0	0	0	4	0	0	0

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Warrants Summary

Information			
Analyst	Transpo	Intersection	Nita Drive/Hemlock Ave
Agency/Co	City of Moreno Valley	Jurisdiction	Moreno Valley
Date Performed	12/4/2017	Units	U.S. Customary
Project ID	Festival at Moreno Valley	Time Period Analyzed	PM Peak Hour
East/West Street	Hemlock Ave	North/South Street	Nita Drive (Int 11)
File Name	11_Nita & Hemlock.xhy	Major Street	East-West

Project Description *Festival at Moreno Valley*

General				Roadway Network	
Major Street Speed (mph)	30	☐	Population < 10,000	Two Major Routes	☐
Nearest Signal (ft)	400	☐	Coordinated Signal System	Weekend Count	☐
Crashes (per year)	0	☐	Adequate Trials of Alternatives	5-yr Growth Factor	2

Geometry and Traffic	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of lanes, N	0	1	0	0	1	0	0	0	0	0	0	1
Lane usage		T			TR							R
Vehicle Volume Averages (vph)	0	314	0	0	159	6	0	0	0	0	0	7
Peds (ped/h) / Gaps (gaps/h)	--	0 / 0	--	--	0 / 0	--	--	0 / 0	--	--	0 / 0	--
Delay (s/veh) / (veh-hr)	--	0 / 0	--	--	0 / 0	--	--	0 / 0	--	--	0 / 0	--

Warrant 1: Eight-Hour Vehicular Volume	☐
1 A. Minimum Vehicular Volumes (Both major approaches --and-- higher minor approach) --or--	☐
1 B. Interruption of Continuous Traffic (Both major approaches --and-- higher minor approach) --or--	☐
1 (80%) Vehicular --and-- Interruption Volumes (Both major approaches --and-- higher minor approach)	☐
Warrant 2: Four-Hour Vehicular Volume	☐
2 A. Four-Hour Vehicular Volumes (Both major approaches --and-- higher minor approach)	☐
Warrant 3: Peak Hour	☐
3 A. Peak-Hour Conditions (Minor delay --and-- minor volume --and-- total volume) --or--	☐
3 B. Peak- Hour Vehicular Volumes (Both major approaches --and-- higher minor approach)	☐
Warrant 4: Pedestrian Volume	☐
4 A. Four Hour Volumes --or--	☐
4 B. One-Hour Volumes	☐
Warrant 5: School Crossing	☐
5. Student Volumes --and--	☐
5. Gaps Same Period	☐
Warrant 6: Coordinated Signal System	☐
6. Degree of Platooning (Predominant direction or both directions)	☐
Warrant 7: Crash Experience	☐
7 A. Adequate trials of alternatives, observance and enforcement failed --and--	☐
7 B. Reported crashes susceptible to correction by signal (12-month period) --and--	☐
7 C. (80%) Volumes for Warrants 1A, 1B --or-- 4 are satisfied	☐

F.2.v

Warrant 8: Roadway Network	☐
8 A. Weekday Volume (Peak hour total --and-- projected warrants 1, 2 or 3) --or--	☐
8 B. Weekend Volume (Five hours total)	☐
Warrant 9: Grade Crossing	☐
9 A. Grade Crossing within 140 ft --and--	☐
9 B. Peak-Hour Vehicular Volumes	☐

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Warrants Volume

Information

Analyst	Transpo	Intersection	Nita Drive/Hemlock Ave
Agency/Co	City of Moreno Valley	Jurisdiction	Moreno Valley
Date Performed	12/4/2017	Units	U.S. Customary
Project ID	Festival at Moreno Valley	Time Period Analyzed	PM Peak Hour
East/West Street	Hemlock Ave	North/South Street	Nita Drive (Int 11)
File Name	11_Nita & Hemlock.xhy	Major Street	East-West

Project Description *Festival at Moreno Valley*

Warrant 1

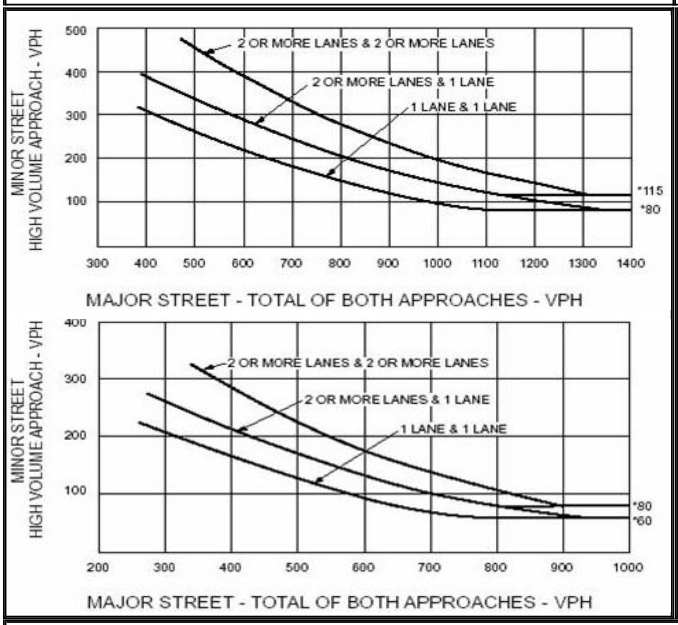
Condition A—Minimum Vehicular Volume

Number of lanes for moving traffic on each approach		Vehicles per hour on major street (total of both approaches)				Vehicles per hour on higher-volume minor-street approach (one direction only)			
Major Street	Minor Street	100%	80%	70%	56%	100%	80%	70%	56%
1	1	500	400	350	280	150	120	105	84
2 or more	1	600	480	420	336	150	120	105	84
2 or more	2 or more	600	480	420	336	200	160	140	112
1	2 or more	500	400	350	280	200	160	140	112

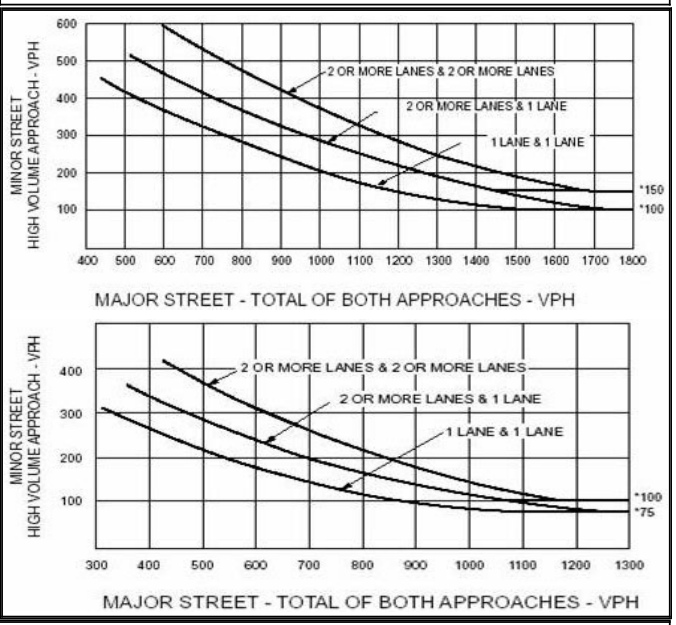
Condition B—Interruption of Continuous Traffic

Number of lanes for moving traffic on each approach		Vehicles per hour on major street (total of both approaches)				Vehicles per hour on higher-volume minor-street approach (one direction only)			
Major Street	Minor Street	100%	80%	70%	56%	100%	80%	70%	56%
1	1	750	600	525	420	75	60	53	42
2 or more	1	900	720	630	504	75	60	53	42
2 or more	2 or more	900	720	630	504	100	80	70	56
1	2 or more	750	600	525	420	100	80	70	56

Warrant 2



Warrant 3



Volume Summary

Major Street Lanes 1 **Minor Street Lanes** 1 **Speed** 30 **Population** 10000+

Hours	Major Volume	Minor Volume	Total Volume	1A (100%)	1A (80%)	1B (100%)	1B (80%)	2 (100%)	3A (100%)	3B (100%)
07-08	514	8	522	No	No	No	No	No	No	No
08-09	382	6	388	No	No	No	No	No	No	No
09-10	277	4	281	No	No	No	No	No	No	No
10-11	341	5	346	No	No	No	No	No	No	No
11-12	396	6	402	No	No	No	No	No	No	No
12-13	519	8	527	No	No	No	No	No	No	No
13-14	446	7	453	No	No	No	No	No	No	No
14-15	489	7	496	No	No	No	No	No	No	No
15-16	634	10	644	No	No	No	No	No	No	No
16-17	652	10	662	No	No	No	No	No	No	No
17-18	645	7	652	No	No	No	No	No	No	No
18-19	475	7	482	No	No	No	No	No	No	No
Totals	5770	85	5855	0	0	0	0	0	0	0

Mitigation Measures SIDRA Output

MOVEMENT SUMMARY

Site: Davis Street/Hemlock Avenue

Future (2022) With-Project PM
Roundabout

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	95% Back of Queue Distance ft	Prop. Queued	Effective Stop Rate per veh	Average Speed mph
South: Driveway											
3	L2	178	2.0	0.309	14.4	LOS B	1.7	44.1	0.73	0.88	32.0
8	T1	2	2.0	0.309	9.9	LOS A	1.7	44.1	0.73	0.88	32.1
18	R2	26	2.0	0.309	9.7	LOS A	1.7	44.1	0.73	0.88	31.5
Approach		207	2.0	0.309	13.7	LOS B	1.7	44.1	0.73	0.88	31.9
East: Hemlock Ave											
1	L2	30	2.0	0.462	13.1	LOS B	3.0	76.3	0.69	0.80	34.2
6	T1	303	2.0	0.462	8.6	LOS A	3.0	76.3	0.69	0.80	34.4
16	R2	39	2.0	0.462	8.5	LOS A	3.0	76.3	0.69	0.80	33.6
Approach		373	2.0	0.462	9.0	LOS A	3.0	76.3	0.69	0.80	34.3
North: Davis St											
7	L2	41	2.0	0.404	12.7	LOS B	2.4	61.8	0.70	0.81	34.3
4	T1	1	2.0	0.404	8.2	LOS A	2.4	61.8	0.70	0.81	34.4
14	R2	264	2.0	0.404	8.1	LOS A	2.4	61.8	0.70	0.81	33.6
Approach		307	2.0	0.404	8.7	LOS A	2.4	61.8	0.70	0.81	33.7
West: Hemlock Ave											
5	L2	310	2.0	0.334	9.5	LOS A	2.2	56.5	0.29	0.59	34.3
2	T1	377	2.0	0.334	5.0	LOS A	2.2	56.8	0.28	0.51	35.5
12	R2	177	2.0	0.334	5.1	LOS A	2.2	56.8	0.28	0.48	35.0
Approach		865	2.0	0.334	6.7	LOS A	2.2	56.8	0.28	0.54	35.0
All Vehicles		1751	2.0	0.462	8.3	LOS A	3.0	76.3	0.50	0.68	34.2

Level of Service (LOS) Method: Delay (HCM 2000).
Roundabout LOS Method: Same as Signalised Intersections.
Vehicle movement LOS values are based on average delay per movement
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Organisation: THE TRANSPO GROUP | Processed: Tuesday, December 05, 2017 2:04:12 PM
Project: L:\17261_Davis & Hemlock.sip6

CITY OF MORENO VALLEY
PLANNING COMMISSION

VIA TELECONFERENCE ONLY
PURSUANT TO COVID-19
GOVERNOR EXECUTIVE ORDER N-29-20

NOTICE OF PUBLIC HEARING AND ENVIRONMENTAL NOTICE OF AVAILABILITY

NOTICE IS HEREBY GIVEN that a teleconferenced Public Hearing will be held by the Planning Commission of the City of Moreno Valley on the date and time set forth below:

Date and Time:	January 14, 2021 at 7:00 p.m.
Location:	**VIA TELECONFERENCE ONLY** **Go to http://morenovalleyca.iqm2.com/Citizens/default.aspx for instructions.**
Item:	PEN20-0139 General Plan Amendment; PEN20-0138 Specific Plan Amendment; and PEN20-0137 Plot Plan
Applicant:	LCG 10MV, LLC
Property Owner:	SCNDSC, LLC
APN:	481-020-013, 029, 030, 034, 035 & 038
Location:	Southeast corner of Heacock Street and Ironwood Avenue
Proposal:	Applicant is requesting approval of the following entitlements for a 10-acre site: 1) a General Plan Amendment (GPA) amending the City's General Plan from Commercial to Business Park, 2); a Specific Plan Amendment from SP205 Retail Commercial to SP 205 Mixed Use; and 3) a Plot Plan for an approximately 200,000 square foot light industrial building.

Council District: 1

Environmental Determination: The project has been evaluated against the criteria set forth in the California Environmental Quality Act (CEQA) and CEQA Guidelines and staff has determined that a Mitigated Negative Declaration is the appropriate environmental document for the proposed project.

The Draft Initial Study/Mitigated Negative Declaration is being circulated for public review by responsible and trustee agencies and other interested parties for a review period commencing December 23, 2020, through January 11, 2021. The documents can be obtained in electronic format via email by request. The final document may be inspected by appointment at the Community Development Department at 14177 Frederick Street, Moreno Valley, California by calling (951) 413-3206 during normal business hours (7:30 a.m. to 5:30 p.m., Monday through Thursday).

PUBLIC TESTIMONY: All interested parties will be provided an opportunity to submit oral testimony during the teleconferenced public hearing and/or provide written testimony during or prior to or at the teleconferenced public hearing. The application file and related environmental documents may be inspected by appointment at the Community Development Department at 14177 Frederick Street, Moreno Valley, California by calling (951) 413-3206 during normal business hours (7:30 a.m. to 5:30 p.m., Monday through Thursday).

COVID-19 – IMPORTANT NOTICES: Please note that due to the COVID-19 pandemic situation, staff will attempt to make reasonable arrangements to ensure accessibility to inspect the aforementioned records. **In addition, special instructions on how to effectively participate in the teleconferenced Public Hearing, as approved by Governor Executive Order No. N-25-20, will be posted at http://morenovalleyca.iqm2.com/Citizens/default.aspx and will be described in the Planning Commission agenda.**

PLEASE NOTE: The Planning Commission may consider and approve changes to the proposed items under consideration during the teleconferenced Public Hearing.

GOVERNMENT CODE § 65009 NOTICE: If you challenge any of the proposed actions taken by the Planning Commission in court, you may be limited to raising only those issues you or someone else raised during the teleconferenced Public Hearing described in this notice, or in written correspondence deliv

Planning Division of the City of Moreno Valley during or prior to, the teleconferenced Public Hearing.

ACCESSIBILITY: Upon request and in compliance with the Americans with Disabilities Act of 1990, any person with a disability who requires a modification or accommodation in order to participate in a meeting should direct such request to Guy Pegan, ADA Coordinator, at (951) 413-3120 at least 48 hours before the meeting. The 48-hour notification will enable the City to make reasonable arrangements to ensure accessibility to this meeting.

STAFF CONTACT: If you have questions regarding this public hearing, please contact Julia Descoteaux, Associate Planner, by telephone at (951) 413-3209 or via email at planning@moval.org.

	Press-Enterprise	December 23, 2020
Patty Nevins Planning Official Community Development Department	Newspaper	Date of Publication

MITIGATION MONITORING AND REPORTING PROGRAM

MORENO VALLEY BUSINESS PARK
AMENDMENT NO. 2
MORENO VALLEY FESTIVAL SPECIFIC PLAN (SP-205)
MORENO VALLEY, CALIFORNIA

LEAD AGENCY:

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1. OVERVIEW OF THE PROJECT

The Specific Plan Amendment that is the focus of this Initial Study and Mitigated Negative Declaration (IS/MND) is the *second amendment* to the adopted *Moreno Valley Festival Specific Plan/EIR (SP-205)*. The original Specific Plan was adopted, and the Environmental Impact Report (EIR) was certified, by the City Council of Moreno Valley on October 27, 1987. *Amendment Number 1* was adopted in 2018 as a means to promote a wider range of land uses and development so as to take advantage of more recent development trends that were occurring since the original Specific Plan was adopted.[1] This current proposed amendment (Amendment Number 2) that is the subject of this IS/MND, expands the geographic area of the Specific Plan's Planning Area 1 to include a 9.98-acre property located on the southeast corner of Heacock Street and Ironwood Avenue. This IS/MND for Amendment No. 2 also tiers off of the Final EIR that was certified for the *Moreno Valley Festival Specific Plan/EIR (SP-205)*. This Specific Plan Amendment Number 2 is contemplating a new light industrial building totaling 220,390 square feet of floor area. The original SP-205 designated the area as *Regional Commercial* in the geographic area that is now included in the expanded Planning Area 1. This Second Amendment is now designating this area as *Mixed Uses*.

2. FINDINGS OF THE ENVIRONMENTAL ASSESSMENT

The Initial Study prepared for the project indicated that the project's construction and subsequent occupation are not expected to result in significant adverse environmental impacts upon implementation of the required mitigation measures. The following Mandatory Findings of Significance can be made as set forth in Section 15065 of the CEQA Guidelines, as amended, based on the results of this environmental assessment:

- The proposed project *will not* have the potential to degrade the quality of the environment;
- The proposed project *will not* have the potential to achieve short-term goals to the disadvantage of long-term environmental goals;
- The proposed project *will not* have impacts, that are individually limited, but cumulatively considerable; and,
- The proposed project *will not* have environmental effects that will adversely affect humans, either directly or indirectly.

3.FINDINGS RELATED TO MITIGATION MONITORING

Section 21081(a) of the Public Resources Code states that findings must be adopted by the decision-makers coincidental to the approval of a Mitigated Negative Declaration. These findings shall be incorporated as part

[1] The expanded range of allowable uses will include a Mix of Uses Development (MU), Commercial/Retail Development (CR), Retail Mix of Uses (RMU) and Open Space (OS) designation. The plan amendment will also facilitate the extension of Davis Street in a northerly direction to ultimately re-connect with the segment of Davis Street that extends north of Ironwood Avenue. The overall placement, design, and phasing of future development will be responsive to the employment and community service needs while mitigating the potential impacts on sensitive development that will be located both within and in close proximity to the Planning Area.

of the decision-maker's findings of fact, in response to AB-3180. In accordance with the requirements of Section 21081(a) and 21081.6 of the Public Resources Code, the following additional findings may be made:

- A mitigation reporting or monitoring program will be required;
- Site plans and/or building plans, submitted for approval by the responsible monitoring agency, shall include the required standard conditions; and,
- An accountable enforcement agency or monitoring agency shall be identified for the mitigations adopted as part of the decision-maker's final determination.

4. MITIGATION MEASURES

The analysis indicated that the proposed project may result in impacts to protected species and habitat. As a result, the following mitigation is required:

Mitigation Measure No. 1 (Biological Resources Impacts). The proposed project must be consistent with the Western Riverside MSHCP. Payment of the appropriate development mitigation fees will mitigate any impacts to these species.

Mitigation Measure No. 2 (Biological Resources Impacts). Prior to any land disturbance, a focused pre-construction burrowing owl survey shall be conducted prior to construction in accordance with the Burrowing Owl Survey instructions of the Western Riverside County MSHCP. This survey is to be conducted within 30 days prior to ground disturbance. After the pre-construction burrowing owl survey has been completed, a survey report will be prepared in accordance with the MSHCP 30-day Pre-construction Burrowing Owl Survey Report Format.

Mitigation Measure No. 3 (Biological Resources Impacts). Future developers must consult with the California Department of Fish and Wildlife, the U.S. Army Corps of Engineers, and the Santa Ana Regional Water Quality Control Board to determine the need for permits that must be obtained prior to initiation of construction of a proposed project.

Mitigation Measure No. 4 (Biological Resources Impacts). Prior to the start of construction activity, developers must prepare a Multiple Species Habitat Conservation Program (MSHCP) Determination of Biologically Equivalent or Superior Preservation (DBESP) should a future project affect Western Riverside MSHCP riverine resources.

Mitigation Measure No. 5 (Biological Resources Impacts). Vegetation removal shall be conducted outside of the nesting season for migratory birds to avoid direct impacts. The migratory bird nesting season is between February 1 and September 15.

Mitigation Measure No. 6 (Biological Resources Impacts). If active nests are found during nesting bird surveys, they shall be flagged and a 200-foot buffer shall be fenced around the nests.

Mitigation Measure No. 7 (Biological Resources Impacts). If vegetation removal will occur during the migratory bird nesting season, between February 1 and September 15, pre-construction nesting bird surveys must be performed within three days prior to vegetation removal.

The following mitigation will be effective in minimizing potential impacts to possible cultural resources:

Mitigation Measure No. 8 (Cultural Resources Impacts). Prior to the issuance of a grading permit, the developer shall retain a professional archaeologist to conduct monitoring of all mass grading and trenching activities. The project archaeologist must have the authority to temporarily redirect earthmoving activities in the event that suspected archaeological resources are unearthed during project construction. The project archaeologist, in consultation with the Consulting Tribe(s), the contractor, and the City, must develop a Cultural Resources Management Plan (CRMP) in consultation pursuant to the definition in AB-52 to address the details, timing, and responsibility of all archaeological and cultural activities that will occur on the project site. A consulting tribe is defined as a tribe that initiated the AB-52 tribal consultation process for the project, has not opted out of the AB-52 consultation process, and has completed AB-52 consultation with the City as provided for in Cal Pub Res Code Section 21080.3.2(b)(1) of AB-52. Details in the Plan shall include:

- Project grading and development scheduling;

- The project archeologist and the Consulting Tribes(s) as defined in this mitigation must attend the pre-grading meeting with the City, the construction manager and any contractors and will conduct a mandatory Cultural Resources Worker Sensitivity Training to those in attendance. The training will include a brief review of the cultural sensitivity of the project and the surrounding area; what resources could potentially be identified during earthmoving activities; the requirements of the monitoring program; the protocols that apply in the event inadvertent discoveries of cultural resources are identified, including who to contact and appropriate avoidance measures until the find(s) can be properly evaluated; and any other appropriate protocols. All new construction personnel that will conduct earthwork or grading activities that begin work on the Project following the initial training must take the Cultural Sensitivity Training prior to beginning work and the project archaeologist and Consulting Tribe(s) shall make themselves available to provide the training on an as-needed basis;

- The protocols and stipulations that the contractor, City, Consulting Tribe(s) and project archaeologist will follow in the event of inadvertent cultural resources discoveries, including any newly discovered cultural resource deposits that shall be subject to a cultural resources evaluation.

Mitigation Measure No. 9 (Cultural Resources Impacts). Prior to the issuance of a grading permit, the developer shall secure agreements with the Pechanga Band of Luiseño Indians, the Soboba Band of Luiseño Indians, and the Morongo Band of Mission Indians for tribal monitoring. The developer is also required to provide a minimum of 30 days advance notice to the tribes of all mass grading and trenching activities. The Native American Tribal Representatives shall have the authority to temporarily halt and redirect earth moving activities in the affected area in the event that suspected archaeological resources are unearthed. If the Native American Tribal Representatives suspect that an archaeological resource may have been unearthed, the project archaeologist or the Tribal Representatives shall immediately redirect grading operations in a 100-foot radius around the find to allow identification and evaluation of the

suspected resource. In consultation with the Native American Tribal Representatives, the project archaeologist shall evaluate the suspected resource and make a determination of significance pursuant to California Public Resources Code Section 21083.2.

Mitigation Measure No. 10 (Cultural Resources Impacts). In the event that Native American cultural resources are discovered during the course of grading (inadvertent discoveries), the following procedures shall be carried out for final disposition of the discoveries:

- One or more of the following treatments, in order of preference, shall be employed with the tribes. Evidence of such shall be provided to the City of Moreno Valley Planning Department:

    i. Preservation-in-place of the cultural resources, if feasible. Preservation in place means avoiding the resources, leaving them in the place they were found with no development affecting the integrity of the resources.

    ii. Onsite reburial of the discovered items as detailed in the treatment plan required pursuant to the initial mitigation. This shall include measures and provisions to protect the future reburial area from any future impacts in perpetuity. Reburial shall not occur until all legally required cataloging and basic recordation have been completed. No recordation of sacred items is permitted without the written consent of all Consulting Native American Tribal Governments as defined in the first mitigation identified in Section 3.5.2.B.

- The City shall verify that the following note is included on the Grading Plan: "If any suspected archaeological resources are discovered during ground-disturbing activities and the project archaeologist or Native American Tribal Representatives are not present, the construction supervisor is obligated to halt work in a 100-foot radius around the find and call the project archaeologist and the Tribal Representatives to the site to assess the significance of the find."

Mitigation Measure No. 11 (Cultural Resources Impacts). If potential historic or cultural resources are uncovered during excavation or construction activities at the project site, work in the affected area must cease immediately and a qualified person meeting the Secretary of the Interior's standards (36 CFR 61), Tribal Representatives, and all site monitors per the Mitigation Measures, shall be consulted by the City to evaluate the find, and as appropriate recommend alternative measures to avoid, minimize or mitigate negative effects on the historic, or prehistoric resource. Determinations and recommendations by the consultant shall be immediately submitted to the Planning Division for consideration, and implemented as deemed appropriate by the Community Development Director, in consultation with the State Historic Preservation Officer (SHPO) and any and all Consulting Native American Tribes as defined in previously identified mitigation before any further work commences in the affected area.

Mitigation Measure No. 12 (Cultural Resources Impacts). If human remains are discovered, no further disturbance shall occur in the affected area until the County Coroner has made necessary findings as to origin. If the County Coroner determines that the remains are potentially Native American, the California Native American Heritage Commission shall be notified within five-days of the published finding to be given a reasonable opportunity to identify the "most likely descendant". The "most likely descendant" shall then make recommendations, and engage in consultations concerning the treatment of the remains (California Public Resources Code 5097.98). (GP Objective 23.3, CEQA).

Mitigation Measure No. 13 (Cultural Resources Impacts). If previously unidentified paleontological resources are unearthed during construction, work shall cease within 50 feet of the find and the project Applicant must retain a qualified paleontologist, approved by the City, to assess the significance of the find. If a find is determined to be significant, the Lead Agency and the paleontologist will determine appropriate avoidance measures or other appropriate mitigation. All significant fossil materials recovered will be, as necessary and at the discretion of the qualified paleontologist, subject to scientific analysis, professional museum curation, and documentation according to current professional standards.

The following mitigation is required to further reduce future projects greenhouse gas emissions impacts:

Mitigation Measure No. 14 (Greenhouse Gases Emissions Impacts). The Applicant must install ENERGY STAR appliances wherever appliances are installed.

Mitigation Measure No. 15 (Greenhouse Gases Emissions Impacts). The Applicant shall install ENERGY STAR rated light emitting diodes (LEDs) for traffic, street, and outdoor lighting.

Mitigation Measure No. 16 (Greenhouse Gases Emissions Impacts). The Applicant must install ENERGY STAR rated Compact Florescent Lights (CFLs) in all indoor areas that require continuous lighting. CFLs should not be used in rooms or areas that are subject to frequent on/off cycling, as the lifespan of CFLs diminishes when there are frequently turned off.

Mitigation Measure No. 17 (Greenhouse Gases Emissions Impacts). The Applicant must install light colored "cool" roofs.

Mitigation Measure No. 18 (Greenhouse Gases Emissions Impacts). The Applicant must install "cool" pavement (lighter colored) throughout the parking areas.

Mitigation Measure No. 19 (Greenhouse Gases Emissions Impacts). All landscape planted on-site must be watered by water dispensed through drip irrigation.

Mitigation Measure No. 20 (Greenhouse Gases Emissions Impacts). The building contractors shall install bicycle racks consistent with the City's Municipal Code adjacent to each building.

Mitigation Measure No. 21 (Greenhouse Gases Emissions Impacts). The building contractors shall install electric vehicle charging stations in the parking areas. Preferential parking spaces for electric vehicles must be provided.

The following mitigation will be effective in reducing potential impacts in regards to construction noise:

Mitigation Measure No. 22 (Noise Impacts). The Applicant shall ensure that the contractors conduct demolition and construction activities between the hours of 7:00 AM and 6:00 PM on weekdays and 9:00 AM to 12:00 PM on Saturdays, with no construction permitted on Sundays or Federal holidays.

Mitigation Measure No. 23 (Noise Impacts). The Applicant shall ensure that the contractors use construction equipment that includes working mufflers and other sound suppression equipment as a means to reduce machinery noise.

Mitigation Measure No. 24 (Noise Impacts). Signs must be installed around the perimeter of the Planning Area that display the name and phone number of the local contact person residents may call to complain about noise. Upon receipt of a complaint, the contractor must respond immediately by reducing noise to meet Code requirements. In addition, copies of all complaints and subsequent communication between the affected residents and contractors must be forwarded to the City's Community Development Department.

Mitigation Measure No. 25 (Noise Impacts). The use of any such equipment which is capable of causing ground shaking is not permitted without prior written approval from the Public Works Director, or designee. If ground shaking vibratory equipment is requested and approved, the Contractor is responsible for making any repairs or replacements to facilities damaged due to nearby soils settling or other impacts of vibrating. The Contractor must install vibratory monitoring equipment to monitor for any settlement/damage caused.

Mitigation Measure No. 26 (Noise Impacts). Construction staging must occur over 200 feet from the nearest residential use. The location of staging and queuing areas will be subject to the approval of the Community Development Department prior to the issuance of any building or grading permit.

The traffic report prepared for the original Specific Plan indicated that the following mitigation measures will be required:

- For the Heacock Street and Westbound SR-60 ramps, the Applicant must optimize the cycle length (90 second cycle length), splits, and offsets and restripe the defacto right-turn lane to a southbound right-turn lane with 50-foot storage and a southbound through lane. This mitigation will improve the LOS to C;

- The Applicant must optimize the cycle length (60 second cycle length), splits, and offsets for the intersection of Davis Street and Ironwood Avenue. This mitigation will yield a LOS B;

- The Applicant must optimize the cycle length (60 second cycle length), splits, and offsets for the intersection of Indian Street and Sunnymead Boulevard. This mitigation will yield a LOS C.

- For the Heacock Street/Ironwood Avenue intersection, the Applicant must restripe the eastbound left turn lanes to provide 150 feet of storage to accommodate 95th percentile queues;

- For the Heacock Street/Ironwood Avenue intersection, the Applicant must restripe the westbound left turn lanes to provide 190 feet of storage to accommodate 95th percentile queues;

- For the Heacock Street/Ironwood Avenue intersection, the Applicant must restripe the northbound left turn lanes to provide 210 feet of storage to accommodate 95th percentile queues;

- For the Heacock Street/Hemlock Avenue intersection, the Applicant must restripe the eastbound left turn lanes to provide 105 feet of storage to accommodate 95th percentile queues;

- For the Heacock Street/Hemlock Avenue intersection, the Applicant must restripe the northbound left turn lanes to provide 170 feet of storage to accommodate 95th percentile queues;

- For the Heacock Street/Hemlock Avenue intersection, the Applicant must restripe the southbound left turn lanes to provide 150 feet of storage to accommodate 95th percentile queues;

- For the Heacock Street/State Route (SR 60) eastbound ramps, the Applicant must restripe 50 feet of the two-way left turn lane north of the Heacock/ SR-60 westbound ramps intersection as a "Freeway Only" lane;

- For the Davis Street/Ironwood Avenue intersection, the Applicant must restripe the eastbound left turn lanes to provide 220 feet of storage to accommodate 95th percentile queues;

- For the Davis Street/Ironwood Avenue intersection, the Applicant must restripe the southbound left turn lanes to provide 145 of feet storage to accommodate 95th percentile queues;

- For the Indian Street/Ironwood Avenue intersection, the Applicant must restripe the eastbound left turn lanes to provide 145 feet of storage to accommodate 95th percentile queues;

- For the Indian Street/Ironwood Avenue intersection, the Applicant must restripe the westbound left turn lanes to provide 140 feet of storage to accommodate 95th percentile queues;

- For the Indian Street/Ironwood Avenue intersection, the Applicant must restripe the northbound left turn lanes to provide 165 feet of storage to accommodate 95th percentile queues;

- For the Indian Street/Ironwood Avenue intersection, the Applicant must restripe the southbound left turn lanes to provide 155 feet of storage to accommodate 95th percentile queues;

- For the Indian Street/Hemlock Avenue intersection, the Applicant must restripe the westbound left turn lanes to provide 110 feet of storage to accommodate 95th percentile queues;

- For the Indian Street/Hemlock Avenue intersection, the Applicant must restripe the northbound left turn lanes to provide 180 feet of storage to accommodate 95th percentile queues;

- For the Indian Street/Sunnymead Boulevard intersection, the Applicant must restripe the eastbound left turn lanes to provide 140 feet of storage to accommodate 95th percentile queues. This might require replacing the concrete island with stripping;

- For the Indian Street/Sunnymead Boulevard intersection, the Applicant must restripe the westbound left turn lanes to provide 115 feet of storage to accommodate 95th percentile queues;

- For the Indian Street/Sunnymead Boulevard intersection, the Applicant must restripe the northbound left turn lanes to provide 200 feet of storage to accommodate 95th percentile queues; and,

- For the Indian Street/Sunnymead Boulevard intersection, the Applicant must restripe the southbound left turn lanes to provide 125 feet of storage to accommodate 95th percentile queues.

5. MITIGATION MONITORING

The monitoring and reporting on the implementation of these measures, including the period for implementation, monitoring agency, and the monitoring action are identified in Table 1 provided on the following pages.

Table 1
Mitigation-Monitoring Program

Measure	Enforcement Agency	Monitoring Phase
Mitigation Measure No. 1 (Biological Resources Impacts). The proposed project must be consistent with the Western Riverside MSHCP. Payment of the appropriate development mitigation fees will mitigate any impacts to these species.	Community Development Department. ● *(The Applicant is responsible for implementation)*	*Prior to the issuance of Building Permits.* ● Mitigation ends at the completion of the construction phase.
Mitigation Measure No. 2 (Biological Resources Impacts). Prior to any land disturbance, a focused pre-construction burrowing owl survey shall be conducted prior to construction in accordance with the Burrowing Owl Survey instructions of the Western Riverside County MSHCP. This survey is to be conducted within 30 days prior to ground disturbance. After the pre-construction burrowing owl survey has been completed, a survey report will be prepared in accordance with the MSHCP 30-day Pre-construction Burrowing Owl Survey Report Format.	Community Development Department. ● *(The Applicant is responsible for implementation)*	*Prior to the start of ground disturbing activities.* ● Mitigation ends at the completion of the construction phase.
Mitigation Measure No. 3 (Biological Resources Impacts). Future developers must consult with the California Department of Fish and Wildlife, the U.S. Army Corps of Engineers, and the Santa Ana Regional Water Quality Control Board to determine the need for permits that must be obtained prior to initiation of construction of a proposed project.	Community Development Department and the California Department of Fish and Wildlife, the U.S. Army Corps of Engineers, and the Santa Ana Regional Water Quality Control Board. ● *(The Applicant is responsible for implementation)*	*Prior to the start of ground disturbing activities.* ● Mitigation ends at the completion of the construction phase.
Mitigation Measure No. 4 (Biological Resources Impacts). Prior to the start of construction activity, developers must prepare a Multiple Species Habitat Conservation Program (MSHCP) Determination of Biologically Equivalent or Superior Preservation (DBESP) should a future project affect Western Riverside MSHCP riverine resources.	Community Development Department and the Western Riverside County Regional Conservation Authority. ● *(The Applicant is responsible for implementation)*	*Prior to the start of ground disturbing activities.* ● Mitigation ends at the completion of the construction phase
Mitigation Measure No. 5 (Biological Resources Impacts). Vegetation removal shall be conducted outside of the nesting season for migratory birds to avoid direct impacts. The migratory bird nesting season is between February 1 and September 15.	Community Development Department. ● *(The Applicant is responsible for implementation)*	*Prior to the start of ground disturbing activities.* ● Mitigation ends at the completion of the construction phase.

Table 1
Mitigation-Monitoring Program (continued)

Measure	Enforcement Agency	Monitoring Phase
Mitigation Measure No. 6 (Biological Resources Impacts). If active nests are found during nesting bird surveys, they shall be flagged and a 200-foot buffer shall be fenced around the nests.	Community Development Department. ● *(The Applicant is responsible for implementation)*	*Prior to the start of ground disturbing activities.* ● Mitigation ends at the completion of the construction phase.
Mitigation Measure No. 7 (Biological Resources Impacts). If vegetation removal will occur during the migratory bird nesting season, between February 1 and September 15, pre-construction nesting bird surveys must be performed within three days prior to vegetation removal.	Community Development Department. ● *(The Applicant is responsible for implementation)*	*Three days prior to the start of vegetation removal.* ● Mitigation ends at the completion of the construction phase.
Mitigation Measure No. 8 (Cultural Resources Impacts). Prior to the issuance of a grading permit, the developer shall retain a professional archaeologist to conduct monitoring of all mass grading and trenching activities. The project archaeologist must have the authority to temporarily redirect earthmoving activities in the event that suspected archaeological resources are unearthed during project construction. The project archaeologist, in consultation with the Consulting Tribe(s), the contractor, and the City, must develop a Cultural Resources Management Plan (CRMP) in consultation pursuant to the definition in AB-52 to address the details, timing, and responsibility of all archaeological and cultural activities that will occur on the project site. A consulting tribe is defined as a tribe that initiated the AB-52 tribal consultation process for the project, has not opted out of the AB-52 consultation process, and has completed AB-52 consultation with the City as provided for in Cal Pub Res Code Section 21080.3.2(b)(1) of AB52.	Community Development Department ● *(The Applicant is responsible for implementation)*	*Prior to the issuance of a grading permit.* ● Mitigation ends at the completion of the construction phase.
Mitigation Measure No. 9 (Cultural Resources Impacts). Prior to the issuance of a grading permit, the developer shall secure agreements with the Pechanga Band of Luiseño Indians, the Soboba Band of Luiseño Indians, and the Morongo Band of Mission Indians for tribal monitoring. The developer is also required to provide a minimum of 30 days advance notice to the tribes of all mass grading and trenching activities. The Native American Tribal Representatives shall have the authority to temporarily halt and redirect earth moving activities in the affected area in the event that suspected archaeological resources are unearthed. If the Native American Tribal Representatives suspect that an archaeological resource may have been unearthed, the project archaeologist or the Tribal Representatives shall immediately redirect grading operations in a 100-foot radius around the find to allow identification and evaluation of the suspected resource. In consultation with the Native American Tribal Representatives, the project archaeologist shall evaluate the suspected resource and make a determination of significance pursuant to California Public Resources Code Section 21083.2	Community Development Department, Pechanga Band of Luiseño Indians, Soboba Band of Luiseño Indians, and Morongo Band of Mission Indians. ● *(The Applicant is responsible for implementation)*	*Prior to the issuance of a grading permit.* ● Mitigation ends at the completion of the construction phase.

Table 1
Mitigation-Monitoring Program (continued)

Measure	Enforcement Agency	Monitoring Phase
Mitigation Measure No. 10 (Cultural Resources Impacts). In the event that Native American cultural resources are discovered during the course of grading (inadvertent discoveries), the following procedures shall be carried out for final disposition of the discoveries: ● One or more of the following treatments, in order of preference, shall be employed with the tribes. Evidence of such shall be provided to the City of Moreno Valley Planning Department: i. Preservation-in-place of the cultural resources, if feasible. Preservation in place means avoiding the resources; leaving them in the place they were found with no development affecting the integrity of the resources. ii. Onsite reburial of the discovered items as detailed in the treatment plan required pursuant to the initial mitigation. This shall include measures and provisions to protect the future reburial area from any future impacts in perpetuity. Reburial shall not occur until all legally required cataloging and basic recordation have been completed. No recordation of sacred items is permitted without the written consent of all Consulting Native American Tribal Governments as defined in the first mitigation identified in Section 3.5.2.B. ● The City shall verify that the following note is included on the Grading Plan: "If any suspected archaeological resources are discovered during ground-disturbing activities and the project archaeologist or Native American Tribal Representatives are not present, the construction supervisor is obligated to halt work in a 100-foot radius around the find and call the project archaeologist and the Tribal Representatives to the site to assess the significance of the find."	Community Development Department. ● *(The Applicant is responsible for implementation)*	*During project construction.* ● Mitigation ends at the completion of the construction phase.
Mitigation Measure No. 11 (Cultural Resources Impacts). If potential historic or cultural resources are uncovered during excavation or construction activities at the project site, work in the affected area must cease immediately and a qualified person meeting the Secretary of the Interior's standards (36 CFR 61), Tribal Representatives, and all site monitors per the Mitigation Measures, shall be consulted by the City to evaluate the find, and as appropriate recommend alternative measures to avoid, minimize or mitigate negative effects on the historic, or prehistoric resource. Determinations and recommendations by the consultant shall be immediately submitted to the Planning Division for consideration, and implemented as deemed appropriate by the Community Development Director, in consultation with the State Historic Preservation Officer (SHPO) and any and all Consulting Native American Tribes as defined in previously identified mitigation before any further work commences in the affected area.	Community Development Department. ● *(The Applicant is responsible for implementation)*	*During project construction.* ● Mitigation ends at the completion of the construction phase.

Table 1
Mitigation-Monitoring Program (continued)

Measure	Enforcement Agency	Monitoring Phase
Mitigation Measure No. 12 (Cultural Resources Impacts). If human remains are discovered, no further disturbance shall occur in the affected area until the County Coroner has made necessary findings as to origin. If the County Coroner determines that the remains are potentially Native American, the California Native American Heritage Commission shall be notified within five-days of the published finding to be given a reasonable opportunity to identify the "most likely descendant". The "most likely descendant" shall then make recommendations, and engage in consultations concerning the treatment of the remains (California Public Resources Code 5097.98). (GP Objective 23.3, CEQA).	Community Development Department. ● *(The Applicant is responsible for implementation)*	*During project construction.* ● Mitigation ends at the completion of the construction phase.
Mitigation Measure No. 13 (Cultural Resources Impacts). If previously unidentified paleontological resources are unearthed during construction, work shall cease within 50 feet of the find and the project Applicant must retain a qualified paleontologist, approved by the City, to assess the significance of the find. If a find is determined to be significant, the Lead Agency and the paleontologist will determine appropriate avoidance measures or other appropriate mitigation. All significant fossil materials recovered will be, as necessary and at the discretion of the qualified paleontologist, subject to scientific analysis, professional museum curation, and documentation according to current professional standards.	Community Development Department. ● *(The Applicant is responsible for implementation)*	*During project construction.* ● Mitigation ends at the completion of the construction phase.
Mitigation Measure No. 14 (Greenhouse Gases Emissions Impacts). The Applicant must install ENERGY STAR appliances wherever appliances are installed.	Community Development Department and the Building Official. ● *(The Applicant is responsible for implementation)*	*Prior to the issuance of a Certificate of Occupancy.* ● Mitigation to continue over the project's operational lifetime.
Mitigation Measure No. 15 (Greenhouse Gases Emissions Impacts). The Applicant shall install ENERGY STAR rated light emitting diodes (LEDs) for traffic, street, and outdoor lighting.	Community Development Department and the Building Official. ● *(The Applicant is responsible for implementation)*	*Prior to the issuance of a Certificate of Occupancy.* ● Mitigation to continue over the project's operational lifetime.
Mitigation Measure No. 16 (Greenhouse Gases Emissions Impacts). The Applicant must install ENERGY STAR rated Compact Florescent Lights (CFLs) in all indoor areas that require continuous lighting. CFLs should not be used in rooms or areas that are subject to frequent on/off cycling, as the lifespan of CFLs diminishes when there are frequently turned off.	Community Development Department and the Building Official. ● *(The Applicant is responsible for implementation)*	*Prior to the issuance of a Certificate of Occupancy.* ● Mitigation to continue over the project's operational lifetime.

Table 1
Mitigation-Monitoring Program (continued)

Measure	Enforcement Agency	Monitoring Phase
Mitigation Measure No. 17 (Greenhouse Gases Emissions Impacts). The Applicant must install light colored "cool" roofs.	Community Development Department and the Building Official. ● *(The Applicant is responsible for implementation)*	*Prior to the issuance of a Certificate of Occupancy.* ● Mitigation to continue over the project's operational lifetime.
Mitigation Measure No. 18 (Greenhouse Gases Emissions Impacts). The Applicant must install "cool" pavement (lighter colored) throughout the parking areas.	Community Development Department and the Building Official. ● *(The Applicant is responsible for implementation)*	*Prior to the issuance of a Certificate of Occupancy.* ● Mitigation to continue over the project's operational lifetime.
Mitigation Measure No. 19 (Greenhouse Gases Emissions Impacts). All landscape planted on-site must be watered by water dispensed through drip irrigation.	Community Development Department and the Building Official. ● *(The Applicant is responsible for implementation)*	*Prior to the issuance of a Certificate of Occupancy.* ● Mitigation to continue over the project's operational lifetime.
Mitigation Measure No. 20 (Greenhouse Gases Emissions Impacts). The building contractors shall install bicycle racks consistent with the City's Municipal Code adjacent to each building.	Community Development Department and the Building Official. ● *(The Applicant is responsible for implementation)*	*Prior to the issuance of a Certificate of Occupancy.* ● Mitigation to continue over the project's operational lifetime.
Mitigation Measure No. 21 (Greenhouse Gases Emissions Impacts). The building contractors shall install electric vehicle charging stations in the parking areas. Preferential parking spaces for electric vehicles must be provided.	Community Development Department and the Building Official. ● *(The Applicant is responsible for implementation)*	*Prior to the issuance of a Certificate of Occupancy.* ● Mitigation to continue over the project's operational lifetime.
Mitigation Measure No. 22 (Noise Impacts). The Applicant shall ensure that the contractors conduct demolition and construction activities between the hours of 7:00 AM and 6:00 PM on weekdays and 9:00 AM to 12:00 PM on Saturdays, with no construction permitted on Sundays or Federal holidays.	Community Development Department and Code Enforcement. ● *(The Applicant is responsible for implementation)*	*During project construction.* ● Mitigation ends at the completion of the construction phase.

Table 1
Mitigation-Monitoring Program (continued)

Measure	Enforcement Agency	Monitoring Phase
Mitigation Measure No. 23 (Noise Impacts). The Applicant shall ensure that the contractors use construction equipment that includes working mufflers and other sound suppression equipment as a means to reduce machinery noise.	Community Development Department and Code Enforcement. ● *(The Applicant is responsible for implementation)*	*During project construction.* ● Mitigation ends at the completion of the construction phase.
Mitigation Measure No. 24 (Noise Impacts). Signs must be installed around the perimeter of the Planning Area that display the name and phone number of the local contact person residents may call to complain about noise. Upon receipt of a complaint, the contractor must respond immediately by reducing noise to meet Code requirements. In addition, copies of all complaints and subsequent communication between the affected residents and contractors must be forwarded to the City's Community Development Department.	Community Development Department. ● *(The Applicant is responsible for implementation)*	*During project construction.* ● Mitigation ends at the completion of the construction phase.
Mitigation Measure No. 25 (Noise Impacts). The use of any such equipment which is capable of causing ground shaking is not permitted without prior written approval from the Public Works Director, or designee. If ground shaking vibratory equipment is requested and approved, the Contractor is responsible for making any repairs or replacements to facilities damaged due to nearby soils settling or other impacts of vibrating. The Contractor must install vibratory monitoring equipment to monitor for any settlement/damage caused.	Community Development Department. ● *(The Applicant is responsible for implementation)*	*During project construction.* ● Mitigation ends at the completion of the construction phase.
Mitigation Measure No. 26 (Noise Impacts). Construction staging must occur over 200 feet from the nearest residential use. The location of staging and queuing areas will be subject to the approval of the Community Development Department prior to the issuance of any building or grading permit.	Community Development Department and Code Enforcement. ● *(The Applicant is responsible for implementation)*	*During project construction.* ● Mitigation ends at the completion of the construction phase.
Previous traffic mitigation still applicable. For the Heacock Street and Westbound SR-60 ramps, the Applicant must optimize the cycle length (90 second cycle length), splits, and offsets and restripe the defacto right-turn lane to a southbound right-turn lane with 50-foot storage and a southbound through lane. This mitigation will improve the LOS to C.	Public Works Department. ● *(The Applicant is responsible for implementation)*	*Prior to the issuance of a Certificate of Occupancy.* ● Mitigation to continue over the project's operational lifetime.
Previous traffic mitigation still applicable. The Applicant must optimize the cycle length (60 second cycle length), splits, and offsets for the intersection of Davis Street and Ironwood Avenue. This mitigation will yield a LOS B.	Public Works Department. ● *(The Applicant is responsible for implementation)*	*Prior to the issuance of a Certificate of Occupancy.* ● Mitigation to continue over the project's operational lifetime.

Table 1
Mitigation-Monitoring Program (continued)

Measure	Enforcement Agency	Monitoring Phase
Previous traffic mitigation still applicable. The Applicant must optimize the cycle length (60 second cycle length), splits, and offsets for the intersection of Indian Street and Sunnymead Boulevard. This mitigation will yield a LOS C.	Public Works Department. ● *(The Applicant is responsible for implementation)*	*Prior to the issuance of a Certificate of Occupancy.* ● Mitigation to continue over the project's operational lifetime.
Previous traffic mitigation still applicable. For the Heacock Street/Ironwood Avenue intersection, the Applicant must restripe the eastbound left turn lanes to provide 150 feet of storage to accommodate 95th percentile queues.	Public Works Department. ● *(The Applicant is responsible for implementation)*	*Prior to the issuance of a Certificate of Occupancy.* ● Mitigation to continue over the project's operational lifetime.
Previous traffic mitigation still applicable. For the Heacock Street/Ironwood Avenue intersection, the Applicant must restripe the westbound left turn lanes to provide 190 feet of storage to accommodate 95th percentile queues.	Public Works Department. ● *(The Applicant is responsible for implementation)*	*Prior to the issuance of a Certificate of Occupancy.* ● Mitigation to continue over the project's operational lifetime.
Previous traffic mitigation still applicable. For the Heacock Street/Ironwood Avenue intersection, the Applicant must restripe the northbound left turn lanes to provide 210 feet of storage to accommodate 95th percentile queues.	Public Works Department. ● *(The Applicant is responsible for implementation)*	*Prior to the issuance of a Certificate of Occupancy.* ● Mitigation to continue over the project's operational lifetime.
Previous traffic mitigation still applicable. For the Heacock Street/Hemlock Avenue intersection, the Applicant must restripe the eastbound left turn lanes to provide 105 feet of storage to accommodate 95th percentile queues.	Public Works Department. ● *(The Applicant is responsible for implementation)*	*Prior to the issuance of a Certificate of Occupancy.* ● Mitigation to continue over the project's operational lifetime.
Previous traffic mitigation still applicable. For the Heacock Street/Hemlock Avenue intersection, the Applicant must restripe the northbound left turn lanes to provide 170 feet of storage to accommodate 95th percentile queues.	Public Works Department. ● *(The Applicant is responsible for implementation)*	*Prior to the issuance of a Certificate of Occupancy.* ● Mitigation to continue over the project's operational lifetime.
Previous traffic mitigation still applicable. For the Heacock Street/Hemlock Avenue intersection, the Applicant must restripe the southbound left turn lanes to provide 150 feet of storage to accommodate 95th percentile queues.	Public Works Department. ● *(The Applicant is responsible for implementation)*	*Prior to the issuance of a Certificate of Occupancy.* ● Mitigation to continue over the project's operational lifetime.

Table 1
Mitigation-Monitoring Program (continued)

Measure	Enforcement Agency	Monitoring Phase
Previous traffic mitigation still applicable. For the Heacock Street/State Route (SR 60) eastbound ramps, the Applicant must restripe 50 feet of the two-way left turn lane north of the Heacock/ SR-60 westbound ramps intersection as a "Freeway Only" lane.	Public Works Department. ● *(The Applicant is responsible for implementation)*	*Prior to the issuance of a Certificate of Occupancy.* ● Mitigation to continue over the project's operational lifetime.
Previous traffic mitigation still applicable. For the Davis Street/Ironwood Avenue intersection, the Applicant must restripe the eastbound left turn lanes to provide 220 feet of storage to accommodate 95th percentile queues**.**	Public Works Department. ● *(The Applicant is responsible for implementation)*	*Prior to the issuance of a Certificate of Occupancy.* ● Mitigation to continue over the project's operational lifetime.
Previous traffic mitigation still applicable. For the Davis Street/Ironwood Avenue intersection, the Applicant must restripe the southbound left turn lanes to provide 145 of feet storage to accommodate 95th percentile queues.	Public Works Department. ● *(The Applicant is responsible for implementation)*	*Prior to the issuance of a Certificate of Occupancy.* ● Mitigation to continue over the project's operational lifetime.
Previous traffic mitigation still applicable. For the Indian Street/Ironwood Avenue intersection, the Applicant must restripe the eastbound left turn lanes to provide 145 feet of storage to accommodate 95th percentile queues.	Public Works Department. ● *(The Applicant is responsible for implementation)*	*Prior to the issuance of a Certificate of Occupancy.* ● Mitigation to continue over the project's operational lifetime.
Previous traffic mitigation still applicable. For the Indian Street/Ironwood Avenue intersection, the Applicant must restripe the westbound left turn lanes to provide 140 feet of storage to accommodate 95th percentile queues.	Public Works Department. ● *(The Applicant is responsible for implementation)*	*Prior to the issuance of a Certificate of Occupancy.* ● Mitigation to continue over the project's operational lifetime.
Previous traffic mitigation still applicable. For the Indian Street/Ironwood Avenue intersection, the Applicant must restripe the northbound left turn lanes to provide 165 feet of storage to accommodate 95th percentile queues.	Public Works Department. ● *(The Applicant is responsible for implementation)*	*Prior to the issuance of a Certificate of Occupancy.* ● Mitigation to continue over the project's operational lifetime.
Previous traffic mitigation still applicable. For the Indian Street/Ironwood Avenue intersection, the Applicant must restripe the southbound left turn lanes to provide 155 feet of storage to accommodate 95th percentile queues.	Public Works Department. ● *(The Applicant is responsible for implementation)*	*Prior to the issuance of a Certificate of Occupancy.* ● Mitigation to continue over the project's operational lifetime.

Table 1
Mitigation-Monitoring Program (continued)

Measure	Enforcement Agency	Monitoring Phase
Previous traffic mitigation still applicable. For the Indian Street/Hemlock Avenue intersection, the Applicant must restripe the westbound left turn lanes to provide 110 feet of storage to accommodate 95th percentile queues.	Public Works Department. ● *(The Applicant is responsible for implementation)*	*Prior to the issuance of a Certificate of Occupancy.* ● Mitigation to continue over the project's operational lifetime.
Previous traffic mitigation still applicable. For the Indian Street/Hemlock Avenue intersection, the Applicant must restripe the northbound left turn lanes to provide 180 feet of storage to accommodate 95th percentile queues.	Public Works Department. ● *(The Applicant is responsible for implementation)*	*Prior to the issuance of a Certificate of Occupancy.* ● Mitigation to continue over the project's operational lifetime.
Previous traffic mitigation still applicable. For the Indian Street/Sunnymead Boulevard intersection, the Applicant must restripe the eastbound left turn lanes to provide 140 feet of storage to accommodate 95th percentile queues. This might require replacing the concrete island with stripping.	Public Works Department. ● *(The Applicant is responsible for implementation)*	*Prior to the issuance of a Certificate of Occupancy.* ● Mitigation to continue over the project's operational lifetime.
Previous traffic mitigation still applicable. For the Indian Street/Sunnymead Boulevard intersection, the Applicant must restripe the westbound left turn lanes to provide 115 feet of storage to accommodate 95th percentile queues.	Public Works Department. ● *(The Applicant is responsible for implementation)*	*Prior to the issuance of a Certificate of Occupancy.* ● Mitigation to continue over the project's operational lifetime.
Previous traffic mitigation still applicable. For the Indian Street/Sunnymead Boulevard intersection, the Applicant must restripe the northbound left turn lanes to provide 200 feet of storage to accommodate 95th percentile queues.	Public Works Department. ● *(The Applicant is responsible for implementation)*	*Prior to the issuance of a Certificate of Occupancy.* ● Mitigation to continue over the project's operational lifetime.
Previous traffic mitigation still applicable. For the Indian Street/Sunnymead Boulevard intersection, the Applicant must restripe the southbound left turn lanes to provide 125 feet of storage to accommodate 95th percentile queues.	Public Works Department. ● *(The Applicant is responsible for implementation)*	*Prior to the issuance of a Certificate of Occupancy.* ● Mitigation to continue over the project's operational lifetime.

ORDINANCE NO. 2021-XX

AN ORDINANCE OF THE CITY COUNCIL OF THE CITY OF MORENO VALLEY, CALIFORNIA, APPROVING SPECIFIC PLAN AMENDMENT PEN20-0138 TO AMEND THE LAND USE DESIGNATION OF THE 9.96-ACRE PROJECT SITE WITHIN THE MORENO VALLEY FESTIVAL SPECIFIC PLAN 205 FROM SP205 RETAIL COMMERCIAL TO SP205 MIXED USE FOR THE PROPERTY LOCATED ON THE SOUTHEAST CORNER OF HEACOCK STREET AND IRONWOOD AVENUE (481-020-013, 029, 030, 034, 035 & 038) AND THE NECESSARY AND CORRESPONDING AMENDMENTS TO THE CITY'S ZONING ATLAS

The City Council of the City of Moreno Valley does ordain as follows:

SECTION 1 GENERAL:

1.1 LCG 10MV LLC., ("Developer") has filed an application for the approval of Specific Plan Amendment PEN20-0138 ("Application") to amend the Moreno Valley Festival Specific Plan 205 from SP205 Retail Commercial to SP205 Mixed Use for the project located on the southeast corner of Heacock Street and Ironwood Avenue (APN 481-020-013, 029, 030, 034, 035 & 038) ("Site"), which shall also require any necessary and corresponding amendment to the City's Zoning Atlas to reflect the proposed changes in the zoning classification and/or redistricting associated with the Specific Plan Amendment; and

1.2 At its January 14, 2021 meeting, the Planning Commission considered the Specific Plan Amendment for The District Moreno Valley project and recommended approval to the City Council; and

1.3 Pursuant to the provisions of the law, a public hearing was held before the City Council on February 2, 2021, for deliberations and decision.

1.4 The matter was fully discussed, and the public and other agencies were given opportunity to present testimony and documentation.

1.5 An Initial Study has been prepared for the Project for the purpose of compliance with the California Environmental Quality Act (CEQA). Based on the Initial Study including all supporting technical evidence, it was determined that the project impacts are expected to be less than significant with mitigation, and approval of a Mitigated Negative Declaration is an appropriate environmental determination for the Project.

SECTION 2 EVIDENCE:

That the City Council has considered all of the evidence submitted into the administrative record for the Specific Plan Amendment, including, but not limited to, the following:

(a) Moreno Valley General Plan and all relevant provisions contained therein;
(b) Title 9 (Planning and Zoning) of the Moreno Valley Municipal Code and all relevant provisions referenced therein;
(c) The Specific Plan Amendment to amend the Land Use Designation of the 9.96-acre Project site within the Moreno Valley Festival Specific Plan 205 from SP205 Retail Commercial to SP205 Mixed Use and all other relevant provisions contained therein as shown on Exhibit A;
(d) Application for the approval of a Specific Plan Amendment PEN20-0138 and all documents, records and references contained therein;
(e) Staff Report prepared for the City Council's consideration and all documents, records and references related thereto, and Staff's presentation at the public hearing;
(f) Testimony and/or comments from Applicant and its representatives during the public hearing; and
(g) Testimony comments and/or correspondence from all persons that were provided in written format or correspondence, at, or prior to, the public hearing.

SECTION 3 FINDINGS:

That based on the foregoing Recitals and the Evidence contained in the Administrative Record as set forth above, the City Council hereby finds as follows:

(a) The proposed Specific Plan Amendment is consistent with the existing goals, objectives, policies and programs of the General Plan;
(b) The proposed Specific Plan Amendment will not adversely affect the public health, safety or general welfare; and
(c) The proposed Specific Plan Amendment is consistent with the purposes and intent of Title 9.

SECTION 4 AMENDMENT OF THE OFFICIAL SPECIFIC PLAN 205:

4.1 Specific Plan 205, approved and certified by the City of Moreno Valley on October 27, 1987, amended February 15, 2018, is further amended by placing in effect the zone or zone classification to Page 59 of the Specific Plan and thereafter where applicable, as shown on the attached map marked "Exhibit A" and included herein by reference and on file in the office of the City Clerk.

SECTION 5 EFFECT OF ENACTMENT:

4.1 Except as specifically provided herein, nothing contained in this ordinance shall be deemed to modify or supersede any prior enactment of the City Council which addresses the same subject addressed herein.

SECTION 6 NOTICE OF ADOPTION:

5.1 Within fifteen days after the date of adoption hereof, the City Clerk shall certify to the adoption of this ordinance and cause it to be posted in three public places within the city.

SECTION 7 EFFECTIVE DATE:

6.1 This ordinance shall take effect thirty days after the date of its adoption.

APPROVED AND ADOPTED this _____ day of _____, _____.

CITY OF MORENO VALLEY
CITY COUNCIL

_____
Dr. Yxstian A. Gutierrez
Mayor of the City of Moreno Valley

ATTEST:

_____
City Clerk

APPROVED AS TO FORM:

_____
Steven B. Quintanilla, Interim City Attorney

ORDINANCE JURAT

STATE OF CALIFORNIA)

COUNTY OF RIVERSIDE) ss.

CITY OF MORENO VALLEY)

I, Pat Jacquez-Nares, City Clerk of the City of Moreno Valley, California, do hereby certify that Ordinance No. YYYY-___ was duly and regularly adopted by the City Council of the City of Moreno Valley at a regular meeting thereof held on the _____ day of February, 2021, by the following vote:

AYES:

NOES:

ABSENT:

ABSTAIN:

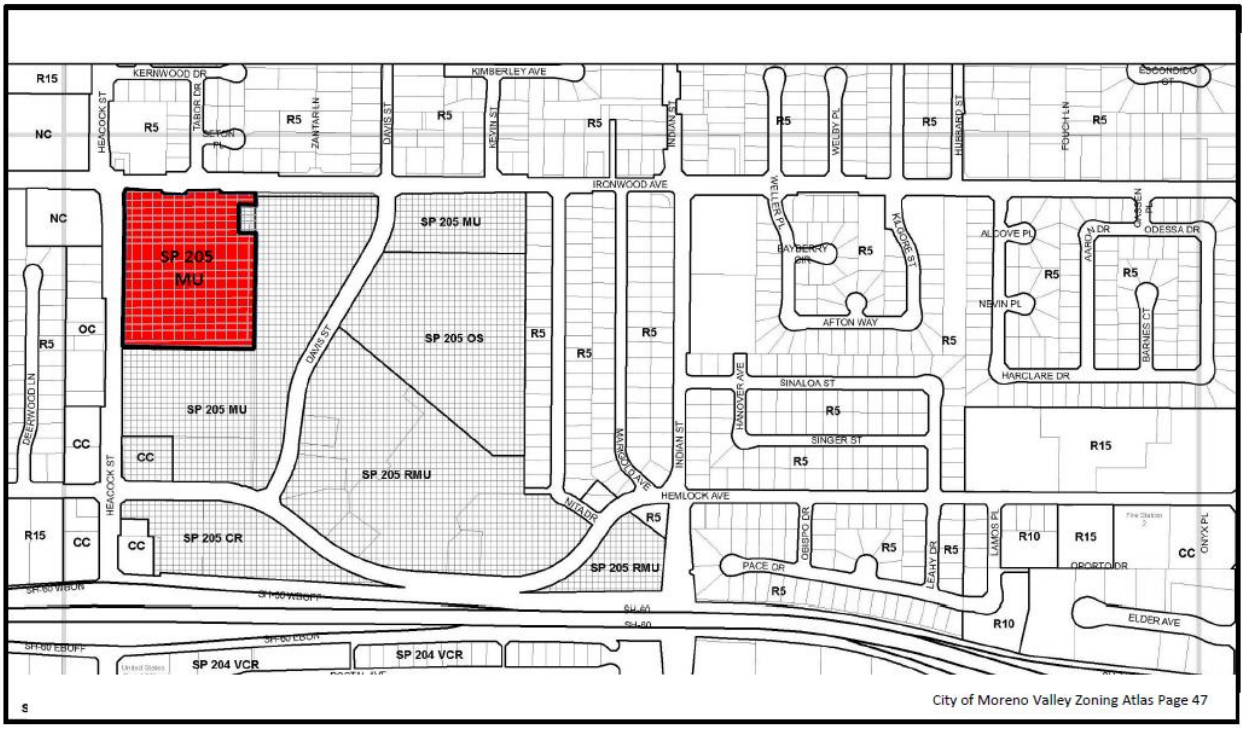
(Council Members, Mayor Pro Tem and Mayor)

_____

CITY CLERK

(SEAL)

EXHIBIT A



The Festival Specific Plan (SP 205) – Specific Plan Amendment
PEN20-0138

SP 205 Mix of Uses (MU)

Moreno Valley Festival Specific Plan (SP 205)

RESOLUTION NUMBER 2021-XX

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF MORENO VALLEY, CALIFORNIA, APPROVING PLOT PLAN PEN20-0137 FOR A LIGHT INDUSTRIAL BUILDING AND ASSOCIATED IMPROVEMENTS LOCATED ON THE SOUTHEAST CORNER OF HEACOCK STREET AND IRONWOOD AVENUE (481-020-013, 029, 030, 034, 035, & 038)

WHEREAS, the City of Moreno Valley ("City") is a general law city and a municipal corporation of the State of California; and

WHEREAS, LCG 10MV LLC., ("Developer") has filed an application for the approval of Plot Plan PEN20-0137 ("Application") for an approximately 220,390 square foot light industrial building with associated public improvements ("Project") located at the southeast corner of Heacock Street and Ironwood Avenue (APN'S 481-020-013, 029, 030, 034, 035, & 038) ("Site"); and

WHEREAS, Section 9.02.070 (Plot Plan) of the Moreno Valley Municipal Code acknowledges that the purpose of plot plans is to provide a mechanism by which all new construction of industrial, commercial or multiple-family residential can be reviewed when not subject to other discretionary review processes which have review authority over project design; and

WHEREAS, the Application has been evaluated in accordance with Section 9.02.070 (Plot Plan) of the Municipal Code with consideration given to the City's General Plan, Specific Plan 205, Zoning Ordinance, and other applicable laws and regulations; and

WHEREAS, Section 9.02.070 of the Municipal Code imposes conditions of approval upon projects for which a Plot Plan is required, which conditions may be imposed by the City Council to address on-site improvements, off-site improvements, the manner in which the site is used and any other conditions as may be deemed necessary to protect the public health, safety and welfare and ensure that the proposed Project will be developed in accordance with the purpose and intent of Title 9 ("Planning and Zoning") of the Municipal Code; and

WHEREAS, Staff has presented for the City Council's consideration Conditions of Approval to be imposed upon Plot Plan PEN20-0137, which conditions have been deemed necessary to protect the public health, safety and welfare and ensure that the proposed Project will be developed in accordance with the purpose and intent of Title 9 (Planning and Zoning) of the Municipal Code; and

WHEREAS, pursuant to the provisions of Section 9.02.200 (Public Hearing and Notification Procedures) of the Municipal Code and Government Code section 65905, a public hearing before the Planning Commission was scheduled for January 14, 2021, and

notice thereof was duly published and posted, and mailed to all property owners of record within 600 feet of the Site; and

WHEREAS, on January 14, 2021, the public hearing to consider the Application was duly conducted by the Planning Commission at which time all interested persons were provided with an opportunity to testify and to present evidence; and

WHEREAS, on January 14, 2021 a hearing was conducted by the Planning Commission to consider a recommendation that the City Council approve the Plot Plan; and

WHEREAS, on January 14, 2021 a hearing was conducted by the Planning Commission whereby the Planning Commission approved Planning Commission Resolution 2021-04, a recommendation that the City Council approve the Plot Plan; and

WHEREAS, consistent with the requirements of Section 9.02.070 (Plot Plan) of the Municipal Code, at the public hearing the City Council considered Conditions of Approval to be imposed upon Plot Plan PEN20-0137, which conditions were prepared by Planning Division staff who deemed said conditions to be necessary to protect the public health, safety and welfare and to ensure the proposed Project will be developed in accordance with the purpose and intent of Title 9 ("Planning and Zoning") of the Municipal Code; and

WHEREAS, at the public hearing, the City Council considered whether each of the requisite findings specified in Section 9.02.070 of the Municipal Code and set forth herein could be made with respect to the proposed Project as conditioned by Conditions of Approval; and

WHEREAS, on February 2, 2021, on February 2, 2021 a hearing was conducted by the City Council whereby the City Council approved the Specific Plan 205 Amendment.

NOW, THEREFORE, THE CITY COUNCIL OF THE CITY OF MORENO VALLEY, CALIFORNIA, DOES HEREBY RESOLVE AS FOLLOWS:

Section 1. **Recitals and Exhibits**

That the foregoing Recitals and attached Exhibits are true and correct and are hereby incorporated by this reference.

Section 2. **Notice**

That pursuant to Government Code section 66020(d)(1), notice is hereby given that the proposed project is subject to certain fees, dedications, reservations and other exactions as provided herein.

Section 3. **Evidence**

That the City Council has considered all of the evidence submitted into the administrative record for the proposed Plot Plan, including, but not limited to, the following:

(a) Moreno Valley General Plan and all other relevant provisions contained therein;
(b) Title 9 (Planning and Zoning) of the Moreno Valley Municipal Code, Specific Plan 205, and all other relevant provisions referenced therein;
(c) Application for the approval of Plot Plan PEN20-0137 and all documents, records and references contained therein;
(d) Conditions of Approval for Plot Plan PEN20-0137, attached hereto as Exhibit A;
(e) Staff Report prepared for the City Council's consideration and all documents, records and references related thereto, and Staff's presentation at the public hearing;
(f) Testimony and/or comments from Applicant and its representatives during the public hearing; and
(g) Testimony and/or comments from all persons that was provided in written format or correspondence, at, or prior to, the public hearing.

Section 4. **Findings**

That based on the foregoing Recitals and the Evidence contained in the Administrative Record as set forth above, the City Council makes the following findings in approving Plot Plan PEN20-0137

(a) The proposed project is consistent with the goals, objectives, policies and programs of the general plan;
(b) The proposed project complies with all applicable zoning and other regulations;
(c) The proposed project will not be detrimental to the public health, safety or welfare or materially injurious to properties or improvements in the vicinity;
(d) The location, design and operation of the proposed project will be compatible with existing and planned land uses in the vicinity.

Section 5. **Approval**

That based on the foregoing Recitals, Evidence contained in the Administrative Record and Findings set forth above, the City Council approves Plot Plan PEN20-0137 subject to the Conditions of Approval for Plot Plan PEN20-0137 attached hereto as Exhibit A.

Section 6. **Repeal of Conflicting Provisions**

That all the provisions as heretofore adopted by the City Council that are in conflict with the provisions of this Resolution are hereby repealed.

Section 7. **Severability**

That the City Council declares that, should any provision, section, paragraph, sentence or word of this Resolution be rendered or declared invalid by any final court action in a court of competent jurisdiction or by reason of any preemptive legislation, the remaining provisions, sections, paragraphs, sentences or words of this Resolution as hereby adopted shall remain in full force and effect.

Section 8. **Effective Date**

That this Resolution shall take effect immediately upon the date of adoption.

Section 9. **Certification**

That the City Clerk for the City Council shall certify to the passage of this Resolution.

PASSED AND ADOPTED THIS _____ day of _____, 2021.

CITY OF MORENO VALLEY
CITY COUNCIL

_____
Dr. Yxstian A. Gutierrez
Mayor of the City of Moreno Valley

ATTEST:

_____
Pat Jacquez-Nares, City Clerk

APPROVED AS TO FORM:

_____
Steven B. Quintanilla, Interim City Attorney

Exhibits:
Exhibit A: Conditions of Approval PEN20-0137

Exhibit A

CONDITIONS OF APPROVAL

CITY OF MORENO VALLEY
CONDITIONS OF APPROVAL
Plot Plan (PEN20-0137)

EFFECTIVE DATE:
EXPIRATION DATE:

COMMUNITY DEVELOPMENT DEPARTMENT

Planning Division

1. A change or modification to the land use or the approved site plans may require a separate approval. Prior to any change or modification, the property owner shall contact the City of Moreno Valley Community Development Department to determine if a separate approval is required.

2. Any expansion to this use or exterior alterations will require the submittal of a separate application(s) and shall be reviewed and approved under separate permit(s). (MC 9.02.080)

3. The developer, or the developer's successor-in-interest, shall be responsible for maintaining any undeveloped portion of the site in a manner that provides for the control of weeds, erosion and dust. (MC 9.02.030)

4. This approval shall expire three years after the approval date of this project unless used or extended as provided for by the City of Moreno Valley Municipal Code; otherwise it shall become null and void and of no effect whatsoever. Use means the beginning of substantial construction contemplated by this approval within the three-year period, which is thereafter pursued to completion, or the beginning of substantial utilization contemplated by this approval. (MC 9.02.230)

5. All landscaped areas shall be maintained in a healthy and thriving condition, free from weeds, trash and debris. (MC 9.02.030)

6. This project is located within Specific Plan 205. The provisions of the specific plan, the design manual, their subsequent amendments, and the Conditions of Approval shall prevail unless modified herein. (MC 9.13)

7. The site shall be developed in accordance with the approved plans on file in the Community Development Department - Planning Division, the Municipal Code regulations, General Plan, and the conditions contained herein. Prior to any use of the project site or business activity being commenced thereon, all Conditions of Approval shall be completed to the satisfaction of the Planning Official. (MC 9.14.020)

8. Any signs indicated on the submitted plans are not included with this approval. Any signs, whether permanent (e.g. wall, monument) or temporary (e.g. banner, flag), require separate application and approval by the Planning Division. No signs are permitted in the public right of way. (MC 9.12)

9. All site plans, grading plans, landscape and irrigation plans, fence/wall plans, lighting plans and street improvement plans shall be coordinated for consistency with this approval.

Special Conditions

10. The site has been approved for an approximately 222,000 square foot light industrial building with associated on-site and off-site improvements. A change or modification shall require separate approval.

Prior to Building Permit

11. Prior to issuance of any building permit, all Mitigation Measures and Conditions of Approval shall be printed on the building plans.

12. Prior to the issuance of building permits, the developer shall provide documentation that contact was made to the U.S. Postal Service to determine the appropriate type and location of mailboxes.

13. Prior to the issuance of building permits, if proposed, covered trash enclosures shall be included in the Planning review of the Fence and Wall plan included in the building plan submittal. The trash enclosure(s), including the roof materials, shall be compatible with the architecture, color and materials of the building(s) design. Trash enclosure areas shall include landscaping on three sides unless it is located in the truck court. Approved design plans shall be included in a Building submittal (Fence and Wall or building design plans). (GP Objective 43.6, DG)

14. Prior to issuance of any building permits, final landscaping and irrigation plans shall be submitted for review and approved by the Planning Division. After the third plan check review for landscape plans, an additional plan check fee shall apply. The plans shall be prepared in accordance with the City's Landscape Requirements and shall include:

    a. Finger and end planters with required step outs and curbing shall be provided every 12 parking stalls as well as at the terminus of each aisle.

    b. Drought tolerant landscape shall be used. No sod shall be installed.

c. Street trees shall be provided every 40 feet on center in the right of way.

d. On-site trees shall be planted at an equivalent of one (1) tree per thirty (30) linear feet of the perimeter of a parking lot and per thirty linear feet of a building dimension for the portions of the building visible from a parking lot or right of way. Trees may be massed for pleasing aesthetic effects.

e. Enhanced landscaping shall be provided at all driveway entries, street corner locations and adjacent to the building. The review of all utility boxes, transformers etc. shall be coordinated to provide adequate screening from public view.

f. All site perimeter and parking lot landscape and irrigation shall be installed prior to the release of certificate of any occupancy permits for the site.

15. Prior to issuance of a building permit, the developer/property owner or developer's successor-in-interest shall pay all applicable impact fees due at permit issuance, including but not limited to Multi-species Habitat Conservation Plan (MSHCP) mitigation fees. (Ord)

16. Prior to building final, the developer/owner or developer's/owner's successor-in-interest shall pay all applicable impact fees, including but not limited to Transportation Uniform Mitigation fees (TUMF), and the City's adopted Development Impact Fees. (Ord)

17. Prior to or at building plan check submittal, the elevation plans shall include decorative lighting sconces on all sides of the buildings of the complex facing a parking lot, courtyard or plaza, or public right of way or open space to provide up-lighting and shadowing on the structures. Include drawings of the sconce details for each building within the elevation plans, approved by the Planning Division prior to building permit issuance.

18. Included with the Building Plan submittal, two copies of a detailed, on-site, computer generated, point-by-point comparison lighting plan, including exterior building, parking lot, and landscaping lighting, shall be submitted for review and approval prior to the issuance of a building permit. The lighting plan shall be generated on the plot plan and shall be integrated with the final landscape plan. The plan shall indicate the manufacturer's specifications for light fixtures used, shall include style, illumination, location, height and method of shielding per the City's Municipal Code requirements. (MC 9.08.100, 9.16.280)

19. Prior to issuance of building permits, screening details shall be addressed on the building plans for roof top equipment submitted for Planning Division review and approval through the building plan check process. All equipment shall be

completely screened so as not to be visible from public view, and the screening shall be an integral part of the building.

20. Prior to issuance of any grading permit, all Mitigation Measures and Conditions of Approval shall be printed on the grading plans.

21. Prior to issuance of any grading permits, mitigation measures contained in the Mitigation Monitoring Program approved with this project shall be implemented as provided therein. A mitigation monitoring fee, as provided by City ordinance, shall be paid by the applicant within 30 days of project approval. No City permit or approval shall be issued until such fee is paid. (CEQA)

22. Prior to issuance of grading permits, the developer shall pay the applicable Stephens' Kangaroo Rat (SKR) Habitat Conservation Plan mitigation fee. (Ord)

23. If potential historic, archaeological, Native American cultural resources or paleontological resources are uncovered during excavation or construction activities at the project site, work in the affected area must cease immediately and a qualified person (meeting the Secretary of the Interior's standards (36CFR61)) shall be consulted by the applicant to evaluate the find, and as appropriate recommend alternative measures to avoid, minimize or mitigate negative effects on the historic, prehistoric, or paleontological resource. Determinations and recommendations by the consultant shall be immediately submitted to the Planning Division for consideration, and implemented as deemed appropriate by the Community Development Director, in consultation with the State Historic Preservation Officer (SHPO) and any and all affected Native American Tribes before any further work commences in the affected area.

    If human remains are discovered during grading and other construction excavation, no further disturbance shall occur until the County Coroner has made necessary findings as to origin. If the County Coroner determines that the remains are potentially Native American, the California Native American Heritage Commission shall be notified within 5-days of the published finding to be given a reasonable opportunity to identify the "most likely descendant." The "most likely descendant" shall then make recommendations, and engage in consultations concerning the treatment of the remains (California Public Resources Code 5097.98). (GP Objective 23.3, CEQA).

24. Within thirty (30) days prior to any grading or other land disturbance, a pre-construction survey for Burrowing Owls shall be conducted pursuant to the established guidelines of Multiple Species Habitat Conservation Plan. The pre-construction survey shall be submitted to the Planning Division prior to any disturbance of the site and/or grading permit issuance.

25. Prior to the issuance of grading permits, the site plan and grading plans shall show

decorative hardscape (e.g. colored concrete, stamped concrete, pavers or as approved by the Planning Official) consistent and compatible with the design, color and materials of the proposed development for all driveway ingress/egress locations of the project.

26. Prior to issuance of grading permits, the developer shall submit wall/fence plans to the Planning Division for review and approval in accordance with the Municipal Code and Specific Plan fence and wall requirements.

27. Prior to the issuance of grading permits, a temporary project identification sign shall be erected on the site in a secure and visible manner. The sign shall be conspicuously posted at the site and remain in place until occupancy of the project. The sign shall include the following:

    a. The name (if applicable) and address of the development.
    b. The developer's name, address, and a 24-hour emergency telephone number.

Prior to Building Final or Occupancy

28. Prior to building final, all required landscaping and irrigation shall be installed per plan, certified by the Landscape Architect and inspected by the Planning Division. (MC 9.03.040, MC 9.17).

29. Prior to building final, Planning approved/stamped landscape plans shall be provided to the Community Development Department – Planning Division on a CD disk.

30. Prior to building final, all required and proposed fences and walls shall be constructed according to the approved plans on file in the Planning Division. (MC 9.080.070).

Building Division

31. The proposed non-residential project shall comply with the latest Federal Law, Americans with Disabilities Act, and State Law, California Code of Regulations, Title 24, Chapter 11B for accessibility standards for the disabled including access to the site, exits, bathrooms, work spaces, etc.

32. Prior to submittal, all new development, including residential second units, are required to obtain a valid property address prior to permit application. Addresses can be obtained by contacting the Building Safety Division at 951.413.3350.

33. Contact the Building Safety Division for permit application submittal requirements.

34. Any construction within the city shall only be as follows: Monday through Friday seven a.m. to seven p.m(except for holidays which occur on weekdays), eight a.m. to four p.m.; weekends and holidays (as observed by the city and described in the Moreno Valley Municipal Code Chapter 2.55), unless written approval is first obtained from the Building Official or City Engineer.

35. Building plans submitted shall be signed and sealed by a California licensed design professional as required by the State Business and Professions Code.

36. The proposed development shall be subject to the payment of required development fees as required by the City's current Fee Ordinance at the time a building application is submitted or prior to the issuance of permits as determined by the City.

37. The proposed project will be subject to approval by the Eastern Municipal Water District and all applicable fees and charges shall be paid prior to permit issuance. Contact the water district at 951.928.3777 for specific details.

38. All new structures shall be designed in conformance to the latest design standards adopted by the State of California in the California Building Code, (CBC) Part 2, Title 24, California Code of Regulations including requirements for allowable area, occupancy separations, fire suppression systems, accessibility, etc.

39. The proposed non-residential project shall comply with California Green Building Standards Code, Section 5.106.5.3, mandatory requirements for Electric Vehicle Charging Station (EVCS).

40. The proposed project's occupancy shall be classified by the Building Official and must comply with exiting, occupancy separation(s) and minimum plumbing fixture requirements. Minimum plumbing fixtures shall be provided per the California Plumbing Code, Table 422.1. The occupant load and occupancy classification shall be determined in accordance with the California Building Code.

41. Prior to permit issuance, every applicant shall submit a properly completed Waste Management Plan (WMP), as a portion of the building or demolition permit process. (MC 8.80.030)

42. All new buildings 10,000 square feet and over, shall include building commissioning in the design and construction processes of the building project to verify that the building systems and components meet the owner's or owner representative's project requirements (OPR). All requirements in The California Green Building Standards Code, sections 5.410.2 - 5.410.2.6 must be met.

ECONOMIC DEVELOPMENT DEPARTMENT (EDD)

43. New Moreno Valley businesses may work with the Economic Development Department to coordinate job recruitment fairs.

44. New Moreno Valley businesses may adopt a "First Source" approach to employee recruitment that gives notice of job openings to Moreno Valley residents for one week in advance of the public recruitment.

45. New Moreno Valley businesses are encouraged to hire local residents.

46. New Moreno Valley businesses are encouraged to provide a job fair flyer and/or web announcement to the City in advance of job recruitments, so that the City can assist in publicizing these events.

47. New Moreno Valley businesses may utilize the workforce recruitment services provided by the Moreno Valley Employment Resource Center ("ERC").

    The ERC offers no cost assistance to businesses recruiting and training potential employees. Complimentary services include:

    • Job Announcements
    • Applicant testing / pre-screening
    • Interviewing
    • Job Fair support
    • Training space

FIRE DEPARTMENT

Fire Prevention Bureau

48. All Fire Department access roads or driveways shall not exceed 12 percent grade. (CFC 503.2.7 and MVMC 8.36.060[G])

49. The Fire Department emergency vehicular access road shall be (all weather surface) capable of sustaining an imposed load of 80,000 lbs. GVW, based on street standards approved by the Public Works Director and the Fire Prevention Bureau. The approved fire access road shall be in place during the time of construction. Temporary fire access roads shall be approved by the Fire Prevention Bureau. (CFC 501.4, and MV City Standard Engineering Plan 108d)

50. The angle of approach and departure for any means of Fire Department access shall not exceed 1 ft drop in 20 ft (0.3 m drop in 6 m), and the design limitations of the fire apparatus of the Fire Department shall be subject to approval by the AHJ. (CFC 503 and MVMC 8.36.060)

51. Prior to construction, all locations where structures are to be built shall have an approved Fire Department access based on street standards approved by the Public Works Director and the Fire Prevention Bureau. (CFC 501.4)

52. Prior to issuance of Building Permits, the applicant/developer shall provide the Fire Prevention Bureau with an approved site plan for Fire Lanes and signage. (CFC 501.3)

53. Prior to issuance of Certificate of Occupancy or Building Final, "Blue Reflective Markers" shall be installed to identify fire hydrant locations in accordance with City specifications. (CFC 509.1 and MVLT 440A-0 through MVLT 440C-0)

54. Prior to issuance of building permits, plans specifying the required structural materials for building construction in high fire hazard severity zones shall be submitted to the Fire Prevention Bureau for approval. (CFC, 4905)

55. Prior to issuance of Certificate of Occupancy or Building Final, all commercial buildings shall display street numbers in a prominent location on the street side and rear access locations. The numerals shall be a minimum of twelve inches in height. (CFC 505.1, MVMC 8.36.060[I])

56. Existing fire hydrants on public streets are allowed to be considered available. Existing fire hydrants on adjacent properties shall not be considered available unless fire apparatus access roads extend between properties and easements are established to prevent obstruction of such roads. (CFC 507, 501.3) a - After the local water company signs the plans, the originals shall be presented to the Fire Prevention Bureau for signatures. The required water system, including fire hydrants, shall be installed, made serviceable, and be accepted by the Moreno Valley Fire Department prior to beginning construction. They shall be maintained accessible.

57. Final fire and life safety conditions will be addressed when the Fire Prevention Bureau reviews building plans. These conditions will be based on occupancy, use, California Building Code (CBC), California Fire Code (CFC), and related codes, which are in effect at the time of building plan submittal.

58. Prior to issuance of Certificate of Occupancy or Building Final, the applicant/developer shall install a fire alarm system monitored by an approved Underwriters Laboratory listed central station based on a requirement for monitoring the sprinkler system, occupancy or use. Fire alarm panel shall be accessible from exterior of building in an approved location. Plans shall be submitted to the Fire Prevention Bureau for approval prior to installation. (CFC Chapter 9 and MVMC 8.36.100)

59. The Fire Code Official is authorized to enforce the fire safety during construction requirements of Chapter 33. (CFC Chapter 33 & CBC Chapter 33)

60. Fire lanes and fire apparatus access roads shall have an unobstructed width of not less than twenty–four (24) feet and an unobstructed vertical clearance of not less the thirteen (13) feet six (6) inches. (CFC 503.2.1 and MVMC 8.36.060[E])

61. Prior to issuance of Certificate of Occupancy or Building Final, the applicant/developer shall install a fire sprinkler system based on square footage and type of construction, occupancy or use. Fire sprinkler plans shall be submitted to the Fire Prevention Bureau for approval prior to installation. (CFC Chapter 9, MVMC 8.36.100[D])

62. Prior to issuance of the building permit for development, independent paved access to the nearest paved road, maintained by the City shall be designed and constructed by the developer within the public right of way in accordance with City Standards. (MVMC 8.36.060, CFC 501.4)

63. Prior to issuance of a Certificate of Occupancy or Building Final, a "Knox Box Rapid Entry System" shall be provided. The Knox-Box shall be installed in an accessible location approved by the Fire Code Official. All exterior security emergency access gates shall be electronically operated and be provided with Knox key switches for access by emergency personnel. (CFC 506.1)

64. The minimum number of fire hydrants required, as well as the location and spacing of fire hydrants, shall comply with the C.F.C., MVMC, and NFPA 24. Fire hydrants shall be located no closer than 40 feet to a building. A fire hydrant shall be located within 50 feet of the fire department connection for buildings protected with a fire sprinkler system. The size and number of outlets required for the approved fire hydrants are (6" x 4" x 2 ½" x 2 ½") (CFC 507.5.1, 507.5.7, Appendix C, NFPA 24-7.2.3, MVMC 912.2.1)

65. Fire Department access driveways over 150 feet in length shall have a turn-around as determined by the Fire Prevention Bureau capable of accommodating fire apparatus. (CFC 503 and MVMC 8.36.060, CFC 501.4)

66. During phased construction, dead end roadways and streets which have not been completed shall have a turn-around capable of accommodating fire apparatus. (CFC 503.1 and 503.2.5)

67. If construction is phased, each phase shall provide an approved emergency vehicular access way for fire protection prior to any building construction. (CFC 501.4)

68. Prior to issuance of Building Permits, plans for structural protection from vegetation

fires shall be submitted to the Fire Prevention Bureau for review and approval. Measures shall include, but are not limited to: noncombustible barriers (cement or block walls), fuel modification zones, etc. (CFC Chapter 49)

69. Plans for private water mains supplying fire sprinkler systems and/or private fire hydrants shall be submitted to the Fire Prevention Bureau for approval. (CFC 105 and CFC 3312.1)

70. The Fire Prevention Bureau is required to set a minimum fire flow for the remodel or construction of all commercial buildings per CFC Appendix B and Table B105.1. The applicant/developer shall provide documentation to show there exists a water system capable of delivering said waterflow for 2 hour(s) duration at 20-PSI residual operating pressure. The required fire flow may be adjusted during the approval process to reflect changes in design, construction type, or automatic fire protection measures as approved by the Fire Prevention Bureau. Specific requirements for the project will be determined at time of submittal. (CFC 507.3, Appendix B)

71. Dead-end streets and/or fire apparatus access roads in excess of 150 feet in length shall be provided with an approved turnaround for fire apparatus.

72. Prior to construction, all traffic calming designs/devices must be approved by the Fire Marshal and City Engineer.

73. Prior to building construction, dead end roadways and streets which have not been completed shall have a turnaround capable of accommodating fire apparatus. (CFC 503.2.5)

74. Prior to issuance of Certificate of Occupancy or Building Final, the applicant/developer shall be responsible for obtaining underground and/or above ground tank permits for the storage of combustible liquids, flammable liquids, or any other hazardous materials from both the County of Riverside Community Health Agency Department of Environmental Health and the Fire Prevention Bureau. (CFC 105)

75. Prior to issuance of Building Permits, the applicant/developer shall furnish one copy of the water system plans to the Fire Prevention Bureau for review. Plans shall: a. Be signed by a registered civil engineer or a certified fire protection engineer; b. Contain a Fire Prevention Bureau approval signature block; and c. Conform to hydrant type, location, spacing of new and existing hydrants and minimum fire flow required as determined by the Fire Prevention Bureau. The required water system, including fire hydrants, shall be installed, made serviceable, and be accepted by the Moreno Valley Fire Department prior to beginning construction. They shall be maintained accessible.

PUBLIC WORKS DEPARTMENT

Land Development

76. Aggregate slurry, as defined in Section 203-5 of Standard Specifications for Public Works Construction, shall be required prior to 90% security reduction or the end of the one-year warranty period of the public streets as approved by the City Engineer. If slurry is required, a slurry mix design shall be submitted for review and approved by the City Engineer. The latex additive shall be Ultra Pave 70 (for anionic) or Ultra Pave 65 K (for cationic) or an approved equal per the geotechnical report. The latex shall be added at the emulsion plant after weighing the asphalt and before the addition of mixing water. The latex shall be added at a rate of two to two-and-one-half (2 to 2½) parts to one-hundred (100) parts of emulsion by volume. Any existing striping shall be removed prior to slurry application and replaced per City standards.

77. The developer shall comply with all applicable City ordinances and resolutions including the City's Municipal Code (MC) and if subdividing land, the Government Code (GC) of the State of California, specifically Sections 66410 through 66499.58, said sections also referred to as the Subdivision Map Act (SMA). [MC 9.14.010]

78. The final approved conditions of approval (COAs) issued and any applicable Mitigation Measures by the Planning Division shall be photographically or electronically placed on mylar sheets and included in the Grading and Street Improvement plans.

79. The developer shall monitor, supervise and control all construction related activities, so as to prevent these activities from causing a public nuisance, including but not limited to, insuring strict adherence to the following:
(a) Removal of dirt, debris, or other construction material deposited on any public street no later than the end of each working day.
(b) Observance of working hours as stipulated on permits issued by the Land Development Division.
(c) The construction site shall accommodate the parking of all motor vehicles used by persons working at or providing deliveries to the site.
(d) All dust control measures per South Coast Air Quality Management District (SCAQMD) requirements during the grading operations.
Violation of any condition, restriction or prohibition set forth in these conditions shall subject the owner, applicant, developer or contractor(s) to remedy as noted in City Municipal Code 8.14.090. In addition, the City Engineer or Building Official may suspend all construction related activities for violation of any condition, restriction or prohibition set forth in these conditions until such time as it has been determined that all operations and activities are in conformance with these conditions.

80. Drainage facilities (e.g., catch basins, water quality basins, etc.) with sump conditions shall be designed to convey the tributary 100-year storm flows. Secondary emergency escape shall also be provided.

81. In the event right-of-way or offsite easements are required to construct offsite improvements necessary for the orderly development of the surrounding area to meet the public health and safety needs, the developer shall make a good faith effort to acquire the needed right-of-way in accordance with the Land Development Division's administrative policy. If unsuccessful, the Developer shall enter into an agreement with the City to acquire the necessary right-of-way or offsite easements and complete the improvements at such time the City acquires the right-of-way or offsite easements which will permit the improvements to be made. The developer shall be responsible for all costs associated with the right-of-way or easement acquisition. [GC 66462.5]

82. If improvements associated with this project are not initiated within two (2) years of the date of approval of the Public Improvement Agreement (PIA), the City Engineer may require that the engineer's estimate for improvements associated with the project be modified to reflect current City construction costs in effect at the time of request for an extension of time for the PIA or issuance of a permit. [MC 9.14.210(B)(C)]

83. The developer shall protect downstream properties from damage caused by alteration of drainage patterns (i.e. concentration or diversion of flow, etc). Protection shall be provided by constructing adequate drainage facilities, including, but not limited to, modifying existing facilities or by securing a drainage easement. [MC 9.14.110]

84. Public drainage easements, when required, shall be a minimum of 25 feet wide and shall be shown on the map and plan, and noted as follows: "Drainage Easement – no structures, obstructions, or encroachments by land fills are allowed." In addition, the grade within the easement area shall not exceed a 3:1 (H:V) slope, unless approved by the City Engineer.

85. The maintenance responsibility of the proposed storm drain line shall be clearly identified. Storm drain lines within private property will be privately maintained and those within public streets will be publicly maintained.

86. The proposed private storm drain system shall connect to the existing RCFC&CWD. A storm drain manhole shall be placed at the right-of-way line to mark the beginning of the publicly maintained portion of this storm drain.

87. This project shall submit civil engineering design plans, reports and/or documents (prepared by a registered/licensed civil engineer) for review and approval by the City Engineer per the current submittal requirements, prior to the indicated threshold

or as required by the City Engineer. The submittal consists of, but is not limited to, the following:

a. Rough grading w/ erosion control plan (prior to grading permit issuance);

b. Precise grading w/ erosion control plan (prior to Building permit issuance);

c. Public Improvement Plan (e.g., STREET/STORM DRAIN w/ STRIPING, RCFC STORM DRAIN, SEWER/WATER, etc.) (prior to Encroachment Permit Issuance);

d. Final drainage study (prior to grading plan approval);

e. Final WQMP (prior to grading plan approval);

f. Legal Documents (e.g., EASEMENT(s),DEDICATION(s), LOT LINE ADJUSTMENT, VACATION, etc.) (prior to BUILDING PERMIT ISSUANCE);

g. As-Built revision for all plans (prior to Occupancy release);

Prior to Grading Plan Approval

88. Resolution of all drainage issues shall be as approved by the City Engineer.

89. A final detailed drainage study (prepared by a registered/licensed civil engineer) shall be submitted for review and approved by the City Engineer. The study shall include, but not be limited to: existing and proposed hydrologic conditions as well as hydraulic calculations for all drainage control devices and storm drain lines. The study shall analyze 1, 3, 6 and 24-hour duration events for the 2, 5, 10 and 100-year storm events [MC 9.14.110(A.1)]. A digital (pdf) copy of the approved drainage study shall be submitted to the Land Development Division.

90. Emergency overflow areas shall be shown at all applicable drainage improvement locations in the event that the drainage improvement fails or exceeds full capacity. This may include, but not be limited to, the southeast corner of the property.

91. A final project-specific Water Quality Management Plan (WQMP) shall be submitted for review and approved by the City Engineer, which:

a. Addresses Site Design Best Management Practices (BMPs) such as minimizing impervious areas, maximizing permeability, minimizes directly connected impervious areas to the City's street and storm drain systems, and conserves natural areas;

b. Incorporates Source Control BMPs and provides a detailed description of their implementation;

c. Describes the long-term operation and maintenance requirements for BMPs requiring maintenance; and

d. Describes the mechanism for funding the long-term operation and maintenance of the BMPs.

A copy of the final WQMP template can be obtained on the City's Website or by contacting the Land Development Division. A digital (pdf) copy of the approved final project-specific Water Quality Management Plan (WQMP) shall be submitted to the Land Development Division.

92. The developer shall ensure compliance with the City Grading ordinance, these Conditions of Approval and the following criteria:

a. The project street and lot grading shall be designed in a manner that perpetuates the existing natural drainage patterns with respect to tributary drainage area and outlet points. Unless otherwise approved by the City Engineer, lot lines shall be located at the top of slopes.

b. Any grading that creates cut or fill slopes adjacent to the street shall provide erosion control, sight distance control, and slope easements as approved by the City Engineer.

c. All improvement plans are substantially complete and appropriate clearance letters are provided to the City.

d. A soils/geotechnical report (addressing the soil's stability and geological conditions of the site) shall be submitted to the Land Development Division for review. A digital (pdf) copy of the soils/geotechnical report shall be submitted to the Land Development Division.

93. Grading plans (prepared by a registered/licensed civil engineer) shall be submitted for review and approved by the City Engineer per the current submittal requirements.

94. The developer shall select Low Impact Development (LID) Best Management Practices (BMPs) designed per the latest version of the Water Quality Management Plan (WQMP) - a guidance document for the Santa Ana region of Riverside County.

95. The developer shall submit recorded slope easements from adjacent property owners in all areas where grading resulting in slopes is proposed to take place outside of the project boundaries. For all other offsite grading, written permission from adjacent property owners shall be submitted.

96. The developer shall pay all remaining plan check fees.

97. Landscape & Irrigation plans (prepared by a registered/licensed landscape architect) for water quality BMPs shall be submitted for review and approved by the City Engineer per the current submittal requirements, if applicable.

98. A Storm Water Pollution Prevention Plan (SWPPP) shall be prepared in conformance with the State's current Construction Activities Storm Water General Permit. A copy of the current SWPPP shall be kept at the project site and be available for review upon request.

99. Any proposed trash enclosure shall include a solid cover (roof) and sufficient size for dual bin (one for trash and one for recyclables). The architecture shall be approved by the Planning Division and any structural approvals shall be made by the Building & Safety Division.

100. For projects that will result in discharges of storm water associated with construction with a soil disturbance of one or more acres of land, the developer shall submit a Notice of Intent (NOI) and obtain a Waste Discharger's Identification number (WDID#) from the State Water Quality Control Board (SWQCB) which shall be noted on the grading plans.

101. Prior to precise grading plan approval, the grading plans shall clearly show that the parking lot conforms to City standards. The parking lot shall be 5% maximum, 1% minimum, 2% maximum at or near any disabled parking stall and travel way. Ramps, curb openings and travel paths shall all conform to current ADA standards as outlined in Department of Justice's "ADA Standards for Accessible Design", Excerpt from 28 CFR Part 36. (www.usdoj.gov) and as approved by the City's Building and Safety Division.

Prior to Grading Permit

102. A receipt showing payment of the Area Drainage Plan (ADP) fee to Riverside County Flood Control and Water Conservation District shall be submitted. [MC 9.14.100(O)]

103. If the developer chooses to construct the project in phases, a Construction Phasing Plan for the construction of on-site public or private improvements shall be submitted for review and approved by the City Engineer.

104. The developer shall pay current DIF fees adopted by the City Council. [Ord. 695 § 1.1 (part), 2005] [MC 3.38.030, 040, 050]

105. A digital (pdf) copy of all approved grading plans shall be submitted to the Land Development Division.

106. Security, in the form of a cash deposit (preferable), bond or letter of credit shall be submitted as a guarantee of the implementation and maintenance of erosion control measures. At least twenty-five (25) percent of the required security shall be in the form of a cash deposit with the City. [MC 8.21.160(H)]

107. Security, in the form of a cash deposit (preferable), bond or letter of credit shall be submitted as a guarantee of the completion of the grading operations for the project. [MC 8.21.070]

108. The developer shall pay all applicable inspection fees.

109. The developer shall pay current Transportation Uniform Mitigation Fee (TUMF), as adopted by the City Council. [Ord. 835 § 2.1, 2012] [MC 3.44.060]

Prior to Improvement Plan Approval

110. The developer is required to bring any existing access ramps adjacent to and fronting the project to current ADA (Americans with Disabilities Act) requirements. However, when work is required in an intersection that involves or impacts existing access ramps, all access ramps in that intersection shall be retrofitted to comply with current ADA requirements, unless otherwise approved by the City Engineer.

111. The developer shall submit clearances from all applicable agencies, and pay all applicable plan check fees.

112. The street improvement plans shall comply with current City policies, plans and applicable City standards (i.e. MVSI-160 series, etc.) throughout this project.

113. The design plan and profile shall be based upon a centerline, extending beyond the project boundaries a minimum distance of 300 feet at a grade and alignment approved by the City Engineer.

114. The hydrology study shall be designed to accept and properly convey all off-site drainage flowing onto or through the site. In the event that the City Engineer permits the use of streets for drainage purposes, the provisions of current City standards shall apply. Should the quantities exceed the street capacity or the use of streets be prohibited for drainage purposes, as in the case where one travel lane in each direction shall not be used for drainage conveyance for emergency vehicle access on streets classified as minor arterials and greater, the developer shall provide adequate facilities as approved by the City Engineer. [MC 9.14.110 A.2]

115. All public improvement plans (prepared by a licensed/registered civil engineer) shall be submitted for review and approved by the City Engineer per the current submittal requirements.

116. Any missing or deficient existing improvements along the project frontage within Heacock Street and Ironwood Avenue shall be constructed or secured for construction. The City Engineer may require the ultimate structural section for pavement to half-street width plus 18 feet or provide core test results confirming that existing pavement section is per current City Standards; additional signing & striping to accommodate increased traffic imposed by the development, etc.

117. For non-subdivision projects, all street dedications shall be free of encumbrances, irrevocably offered to the public and shall continue in force until the City accepts or abandons such offers, unless otherwise approved by the City Engineer.

118. The plans shall indicate any restrictions on trench repair pavement cuts to reflect the City's moratorium on disturbing newly-constructed pavement less than three (3)

years old and recently slurry sealed streets less than one (1) year old. Pavement cuts may be allowed for emergency repairs or as specifically approved in writing by the City Engineer. Special requirements shall be imposed for repaving, limits to be determined by the City Engineer.

119. All dry and wet utilities shall be shown on the plans and any crossings shall be potholed to determine actual location and elevation. Any conflicts shall be identified and addressed on the plans. The pothole survey data shall be submitted to Land Development with the public improvement plans for reference purposes only. The developer is responsible to coordinate with all affected utility companies and bear all costs of any utility relocation.

Prior to Encroachment Permit

120. A digital (pdf) copy of all approved improvement plans shall be submitted to the Land Development Division.

121. All applicable inspection fees shall be paid.

122. For non-subdivision projects, execution of a Public Improvement Agreement (PIA) and/or security (in the form of a cash deposit or other approved means) may be required as determined by the City Engineer. [MC 9.14.220]

123. The plans shall indicate any restrictions on trench repair pavement cuts to reflect the City's moratorium on disturbing newly-constructed pavement less than three (3) years old and recently slurry sealed streets less than one (1) year old. Pavement cuts may be allowed for emergency repairs or as specifically approved in writing by the City Engineer. Special requirements shall be imposed for repaving, limits to be determined by the City Engineer.

124. Any work performed within public right-of-way requires an encroachment permit.

Prior to Building Permit

125. An engineered-fill certification, rough grade certification and compaction report shall be submitted for review and approved by the City Engineer. A digital (pdf) copy of the approved compaction report shall be submitted to the Land Development Division. All pads shall meet pad elevations per approved grading plans as noted by the setting of "blue-top" markers installed by a registered land surveyor or licensed civil engineer.

126. For non-subdivision projects, the developer shall enter into a Cooperative Agreement with the City and Riverside County Flood Control and Water Conservation District establishing the terms and conditions covering the inspection,

operation and maintenance of Master Drainage Plan facilities required to be constructed as part of the project.

127. For non-subdivision projects, the developer shall guarantee the completion of all related public improvements required for this project by executing a Public Improvement Agreement (PIA) with the City and posting the required security. [MC 9.14.220]

128. For non-subdivision projects, the developer shall comply with the requirements of the City Engineer based on recommendations of the Riverside County Flood Control District regarding the construction of County Master Plan Facilities.

129. For Commercial/Industrial projects, the owner may have to secure coverage under the State's General Industrial Activities Storm Water Permit as issued by the State Water Resources Control Board.

130. For non-subdivision projects, all street dedications shall be free of encumbrances, irrevocably offered to the public and shall continue in force until the City accepts or abandons such offers, unless otherwise approved by the City Engineer.

131. A walk through with a Land Development Inspector shall be scheduled to inspect existing improvements within public right of way along project frontage. Any missing, damaged or substandard improvements including ADA access ramps that do not meet current City standards shall be required to be installed, replaced and/or repaired. The applicant shall post security to cover the cost of the repairs and complete the repairs within the time allowed in the public improvement agreement used to secure the improvements.

132. Certification to the line, grade, flow test and system invert elevations for the water quality control BMPs shall be submitted for review and approved by the City Engineer (excluding models homes).

133. Prior to building permit issuance, the developer shall construct or secure the construction of any missing or deficient improvements along the project frontage within Ironwood Avenue, including the ultimate structural section for pavement to half-street plus 18 feet or provide to the City Engineer the results of a coring test confirming that said pavement section has previously been completed per City Standard No. MVSI-104A-0 (modified). The City Engineer may require additional signing and striping for the frontage improvements to accommodate increased traffic imposed by the development.

134. Prior to building permit issuance, the developer shall construct or secure the construction of any missing or deficient improvements along the project frontage within Heacock Street, including the ultimate structural section for pavement to half-street plus 18 feet or provide to the City Engineer the results of a coring test

confirming that said pavement section has previously been completed per City Standard No. MVSI-104A-0. The City Engineer may require additional signing and striping for the frontage improvements to accommodate increased traffic imposed by the development.

Prior to Occupancy

135. All outstanding fees shall be paid.

136. All required as-built plans (prepared by a registered/licensed civil engineer) shall be submitted for review and approved by the City Engineer per the current submittal requirements.

137. The final/precise grade certification shall be submitted for review and approved by the City Engineer.

138. For commercial, industrial and multi-family projects, in compliance with Proposition 218, the developer shall agree to approve the City of Moreno Valley NPDES Regulatory Rate Schedule that is in place at the time of certificate of occupancy issuance. Under the current permit for storm water activities required as part of the National Pollutant Discharge Elimination System (NPDES) as mandated by the Federal Clean Water Act, this project is subject to the following requirements:

a. Select one of the following options to meet the financial responsibility to provide storm water utilities services for the required continuous operation, maintenance, monitoring system evaluations and enhancements, remediation and/or replacement, all in accordance with Resolution No. 2002-46.

i. Participate in the mail ballot proceeding in compliance with Proposition 218, for the Common Interest, Commercial, Industrial and Quasi-Public Use NPDES Regulatory Rate Schedule and pay all associated costs with the ballot process; or

ii. Establish an endowment to cover future City costs as specified in the Common Interest, Commercial, Industrial and Quasi-Public Use NPDES Regulatory Rate Schedule.

b. Notify the Special Districts Division of the intent to request building permits 90 days prior to their issuance and the financial option selected. The financial option selected shall be in place prior to the issuance of certificate of occupancy. [California Government Code & Municipal Code]

139. The developer shall complete all public improvements in conformance with current City standards, except as noted in the Special Conditions, including but not limited to the following:

a. Street improvements including, but not limited to: pavement, base, curb and/or gutter, cross gutters, spandrel, sidewalks, drive approaches, pedestrian ramps, street lights (MVU: SL-2), signing, striping, under sidewalk drains,

landscaping and irrigation, medians, pavement tapers/transitions and traffic control devices as appropriate.

b. Storm drain facilities including, but not limited to: storm drain pipe, storm drain laterals, open channels, catch basins and local depressions.

c. City-owned utilities.

d. Sewer and water systems including, but not limited to: sanitary sewer, potable water and recycled water.

e. Under grounding of all existing and proposed utilities adjacent to and on-site. [MC 9.14.130]

f. Relocation of overhead electrical utility lines including, but not limited to: electrical, cable and telephone.

140. For commercial, industrial and multi-family projects, a “Stormwater Treatment Device and Control Measure Access and Maintenance Covenant”, "Maintenance Agreement for Water Quality Improvements located in the public right-of-way" and a "Declaration of Restrictive Covenants (encroachment on City easement)" shall be recorded to provide public notice of the maintenance requirements to be implemented per the approved final project-specific WQMP. A boilerplate copy of the covenants and agreements can be obtained by contacting the Land Development Division.

141. The applicant shall ensure the following, pursuant to Section XII. I. of the 2010 NPDES Permit:

a. Field verification that structural Site Design, Source Control and Treatment Control BMPs are designed, constructed and functional in accordance with the approved Final Water Quality Management Plan (WQMP).

b. Certification of best management practices (BMPs) from a state licensed civil engineer. An original WQMP BMP Certification shall be submitted for review and approved by the City Engineer.

142. The Developer shall comply with the following water quality related items:

a. Notify the Land Development Division prior to construction and installation of all structural BMPs so that an inspection can be performed.

b. Demonstrate that all structural BMPs described in the approved final project-specific WQMP have been constructed and installed in conformance with the approved plans and specifications;

c. Demonstrate that Developer is prepared to implement all non-structural BMPs described in the approved final project-specific WQMP; and

d. Demonstrate that an adequate number of copies of the approved final project-specific WQMP are available for future owners/occupants.

e. Clean and repair the water quality BMP's, including re-grading to approved civil drawing if necessary.

f. Obtain approval and complete installation of the irrigation and landscaping.

Special Conditions

143. Prior to building permit issuance, the Developer shall guarantee the construction of the following improvements by entering into a public improvement agreement and posting security. The improvements shall be completed prior to occupancy of the first building or as otherwise determined by the City Engineer.

a. Pavement core samples of existing pavement shall be taken and findings submitted to the City for review and consideration of pavement improvements. The City will determine the adequacy of the existing pavement structural section. If the existing pavement structural section is found to be adequate, the developer shall be required to perform a full street-width two (2) inch grind and rubberize asphalt overlay to Heacock Street and Ironwood Avenue along the project's frontage, as required by the City Engineer. If the existing pavement section is found to be inadequate, the Developer shall replace the pavement to meet or exceed the City's pavement structural section standard. Removal/relocation and/or undergrounding of any power poles with overhead utility lines less than 115,000 volts.

b. A 4-foot minimum pedestrian right-of-way dedication behind any driveway approach per City Standard MVSI-112C-0, on Heacock Street and Ironwood Avenue.

Special Districts Division

144. NEW STREET LIGHT INSTALLATION FEES. Prior to the issuance of the first building permit for this project, the Developer shall pay New Street Light Installation Fees for all applicable Residential and Arterial Street Lights required for this development. Payment shall be made to the City of Moreno Valley and collected by the Land Development Division. Fees are based upon the Advanced Energy fee rate in place at the time of payment, as set forth in the current Listing of City Fees, Charges, and Rates adopted by City Council. The Developer shall provide a copy of the receipt to the Special Districts Division (specialdistricts@moval.org). Any change in the project which may increase the number of street lights to be installed will require payment of additional Advanced Energy fees at the then current fee. Questions may be directed to the Special Districts Division at 951.413.3480 or specialdistricts@moval.org.

145. This project is conditioned for a proposed district to provide a funding source for the operation and maintenance of public improvements and/or services associated with new development in that territory. The Developer shall satisfy this condition with one of the options outlined below.

a. Participate in a special election for maintenance/services and pay all associated costs of the election process and formation, if any. Financing may be structured through a Community Facilities District, Landscape and Lighting Maintenance District, or other financing structure as determined by the City; or

b. Establish an endowment fund to cover the future maintenance and/or service costs.

The Developer must notify the Special Districts Division at 951.413.3480 or at specialdistricts@moval.org when submitting the application for building permit issuance. If the first building permit is pulled prior to formation of the district, this condition will not apply. If the district has been or is in the process of being formed the Developer must inform the Special Districts Division of its selected financing option (a. or b. above). The option for participating in a special election requires 90 days to complete the special election process. This allows adequate time to be in compliance with the provisions of Article 13C of the California Constitution.

The financial option selected shall be in place prior to the issuance of the first certificate of occupancy for the project.

146. This project is conditioned to provide a funding source for the following special financing program(s):

a. Street Lighting Services for capital improvements, energy charges, and maintenance.

The Developer's responsibility is to provide a funding source for the capital improvements and the continued maintenance. The Developer shall satisfy this condition with one of the options below.

i. Participate in a special election (mail ballot proceeding) and pay all associated costs of the special election and formation, if any. Financing may be structured through a Community Services District zone, Community Facilities District, Landscape and Lighting Maintenance District, or other financing structure as determined by the City; or

ii. Establish a Property Owner's Association (POA) or Home Owner's Association (HOA) which will be responsible for any and all operation and maintenance costs

The Developer must notify the Special Districts Division at 951.413.3480 or at specialdistricts@moval.org of its selected financial option when submitting the application for building permit issuance. The option for participating in a special election requires approximately 90 days to complete the special election process. This allows adequate time to be in compliance with the provisions of Article 13C of

the California Constitution.

The financial option selected shall be in place prior to the issuance of the first certificate of occupancy for the project.

147. Commercial (BP) If Land Development, a Division of the Public Works Department, requires this project to supply a funding source necessary to provide for, but not limited to, stormwater utilities services for the continuous operation, remediation and/or replacement, monitoring, systems evaluations and enhancement of on-site facilities and performing annual inspections of the affected areas to ensure compliance with state mandated stormwater regulations, a funding source needs to be established. The Developer must notify the Special Districts Division at 951.413.3480 or at specialdistricts@moval.org of its selected financial option for the National Pollution Discharge Elimination System (NPDES) program when submitting the application for the first building permit issuance (see Land Development's related condition). Participating in a special election the process requires a 90 day period prior to the City's issuance of a building permit. This allows adequate time to be in compliance with the provisions of Article 13D of the California Constitution. (California Health and Safety Code Sections 5473 through 5473.8 (Ord. 708 Section 3.1, 2006) & City of Moreno Valley Municipal Code Title 3, Section 3.50.050.)

148. This project has been identified to be included in the formation of a Community Facilities District (Mello-Roos) for Public Safety services, including but not limited to Police, Fire Protection, Paramedic Services, Park Rangers, and Animal Control services. The property owner(s) shall not protest the formation; however, they retain the right to object to the rate and method of maximum special tax. In compliance with Proposition 218, the property owner shall agree to approve the mail ballot proceeding (special election) for either formation of the CFD or annexation into an existing district. The Developer must notify the Special Districts Division at 951.413.3480 or at specialdistricts@moval.org when submitting the application for building permit issuance to determine the requirement for participation. If the first building permit is pulled prior to formation of the district, this condition will not apply. If the condition applies, the special election will require a minimum of 90 days prior to issuance of the first building permit. This allows adequate time to be in compliance with the provisions of Article 13C of the California Constitution. (California Government Code Section 53313 et. seq.)

149. The ongoing maintenance of any landscaping required to be installed behind the curb shall be the responsibility of the property owner.

150. MAJOR INFRASTRUCTURE FINANCING DISTRICT. This project has been identified to potentially be included in the formation of a special financing district for the construction and maintenance of major infrastructure improvements which may

include but are not limited to thoroughfares, bridges, and certain flood control improvements. The property owner(s) shall participate in such district and pay any special tax, assessment, or fee levied upon the project property for such district. At the time of the public hearing to consider formation of or annexation into the district, the qualified elector(s) will not protest the formation or annexation, but will retain the right to object to any eventual tax/assessment/fee that is not equitable should the financial burden of the tax/assessment/fee not be reasonably proportionate to the benefit the affected property obtains from the improvements to be installed and/or maintained. The Developer must notify the Special Districts Division at 951.413.3480 or at specialdistricts@moval.org when submitting an application for the first building permit to determine whether the development will be subjected to this condition. If subject to the condition, the special election requires a minimum 90-day process in compliance with the provisions of Article 13C of the California Constitution.

151. Street Light Authorization forms for all street lights that are conditioned to be installed as part of this project must be submitted to the Special Districts Division for approval, prior to street light installation. The Street Light Authorization form can be obtained from the utility company providing electric service to the project, either Moreno Valley Utility or Southern California Edison. For questions, contact the Special Districts Division at 951.413.3480 or specialdistricts@moval.org.

152. The parcel(s) associated with this project have been incorporated into the Moreno Valley Community Services District Zone A (Parks & Community Services) and Zone C (Arterial Street Lighting). All assessable parcels therein shall be subject to annual parcel taxes for Zone A and Zone C for operations and capital improvements.

153. PARKS MAINTENANCE FUNDING. Prior to applying for the 1st Building Permit, the qualified elector (e.g. property owner) must initiate the process (i.e. pay the annexation fee or fund an endowment) to provide an ongoing funding source for the continued maintenance, enhancement, and or retrofit of parks, open spaces, linear parks, and/or trails systems, and programs.

This condition must be fully satisfied prior to issuance of the 1st Certificate of Occupancy. This condition will be satisfied with the successful annexation/formation (i.e. special election process) into a special financing district and payment of all costs associated with the special election process. Annexation into a special financing district requires an annual payment of the annual special tax, assessment, or fee levied against the property tax bill, or other lawful means, of the parcels of the project for such district. At the time of the public hearing to consider annexation into or formation of the district, the qualified elector(s) will not protest the annexation or formation, but will retain the right to object to any eventual tax/assessment/fee that is not equitable should the financial burden of the tax/assessment/fee not be

reasonably proportionate to the benefit the affected property receives from the improvements to be installed and/or maintained or services provided. The special election requires a minimum 90-day process in compliance with the provisions of Article 13C of the California Constitution, Proposition 218, or other applicable legislation, and consistent with the scheduling for City Council meetings.

Alternatively, the condition can be satisfied by the Developer funding an endowment in an amount sufficient to yield an annual revenue stream that meets the annual obligation. The Developer must contact Special Districts Administration at 951.413.3470 or at SDAdmin@moval.org to satisfy this condition.

Transportation Engineering Division

154. All project driveways shall conform to Section 9.11.080, and Table 9.11.080-14 of the City's Development Code – Design Guidelines and City of Moreno Valley Standard Plans No. MVSI-112A~D-0 for commercial driveway approaches.

155. Each gated entrance shall be provided with the following: A storage lane with a minimum of 75 feet queuing length for entering traffic. Signing and striping. A separate pedestrian entry. All of these features must be kept in working order.

156. The first parking stall/drive aisle juncture shall be 60 feet from the property line per Municipal Code Section 9.11.080 - A.18 or as approved by the City Engineer.

157. Sight distance at the proposed roadways and driveways shall conform to City of Moreno Valley Standard No. MVSI-164A,B,C-0 at the time of preparation of final grading, landscape, and street improvement plans.

158. Heacock Street is designated as an Arterial Road (100' RW/76' CC) per City of Moreno Valley Standard MVSI-104A-0. Any improvements undertaken by this project shall be consistent with the City's standards for this facility or as approved by the City Engineer.

159. Ironwood Avenue is designated as a Minor Arterial Road (88' RW/64' CC) per City of Moreno Valley Standard MVSI-105A-1. Any improvements undertaken by this project shall be consistent with the City's standards for this facility or as approved by the City Engineer.

160. Communication conduit along the project frontages may be required per City Standard Plan No. MVSI-186-0.

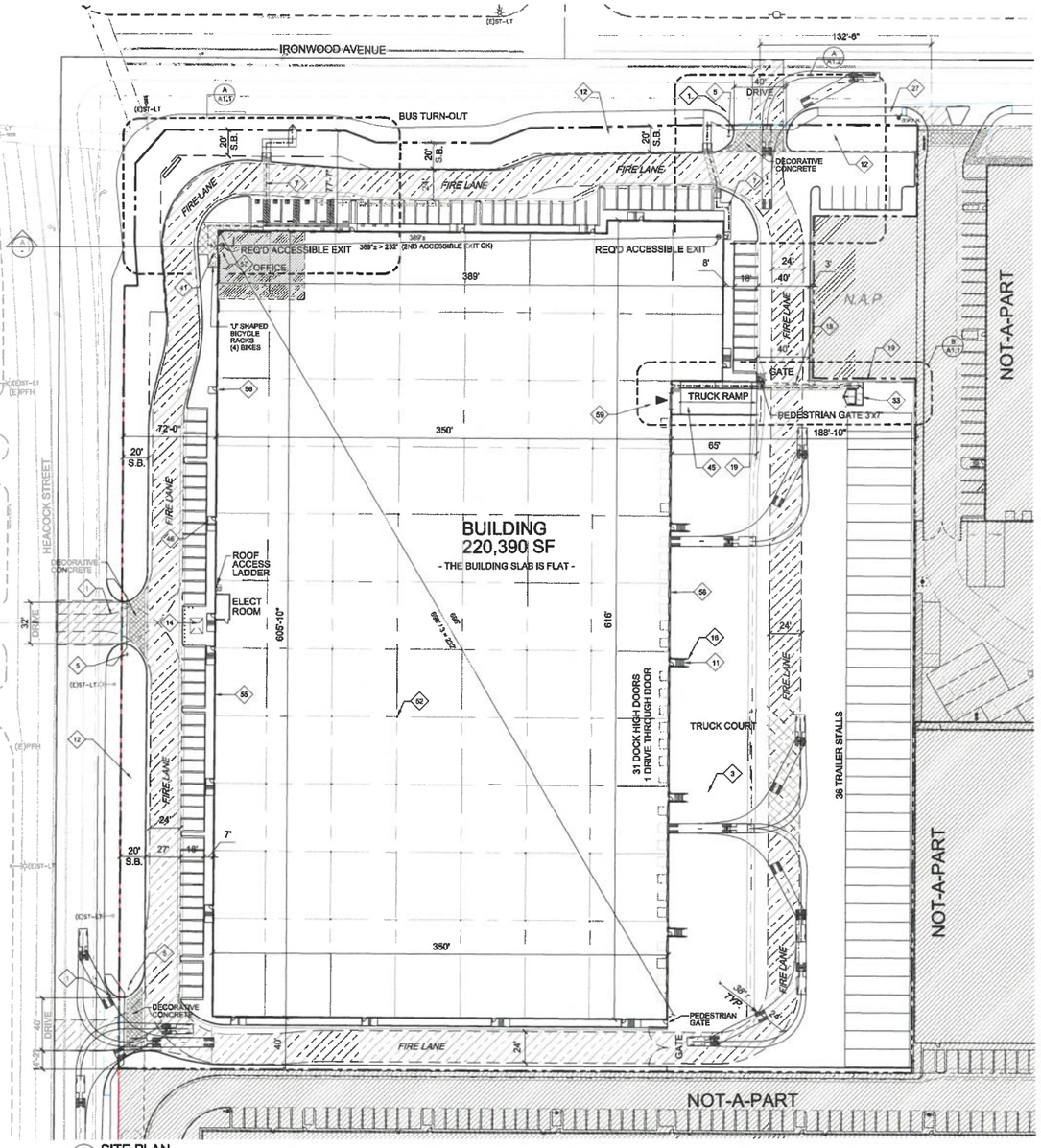
161. Prior to issuance of an encroachment permit for work within the public right-of-way, construction traffic control plans prepared by a qualified, registered Civil or Traffic Engineer shall be required for plan approval by the City Traffic Engineer.

162. Prior to final approval of the landscape plans and construction plans for any type of fencing or monument sign, the project plans shall be demonstrate that sight distance at the project driveway conforms to City Standard Plan No. MVSI-164A-0 through MVSI-164C-0. Trees, plants, shrubs, fence and monument sign shall not be located in an area that obstructs the drivers' line of sight.

163. All proposed on-site traffic signing and striping shall be accordance with the latest California Manual on Uniform Traffic Control Devices (CAMUTCD)

164. Prior to the final approval of the street improvements plans, a signing and striping plan shall be prepared per City of Moreno Valley Standard Plans - Section 4 for all streets along the project frontages. Signing and striping plans shall be prepared per the latest edition of the California Manual on Uniform Traffic Control Devices (CAMUTCD) and current City of Moreno Valley Standard Plans by a qualified registered Civil or traffic Engineer.

165. Prior to issuance of a Building Final or Certificate of Occupancy, all approved signing and striping shall be installed per current City Standards and the approved plans.



A SITE PLAN
SCALE: 1" = 40'

LEGAL DESCRIPTION

LEGAL DESCRIPTION:

(APN 481-020-013, 028, 030, 029 & 035)

THE LAND REFERRED TO HEREIN BELOW IS SITUATED IN THE CITY OF MORENO VALLEY, IN THE COUNTY OF RIVERSIDE, STATE OF CALIFORNIA, AND IS DESCRIBED AS FOLLOWS:

LOTS 1, 2, 3 AND 4 OF RIVERSIDE GROUNDS TRACT, IN THE CITY OF MORENO VALLEY, IN THE COUNTY OF RIVERSIDE, STATE OF CALIFORNIA, AS SHOWN BY MAP ON FILE IN BOOK 14, PAGES 13 AND 13 OF RECORDS OF SURVEY, RIVERSIDE COUNTY RECORDS.

TOGETHER WITH THE EQUITABLE 10 FEET OF RIVERSIDE AVENUE, AS VACATED BY ORDER OF THE BOARD OF SUPERVISORS OF RIVERSIDE COUNTY, DATED JUNE 5, 1978 OR FILE IN SUPERVISOR'S MINUTE BOOK 30, PAGE 384, AND RECORDED JULY 12, 1978 OF WHICH WAS RECORDED JUNE 7, 1938 IN BOOK 765, PAGE 287 OF DEEDS.

EXCEPTING THEREFROM THAT PORTION AS DESCRIBED IN THE DEED TO THE COUNTY OF RIVERSIDE, RECORDED JULY 16, 1968 AS INSTRUMENT NO. 73039 OF OFFICIAL RECORDS.

ALSO EXCEPTING THEREFROM THAT PORTION OF LOT 1 AS CONVEYED TO EASTERN MUNICIPAL WATER DISTRICT, A PUBLIC AGENCY, AS CONFORMED IN DEED RECORDED NOVEMBER 3, 2015 AS INSTRUMENT NO. 2015-444855 OF OFFICIAL RECORDS OF SAID COUNTY.

PROJECT INFORMATION

BUILDING ADDRESS:	T.B.D., MORENO VALLEY, CA
CONSTRUCTION TYPE:	II-B
NUMBER OF FLOORS:	1
OCCUPANCY:	S / S-1
FIRE SPRINKLER:	YES (E.S.F.R.)
CLEAR HEIGHT:	32' CLEAR AT 6" INSIDE FIRST 60FT BAY
ZONING:	MU (MIXED USES)
GENERAL PLAN:	THE MORENO VALLEY FESTIVAL SP 205

BASIC ALLOWABLE HEIGHT

PER C.B.C. TABLE 504.3:	55 FT

BASIC ALLOWABLE STORIES - TYPE IIB

PER C.B.C. TABLE 504.4:	
OCCUPANCY - B - SPRINKLERED	1
OCCUPANCY - S-1 - SPRINKLERED	1

OCCUPANCY GROUP 'S1' & 'S-1'

PROJECT DESCRIPTION

CONSTRUCT A NEW SINGLE STORY 220,390 SF CONCRETE TILT-UP WAREHOUSE/DISTRIBUTION FACILITY (214,390 SF WAREHOUSE & 6,000 SF OFFICE) WITH ONE TRASH ENCLOSURE (228 SF), CONCRETE SITE WALLS (12 FT HIGH X 109 LIN. FT) AND TUBULAR STEEL FENCING (6 FT., HIGH X 10 LIN FT) AND 31 DOCK DOORS WITH ONE DRIVE THRU LOADING DOOR, ONSITE AND OFFSITE IMPROVEMENTS INCLUDING GRADING, STORM DRAIN, WATER, SEWER, FIRE HYDRANTS, LANDSCAPE, IRRIGATION AND HARDSCAPE AND (1) SLIDING METAL GATE AT 8 FT. HIGH, (1) SWING GATE AT 8 FT HIGH AND SITE LIGHTING WITH LIGHT POLES.

THERE ARE NO EXISTING STRUCTURES ON-SITE.

UTILITY PROVIDERS

UTILITY PURVEYORS:

CHARTER SPECTRUM	*(877) 906-9121*
EASTERN MUNICIPAL WATER DIST	*(951) 928-3777*
CITY OF MORENO VALLEY	*(951) 413-3160*
SC EDISON COMPANY	*(800) 655-4555*
SC GAS COMPANY	*(800) 427-2200*
RIVERSIDE TRANSIT AGENCY	*(951) 565-5164*
UNDERGROUND SERVICE ALERT	*(800) 227-2600*
MORENO VALLEY UTILITY ADMINISTRATION	*(951) 413-3500*
CROWN CASTLE	*(888) 632-0931*

CONTACT INFORMATION

OWNER:
LCG MVBP, LLC
3310 OLD RANCH PARKWAY - SUITE 470
SEAL BEACH, CA 90740
CONTACT: RYAN MARTIN
PHONE: 323.419-6790
EMAIL: RMARTIN@LEDOCG.COM

ARCHITECT:
HERDMAN ARCHITECTURE+DESIGN, INC.
16201 SCIENTIFIC WAY
IRVINE, CALIFORNIA 92618
CONTACT: BRIDGET HERDMAN
(714) 389-2800
EMAIL: bridget@herdman-AD.com

PROPOSED INCENTIVES FOR INCREASED COVERAGE

1. LOT CONSOLIDATION (AS INDICATED PER CIVIL DWGS)
2. RECIPROCAL DRIVEWAY ACCESS
3. PEDESTRIAN BUILDING ORIENTATION
4. PUBLIC ART: T.B.D.
5. SUSTAINABLE FEATURES/LEED CHECKLIST FOR CERTIFICATION
6. LANDMARK INTERSECTION
7. BUSINESS RETENTION

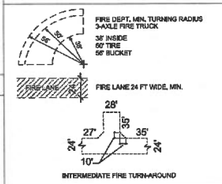
FIRE DEPARTMENT NOTES:

1. THE MOTORIZED DRIVEWAY GATES SHALL BE PROVIDED WITH A SYSTEM THAT AUTOMATICALLY OPENS THE GATES REMOTELY BY SIGNAL PREEMPTION FROM AN APPROACHING EMERGENCY FIRE APPARATUS VEHICLE UPON INSTALLATION OF THE SYSTEM, FUNCTIONAL TESTING SHALL BE WITNESSED BY THE RIVERSIDE COUNTY FIRE DEPARTMENT. (MORENO VALLEY FIRE CODE 503.6.1)
2. THE MOTORIZED GATES SHALL BE EQUIPPED WITH KNOX BOX SWITCHES ON BOTH THE PRIVATE PROPERTY SIDE AND THE PUBLIC ACCESS SIDE OF THE GATES. IF VEHICLE SENSOR LOOPS ARE PROVIDED TO OPERATE THE GATES AUTOMATICALLY FROM THE INGRESS DIRECTION, THEN THE KEY SWITCHES ARE ONLY REQUIRED ON THE INGRESS SIDE. (CFC 503.6)

SITE PLAN KEY NOTES

1. NEW DRIVE CUT, PER CITY OR COUNTY STANDARDS. REFER TO LANDSCAPE DRAWINGS FOR ENHANCED PAVING DESIGN IF APPLICABLE. REFER TO CIVIL DRAWINGS FOR ADDITIONAL INFO.
2. ASPHALT PAVING, TYP. REFER TO SOILS REPORT @ CIVIL DRAWINGS FOR ADDITIONAL DESIGN CRITERIA.
3. CONCRETE PAVING. REFER TO CIVIL DRAWINGS FOR SECTION AND DRAINAGE. G.C. TO COORDINATE WITH SOILS REPORT. REFER TO STRUCTURAL DRAWINGS FOR CONCRETE DESIGN AT TRUCK APRONS IF APPLICABLE.
4. TRUNCATED DOMES
5. ADA SITE ENTRY SIGN PER CODE, TYP.
6. ADA PARKING STALL SIGN PER CODE, TYP. PROVIDE AT ALL ADA STALLS.
7. ADA PATH OF TRAVEL
8. PRECAST CONCRETE WHEEL STOP
9. ZERO CURB FACE.
10. CONCRETE WALK. SEE SITE PLAN FOR ADA PATH OF TRAVEL. 4" MIN THICKNESS. SCORE CONCRETE @ 5' O.C., PROVIDE A LIGHT BROOM FINISH. REFER TO LANDSCAPE DRAWINGS FOR SPECIALTY CONCRETE FINISHING, TYP. REFER TO SOILS REPORT FOR ADDITIONAL MIN. REQ.
11. EXTERIOR CONCRETE STAIR W/CONCRETE WALLS. WALLS & RAILINGS PAINTED PER EXTERIOR COLOR SCHEDULE. REFER TO CIVIL AND STRUCTURAL DRAWINGS
12. LANDSCAPE AREA - SEE LANDSCAPE PLANS FOR ADDITIONAL INFORMATION
14. PROPOSED TRANSFORMER LOCATION. PROVIDE BOLLARDS PER UTILITY COMPANY REQUIREMENTS. SEE ELECTRICAL DRAWINGS FOR ADDITIONAL INFORMATION.
15. SLIDING METAL GATE, ELECTRONICALLY OR MANUALLY OPERATED. PROVIDE CONDUIT TO GUARD SHACK AND OFFICE AREA FOR GATE CONTROL @ INTERCOM. PROVIDE KNOX PAD PER FIRE DEPT. STD.
16. PROTECTIVE METAL BOLLARDS, CONCRETE FILLED, PAINTED, TYP.
19. CONCRETE TILT-UP SCREEN WALL, PAINTED
20. CHAIN LINK FENCE, 8 FT HIGH, WITH SLATS
21. METAL TUBE STEEL FENCE PAINTED, 6 FT HIGH
27. PUBLIC SIDE WALK, REFER TO CIVIL DRAWINGS.
28. SECURE BICYCLE RACK, REFER TO LANDSCAPE PLANS FOR MODEL SPECIFICATION AND ADDITIONAL INFORMATION.
31. UNDERGROUND STORAGE, REFER TO CIVIL DRAWINGS FOR ADDITIONAL INFO.
33. CONCRETE TRASH ENCLOSURE PER CITY REQUIREMENTS.
38. PROVIDE AN EXIT SWING GATE 3'-0" WIDE X 7'-0" FROM THE ENCLOSED YARD. PROVIDE KNOX PAD PER FIRE DEPT. STANDARDS.
41. AFFIX THE INTERNATIONAL ACCESSIBILITY SYMBOL AT ALL ACCESSIBLE ENTRANCES.
45. CONCRETE TRUCK RAMP WITH 42" HIGH CONC. TILT UP GUARD WALLS PAINTED TO MATCH BUILDING, SEE ELEVATIONS.
46. CONCRETE LANDING PAD @ EXTERIOR MAN DOOR WITH STEP(S) WHEN SHOWN, PROVIDE HANDRAILS/GUARDRAIL AS REQUIRED, TYP, CONFIRM QUANTITY OF RISERS W/FINAL GRADING PLAN.
52. STRUCTURAL STEEL COLUMN
55. CONCRETE TILT-UP PANEL, TYP. PAINTED, SEE EXTERIOR COLOR SCHEDULE, REFER TO ELEVATIONS AND "S" DRAWINGS FOR ADDITIONAL INFORMATION.
56. EXTERIOR MAN DOOR 3'X7', HOLLOW METAL, PAINTED, SEE EXTERIOR COLOR SCHEDULE & DOOR SCHEDULE FOR ADDITIONAL INFO.
57. EXTERIOR STOREFRONT DOOR, SEE EXTERIOR COLOR SCHEDULE & DOOR SCHEDULE FOR ADDITIONAL INFO.
58. DOCK-HI LOADING DOOR, 9'X10', WITH VISION GLAZING PRE FINISHED BY MANUFACTURER PER COLOR SCHEDULE.
59. DRIVE THRU LOADING DOOR 12'X14' WITH VISION GLAZING, PRE FINISHED BY MANUFACTURER PER COLOR SCHEDULE.

FIRE DEPT. MIN. TURNING RADIUS



OCCUPANCY LOAD CALCULATIONS

OCCUPANCY LOAD: 2019 CBC 1004.1.2

	AREA	OCC FACTOR	OCCUPANT LOAD
OFFICE (S)	6,000.00	100	60.00
WAREHOUSE (S-1)	214,390.00	500	428.78
TOTAL:	220,390.00		488.78

GENERAL NOTES

1. POLICE NOTE: PROVIDE SECURITY CAMERAS INSIDE THE BUSINESSES AND SEVERAL CAMERAS OUTSIDE.
2. POLICE NOTE: THE PARKING LOTS, STREET AND BUILDINGS SHOULD BE WELL LIT. MINIMIZE THE SHADOWS CAST BY LANDSCAPING AND TREES ON THE PROPERTY, WALKWAYS AND PUBLIC AREAS.
3. TRANSPORTATION ENGINEERING DIVISION NOTE: ALL PUBLIC IMPROVEMENTS AND INFRASTRUCTURES SHALL BE INSTALLED/ CONSTRUCTED WITHIN THE PUBLIC RIGHT-OF-WAY. ADDITIONAL DEDICATION AT DRIVEWAY APPROACHES MAY BE REQUIRED IN ORDER TO ACCOMMODATE THESE.

ELECTRIC VEHICLE CHARGING STATION INFORMATION

TOTAL PARKING = 98 STALLS

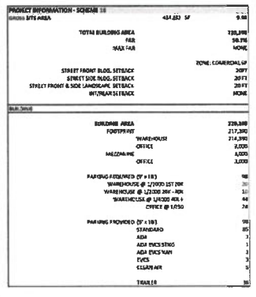
NUMBER OF REQUIRED ELECTRIC VEHICLE STALLS = 7 STALLS

NUMBER OF PROVIDED ELECTRIC VEHICLE STALLS:

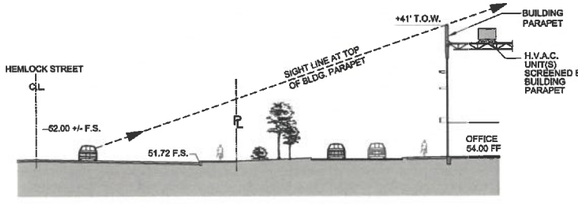
1 - VAN ACCESSIBLE E.V. STALL
1 - STANDARD ACCESSIBLE STALL
3 - STANDARD E.V. STALLS

5 - TOTAL E.V. CHARGING STATIONS PROVIDED
TOTAL CLEAN AIR PARKING = 5 STALLS

PROJECT INFORMATION

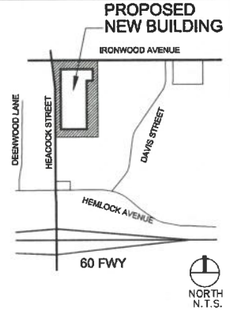


SITE LINE SECTION - A

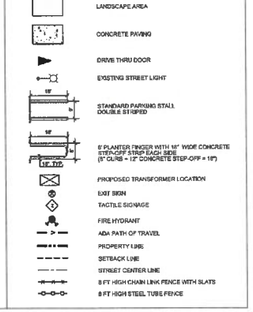


SCALE: 1/16" =1'-0"

VICINITY MAP



SITE LEGEND



PROJECT
RYAN MARTIN - HEACOCK
MORENO VALLEY, CA

HERDMAN
ARCHITECTURE + DESIGN

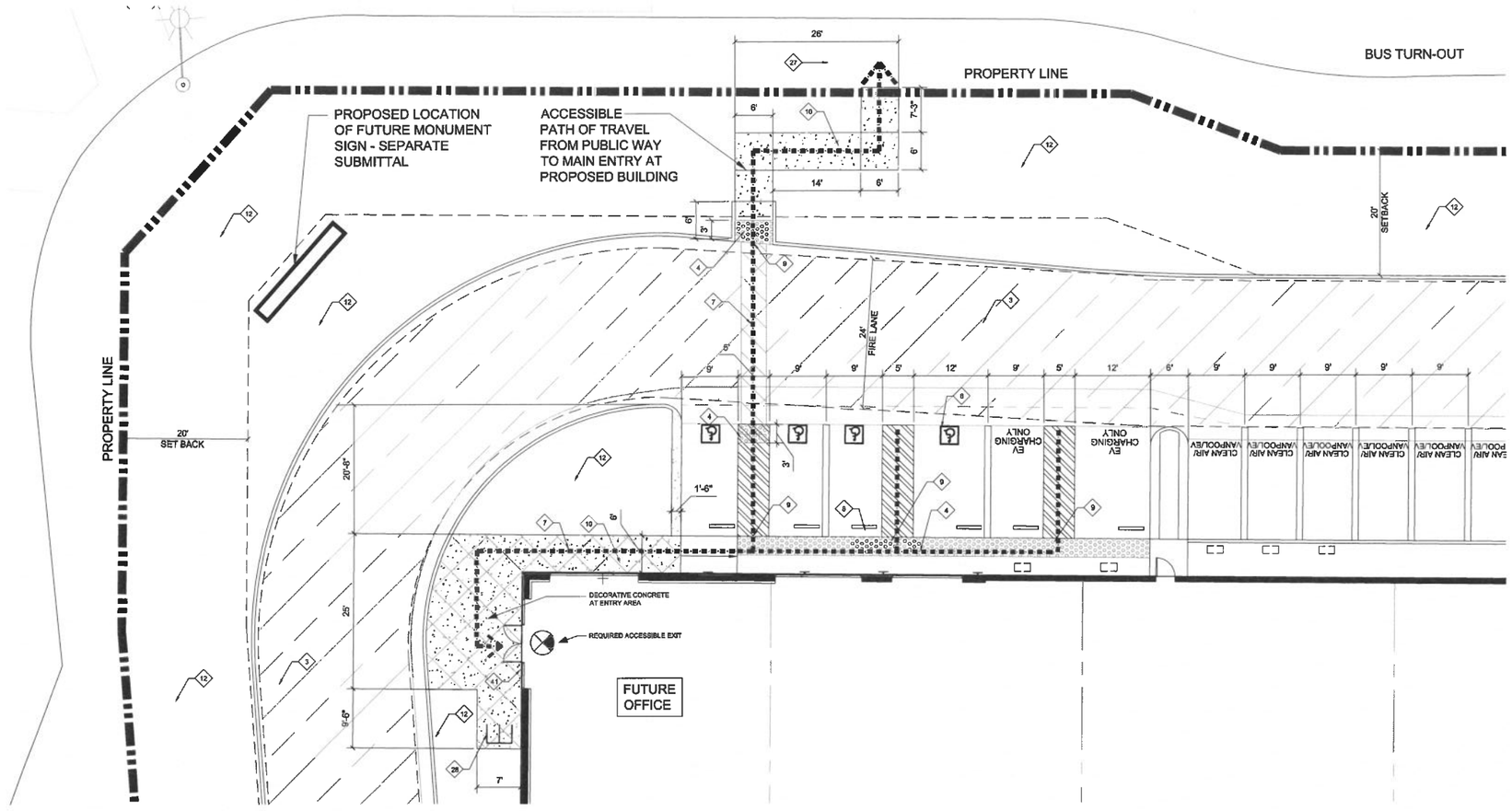
16201 Scientific Way
Irvine, CA 92618
www.Herdman-AD.com
714.389.2800
info@Herdman-AD.com

A19-2030
09.22.2020
PLANNING.2

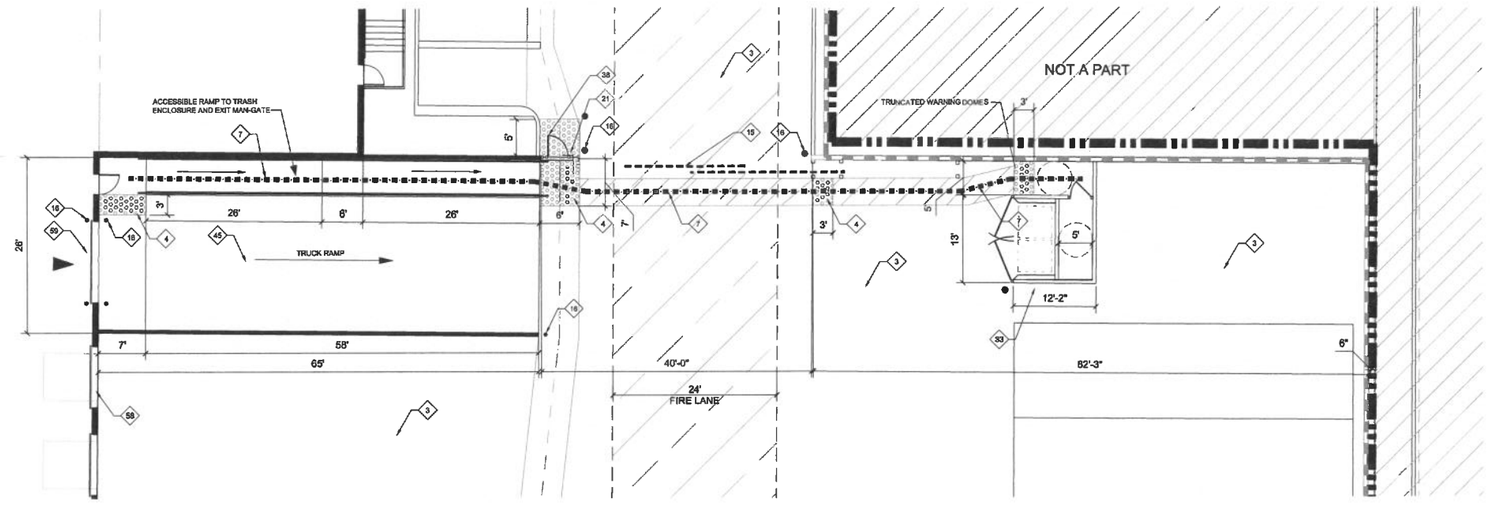
NORTH

SITE PLAN
A1.0

Attachment: Project 2_Project Plans The District (4300 : IRIS PARK AND THE DISTRICT MORENO VALLEY GENERAL PLAN AMENDMENT WITH



A N.W. ENLARGED SITE PLAN
SCALE: 1/8"=1'-0"



B ENLARGED SITE PLAN
SCALE: 1/8"=1'-0"

SITE PLAN KEY NOTES

1 NEW DRIVE CUT, PER CITY OR COUNTY STANDARDS. REFER TO LANDSCAPE DRAWINGS FOR ENHANCED PAVING DESIGN IF APPLICABLE. REFER TO CIVIL DRAWINGS FOR ADDITIONAL INFO.

2 ASPHALT PAVING, TYP. REFER TO SOILS REPORT @ CIVIL DRAWINGS FOR ADDITIONAL DESIGN CRITERIA.

3 CONCRETE PAVING. REFER TO CIVIL DRAWINGS FOR SECTION AND DRAINAGE, G.C. TO COORDINATE WITH SOILS REPORT. REFER TO STRUCTURAL DRAWINGS FOR CONCRETE DESIGN AT TRUCK APRONS IF APPLICABLE.

4 TRUNCATED DOMES

5 ADA SITE ENTRY SIGN PER CODE, TYP.

6 ADA PARKING STALL SIGN PER CODE, TYP. PROVIDE AT ALL ADA STALLS.

7 ADA PATH OF TRAVEL

8 PRECAST CONCRETE WHEEL STOP

9 ZERO CURB FACE.

10 CONCRETE WALK, SEE SITE PLAN FOR ADA PATH OF TRAVEL. 4" MIN THICKNESS, SCORE CONCRETE @ 5' O.C., PROVIDE A LIGHT BROOM FINISH. REFER TO LANDSCAPE DRAWINGS FOR SPECIALTY CONCRETE FINISHING, TYP. REFER TO SOILS REPORT FOR ADDITIONAL MIN. REQ.

11 EXTERIOR CONCRETE STAIR W/CONCRETE WALLS. WALLS & RAILINGS PAINTED PER EXTERIOR COLOR SCHEDULE. REFER TO CIVIL AND STRUCTURAL DRAWINGS

12 LANDSCAPE AREA - SEE LANDSCAPE PLANS FOR ADDITIONAL INFORMATION

14 PROPOSED TRANSFORMER LOCATION. PROVIDE BOLLARDS PER UTILITY COMPANY REQUIREMENTS. SEE ELECTRICAL DRAWINGS FOR ADDITIONAL INFORMATION.

15 SLIDING METAL GATE, ELECTRONICALLY OR MANUALY OPERATED. PROVIDE CONDUIT TO GUARD SHACK AND OFFICE AREA FOR GATE CONTROL @ INTERCOM. PROVIDE KNOX PAD PER FIRE DEPT. STD.

18 PROTECTIVE METAL BOLLARDS, CONCRETE FILLED, PAINTED, TYP.

19 CONCRETE TILT-UP SCREEN WALL, PAINTED

20 CHAIN LINK FENCE, 6 FT HIGH, WITH SLATS

21 METAL TUBE STEEL FENCE PAINTED, 8 FT HIGH

27 PUBLIC SIDE WALK, REFER TO CIVIL DRAWINGS.

28 SECURE BICYCLE RACK. REFER TO LANDSCAPE PLANS FOR MODEL SPECIFICATION AND ADDITIONAL INFORMATION.

31 UNDERGROUND STORAGE, REFER TO CIVIL DRAWINGS FOR ADDITIONAL INFO.

33 CONCRETE TRASH ENCLOSURE PER CITY REQUIREMENTS.

38 PROVIDE AN EXIT SWING GATE 5'-0" WIDE X 7'-0" FROM THE ENCLOSED YARD. PROVIDE KNOX PAD PER FIRE DEPT. STANDARDS.

41 AFFIX THE INTERNATIONAL ACCESSIBILITY SYMBOL AT ALL ACCESSIBLE ENTRANCES.

45 CONCRETE TRUCK RAMP WITH 42" HIGH CONC. TILT UP GUARD WALLS PAINTED TO MATCH BUILDING, SEE ELEVATIONS.

46 CONCRETE LANDING PAD @ EXTERIOR MAN DOOR WITH STEP(S) WHEN SHOWN, PROVIDE HANDRAIL/GUARDRAIL AS REQUIRED, TYP, CONFIRM QUANTITY OF RISERS W/FINAL GRADING PLAN.

52 STRUCTURAL STEEL COLUMN

55 CONCRETE TILT-UP PANEL, TYP, PAINTED, SEE EXTERIOR COLOR SCHEDULE. REFER TO ELEVATIONS AND "S" DRAWINGS FOR ADDITIONAL INFORMATION.

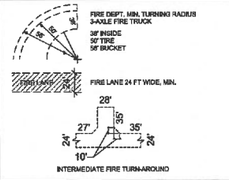
56 EXTERIOR MAN DOOR 3'X7', HOLLOW METAL, PAINTED. SEE EXTERIOR COLOR SCHEDULE & DOOR SCHEDULE FOR ADDITIONAL INFO.

57 EXTERIOR STOREFRONT DOOR, SEE EXTERIOR COLOR SCHEDULE & DOOR SCHEDULE FOR ADDITIONAL INFO.

58 DOCK/6 LOADING DOOR, 9'X12', WITH VISION GLAZING PRE FINISHED BY MANUFACTURER PER COLOR SCHEDULE.

59 DRIVE THRU LOADING DOOR 12'X14' WITH VISION GLAZING, PRE FINISHED BY MANUFACTURER PER COLOR SCHEDULE.

FIRE DEPT. MIN. TURNING RADIUS



SITE LEGEND

LANDSCAPE AREA
CONCRETE PAVING
DRIVE THRU DOOR
EXISTING STREET LIGHT
STANDARD PARKING STALL DOUBLE STRIPED
IF PLANTER FINGER WITH 18" WIDE CONCRETE STEP-OFF STRIP EACH SIDE (6" CURB + 12" CONCRETE STRIP-OFF = 18")
PROPOSED TRANSFORMER LOCATION
EXIT SIGN
TACTILE SIGNAGE
FIRE HYDRANT
ADA PATH OF TRAVEL
PROPERTY LINE
SETBACK LINE
STREET CENTER LINE
6 FT HIGH CHAIN LINK FENCE WITH SLATS
8 FT HIGH STEEL TUBE FENCE

PROJECT
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MORENO VALLEY, CA

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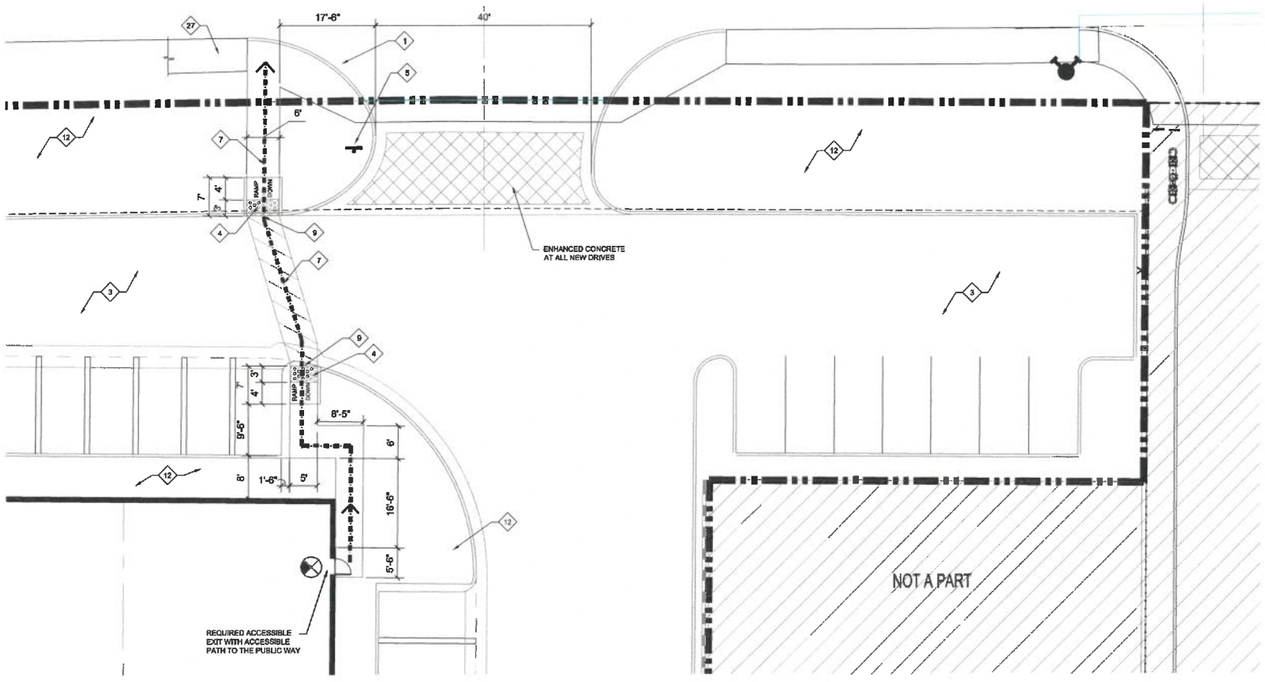
PLANNING.2

NORTH

ENLARGED SITE PLAN

A1.1

Attachment: Project 2_Project Plans The District (4300 : IRIS PARK AND THE DISTRICT MORENO VALLEY GENERAL PLAN AMENDMENT WITH



A ENLARGED SITE PLAN
SCALE: 1" = 10'

SITE PLAN KEY NOTES

1 NEW DRIVE CUT, PER CITY OR COUNTY STANDARDS. REFER TO LANDSCAPE DRAWINGS FOR ENHANCED PAVING DESIGN IF APPLICABLE. REFER TO CIVIL DRAWINGS FOR ADDITIONAL INFO.

2 ASPHALT PAVING, TYP. REFER TO SOILS REPORT @ CIVIL DRAWINGS FOR ADDITIONAL DESIGN CRITERIA.

3 CONCRETE PAVING, REFER TO CIVIL DRAWINGS FOR SECTION AND DRAINAGE. G.C. TO COORDINATE WITH SOILS REPORT. REFER TO STRUCTURAL DRAWINGS FOR CONCRETE DESIGN AT TRUCK APRONS IF APPLICABLE.

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21 METAL TUBE STEEL FENCE PAINTED, 6 FT HIGH

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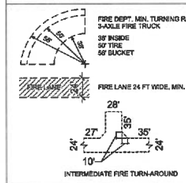
FIRE DEPT. MIN. TURNING RADIUS



SITE LEGEND

LANDSCAPE AREA
CONCRETE PAVING
DRIVE THRU DOOR
EXISTING STREET LIGHT
STANDARD PARKING STALL DOUBLE STRIPED
6" PLANTER RINGER WITH 18" WIDE CONCRETE STEP-OFF STRIP EACH SIDE (6" CURB + 12" CONCRETE STEP-OFF = 18")
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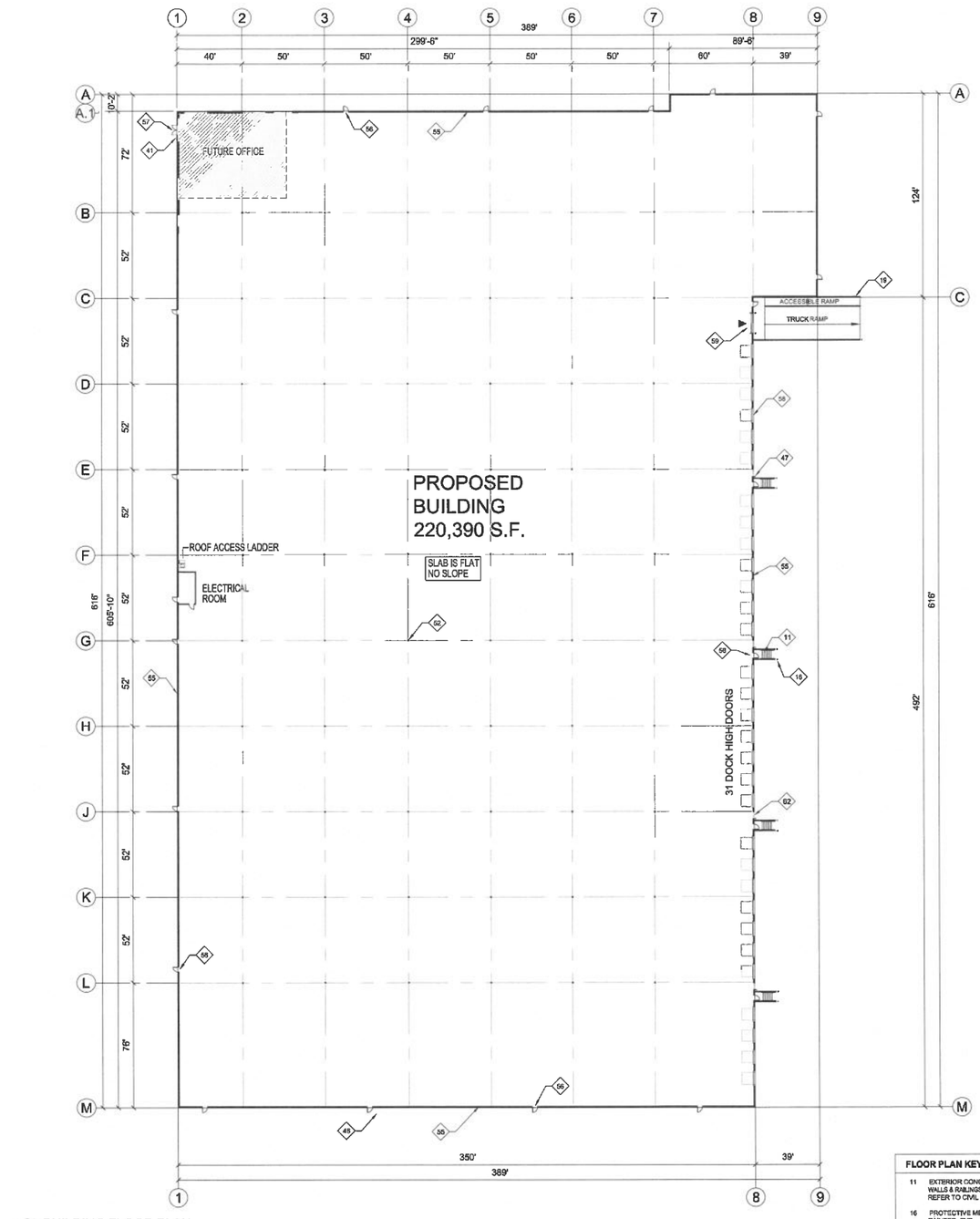
PLANNING 2

NORTH

ENLARGED SITE PLAN
A1.2



A BUILDING FLOOR PLAN
SCALE: 1" = 30'

FLOOR PLAN KEY NOTES

11 EXTERIOR CONCRETE STAIR W/CONCRETE WALLS. WALLS & RAILINGS PAINTED PER EXTERIOR COLOR SCHEDULE. REFER TO CIVIL DRAWINGS

16 PROTECTIVE METAL BOLLARDS, CONCRETE FILLED, PAINTED, TYP.

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47 EXTERIOR METAL DOWNSPOUT AND OVERFLOW SCUPPERS PAINTED TO MATCH BUILDING. REFER TO PLUMBING PLANS FOR MINIMUM SCUPPER OPENINGS ALLOWABLE PER CODE

52 STRUCTURAL BUILDING COLUMN

55 CONCRETE TILT-UP PANEL, TYP. PAINTED. SEE EXTERIOR COLOR SCHEDULE - REFER TO ELEVATIONS

59 EXTERIOR MAN DOOR 3'X7', HOLLOW METAL, PAINTED. SEE EXTERIOR COLOR SCHEDULE

57 EXTERIOR STOREFRONT DOOR. SEE EXTERIOR COLOR SCHEDULE FOR ADDITIONAL INFO.

58 DOCK-HI LOADING DOOR, 9'X10', WITH VISION GLAZING PRE FINISHED BY MANUFACTURER PER COLOR SCHEDULE.

59 DRIVE THRU LOADING DOOR 12'X14' WITH VISION GLAZING, PRE FINISHED BY MANUFACTURER PER COLOR SCHEDULE.

62 AIR INTAKE LOUVER, PAINT TO MATCH BUILDING WALL. TYP. SIZE: HORIZONTAL 4'X8', PROVIDE BIRD SCREEN, FILTER AND BURGLAR BARS.

PROJECT
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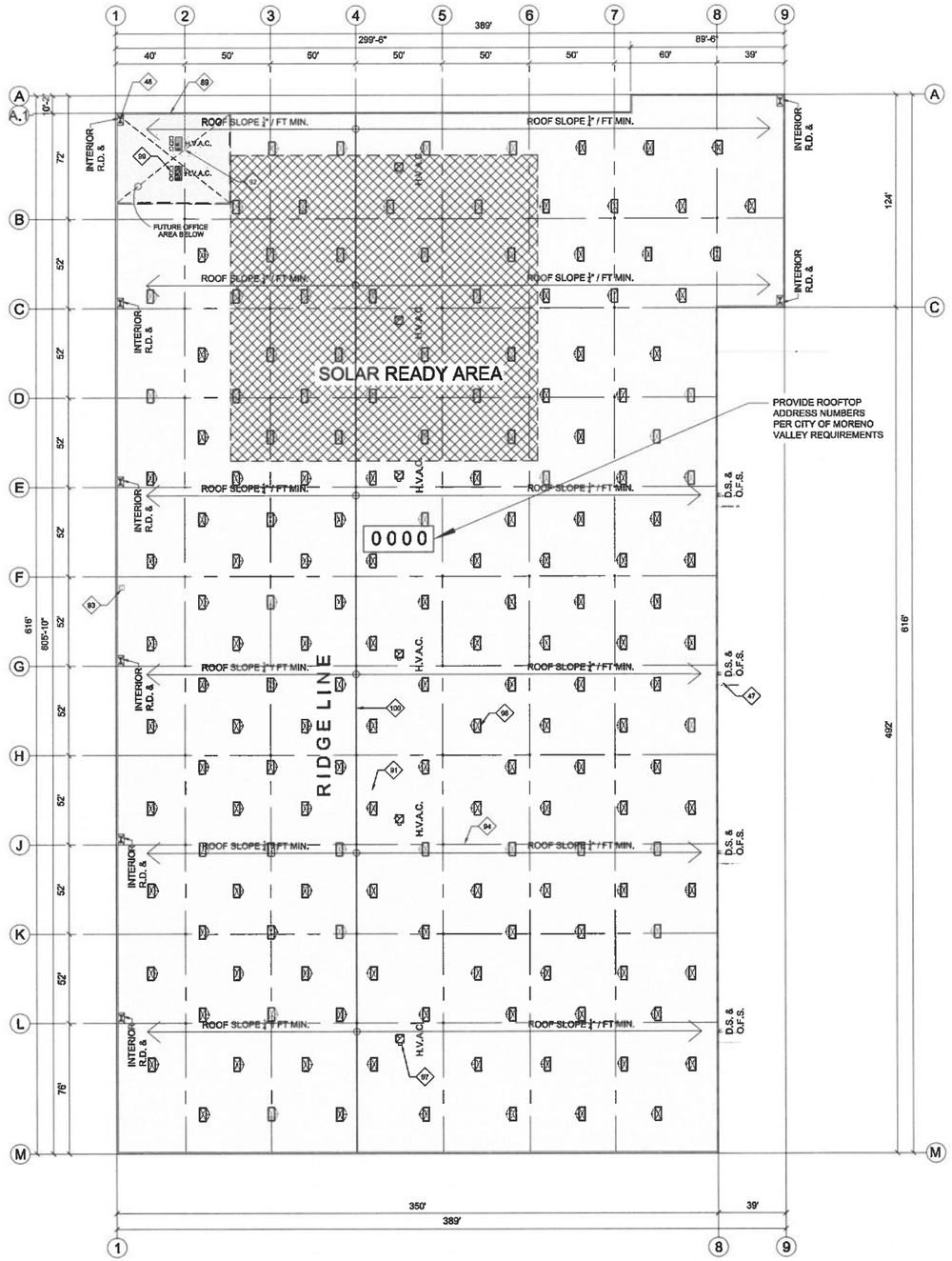
NORTH

BUILDING FLOOR PLAN

A2.0



A BUILDING ROOF PLAN
SCALE: 1" = 30'

ROOF PLAN GENERAL NOTES

- POLICE NOTE: ENSURE ANY TREES SURROUNDING BUILDING ROOFTOPS TO BE KEPT AT A DISTANCE TO PREVENT ROOF ACCESSIBILITY BY POTENTIAL BURGLARS. SINCE TREES ALSO ACT AS A NATURAL LADDER, THE BRANCHES MUST BE PRUNED TO HAVE AT LEAST SIX-FOOT CLEARANCE FROM THE BUILDING.
- POLICE NOTE: ROOFTOP ADDRESSING OF ALL BUILDINGS IS RECOMMENDED.

ROOF PLAN KEY NOTES

47 EXTERIOR METAL DOWNSPOUT AND OVERFLOW SCUPPERS PAINTED TO MATCH BUILDING. REFER TO PLUMBING PLANS FOR MINIMUM SCUPPER OPENINGS ALLOWABLE PER CODE.
48 INTERIOR ROOF DRAIN AND INTERIOR OVERFLOW DRAIN.
89 CONCRETE PARAPET, TYP.
91 4-PLY BUILT UP ROOFING CLASS "A". REFER TO PROJECT SPECIFICATIONS FOR ADDITIONAL INFORMATION. VERIFY WARRANTY REQUIREMENTS WITH OWNER.
92 FUTURE MECHANICAL EQUIPMENT
93 ROOF ACCESS HATCH.
94 ROOF FRAMING BELOW
95 PARAPET RETURN 2' MIN. OR PER PLAN
97 FUTURE EXHAUST FANS
98 4'X 8' SKYLIGHT.
99 WALKWAY PADS.
100 RIDGE/HIGH POINT OF ROOF.

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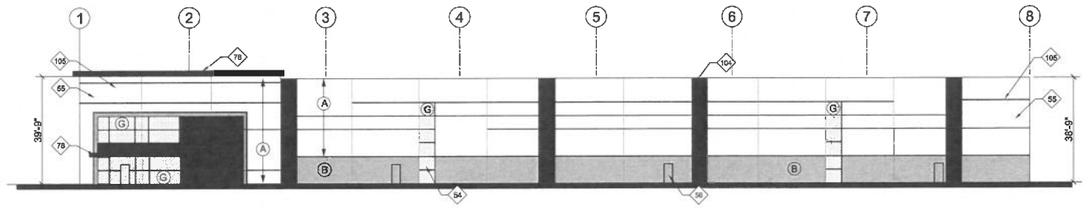
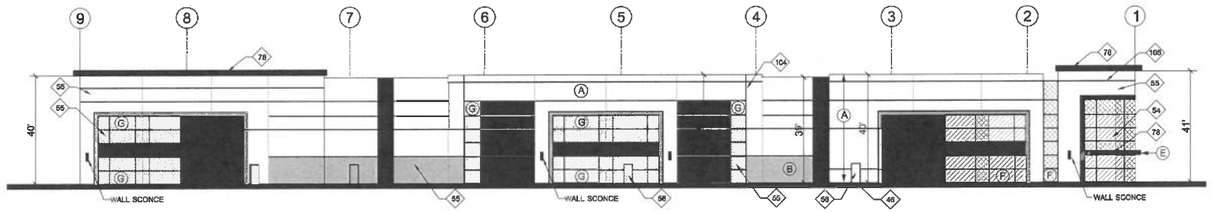
NORTH

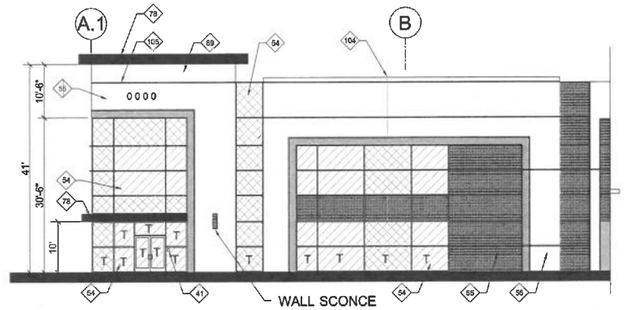
ROOF PLAN
A3.0



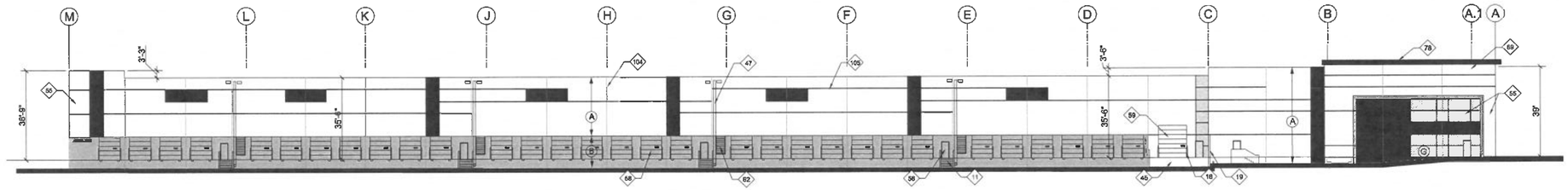
A SOUTH ELEVATION
SCALE: 1" = 20'



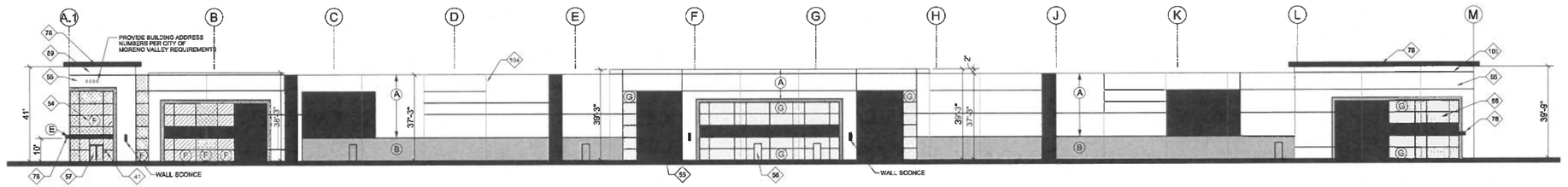
B NORTH ELEVATION
SCALE: 1" = 20'



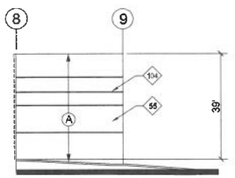
F ENLARGED PARTIAL WEST ELEVATION
SCALE: 3/32" = 1'-0"



C EAST ELEVATION
SCALE: 1" = 20'



D WEST ELEVATION
SCALE: 1" = 20'



E SOUTH ELEVATION AT TRUCK RAMP
SCALE: 1" = 20'

EXTERIOR ELEVATION KEY NOTES

11 EXTERIOR CONCRETE STAIR W/CONCRETE WALLS, WALLS & RAILINGS PAINTED PER EXTERIOR COLOR SCHEDULE, REFER TO CIVIL DRAWINGS
15 SLIDING METAL GATE, ELECTRONICALLY OR MANUALLY OPERATED, PAINTED
16 PROTECTIVE METAL BOLLARDS, CONCRETE FILLED, PAINTED, TYP.
19 CONCRETE SCREEN WALL, PAINTED
41 AFFIX THE INTERNATIONAL ACCESSIBILITY SYMBOL AT ALL ACCESSIBLE ENTRANCES.
45 CONCRETE TRUCK RAMP WITH 42" HIGH CONC. TILT UP GUARD WALLS PAINTED TO MATCH BUILDING, SEE ELEVATIONS.
46 CONCRETE LANDING PAD @ EXTERIOR MAN DOOR WITH STEP(S) WHEN SHOWN, PROVIDE HANDRAIL/GUARDRAIL AS REQUIRED, TYP. CONFIRM QUANTITY OF RISERS W/FINAL GRADING PLAN.
47 EXTERIOR METAL DOWNSPOUT & OVERFLOW SCUPPERS PAINTED TO MATCH BUILDING, SEE DETAIL 16/A0.4 REFER TO PLUMBING PLANS FOR MIN. SCUPPER OPENINGS ALLOWED PER CODE.
48 INTERIOR ROOF DRAIN AND INTERIOR OVERFLOW DRAIN
49 INTERIOR ROOF DRAIN AND OVERFLOW SCUPPER PAINTED TO MATCH BUILDING.
54 STOREFRONT, SEE ELEVATIONS & EXTERIOR COLOR SCHEDULE. STORE FRONT TO BE DESIGNED TO RESIST WIND LOADING AS REQUIRED BY BUILDING CODES AND LOCAL JURISDICTION. DESIGN OF STOREFRONT FRAMING SYSTEM AND STRUCTURAL CALCULATIONS TO BE DESIGN BUILD BY G.C. AND UNDER DEFERRED SUBMITTAL
55 CONCRETE TILT-UP PANEL, TYP. PAINTED, SEE EXTERIOR COLOR SCHEDULE, REFER TO ELEVATIONS
56 EXTERIOR MAN DOOR 3'X7', HOLLOW METAL, PAINTED, SEE EXTERIOR COLOR SCHEDULE
57 EXTERIOR STOREFRONT DOOR, SEE EXTERIOR COLOR SCHEDULE FOR ADDITIONAL INFO.
58 DOOR-HI LOADING DOOR, 9'X10', WITH VISION GLAZING PRE FINISHED BY MANUFACTURER PER COLOR SCHEDULE.
59 DRIVE THRU LOADING DOOR 12'X14' WITH VISION GLAZING, PRE FINISHED BY MANUFACTURER PER COLOR SCHEDULE.
62 AIR INTAKE LOUVER, PAINT TO MATCH BUILDING WALL, TYP. SIZE: HORIZONTAL 4'x9', PROVIDE BIRD SCREEN, FILTER AND BURGLAR BARS.
78 DECORATIVE METAL BROW
89 CONCRETE PARAPET, TYP.
104 PANEL JOINT, TYP.
105 2" DECORATIVE CONCRETE REVEAL WITH CHAMFERED EDGES, TYP.*
109 ROOF LINE BEYOND

GLAZING LEGEND

VISION GLAZING:
SPANDREL GLAZING:
TEMPERED GLAZING = T

EXTERIOR COLOR SCHEDULE

(A) SW EXTERIOR PAINT COLOR: SW 7307 - CEILING BRIGHT WHITE
(B) SW EXTERIOR PAINT COLOR: SW 7072 - ONLINE
(C) SW EXTERIOR PAINT COLOR: SW 7074 - SOFTWARE
(D) SW EXTERIOR PAINT COLOR: SW 7075 - WEB GRAY
(E) CHARCOAL METAL BROW & CANOPY
(F) STOREFRONT MEDIUM PERFORMANCE BLUE REFLECTIVE GLAZING - NOT TO EXCEED AN OUTDOOR REFLECTANCE OF 25% - CLEAR ANODIZED MULLIONS
(G) EXTERIOR PAINT COLOR: SW 7606 - BLUE CRUISE

TYPICAL PAINT NOTES:
1. PAINT MAN DOORS, GUARD WALLS, RAMP WALLS, STAIR WALLS, GUARD RAILS, ROOF DRAINS, AND LOUVERS TO MATCH ADJACENT BUILDING WALL U.N.O.
2. TRUCK DOORS TO BE PRE-FINISHED BY MANUFACTURER IN WHITE FINISH AND PAINT TO MATCH ADJACENT BUILDING WALL U.N.O.

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EXTERIOR ELEVATIONS
A4.0

HEACOCK INDUSTRIAL
CONCEPTUAL GRADING PLAN
CITY OF MORENO VALLEY

EXISTING EASEMENTS:

(1) EASEMENT(S) FOR THE PURPOSE(S) SHOWN BELOW AND RIGHTS INCIDENTAL THERETO, AS GRANTED IN A DOCUMENT:
GRANTED TO: BANK OF AMERICA NATIONAL TRUST AND SAVINGS ASSOCIATION
PURPOSE: INSTALLATION AND MAINTENANCE OF PIPES, POLES OR OTHER NECESSARY EQUIPMENT FOR THE SUPPLY OF ELECTRICITY, GAS OR OTHER PUBLIC UTILITIES
RECORDED: MAY 29, 1933 IN BOOK 124, PAGE 325, O.R.

(2) EASEMENT(S) FOR THE PURPOSE(S) SHOWN BELOW AND RIGHTS INCIDENTAL THERETO, AS GRANTED IN A DOCUMENT:
GRANTED TO: CITY OF MORENO VALLEY, A MUNICIPAL CORPORATION
PURPOSE: STREET RIGHT-OF-WAY
RECORDED: OCTOBER 21, 2009 AS DOC NO. 2009-0545361, O.R.

(3) EASEMENT(S) FOR THE PURPOSE(S) SHOWN BELOW AND RIGHTS INCIDENTAL THERETO, AS GRANTED IN A DOCUMENT:
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PURPOSE: STREET RIGHT-OF-WAY
RECORDED: OCTOBER 21, 2009 AS DOC NO. 2009-0545362, O.R.

(4) EASEMENT(S) FOR THE PURPOSE(S) SHOWN BELOW AND RIGHTS INCIDENTAL THERETO, AS GRANTED IN A DOCUMENT:
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PURPOSE: STREET RIGHT-OF-WAY
RECORDED: OCTOBER 21, 2009 AS DOC NO. 2009-0545363, O.R.

(5) EASEMENT(S) FOR THE PURPOSE(S) SHOWN BELOW AND RIGHTS INCIDENTAL THERETO, AS GRANTED IN A DOCUMENT:
GRANTED TO: CITY OF MORENO VALLEY, A MUNICIPAL CORPORATION
PURPOSE: PUBLIC HIGHWAY PURPOSES, INCLUDING PUBLIC UTILITY AND PUBLIC SERVICE FACILITIES
RECORDED: JUNE 10, 2010 AS DOC NO. 2010-0266822, O.R.

(6) EASEMENT(S) FOR THE PURPOSE(S) SHOWN BELOW AND RIGHTS INCIDENTAL THERETO, AS GRANTED IN A DOCUMENT:
GRANTED TO: CITY OF MORENO VALLEY, A MUNICIPAL CORPORATION
PURPOSE: PUBLIC HIGHWAY PURPOSES, INCLUDING PUBLIC UTILITY AND PUBLIC SERVICE FACILITIES
RECORDED: JUNE 10, 2010 AS DOC NO. 2010-0266823, O.R.

(7) EASEMENT(S) FOR THE PURPOSE(S) SHOWN BELOW AND RIGHTS INCIDENTAL THERETO, AS GRANTED IN A DOCUMENT:
GRANTED TO: CITY OF MORENO VALLEY, A MUNICIPAL CORPORATION
PURPOSE: PUBLIC HIGHWAY PURPOSES, INCLUDING PUBLIC UTILITY AND PUBLIC SERVICE FACILITIES
RECORDED: JUNE 10, 2010 AS DOC NO. 2010-0266824, O.R.

(8) EASEMENT(S) FOR THE PURPOSE(S) SHOWN BELOW AND RIGHTS INCIDENTAL THERETO, AS GRANTED IN A DOCUMENT:
GRANTED TO: CITY OF MORENO VALLEY, A MUNICIPAL CORPORATION
PURPOSE: PUBLIC HIGHWAY PURPOSES, INCLUDING PUBLIC UTILITY AND PUBLIC SERVICE FACILITIES
RECORDED: JUNE 10, 2010 AS DOC NO. 2010-0266825, O.R.

(9) EASEMENT(S) FOR THE PURPOSE(S) SHOWN BELOW AND RIGHTS INCIDENTAL THERETO, AS GRANTED IN A DOCUMENT:
GRANTED TO: SOUTHERN CALIFORNIA EDISON COMPANY, A CORPORATION
PURPOSE: STUB POLES, GUY WIRES, ANCHORS AND OTHER APPURTENANT FIXTURES AND/OR EQUIPMENT NEEDED FOR ANCHORAGE PURPOSES
RECORDED: OCTOBER 28, 2010 AS DOC NO. 2010-0516390, O.R.

(10) EASEMENT(S) FOR THE PURPOSE(S) SHOWN BELOW AND RIGHTS INCIDENTAL THERETO, AS GRANTED IN A DOCUMENT:
GRANTED TO: SOUTHERN CALIFORNIA EDISON COMPANY, A CORPORATION
PURPOSE: STUB POLES, GUY WIRES, ANCHORS AND OTHER APPURTENANT FIXTURES AND/OR EQUIPMENT NEEDED FOR ANCHORAGE PURPOSES
RECORDED: OCTOBER 28, 2010 AS DOC NO. 2010-0516391, O.R.

(11) AN IRREVOCABLE OFFER TO DEDICATE AN EASEMENT OVER A PORTION OF SAID LAND FOR
PURPOSE(S): STORM DRAIN FACILITIES AND ALL APPURTENANT WORKS, INCLUDING INGRESS AND EGRESS
RECORDED: NOVEMBER 15, 2011 AS DOC NO. 2011-0508264, O.R.

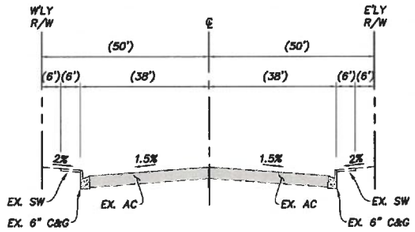
(12) AN IRREVOCABLE OFFER TO DEDICATE AN EASEMENT OVER A PORTION OF SAID LAND FOR
PURPOSE(S): STORM DRAIN FACILITIES AND ALL APPURTENANT WORKS, INCLUDING INGRESS AND EGRESS
RECORDED: NOVEMBER 15, 2011 AS DOC NO. 2011-0508265, O.R.

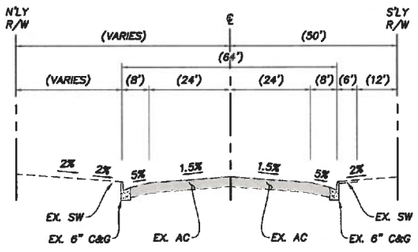
(13) AN IRREVOCABLE OFFER TO DEDICATE AN EASEMENT OVER A PORTION OF SAID LAND FOR
PURPOSE(S): STORM DRAIN FACILITIES AND ALL APPURTENANT WORKS, INCLUDING INGRESS AND EGRESS
RECORDED: NOVEMBER 15, 2011 AS DOC NO. 2011-0508266, O.R.

(14) AN IRREVOCABLE OFFER TO DEDICATE AN EASEMENT OVER A PORTION OF SAID LAND FOR
PURPOSE(S): STORM DRAIN FACILITIES AND ALL APPURTENANT WORKS, INCLUDING INGRESS AND EGRESS
RECORDED: NOVEMBER 15, 2011 AS DOC NO. 2011-0508267, O.R.

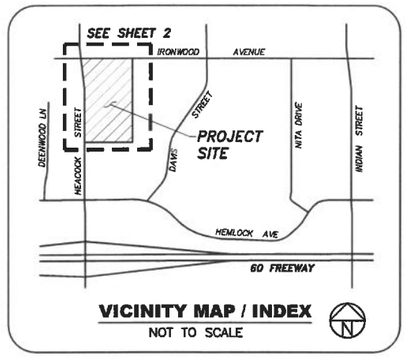
(15) EASEMENT(S) FOR THE PURPOSE(S) SHOWN BELOW AND RIGHTS INCIDENTAL THERETO, AS GRANTED IN A DOCUMENT:
GRANTED TO: EASTERN MUNICIPAL WATER DISTRICT, A MUNICIPAL WATER DISTRICT
PURPOSE: A PIPELINE OR PIPELINES AND OTHER FACILITIES
RECORDED: NOVEMBER 2, 2015 AS DOC NO.2015-0481001, O.R.

MARK	DATE	INITIAL	DESCRIPTION	REC	APPR	DATE
		EOR	REVISION			





TYPICAL SECTION
EX. IRONWOOD AVENUE
SCALE: 1"=20' (H.); 1"=4' (V)



VICINITY MAP / INDEX
NOT TO SCALE

OWNER
LEDO CAPITOL GROUP
670 LEDO WAY
LOS ANGELES, CA 94009
PHONE: (303) 419-6780
CONTACT: RYAN MARTIN

APPLICANT
HERDMAN ARCHITECTURE & DESIGN
16201 SCIENTIFIC WAY
IRVINE, CA 92618
PHONE: (949) 430-6072
CONTACT: JOHN SAULIETIS

CIVIL ENGINEER
SB&O, INC.
41689 ENTERPRISE CIRCLE NORTH, SUITE 126
TEMECULA, CA 92590
PHONE: (951) 695-8900
CONTACT: DON BROOKS

EARTHWORK QUANTITIES

	EXCAVATION	EMBANKMENT
RAW VOLUMES:	15,214	21,718
RAW SHRINKAGE (15%):	-2,282	
OVEREXAVATION SHRINKAGE (15%):	-6,321	
SUBSIDENCE (0.2%):		3,190
INFILTRATION SYSTEM SPOILS	1,347	
SPOILS	464	
TOTALS	8,422	24,909

THE ESTIMATE OF EARTHWORK QUANTITIES IS PROVIDED BY THE ENGINEER ONLY FOR THE CONVENIENCE OF THE CONTRACTOR AND DETERMINATION OF PLAN CHECK FEES. THE CONTRACTOR SHALL MAKE HIS OWN DETERMINATION OF THE CONSTRUCTED QUANTITIES BEFORE SUBMITTING A BID.

LEGEND

EXISTING RIGHT-OF-WAY
EXISTING PROPERTY LINE
PROPOSED BOUNDARY LINE
PROPOSED PROPERTY LINE
STREET CENTERLINE
EXISTING CURB & GUTTER
EXISTING SIDEWALK
(626) EXISTING CONTOUR
626 PROPOSED CONTOUR
DIRECTION OF DRAINAGE
DRIVEWAY SIGHT DISTANCE
PROPOSED SLOPE
PROPOSED CURB & GUTTER
PROPOSED RETAINING WALL
PROPOSED CONC. SCREEN WALL
PROPOSED 8' CHAIN LINK FENCE
S6 PROPOSED SEWER
W2 PROPOSED WATER
PROPOSED STORM DRAIN
(S8) EXISTING SEWER
(W12) EXISTING WATER
(SD42) EXISTING STORM DRAIN
(UGE) EXISTING UNDERGROUND ELECTRICAL

PROJECT DESCRIPTION

THE PROJECT SITE IS LOCATED AT THE SOUTHEAST CORNER OF HEACOCK STREET AND IRONWOOD AVENUE ON 9.89 ACRES OF LAND WITHIN THE MORENO VALLEY FESTIVAL SPECIFIC PLAN 205, IN THE CITY OF MORENO VALLEY. THE PROJECT PROPOSES TO CONSTRUCT ONE INDUSTRIAL CONCRETE TILT-UP BUILDING.

A LOT MERGER IS BEING PROPOSED TO CONSOLIDATE THE EXISTING SIX LOTS.

LEGAL DESCRIPTION:

(APN 481-020-013, 029, 030, 035 & 038)

THE LAND REFERRED TO HEREIN BELOW IS SITUATED IN THE CITY OF MORENO VALLEY, IN THE COUNTY OF RIVERSIDE, STATE OF CALIFORNIA, AND IS DESCRIBED AS FOLLOWS:

LOTS 1, 2, 3 AND 4 OF SUNNYMEAD ORCHARD FARMS TRACT, IN THE CITY OF MORENO VALLEY, COUNTY OF RIVERSIDE, STATE OF CALIFORNIA, AS SHOWN BY MAP ON FILE IN BOOK 14, PAGES 12 AND 13 OF MAPS, RIVERSIDE COUNTY RECORDS.

TOGETHER WITH THE SOUTHERLY 10 FEET OF IRONWOOD AVENUE, AS VACATED BY ORDER OF THE BOARD OF SUPERVISORS OF RIVERSIDE COUNTY, DATED JUNE 4, 1928 ON FILE IN SUPERVISOR'S MINUTE BOOK 20, PAGE 398, A CERTIFIED COPY OF WHICH WAS RECORDED JUNE 7, 1928 IN BOOK 768, PAGE 387 OF DEEDS.

EXCEPTING THEREFROM THAT PORTION AS DESCRIBED IN THE DEED TO THE COUNTY OF RIVERSIDE, RECORDED JULY 19, 1966 AS INSTRUMENT NO. 73738 OF OFFICIAL RECORDS.

ALSO EXCEPTING THEREFROM THAT PORTION OF LOT 1 AS CONVEYED TO EASTERN MUNICIPAL WATER DISTRICT, A PUBLIC AGENCY, AS CONTAINED IN DEED RECORDED NOVEMBER 2, 2015 AS INSTRUMENT NO. 2015-0481000 OF OFFICIAL RECORDS OF SAID COUNTY.

GENERAL NOTES

1. PROPERTY ADDRESS: SOUTHEAST CORNER OF HEACOCK STREET AND IRONWOOD AVENUE
2. APN's 481-020-013, 029, 030, 035 & 038
3. LEGAL DESCRIPTION: SEE LEFT HEREON.
4. BUILDING FOOTPRINT AREA: 217,390 SF
   BUILDING AREA: 220,390
5. PROPOSED USE: INDUSTRIAL WAREHOUSE/OFFICE FACILITY
   ZONING: MU (MIX OF USES) – MORENO VALLEY FESTIVAL SP 205
   BUILDING SETBACKS: IRONWOOD AVENUE – 30 FEET
   HEACOCK STREET – 20 FEET

   THE SUBJECT PROPERTY IS LOCATED WITHIN ZONE X, PER FEMA FLOOD INSURANCE RATE MAP 06065C0753G DATED 08/28/2008 AND AS AMENDED BY LOMR 09-09-0818P EFFECTIVE 4/30/09 & LOMR 12-09-0582P EFFECTIVE 1\31\13

   ZONE X OTHER AREAS – AREAS DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL FLOODPLAIN.
6. AERIAL TOPOGRAPHY PROVIDED BY AEROTECH MAPPING, PROJECT IRONWOOD, COMPILED FROM AERIAL PHOTOGRAPHY DATED 06/24/14.
   ACCURACY OF AERIAL TOPOGRAPHY:
   HORIZONTAL: 1"=40'
   VERTICAL: 1' CONTOUR INTERVAL

   AND SUPPLEMENT WITH FIELD SURVEY ON 7/28/2020
7. UTILITY PURVEYORS:

CHARTER SPECTRUM	(877) 906-9121
EASTERN MUNICIPAL WATER DIST	(951) 928-3777
CITY OF MORENO VALLEY	(951) 413-3160
SC EDISON COMPANY	(800) 655-4555
SC GAS COMPANY	(800) 427-2200
RIVERSIDE TRANSIT AGENCY	(951) 565-5164
UNDERGROUND SERVICE ALERT	(800) 227-2600
MORENO VALLEY UTILITY ADMINISTRATION	(951) 413-3500
CROWN CASTLE	(888) 632-0931

8. THERE ARE NO EXISTING STRUCTURES ON-SITE.
9. SEE ARCHITECTURAL SITE PLAN FOR LOCATION AND AND TYPES OF SIGNS.

SB&O INC.
PLANNING ENGINEERING SURVEYING
41689 Enterprise Circle North, Suite 126
Temecula, Ca. 92590
951-695-8900
951-695-8901 Fax

CONCEPTUAL GRADING PLAN
HEACOCK INDUSTRIAL
TITLE SHEET

PLAN PREPARED 11/4/20 SHEET 1 OF 2

F:\75542 HEACOCK INDUSTRIAL\DWG\C-75542-COP.DWG 11/4/2020 8:25:39 AM PLOTTED BY:BLAKE HATCH

HEACOCK STREET

IRONWOOD AVENUE

PROPOSED 220,390 SF
INDUSTRIAL TILT-UP BUILDING
1654.00 FF

APN 481-020-035
VACANT LAND

APN 481-020-029
VACANT LAND

APN 481-020-013
VACANT LAND

APN 481-020-038
VACANT LAND

APN 481-020-039
EMWD WELL SITE
NOT A PART

APN 481-020-045
INDUSTRIAL BUILDING

APN 481-020-043
INDUSTRIAL BUILDING

APN 481-020-044
INDUSTRIAL BUILDING

SUBSURFACE INFILTRATION BASIN 1650.6 GRADE BREAK

EX UNDERGROUND ELEC VAULT WITH VENTS IN PKWY

EX ABANDONED WATER TANK, WELL & APPURTENANCES TO BE REMOVED

EX 8" ABANDONED WTR TO BE REMOVED

EX 8" STEEL RAIL FENCE

EX PROPERTY LINE

PR FIRE PROTECTION WATER LINE

PR 18" SD

PR RETAINING WALL

EX 8" SITE WALL

PR SD INLET

PR STREET LIGHT PER CITY STD

EX ELEC GUY POLE

EX JOINT UTILITY TRENCH

EX 102" SD

EX 12" WATER

EX 16" WATER

EX 8" SEWER

EX 6" GAS

EX FH

PR DOMESTIC WATER SERVICE

PR 10" FIRE PROTECTION WATER SERVICE

EX SD CATCH BASIN

PR CURB

LS SB

PR 40' D/W
PR 4' R/W DEDICATION

EX 40' D/W TO BE REMOVED

SCALE: 1" = 40'

GRAPHIC SCALE
40' 0 40' 80' 120'

MARK	DATE	INITIAL	DESCRIPTION	REC	APPR	DATE
		EOR	REVISION			

SB&O INC.
PLANNING ENGINEERING SURVEYING
41689 Enterprise Circle North, Suite 126
Temecula, Ca. 92590
951-695-6900
951-695-6901 Fax

CONCEPTUAL GRADING PLAN
HEACOCK INDUSTRIAL
TITLE SHEET

PLAN PREPARED 11/4/20 SHEET 2 OF 2

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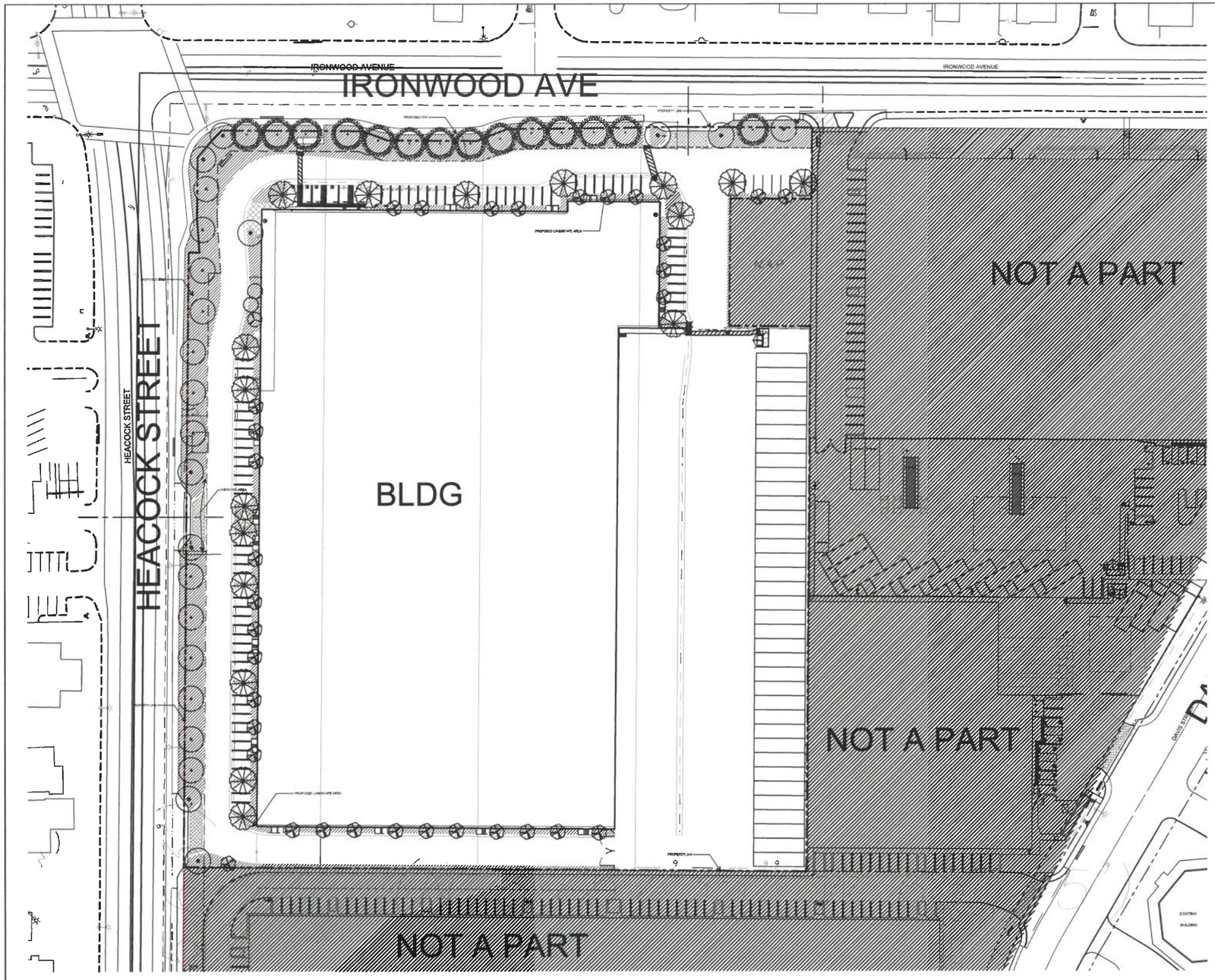


PLANTING LEGEND

TREES

SYMBOL	BOTANICAL/COMMON NAME	SIZE	QTY	WUCOLS	REMARKS
	Acacia b. 'Purpurea' Purple Acacia	24" Box	1	L	Multi
	Geijera p. 'Desert Museum' Blue Palo Verde	24" Box	19	L	Multi
	Arbutus 'Marina' Strawberry Tree	24" Box	17	L	Standard
	Pinus canariensis Canary Island Pine	24" Box	13	M	Standard
	Pinus eldarica Afghan Pine	24" Box	2	L	Standard
	Platanus acerifolia London Plane	24" Box	14	M	Standard
	Tristania conferta Brisbane Box	15 Gal	33	M	Standard

SHRUBS

SYMBOL	BOTANICAL/COMMON NAME	SIZE	QTY	WUCOLS	REMARKS
	Callistemon 'Little John' Dwarf Bottle Brush	5 Gal	0	M	
	Carissa macrocarpa 'Tuttle' Natal Plum	5 Gal	0	M	
	Carissa 'Boxwood Beauty' Boxwood Beauty Natal Plum	5 Gal	0	M	
	Dianella 'Little Rev' Dwarf Dianella	5 Gal	0	M	
	Dianella tasmanica Dianella	5 Gal	0	M	
	Dietes bicolor Yellow Iris	5 Gal	0	M	
	Dodonaea viscosa 'Purpurea' Hopseed Bush	5 Gal	0	M	
	Rosmarinus officinalis 'Prostratus' Dwarf Rosemary	5 Gal	0	L	
	Lavandula x 'Provence Blue' Provence Lavender	5 Gal	0	L	
	Leucophyllum f. 'Green Cloud' Texas Ranger	5 Gal	0	L	
	Leucophyllum f. 'Compacta' Compact Texas Ranger	5 Gal	0	M	
	Myoporum parvifolium 'Putah Creek' Creeping Myoporum	5 Gal	0	L	
	Rosmarinus o. 'Huntington Carpet' Prostrate Rosemary	5 Gal	0	L	
	Salvia greggii Autumn Sage	5 Gal	0	L	
	Salvia leucantha Mexican Sage	5 Gal	0	L	
	Santolina chamaecyparissus Lavender Cotton	5 Gal	0	L	
	Westringia fruticosa Coast Rosemary	5 Gal	0	L	

ACCENTS

SYMBOL	BOTANICAL/COMMON NAME	SIZE	QTY	WUCOLS	REMARKS
	Agave americana Century Plant	5 Gal	0	L	
	Agave 'Blue Flame' Blue Flame Agave	5 Gal	0	L	
	Agave 'Blue Glow' Blue Glow Agave	5 Gal	0	L	
	Agave ovatifolia Agave	5 Gal	0	L	
	Agave parryi Agave	5 Gal	0	L	
	Aloe maculata Soap Aloe	5 Gal	0	L	
	Aloe striata Coral Aloe	5 Gal	0	L	
	Hesperaloe parviflora 'Desert Spoon'	5 Gal	0	L	
	Hesperaloe 'Rudbies' Rudbies Firecracker	5 Gal	0	L	
	Yucca pallida Pale Yucca	5 Gal	0	L	
	Yucca rostrata 'Blue Beaked Yucca'	5 Gal	0	L	

GROUNDCOVER

SYMBOL	BOTANICAL/COMMON NAME	SIZE	SPACING	WUCOLS	REMARKS
	Acacia redolens 'Low Boy' Dwarf Acacia	1 Gal	6' O.C.	L	
	Carex divulsa California Meadow Sedge	4" Pots	12" O.C.	M	Grass
	Lantana x 'Hellfire' Trailing Hellfire Lantana	1 Gal	48" O.C.	L	
	Muhlenbergia capillaris Pink Muhly	1 Gal	36" O.C.	L	Grass
	Myoporum parvifolium Myoporum	1 Gal	36" O.C.	L	
	Nassella tenuissima Mexican Feather Grass	1 Gal	24" O.C.	VL	Grass
	Rosa 'Flower Carpet' Red Flower Carpet Rose	1 Gal	30" O.C.	L	
	Rosmarinus o. 'Huntington Carpet' Prostrate Rosemary	1 Gal	48" O.C.	L	
	Muhlenbergia rigens Deer Grass	1 Gal	18" O.C.	M	Grass
	Trachelospermum jasminoides Star Jasmine	1 Gal	24" O.C.	M	
	Tulbaghia violacea Society Garlic	1 Gal	24" O.C.	M	

PROJECT INFORMATION

GROSS SITE AREA	434,902 S.F.
BUILDING AREA	229,368 S.F.
PARKING AREA	98,229 S.F.
LANDSCAPE AREA	47,722 S.F.

PROJECT DESCRIPTION

SOUTHEAST CORNER OF HEACOCK STREET AND IRONWOOD AVENUE ON 9.98 ACRES OF LAND.

N

N.T.S.

N

0 20' 40' 80'

Ryan Martin - Heacock St.

Conceptual Landscape Improvement plan

20-080
08.04.20
09.12.20
11.02.20

A.P.N. 481-020-013, 029, 030, 035 & 038

Moreno Valley, California

HUNTER LANDSCAPE
711 FEE ANA STREET PLACENTIA, CA 92870
714.986.2400 FAX 714.986.2408

PLANTING LEGEND — PHOTO

TREES

SYMBOL	BOTANICAL/COMMON NAME	SIZE	PHOTO
	Cercidium 'Desert Museum' Blue Palo Verde	24" Box	1

SHRUBS

SYMBOL	BOTANICAL/COMMON NAME	SIZE	PHOTO
	Rhamnus californica Coffeeberry	5 Gal	2
	Salvia greggii Autumn Sage	5 Gal	3
	Salvia c. 'Allen Chickering' Allen Chickering Sage	5 Gal	
	Westringia f. 'Grey Box Dwarf Coast Rosemary	5 Gal	4

ACCENTS

SYMBOL	BOTANICAL/COMMON NAME	SIZE	PHOTO
	Agave 'Blue Glow Blue Glow Agave	5 Gal	5
	Agave desmeniana Smooth Agave	5 Gal	6
	Echinocactus grusonii Golden Glow Barrel Cactus	5 Gal	7

GROUNDCOVER

SYMBOL	BOTANICAL/COMMON NAME	SIZE	PHOTO
	Lantana 'Gold Mound' Yellow Lantana	1 Gal	8

3/4" crushed rock decorative rock -Desert Gold. 3" layer over filter fabric.

N

0 20 40 80'

Ryan Martin - Heacock St.

Conceptual Landscape Improvement plan

20-080
08.04.20 12.17.20
08.12.20
11.02.20

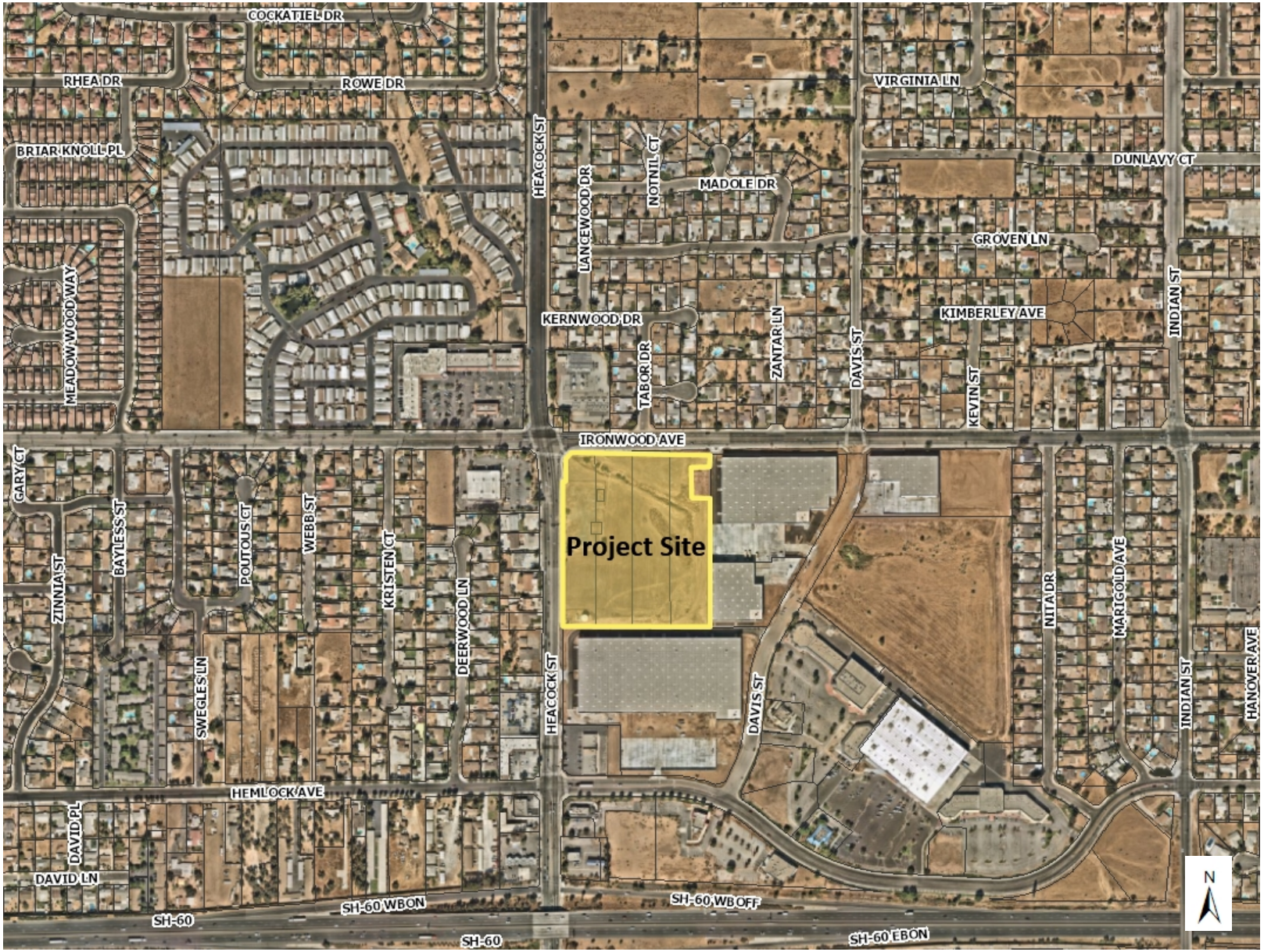
A.P.N. 481-020-013, 029, 030, 035 & 038

Moreno Valley, California

HUNTER LANDSCAPE
711 FEE ANA STREET PLACENTIA, CA 92870
714.986.2400 FAX 714.986.2408

MORENO VALLEY
WHERE DREAMS SOAR

Aerial Map



Legend

Master Plan of Trails
- Bridge
- Improved
- Multiuse
- Proposed
- Regional
- State

Road Labels

Parcels

City Boundary

Sphere of Influence

Image Source: Nearmap

Notes:

PEN20-0139 - General Plan Amendment
PEN20-0138 - Specific Plan Amendment
PEN20-0137 - Plot Plan

1,261.9 0 630.96 1,261.9 Feet

WGS_1984_Web_Mercator_Auxiliary_Sphere

Print Date: 12/31/2020

DISCLAIMER: The information shown on this map was compiled from the City of Moreno Valley GIS and Riverside County GIS. The land base and facility information on this map is for display purposes only and should not be relied upon without independent verification as to its accuracy. Riverside County and City of Moreno Valley will not be held responsible for any claims, losses or damages resulting from the use of this map.

Julia Descoteaux

From: andreac1@usa.com
Sent: Thursday, January 7, 2021 7:42 PM
To: Julia Descoteaux
Subject: Warehouses on Heacock and Ironwood

Warning: External Email – Watch for Email Red Flags!

i am totally opposed to allowing them to build more warehouses on this property. The original plan was for mixed use and we were told it would be something like a Riverside Plaza or Canyon Crest Shopping Center.

What they built is very disappointing. They have no landscaping, no setback from the street and the buildings are ugly. There is no respect for the nearby neighborhoods. I can't imagine how bad the traffic will be when the trucks arrive.

Please vote NO on additional warehouses at this location.

Andrea Chouinard
10510 Canyon Vista Rd.
Moreno Valley 92557
951-924-0558

I implore you to

Sent using the mobile mail app

Julia Descoteaux

From: Marilyn Pearson <meepear@hotmail.com>
Sent: Thursday, January 7, 2021 8:34 PM
To: Julia Descoteaux
Subject: No to anymore huge buildings on Heacock and Ironwood.

Warning: External Email – Watch for Email Red Flags!

I'm so furious over the development of the the property on the land bordered by Heacock, Ironwood & Elder and now another building is proposed-hell no! Building giant warehouses in the middle of the city is an idiotic decision. The area would have been much better suited for the development of a downtown area with retail, restaurants and entertainment as was discussed several years ago. We don't need more warehouse distribution type buildings because we are already surrounded by mostly empty ones now. The residents who have lived in this area don't appreciate the added big rig and vehicle traffic they bring nor do we want the added air pollution they will creat. NO to developers building such buildings!

Marilyn

Julia Descoteaux

From: June Ramsey <grammyofktbd@gmail.com>
Sent: Friday, January 8, 2021 9:59 AM
To: Julia Descoteaux
Subject: Another ugly building

Warning: External Email – Watch for Email Red Flags!

This is ridiculous and the sad part is that I know it doesn't really matter what I, or hundreds of others say. MV only cares about money. They cater to the developers. We need so much in this town. Places to shop. Restaurants. What we don't need is more blight. We don't need more traffic on our main streets in town. And we don't need hard working people looking out their doors of their home which should be their sanctuary, just to look at ugly gray walls. Do you know how many warehouse type buildings are around her that are new but have never been occupied? What a waste. Elected officials. Spend your time cleaning our city and making it an inviting area people want to come to. What has happened to this city is disgraceful.

Sent from my iPhone

City of Moreno Valley

Planning Commission

To: Julia Descoteaux

From: Tom Behrens

CC: Dr. Yxstian Gutierrez, Victoria Baca, Dr. Carla Thorton, David Marquez, Ulises Cabrera

Date: January 12, 2021

Re: Public Hearing Case Numbers, Resolution Number2021-01, PEN20-137, PEN20-138 & PEN20-139

Comments:

I do not think that the proposal for the property change from Commercial to Business Park should be approved. There have already been 4 Business Park buildings built on adjacent properties. I feel this property would better serve the City of Moreno Valley and immediate area with retail type shops. The adjacent properties have ruined the view of the residential properties along Ironwood between Davis and Heacock Streets.

It appears that the City of Moreno Valley is using the original General Biological Assessment Report and the Jurisdictional Delineation Report, Prepared By Hernandez Environmental Services (prepared November 2015) report that was done for the original adjacent projects which the report shows the proposed property as existing and was not included in the original reports I cannot tell if the preparer of the original report was consulted on the amendment being proposed.

The Traffic Impact Analysis report by Transpo Group for case number PEM-0015 specifically excluded the property per figure 3 packet page 294. I believe that the traffic increase from this project will have an effect on Ironwood and Heacock. There are times of the day that traffic exiting will not be able to turn south on Heacock or West on Ironwood which will lead to traffic congestion on east bound Ironwood. Traffic will also be cutting through the neighborhood north of the project on Tabor and Kernwood. This is already an issue with people trying to beat the signal at

Ironwood and Heacock. Maybe if project is approved speed humps could be installed on Tabor and Kernwood to slow the traffic down.

In closing I do not think the City of Moreno Valley should allow / approve Business Park type building to be built on so many properties throughout the city especially the inner city areas.

Tom Behrens

24040 Kernwood drive

Moreno Valley, CA 92557

tom_behrens@hotmail.com

From: **Mike Jensen** <jensen@pacret.com>
Date: Wed, Jan 13, 2021 at 8:05 PM
Subject: Re: Planning Commission - Zoom Call Information
To: Ryan Martin <rmartin@ledocg.com>
Cc: Joe Meyer <jdm@pacificretailpartners.net>, Joe Rich <joe@richdevelopment.com>

Dear Planning Commissioners of the Great City of Moreno Valley

SCNDSC LLC are owners of the SEC of Ironwood and Heacock. The LLC consists of Principals from Rich Development and Principals from Pacific Retail Partners. We have a combined experience of over 120 years in retail Development of over 50 million square feet of retail projects in the Western United States. We attempted to develop a neighborhood serving shopping center.

We worked well with City Manager Mike Lee and your fine development support staff.
We have spent over 5 years trying to bring retail to this property. We have held many meetings with retailers, retail real estate brokers and architects to try to match the market demand for the subject property. In our 5 years of attempting to build such a product, it was determined that such retailer demand does not exist due to the many retailers already located in the marketplace. Unfortunately the demand for retail at this site does not exist. We are frustrated, as we prefer to develop and hold for the long term.

We have been approached by many industrial users and developers interested in the property. After many meetings and offers and site plans prepared, we feel that the Ledo Capital team in front of you tonight offers the best project for the property.

Thank you

Jensen@pacret.com

SCNDSC LLC

MEMBER

Sent from my iPhone

PAR 1
10
4.50 AC NT
451.13
451.13
526.28
333.15
100
120
11
KERNWOOD DR.
LOT B
LANGEWOOD DR. LOT C
POR LOT 64
271
1.85 AC
S.B.E. 148-33-16-1
TABOR DR.
LOT D
LOT E
SETON PL.
LOT F
IRONWOOD AVE.
272
POR PAR 1
POR LOT 63
ZANTAR
DAVIS ST.
POR PAR 4
POR PAR 3
PAR 1
PAR 2
PAR 3
PAR 4
TRA 021-021
TRA 021-015
T. 2 S.
R. 3 W.
SOF TR PM163/16
545363 10/09
545362 10/09
545361 10/09
POR 6
2.01 AC
193
292
19
LOT B
LOT A
DEERWOOD LANE
LN
STREET
HEACOCK
SOUTH TR
SO TR
POR 38
POR 37
POR 8
POR 1
1
(11.82)
4
3
2
44
5.36 AC ML
PAR 14
021-329
021-330
TRA
43
2.03 AC ML
45
9.77 AC ML
BLK 2
36
1.61 AC ML
35
2.21 AC ML
29
2.44 AC ML
13
2.54 AC ML
38
2.54 AC ML
39
EX
34
EX
30
EX
481
2
264
19
475
27
292
18
600 FT
1"=200'
1"=200'
N
AVENUE
LOT E
40
1.97 AC ML
POR PAR 1
41
1.87 AC ML
POR PAR 1
280.44
301.96
357.93
301.54
270
PAR 2
20
EX
12.90 AC
PAR 3
21
PAR 4
22
23
1.00 AC ML
HEMLOCK AVENUE
PM163/16