PATRICIA SCOTT, CHAIR
JOHN GAGNEPAIN, VICE-CHAIR
CORINNE AWAD, SECOND VICE-CHAIR
TAURUS JONES, COMMISSIONER
MICHELLE PETERSON, COMMISSIONER

REGULAR MEETING AGENDA
PLANNING COMMISSION OF THE CITY OF SAN JACINTO
TUESDAY, SEPTEMBER 22, 2026
6:00 PM OPEN SESSION

COMMUNITY CENTER
625 S. PICO AVENUE
SAN JACINTO, CA 92583
951-487-7330

In compliance with the Americans with Disabilities Act, if you need special assistance to participate in this meeting, please contact the office of the City Clerk at 951-487-7330 ext. 339. Notification 48 hours prior to a meeting will enable the City to make reasonable arrangements to ensure accessibility to that meeting [28 CFR 35.102.35.104 ADA Title II].

The Planning Commission meeting may be observed virtually by accessing https://horizon.agendalink.app/engage-v2/sanjacintoca/agendas and selecting the “Watch” button next to the corresponding agenda for the meeting date, or in person at the San Jacinto Community Center.

Public Comments will only be accepted in person during the meeting or in writing to the Community Development Clerk no later than 3:00 PM on the day of the meeting. Participants viewing the Livestream will not have a comment option.

Watch the Meeting (Official Livestream)
The official way to watch and listen to the Planning Commission meeting is through the City's AgendaLink Livestream by selecting the **"Watch"** option for the applicable meeting on the City's website.

Provide Live Public Comment by Telephone
Members of the public wishing to provide live public comment may participate by telephone using the Microsoft Teams dial-in information below. The telephone line is intended **only** for individuals who wish to address the Planning Commission during the designated Public Comment period.

Dial in by phone:
+1 (951) 465-7684
Conference ID: 706 805 861#

Public Comment Workflow

When the Chair opens the Public Comment portion of the meeting, the process will be as follows:

- Members of the public will call the Teams dial-in number and wait in the Teams lobby.
- Callers should remain in the Teams lobby until the applicable Public Comment period opens. They should not be admitted before the Chair opens Public Comment.
- The Clerk will admit one caller at a time from the lobby as they are ready to speak. If multiple callers are waiting, they should remain in the lobby until it is their turn.
- Once admitted, callers should be able to speak. If necessary, the Clerk can unmute the caller.
- The Chair will recognize the caller, and the caller should first state their name for the record before providing their public comment.
- Each caller will have up to three (3) minutes to speak.
- After completing their comments, callers may either hang up, or the Clerk may remove them from the meeting before admitting the next speaker.

Written public comments ***may only be submitted via email*** to comments@sanjacintoca.gov or by hard copy to the Office of the Community Development Clerk at 595 S. San Jacinto Ave., San Jacinto, CA 92583, no later than 3:00 PM on the day of the meeting. Comments via text and social media (Facebook, Twitter, etc.) will not be accepted. Please identify the agenda item number and "PUBLIC COMMENT" in the subject line of the email or hard copy document. All written correspondence received by the 3:00 PM deadline will be distributed to the legislative body prior to the meeting and retained with the official meeting record. All email comments shall be subject to the same rules as would otherwise govern in-person speaker comments at the Planning Commission meeting.

Reading of Public Comments: The Community Development Clerk will read all email comments, provided that the reading shall not exceed three (3) minutes or such other time as the Chair may provide, consistent with the time limit for speakers at a Planning Commission meeting. The email comments submitted shall become part of the record of the Planning Commission meeting.

1. ORGANIZATION

1.1 1.1 Roll Call

1.2 1.2 Pledge of Allegiance

2. PUBLIC COMMENTS

3. MINUTES

3.1 Minutes of the Regular Planning Commission Meeting of July 28, 2026
Staff Recommends that the Planning Commission APPROVE the Minutes of the Regular Planning Commission Meeting of July 28, 2026.

4. PUBLIC HEARINGS

4.1 Annexation of 43.68 Acres into the City of San Jacinto (Annexation A), a Lot Line Adjustment 22-01, and Tentative Tract Map 34271 (P22-004)
RECOMMENDATION:
Staff recommends that the Planning Commission ADOPT PC Resolution No. 26-03, thereby recommending that the City Council:

— 1. DETERMINE that the proposed Project will not have a significant effect on the environment with the incorporation of mitigation based on the findings set forth in the case record and ADOPT a Mitigated Negative Declaration (MND) and Mitigation Monitoring and Reporting Program, pursuant to the California Environmental Quality Act (CEQA);

— 2. AUTHORIZE the Annexation of 2 parcels on 43.68 acres into the City of San Jacinto, subject to review and approval by the Riverside Local Agency Formation Commission (LAFCO);

— 3. APPROVE Lot Line Adjustment between two parcels, subject to approval of the Annexation by LAFCO and final adoption; and

— 4. APPROVE Tentative Tract Map (TTM) 34271 to subdivide 41.74 acres, into 151 residential lots for the ultimate construction of 151 single-family detached residences, and to create 7 lettered lots for onsite roadways, a detention basin, parks, and on-site landscape subject to the Recommended Conditions of Approval subject to approval of the Annexation by LAFCO and final adoption. (P22-004)

4.2 Annexation of 143.62 Acres in the City of San Jacinto (Annexation B) (P22-084)
RECOMMENDATION:
Staff recommends that the Planning Commission ADOPT PC Resolution No. 26-04, thereby recommending that the City Council:

— 1. DETERMINE pursuant to the California Code of Regulations the project is exempt from CEQA as the project is consistent with the General Plan policies for which an EIR was certified, CEQA Guidelines Section 15183; and

— 2. AUTHORIZE the Annexation of 94 parcels on 143.62 acres within the City’s Sphere of Influence. (P22-084)

5. COMMUNITY DEVELOPMENT UPDATE

6. COMMISSIONER COMMENTS

7. ADJOURNMENT

DOCUMENTS RELATED TO OPEN SESSION AGENDAS (SB343) - Any public record, relating to an open session agenda item, that is distributed within 72 hours prior to the meeting is available for public inspection at the public counter located in the Administration Building of City Hall, 595 S. San Jacinto Avenue, San Jacinto, CA 92583.

I, Lori Matley, Community Development Clerk of the City of San Jacinto, do hereby certify that I caused to be posted the foregoing agenda this September 17, 2026 as requested by law.

Lori Matley, Community Development Clerk

Date Posted: September 17, 2026

September 22, 2026

TO:	Planning Commission
REQUESTED BY:	Lori Matley, Community Development Clerk
APPROVED BY:	Kevin White, Community Development Director
SUBJECT:	Minutes of the Regular Planning Commission Meeting of July 28, 2026

RECOMMENDATION:

That the Planning Commission **APPROVE** the Minutes of the Regular Planning Commission Meeting of July 28, 2026.

Attachments

Minutes of the Regular Planning Commission Meeting July 28, 2026.pdf

PATRICIA SCOTT, CHAIR
JOHN GAGNEPAIN, VICE-CHAIR
CORINNE AWAD, SECOND VICE-CHAIR
TAURUS JONES, COMMISSIONER
MICHELLE PETERSON, COMMISSIONER

ACTION MINUTES
PLANNING COMMISSION - REGULAR MEETING
TUESDAY, JULY 28, 2026
6:00 PM OPEN SESSION

COMMUNITY CENTER
625 S. PICO AVENUE
SAN JACINTO, CA 92583

1. ORGANIZATION

Chair Patricia Scott called the Meeting to order at 6:00 p.m.

1.1 Roll Call

Community Development Clerk Lori Matley conducted the roll call.

Present: Commissioner Awad, Commissioner John Gagnepain, Commissioner Taurus Jones, Commissioner Michelle Peterson, Commissioner Patricia Scott
Absent: None

1.2 Pledge of Allegiance

Commissioner Gagnepain led the Pledge of Allegiance.

2. PUBLIC COMMENTS

2.1 PUBLIC COMMENTS
There were no public comments.

3. MINUTES

3.1 Planning Commission Meeting Minutes

Minutes of the Planning Commission Regular Meeting of June 23, 2026

A motion was made by Commissioner Awad and seconded by Commissioner Jones to **APPROVE** the Regular Planning Commission Meeting Minutes of June 23, 2026. **MOTION CARRIED** 5/0.

AYES: Awad, Gagnepain, Jones, Peterson, Scott
NAYS: None
ABSENT: None
ABSTAIN: None

4. DISCUSSION ITEMS

4.1 City of San Jacinto Comprehensive Economic Development Strategy (CEDS)

Following discussion by the Planning Commission, a motion was made by Commissioner Awad and seconded by Commissioner Jones to: 1. **DETERMINE** that the recommended action is exempt from the California Environmental Quality Act (CEQA) pursuant to CEQA Guidelines section 15061(b)(3) - Common Sense Exemption and section 15262 - Feasibility and Planning Studies, because adoption of the CEDS is a policy and planning action that does not approve, fund, or commit the City to any specific development projects, and it can be seen with certainty that the action will not cause a significant effort on the environment; and 2. **ADOPT** the City of San Jacinto Comprehensive Economic Development Strategy. **MOTION CARRIED** 5/0.

AYES: Awad, Gagnepain, Jones, Peterson, Scott
NAYS: None
ABSENT: None
ABSTAIN: None

5. COMMUNITY DEVELOPMENT UPDATE

Economic Development & Special Projects Administrator Tara Magner and Community Development Director Kevin White presented the Community Development Update.

6. COMMISSIONER COMMENTS

Commissioners provided their comments.

7. ADJOURNMENT

With no further business to discuss, Commissioner Scott adjourned the meeting at 6:40 p.m.

Respectfully submitted,

_____
Planning Commission Secretary

City of San Jacinto
Planning Commission

_____
Planning Commission Chair

September 22, 2026

TO:	Planning Commission
REQUESTED BY:	Matthew Kramer, Assistant Planner
APPROVED BY:	Kevin White, Community Development Director
SUBJECT:	Annexation of 43.68 Acres into the City of San Jacinto (Annexation A), a Lot Line Adjustment 22-01, and Tentative Tract Map 34271 (P22-004)

RECOMMENDATION:

That the Planning Commission **ADOPT PC Resolution No. 26-03**, thereby recommending that the City Council:

1. **DETERMINE** that the proposed Project will not have a significant effect on the environment with the incorporation of mitigation based on the findings set forth in the case record and ADOPT a Mitigated Negative Declaration (MND) and Mitigation Monitoring and Reporting Program, pursuant to the California Environmental Quality Act (CEQA);
2. **AUTHORIZE** Annexation of 43.68 acres into the City of San Jacinto, subject to review and approval of the Annexation by the Riverside Local Agency Formation Commission (LAFCO);
3. **APPROVE** Lot Line Adjustment 22-01 between two parcels, subject to review and approval of the Annexation by LAFCO; and
4. **APPROVE** Tentative Tract Map (TTM) 34271 to subdivide 41.74 acres, into 151 residential lots for the construction of 151 single-family detached residences, and to create 7 lettered lots for onsite roadways, a detention basin, parks, and on-site landscape subject to the Recommended Conditions of Approval and upon approval of the Annexation by LAFCO. (P22-004)

DISCUSSION:

The project is a proposal by Cornell Kasbergen to Annex two lots totaling 43.68-acres into City of San Jacinto. The project also includes a request to adjust lot lines of the two existing parcels, and to subdivide a 41.74-acre portion of the property into 151 single-family residential lots and 7 lettered lots. The build-out of the project will include the construction of single-family homes and the development of onsite roadways, off-site road improvements, detention basins, parks, paseos, and on-site landscaping.

The Project site is located directly south of Ramona Expressway, extending between Alessandro Avenue to the west and Vernon Avenue to the east. The project site is currently occupied by one single family residence on an approximately 1.5 acre portion of the site. The residence is located at the southern edge of the property, directly adjacent to Alessandro Avenue and includes several accessory structures. The remainder of the site is vacant. Surrounding properties have been developed with residential uses, outdoor storage, and agricultural uses. In addition, several parcels in the project vicinity area are vacant.

The project is within the unincorporated area of Riverside County. The County's General Plan Land Use Designation for the site is Agricultural and the current zoning is A-2-10. The project is also within the City of San Jacinto's Sphere of Influence (SOI) which is a planning boundary outside of the City's legal limits. The SOI identifies areas likely to be annexed, and is intended to ensure the efficient provision of services, discourage urban sprawl, and prevent premature conversion of agricultural and open space lands. Properties within the SOI carry a City General Plan designation but remain subject to the County of Riverside's General Plan and Zoning Ordinance until annexed. The property has a Low Density Residential General Plan Designation and the adopted pre-zoning is Residential, Low Density.

Location	Land Use	General Plan Designation	Current Zoning
Project Site	**Residences & Accessory Structures**	**Agriculture (County), Low Density Residential (LDR) and Public Institutional (PI)(City)**	**A-2-10 (County) Residential, Low Density (RL)and Public Institutional (PI)(City)**
North	Vacant	Agriculture (County)	A-2-10 (County)
South	Vacant/Agriculture	Agriculture (County) Low Density Residential (LDR)(City)	A-2-10 (County) Residential, Low Density (RL) (City)
East	Vacant/Agriculture	Mixed Use (MU) and Medium Density Residential (MDR)(City)	Mixed Use (MU) & Residential, Medium Density (RM)(City)
West	Vacant/Outdoor Storage	Agriculture and Rural Residential (County) Low Density Residential (LDR), Medium Density Residential (MDR), and Mixed Use (MU) (City)	A-1-5 and A-2-10 (County) Residential, Low Density (RL), Residential, Medium Density (RM), and Mixed Use (MU) (City)

ANALYSIS:

The applicant seeks to develop their property and has opted to process the development applications through the City in lieu of the County of Riverside. The applicant desires to develop the site with single family homes with a density above 2 dwelling units per acre, which is not consistent with the County of Riverside General Plan or Zoning. Annexation of property into the City requires authorization by the City Council. If authorized, the proposed annexation will be submitted to the Riverside Local Agency Formation Commission (LAFCO) for review and consideration. LAFCO is an independent governmental agency established under State law to oversee changes to the boundaries and organization of cities, counties, and other local governmental agencies. LAFCO has the authority to approve, modify, or deny proposals for annexations and other changes to local agency boundaries. Therefore, while City Council authorization is required for the City to pursue an annexation, the annexation cannot be completed unless and until it is approved by LAFCO and all applicable statutory requirements and procedures have been satisfied.

The annexation process includes public notice and a hearing before LAFCO, at which affected property owners and other members of the public have an opportunity to provide testimony regarding the proposed annexation. Property owners within the affected territory are also provided an opportunity to submit written objections and, where applicable, initiate or participate in a protest proceeding pursuant to State law. Depending on the level of protest received, the annexation may be subject to additional procedures or an election before it can be completed. Accordingly, City Council authorization does not guarantee that a proposed annexation will ultimately be approved or completed, as the proposal remains subject to LAFCO review, public participation, and any applicable protest proceedings.

Annexation of the unincorporated areas into the City of San Jacinto would provide several benefits to the affected properties, surrounding community, and the City as a whole. Annexation would eliminate pockets of unincorporated County territory that are surrounded by, or located immediately adjacent to, incorporated areas of the City. Establishing more logical and contiguous City boundaries would facilitate more coordinated planning and administration of land uses and public services and allow the annexation areas to be considered as part of the broader San Jacinto community.

Annexation would also incorporate the affected properties into the City and allow municipal services to be provided through the City, consistent with applicable service agreements, financing mechanisms, and the City's service capabilities. Incorporating the area into the City would allow future infrastructure and public improvements to be considered as part of the City's broader capital improvement, circulation, utility, and community planning efforts. It would also allow future development and land use changes to be evaluated in conjunction with existing and planned development and infrastructure in surrounding areas.

The annexation would provide a more consistent and coordinated land use planning framework for the area. Properties currently located within the County are subject to the County's General Plan and Zoning Ordinance, which, as discussed above, are not always consistent with one another. Following annexation, the City's General Plan, zoning regulations, development standards, and other applicable municipal requirements would govern the properties. The City's proposed pre-zoning classifications are directly consistent with the City's General Plan land use designations, providing greater clarity regarding the intended future use and development of the properties. This framework would create an opportunity for more coordinated and consistent development patterns across the City and reduce potential differences in land use regulations between adjacent properties within the City and County.

Annexation would also support the City's long-term planning efforts by incorporating an area already located within the City's Sphere of Influence into the City's jurisdiction. This would allow the area to be planned and evaluated as part of the City's overall land use, housing, circulation, infrastructure, public facilities, and economic development objectives. Rather than continuing to function as an unincorporated area surrounded by or adjacent to the City, the annexation areas could be addressed through the City's established planning and development framework.

Finally, annexation would provide local governmental representation to residents and property owners within the annexed area. Following annexation, residents would become part of the incorporated City of San Jacinto and would be represented by the San Jacinto City Council on municipal matters affecting their community. Overall, annexation would provide an opportunity to establish more logical municipal boundaries, coordinate land use and infrastructure planning, provide municipal services, establish a consistent regulatory framework, and incorporate the affected properties and residents into the City's local governmental structure.

Public Services Discussion

The proposed annexation would result in the transition of certain local governmental and municipal services from the County of Riverside to the City of San Jacinto. The following summarizes the services typically provided, and identifies the anticipated service providers and responsibilities following annexation. While certain services would continue to be provided by existing agencies or service providers, the City would assume responsibility for local governmental and municipal services within the annexation area, including planning and community development, local street maintenance, and other applicable City services. All applicable City services would be available to the annexation area upon completion of the annexation.

- **General Governmental & Administrative Services**

Before Annexation

The County provides certain services on a Countywide basis to both cities and the unincorporated County. These services include criminal justice services related to jails and courts, which include district attorney, public defender and probation services, as well as health and welfare services, and other Countywide functions. Currently general governmental services for County residents are located in the City of Riverside and other satellite locations.

The County also provides general local government and administrative services to the annexation area. These include certain services that the County only provides in the unincorporated County, such as planning and community development services, economic development, arterial, collector and other local road operation and maintenance (O&M), local parks O&M and human resources, among other services.

After Annexation

The County would continue to provide services for criminal justice services related to jails and courts, which include district attorney, public defender and probation services, as well as health and welfare services, and other Countywide functions.

The City of San Jacinto will assume responsibility for all of the local administrative and general government services that had been provided by the County, exclusively for unincorporated areas. These services would include planning and community development services, economic development, local road and streetlight O&M, etc. within the Project. City of San Jacinto General Administrative Services and Development Services are located in City Hall at 595 S. San Jacinto Avenue; All services would be available to the annexation area immediately upon completion of the annexation.

Administrative services include the City Council, City Management, Museum, Community Center, and other services not otherwise classified (Non-Departmental), These functions and services would immediately service the annexation area in their responsibilities and application. The project, at the time of development, would be required to pay Development Impact Fees in accordance with the City of San Jacinto Development Fee Schedule. Government Services have Development Impact Fees totaling $608.00 per unit (Government Services DIF, Current Planning DIF, Advance Planning DIF).

· **Fire Protection & Emergency Response Services**

Before Annexation

Fire protection for this area is currently provided by the Riverside County Fire Department. County Fire stations that would respond to this location would be San Jacinto #25 located at 125 S. San Jacinto Avenue (one mile from the site) and San Jacinto Station # 78 at 2450 Cottonwood Avenue.

After Annexation

No change would occur to fire services because of the annexation. At the time of development, the project would be subject to Development Impact Fees for Public Safety structures and equipment at $212 per unit. In addition, the project would be annexed into Community Services District No 2003-1 for fire and police to offset the cost of services.

· **Sheriff/Police & Public Safety Services**

Before Annexation

Police protection and law enforcement services are provided by the County of Riverside Sheriff's Department. The San Jacinto Sheriff's station located at 160 W. Sixth Street is approximately 1.0 mile south of the annexation area. There are currently 42 officers at this station. Services provided include police patrol, traffic enforcement, investigation, bicycle patrol, a canine team, Allied Riverside Cities Narcotics Enforcement Team (ARCNET), Police Explorers, citizen volunteers, and neighborhood watch.

After Annexation

No Change would occur to police services because of annexation. Police protection and law enforcement services would continue to be provided under the contract with the County of Riverside Sheriff's Department. Development of the project would be subject to Development Impact Fees for Public Safety structures and equipment at $198 per unit. In addition, the project is required to be annexed into Community Services District No. 2003-1 for fire and police to offset the cost of service.

- **Library**

Before Annexation

Library service is currently provided by the Riverside County Library System. The nearest branch is located at 595 S. San Jacinto Ave, Suite B. San Jacinto, CA 92583

After Annexation

No change would occur to Library services as a result of annexation. The Riverside County Library System would continue to serve the project area.

- **Parks & Recreation**

Before Annexation

Regional Parks are provided by the County of Riverside and the Valley-wide Recreation Park District. There are currently no local parks within the annexation area.

After Annexation

TTM 34271- Kasbergen Project- includes construction of the 2.72 acres of proposed usable park facilities and publicly maintained areas. The main feature of the project is the proposed 2-acre Park/basin combo, with open turf playfields, shade structure, tot lot play structure and swings, 1/2 court basketball, picnic tables, 4 park benches, drinking fountain, trash receptacles and pedestrian walkways.

Other onsite park/open space includes: pocket parks, entry landscaped parklets, paseo/ park trail connections to City's regional bikeway trail. The project would be required to pay Development Impact Fees in accordance with the City of San Jacinto Development Fee Schedule. In addition, the proposed project would be annexed into Community Services District No. 2020-1 to offset the cost of maintenance for Landscaping and Parks.

- **Animal Control**

Before Annexation

The Riverside County Department of Animal Service currently operated shelters with the County with the closest shelter located in the City of San Jacinto at 581 Grand Avenue.

After Annexation

The City contracts with the Riverside County Animal Services division for animal control, thus there would be no change in providers as a result of annexation. .

- **Street Lighting**

Before Annexation

Streetlights within Riverside County are maintained by the power provider which in the project area is Southern California Edison. However, no streetlights exist in the project area.

After Annexation

Streetlights would be installed by the developer to City Standard as a condition of the development. The project would be required to annex into Community Facilities District No. 2020-1 to offset the cost of operation and maintenance. Once constructed the Developer, they would be maintained by the Community Facility District No.2020-1.

- **Landscape Maintenance**

Before Annexation

The County of Riverside would be responsible for landscaping maintenance, however the site is primarily vacant with the exception of an existing house and related accessory structures and therefore no formal landscaping maintenance is provided.

After Annexation

Individual homeowners would be responsible for landscaping within their lots. The proposed project would be annexed into Community Facility District No. 2020-1 to offset the cost of landscape maintenance for public areas including landscape improvements along Ramona Expressway, Alessandro Avenue and Vernon Avenue.

- **Water**

Before Annexation

The proposed annexation area is within the City service area for domestic water service and the City currently provides service to the existing house on the project site.

After Annexation

The annexation will not result in any changes to water service. The City currently has sufficient water capacity to support future development and has already issued a "will serve" letter for the project. The City will continue to provide water service to the annexation area. The project would be required to pay a $2,930 per unit Development Impact Fee for Water Capital Improvements in accordance with the City of San Jacinto Development Fee Schedule.

- **Wastewater**

Before Annexation

The annexation area is within the service area of Eastern Municipal Water District (EMWD). However, none of the existing structures are currently connected to EMWD’s sewer system.

After Annexation

The City of San Jacinto has issued a “Will Serve” letter to the applicant, confirming that it has the capacity to provide service to the units proposed within the subdivision. The project would be required to pay a $200.00 per unit Development Impact Fee for City Sewer in accordance with the City of San Jacinto Development Fee Schedule.

- **Transportation**

Before Annexation

Freeway and Interchanges are the responsibility of the Riverside County Transportation Commission (RCTC), however there are no Freeways or Infrastructure in the Annexation Area. Local streets are maintained by the County of Riverside and Transit Services are operated by the Riverside Transit Authority (RTA)

After Annexation

RCTC would maintain responsibility for freeway and interchanges as these are regional facilities.

Local street maintenance would be provided for by the City, which includes paving and asphalt repairs, signage, painting, striping, and stenciling, shoulder maintenance, weed abatement and street sweeping. The project would be subject to $ 1,773 per unit Development Impact Fee for Traffic Signalization (Road Construction Bikeways, Traffic Signal). In addition, the project would be annexed into CFD 2020-1, a Community Facilities District for maintenance of public facilities, including road maintenance.

Transit service would continue to be operated by the Riverside Transit Authority.

- **Flood Control & Drainage**

Before Annexation

Regional and Local Flood facilities are provided by the Riverside County Flood Control and Water Conservation District. This area is currently within County Flood Control District Zone 4.

After Annexation

Regional Flood facilities would continue to be provided by the Riverside County Flood Control and Water Conservation District. The project would be subject to the $9,990.00 per acre Flood Control Improvement Development Impact Fee.

Additional drainage features for the development of the property includes water quality infiltration / percolation basins, outfall basins, and swales that are incorporated within the Parks and open space areas. The local flood control facilities would be constructed by the developer of the site. The project would be required to be annexed into Community Facility District No. 2020-1 to offset the cost of maintenance of new drainage facilities.

- **Utilities: Gas, Electricity, Telephone**

Before Annexation

The service providers currently serving the project include Southern California Gas Co., Southern California Edison Co., Verizon telephone, and Frontier Cable service.

After Annexation

Service providers would not change as a result of the annexation. All utilities would be provided and/or extended to the area as needed by the builder for the new homes.

- **Schools**

Before Annexation

The San Jacinto Unified School District provides K-12 school service (instruction) to this area. Mt. San Jacinto College District also provides college-level school service to this area.

After Annexation

No change would occur to school services as a result of annexation. The site would continue to be served by the San Jacinto Unified School District and Mt. San Jacinto College District.

- **Solid Waste Management**

Before Annexation

Solid waste disposal services are provided by CR&R, a City franchisee, currently servicing 22384 Alessandro Ave.(existing Kasbergen/Hafliger Residence within annexation area). Trash collection is mandatory and is paid by the property owner.

After Annexation

No change would occur to these services as a result of annexation. The site would continue to be served by CC&R Incorporated. Upon annexation, any new accounts are immediately subject to the City franchise agreement.

<u>City of San Jacinto General Plan and Zoning</u>

The City's General Plan designates the site Low Density Residential (LDR), which allows for the development of single-family dwellings with a density range of 2 to 7 units to the acre. The project site has been prezoned Residential, Low Density (RL) Zone, which is consistent with the LDR designation and allows the subdivision of land with the approval of a Tentative Tract Map. The proposed development of single-family homes is compatible the City of San Jacinto General Plan and Zoning.

Lot Line Adjustment

The 43.68-acre property is comprised of two parcels. Parcel A is 7.36 acres, and Parcel B is 36.32 acres. The project proposes to modify the parcel boundaries in a manner that would increase the size of Parcel A to 41.74 acres and reduce the size of Parcel B to 1.94 acres. The 1.94-acre area proposed for Parcel B is designed in a manner to encompass the existing residence and accessory structures, with appropriate setbacks that are consistent with the RL zone. Parcel 1 is proposed to be subdivided as illustrated in Tentative Tract Map 34271.

Tentative Tract Map 34271

The proposed subdivision of the 41.74-acre property would create 151 lots that range in size from 7,215 square feet to 13,044 square feet. In addition, the project includes lettered lots for the development of detention basins, parks, paseos, and landscape areas. The subdivision has a density of 3.48 dwelling units per acre, which is consistent with the RL Development Standards and LDR land use designation. The project will ultimately enable the construction of 151 single-family homes with the approval of a Site Plan & Design Review (SPDR) which will ensure that the placement of the homes conforms to the setbacks shown on the proposed maps. The proposed subdivision complies with all applicable development standards as highlighted in the table below.

Development Standard	**RL – Zone**	**Tract 34271 (Project)**	**Meets Standard?**
Minimum Parcel Dimensions			
Parcel Area (Net)	5,000 sq. ft.	7,215 sq. ft.	Yes
Parcel Width	Corner Parcel = 70 ft. Interior Parcel = 50 ft.	72 ft. ≥50 ft.	Yes
Parcel Depth	100 ft.	100 ft.	Yes
Minimum Setbacks			
Front	20 ft.	20 ft.	Yes
Interior Side	5 ft.	5 ft.	Yes
Street Side	10 ft.	10 ft.	Yes
Rear	20 ft.	20 ft.	Yes

The Tentative Tract Map is bordered by Ramona Expressway to the north, Alessandro to the West and Vernon Street to the east. All three roads are proposed to be improved in a manner consistent with the General Plan Circulation Element, which designates Ramona Expressway as an Arterial Road with a width of 128 feet, Alessandro Avenue and Vernon Street as a Collector Road, with a width of 66 feet. On the south side of Ramona Expressway, the developer will be required to dedicate additional right-of-way, install additional paving, construct curb, gutter, and sidewalk, landscape the parkway, and provide a Class I Multi Use Trail. In regard to Alessandro Avenue and Vernon Avenue, the developer will be required to dedicate additional right-of-way, construct curb, gutter and sidewalk, and landscape the parkway. The street improvements will ensure the project has adequate access and improve vehicular circulation in the area.

Vehicular access to the internal sections of the development will be provided from three new east-west oriented streets (Streets "A", Street "E" and Street "G"). Streets A and G are proposed to connect to Alessandro with Street A located in the northern half of the property and Street G on the southern end of the property. Street E provides access from Vernon Street on the east side of the property. The conditions of approval will require dedication of these access roads and all internal streets to be consistent with the standard for local streets with a 60 foot right-of-way. Specifically, the conditions will also require the construction of 40-foot-wide asphalt paving, 6-inch curb and gutter 20 feet from centerline, a 10-foot-wide parkway, landscaping, sidewalk, and streetlights.

A traffic study was prepared for the project to determine whether traffic generated by the proposed subdivision would adversely affect the level of service at nearby intersections. The traffic study identified two intersections that would be impacted by the project to a level requiring improvements. Accordingly, the developer is required to install a traffic signal at the intersection of Ramona Expressway and Alessandro Avenue to address traffic conflicts and provide improved access control for existing and future residents. In addition, the developer is required to provide a fair-share contribution toward improvements at the intersection of Vernon Avenue and Main Street.

Drainage/Basin

TTM 34271 includes three drainage facilities, including a combination park and basin in the center of the project site (Lot E), a combination park and basin at the southeast corner of Ramona Expressway and Alessandro Avenue (Lot A), and a drainage basin that is located on the northside of Ramona Expressway, northwest of the termination of Vernon Avenue (Lot F). On-site runoff will be collected and conveyed through the proposed storm drain system and streets to the designated drainage facilities for treatment and detention prior to discharge. A Preliminary Water Quality Management Plan (WQMP) was submitted for the project and confirms that the proposed drainage facilities have been sized and located appropriately to serve the development. A Final WQMP will be required prior to grading and construction to ensure that appropriate water quality facilities and Best Management Practices are implemented.

Offsite storm runoff enters the property at the southeast corner of Ramona Expressway and Vernon Avenue. The project has been conditioned to construct an inlet to collect the 10-year storm runoff at the corner of Ramona Expressway and Vernon Avenue, and convey it in a storm drain to the detention basin on Lot F. In addition, a drainage basin outlet facility would also be constructed to convey the flows discharged from Lot F to discharge to an adequate outlet northwest of Bergin Street.

Parks and Open Space

The project includes a 2-acre combination park and basin located in the central portion of the site (Lot E), and a1.48-acre park and basin that is located directly south of Ramona Expressway (Lot A). Lot A includes the basin at the southeast corner of Ramona Expressway and Alessandro Avenue, a .57-acre park at the corner of Ramona Expressway and Vernon Avenue, as well as a 10 foot wide trail that connect the two design features. The proposed 2-acre Park/basin will include open turf play fields, shade structure, tot lot play structure and swings, 1/2 court basketball, picnic tables, 4 park benches, drinking fountain, trash receptacles and pedestrian walkways.

Other onsite park/open space includes: pocket parks, entry landscaped parklets, and paseo/ park trail connections. The project would be required to pay Development Impact Fees in accordance with the City of San Jacinto Development Fee Schedule. In addition, the proposed project would be annexed into Community Services District No. 2020-1 to offset the cost of maintenance for Landscaping and Parks.

ENVIRONMENTAL ASSESSMENT:

The project has been reviewed in accordance with the California Environmental Quality Act (CEQA) and the State CEQA guidelines. The City as the lead agency prepared an Initial Study to determine the potential environmental impacts of the project. The Initial Study evaluated the project based on a total of 152 residential lots, which includes the 151 new residential lots proposed through TTM 34271 and one existing residential lot containing the existing residence. The existing residence will remain following the proposed Lot Line Adjustment; therefore, the Initial Study appropriately evaluated the project based on 152 total residential lots, although only 151 new residential lots are proposed as part of TTM 34271.

The Initial Study concluded that with applied mitigation the Project would result in less than significant impacts for Biological Resources, Cultural Resources, Geology and Soils, Hazards and Hazardous Materials, Noise, and Tribal Cultural Resources. Therefore, staff determined that a Mitigated Negative Declaration (MND) was the appropriate CEQA document in support of the Project.

The Initial Study and Mitigated Negative Declaration (IS/MND) was circulated for a 30-day public comment period via the publication of a Notice of Intent on May 13, 2026. In addition to the publication, the IS/MND was submitted to the State Clearing House for posting (SCH No. 2026050849). One comment was provided. The comment letter was issued by the Department of Toxic Substances Control (DTSC), outlining DTSC's recommendations regarding potential contaminants of concern (COCs). The MND did not identify recognized environmental conditions (RECs) requiring immediate subsurface investigation. Additional soil sampling was also conducted, and no pesticides or heavy metals were detected in the shallow soil samples.

The mitigation measures required to reduce or mitigate the impacts of this Project on the environment are included in the Initial Study and will be made enforceable through the Conditions of Approval for the Project. As a result, it is recommended that the Planning Commission adopt a Mitigated Negative Declaration for this Project.

Notice of Public Hearing

The public hearing for this Project was advertised on or before September 12, 2026. Additionally, notices were directly mailed to property owners within 300 feet of the project site. As of the writing of this report, no other correspondence or comments have been received.

CONCLUSION:

Based on the analysis contained in this report, staff finds that the proposed annexation, Lot Line Adjustment, and TTM 34271 are consistent with the City's General Plan, applicable Development Code requirements, and Municipal Code standards, subject to the recommended Conditions of Approval. The proposed project has also been evaluated pursuant to CEQA, and staff recommends adoption of the Mitigated Negative Declaration and Mitigation Monitoring and Reporting Program.

Staff recommends that the Planning Commission **ADOPT PC Resolution No. 26-03**, recommending that the City Council authorize of proceedings for the annexation of the project site into the City of San Jacinto and approve the associated Lot Line Adjustment and TTM 34271, with the annexation and related approvals subject to the review and approval of LAFCO and satisfaction of all applicable requirements. The Planning Commission's determination may be appealed in accordance with Chapter 17.715 (Appeals) of the Development Code.

Attachments

Planning_Commission_Resolution_26-03_-_Kasbergen_Project.pdf
Findings_of_Fact_-_TTM_34721_-_Kasbergen_Project.pdf
Location_Map.pdf
General_Plan_Map_-_Kasbergen_Project.pdf
Zoning_Map_-_Kasbergen.pdf
Annexation_Map_-_Kasbergen_Project.pdf
Kasbergen_Lot_Line_Adjustment.pdf
TTM_34271_-_Kasbergen_Project.pdf
Conditions_of_Approval_-_TTM_34721_-_Kasbergen_Project.pdf
Initial_Study_-_Mitigated_Negative_Declaration_-_Kasbergen_Project.pdf
Biological_Resources_Report_Update.pdf
Geotechnical_Report.pdf
Cultural_Resources_Report.pdf
Drainage_Study.pdf
Habitat_Assessment.pdf
MSHCP_Consistency.pdf
Noise_Study.pdf
Traffic_Analysis.pdf
Traffic_Analysis_Appendicies.pdf
VMT_Analysis.pdf
DTSC_Comments_-_Kasbergen_SF_Subdivision_ADA.pdf
Prezoning_Staff_Report_City_Council_1-20-2026.pdf

STATE OF CALIFORNIA)
COUNTY OF RIVERSIDE)
CITY OF SAN JACINTO)

PC RESOLUTION NO. 26-03

A RESOLUTION OF THE PLANNING COMMISSION OF THE CITY OF SAN JACINTO, CALIFORNIA, RECOMMENDING CITY COUNCIL ADOPT A MITIGATED NEGATIVE DECLARATION AND MITIGATION MONITORING AND REPORTING PROGRAM, REQUEST THE RIVERSIDE LOCAL AGENCY FORMATION COMMISSION TO TAKE THE PROCEEDINGS FOR THE ANNEXATION OF 43.68 ACRES KNOWN AS ANNEXATION "A" AND THE APPROVE TENTATIVE TRACT MAP 34271 (P22-004)

WHEREAS the City of San Jacinto ("City") received an application (Annexation "A", P22-004) proposing annexation of approximately 43.68 acres located south of Ramona Expressway, between Alessandro Avenue and Vernon Avenue; and

WHEREAS, the City received a Tentative Tract Map application to subdivide a portion of the project site into 151 single-family residential lots; and

WHEREAS, the City received a Lot Line Adjustment application to reconfigure lot lines for two parcels; and

WHEREAS, the City, as Lead Agency, prepared an Initial Study in accordance with the California Environmental Quality Act (CEQA) and determined that, with the incorporation of mitigation measures, the Project will not have a significant effect on the environment, and a Mitigated Negative Declaration (MND) and Mitigation Monitoring and Reporting Program (MMRP) were prepared for the Project; and

WHEREAS, the City Council of the City of San Jacinto desires to initiate a proposal pursuant to the Cortese-Knox-Hertzberg Local Government Reorganization Act of 2000, commencing with Section 56000 of the California Government Code, for the annexation of 43.68 acres located south of Ramona Expressway, between Alessandro Avenue and Vernon Avenue; and

WHEREAS, the General Plan designates the Annexation Area for Low Density Residential, and Public/Institutional; and

WHEREAS, pre-zoning of annexation area was approved by the City Council of San Jacinto the 3rd of February 2026 and such pre-zoning was found to be consistent with the General Plan land use designations assigned to the Annexation Areas; and

WHEREAS, after reviewing parcel size, configuration, roadway access, surrounding uses, and the purpose statements of each zone, the Planning Commission finds that the project is consistent with the General Plan and supports orderly, compatible

future development should annexation occur; and

WHEREAS, the Planning Commission has reviewed the staff report, Findings of Fact, proposed Zoning Map amendments, and supporting documentation and desires to recommend the City Council initiate an annexation application with the Riverside Local Agency Formation Commission (LAFCO); and

WHEREAS, the Planning Commission has considered the entire record of proceedings, including the staff report, technical studies, public testimony, and all other evidence presented.

WHEREAS, notice of the public hearing was provided in accordance with Government Code Section 65090, including a mailed notice to property owners within 300 feet of the project area and publication in a newspaper of general circulation, and the matter was duly noticed for consideration by the Planning Commission on September 12, 2026; and

WHEREAS, on September 22, 2026, this resolution was fully considered by the Planning Commission; and

WHEREAS, all other legal prerequisites to the adoption of this Resolution have occurred.

NOW, THEREFORE, BE IT RESOLVED, BY THE PLANNING COMMISSION OF THE CITY OF SAN JACINTO:

SECTION 1. RECITALS. The foregoing recitals are true and correct and are incorporated herein by reference.

SECTION 2. ENVIRONMENTAL DETERMINATION. Based upon the whole of the record before it, including the Initial Study and all supporting information, the Planning Commission finds that:

A. The Mitigated Negative Declaration has been prepared in compliance with the California Environmental Quality Act (CEQA);

B. The Mitigated Negative Declaration reflects the independent judgment of the City;

C. There is no substantial evidence, in light of the whole record, that the Project, as mitigated, will have a significant effect on the environment; and

D. The mitigation measures identified in the Mitigated Negative Declaration are hereby adopted and shall be implemented through the Mitigation Monitoring and Reporting Program.

SECTION 3. FINDINGS. Based upon the entire record, including all written and oral evidence presented, and the findings set forth in the staff report and incorporated herein by reference, the Planning Commission finds that:

A. The Project is consistent with the General Plan and all applicable provisions of the Municipal Code;

B. The Project will not be detrimental to the public interest, health, safety, convenience, or welfare of the City.

SECTION 4. SUBDIVISION FINDINGS.

1. **The proposed subdivision of land has been found to be consistent with the Development Code, General Plan, and the San Jacinto Municipal Code.**

   The proposed Tentative Tract Map (TTM 34271) is consistent with the San Jacinto Municipal Code as it was reviewed in accordance with applicable Titles, including Title 16 & 17. Specifically, TTM 34271 is consistent with the RL Development Code Standards as discussed within the Staff Report and furthers the intent of the General Plan by facilitating residential development as planned within the Low Density Residential Land (LDR) Use Designation. In addition, the Project implements the following General Plan goals.

   Land Use Goal 2: A City that manages and directs growth so that the community and its neighborhoods are protected and enhanced.
   Specifically implementing policy 2.1 & 2.2

   - The project proposes the subdivision to allow for the future development of single-family residences to support the growth of the City. The subdivision will enhance the existing neighborhoods by providing a development that is consistent with surrounding uses. Additionally, the future development would provide open space areas.

2. **The tentative map does not propose to divide land, which is subject to a contract entered into pursuant to the California Land Conservation Act of 1965, or the land is subject to a Land Conservation Act contract but the resulting parcels following division of the land will be of an adequate size to sustain their agricultural use.**

   The project site is not subject to a contract pursuant to the California Land Conservation Act of 1965 as detailed in the analysis completed through an Initial Study/Mitigated Negative Declaration. In addition, the projects title report did not have indication of a Williamson Act Contract.

3. **The site is physically suitable for the type and proposed density of development proposed by the tentative map.**

The Project proposes to subdivide the property into 151 single-family lots for residential use. This type of use is allowed by the Residential, Low Density (RL) zone. In addition, the subdivision is consistent with the density range of the Low Density Residential Land Use Designation provided in the applicable land use and zoning designation. Furthermore, the proposed subdivision will be an expansion of existing residential uses located west and south of the project site.

The ultimate development of the project will be served by existing facilities such as sewer, water, natural gas, and electricity that are available within adjacent roadways. The site is in close proximity to various parks, and is also within close proximity of North Mountain Middle School and Rose Salgado Elementary School.

4. The design of the subdivision and the proposed improvements, with conditions of approval, are either:

a. Not likely to cause significant environmental damage or substantially and avoidably injure fish or wildlife or their habitat; or

An Initial Study was prepared for the Project to assess any significant environmental impacts. The Initial Study determined, based upon substantial evidence from technical report(s), that no significant impact to fish or wildlife or their habitat would occur as a result of the proposed subdivision with the incorporation of mitigation measures. A Mitigation Monitoring and Reporting Program was prepared as part Initial Study and will be implemented following the approval of the project.

b. An environmental impact report under which a finding has been made pursuant to Public Resources Code Section 21081(a)(3) that specific economic, social, or other considerations make infeasible mitigation measures or project alternatives identified in the environmental impact report

The project's impacts were not significant enough to require the preparation of an environmental impact report. An Initial Study was prepared for the Project to assess any significant environmental impacts, and it was determined that a Mitigated Negative Declaration is the appropriate level of environmental document. Therefore, findings pursuant to Public Resources Code Section 21081(a)(3) are not necessary.

5. The design of the subdivision of land and the type of improvements are not likely to cause serious public health problems.

The implementation of the proposed conditions will ensure that the Project will not be detrimental to the public interest, health, safety, convenience, or welfare of the City or the future residents of the development. As previously mentioned, an Initial Study was prepared for the proposed subdivision, which analyzed items that can cause public health problems such as Air Quality, Hazardous

Materials, and Public Utilities. It was determined through the Initial Study that with incorporation of mitigation measures, the impacts to public health problems would be less than significant.

6. **The design of the subdivision provides for future passive or natural heating or cooling opportunities in the subdivision to the extent feasible.**

   The design of the subdivision will provide for future passive cooling opportunities with the implementation of building setbacks, impervious surface requirements, landscaping requirements, including required street trees, and open space areas. This can also include configuration to permit orientation of a structure to take advantage of shade and prevailing breezes. Furthermore, natural heating opportunities can be provided with orientation of a structure in an east-west alignment for southern exposure.

   The proposed project is a subdivision only; however, subsequent development will be analyzed and conditioned through a Site Plan and Design Review. As part of the Site Plan and Design Review process, the Planning Department will ensure that natural heating and cooling opportunities are explored to the extent feasible and condition the project accordingly.

7. **The design of the subdivision and 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, or the design of the alternate easements which are substantially equivalent to those previously acquired by the public will be provided.**

   Per the title report provided by the project applicant, the site consists of one easement for either of both pole lines, conduits or underground facilities and incidental purposes. As shown in the proposed site plan, the Tract Map as designed and conditioned will not conflict with these existing easements.

8. **The subdivision is consistent with the City's parkland dedication requirements (per the Quimby Act), as applicable, in accordance with Chapter 16.75 (Parkland Dedication and Fees).**

   The developer will be required to pay Development Impact Fees related to Parks in accordance with Chapter 16.75 of the Municipal Code, which will provide future park land, and improvements to parks.

SECTION 5. RECOMMENDATION OF APPROVAL. Based upon the foregoing, the Planning Commission hereby recommends that the City Council:

A. Adopt the Mitigated Negative Declaration for the Project and adopt and implement the Mitigation Monitoring and Reporting Program;

B. Authorize the Annexation of 43.68 acres located south of Ramona Expressway, between Alessandro Avenue and Vernon Avenue;

C. Approve Tentative Tract Map No. 34271 to subdivide the property into 151 single-family residential lots and associated lettered lots for roadways, drainage, parks, and landscape areas, subject to the Conditions of Approval; and,

D. Approve Lot Line Adjustment 22-01 to reconfigure lot lines; and

E. Direct staff to file a Notice of Determination in accordance with the California Environmental Quality Act.

SECTION 6. RECORD OF PROCEEDINGS. The documents and materials that constitute the record of proceedings upon which this Resolution is based are located at the City of San Jacinto, 595 South San Jacinto Avenue, San Jacinto, California 92583. The custodian of the record is the Community Development Department. This information is provided pursuant to Public Resources Code Section 21081.6.

SECTION 7. RECOMMENDATION TO CITY COUNCIL. As the Project includes an Annexation, final action on the Project rests with the City Council and LAFCO. The Planning Commission's action on this item constitutes a recommendation to the City Council.

PASSED, APPROVED, AND ADOPTED at a regular meeting of the Planning Commission of the City of San Jacinto on the 22nd day of September 2026, by the following vote:

AYES:
NAYS:
ABSENT:
ABSTAIN:

CITY OF SAN JACINTO:

_____
Planning Commission Chair
City of San Jacinto

ATTEST:

_____
Planning Commission Secretary
City of San Jacinto

FINDINGS OF FACT

SUBDIVISION FINDINGS

1. The proposed subdivision of land has been found to be consistent with the Development Code, General Plan, and the San Jacinto Municipal Code.

The proposed Tentative Tract Map (TTM 34721) is consistent with the San Jacinto Municipal Code as it was reviewed in accordance with applicable Titles, including Title 16 & 17. Specifically, TTM 34721 is consistent with the RL Development Code Standards as discussed within the Staff Report and furthers the intent of the General Plan by facilitating residential development as planned within the Low-Density Residential Land (LDR) Use Designation. In addition, the Project implements the following General Plan goals.

Land Use Goal 2: A City that manages and directs growth so that the community and its neighborhoods are protected and enhanced.
Specifically implementing policy 2.1 & 2.2

- The project proposes the subdivision to allow for the future development of single-family residences to support the growth of the City. The subdivision will enhance the existing neighborhoods by providing a development that is consistent with surrounding uses. Additionally, the future development would provide open space areas.

2. The tentative map does not propose to divide land which is subject to a contract entered into pursuant to the California Land Conservation Act of 1965, or the land is subject to a Land Conservation Act contract but the resulting parcels following division of the land will be of an adequate size to sustain their agricultural use.

The project site is not subject to a contract pursuant to the California Land Conservation Act of 1965 as detailed in the analysis completed through an Initial Study/Mitigated Negative Declaration. In addition, the project's title report did not have indication of a Williamson Act Contract.

3. The site is physically suitable for the type and proposed density of development proposed by the tentative map.

The Project proposes to subdivide the property into 151 single-family lots for residential use. This type of use is allowed by the Residential, Low-Density (RL) zone. In addition, the subdivision is consistent with the density range of the Low-Density Residential Land Use Designation provided in the applicable land use and zoning designation. Furthermore, the proposed subdivision will be an

expansion of existing residential uses located west and south of the project site.

The ultimate development of the project will be served by existing facilities such as sewer, water, natural gas, and electricity that are available within adjacent roadways. The site is in close proximity to various parks and is also within close proximity of North Mountain Middle School and Rose Salgado Elementary School.

4. The design of the subdivision and the proposed improvements, with conditions of approval, are either:

a. Not likely to cause significant environmental damage or substantially and avoidably injure fish or wildlife or their habitat; or

An Initial Study was prepared for the Project to assess any significant environmental impacts. The Initial Study determined, based upon substantial evidence from technical report(s), that no significant impact to fish or wildlife or their habitat would occur as a result of the proposed subdivision with the incorporation of mitigation measures. A Mitigation Monitoring and Reporting Program was prepared as part Initial Study and will be implemented following the approval of the project.

b. An environmental impact report under which a finding has been made pursuant to Public Resources Code Section 21081(a)(3) that specific economic, social, or other considerations make infeasible mitigation measures or project alternatives identified in the environmental impact report

The project's impacts were not significant enough to require the preparation of an environmental impact report. An Initial Study was prepared for the Project to assess any significant environmental impacts, and it was determined that a Mitigated Negative Declaration is the appropriate level of environmental document. Therefore, findings pursuant to Public Resources Code Section 21081(a)(3) are not necessary.

5. The design of the subdivision of land and the type of improvements are not likely to cause serious public health problems.

The implementation of the proposed conditions will ensure that the Project will not be detrimental to the public interest, health, safety, convenience, or welfare of the City or the future residents of the development. As previously mentioned, an Initial Study was prepared for the proposed subdivision, which analyzed items that can cause public health problems such as Air Quality, Hazardous Materials, and Public Utilities. It was determined through the Initial Study that with incorporation of mitigation measures, the impacts to public health problems would be less than significant.

6. The design of the subdivision provides for future passive or natural heating or cooling opportunities in the subdivision to the extent feasible.

The design of the subdivision will provide for future passive cooling opportunities with the implementation of building setbacks, impervious surface requirements, landscaping requirements, including required street trees, and open space areas. This can also include configuration to permit orientation of a structure to take advantage of shade and prevailing breezes. Furthermore, natural heating opportunities can be provided with orientation of a structure in an east-west alignment for southern exposure.

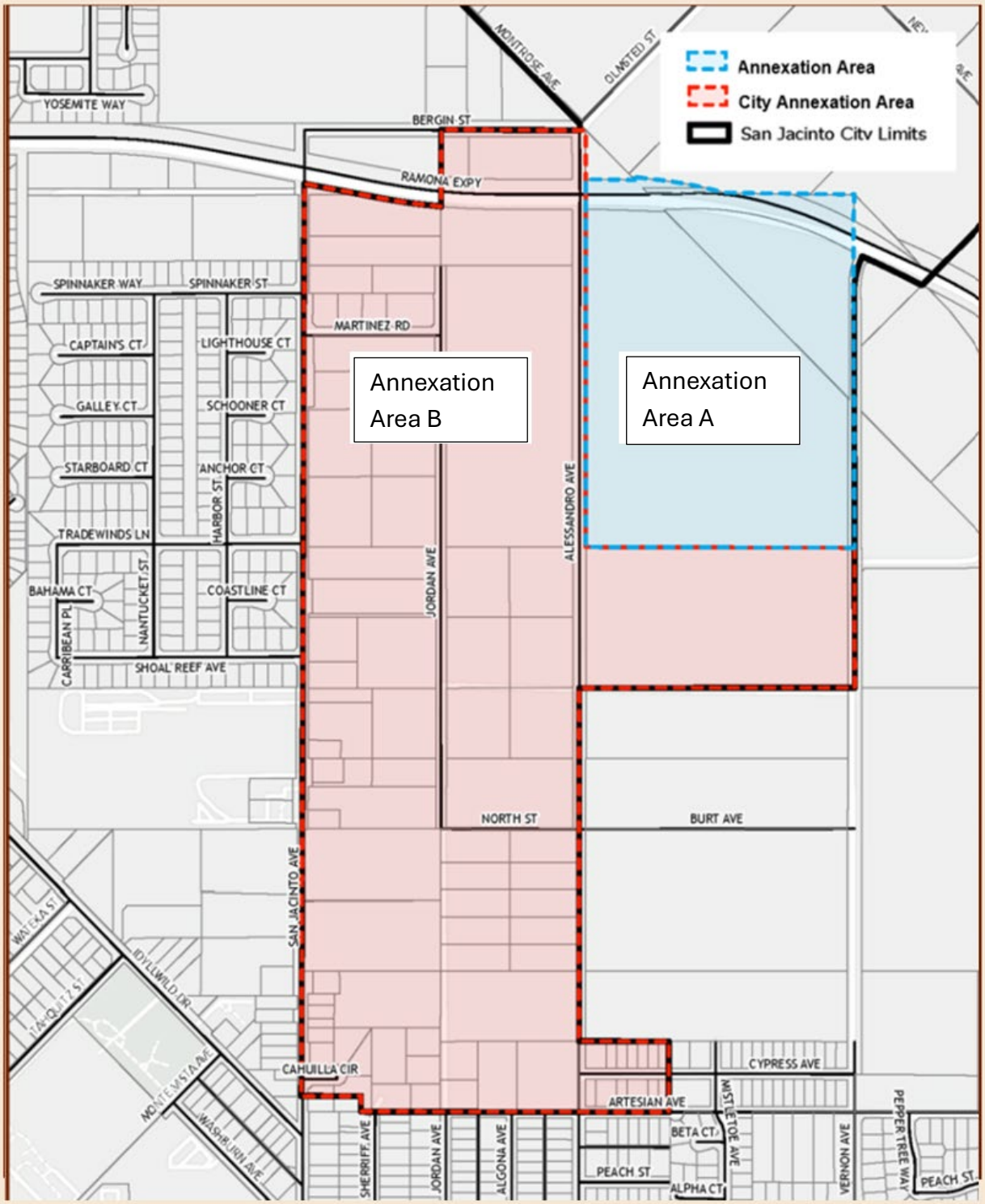
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7. The design of the subdivision and the type of improvements will not conflict with easements acquired by the public at large for access through or use of property within the proposed subdivision, or the design of the alternate easements which are substantially equivalent to those previously acquired by the public will be provided.

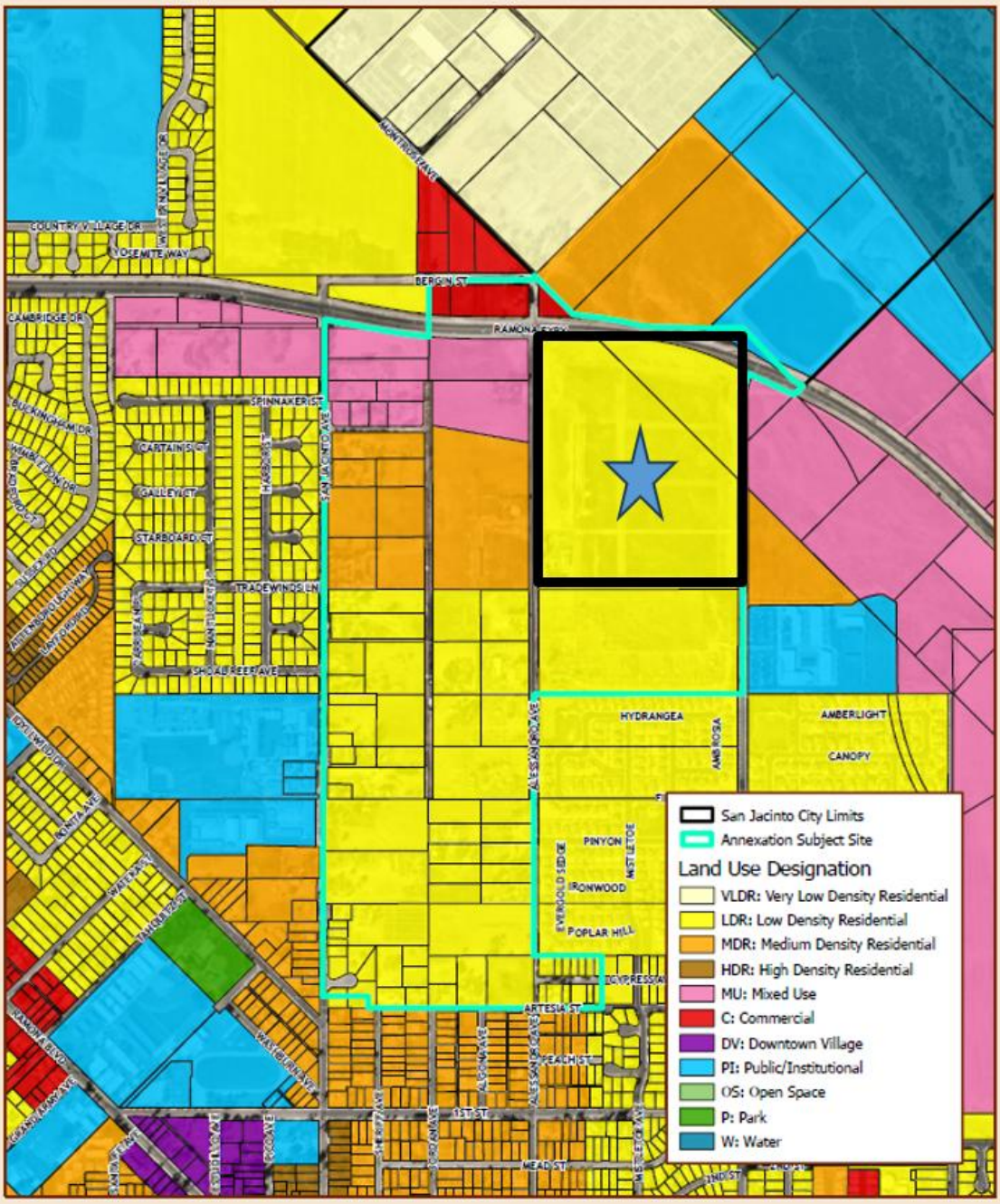
Per the title report provided by the project applicant, the site consists of one easement for both pole lines, conduits, or underground facilities and incidental purposes. As shown in the proposed site plan, the Tract Map, as designed and conditioned, will not conflict with these existing easements.

8. The subdivision is consistent with the City's parkland dedication requirements (per the Quimby Act), as applicable, in accordance with Chapter 16.75 (Parkland Dedication and Fees).

The developer will be required to pay Development Impact Fees related to Parks in accordance with Chapter 16.75 of the Municipal Code, which will provide future park land and improvements to parks.

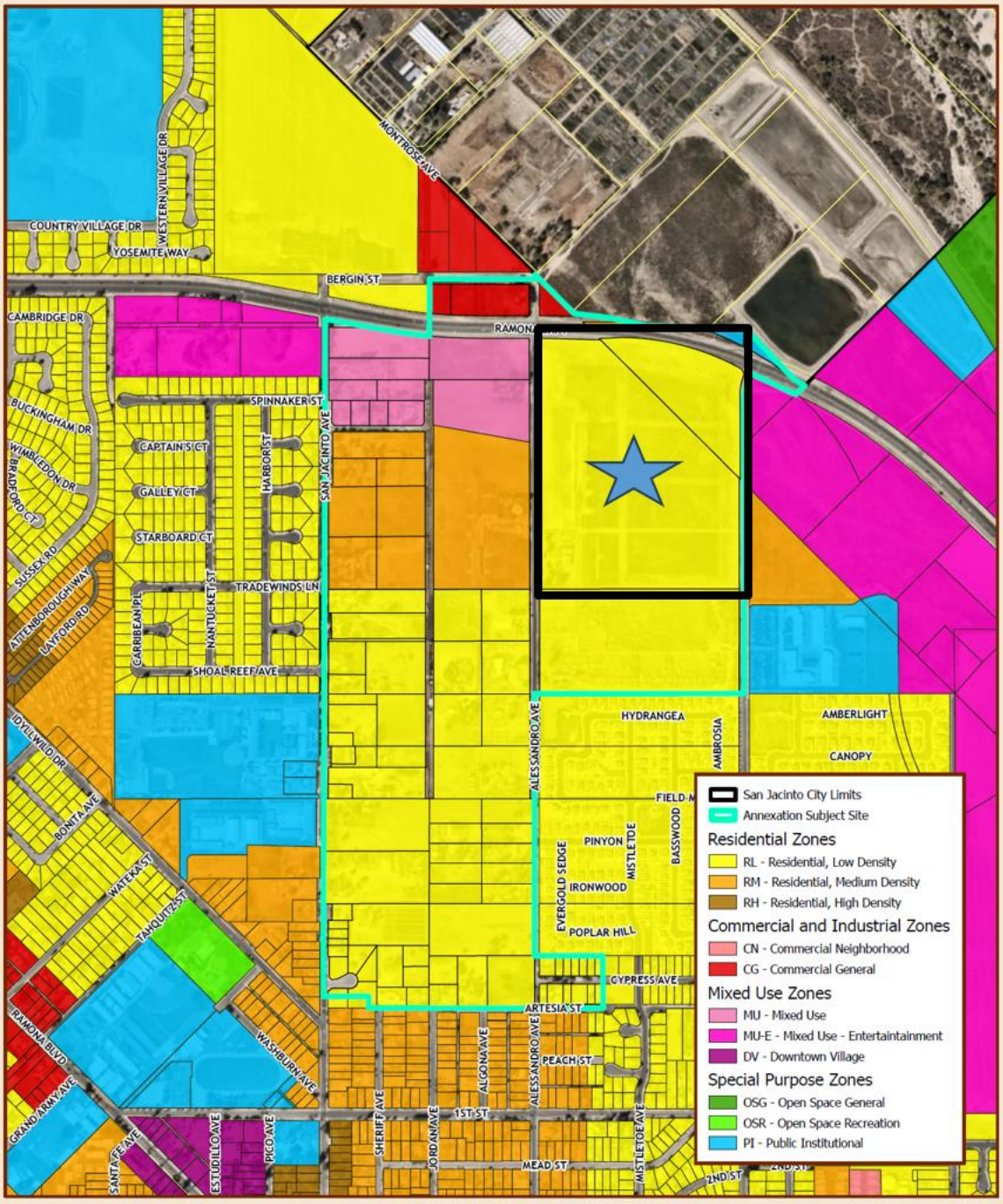


Location Map



N

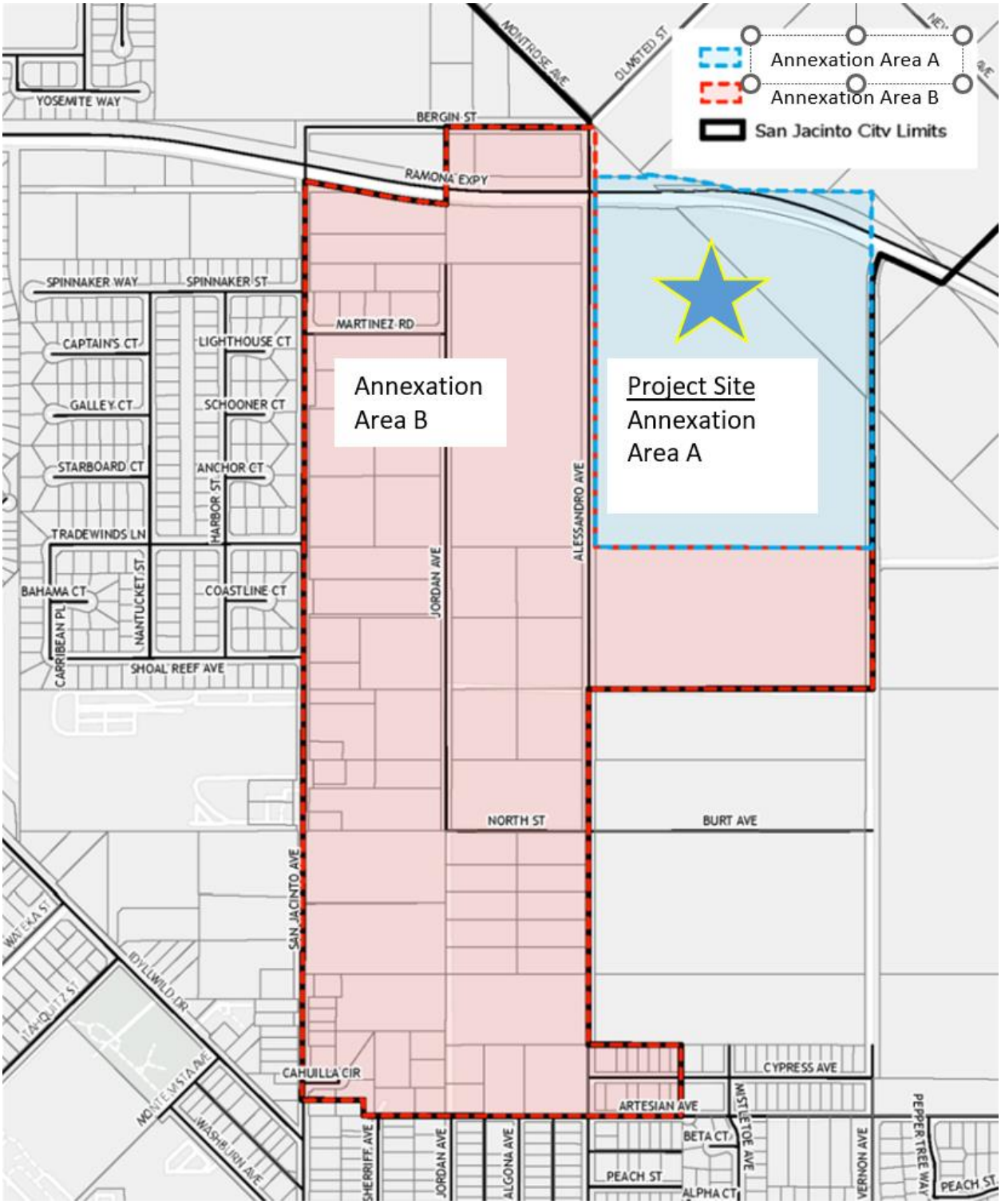
Annexation
General Plan Land Use Map



N

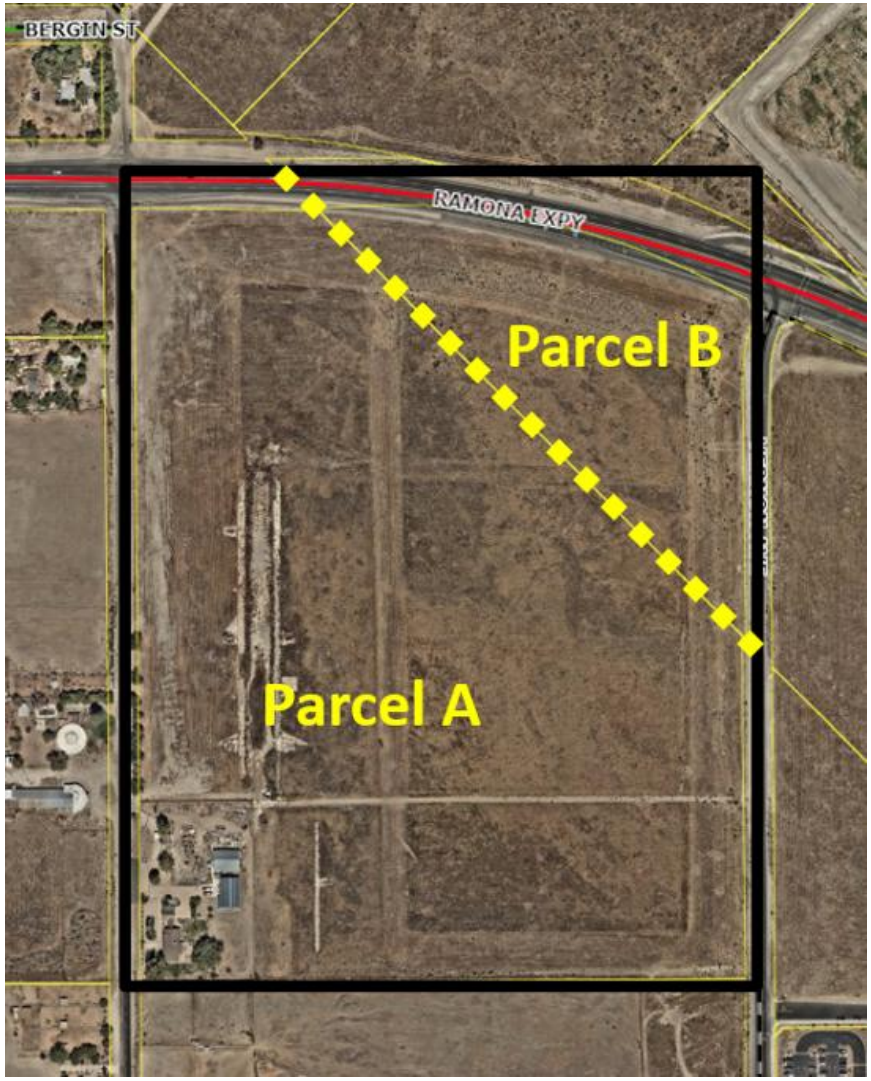
Annexation
Proposed Zoning Map

Annexation Map (P22-004)

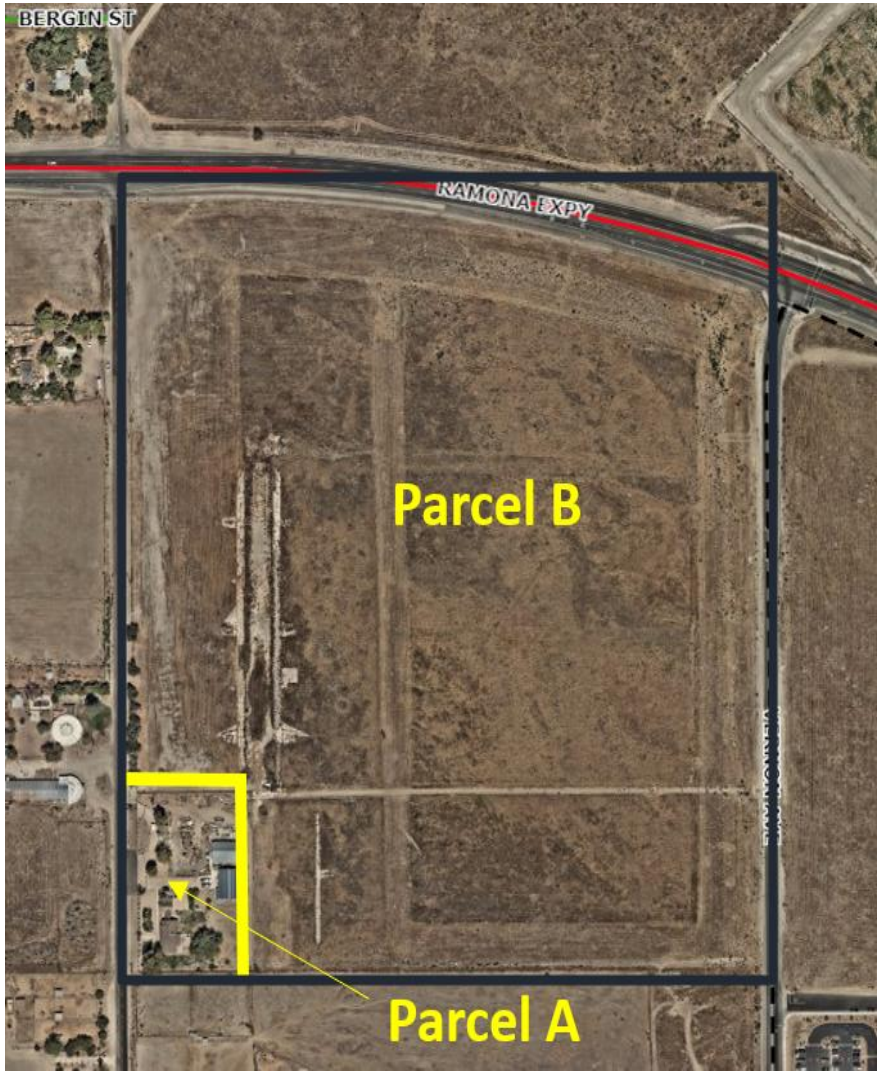


Lot Line Adjustment

Existing Lot Configuration

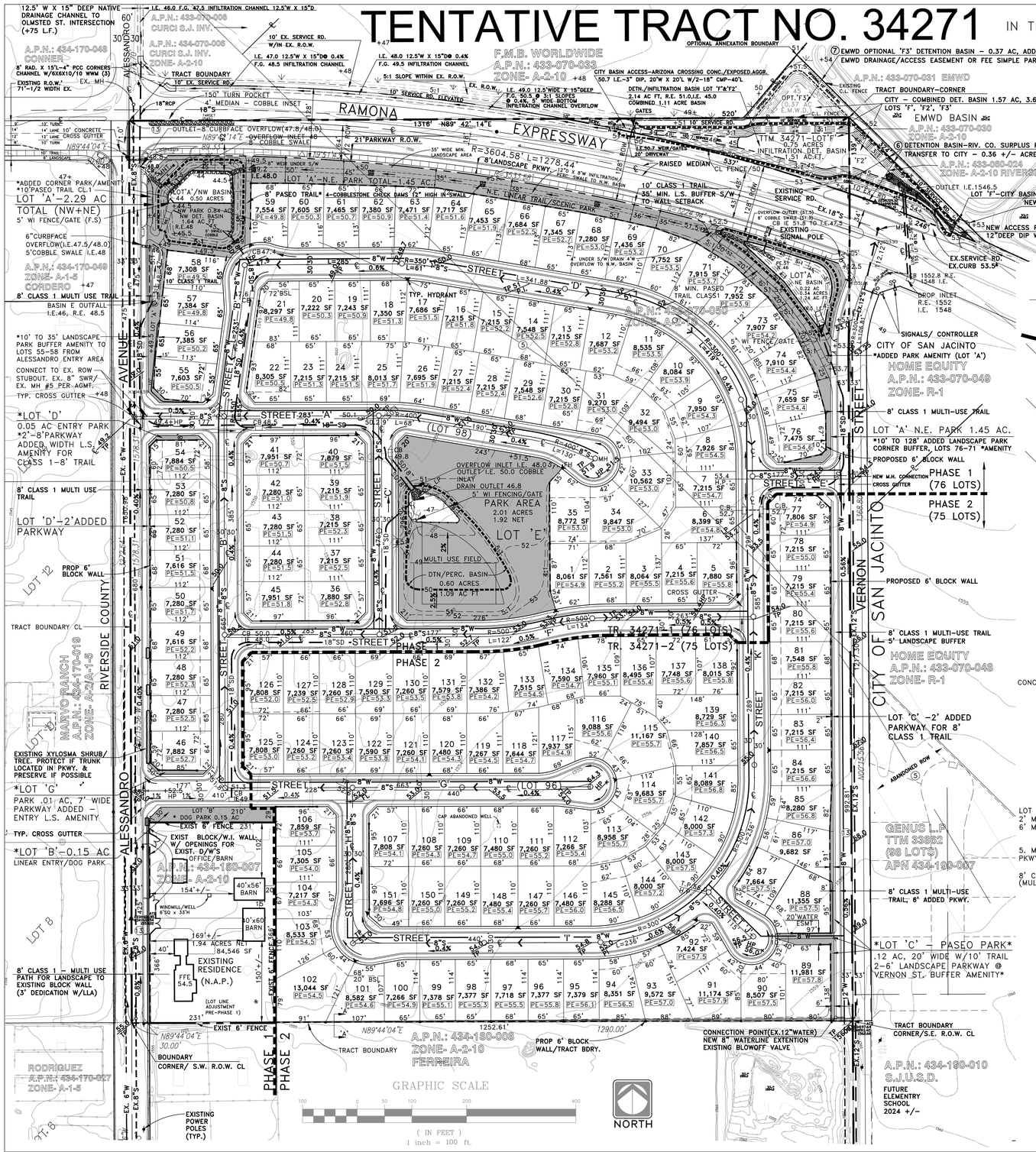


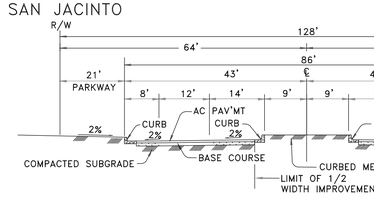
Proposed Lot Configuration



TENTATIVE TRACT NO. 34271

IN THE CITY OF SAN JACINTO





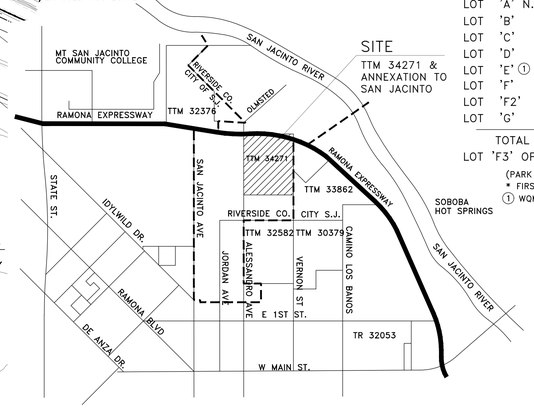
TYPICAL STREET SECTION–128' R/W

RAMONA EXPRESSWAY

NOT TO SCALE

SECTION 'A'–'A'

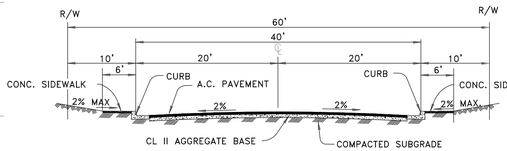
NOT TO SCALE



VICINITY MAP

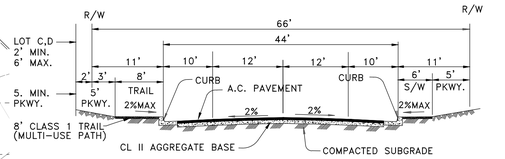
N.T.S.

NORTH



TYPICAL STREET SECTION

STREET 'A' – 'K'



TYPICAL COLLECTOR STREET SECTION

ALESSANDRO AVENUE & VERNON STREET

NOT TO SCALE

PARK/PASEO/BASINS– LETTERED LOT DEDICATIONS/(DRAINAGE EASEMENTS)

PARK PARCEL	ACRES	USABLE PARK	INFILTRATION/PERC. BASINS AC. FT. STORAGE	TOTAL
LOT 'A' ①	2.29 AC	1.88 AC	0.84 AC (0.50 NW, 0.34 NE)(1.64 NW, 1.24 NE)	2.88 AF
LOT 'A' N.W.	(0.84 AC)	(0.65 AC)	(0.14 FENCED, 0.05 UNFENCED – UNSHADED AREA)	
LOT 'A' N.E.	(1.45 AC)	(1.23 AC)	(0.22 FENCED BASIN – UNSHADED AREA)	
LOT 'B'	0.15 AC	0.15 AC	(ENTRY/LINEAR DOG PARK – ST. 'G' – SOUTH SIDE)	
LOT 'C'	0.12 AC	0.13 AC	(PASEO/LINEAR PARK & VERNON ADDED PARKWAY)	
LOT 'D'	0.05 AC	0.05 AC	(ENTRY PARK – ST. 'A' ALESSANDRO PKWY BUFFER)	
LOT 'E' ①	2.01 AC	*1.92 AC	0.60 AC (HALMAN PARK – CENTRAL)	1.09 AF
LOT 'F'	0.75 AC	–	(N.E. DET BASIN W/'F2' OFFSITE COMBINED–1.11 AC)	2.14 AF
LOT 'F2'	0.36 AC	–	(RIV. CO. SURPLUS PARCEL, FEE TRANSFER TO CITY OF S.J.)	
LOT 'G'	0.01 AC	0.01 AC	ENTRY PARK – ST. 'G' – NORTH SIDE)	
TOTAL	5.74 AC	4.13 AC	1.44 AC	6.11 AF
LOT 'F3' OPTION	0.37 AC	EMWD	COMBINED LOT 'F', 'F2' & 'F3'= (1.57 ACRES,= *7.60 AF)	

(PARK REQUIRED 2.36 AC USEABLE)* = PARK AREA EXCESS OF 1.77 ACRES FOR ADDITIONAL AMENITY
* FIRST FLUSH (F.F.) 5' W.I. FENCED AREAS NOT WITHIN DUAL USE PARK CREDIT AREAS (BASINS 'A' & 'E')
① WQMP BASIN/ INFILTRATION–TURF AREA/NATIVE SAND, FIRST FLUSH AREA–GRAVEL/24" POROUS BACKFILL (FENCED)

OWNERS:

CORNELL KASBERGEN
ANNETTE T KASBERGEN
ANTOINETTE HELENE HAFLIGER
21744 ROAD 152
TULARE, CA 93274
(559) 804–7393

APPLICANT

BRYAN MENNE & ASSOCIATES
31988 10TH AVENUE
SOUTH LAGUNA, CA 92651
(949) 246–6183

LEGAL DESCRIPTION

THOSE PORTIONS OF FARM LOTS 96 AND 98 OF LANDS OF THE SAN JACINTO LAND ASSOCIATION AND OF LOTS 46, 47 AND 50 OF OLMSTEADS SUBDIVISION OF TRACT VI, IN THE COUNTY OF RIVERSIDE, STATE OF CALIFORNIA, AS PER MAPS RECORDED IN BOOK 8, PAGE 357 AND BOOK 4, PAGE 261 RESPECTIVELY, IN THE OFFICE OF THE COUNTY RECORDER OF SAN DIEGO COUNTY, CALIFORNIA, DESCRIBED AS A WHOLE AS FOLLOWS:

BEGINNING AT THE INTERSECTION OF THE WESTERLY PROLONGATION OF THE SOUTH LINE OF SAID FARM LOT 96 WITH THE CENTERLINE OF SECTION 26 AS SAID SECTION IS SHOWN ON SAID MAP OF LANDS OF THE SAN JACINTO LAND ASSOCIATION;

THENCE NORTH 1,650.00 FEET ON SAID SECTION CENTERLINE (BEING ALSO THE CENTERLINE OF ALESSANDRO AVENUE AS SHOWN ON SAID MAP);

THENCE EAST 1,320.00 FEET, PARALLEL WITH THE SOUTH LINE OF SAID FARM LOT 96, TO THE INTERSECTION OF THE NORTHERLY PROLONGATION OF THE EAST LINE OF SAID FARM LOT 96;

THENCE SOUTH 1,650.00 FEET, ON LAST SAID PROLONGATION AND EAST LINE TO THE SOUTHEAST CORNER OF SAID FARM LOT 96; THENCE WEST 1,320.00 FEET ON THE SOUTH LINE OF SAID FARM LOT 96 PROLONGED TO THE POINT OF BEGINNING.

EXCEPT THE WEST 30.00 FEET IN SAID ALESSANDRO AVENUE, NOW MONTROSE AVENUE.

ALSO EXCEPT THAT PORTION DESCRIBED IN DEED TO THE COUNTY OF RIVERSIDE RECORDED FEBRUARY 24, 1984 AS INSTRUMENT NO. 37401 OF OFFICIAL RECORDS.

ALSO EXCEPT THAT PORTION DESCRIBED IN FINAL ORDER OF CONDEMNATION TO THE COUNTY OF RIVERSIDE RECORDED JANUARY 13, 1988 AS INSTRUMENT NO. 9372 OF OFFICIAL RECORDS.

ASSESSOR'S PARCEL NO.	GROSS ACREAGE	DENSITY
433–070–050, 030, 434–180–007	43.68± ACRES 41.74± (NET – W/O APN 434–180–007)	3.48 UNITS PER ACRE

NUMBER OF LOTS

151– LOTS MIN 7200 SF (PRE–ANNEXATION ZONING) UPDATED (COSJ 10/22)
1 EXISTING RESIDENCE ON APN 434–180–007, – LOT LINE ADJUSTMENT – N.A.P.(1.94 ACRES)

PROPOSED ZONING

RL (PRE–ANNEXATION)–PENDING PRE–ZONING BY CITY NOV. 2022± (LDR ZONE) W/CITY ZONING AMENDMENT

EXISTING ZONING	EXISTING USE
A–2–10(COUNTY)	1 RESIDENCE, OFFICE, 2 BARNS, WINDMILL/WELL ON PARCEL A, FALLOW LAND REMAINING PCL

PROPOSED LAND USE	FLOOD PLAIN
RESIDENTIAL (PRE–ANNEXATION, PENDING) RL (L.D.R.)	ZONE C REVISED 9–30–88 COMMUNITY PANEL NO. 060245 1490C

PUBLIC UTILITIES

GAS – SOUTHERN CALIFORNIA GAS CO.
ELEC. – SOUTHERN CALIFORNIA EDISON CO.
WATER – CITY OF SAN JACINTO
SEWER – CITY OF SAN JACINTO/EMWD
PHONE – VERIZON
CABLE – FRONTIER

ADJACENT LAND USE

NORTH – AGRICULTURAL/VACANT
EAST – AGRICULTURAL/VACANT
SOUTH – VACANT/RESIDENTIAL
WEST – RESIDENTIAL

NOTES:

1. LOTS 'A' THROUGH 'E' ARE TO BE DEDICATED FOR LANDSCAPE AND PARK/CITY PURPOSES, PERCOLATION/DETENTION BASINS, INCLUDING RAMONA EXPWY. MEDIAN/PARKWAYS, ALESSANDRO AND VERNON ST PARKWAYS & TTM 34271 SHALL BE INCORPORATED INTO CITY CFD 2020–1(MAINTENANCE DISTRICT) AND CFD–2003–1 (PUBLIC SAFETY DISTRICT),
2. RAMONA EXPRESSWAY IMPROVEMENTS/ W/ALESSANDRO INTERSECTION SIGNAL TO BE CVAG TUMF FEE FUNDED PROJECT REIMBURSEMENT AND MAINTAINED BY CFD 2003–1 (PUBLIC SAFETY DISTRICT). STORM DRAIN EASEMENT –MDP/ADP FUNDED LINE J–3.
3. LOT 'F' TO BE DEDICATED TO CITY OF SAN JACINTO – DRAINAGE/ DET. BASIN USE AND MAINTAINED BY CFD 2003–1 (PUBLIC SAFETY DISTRICT)
4. EXISTING RESIDENCE IN THE EXISTING CFD–2020–1 NOT SUBJECT TO NEW CFD SURCHARGES, RESIDENCE HAS EXISTING WATER METER AND SEPTIC SYSTEM. NO CHANGES IN TAXES.(LOT LINE ADJMT.) APN 434–180–007 WILL BE RECORDED SEPARATELY VIA LOT LINE ADJUSTMENT JUST PRIOR TO TTM 34271 APPROVAL.
5. * DENOTES ADDED AMENITY FOR DENSITY BONUS, AS LABELED. SEE 'PROJECT BENEFITS ADDED AMENITIES LIST' (KASBERGEN P22–004, TTM 34271 FOR COMPLETE AMENITIES LIST INCLUDED AND USABLE PARK EXHIBIT – 5–15–24
6. APN–433–060–024 RIV. CO. SURPLUS PARCEL TO BE DEDICATED TO THE CITY OF SAN JACINTO FOR DRAINAGE/ DET. BASIN. THE THOMSEN CO. TO PREPARE/COORD. TRANSFER DOCUMENTS. FUNDED BY MDP/ADP – COMBINED F, F2, (F3) PROJECT. (OPTIONAL EMWD)
7. APN–433–070–031–EMWD SURPLUS TRIANGLE PARCEL (OPTIONAL) WITH 10' RD. SERVICE ROAD EASEMENT OR FEE PARCEL TRADE – BASIN/FLOOD CONTROL LOCATED OUTSIDE RECYCLED WATER FACILITY EX. FENCELINE (FILED MAY 2024) LOT F3 – ADP FUNDED.

APN	OWNER	ADDRESS	CITY	STATE	ZIP
433–070–002	CURCI SAN JACINTO INV	PO BOX 1549	NEWPORT BEACH	CA	92659–1549
433–070–014	COUNTY OF RIVERSIDE	PO BOX 1180	RIVERSIDE	CA	92502–1180
433–070–030	KASBERGEN ANNETTE THERESE	21744 ROAD 152	TULARE	CA	93274–9024
433–070–031	EASTERN MUNICIPAL WATER DIST	PO BOX 8300	PERRIS	CA	92572–8300
433–070–033	FMB WORLDWIDE LLC	26530 THISTLE LN	HEMET	CA	92544–6724
433–070–034	FMB WORLDWIDE LLC	26530 THISTLE LN	HEMET	CA	92544–6724
433–070–048	HOME EQUITY OPTIONS LLC	10401 VENICE BLVD #283	LOS ANGELES	CA	90034–6491
433–070–049	HOME EQUITY OPTIONS LLC	10401 VENICE BLVD #283	LOS ANGELES	CA	90034–6491
433–070–050	KASBERGEN ANNETTE THERESE	21744 ROAD 152	TULARE	CA	93274–9024
434–170–019	MARVO RANCH	PO BOX 829	NUEVO	CA	92567
434–170–027	RODRIGUEZ FELIPE J	22415 ALESSANDRO AVE	SAN JACINTO	CA	92583–2823
434–170–048	CONNER JAMES M	PO BOX 370	SAN JACINTO	CA	92581
434–170–049	CORDERO IGNACIO	27111 SAN JACINTO ST	HEMET	CA	92543–8074
434–180–006	CURCI SAN JACINTO INV	PO BOX 1549	NEWPORT BEACH	CA	92659–1549
434–180–007	KASBERGEN ANNETTE THERESE	21744 ROAD 152	TULARE	CA	93274–9024
434–180–008	FERREIRA FRANK J	8350 ARCHIBALD AVE #204	RANCHO CUCAMONGA	CA	91730–3670
434–190–007	GENUS LP	2006 OLD HIGHWAY 395	FALLBROOK	CA	92028–8816
434–190–010	SAN JACINTO UNIFIED SCHOOL DISTRICT	2045 S SAN JACINTO AVE	SAN JACINTO	CA	92583–5626

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SEAL

REGISTERED PROFESSIONAL ENGINEER — ROY L. ROBERSON — NO. RCE 44160 EXP. 06/30/27 — CIVIL — STATE OF CALIFORNIA

APPROVED BY: RR *DATE* 7–2–25

PREPARED BY: NS/BM *DATE* 7–2–25

R.C.E. NO. 44160 *EXP. DATE* 06–30–27

LAND STRATEGIES, LLC
9241 IRVINE BLVD. SUITE 100
IRVINE, CA 92618
(949) 580–3000

REV.	DATE	DESCRIPTION	DATE	APPROVAL
	2.22.22	GRADING/LOT ELEV, ST. A&D ADJ., CB, BASIN/COBBLE, NO COMM'L		
	7.3.22	LOT WIDTHS, GRADING AND DRAINAGE, UTILITIES UPDATE		
	11.13.22	PARK ACRES/LOT A,E,F BASINS ,E,F GRADING & DRAINAGE, LOT WIDTHS		
	3.6.23	NET PARK AREA, ADD 8' CL 1 TRAILS, LOT C&D–ALESSANDRO/VERNON		
	1.18.24	128' R.O.W. RAMONA, ENLARGE BASINS IN LOT 'A'		
	5.14.24	LOT F/N.E. BASIN MODIFICATIONS FOR OFFSITE DRAINAGE, ADD PARKS		
	8.1.24	LOT F BASIN/F3 OPTION, ALESSANDRO/RAMONA INFILTRATION TRENCH		
	9.10.24	LOT F OFFSITE DRAINAGE OVERFLOW CHANNEL – LOVE ENGINEERING		
	7.2.25	UPDATE OFFSITE DRAINAGE, ADD C.B./18" CMP NORTH TO CHANNEL		

CITY OF SAN JACINTO

KASBERGEN/HAFLIGER–P22–004

TENTATIVE TRACT 34271

SHEET NO.: 1 OF 3 SHEETS

General Notes, Requirements, and Conditions of Approval
Tentative Tract Map No. 34271 - P22-004

Approval Date: TBD
Effective Date: TBD
Expiration Date: TBD

PROJECT LOCATION: The project site is South of Ramona Expressway, extending between Alessandro Avenue and Vernon Street; APN(s): 433-070-050, 030 & 434-180-007

APPLICANT: **Bryan Menne & Associates**
31988 10th Avenue
South Laguna, CA 92651

ACCEPTED AND AGREED TO BY: _____

Applicant (signature) Date

PROJECT DESCRIPTION

Tentative Tract Map 34271 to allow for the development of 151 single-family homes, roads and lettered lots for parks, basins, and open spaces on an approximately 43.68-acre project site. (P22-004) (ARC23-0017)

General Requirements & Information

A. The applicant/licensee shall by accepting these conditions agree to defend (with legal counsel of City's selection), indemnify, and hold harmless the City and its elected and appointed officials, agents, attorneys, employees and officers, from any action, claim or proceeding brought against the City or its elected and appointed officials, agents, employees and officers to attack, set aside, void, or annul a discretionary land use approval of the City, which action is brought within the applicable statute of limitations. The required indemnification shall include damages awarded against the City, if any, costs of suit, attorneys' fees and other costs and expenses incurred in connection with the action.

B. The conditional approval and processing of the Tentative Tract Map 34271 does not constitute annexation of the property into the City. Prior to recordation of the Final Map the property shall be formally annexed into the City and the annexation shall be completed and effective in accordance with applicable law and the requirements of the Local Agency Formation Commission (LAFCO). The City shall not issue building permits, grading permits, or other construction permits for development of the property until the annexation has been completed and is effective.

C. The approval of this Project, a Tentative Tract Map, shall be processed in compliance with the Subdivision Map Act (Government Code Section 66410 et seq.) and Municipal Code Title 16 (Subdivisions).

D. The project site is located within the unincorporated portion of Riverside County, within the City of San Jacinto Sphere of Influence. The approval of the subdivision is subject to the approval of an Annexation into the City.

E. The effective date of Tentative Tract Map 34271 is ten (10) days following the approval date. The approval will lapse if the map has not recorded within three (3) years from the date upon which the approval was granted. Unless a time extension is approved by the City's applicable review authority, applications for time extensions must be received prior to the expiration date.

F. The developer/applicant or successor in interest shall pay any outstanding planning application or processing fees within ten (10) days of the City's request therefore and prior to permits being exercised. Failure to do so will be grounds for Code Enforcement actions, revocation, or further legal action.

G. The Project shall fully and continually comply with all applicable conditions of approval, State, Federal, and local laws in effect at the time the permit is approved and exercised, and which may become effective and applicable thereafter. Failure to do so will be grounds for Code Enforcement actions, revocation, or further legal action

H. All plans submitted to the City shall be in substantial conformance with the plans in this approval as conditioned. This condition applies to site plans, grading plans, landscape plans, building plans, elevations, and all other illustrations, text, or plans submitted to the City in connection with the Project.

I. This permit shall run with the land associated to the project/permit and continues to be valid upon change of ownership. All applicable conditions of approval shall continue to apply with a change in property ownership.

J. The applicant shall be subject to all applicable development fees at the rate in effect at the time of building permit application. Such fees may include, but not be limited to Development Impact Fees, Park Fees, School Fees, Transportation Uniform Mitigation Fees, and Multiple Species Habitat Conservation Plan Fees.

K. The applicant is advised that the residential uses in which this Project is granted cannot be legally conducted on the subject property until all conditions of approval of this project have been met to the satisfaction of the Planning Department.

L. Signs shall be permitted in accordance with Chapter 17.335 – Sign Regulations of the Development Code. Any signs, including exterior-mounted, monument, and window signs, shall be subject to separate review and assessment. A separate sign application, including fees and additional sets of plans, will be necessary prior to sign permit issuance.

M. The City shall have the right to inspect the site and facilities to ensure compliance with the conditions of approval and to recover its actual costs related to such inspections from the property owner or tenant.

N. During the construction phase of the project, all lumber scraps, combustible materials, and other debris be picked up daily, or more often as required by the Building and Safety Division.

O. In the event of a conflict between any conditions for this approval, the most restrictive regulations shall apply.

P. All existing and new utilities adjacent to and on the Project site shall be located underground as per City of San Jacinto Municipal Code Section 15.32.

Q. The contractor shall comply with the following best practices during the construction phase of the development.

a. The erection (including excavation), demolition, alteration or repair of any building shall occur between the hours of seven a.m. and seven p.m. on weekdays and Saturdays, and between 9:00 a.m. and 6:00 p.m. on Sundays and holidays, except when such work complies with the terms of a temporary use permit which may be issued by the community development director or his or her designee, upon a showing of sufficient need due to hot or inclement weather, or the use of an unusually long process material, or other circumstances of unusual and compelling nature.

b. During the entire active construction period, equipment and trucks used for the project construction shall utilize the best available noise control techniques (e.g., improved mufflers, use of intake silencers, ducts, engine enclosures, and acoustically attenuating shields or shrouds), wherever feasible.

c. During the entire active construction period, stationary noise sources shall be located as far from sensitive receptors as possible, and they shall be incorporated to the extent feasible.

d. Select haul routes that avoid the greatest amount of sensitive use areas. Avoid soil hauling through residential areas.

e. Signs shall be posted at the job site entrance(s), within the on-site construction zones, and along queueing lanes (if any) to reinforce the prohibition of unnecessary engine idling. All other equipment shall be turned off if not in use for more than 5 minutes.

f. Equipment shall be maintained and operated such that loads are secured from rattling or banging.

R. A copy of all pages of these Conditions shall be included in the construction drawing packages for grading plans and building permits, including landscaping permits.

S. During the entire active construction period and to the extent feasible, the use of noise-producing signals, including horns, whistles, alarms, and bells, shall be for safety warning purposes only. The construction manager shall use smart back-up alarms, which automatically adjust the alarm level based on the background noise level or switch off back-up alarms and replace them with human spotters in compliance with all safety requirements and laws.

T. A grading permit shall be obtained from the City of San Jacinto prior to the commencement of any grading outside of the City-maintained Road right-of-way.

U. The Project is required to comply with San Jacinto Development Code Section 17.300.080 which requires all exterior lighting to be shielded or modified and located to eliminate spillover illumination or glare beyond the property line or upward into the sky.

Engineering Department General Requirements & Information

V. With respect to the Conditions of Approval for the above referenced project, the City of San Jacinto requires that the developer provide street improvements and/or road dedication in accordance with the City of San Jacinto Municipal Code Title 12 and the Conditions of Approval. It is understood that the site plan and the map correctly show all existing and proposed easements, traveled ways, rights-of-way, and drainage course with appropriate Q's and that their omission may require the map to be resubmitted for further consideration. These Ordinances and the following conditions are essential parts and requirements occurring in one condition is as binding as though the condition occurs in all conditions. The conditions are intended to be complimentary and to describe the conditions for a complete design of the improvements. Unless otherwise noted, all offsite improvements as conditioned shall be installed prior to the issuance of any occupancy permits. All questions regarding the true meaning of the conditions shall be referred to the City Engineer's office.

W. The project grading shall be in a manner to perpetuate existing natural drainage patterns. Any deviation from this, concentration or increase in runoff must have approval of adjacent property owners and City Engineer. The developer/property owner shall accept the offsite runoff and convey it to an acceptable outlet.

X. Prior to commencement of any construction or installation of fencing in public rights-of-way, an encroachment permit shall be obtained from the City Engineer's office.

Y. The developer/property owner shall secure the City's and appropriate agencies' clearances and approvals of the improvement plans.

Z. In the event of a conflict between any conditions stated below, those imposed by the Planning Department and RCFC, and requirements as identified in the approved Traffic Impact Analysis, the most stringent in the opinion of the City shall prevail.

Fire Department General Requirements & Information

AA. All required Fire Department vehicle access roads shall be maintained in a passable condition at all times for emergency Fire Department use. The Fire Department shall approve Gates or other obstructions before construction.

Timing	Responsible Department	Prior to Recordation of the Final Map	Met?
Prior to Recordation	Planning	1) The approval and processing of the Tentative Tract Map does not constitute annexation of the property into the City. Prior to recordation of any Final Map based on this Tentative Tract Map, the property shall be formally annexed into the City and the annexation shall be completed and effective in accordance with applicable law and the requirements of the Local Agency Formation Commission (LAFCO). The Final Map shall not be recorded until the annexation has been completed and the property is within the City's jurisdiction. The City shall not issue building permits, grading permits, or other construction permits for development of the property until the annexation has been completed and is effective.	☐
Prior to Recordation	Engineering	2) A final map shall be filed for review and approval by the City Engineer. After recordation, a digital (pdf) copy of the recorded map shall be submitted to the Engineering Department.	
Prior to Recordation	Engineering	3) The developer/property owner shall have approved annexation by LAFCO, improvement plans, secured offsite rights of way, executed subdivision agreement, and posted securities.	
Prior to Recordation	Engineering	4) The developer/property owner shall have approved improvement plans, secured offsite rights of way, executed subdivision agreement, and posted security for the public improvements.	☐
Prior to Recordation	Engineering	5) Alessandro Avenue is classified as Collector (66'/44'). The existing half-width along the frontage is 30-feet. An additional 5-feet of right-of-way shall be dedicated on Alessandro Avenue along the property's frontage to accommodate the ultimate street cross-section and the proposed 8-ft multi-use path. The dedication shall be offered to the public in perpetuity and shall be free from all encumbrances as approved by the City Engineer.	

Timing	Responsible Department	Prior to Recordation of the Final Map	Met?
Prior to Recordation	Engineering	6) Vernon Avenue is classified as Collector (66'/44'). The existing half-width along the frontage is 30-feet. An additional 5-feet of right-of-way shall be dedicated on Vernon Avenue along the property's frontage to accommodate the ultimate street cross-section and the proposed 8-ft path. The dedication shall be offered to the public in perpetuity and shall be free from all encumbrances as approved by the City Engineer.	☐
Prior to Recordation	Engineering	7) Ramona Expressway is classified as a Primary Arterial (128′/86′). A 64-foot half width right-of-way is required along the property frontage. The dedication shall be offered to the public in perpetuity and shall be free from all encumbrances as approved by the City Engineer.	☐
Prior to Recordation	Engineering	8) All interior streets are classified as Local (60'/40'), The dedication shall be offered to the public in perpetuity and shall be free from all encumbrances as approved by the City Engineer.	☐
Prior to Recordation	Engineering	9) All easements and/or rights-of-way shall be offered for dedication to the public or other appropriate agencies and shall continue in force until the City or the appropriate agency accepts or abandons such offers. All dedications shall be free from all encumbrances as approved by the City Engineer.	☐

Timing	Responsible Department	Prior to Recordation of the Final Map	Met?
Prior to Recordation	Engineering	10) In the event offsite property is required to complete the project's improvements, the developer/property owner shall make a good faith effort to acquire the required offsite property interests, and if he or she should fail to do so, the developer/property owner shall, prior to submittal of the Final Map for recordation, enter into an agreement to complete the improvements. The agreement shall provide for payment by the developer/property owner of all costs incurred by the City to acquire the offsite property interests required in connection with the subdivision. Security of a portion of these costs shall be in the form of a cash deposit in the amount given in an appraisal report obtained by the developer/property owner (at developer/property owner cost). The appraiser shall be approved by the City prior to commencement of the appraisal.	☐
Prior to Recordation	Engineering	11) The following statement shall be added to the Final Map: NOTICE OF DRAINAGE FEES Notice is hereby given that this property is located in the San Jacinto Valley Area Drainage Plan which was adopted by the City of San Jacinto pursuant to Ordinance 13-01 and Section 66001, et seq, of the Government Code and Resolution 3476 adopting a revised drainage development impact fee, that said property is subject to fees for said drainage area. Notice is further given that, pursuant to Ordinance 13-01, payment of the drainage fees shall be paid to the City of San Jacinto prior to issuance of the building permit for a parcel, and that the property owner shall pay the fee required at the rate in effect at the time of issuance of the actual permit.	☐
Prior to Recordation	Engineering	12) Offsite right of way for drainage facilities shall be obtained to the satisfaction of the City Engineer prior to recordation of the final map. Drainage facility type, geometry, materials, grades, collection and discharge structures, maintenance access, and required right of way shall be as approved by City Engineer.	☐

Timing	Responsible Department	Prior to Recordation of the Final Map	Met?
Prior to Recordation	Engineering	13) The developer/property owner shall submit the following to the City Engineer for review and approval: a. Onsite Grading and Erosion Control Plans – Plans shall show the approved WDID No. b. Street Improvement Plans c. Storm Drain/Channel Improvement Plans d. Water and Sewer Plans e. Street Light Plans prepared by a registered Electrical Engineer f. Signing and Striping, Traffic Signal Plans g. Hydrology and Hydraulic Analysis h. Geotechnical Report i. Final WQMP (for reference) The design shall comply with Eastern Municipal Water District (EMWD), Fire Department, Riverside County Flood Control and Water Conservation District (RCFCD), Riverside County Transportation Department, Caltrans, City of San Jacinto and ADA most recent standards, criteria, and requirements and in effect at the time of construction and shall be coordinated with the approved plans of the adjacent developments.	☐
Prior to Recordation	Engineering	14) The developer/property owner shall sign the consent and waiver form to join the City's Lighting and Landscape Districts and City's Flood Control District as appropriate. The proposed streetlights and traffic signals shall be maintained by the City and maintenance cost paid by the developer/property owner through the said annexation.	☐

Timing	Responsible Department	Prior to Recordation of the Final Map	Met?
Prior to Recordation	Special Districts	15) The project is required to establish a funding mechanism for the maintenance of public improvements. a. Annexation into the Public Facilities Maintenance Community Facilities District (CFD 2020-1) is an option to fulfill the funding requirement for maintenance of public improvements. If a property owner opts to annex into a CFD, the annexation must be finalized in order to satisfy this condition.	☐
Prior to Recordation	Special Districts	16) The project is required to establish a funding mechanism for all portions of the subdivision, for Public Safety. a. As an option to fulfill the funding requirement for public safety services the property owner may annex into the Community Services District (CFD 2003-1). *Funding of services under the City's CFDs will consist of an annual assessment based on the costs of such services, as determined by a City's Engineer's Estimate and established by tax zone.*	☐

Timing	Responsible Department	Prior to a Specific Date	Met?
Three days Prior to Grading	Planning	17) A Pre-construction burrowing owl and breeding bird surveys following recommended guidelines of the MSHCP shall be conducted and provided to the City for review and clearance. Survey results may require additional procedures.	☐
Three days Prior to Grading	Planning	18) A nesting bird clearance survey is required within three (3) days prior to the start of vegetation clearing and ground disturbance within the nesting season (January 1 to September 15). If nesting birds are present, avoidance of nest sites is required and a buffer of 300 to 500 feet (or as determined by a biologist) is recommended until juvenile birds have fledged and are no longer dependent on the nest and/or a biologist has verified that the nest is inactive.	☐
30-days Prior to Grading	Planning	19) If burrowing owl are discovered within the project footprint during construction activities, a site-specific burrowing owl protection and/or passive relocation plan shall be prepared to determine suitable buffers and/or artificial burrow construction locations to minimize impacts to this species. If a burrowing owl is found on-site at the time of construction, all activities likely to affect the animal(s) shall cease immediately and regulatory agencies shall be contacted to determine appropriate management actions.	☐

Timing	Responsible Department	Prior to Issuance of Grading Permit	Met?
Prior to Issuance of Grading Permit	Engineering	20) The developer/property owner shall have approved grading and drainage improvement plans, executed grading agreement as directed by the City Engineer, and posted securities.	☐
Prior to Issuance of Grading Permit	Engineering	21) The developer/property owner shall submit drainage improvement plans for review and approval by City Engineer. Drainage facility type, geometry, materials, collection and discharge structures, maintenance access, shall be as approved by City Engineer.	☐
Prior to Issuance of Grading Permit	Engineering	22) The developer/property owner shall submit the following plans and reports to the City Engineer for review and approval: a) Onsite Grading and Erosion Control Plans – Plans shall show the approved WDID No.; detention basins shall be designed to have appropriate access for maintenance. b) Street Improvement Plans c) Drainage Improvement Plans d) Hydrology and Hydraulic Analysis e) Final WQMP (for reference) The design of the improvements shall comply with EMWD, Fire Department, RCFCD, Riverside County Transportation Department, Caltrans, City of San Jacinto and ADA most recent standards, criteria, and requirements and in effect at the time of plan approval and shall be coordinated with the approved plans of the adjacent developments.	☐

Timing	Responsible Department	Prior to Issuance of Grading Permit	Met?
Prior to Issuance of Grading Permit	Planning	23) A copy of all pages of these Conditions shall be included in the construction drawing packages for grading plans.	☐
Prior to Issuance of Grading Permit	Planning	24) Prior to grading permit issuance, the developer shall submit a Construction Haul Route Plan per the California Manual on Uniform Traffic Control Devices, for review and approval by the City Engineer. The plan shall include, but not be limited to, signing, truck routes, dirt hauling hours, and start/end dates.	☐
Prior to Issuance of Grading Permit	Planning	25) The contractor shall provide a letter agreeing to follow the City's General Plan and Noise Ordinance. In addition, the letter shall indicate the contractor shall implement the following best practices during the construction phase of the development. i. Limit construction to the daytime hours (6:00 AM to 7:00 PM) and prohibit construction on Sundays and holidays. ii. At least 10 days prior to the start of construction activities, a sign shall be posted at the entrance(s) to the job site, clearly visible to the public, that includes permitted construction on days and hours, as well as telephone numbers of the City's and contractor's authorized representative that are assigned to respond in the event of a noise or vibration complaint. If the authorized contractor's representative receives a complaint, he/she shall investigate, take appropriate corrective action, and report to the City. iii. During the entire active construction period, equipment and trucks used for the project construction shall utilize the best available noise control techniques (e.g., improved mufflers, use of intake silencers, ducts, engine enclosures, and acoustically attenuating shields or shrouds), wherever feasible. iv. During the entire active construction period, stationary noise sources shall be located as far from sensitive receptors as possible, and they shall be incorporated to the extent feasible.	☐

Timing	Responsible Department	Prior to Issuance of Grading Permit	Met?
		v. Select haul routes that avoid the greatest amount of sensitive use areas. Avoid soil hauling through residential areas. vi. Signs shall be posted at the job site entrance(s), within the on-site construction zones, and along queueing lanes (if any) to reinforce the prohibition of unnecessary engine idling. All other equipment shall be turned off if not in use for more than 5 minutes. vii. During the entire active construction period and to the extent feasible, the use of noise-producing signals, including horns, whistles, alarms, and bells, shall be for safety warning purposes only. The construction manager shall use smart back-up alarms, which automatically adjust the alarm level based on the background noise level, or switch off back-up alarms and replace them with human spotters in compliance with all safety requirements and law.	
Prior to Issuance of Grading Permit	Building & Safety / Planning	26) No radios or other sound equipment shall be used at this site unless required for emergency response by the contractor.	☐
Prior to Issuance of Grading Permit	Building & Safety / Planning	27) The City shall require the developer to require that all construction equipment be operated with mandated noise control equipment (mufflers or silencers). Enforcement will be accomplished by random field inspections during construction activities.	☐
Prior to Issuance of Grading Permit	Building & Safety / Planning	28) The development of the project site shall be required to comply with South Coast Air Quality Management District Rule 403 – Fugitive Dust. This rule is intended to reduce the amount of particulate matter entrained in the ambient air as a result of anthropogenic (human-made) fugitive dust sources by requiring actions to prevent, reduce, or mitigate fugitive dust emissions. Rule	☐

Timing	Responsible Department	Prior to Issuance of Grading Permit	Met?
		403 applies to any activity or human-made condition capable of generating fugitive dust. Applicable dust suppression requirements from Rule 403 are summarized below. a. Nontoxic chemical soil stabilizers shall be applied according to manufacturers' specifications to all inactive construction areas (previously graded areas inactive for 10 days or more). b. Active sites shall be watered at least twice daily. (Locations where grading is to occur will be thoroughly watered prior to earthmoving.) c. All trucks hauling dirt, sand, soil, or other loose materials shall be covered, or at least 0.6 m (2 ft.) of freeboard (vertical space between the top of the load and top of the trailer) maintained in accordance with the requirements of California Vehicle Code (CVC) Section 23114. d. Construction access roads shall be paved at least 30 m (100 ft.) onto the site from the main road. e. Traffic speeds on all unpaved roads shall be reduced to 15 mph or less. Evidence of compliance shall be submitted to the Planning Department.	
Prior to Issuance of Grading Permit	Building & Safety / Planning	29) Stored backfill material shall be covered with water resistant material during periods of heavy precipitation to reduce the potential for rainfall erosion of stored backfill material. If covering is not feasible, then measures such as the use of straw bales or sandbags shall be used to capture and hold eroded material on the project site for future cleanup.	☐
Prior to Issuance of Grading Permit	Building & Safety / Planning	30) All exposed, disturbed soil (trenches, stored backfill, etc.) shall be sprayed with water or soil binders twice a day, or more frequently if fugitive dust is observed migrating from the project site during future construction activities.	☐

Timing	Responsible Department	Prior to Issuance of Grading Permit	Met?
Prior to Issuance of Grading Permit	Planning	31) The developer/applicant or successor in interest shall prepare a Stormwater Pollution Prevention Plan (SWPPP) and obtain a Notice of Intent (NOI) to comply with obtaining coverage under the National Pollutant Discharge Elimination System (NPDES) General Construction Storm Water Permit from the State Water Resources Control Board. Evidence that this has been obtained (i.e., a copy of the Waste Discharger's Identification Number) shall be submitted to the City for coverage under the National Pollutant Discharge Elimination System General Construction Permit.	☐
Prior to Issuance of Grading Permit	Planning	32) The developer shall enter into a Treatment and Disposition Agreement (TDA) with the Soboba Band of Luiseño Indians to address the treatment and disposition of archaeological/cultural that may be uncovered or otherwise discovered during ground-disturbing activities related to the project. The TDA may establish provisions for tribal monitors.	☐
Prior to Issuance of Grading Permit	Planning	33) Should any paleontological resources be encountered during construction, earthmoving or grading activities in the immediate area of the finds shall be halted and an onsite inspection should be performed immediately by a qualified paleontologist. The responsibility for making this determination shall be with the City's onsite inspector. The paleontological professional shall assess the find, determine its significance, and determine appropriate mitigation measures within the guidelines of the California Environmental Quality Act that shall be implemented to minimize any impacts to a paleontological resource. **The grading contractor shall provide documentation that a paleontologist has been retained.**	☐

Timing	Responsible Department	Prior to Issuance of Grading Permit	Met?
Prior to Issuance of Grading Permit	Planning	34) Should human remains or funerary objects be discovered during project construction, the project would be required to comply with State Health and Safety Code Section 7050.5, which states that no further disturbance may occur in the vicinity of the body (within a 100-foot buffer of the find) until the County Coroner has made a determination of origin and disposition pursuant to Public Resources Code Section 5097.98. The County Coroner must be notified of the find immediately. If the remains are determined to be prehistoric, the coroner will notify the Native American Heritage Commission, which will determine the identity of and notify a Most Likely Descendant (MLD). With the permission of the landowner or his/her authorized representative, the MLD may inspect the site of the discovery. The MLD must complete the inspection within 48 hours of being granted access to the site. **The grading contractor shall provide a letter agreeing to comply with this condition.**	☐

Timing	Responsible Department	Prior to Issuance of Grading Permit	Met?
Prior to Issuance of Grading Permit	Planning	35) In the event of the discovery of human remains, the County coroner shall be immediately notified. If human remains of Native American origin are discovered during ground-disturbing activities, the applicant shall comply with the state relating to the disposition of Native American burials that fall within the jurisdiction of the NAHC (PRC Section 5097). According to California Health and Safety Code, six or more human burials at one location constitute a cemetery (Section 8100), and disturbance of Native American cemeteries is a felony (Section 7052). Section 7050.5 requires that excavation be stopped in the vicinity of discovered human remains until the coroner can determine whether the remains are those of a Native American. If the remains are determined to be Native American, the California Native American Heritage Commission and the Soboba Band of Luiseño Indians shall be notified, and appropriate measures provided by State law shall be implemented to determine the most likely living descendant(s). Disposition of the remains shall be overseen by the most likely living descendants to determine the most appropriate means of treating the human remains and any associated grave artifacts.	☐
Prior to Issuance of Grading Permit	Planning	36) A grading permit shall be obtained from the City of San Jacinto prior to the commencement of any grading outside of the City-maintained Road right-of-way.	☐
Prior to Issuance of Grading Permit	Planning	37) The proposed site design BMPs selected for this project have been approved in concept. The project shall submit a Final WQMP, plans and details providing the elevations and slopes of the infiltration basin and other details for the proposed structural BMPs. The Public Works Department shall review and approve the Final WQMP document, plans and details.	☐

Timing	Responsible Department	Prior to Issuance of Grading Permit	Met?
Prior to Issuance of Grading Permit	Planning	38) The basin shall be designed per RCFCD and City of San Jacinto standards and design guidelines to include but not limited to slopes not to exceed 3:1, 10-foot-wide PCC paved access road along the top basin perimeter and PCC paved ramp to the bottom of the basin.	☐
Prior to Issuance of Grading Permit	Planning	39) A Final Water Quality Management Plan (WQMP) shall be submitted and approved, including a project description, and identifying Best Management Practices (BMPs) that will be used on-site to reduce pollutants into the storm drain system to the maximum extent practicable. The Water Quality Management Plan shall identify the structural and non-structural measures consistent with the City's adopted requirements.	☐
Prior to Issuance of Grading Permit	Planning	40) The development shall be subject to all provisions of City of San Jacinto Ordinance Number 13.44, which establishes Urban Stormwater Runoff Management and discharge controls to improve Water Quality and comply with Federal/State Regulations and any subsequent amendments, revisions or ordinances pertaining thereto.	☐

Timing	Responsible Department	Prior to Issuance of Building Permit	Met?
Prior to Issuance of Building Permits	Planning	41) A copy of all pages of these Conditions shall be included in the construction drawing packages for building plans, and landscape and irrigation plan.	☐
Prior to Issuance of Building Permits	Planning	42) All plans submitted to the City shall reflect the plans in this approval. This condition applies to site plans, grading plans, landscape plans, building plans, elevations, and all other illustrations, text, or plans submitted to the City in connection with the project.	☐
Prior to Issuance of Building Permits	Planning	43) The developer shall pay all required Development Impact Fees (DIF) for parkland acquisition, parkland development, and park facilities in effect at the time of permit issuance for each home. Upon the City's acceptance of the completed parks, the developer will receive a refund of the applicable fees pursuant to Title 16 of the Municipal Code. The amount of the refund shall not exceed the actual cost of the parkland acquisition, parkland development, and park facilities, nor shall it exceed the amount of the fees initially paid. No cross-category credit or refund shall be provided. The developer must provide documentation to the City demonstrating that the refunds do not exceed the actual costs incurred.	☐
Prior to Issuance of Building Permits	Planning	44) A Site Plan & Design Review plan shall be submitted for review and approval. The design review shall be consistent with the Residential Development Design Regulations (Development Code Section 17.425.020) and consist of: a. A precise grading plan with the plotting of homes, setbacks from property lines, paved areas, slopes, etc. b. Floor plans. c. Architectural elevations (in color) of all sides. d. Typical front yard landscaping. e. Entry monumentation, and parkway landscape treatments.	☐

Timing	Responsible Department	Prior to Issuance of Building Permit	Met?
		f. Wall and Fence Plan that includes a decorative block wall around the perimeter of the project and interior fencing. g. Park & Open Space Improvement & Construction Phasing Plan. h. Common mailbox architectural treatment. i. Enhanced rear elevations of houses facing Ramona Expressway, Alessandro Avenue, and Vernon Street shall be enhanced.	
Prior to Issuance of Building Permits	Planning	45) Grading and public improvements shall be installed in accordance with city standards and specifications.	☐
Prior to Issuance of Building Permits	Planning	46) Submit a detailed landscape and irrigation plan for review and approval. The landscape plans shall be prepared by a licensed landscape architect in conformance with Chapter 17.325 – Water Efficient Landscape and Irrigation and Section 17.325.060 — Landscape and Irrigation Submittal Package Requirements of the Development Code and the City Landscape Design Guidelines for review and approval by the City Landscape Architect. Plans should be submitted at least 30 days prior to the expected date of permit issuance.	☐
Prior to Issuance of Building Permits	Planning	47) The applicant shall demonstrate compliance with SCAQMD rules, Rule 201 – Permit to Construct, Rule 203 – Permit to Operate, and Rule 461 – Gasoline Transfer and Dispensing by obtaining the proper permits from SCAQMD	☐
Prior to Issuance of Building Permits	Planning	48) MM NOI-1: The Developer shall ensure all buildings plans reflect that all 1st-floor windows and sliding glass doors for Lots 59,63,65,69, 71, 73 fronting Ramona Expressway and Lots 77, 81 and 89 fronting Vernon Avenue shall have a minimum STC rating of 27. Second floor windows for Lots 46, 50, 54 and 55 fronting Alessandro Avenue, and Lots 59, 63, 65, 69, 71,73 fronting Ramona Expressway, and Lots 76, 77, 81 and 89 fronting Vernon Avenue shall also have a minimum STC rating of 27. For proper acoustical performance, all	

Timing	Responsible Department	Prior to Issuance of Building Permit	Met?
		exterior windows, doors, and sliding glass doors must have positive seals and weather stripping, and leaks/cracks must be kept to a minimum.	
Prior to Issuance of Building Permits	Planning	49) The developer/applicant or successor in interest shall record a "Water Quality Management Plan and Urban Runoff BMP Transfer Access and Maintenance Agreement," to provide public notice of the requirement to implement the approved Final project-specific WQMP and the maintenance requirements associated with the WQMP. The developer/applicant or successor in interest shall ensure the following, pursuant to Section XII. I. of the 2010 NPDES Permit: 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). City WQMP Inspector will be notified for required inspections during construction	☐
Prior to Issuance of Building Permits	Special Districts	50) Annexation into the required Community Facilities Districts, Assessment Districts, and Landscape/Lighting/Park Maintenance District shall be completed and verified by the City Special Districts administrator.	☐
Prior to Issuance of Building Permits	Building & Safety	51) Methane testing shall be conducted by a licensed engineer, geologist or registered environmental assessor and if necessary, shall include measures to reduce concentrations of methane to an acceptable level.	☐
Prior to Issuance of Building Permits	Building & Safety	52) Pursuant to General Plan Action RM-4o, prior to the issuance of building permits, the Project applicant or successor in interest shall provide documentation to the City of San Jacinto demonstrating implementation and compliance with the following emission reduction measures. Implementation of the following measures will be required prior to building permits and is	☐

Timing	Responsible Department	Prior to Issuance of Building Permit	Met?
		considered to be applicable, feasible and effective in reducing greenhouse gas emissions generated by the project: • All appliances within the project shall be energy star-rated appliances. • All water fixtures within the project shall be water efficient (toilets/urinals (1.5 gallons per minute [gpm] or less), showerheads (2.0 gpm or less), and faucets (1.28 gpm or less)). • Ensure all parking areas (not including guest spaces) are wired for capability of future EV charging and include EV charging stations that exceed regulatory requirements. • Provide onsite solar/renewable energy for at least 25 percent of the required electricity demand from the project. Ensure project is designed to achieve energy-efficient buildings exceeding Title 24 standards by at least 10 percent.	
Prior to Issuance of Building Permits	Planning	53) The City of San Jacinto has adopted the area-wide Multi-Species Habitat Conservation Plan (MSHCP). This Project is subject to the payment of fees prior to the issuance of building permits unless exempted by the ordinance establishing the MSHCP program. The fees shall be subject to the provisions of the enabling ordinance and based upon the fee schedule in effect at the time of building permit issuance.	☐
Prior to Issuance of Building Permits	Building & Safety	54) All required Fire Department vehicle access roads shall be maintained in a passable condition at all times for emergency Fire Department use. Gates or other obstructions shall be approved by the Fire Department prior to construction	☐

Timing	Responsible Department	Prior to Issuance of Building Permit	Met?
Prior to Issuance of Building Permits	Building & Safety	55) The contract with demolition and construction contractors shall include the requirement that all materials that can be recycled shall be salvaged and recycled. This includes, but is not limited to, wood, metals, concrete, road base, and asphalt. The developer shall submit a recycling plan to the City for review and approval prior to the start of demolition/construction activities to accomplish this objective.	☐
Prior to Issuance of Building Permits	Building & Safety	56) The Project will be designed and constructed in accordance with San Jacinto Municipal Code Section 15.04.020, which adopts the California Building Code (CBC). New construction, alteration, or rehabilitation shall comply with applicable ordinances set forth by the City and/or by the most recent City building and seismic codes in effect at the time of Project design.	☐
Prior to Issuance of Building Permits	Building & Safety	57) The City has adopted Traffic Signal Mitigation fees and the Transportation Uniform Mitigation Fee (TUMF) program; this Project shall be subject to the payment of these fees prior to the issuance of building permits unless exempted by the ordinance establishing the TUMF program. The fees shall be subject to the provisions of the enabling ordinance and based upon the fee schedule in effect at the time of building permit issuance.	☐
Prior to Issuance of Building Permits	Building & Safety	58) Fire hydrants shall be tested, accepted, and placed in service prior to any combustible material placed on the site. Hydrants shall be placed on all streets in and around all Projects	☐
Prior to Issuance of Building Permits	Building & Safety	59) All lumber scraps, combustible materials, and other debris shall be picked up daily, or more often as required by the Building and Safety Division	☐
Prior to Issuance of Building Permits	Building & Safety	60) If water supply for fire hydrants is lost or if pressure is dramatically reduced, contact the City of San Jacinto, Building and Safety Division & Public Utilities Department.	☐

Timing	Responsible Department	Prior to Issuance of Building Permit	Met?
Prior to Issuance of Building Permits	Riverside County Fire	61) Fire Apparatus Access - Prior to issuance of Building Permits, an approved site plan for fire apparatus access roads, markings and signage shall be submitted and approved by the Office of the Fire Marshal (CFC 501). The Fire Apparatus Access Road shall be (all weather surface) capable of sustaining an imposed load of 75,000 lbs. GVW. Fire apparatus access roads shall have an unobstructed width of not less than twenty–four (24) feet as approved by the Office of the Fire Marshal and an unobstructed vertical clearance of not less the thirteen (13) feet six (6) inches (CFC 503.2.3 and RCO 787). The fire apparatus access plan shall show where parking is prohibited and where signage indicating prohibited parking will be installed. If construction is phased, each phase shall provide approved emergency vehicular access for fire protection prior to any building construction. (CFC 503).	
Prior to Issuance of Building Permits	Riverside County Fire	62) Fire Hydrant Road Markers. Prior to issuance of building permits, "Blue Reflective Markers" shall be installed to identify fire hydrant locations in accordance with Riverside County Fire Department Technical Policy #06-011. (CFC 507.5.8).	☐
Prior to Issuance of Building Permits	Riverside County Fire	63) Vehicle Gates. If vehicle gates are proposed on fire apparatus access roads, then submit a plan showing the location, operation and details of the vehicle gates that are proposed to be installed across fire apparatus access roads. The plan shall be reviewed by Riverside County Fire Department for compliance with gate setbacks, gate width, location, operation, Knox switches, strobe light emitter receivers, detection loops and emergency back-up power for gate motors.	☐
Prior to Issuance of Building Permits	Riverside County Fire	64) Fire Hydrants. Prior to issuance of Building Permits, the applicant/developer shall furnish one copy of the water system plans to the Office of the Fire Marshal for review and approval. (CFC 507.1) Minimum fire flow for the construction of all residential buildings is required per the California Fire Code (CFC) Appendix B and Table B105.1(1). Prior to building permit issuance, the	☐

Timing	Responsible Department	Prior to Issuance of Building Permit	Met?
		applicant/developer shall provide documentation to show there exists a water system capable of delivering the fire flow based on the information given. Per this submittal (A total fire flow area of less than 3,600 square feet including the floor area, structure overhangs such as porches, patios, eaves and attached garages) the minimum fire flow will be 500 gallons per minute at 20 psi for 1/2 hour. Subsequent design changes may increase or decrease the required fire flow. Single Family Dwellings. Schedule "A" approved standard fire hydrants (6" x 4" x 2 ½") 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. (CFC 507.5, Appendix C). The required water system, including fire hydrants, shall be installed, made serviceable, and be accepted by the Office of the Fire Marshal prior to beginning any combustible materials to the construction site. Fire hydrants shall be always maintained visible and accessible.	
Prior to Issuance of Building Permits	Riverside County Fire	65) Street Identification Signs. Prior to issuance of Building Permits, approved street signs for fire apparatus access roads shall be installed.	☐
Prior to Issuance of Building Permits	Engineering	66) Tract Map 34271 shall be filed for review and approval and shall be recorded.	☐
Prior to Issuance of Building Permits	Engineering	67) This property is located in the San Jacinto Valley Area Drainage Plan which was adopted by the City of San Jacinto pursuant to Ordinance 13-01 and Section 66001, et seq, of the Government Code and Resolution 3476 adopting a revised drainage development impact fee, that said property is subject to fees for said drainage area. The ADP fee shall be paid prior to issuance of building permits.	☐

Timing	Responsible Department	Prior to Issuance of Building Permit	Met?
Prior to Issuance of Building Permits	Engineering	68) Fire Department and EMWD approvals of the Water Improvement Plan are required prior to City Engineer's approval.	☐
Prior to Issuance of Building Permits	Engineering	69) All weather access per Fire Department standards shall be provided to the proposed buildings per the Precise Grading Plan.	

Timing	Responsible Department	Prior to Issuance of Occupancy Permit	Met?
Prior to Occupancy	Engineering	70) Vernon Avenue within the dedicated right-of-way shall be improved to provide for a half-width ultimate improvements consisting of a minimum 34-foot wide asphalt paving (using a TI of 8.0 and PG 64-10), curb and gutter 22-feet west of centerline, 8-ft Class I Shared Use Path, landscaping, and street lights subject to the photometric analysis, per City of San Jacinto, County of Riverside and Caltrans standards.. If the existing pavement is in good condition the developer/property owner may use grind and overlay technique as determined by the City Engineer.	☐
Prior to Occupancy	Engineering	71) Alessandro Avenue within the dedicated right-of-way shall be improved to provide for half-width ultimate improvements along the property's frontage to a point 425 south of Street 'G.' The improvements shall consist of a minimum 34-foot wide asphalt paving (using a TI of 8.0 and PG 64-10), curb and gutter 22-feet east of centerline, 8-ft Class I Shared Use Path, landscaping, and street lights subject to the photometric analysis, per City of San Jacinto, County of Riverside and Caltrans standards. If the existing pavement is in good condition the developer/property owner may use grind and overlay technique as determined by the City Engineer.	☐
Prior to Occupancy	Engineering	72) Ramona Expressway shall be improved to ultimate half-width for Primary Arterial (128'/86') along the project frontage within the dedicated right-of-way and construct an 18-foot-wide raised landscaped median, a 34-foot-wide pavement on the south side of the raised landscaped	☐

		median and a 14-foot-wide pavement on the north side of raised landscaped median (using a TI of 10.0 and PG 70-10), 8-inch curb and gutter located 43-feet south of the centerline with Class I Shared Use Path/Equestrian Trail per Trails Master Plan, and street lights subject to the result of a photometric study prepared by a registered Electrical Engineer, per City of San Jacinto, County of Riverside and Caltrans standards. If the existing pavement is in good condition the developer/property owner may use grind and overlay technique as determined by the City Engineer.	
Prior to Occupancy	Engineering	73) Construct interior streets (Local 60/40) using TI of 5.5 and PG 64-10, streetlights, sidewalk, curb, and gutter at 20 feet on both sides of centerline, per City of San Jacinto, County of Riverside and Caltrans Standards.	☐
Prior to Occupancy	Engineering	74) The residential driveways shall be constructed per County of Riverside Standard No. 207.	☐
Prior to Occupancy	Engineering	75) Per the traffic Signal Warrant analysis contained in the traffic analysis prepared by the developer's traffic engineer, the developer shall construct the ultimate traffic signal improvements at the intersection of Alessandro Avenue and Ramona Expressway. The construction and dedication of the traffic signal may be eligible for a credit against the applicant's DIF obligation. The City Manager is authorized to enter into a DIF Credit agreement with the applicant if the City Manager determines that the public interest would be served by the construction of the traffic signal.	☐
Prior to Occupancy	Engineering	76) Per the traffic Signal Warrant analysis contained in the traffic analysis prepared by the developer's traffic engineer, the developer shall deposit	☐

		the tract's fair share contribution to the ultimate traffic signal improvements at the intersection of Vernon Avenue and Main Street.	
Prior to Occupancy	Engineering	77) Offsite storm runoff is tributary to the property at the southeast corner of Vernon Avenue and Ramona Expressway. The project shall construct the facilities proposed in the drainage report consisting of an inlet to collect the 10-year storm runoff (or as approved by the City Engineer) at the southeast corner of Vernon Avenue and Ramona Expressway, and convey it in a storm drain to a detention basin on Lot F and neighboring offsite property on the northside of Ramona Expressway. A drainage basin outlet facility would then be constructed along Ramona Expressway, Alessandro Avenue, and Bergin Street to convey the flows discharged from that basin to discharge to an adequate outlet northwest of Bergin Street. Drainage facility type, geometry, materials, grades, collection and outlet structures, maintenance access, and required right of way shall be as approved by City Engineer. **Construction of the proposed drainage facilities may be eligible to earn credit against the applicant's drainage fee obligation. After the final drainage improvement plans are approved, the City Engineer shall determine whether the facilities are the functional equivalent of the San Jacinto Valley Area Drainage Plan facilities. Fee Credit shall be earned in conformance with Section VII of Riverside County Rules and Regulations for Administration of Area Drainage Plans.** 78) Onsite runoff shall be treated in one of three water quality basins then conveyed in storm drains to discharge into the drainage basin outlet	☐

		facility on the northside of Ramona Expressway. Drainage facilities shall be contained in drainage easements and shown on the final map.	
Prior to Occupancy	Planning	79) The developer/applicant or successor in interest shall submit the following items for the landscape and irrigation development and maintenance a. The signed Landscape Certificate of Completion pursuant to Section 17.325.070– Certificate of Completion of the Development Code. b. The irrigation scheduling pursuant to Section 17.325.080 Irrigation Scheduling of the Development Code. c. The Landscape and Irrigation Maintenance Schedule pursuant to Section 17.325.090 – Landscape and Irrigation Maintenance Schedule of the Development Code; and d. The Irrigation Audit, Irrigation Survey, and Irrigation Water Use Analysis pursuant to Section 17.325.100 — Irrigation Audit, Irrigation Survey, and Irrigation Water Use Analysis of the Development Code. Pursuant to Section 17.325.150 – Maintenance of the Development Code, all installed landscaping and irrigation systems shall be continually maintained. Maintenance shall consist of regular watering, mowing, pruning, fertilizing, clearing of debris and weeds, monitoring for pests and disease, the removal and timely replacement of dead plants, and the repair and timely replacement of irrigation systems, and integrated architectural features.	☐
Prior to Occupancy	Riverside County Fire	80) FIRE - Building Address Numbers - 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. (CFC 505.1)	☐

Prior to Occupancy	Special Districts	81) Development must comply with Storm Water Basin & Pump Specifications and Standards. Privately maintained storm water and water quality systems will be required to submit an Irrevocable Offer of Dedication, or similar dedication language upon map recordation, for each basin lot.	☐
Prior to Occupancy	Special Districts	82) Development must comply with Landscape and Irrigation Design Guidelines.	☐
Prior to Occupancy	Special Districts	83) Landscape improvements shall include irrigation meters and backflow devices with tampering preventive cage, exclusive for right-of-way landscaping. Right-of-way landscaping must be divided from private property by form or mow-curb or other approved materials.	☐
Prior to Occupancy	Special Districts	84) Landscape areas in the right-of-way shall include an independent irrigation control system, with separate electric meter, exclusive for right-of-way landscaping. o Cal-Sense version approved by the Public Utilities Superintendent is required for City maintained irrigation areas. *(Must be operational and certified by Cal-Sense)*	☐

Timing	Responsible Department	Prior to Acceptance of Public Improvement	Met?
Prior to Acceptance of Public Improvement	Special Districts	85) The developer will ensure that funds are available for maintenance, in the event that improvements are completed, and ready for City takeover, PRIOR to levy collection. j. The first installment of collected assessments is paid to the City in January of each year. In the event that takeover is requested before the first installment is paid to the city, the Developer will either: i. Pay an advancement of funds for the months included from takeover to collection (amount to be set by cost estimate at annexation) OR ii. ii. Continue to maintain improvements until City has acquired enough funds to sustain maintenance or until first assessment installment is received, whichever is first	☐
Prior to Acceptance of Public Improvement	Special Districts	86) Upon acceptance and City takeover, developer will ensure that a minimum of one-year warranty is in place for landscape, irrigation, and basin integrity, inclusive pumps and mechanical equipment used for the maintenance of the improvements taken over	☐
Prior to Acceptance of Public Improvement	Special Districts	87) Parks and associated facilities shall be inspected by a Certified Access Specialist through the Division of the State Architect ensuring compliance with applicable state and federal construction-related accessibility standards. A copy of the disability access inspection certificate and the CASp inspection report shall be provided to the City. Any accessibility barriers documented will need to be remedied prior to acceptance of the park by the city.	☐
Prior to Acceptance of Public Improvement	Special Districts	88) Development must comply with Landscape and Irrigation Design Guidelines	☐
Prior to Acceptance of	Special Districts	89) Landscape improvements shall include irrigation meters and backflow devices with tampering preventive cage, exclusive for right-of-way landscaping. Right-	☐

Timing	Responsible Department	Prior to Acceptance of Public Improvement	Met?
Public Improvement		of-way landscaping must be divided from private property by form or mow-curb or other approved materials.	
Prior to Acceptance of Public Improvement	Special Districts	90) Landscape areas in the right-of-way shall include an independent irrigation control system, with separate electric meter, exclusive for right-of-way landscaping. a. Cal-Sense version approved by the Public Utilities Superintendent is required for City maintained irrigation areas.	☐

ENVIRONMENTAL ASSESSMENT FORM
INITIAL STUDY (IS)

1. **Project Case Number(s):** **P22-004, or "ARC23-0017" (**TTM-34271)

2. **Project Title:** **Kasbergen Single Family Subdivision – TTM-34271/ Annexation (P22-004)**

3. **Lead Agency:**
Kevin White, Planning Manager
City of San Jacinto Planning Department
595 S. San Jacinto Avenue
San Jacinto, CA 92583
kwhite@sanjacintoca.gov

4. **Documents Posted At:**
https://www.sanjacintoca.gov/city_departments/community_development/planning/c_e_q_a

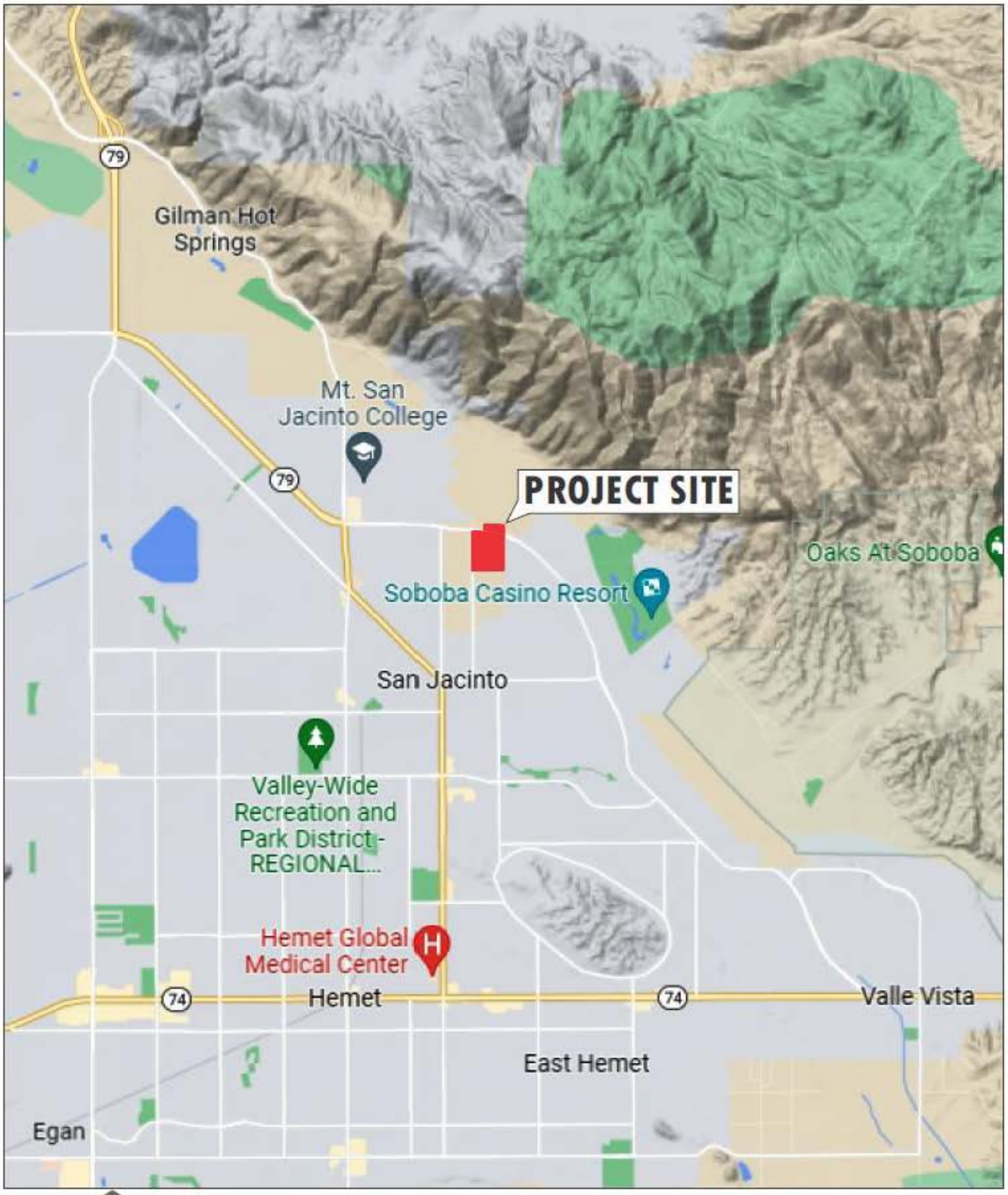
5. **Project Sponsor**:

Applicant/Developer
Bryan Menne & Associates
31988 10th Avenue
South Laguna, CA 92651
(949) 499-2292

Property Owner
Cornell and Annette T. Kasbergen
21744 Road 152
Tulare, CA 93274
(559) 804-7393

6. **Project Location:** The Project Site is located within the unincorporated portion of Riverside County within the City of San Jacinto's Sphere of Influence (see Figure 1 Regional Location and Figure 2 Vicinity Map) and encompasses an approximate 43.68-acre area, the majority of which is located south of Ramona Expressway, north of Field Maple Place, east of Alessandro Avenue and west of Vernon Street. A small 0.37-acre portion of the Project Site is located north of Ramona Expressway and area described above. The Project Site occurs within Section 26 of Township 4 South, Range 1 West, Lakeview 7.5 Quadrangle U.S. Geological Survey (USGS), San Bernardino Base and Meridian (SBBM) and is comprised of Assessor Parcel Numbers (APNs) 433-070-030, 433-070-050, and 434-180-007.

7. **General Plan Designation:** County of Riverside - Agriculture (Ag), City of San Jacinto - Low Density Residential (Sphere of Influence land use designation)



N

0 1 Mile

Source: Lilburn Corp., May, 2022.

LILBURN CORPORATION

REGIONAL LOCATION

Tentative Tract No. 34271

City of San Jacinto, California

FIGURE 1



Source: Lilburn Corp., May, 2022.

LILBURN CORPORATION

PROJECT VICINITY

Tentative Tract No. 34271

City of San Jacinto, California

FIGURE 2

Specific Plan Name and Designation: Not located within a Specific Plan

8. **Existing Zoning:** A-2-10 (County)
RL (proposed pre-zone, subject to approval)

9. **Surrounding Land Uses and Setting**:

	Land Use	General Plan	Zoning
Project Site	**Single Family Residence & Ancillary Structures (& large vacant area)**	**Agriculture (County), Low Density Residential (City Pre-Designation)**	**A-2-10 (County), RL (City Proposed Pre-Zone)**
North	Road, vacant, water facilities	Agriculture (County)	A-2-10 (County)
South	Vacant	Agriculture (County)	A-2-10 (County)
East	Vacant	Mixed Use and Medium Density Residential (City)	MU and RM (City)
West	Low Density Residential (& large vacant area)	Agriculture and Rural Residential (County)	A-1-5 and A-2-10 (County)

10. **Description of the Project:**

Environmental Setting

The Project Site consists of three parcels totaling approximately 43.68-acres. The Project Site is relatively flat with an average elevation of 1,550 feet above mean sea level and was previously used for agriculture/dairy farming. The closest waterway is the San Jacinto River located approximately 0.4 miles east and northeast of the Project site. Vegetation onsite primarily consists of non-native weeds and grasses. Much of the surrounding area has been cleared of native vegetation to facilitate agriculture and residential development.

A single-family residence and ancillary structures occur within the southwestern portion of the Project Site (APN 434-180-007). The residence is currently receiving water from the City and a private on-site well.

The Project Site occurs near the City of San Jacinto's eastern boundaries and is located within the City's Sphere of Influence, in an unincorporated portion of Riverside County

Project Description

The Applicant is initiating the annexation of three parcels totaling approximately 43.68-acres (including both the main portion of the Project Site located south of Ramona Expressway (including the single-family residence) and the 0.37-acre portion located north of Ramona Expressway), which commences with the pre-zoning of the site by the

City as Residential, Low Density (RL) Zoning. Additionally, the Applicant is requesting approval to subdivide the 43.68-acre site (TTM 34271) into 152 residential lots (minimum lot size of 7,200 square feet) and seven letter lots (see Figure 3 Site Plan). The lettered lots include Lot A through Lot G and would provide parks, basins, and dedications for drainage easements. A total of 4.13 acres of the lettered lots would provide usable park space. Lettered Lot F includes a portion of APN 433-070-031 which is owned by EMWD and a portion of APN 433-060-024 owned by the City of San Jacinto, which will be combined and dedicated for public use.

Annexation of the Project Site into the City of San Jacinto is required for the purposes of receiving land use approvals from the City. The existing residence on-site is currently served by a private on-site well. The Project Site is currently located within the County of Riverside Agriculture land use designation and is zoned A-2-10 (Heavy Agriculture, minimum 10-acre). The Project Site was previously pre-zoned by the City of San Jacinto as R-1 (COSJ 6-91). Since the time of the pre-zone, the City has adopted new zones and the R-1 zone is now obsolete but is comparable to Residential, Low Density (RL). The City is currently processing another pre-zone to apply the RL Zone to most of the Project Site and Public Institution (PI) for the 0.37-acre area north of Ramona Expressway. The PI designation will allow for the drainage improvements proposed on Lot F. Annexation of the 43.68-acre Project Site requires that the area is pre-zoned.

The RL zone is applied to areas appropriate for a range of detached single-family residential dwellings on standard suburban parcels, together with appropriate accessory structures and uses. The RL zone may also allow mobile and modular homes, condominiums, townhomes, public facilities, and other uses that are compatible with low density single-family neighborhoods. This zone allows a density ranging from 2.1 to 7.0 dwelling units per net acre. The RL zone is consistent with the Low Density Residential (LDR) land use designation of the General Plan. The LDR land use designation provides for the development of low density detached single-family dwellings at a density between 2 and 7 dwelling units per gross acre.

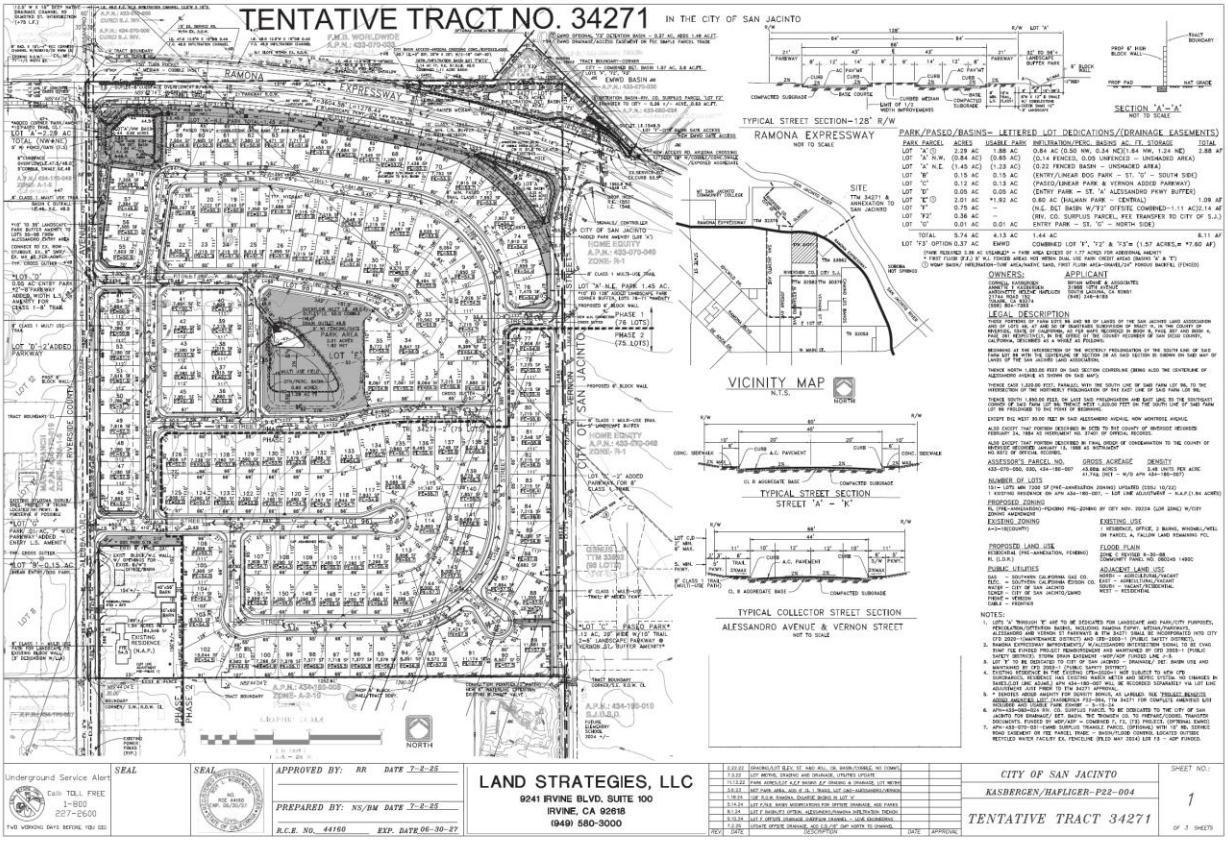
Future homes would be required to meet the standards of the RL Zone, with one- and two-story single-family homes ranging in size from 1,600-square-feet to 3,000-square-feet. The maximum height of the residential units would be 25-feet and would include two and three car garages. Access to the proposed development will include two new access points from Alessandro Avenue, and a new access point from Vernon Street.

12. Other public agencies whose approval is required (e.g., permits, financing approval, or participation agreement):

- Eastern Municipal Water District
- Riverside County Flood Control and Water Conservation District
- City of San Jacinto, Department of Water and Power (Sewer)
- Southern California Edison
- Statewide Construction General Permit

13. Other Environmental Reviews Incorporated by Reference in this Initial Study:

- San Jacinto General Plan Update Final EIR, November 2022
- San Jacinto Development Code, Title 17, December 2022
- General Plan Policy Document adopted November 15, 2022



LILBURN CORPORATION

SITE PLAN
Tentative Tract No. 34271
City of San Jacinto, California
FIGURE 3

18. Other Technical Studies Referenced in this Initial Study (Appendices):

19. Acronyms:

ADA	American with Disabilities Act
AQMP	Air Quality Management Plan
CEQA	California Environmental Quality Act
CMP	Congestion Management Plan
DTSC	Department of Toxic Substance Control
EIR	Environmental Impact Report
EMWD	Eastern Municipal Water District
FEMA	Federal Emergency Management Agency
FMMP	Farmland Mapping & Monitoring Program
GIS	Geographic Information System
GHG	Greenhouse Gas
GP	General Plan
HOA	Home Owner Association
HUSD	Hemet Unified School District
IS	Initial Study
LOS	Level of Service
LST	Localized Significance Threshold
MSHCP	Multiple Species Habitat Conservation Plan
MWD	Metropolitan Water District
NCCP	Natural Communities Conservation Plan
OEM	Office of Emergency Services
OPR	Office of Planning & Research, State
RCEH	Riverside County Environmental Health
RCFCWCD	Riverside County Flood Control & Water Conservation District
RCP	Regional Comprehensive Plan
RCTC	Riverside County Transportation Commission
RTA	Riverside Transit Agency
RTIP	Regional Transportation Improvement
Plan RTP	Regional Transportation Plan
RWQCB	Regional Water Quality Control Board
SARWQCB	Santa Ana Regional Water Quality Control Board
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	Storm Water Pollution Prevention Plan
USFWS	United States Fish and Wildlife
USGS	United States Geologic Survey
VMT	Vehicle Miles Traveled
WQMP	Water Quality Management Plan
WRCOG	Western Riverside Council of Governments

ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED:

The environmental factors checked below will 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 and 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: Based on this initial evaluation, the following finding is made:

☐	The proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION shall be prepared.
☒	Although the proposed project could have a significant effect on the environment, there shall 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 shall be prepared.
☐	The proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.
☐	The proposed project MAY have a "potentially significant impact" 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.
☐	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.



_____ 5/13/2026

Signature: Kevin White, Planning Manager Date

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 ex- pose 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 re- view.

   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 in- formation 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 for- mats; 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?			X	

Response: *. Envision San Jacinto – General Plan 2040 Policy Document*

San Jacinto's eastern and western borders are largely defined by steep sloping hillsides and ridgelines on unincorporated lands associated with the San Jacinto Mountain Range. The City of San Jacinto has several scenic vistas in the form of open space and agricultural lands. However, the Proposed Project is proposed along a developing urban corridor (i.e., Ramona Expressway and Alessandro Avenue), neither of which are designated scenic vistas or corridors.

The San Jacinto Mountains are generally visible from lower lying areas in San Jacinto, including the Project site and surrounding areas. The Project is located south of Ramona Expressway, east of Alessandro Avenue, west of Vernon Avenue and approximately 0.4 miles north of Cypress Avenue. The site is developed with a single-family residence and ancillary buildings. While the Project will alter the existing visual environment, it will be designed for compatibility with the surrounding area, which includes residential development to the immediate west and to the south.

Currently areas adjacent to the site are largely vacant, undeveloped or currently use for agricultural purposes. However, residential tracts located within the Project area and the existing single-family home on the Project Site have views of agricultural lands in the foreground and the San Jacinto Mountains in the background. Residential structures proposed for construction on the Project Site may interrupt views of the San Jacinto Mountains for adjacent properties. Homes that would be constructed on the Project Site would change the foreground views of the adjacent homes from an agricultural field to a residential community. However, the hillsides and the ridges of the San Jacinto Mountains would continue to be visible from the Project Site and surrounding areas due to the mountain's average height of 10,805 feet above mean sea level (amsl). Additionally, due to the dominance of the mountains, impacts would not be regarded as substantially adverse because views of the mountains would still exist from adjacent areas, as well as within the Project site.

Prior to construction, the Project would undergo a Site Plan Design Review (SPDR) by the City. The review examines proposed architecture, plotting, fences and walls, and typical front yard landscaping and irrigation. Through the SPDR process, the City ensures implementation of the Project will respect the physical and environmental characteristics of the site, and that the Project is compatible in design with the area. Therefore, a less than significant impact would result and no mitigation measures are warranted.

b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?			X	

Response: (*Envision San Jacinto – General Plan 2040 Policy Document*

No adopted scenic highway exists in San Jacinto. The nearest officially designated State Scenic Highway is State Route 243, located approximately nine miles east of the Study Area. The Project site is located approximately one-mile east of SR-79 and approximately 3.5 miles south of State Route 74. Both State Routes are designated as Eligible Scenic Highways; however, neither is officially designated as a State Scenic Highway. Given the distance to these highways, the Project will not have a significant impact. The County of Riverside General Plan Land Use Element and Circulation Element officially recognizes several

ISSUES & SUPPORTING INFORMATION SOURCES:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
county roadways as County Eligible Scenic Highways. Ramona Expressway, located immediately north of the Project Site, is a County Eligible Scenic Highway; however, it is not an officially Designated County Scenic Highways according to the State of California Department of Transportation (Caltrans)[1]. The structures located on the southwest portion of the Project site are historic in age but were determined during preparation of the Project's environmental studies to not be eligible for listing on the California Register of Historic Resources. According to the proposed site plan, the structures will be preserved and impacts to the historic structures will be less than significant. In addition, large trees around the existing residence would not be removed during development of the site. The City recognizes certain streets for distinctive design treatments in the City's Landscape Design Guidelines. Alessandro Avenue is included in the Landscape Design Guidelines, which provides for the design of the six-foot parkway, six-foot walkway, landscape setback and reverse frontage wall. As part of the Site Plan and Design Review (SPDR) and required Landscape and Irrigation Plan review (Landscape) process, staff will review the Project for compliance with the City Design Guidelines. Through the SPDR and Landscape process, City staff will ensure that the Project is designed in accordance with the Landscape Design Guidelines and the surrounding area. Therefore, a less than significant impact would result.				
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?)			X	
Response: *Envision San Jacinto – General Plan 2040 Policy Document* Most of the Project Site is located south of Ramona Expressway with a small 0.37-acre portion occurring north of Ramona Expressway. The Project Site occurs in an urbanized area scheduled to be developed as surrounding similar residential projects (i.e., TTMs 30923,32582,30379 and 30588). The Project includes a request to change the current County zone to RL and PI. The change would develop an area that is currently designated for agriculture to a non-agricultural use. With the exception of the area to the immediate east that occurs within the City and has a land use designation of Mixed Use (MU) and Medium Density Residential (MDR), areas to the north, west and south occur within the County of Riverside and are designated Agriculture. As discussed in the County's General Plan, growth is anticipated throughout the County and areas near major roadways should be considered for development. Since the Project Site is adjacent to Ramona Expressway, a buffer would be created between the Project Site and areas designated agriculture to the immediate south. The Project would allow for development near an existing roadway (i.e., Ramona Expressway) and would allow the County to comply with General Plan goals and policies for growth. Therefore, no impacts are identified or anticipated, and no mitigation measures are required.				
d) Create a new source of substantial light or glare which would adversely affect day or nighttime			X	

[1] https://files.ceqanet.opr.ca.gov/266610-3/attachment/ASUf1fYh6AGVNcXEQNmTpjhuDH8SbtYJSxcrkeGVuLR39RI6DU0wJaVGptv2NXDGCL2LfssEv5JPFone0

ISSUES & SUPPORTING INFORMATION SOURCES:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
views in the area?				

Response *Envision San Jacinto – General Plan 2040 Policy Document*

The City of San Jacinto is in Zone B of the Mount Palomar Observatory[2], located in San Diego County. Zone B is the area defined as a circular ring forty-five (45) miles in radius centered on Palomar Observatory. In accordance with County of Riverside Ordinance No. 655, lighting should be designed to limit leak spillage that may obstruct or hinder the view of the nighttime sky. The City requires that all developments introducing new light sources, or modifications to existing light sources, be shielded. As a conditional of approval, an exterior lighting plan would be prepared and submitted to the Design Review staff for review and approval. All on-site lighting would be designed in accordance with design standards set forth in the City's Development Code (Title 17, Municipal Code).

As required Section 17.300.080, Outdoor Light and Glare, prior to any residential construction, the applicant will be required to submit a Site Plan Design Review (SPDR) application for review and approval. This review will include architecture, plotting, fences and walls, and typical front yard landscaping and irrigation. Through the SPDR process, the Project will be evaluated to ensure the design of the buildings will reduce the number of reflective surfaces used in the construction to minimize new sources of glare. Therefore, impacts are identified or anticipated, and no mitigation measures are required.

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? Or pursuant to the City of San Jacinto's General Plan (page RM-26), convert Farmland of Local Importance as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?			X	

Response:. *Source: City of San Jacinto General Plan Update Final EIR, November 2022.*

According to the Department of Conservation California Importance Farmland Finder, approximately half of the Project Site (22 acres) is designated as Farmland of Local Importance and the remaining portion is designated Other Land[3]. The area immediately south of the Project Site is designated Other Land. The County defines Farmland of Local Importance as land with the same characteristics as Prime Farmland or Farmland of Statewide Importance, with the exception of irrigation. The City and its sphere of influence area

[2] https://rivcocob.org/ordinance-no-655

[3] https://maps.conservation.ca.gov/dlrp/ciff/, Accessed December 5, 2022.

ISSUES & SUPPORTING INFORMATION SOURCES:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact

contains approximately 4,033 acres of Farmland of Local Importance. The majority of this farmland is within the western and southwestern regions of the Study Area, mainly west of Sanderson Avenue, with one pocket north of Record Road in the northeastern portion of the City.

Development of the Proposed Project will convert approximately 22 acres of Farmland of Local Importance into a portion of a 152-lot residential subdivision. Consequently, the loss of the 22 acres of Farmland of Local Importance would not be considered significant by CEQA. The requested pre-zone of the site from agriculture to residential, specifically RL would not result in an impact and would be consistent with the 2040 General Plan update. The ZC requested for the 0.37-acre area north of Ramona Expressway, although not consistent with the initial residential zoning for the site, was determined to be better suited as PI to allow for needed drainage facilities for the area.

As stated in the City's General Plan Update Final EIR, although there are existing agricultural activities within the City and its sphere of influence area, the San Jacinto General Plan does not designate lands specifically for agricultural use. Areas identified as Prime Farmland, Unique Farmland and Farmland of Statewide Importance, including within approved Specific Plan areas, are mostly designated for a mix of residential and non-residential development, which would continue with the General Plan Update.

Future development associated with the implementation of the General Plan Update and changes in the economy would likely result in the conversion of many of these areas for urban uses. Because there are no exclusive agricultural land use designations included as part of the General Plan Update, future development could convert existing agricultural resources and Prime Farmland, Unique Farmland, and Farmland of Statewide Importance to non-agricultural uses. It is assumed that as development occurs, the agricultural viability of the Important Farmlands within the Study Area would be reduced. However, it is anticipated that some agricultural uses would continue to operate during the 20-year life of the General Plan and the General Plan Update Land Use Element includes policies and actions to support continued agricultural activities. As concluded in the City's General Plan Update EIR, the potential for the conversion of Prime Farmland, Unique Farmland and Farmland of Statewide Importance as identified by the FMMP to non-agricultural use would have a significant unavoidable impact.

The loss of approximately 22 acres of Farmland of Local Importance is not considered significant and would not have significant adverse impact on adjacent agricultural lands as most of the area is either developed or planned for residential development. Therefore, impacts related to the conversion of Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance would be less than significant. Therefore, adverse impacts are identified or anticipated, and no mitigation measures are required.

b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?			x	

Response:.

The Project Site occurs within an unincorporated area in Riverside County and within the City's Sphere of Influence. The County's General Plan Land Use Map depicts Riverside County as being predominately rural and has established the following General Plan Foundation Component-designated land uses: Rural, Agricultural, Rural Community and Open Space that account for 94 percent of the entire unincorporated area, with the remaining 7 percent devoted to urbanized uses, roadways, and Indian lands. [4] As discussed in the County's General Plan, growth patterns should follow a framework of transportation and open space corridors, with concentrations of development that fit into that framework. In order to efficiently use land,

[4] https://planning.rctlma.org/sites/g/files/aldnop416/files/migrated/Portals-14-Ch03-Land-20Use-FINAL-209-28-21.pdf

ISSUES & SUPPORTING INFORMATION SOURCES:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
growth must be focused into strategically located centers or into existing developed areas, thus minimizing development pressures on rural, agricultural, and open space areas. This will also help to preserve the unique rural character of the County. Ordinance No. 509, Establishing Agricultural Preserves: Agricultural preserves are lands identified for, and devoted to, agricultural and compatible uses, and are established through resolutions adopted by the Riverside County Board of Supervisors. The purpose of this ordinance is to ensure that incompatible uses are not allowed within established agricultural preserves. It sets forth the County's powers in establishing and administering agricultural preserves pursuant to the Williamson Act (California Government Code Section 51200, et seq.). The ordinance also establishes "Uniform Rules" for the agricultural and compatible uses allowed in an agricultural preserve. Land uses not covered in the ordinance are prohibited within agricultural preserves. There are approximately 10,675 acres of Riverside County Agricultural Preserve within the project area, including approximately 5,282 acres within the Winchester Agricultural Preserve. All future development within the project area would be subject to compliance with the existing regulatory framework, which includes provisions intended to preserve Important Farmlands. To determine the significance of the conversion of future development sites from agricultural to non-agricultural uses, a USDA Natural Resources Conservation Service (NRCS) Farmland Conversion Impact Rating (Form AD-1006) would be required for each development project proposed on Important Farmland. A Land Evaluation and Site Assessment (LESA) would be required using the California Department of Conservation's California Agricultural LESA Model. Implementing projects would also be required to comply with Riverside County Ordinance No. 625, Right-to-Farm Ordinance, the intent of which is to reduce the loss of agricultural resources by limiting the circumstances under which agricultural operations may be deemed to constitute a nuisance. The ordinance protects existing agricultural uses from nuisance complaints often generated by encroaching nonagricultural uses and reduces legal nuisance liabilities by requiring new properties within 300 feet of any land zoned primarily for agricultural purposes to be given notice of the preexisting use and its rights to continue. According to City's General Plan Update EIR Figure 5.2-2, Agricultural Preserve Lands, approximately 514 acres (18 parcels) within the City and its Sphere of Influence, are classified as preserved agricultural lands by the Riverside County Assessor. However, at the time of preparation of the City's General Plan Update EIR there were no active Williamson Act Contracts within the City or its Sphere of Influence.[5] Upon annexation, the Project would convert a site that is currently designated Agriculture by the County to a non-agricultural designation. The County has planned for growth along transportation corridors and urbanized areas. As the Project Site occurs immediately south of Ramona Expressway, the Project would be consistent with the goals and policies of the County's General Plan. The area immediately south of the Project Site would remain designated Agriculture and is considered "Other Land" by the Department of Conservation California Importance Farmland Finder. Currently there are no Williamson Act Contracts within the City or its Sphere of Influence area. Therefore, are identified or anticipated, and no mitigation measures are required.				
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),				X

[5] https://static1.squarespace.com/static/5a999021cc8fedea12873268/t/63489691e4d21c7c9f31e7d1/1665701528828/San+Jacinto+GPU+Final+EIR.pdf

ISSUES & SUPPORTING INFORMATION SOURCES:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?				

Response: *Source: City of San Jacinto General Plan Update Final EIR, November 2022.*

Timberland is defined as privately owned land, or land acquired for state forest purposes, which is devoted to and used for growing and harvesting timber, or for growing and harvesting timber and compatible uses, and which can grow an average annual volume of wood fiber of at least 15 cubic feet per acre. In southern California, including Riverside County and the City of San Jacinto, climate and topography limit the types and locations of forest lands and their potential for commercial or industrial timber utilization. As discussed in the City's General Plan Update EIR, there are no forest lands or timber lands located within the City or its Sphere of Influence including the unincorporated Project Site. According to Riverside County General Plan, there is no land currently designated as timberland within the San Jacinto Planning Area. Therefore, the Project would not conflict with the existing zoning for, or cause rezoning of, forest land, timberland, or timberland zoned Timberland Production and the Project will have no impact, directly, indirectly, or cumulatively to forest land. Therefore, no impacts are identified or anticipated, and no mitigation measures are required.

d) Result in the loss of forest land or conversion of forest land to non-forest use?				X

Response: *Source: City of San Jacinto General Plan Update Final EIR, November 2022.*

Forest land is defined by Public Resources Code Section 12220(g) as land that can support ten percent native tree cover of any species, including hardwoods, under natural conditions, and that allows for management of one or more forest resources, including timber, aesthetics, fish and wildlife, biodiversity, water quality, recreation, and other public benefits. There is no commercial forestry or timber production industry within the City, or this portion of Riverside County other than Christmas tree farms or nursery stock production (that is, cultivated, rather than wild-harvested). Therefore, the Project would not result in the loss of forest land or the conversion of forest land to non-forest use and the Project will have no impact, directly, indirectly or cumulatively to the loss of forest land or conversion of forest land to non-forest use. Therefore, no impacts are identified or anticipated, and no mitigation measures are required.

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?			X	

Response:

As previously discussed, implementation of the Proposed Project would have a less than significant impact on Farmland and would not convert Farmland to an non-agricultural use as no active farming occurs on the Project Site or surrounding area. In addition, the Project would not result in the loss of forest land or the conversion of forest land to non-forest use as there are no such lands within the City or its influences. Therefore, adverse impacts are identified or anticipated, and no mitigation measures are required.

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

ISSUES & SUPPORTING INFORMATION SOURCES:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
determinations. **Would the project:**				
a) Conflict with or obstruct implementation of the applicable air quality plan?			X	

Response: *(Source: South Coast Air Quality Management District's 2016 Air Quality Management Plan; TTM-37495 – Focused Air Quality and Greenhouse Gas Impact Evaluation, Lilburn Corporation, November 2022.*

The SCAQMD CEQA Handbook states that "New or amended General Plan Elements (including land use zoning and density amendments), Specific Plans, and significant projects must be analyzed for consistency with the AQMP." Strict consistency with all aspects of the plan is usually not required. A proposed project should be considered to be consistent with the AQMP if it furthers one or more policies and does not obstruct other policies. The SCAQMD CEQA Handbook identifies two key indicators of consistency:

- Whether the project will result in an increase in the frequency or severity of existing air quality violations or cause or contribute to new violations or delay timely attainment of air quality standards or the interim emission reductions specified in the AQMP.

- Whether the project will exceed the assumptions in the AQMP in 2016 or increments based on the year of project buildout and phase.

Both criteria are evaluated in the following sections.

Criterion 1 - Increase in the Frequency or Severity of Violations

Based on the air quality modeling analysis, neither short-term construction impacts nor long-term operations will result in significant impacts based on the SCAQMD regional and local thresholds of significance.

Therefore, the Proposed Project is not projected to contribute to the exceedance of any air pollutant concentration standards and is found to be consistent with the AQMP for the first criterion.

Criterion 2 - Exceed Assumptions in the AQMP?

Consistency with the AQMP assumptions is determined by performing an analysis of the proposed Project with the assumptions in the AQMP. The emphasis of this criterion is to ensure that the analyses conducted for the proposed Project are based on the same forecasts as the AQMP. The 2016- 2040 Regional Transportation/Sustainable Communities Strategy, prepared by SCAG, 2016, includes chapters on the challenges in a changing region, creating a plan for our future, and the road to greater mobility and sustainable growth. These chapters currently respond directly to federal and State requirements placed on SCAG. Local governments are required to use these as the basis of their plans for purposes of consistency with applicable regional plans under CEQA. For this Project, the City of San Jacinto Land Use Plan defines the assumptions that are represented in the AQMP.

Since the proposed ZC is consistent with the City's General Plan and Sphere of Influence land use designation, it is not anticipated that the Project would exceed the AQMP assumptions for the Project Site and is found to be consistent with the AQMP for the second criterion. Therefore, the proposed Project will not result in an inconsistency with the SCAQMD AQMP. Therefore, a less than significant impact will occur on the SCAQMD AQMP directly, indirectly, or cumulatively. Therefore, adverse impacts are identified or anticipated, and no mitigation measures are required.

b) Result in a cumulatively considerable net increase of any criteria pollutant for which the			X	

ISSUES & SUPPORTING INFORMATION SOURCES:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
project region is non-attainment under an applicable federal or state ambient air quality standard?				

Response: *(Source: TTM-37495 – Focused Air Quality and Greenhouse Gas Impact Evaluation, Lilburn Corporation, November 2022; TA and VMT Analysis, Urban Crossroads, June 13, 2023)*

Under the provisions of the federal and California Clean Air Acts, air quality districts in areas not in attainment of the NAAQS or CAAQS are required to prepare an AQMP. An AQMP establishes an area-specific program to control existing and proposed sources of air emissions so that the NAAQS or CAAQS may be attained by the applicable target date. CARB and EPA are required to designate areas of the state as “attainment”, “nonattainment”, or "unclassified" for state and federal ambient air quality standards. An attainment designation for an area signifies that pollutant concentrations did not violate the standard for that pollutant. A nonattainment designation indicates that a pollutant concentration violated the standard at least once, excluding those occasions when a violation was caused by an extraordinary event. An unclassified designation indicates a lack of adequate air quality data or other information on which to base an attainment or nonattainment designation. Refer to Table 1 for SCAB Attainment Status.

Table 1
South Coast Air Basin
Air Quality Standards Attainment Status

Pollutant	Attainment Status	
	Federal	**State**
Ozone – 1 hr	N/A	Nonattainment
Ozone – 8 hr	Nonattainment (Extreme)	Nonattainment
Carbon Monoxide (CO)	Attainment	Attainment
Nitrogen Dioxide (NO2)	Attainment	Attainment
Sulfur Dioxide (SO2)	Attainment	Attainment
Particulate Matter < 10 microns (PM10)	Attainment (excluding LA County)	Nonattainment
Particulate Matter < 2.5 microns (PM2.5)	Nonattainment (Serious)	Nonattainment

Source: SCAQMD, 2016; California Air Resources Board (CARB), 2018a.

Air quality is determined primarily by the types and amounts of contaminants emitted into the atmosphere, the size and topography of the local air basin, and the pollutant-dispersing properties of local weather patterns. When airborne pollutants are produced in such volume that they are not dispersed by local meteorological conditions, air quality problems result. Dispersion of pollutants in the SCAB is influenced by periodic temperature inversions, persistent meteorological conditions and the local topography. As pollutants become more concentrated in the atmosphere, photochemical reactions occur, producing ozone and other oxidants.

The federal Clean Air Act was established in an effort to assure that acceptable levels of air quality are maintained in all areas of the United States. These levels are based upon health-related exposure limits and are referred to as NAAQS. The NAAQS establish maximum allowable concentrations of specific pollutants in the atmosphere and characterize the amount of exposure deemed safe for the public.

NAAQS have been set for a number of criteria pollutants. The following is a brief description of health effects and whether the SCAB is or is not in attainment for these pollutants:

ISSUES & SUPPORTING INFORMATION SOURCES:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact

Ozone (O_3) is a toxic gas that irritates the lungs and damages materials and vegetation. Ozone is a secondary pollutant; it is not directly emitted. Ozone is the result of chemical reactions between other pollutants, most importantly hydrocarbons and NO_2, which occur only in the presence of bright sunlight. Pollutants emitted from areas cities react during transport downwind to produce the oxidant concentrations experienced in the area. Pollutants emitted in the Los Angeles area contribute to the ozone levels experienced in the SCAB.

The 1-hour State ozone standard was exceeded between 25 and 34 days per year between 2017 and 2021 at the Perris air monitoring station, the closest monitoring station to the Project Site. The SCAB is designated as a nonattainment basin for ozone. The 8-hour Ozone standard has been exceeded between 55 to 80 days per year between 2017 and 2021.

Carbon Monoxide (CO) is a gas produced almost entirely from automobiles that interferes with the transfer of oxygen to the brain. Peak levels of CO occur in winter and are highest where there is very heavy and concentrated traffic (major cities and transportation congestion). CO levels are not a concern in the project area due to the low traffic volumes and are therefore not monitored.

Nitrogen dioxide (NO_2) is a gas that can cause breathing difficulties at high levels. Peak readings of NO_2 occur in areas that have a high concentration of combustion sources (e.g., motor vehicle engines, power plants, refineries and other industrial operations). AAQS for NO_2 have not been exceeded since 2006.

Particulate Matter (PM_{10}) consists of extremely small-suspended particles or droplets 10 microns or smaller in diameter that can lodge in lungs contributing to respiratory problems. PM_{10} arises from such sources as road dust, diesel soot, combustion products, abrasion of tires and brakes, construction operations and windstorms. PM_{10} scatters light and significantly reduces visibility. PM_{10} poses a health hazard, alone or in combination with other pollutants.

PM_{10} levels at the Perris air monitoring station didn't exceed the Federal Standard between 2017 and 2021. While the State Standard was exceeded between 2 and 11 days per year during the same time period.

Fine Particulate Matter ($PM_{2.5}$) consists of extremely small suspended particles 2.5 microns in diameter and arise primarily from combustion sources. $PM_{2.5}$ levels at the Lake Elsinore air monitoring station had insufficient data to determine a Federal Standard exceedance between 2017 and 2021.

Sulfur dioxide (SO_2) is a gas produced when fossil fuels are burned. SO_2 is the main pollutant contributing to the formation of acid rain. No exceedances of this pollutant have occurred for decades and concentrations are well under Federal and State standards.

Lead (Pb) is a heavy metal used in industry and for years was a component in gasoline. Since the elimination of lead as a gasoline additive, lead in the atmosphere in southern California has been virtually eliminated.

Hydrogen Sulfide (H_2S) This pollutant is not commonly found in the ambient atmosphere but can originate from natural sources such as volcanoes, sulfur hot springs, or mineral brine associated with dry lakebeds. The CAAQS for H_2S is not health-based but rather an aesthetic one, because the compound smells like rotten eggs. This pollutant is not an issue in the project area.

Sulfates are produced by the reaction in the air of sulfur dioxide (SO_2), which is a component of acid rain. Sources for sulfur dioxide include coal burning power plants and diesel engines. California does not have any coal burning power plants and all diesel fuels sold in the state are now lower in sulfur. Sulfates are not an issue in the area.

Visibility-reducing particles are common in the SCAB due to the vast open desert area, especially during windy conditions. Particles reduce visibility, obscuring the desert scenery, including views of the mountains. Dust control measures reduce particulates in the area.

Reactive Organic Gases (ROG) is also considered in the air quality analysis of projects in the State. Ozone is a secondary pollutant that is the result of chemical reactions between other pollutants, most importantly reactive hydrocarbons (also referred to as ROG), and NO_2, which occurs only in the presence of bright sunlight. The result is the formation of smog. There are no federal or state air quality standards for hydrocarbons or ROG as there are for other pollutants, however the SCAQMD does have thresholds for determining the severity of emissions of several criteria pollutants including ROG.

The Proposed Project's construction and operational emissions were estimated using CalEEMod version 2022.1 (). The criteria pollutants estimated for include: reactive organic gases (ROG), nitrogen oxides (NOx), carbon monoxide (CO), sulfur dioxide (SO_2), and fugitive particulates (PM_{10} and $PM_{2.5}$). Two of the analyzed pollutants, ROG and NO_x, are ozone precursors. Both summer and winter season emission levels were estimated.

Construction Emissions

Construction emissions are considered short-term, temporary emissions. Construction is anticipated to begin in the begin in 2024. The resulting emissions generated by construction of the Proposed Project is shown in Table 2, which includes the estimated Summer Daily and Winter Daily maximum construction emissions, respectively.

Table 2
Construction Emissions
(Pounds Max Per Day)

Source/Phase	ROG	NO_X	CO	SO_2	PM_{10}	$PM_{2.5}$
Summer-Daily Max	4.0	39.8	37.1	0.0	9.7	5.6
Winter-Daily Max	35.7	37.4	32.8	0.0	5.4	2.9
Highest Value (lbs/day)	**35.7**	**39.8**	**37.1**	**0.0**	**9.7**	**5.6**
SCAQMD	75	100	550	150	150	55
Significant	**No**	**No**	**No**	**No**	**No**	**No**

Source: CalEEMod 2022 Model Run for Proposed Project (refer to Appendix A)

As shown in Table 2, construction emissions during either summer or winter seasonal conditions would not exceed the SCAQMD thresholds. Although the Proposed Project does not exceed SCAQMD thresholds for construction emissions, the Project Proponent would be required to comply with all applicable SCAQMD rules and regulations as the SCAB is in non-attainment status for ozone and suspended particulates (PM_{10} and $PM_{2.5}$).

Operational Emissions

The operational mobile emissions were calculated using CalEEMod with the vehicle trip generation estimates from the Transportation Study Screening Assessment, July 2022, prepared by Urban Crossroads. The Screening determined that the Proposed Project would generate approximately 1,424 total trips per day. The Proposed Project's long-term operational emissions have been calculated for the estimated Summer Daily and Winter Daily maximum operational emissions and are summarized below in Table 3.

ISSUES & SUPPORTING INFORMATION SOURCES:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact

Table 3
Operational Emissions
(Pounds Max Per Day)

Source	ROG	NO_X	CO	SO_2	PM_{10}	$PM_{2.5}$
Summer Daily	53.2	9.1	126	0.0	13.8	11.3
Winter Daily	52.0	9.3	112	0.0	13.8	11.3
Total Value (Max/day)	**53.2**	**9.3**	**126**	**0.0**	**13.8**	**11.3**
SCAQMD	55	55	550	150	150	55
Significant	**No**	**No**	**No**	**No**	**No**	**No**

Source: CalEEMod 2022 Model Run for Proposed Project (refer to Appendix A)

As shown, both summer and winter season operational emissions are below SCAQMD thresholds. The Proposed Project does not exceed applicable SCAQMD regional thresholds either during construction or operational activities. The Proposed Project would not violate any air quality standard or contribute substantially to an existing or projected air quality violation. Therefore, adverse impacts are identified or are anticipated, and no mitigation measures are required.

c) Expose sensitive receptors to substantial pollutant concentrations?			X	

Response: *(Source: TTM-37495 – Focused Air Quality and Greenhouse Gas Impact Evaluation, prepared by Lilburn Corporation, November 2022) TA and VMT Analysis, Urban Crossroads, June 13, 2023)*

For the purposes of a CEQA analysis, the SCAQMD considers a sensitive receptor to be a residence, hospital, convalescent facility or anywhere that it is possible for an individual to remain for 24 hours. Additionally, schools, playgrounds, childcare centers, and athletic facilities can also be considered as sensitive receptors. The use of Local Significance Threshold (LSTs) methodology is voluntary, to be implemented at the discretion of local public agencies acting as a lead agency pursuant to CEQA. According to SCAQMD LST methodology, LSTs would apply if the Proposed Project includes stationary sources or attracts mobile sources (such as heavy-duty trucks) that may spend long periods queuing and idling at the site, such as industrial warehouse/transfer facilities. The Proposed Project would result in the future development of 152 residential units and does not include such uses. Therefore, no long-term localized significance threshold analysis of operational emissions is warranted.

d) Result in other emissions, such as those leading to odors adversely affecting a substantial number of people?			X	

Response: (Source: *TTM-37495 – Focused Air Quality and Greenhouse Gas Impact Evaluation, prepared by Lilburn Corporation, November 2022) TA and VMT Analysis, Urban Crossroads, June 13, 2023)*

The Proposed Project would result in the future construction of 152 residential units does not contain land uses typically associated with the emission of objectionable odors. Potential temporary odor sources associated with the Proposed Project may result from construction equipment exhaust and the application of asphalt and architectural coatings during construction activities. The Proposed Project would be required to comply with SCAQMD Rule 402 to prevent occurrences of public nuisances. SCAQMD Rule 402 regarding nuisances 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

ISSUES & SUPPORTING INFORMATION SOURCES:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact

to business or property." During post-construction, project-generated refuse would be stored in covered containers and removed at regular intervals in compliance with the City of San Jacinto's solid waste regulations. Therefore, less than significant adverse impacts are identified or are anticipated, and no mitigation measures are required.

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?			X	

Response: *Biological Resources Assessment and Western Riverside MSHCP Update for APNs 434-180-007, 433-070-050 and 433-070-030 prepared by Jennings Environmental, LLC, February 2, 2022.*

Jennings Environmental (Jennings) conducted an updated survey of the Project Site to determine and document any changes to the current site conditions (herein 2022 updated report). The letter report provides an update to the November 2006, Habitat Assessment and Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP) Consistency Analysis performed by Michael Brandman Associates. The reports attached hereto (see Appendix B) and are available for review at the City of San Jacinto Community Development Department; results are summarized herein.

Prior to performing the 2022 updated field survey, existing documentation relevant to the Project Site was reviewed. The most recent records of the California Natural Diversity Database (CNDDB) managed by CDFW (CDFW 2022), the USFWS Critical Habitat Mapper (USFWS 2022), and the California Native Plant Society's Electronic Inventory (CNPSEI) of Rare and Endangered Vascular Plants of California (CNPS 2022) were reviewed for the following quadrangles containing and surrounding the Project Site: San Jacinto, USGS 7.5-minute quadrangle. These databases contain records of reported occurrences of federal- or state-listed endangered or threatened species, California Species of Concern (SSC), or otherwise special status species or habitats that may occur within or in the immediate vicinity of the Project site.

A qualified biologist (Gene Jennings) conducted the general reconnaissance survey for the Project Site to identify the potential for the occurrence of special status species, vegetation communities, or habitats that could support special status wildlife species. The surveys were conducted on foot, throughout the Project Site on January 31, 2022.

According to the most recent review of the CNDDB, CNPSEI, and other relevant literature and databases, 32 sensitive species including 6 listed species and 4 sensitive habitats, have been documented in the *San Jacinto* quadrangle. Sensitive species and habitats include any State and/or federally listed threatened or endangered species, CDFW designated Species of Special Concern (SSC), and otherwise Special Animals. "Special Animals" is a general term that refers to all taxa the CNDDB tracks, regardless of their legal or protection status. This list is also referred to as the list of "species at risk" or "special status species." The CDFW considers the taxa on this list to be those of greatest conservation need.

An analysis of the likelihood for the occurrence of all CNDDB sensitive species documented in the *San Jacinto* quadrangle is provided in Attachment C of the 2022 updated report. According to the databases, no USFWS designated critical habitat occurs within or adjacent to the Project Site It was also noted that the site did contain suitable avian nesting habitat. However no jurisdictional drainage features or riparian/riverine habitat, and no vernal pools or vernal pool habitat were observed.

ISSUES & SUPPORTING INFORMATION SOURCES:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact

Project Site Habitat and Wildlife

The habitat on-site consists of disturbed ruderal vegetation. The site shows signs of recent vegetation management (i.e., weed abatement/mowing) as well as pedestrian and vehicle traffic. Plant species observed on site include: Mediterranean mustard (*Hirschfeldia incana*), tumbleweed (*Salsola tragus*), rip gut brome (*Bromus Diandrus*), and wall barley (*Hordeum murinum*). Animal species observed or otherwise detected on or in the vicinity of the Project Site during the surveys included: common raven (*Corvus corax*), Anna's hummingbird (*Calypte anna*), mourning dove (*Zenaida macroura*), house sparrow (*Passer domesticus*), and California ground squirrel (*Otospermophilus beecheyi*).

The Project Site is located within a moderately developed portion of San Jacinto. Although the site mostly is undeveloped, very little evidence of any wildlife existed on-site. As indicated above, very few species were observed during the 2022 site survey.

Western Riverside Multi-Species Habitat Conservation Plan

Prior to the most recent field visit, the Riverside Conservation Authority's website and databases were searched. The work included review of the MSHCP plan and any relevant protocol survey requirements. The database also includes a mapping program that contains site-specific information related to criteria cell location, special survey areas for plants and animals, and vegetation mapping. A summary of the MSHCP Conservation Goals and Policies as they relate to this Project is provided in Table 4.

Table 4
MSHCO Conservation Goals for Project Area

Conservation Goals	Within /Adjacent	Not Within /Adjacent
Proposed Constrained Linkages: **None**		X
Core Areas: **None**		X
Linkages: **None**		X
Constrained Linkage:		X
Habitat Block:		X
Core: **None**		X
Criteria Cell**:**		X
Pre-existing Conservation Area		X
Riparian/Riverine or Vernal Pool Habitat		X
Narrow Endemic Plant Survey Area		X
Urban/Wildlife Interface		X
Mammal Survey Area		X
Amphibian Survey Area		X
Burrowing Owl Survey Area	X	

ISSUES & SUPPORTING INFORMATION SOURCES:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact

The Project is located within the San Jacinto Valley Area Plan of the MSHCP. The target conservation acreage range for The San Jacinto Valley Area Plan is 21,740 – 29,665 acres; it is composed of approximately 10,200 acres of existing Public/Quasi-Public Lands and 11,540 – 19465 acres of Additional Reserve Lands.

As concluded in updated report, based on the literature review and observations made in the immediate vicinity, no State and/or federally listed threatened or endangered species are documented/or expected to occur within the Project site. Additionally, no plant species with the California Rare Plant Rank (CRPR) of 1 or 2 were observed on-site or documented to occur on-site in the relevant databases. No other sensitive species were observed within the project area or buffer area. The Project Site appears to be largely unchanged from the 2006 Habitat Assessment and MSHCP Consistency Analysis. The site is still vacant, and the habitat is ruderal/disturbed vegetation. The 2006 report did indicate that the site is suitable for BUOW, and as concluded in the 2022 update, that condition continues to remain on site. As such, focused surveys are recommended and shall be completed prior to site disturbance using the approved Western Riverside MSHCP Protocols for Breeding Season Survey. The protocols require a series of four site visits conducted between March 1 and August 31. Specifically, 30 days prior to any earth movement or grading the developer shall ensure a pre-construction survey for burrowing owl has been performed to avoid direct take of burrowing owls. If the results of the survey indicate that no burrowing owls are present on-site, then the Project may move forward with grading, upon Planning Department approval. If burrowing owls are found to be present or nesting on-site during the preconstruction survey, then the following recommendations must be adhered to: Exclusion and relocation activities may not occur during the breeding season, which is defined as March 1 through August 31, with the following exception: From March 1 through March 15 and from August 1 through August 31 exclusion and relocation activities may take place if it is proven to the City and appropriate regulatory agencies (if any) that egg laying or chick rearing is not taking place. A qualified biologist must make this determination.

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?				X

Response: *Habitat Assessment (HA) and Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP) Consistency Analysis prepared by Michael Brandman Associates on November 21, 2006; Biological Resources Assessment and Western Riverside MSHCP Update for APNs 434-180-007, 433-070-050 and 433-070-030 prepared by Jennings Environmental, LLC, February 2, 2022.*

Riparian/Riverine Areas

Riparian/Riverine Areas are defined by the MSHCP as "*lands which contain Habitat dominated by tress* [sic]*, 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 fresh water flow during all or a portion of the year*". The Project Site is not located within an area mapped for Narrow Endemic or Criteria Area Plant Species, Special Status Species, Riparian/Riverine/Vernal Pools, and Urban/Wildlife Interface. The Project is also consistent with the MSHCP policies found in Section 6 which include Riparian/Riverine Areas/ Vernal Pools. Therefore, the Project is consistent with MSCHP policies and conditions.

Vernal Pool Fairy Shrimp

Vernal pool fairy shrimp (Branchinecta lynchi) is found in grasslands in ponded areas such as vernal pools, cattle watering holes, basins, etc. Fairy shrimp are confined to temporary pools that fill in spring and

ISSUES & SUPPORTING INFORMATION SOURCES:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact

evaporate by late spring to early summer. In southern California, this species is found primarily in the interior of western Riverside County, central Santa Barbara County, and eastern Orange County and more recently in Los Angeles County. Since most pools preferred by fairy shrimp are found in flat areas, many have been lost to agricultural activities and residential development. The limited extent of available habitat, plus the ongoing loss has resulted in the vernal pool fairy shrimp being listed as threatened by the USFWS.

As described in the report, although Riverside County's Conservation Summary Report Generator (RCA MSHCP Information Map) did not identify the need to assess the habitat for Narrow Endemic Plan Species, the City of San Jacinto specifically requested that it be addressed in the 2006 report. At that time, the Project Site did not contain habitat that was suitable for Narrow Endemic Plant Species. This was due to the lack of vernal pools and the disturbed nature of the site from agricultural activities. It was also noted that the site did contain suitable avian nesting habitat, jurisdictional drainage features or riparian/riverine habitat, or vernal pools or vernal pool habitat. No changes to the findings were documented in the updated biological assessment of 2022. There will be no impact on this species and no mitigation required. There are no drainages or other areas of water habitat on-site. Therefore, no impacts are identified or anticipated, and no mitigation measures are required.

California Department of Fish and Wildlife

The California Department of Fish and Wildlife (CDFW), through provisions of the State of California Administrative Code, is empowered to issue agreements for any alteration of a river, stream or lake where fish or wildlife resources may adversely be affected. Streams (and rivers) are defined by the presence of a channel bed and banks, and at least an intermittent flow of water. Lateral limits of jurisdiction are not clearly defined, but generally include any riparian resources associated with a stream or lake, CDFW regulates wetland areas only to the extent that those wetlands are part of a river, stream or lake as defined by CDFW.

The Project Site is relatively flat and shows no sign of historic concentrated water flow. There are no other waters or riparian areas that would come under the jurisdiction of the CDFW. Therefore, no impacts are identified or anticipated, and no mitigation measures are required.

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?				X

Response: *Habitat Assessment (HA) and Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP) Consistency Analysis prepared by Michael Brandman Associates on November 21, 2006; Biological Resources Assessment and Western Riverside MSHCP Update for APNs 434-180-007, 433-070-050 and 433-070-030 prepared by Jennings Environmental, LLC, February 2, 2022*

Vernal Pools

Vernal pools are defined by the MSHCP as "seasonal wetlands that occur in depression areas that have wetlands indicators of all three parameters (soils, vegetation, and hydrology) during the wetter portion of the growing season but normally lack wetlands indicators of hydrology and/or vegetation during the drier portion of the growing season. Evidence concerning the persistence of an area's wetness can be obtained from its history, vegetation, soils, and drainage characteristics, uses to which it has been subjected, and weather and hydrologic records" (Riverside County Transportation and Land Management Agency, website address: http://www.rctlma.org).

ISSUES & SUPPORTING INFORMATION SOURCES:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
As stated in response (b) above, the Project Site is not located within an area mapped for Narrow Endemic or Criteria Area Plant Species, Special Status Species, Riparian/Riverine/Vernal Pools, and Urban/Wildlife Interface. Therefore, no impact on these resources would result.				
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?			X	

Response: *Habitat Assessment (HA) and Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP) Consistency Analysis prepared by Michael Brandman Associates on November 21, 2006; Biological Resources Assessment and Western Riverside MSHCP Update for APNs 434-180-007, 433-070-050 and 433-070-030 prepared by Jennings Environmental, LLC, February 2, 2022.*

Habitat Fragmentation and Wildlife Movement

Wildlife movement and the fragmentation of wildlife habitat are recognized as critical issues that must be considered in assessing impacts on wildlife. In summary, habitat fragmentation is the division or breaking up of larger habitat areas into smaller areas that may or may not be capable of independently sustaining wildlife and plant populations. Wildlife movement (more properly recognized as species movement) is the temporal movement of species along diverse types of corridors. Wildlife corridors are especially important for connecting fragmented wildlife habitat areas.

The property is in an area already fragmented and is surrounded by paved roads, residential and agricultural development. There are no native habitats left in the nearby surrounding areas and impacts to wildlife movement, and habitat fragmentation have already occurred.

Raptors, Migratory Birds, and Habitat

Most of the raptor species (eagles, hawks, falcons, and owls) are experiencing population decline because of habitat loss. Some, such as the peregrine falcon, have also experienced population losses because of environmental toxins affecting reproductive success, animals destroyed as pests or collected for falconry, and other direct impacts on individuals. Only a few species, such as the red-tailed hawk and barn owl, have expanded their range despite or a result of human modifications to the environment. As a group, raptors are of concern to state and federal agencies.

Raptors and all migratory bird species, whether listed or not, also receive protection under the Migratory Bird Treaty Act (MBTA) of 1918. The MBTA prohibits individuals from killing, taking, possessing or sell any migratory bird, bird parts (including nests and eggs) except per regulations prescribed by the Secretary of the Interior Department (16 U. S. Code 703). At the time of the survey, there was very little suitable nesting habitat.

There is suitable avian nesting bird habitat on the Project Site and vegetation removal should occur outside the avian breeding season (February 1st - August 31st). As a condition of approval, in the event vegetation clearance occurs during the avian breeding season, the developer would be required to hire a qualified biologist to conduct a breeding bird survey prior to construction.

e) Conflict with any local policies or ordinances protecting biological resources, such as a			X	

ISSUES & SUPPORTING INFORMATION SOURCES:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
tree preservation policy or ordinance?				

Response: *Habitat Assessment (HA) and Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP) Consistency Analysis prepared by Michael Brandman Associates on November 21, 2006; Biological Resources Assessment and Western Riverside MSHCP Update for APNs 434-180-007, 433-070-050 and 433-070-030 prepared by Jennings Environmental, LLC, February 2, 2022.*

As documented in the Biological Resources Assessment and Western Riverside MSHCP Update and discussed above, the Project would not be inconsistent with the Western Riverside MSHCP. The City of San Jacinto Municipal Code Chapter 12.20, Street Trees and Shrubs, outlines the City's tree planting and street improvement plan and requires authorization for the planting, removal, and replacement of City trees within public parks, public grounds, public streets, and/or parking places. The Project Proponent would be required to comply with the Resource Management Element of the General Plan and assist the City with applicable goals and policies. Therefore, the Project will not conflict with any local policies or ordinances protecting biological resources. Therefore, no impacts are identified or anticipated, and no mitigation measures are required.

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?				X

Response: *Habitat Assessment (HA) and Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP) Consistency Analysis prepared by Michael Brandman Associates on November 21, 2006; Biological Resources Assessment and Western Riverside MSHCP Update for APNs 434-180-007, 433-070-050 and 433-070-030 prepared by Jennings Environmental, LLC, February 2, 2022.*

The Project Site is located within the boundaries of the MSHCP and the Stephens' Kangaroo Rat Habitat Conservation Plan (SKRHCP). As such, the Project will be conditioned for the payment of the MSHCP Development Mitigation Fee to mitigate potential impacts to MSHCP covered species, and the Stephens' Kangaroo Rat fee. The Project site is not within the MSHCP Criteria Area, or adjacent to an MSHCP-designated Conservation Area, or within an SKRHCP Core Reserve, so no additional mitigation measures or provisions are required. The Project will not conflict with the provisions of any Habitat Conservation Plans or Natural Community Conservation Plans.

The Project will have a less than significant impact on an adopted Habitat Conservation Plan, Natural Community Conservation Plan or other approved local, regional, or state habitat conservation plan.

V. CULTURAL RESOURCES – Would the project:				
a) Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?			X	
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?			X	

Response: *Phase I Cultural Resource Survey Update for the Tract 34271 Project, APNs 433-070-030 and 050 and 434-180-007, prepared by Brian F. Smith and Associates, Inc. March 9, 2022.*

The 2022 updated cultural resources study was undertaken to verify the results of the previous study conducted by Sanka (2006) and to determine if cultural resources exist within the Project Site and to assess the possible effects of the proposed future residential development (see Appendix C). BFSA conducted the archaeological survey on January 28, 2022. No California Register of Historical Resources (CRHR) eligible cultural resources were identified during the survey. Results of the updated survey are discussed herein.

ISSUES & SUPPORTING INFORMATION SOURCES:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
The reports are available for review at the City of San Jacinto Community Development Department and results are summarized herein. The archaeological assessment included a reconnaissance of the property, an institutional records search supported by data from the Eastern Information Center (EIC) at the University of California at Riverside, and a review of a previous study (Sanka 2006) to determine the presence of any previously recorded cultural resources. The EIC records search data indicated that 15 studies have been conducted within one-half mile of the Project Site, one of which encompasses the entirety of the Project (Sanka 2006). None of the remaining 14 studies are concerned with the Project Site. The previous study by Sanka (2006) identified one historic site (RIV-7967) within the current Project boundaries. The site includes the remains of a historic dairy farming complex and two associated residences constructed in 1956 and 1961 both of which are located within the southwestern portion of the Project Site. Though the residential structures remain intact, the rest of the southwestern corner appears to have been graded. In addition, various refuse piles were found scattered around the Project Site and included recent historic and modern deposits. The study by Sanka (2006) evaluated Site (RIV-7967) as not eligible for listing on the CRHR, and no additional study was recommended. An additional seven resources were identified within a half mile of the Project Site. These resources include five historic structures and two historic artifact scatters. However, these resources are located outside of the Project boundaries and would not be affected by the development. BFSA also requested a Sacred Lands File search from the Native American Heritage Commission (NAHC). The cultural resources survey for the Project Site was negative for the presence of CRHR-eligible archaeological sites. Additional research revealed that a previous study (Sanka 2006) evaluated Site RIV-7967, identified within the Project Site, as not eligible for listing on the CRHR. The findings of the current study are consistent with the 2006 Sanka study. The Project Site was developed in the mid-twentieth century, and the dairy features were abandoned and impacted by grading sometime after the year 2000. Given the current condition of Site RIV-7967 and the lack of additional resources within the Project Site, the proposed development would not have an impact on any known CRHR-eligible resources. Based upon the results of the research and survey of the Project Site, no cultural resources will be affected by development. Furthermore, based upon the prior development and subsequent clearing of the Project Site, there is little to no potential for archaeological deposits on-site. Therefore, no further cultural resource studies are required, and monitoring during ground disturbing activities is not recommended. No significant impacts are identified or anticipated, and no mitigation measures are required.				
c) Disturb any human remains, including those interred outside of formally dedicated cemeteries?			X	
Response: As concluded in the 2006 report and 2022 updated report, Archaeological monitoring was not recommended during ground disturbing activities. However, in the event of an accidental discovery or recognition of any human remains, Public Resource Code (PRC 5097.98) must be followed. In this instance, once Project-related earthmoving begins and if there is accidental discovery or recognition of any human remains in any location other than a dedicated cemetery, as a condition of approval for the Project, the developer would contact the County coroner immediately. If human remains of Native American origin are discovered during ground-disturbing activities, the developer would be required to comply with the state relating to the disposition of Native American burials that fall within the jurisdiction of the NAHC (PRC Section 5097). Implementation of conditions of approval would ensure potential impacts are reduced. No				

ISSUES & SUPPORTING INFORMATION SOURCES:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
additional mitigation measures are warranted.				
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?			X	

Response: (Source: *TTM-37495 – Focused Air Quality and Greenhouse Gas Impact Evaluation, prepared by Lilburn Corporation, November 2022)*

Electricity

The City of San Jacinto has partnered with Cal Choice to provide support for energy needs. San Jacinto Power is available exclusively to the businesses and residents within San Jacinto and uses Southern California Edison's (SCE) facilities. The City has been proactive in promoting solar power, conservation and smart energy consumption and invests locally to support the region's renewable resources. Currently, the Project Site is mostly vacant; existing electrical demand is from the on-site residential use. Development of the Proposed Project would therefore cause a permanent increase in demand for electricity when compared to existing conditions. The CalEEMod output estimates that the Proposed Project would consume 1.41 GWh annually. According to the California Energy Commission, the residential sector of the SCE planning area consumed 39,400 GWh of electricity in 2022[6] The increase in electricity demand from the Project would represent a 0.005 percent of the overall 2022 SCE residential consumption. Therefore, projected electrical demand would not significantly impact SCE's level of service.

Natural Gas

The Project Site is located within the service area of Southern California Gas Company (SoCal Gas). The Project Site, except for the existing single-family residence, is mostly vacant and has minimal demand for natural gas. Development of the Proposed Project would therefore create a permanent increase in demand for natural gas. The Proposed Project's estimated annual natural gas demand (CalEEMod output) is 53,714 therms. According to the California Energy Commission, the natural gas consumption of the SoCal Gas's residential sector was 2,275 million therms in 2022.[7] The Proposed Project's estimated annual natural gas consumption, compared to the 2022 annual natural gas consumption of the overall residential sector in the SoCal Gas Planning Area would account for approximately 0.0023 percent of the total natural gas consumption. Therefore, projected natural gas demand would not significantly impact SoCal Gas's level of service.

Neither the construction (i.e., use of heavy equipment, worker trips) or post-construction of the Project would result in wasteful, inefficient, or unnecessary consumption of energy or wasteful use of energy resources. Therefore, impacts related to wasteful energy use would be less than significant. Less than significant impacts would result, and no mitigation measures are required.

b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?			X	

Response: (Source: *TTM-37495 – Focused Air Quality and Greenhouse Gas Impact Evaluation, prepared by Lilburn Corporation, November 2022)*

[6]California Energy Commission. https://ecdms.energy.ca.gov/Default.aspx. Accessed October 16, 2023.
[7]California Energy Commission. https://ecdms.energy.ca.gov/Default.aspx. Accessed October 16, 2023.

ISSUES & SUPPORTING INFORMATION SOURCES:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact

As concluded above, the Proposed Project's total impact on regional energy supplies would be minor. The Proposed Project would be required to comply with the California Building Code (CBC) and California Green Building Standards Code (CALGreen Code) pertaining to energy and water conservation standards in effect at the time of construction.

The Project would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency; therefore, impacts would be less than significant. adverse impacts are identified or anticipated, and no mitigation measures are required.

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 Division of Mines and Geology Special Publication 42.			X	

Response: *Geotechnical Investigation for TTM 34271, prepared by Alta California, May 20, 2022.*

A Geotechnical Investigation for TTM 34271, dated May 20, 2022 was prepared by Alta California (see Appendix D). The report is attached here to and available for review at the City of San Jacinto Community Development Department and results of the study are summarized herein. The Project Site occurs in southern California, in a tectonically active area. The type and magnitude of seismic hazards affecting a site are dependent on the distance to the causative fault and the intensity and magnitude of the seismic event. The seismic hazard may be primary, such as surface rupture and/or ground shaking, or secondary, such as liquefaction and/or ground lurching. The site is located on the northern portion of the Riverside sub-block, approximately 0.6 miles west of the San Jacinto Fault, 14.0 miles southwest of the San Andreas fault zone, and 21.8 miles east of the Elsinore fault zone.

As concluded in the May 2022 Geotechnical Investigation, active faults are not known to exist within the Project Site and a review of Special Publication 42 indicates the Project Site is not within a California State designated Earthquake Fault Zone. Accordingly, the potential for fault surface rupture on the Project Site is considered very low. Due to the location of the nearest fault, located approximately 0.6 miles to the west, fault rupture would not result at the Project Site. Construction of the 151 single-family residences in accordance with applicable requirements set forth within the Uniform Building Code would ensure that potential impacts are reduced to the maximum extent possible. Therefore, less than significant impacts would result and no mitigation measures are required.

ii) Strong seismic ground shaking?			X	

Response: *Geotechnical Investigation prepared by Alta California, May 20, 2022.*

The Peninsular Range has historically been a province of relatively high seismic activity. The Peninsular Range Block, on which the site is located, is characterized by a series of parallel, northwest trending faults that exhibit right lateral dip-slip movement. These faults are terminated by the Transverse Range block to the north and extend southward to the Baja Peninsula. These northwest trending faults divide the Peninsular Range block into eight sub-blocks. The site is located on the Riverside sub-block, which is bound to the west

ISSUES & SUPPORTING INFORMATION SOURCES:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
by the Elsinore-Whittier fault zone and to the east by the San Jacinto fault zone. These fault systems have been studied extensively and in a large part control the geologic structure of southern California. In addition, ground shaking hazards caused by earthquakes along with other active regional faults exist. The 2022 California Building Code requires the use of modified spectral accelerations and velocities for most structural designs. Seismic design parameters using soil profile types identified in the 2022 California Building Code. Implementation of recommendations provided in the approved Geotechnical Investigation, and compliance with the California Building Code will ensure that risks associated with ground shaking would remain less than significant. Less than significant impacts would result, and no mitigation measures are required.				
iii) Seismic-related ground failure, including liquefaction?			X	
Response: Geotechnical Investigation prepared by Alta California, May 20, 2022. Liquefaction is the process in which loose, saturated granular soil loses strength because of cyclic loading. The strength loss is a result of a decrease in granular sand volume and a positive increase in pore pressures. Generally, liquefaction can occur if all the following conditions apply, liquefaction-susceptible soil, groundwater within a depth of 50 feet or less, and strong seismic shaking. In general, the more recent that a sediment has been deposited, the more likely it will be susceptible to liquefaction. Other factors that must be considered are groundwater, confining stresses, relative density, and the intensity and duration of seismically induced ground shaking. Groundwater level data from the closest known well indicates the ground water level was approximately 334-feet below the ground surface in November 2021 (CDWR, 2022), although perched water was as shallow as 20 feet. The Project Site is in a moderate liquefaction potential zone[8]. A liquefaction analysis was performed as part of the Geotechnical Investigation. A groundwater level of 20 feet below existing ground surface was assumed, although this level is considered conservative with actual groundwater levels deeper than 50-feet. Implementation of existing State and local laws and regulations concerning soil liquefaction and ground failure are required for all projects in the City. In addition, recommendations provided in the Geotechnical Report shall be made conditions of project approval. With implementation of State, City requirements and conditions of approval, less than significant impacts would result and no mitigation measures are warranted.				
iv) Landslides?			X	
Response: *Geotechnical Investigation prepared by Alta California, May 20, 2022.* During a recent site visit, no signs of slope instability in the form of landslides, rock falls, earthflows or slumps were observed at or near the Project Site. The Project Site is situated on relatively flat ground and not immediately adjacent to any slopes or hillsides. As such, risks associated with slope instability should be considered negligible. Therefore, impacts related to landslides and slope failure would be less than significant.				
b) Result in substantial soil erosion or the loss of topsoil?			X	

[8] City of San Jacinto General Plan Update FEIR Figure 5.7-2, Liquefaction Susceptibility

ISSUES & SUPPORTING INFORMATION SOURCES:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Response: *Geotechnical Investigation prepared by Alta California, May 20, 2022.* Topography at the Project Site and in the immediate area is relatively flat. Strong winds (typically in association with Santa Ana winds), particularly during grading activities, may erode exposed soils and generate fugitive dust and PM_{10}, resulting in soil erosion or the loss of topsoil. However, the Proposed Project would be required to provide the appropriate soil erosion control elements and would be constructed in accordance with the City of San Jacinto development requirements. In addition, standard procedures as required in the Storm Water Pollution Prevention Plan (SWPPP) and WQMP would mitigate any potential erosion impacts to less than significant. Additionally, with implementation recommendations as provided in the Project's conditions of approval, impacts associated with soil erosion or the loss of topsoil would be reduced to a less than significant level.				
c) Be located on a geological 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?			X	
The Project Site occurs in an area of active subsidence as designated by the County of Riverside (RCIT, 2022). Upon implementation of the grading recommendations presented in the Geotechnical Investigation, the effects of subsidence on the proposed development would be considered negligible. Liquefaction can potentially cause foundation bearing failure due to ground softening and near-failure in bearing. As concluded in the Geotechnical Report, with implementation of soil removal recommendations, which would be required as conditions of approval for the Project, the potential for loss of bearing is considered less than significant. The lateral displacement of surficial blocks of sediment can occur from liquefaction in a subsurface layer. The most pervasive forms of lateral spreading typically involve sites located near large slopes and/or channels; however, it has been noted that lateral spreading can occur on sites with gently sloping, such as the Project Site. Determination of the potential for lateral spread is based on the presence of continuous potentially liquefiable soil layers underneath the structures and the presence of lateral confinement. Given the flat nature of the site, the limited extent of perched water, and implementation of recommendations provided in the Geotechnical Investigation (i.e., removal of unsuitable soil and foundation design), the report concluded that upon the completion of remedial grading, the potential for lateral spread at the Project Site is considered to be within design tolerances of the proposed foundation systems. Settlement due to seismic shaking can occur from both liquefaction of saturated sediments and/or rearrangement of dry sand particles. A liquefaction analysis was performed utilizing cone penetration test data and laboratory test results to analyze the potential amount of settlement. Based on the results, the report concluded that with implementation of recommendations presented in the Geotechnical Investigation potential impacts would be reduced to a less than significant level.				
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code, creating substantial direct or indirect risks to life or property?			X	
Response: *Geotechnical Investigation prepared by Alta California, May 20, 2022.*				

ISSUES & SUPPORTING INFORMATION SOURCES:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Expansive soils contain certain types of clay minerals that shrink or swell as the moisture content changes; the shrinking or swelling can shift, crack, or break structures built on such soils. Arid or semi-arid areas with seasonal changes of soil moisture experience a much higher frequency of problems from expansive soils than areas with higher rainfall and more constant soil moisture. Expansion index testing was performed on samples taken during the subsurface investigation, and based on the results, it is anticipated that most materials on-site are "very low" to "low" in expansion potential as tested per ASTM D: 4829. The California Building Code 2022, 1808.6 mandates that special foundation design consideration is employed if the soil expansion Index is 20 or greater. The methodology and scope for a geotechnical investigation is described in UBC Section 1803, and requires an assessment of slope stability, soil strength, adequacy of load-bearing soils, the presence of compressible or expansive soils, and the potential for liquefaction. The required content of the geotechnical report includes recommendations for foundation type and design criteria. These recommendations can include foundation design provisions that are intended to mitigate the effects of expansive soils, liquefaction, and differential settlement. In general, mitigation can be accomplished through a combination of ground modification techniques (i.e., stone columns, reinforcing nail and anchors, deep soil mixing, etc.), selection of an appropriate foundation type and configuration, and use of appropriate building/foundation structural systems. Section 1804.5 Excavation, Grading, and Fill require the preparation of a geotechnical report where a building will be constructed on compacted fill. The International Building Code (IBC) replaced earlier regional building codes (including the Uniform Building Code) in 2000 and established consistent construction guidelines for the nation. In 2006, the IBC was incorporated into the 2007 California Building Code (CBC) and currently applies to all structures being constructed in California. The national model codes are therefore incorporated by reference into the building codes of local municipalities. The CBC includes building design and construction criteria that take into consideration the State's seismic conditions. As stated previously, the Geotechnical Investigation concluded that the majority of materials on-site are considered "very low" to "low" in expansion potential. Through adherence to State and local seismic and structural regulations (i.e., California Seismic Hazards Mapping Act, California Building Code, San Jacinto Municipal Code) and conditions of approval, the impacts of expansive soils would be considered less than significant.				
e) 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?				X
Response: *Geotechnical Investigation prepared by Alta California, May 20, 2022.* An on-site septic system that is supported by the site's soils currently serves the existing residence and would remain. Upon Annexation, the proposed single-family residential development that may be constructed after the subdivision is recorded would be served by the City of San Jacinto's (EMWD) sewer infrastructure. Therefore, no significant impacts would result from soils incapable of supporting septic tanks or alternative wastewater disposal.				
f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?			X	
Response: *Geotechnical Investigation prepared by Alta California, May 20, 2022.*				

ISSUES & SUPPORTING INFORMATION SOURCES:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact

The Geotechnical Investigation did not note the occurrence of a unique geologic feature on-site. The Project Site is characterized as having a High Sensitivity (High B) designation for fossils[9]. The designation is based on the occurrence of fossils at a specified depth below the surface. The designation indicates that fossils are likely to be at or below four feet of depth and may be impacted during excavation by construction activities.

As stated in the Final EIR prepared for the City's General Plan Update, the Resource Management Element includes policies and actions to protect significant paleontological resources. Specifically, Policy RM-3.1 protects areas containing significant historic, archaeological, and paleontological resources, as defined by the California Public Resources Code. As future development occurs, project sites located within areas identified as having high paleontological sensitivity (Figure 5.7-6 and San Jacinto Development Code (SJDC) Section 17.500.020) would be required to prepare a resource assessment. The objective of the report is to determine if significant paleontological resources are potentially present and if the project would significantly impact these resources for measures to be implemented to avoid the resource; monitor soil disturbance where there is high potential for resources; and implement mitigation measure to mitigate impacts. With implementation of General Plan policies and actions and compliance with SJDC Section 17.500.020, potential impacts to paleontological resources would be reduced to less than significant and no mitigation measures are warranted.

VIII. GREENHOUSE GAS EMISSIONS – Would the project:				
a) Generate greenhouse gas emissions, either directly or indirectly that may have a significant impact on the environment?			X	

Response: *Source: TTM-37495 – Focused Air Quality and Greenhouse Gas Impact Evaluation, prepared by Lilburn Corporation, November 2022; see Appendix A.*

Emissions were estimated using CalEEMod version 2022.1 with construction anticipated to begin in 2024. The CalEEMod defaults were used for other parameters which are used to estimate construction emissions, such as the worker and vendor trips and trip lengths. The operational mobile emissions were calculated using Urban Crossroads Screening Assessment, prepared in February 2022. The Screening determined that the Proposed Project would generate approximately 1,424 total daily trips per day.

Many gases make up the group of pollutants which contribute to global climate change. However, three gases are currently evaluated and represent the highest concentration of GHG: Carbon dioxide (CO_2), Methane (CH_4), and Nitrous oxide (N_2O). The Proposed Project's emissions were compared to San Bernardino County Screen Threshold of 3,000 MTCO2E. A summary of the results is shown below in Table 5.

[9] City of San Jacinto General Plan Update FEIR Figure 5.7-6, Paleontological Sensitivity

ISSUES & SUPPORTING INFORMATION SOURCES:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact

Table 5
Greenhouse Gas Operational Emissions
(Metric Tons Per Year)

Source	CO_2	CH_4	N_2O
Annual- Max	1,980.0	1.6	0.0
Total (MTCO2e)	**2,047**		
Construction Amortized 30-Years	**14.5**		
Total (MTCO2e)	**2,061.5**		
SCAQMD and CAP Threshold	3,000		
Significant	**No**		

Source: CalEEMod 2022

As shown in Table 5, the Proposed Project's emissions would not exceed SCAQMD's draft screening threshold. Therefore, impacts are identified or anticipated, and no mitigation measures are required.

b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emission of greenhouse gases?			X	

Response: *(Source: TTM-37495 – Focused Air Quality and Greenhouse Gas Impact Evaluation, prepared by Lilburn Corporation, November 2022)*

The Project will be subject to the policies and ordinances pertaining to air quality and climate change stated in the City's General Plan. The City of San Jacinto is participating in the Western Riverside Council of Governments (WRCOG) Subregional Climate Action Plan. The WRCOG Subregional CAP establishes a community-wide emissions reduction target of 15% below 2010, following guidance from CARB and the Governor's Office of Planning and Research. CARB and the California Attorney General have determined this approach to be consistent with the state-wide AB 32 goal of reducing emissions to 1990 levels.

As the City of San Jacinto does not currently have their own Climate Action Plan (CAP), and the goal of the Subregional CAP is to be consistent with AB-32 and the CARB Scoping Plan (based on the goals of AB-32), the Project has been compared to the applicable measures of the CARB Scoping Plan.

Consistency with SB-32 and AB-32 SCAQMD's tier 3 thresholds used Executive Order S-3-05 goal as the basis for deriving the screening level. The California Governor issued Executive Order S-3-05, GHG Emission, in June 2005, which established the following reduction targets:

- 2010: Reduce greenhouse gas emissions to 2000 levels
- 2020: Reduce greenhouse gas emissions to 1990 levels
- 2050: Reduce greenhouse gas emissions to 80 percent below 1990 levels.

In 2006, the California State Legislature adopted AB 32, the California Global Warming Solutions Act of 2006. AB 32 requires CARB, to adopt rules and regulations that would achieve GHG emissions equivalent to statewide levels in 1990 by 2020 through an enforceable statewide emission cap which was phased in 2012.

Therefore, as the Project's emissions meet the threshold for compliance with Executive Order S-3-05, the Project's emissions also comply with the goals of AB 32. Additionally, as the Project meets the current interim emissions targets/thresholds established by SCAQMD (as described above), the Project would also be on track to meet the reduction target of 40 percent below 1990 levels by 2030 mandated by SB- 32. Furthermore, all of the post-2020 reductions in GHG emissions are addressed via regulatory requirements at the State

ISSUES & SUPPORTING INFORMATION SOURCES:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact

level, and the Project will be required to comply with these regulations as they come into effect.

Therefore, the Project will not conflict with any applicable plan, policy or regulation of an agency adopted to reduce the emissions of greenhouse gases. Impacts are considered to be less than significant, directly indirectly, and cumulatively.

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?			X	

Response:

Hazardous materials are highly regulated in California, including the methods in which they are transported, used and stored. The request for annexation and subdivision that may result in the development of 15 residential units, Construction of the Proposed Project would require the routine transport, use, storage, and disposal of limited quantities of common hazardous materials such as gasoline, diesel fuel, oils, solvents, paint, fertilizers, pesticides, and other similar materials. All materials required during construction would be kept in compliance with State and local regulations and BMPs. Although these materials could be stored on-site during construction activities, the Proposed Project would be required to comply with State and local guidelines regulating hazardous materials. The management of hazardous materials during the Proposed Project's construction phase would not result in a significant impact.

Post-construction activities would include standard maintenance (i.e., landscape upkeep, exterior painting and similar activities) involving the use of commercially available products (e.g., pesticides, herbicides, gas, oil, paint, etc.) the use of which would not create a significant hazard to the public. Impacts from operations 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?			X	

Response:

The Proposed Project could result in the development of 151 new single-family homes. The Project does not contain land uses typically associated with hazardous emissions or the handling of hazardous or acutely hazardous materials, substances, or waste. Through the construction process (clearing, grading/earthwork, installation of utilities, foundation/paving, framing and painting), any hazardous materials used on-site would be handled and stored in accordance with all federal, State and City regulations and BMPs. As noted in response a, residences would store and use various chemicals for routine housekeeping and landscaping maintenance. However, none of these chemicals would be used in sufficient quantities to pose a threat to humans or the environment.

Therefore, less than significant impacts would result, and no mitigation measures are required.

c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or			X	

ISSUES & SUPPORTING INFORMATION SOURCES:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
proposed school?				

Response: *Google maps*

San Jacinto Valley Academy is located approximately 2,000 feet (0.4 mile) southwest of the Project Site. During construction, any hazardous materials would be delivered, handled and stored in compliance with all federal, State, County and City regulations. As noted in IX a-b) above, the Project will create lots for future single-family residential development that would use various chemicals for routine housekeeping and landscaping maintenance. Through compliance with City, County, State, and federal regulations the Project will not emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste that would impact any surrounding schools. Therefore, adverse impacts are identified or anticipated, and no mitigation measures are required.

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?				X

Response:

The Project Site is not included on a list of hazardous material sites as compiled pursuant to Government Code Section 65962.5 and reported in the EnviroStor database.[10] Therefore, no significant adverse impacts are identified or anticipated, and no mitigation measures are required.

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?				X

Response: *(Source: Riverside County Land Use Commission – Hemet-Ryan Airport Plan Final 2017)*

No public airports occur within two miles of the Project Site. The City of San Jacinto is located outside the Airport Influence Area for the Hemet-Ryan Airport which is in the City of Hemet, approximately seven miles south of the City of San Jacinto. Therefore, the Project will have no impact regarding its location within an airport land use plan or creating a significant safety hazard or result in excessive noise to the public or environment. Therefore, no impacts are identified or anticipated, and no mitigation measures are required.

f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?			X	

Response: *Source: General Plan Update Draft EIR, July 2022*

As discussed in the General Plan Update EIR, the City of San Jacinto prepared an analysis, referred to as a White Paper, consistent with Senate Bill 99 to identify residential developments in hazard areas that do not have at least two emergency evacuation routes. The White Paper includes definitions and data sources as well as assumptions and methodology used to map the evacuation routes. The analysis identified nearly 500 parcels (approximately 10 percent of developed parcels in the City) in a high hazard zone (as defined

[10] https://calepa.ca.gov/sitecleanup/corteselist/section-65962-5a/, Accessed December 7, 2022.

ISSUES & SUPPORTING INFORMATION SOURCES:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact

in the White Paper) with one exit point directly onto an arterial (or higher classification) roadway. These parcels are widespread throughout the planning area, and they tend to be condo, apartment, and mobile home communities, or large rural residential parcels.[11]

Access to the Project Site would be provided via two new 40-foot drives along Alessandro Avenue and a new 40-foot drive from Vernon Street. All access points are along existing roadways within the City's circulation system. The Proposed Project would not alter the existing circulation pattern within the Project area. Emergency access and evacuation routes would not be affected by the Proposed Project.

The Project provides adequate access for emergency vehicles, including adequate street widths and vertical clearance. Implementation of federal, State, and local laws and regulations during the construction of the Project would ensure potential impacts would be less than significant to an adopted emergency response/evacuation plan.

g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?				X

Response: *Source: General Plan Update Draft EIR, July 2022*

According to the General Plan Update EIR, Figure 5.20-1[12], the Project Site is not within a Fire Hazard Severity Zone. The Project will not expose people or structures to significant risks associated with wildfires and therefore, no impact will occur.

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?			X	

Response: *Source: General Plan Update Draft EIR, July 2022; Drainage Study and Water Quality Management Plan (WQMP), July 2025.*

A Drainage Study and a Preliminary Water Quality Management Plan reviewed and approved in July 2025 were prepared by Love Engineering (see Appendix E). Both reports are available for review at the City of San Jacinto Community Development Department and results are summarized herein. The Proposed Project would disturb an approximate 43.68-acre site and would therefore be subject to the National Pollutant Discharge Elimination System (NPDES) permit. The State of California is authorized to administer various aspects of the NPDES. Construction activities covered under the State's General Construction permit include the removal of vegetation, grading, excavating, or any other activity that causes the disturbance of one acre or more. The General Construction permit requires recipients to reduce or eliminate non-storm water discharges into stormwater systems, and to develop and implement a SWPPP. The SWPPP is based on the principles of Best Management Practices (BMPs) to control and abate pollutants. The SWPPP must include BMPs to prevent project-related pollutants from impacting surface waters. The purpose of a SWPPP is to: 1) identify pollutant sources that may affect the quality of discharges of storm water associated with construction activities; and 2) identify, construct and implement storm water pollution control measures to reduce pollutants in storm water discharges from the construction site during and after construction.

[11] https://sanjacinto.generalplan.org/documents-amp-maps. Accessed December 7, 2022.
[12] https://sanjacinto.generalplan.org/documents-amp-maps, Accessed December 7, 2022.

ISSUES & SUPPORTING INFORMATION SOURCES:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
The NPDES also requires a Water Quality Management Plan (WQMP), which is subject to review and approval by the City. A preliminary WQMP was prepared for the Proposed Project. The WQMP includes mandatory compliance of BMPs as well as compliance with NPDES Permit requirements. Review and approval of the WQMP by the City would ensure that all potential pollutants of concern are minimized or otherwise appropriately treated prior to being discharged from the Project Site. No significant adverse impacts are identified or are anticipated, and no mitigation measures are required.				
b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?			X	

Response: *Source: General Plan Update Draft EIR, July 2022; Drainage Study and Water Quality Management Plan (WQMP), July 2025.*

San Jacinto is located within the San Jacinto Groundwater Basin (basin). The basin underlies the cities of San Jacinto, Perris, Moreno, and Menifee valleys in western Riverside County. The basin is transected by the San Jacinto fault zone creating groundwater barriers. The basin is primarily recharged through percolation in the San Jacinto River and associated tributaries. The Proposed Project includes a request for a TMP to allow for the construction of 151 single-family homes. The site plan includes a 29,279 cubic foot (cf) a 20,972 cf and a 2,360 cf bioretention basins, that would receive on-site stormwater flows and allow for site percolation.

Upon Annexation, the Project would be served by City of San Jacinto Water Department through an Interagency Permit Agreement with EMWD. The City provides water service to an area with a current population of 17,993. The City is projected to have a population of 26,403 by Calendar Year 2045.[13] The City owns and operates a water distribution system that serves a portion of the City of San Jacinto. The City's service area covers approximately 4 square miles and is located in the southwesterly part of Riverside County at the base of the San Jacinto Mountains, which are located to the east of the City. The remaining portion of the City is served by EMWD and Lake Hemet Municipal Water District (LHMWD) The City relies almost exclusively on groundwater pumped by four wells. The wells produce groundwater from the San Jacinto Basin which covers an area of approximately 60 square miles. The San Jacinto Basin is drained by the San Jacinto River and is recharged by surface runoff from adjacent mountains and hills, by rainfall directly on the valley floor and by return flow from water applied from overlying uses. The San Jacinto Basin serves as a natural storage reservoir and filtering system for wells constructed therein. In addition, the San Jacinto Basin has a Groundwater Replenishment Program which uses untreated imported water to recharge the San Jacinto Basin. The Project would connect to an existing 12-inch water line in Vernon Street.

A well near the intersection of Main Street and Ramona Expressway began operating during the summer of 2005. Additionally, a new well is being drilled at Grand Avenue and is estimated to be in service by 2025. The City's Urban Water Management Plan (UWMP) states that it has adequate water service projected through 2045. In the event of emergencies, additional water supply is available to be purchased from EMWD for domestic water service. The estimated water use for the Project (including the existing single-family residence on-site) is 63,840 gallons per day (gpd) (420 gpd times 152 dwelling units), and irrigation of Lettered Lots at 15,411 gpd.[14]

[13] San Jacinto 2020 Urban Water Management Plan https://cdnsm5-hosted.civiclive.com/UserFiles/Servers/Server_10384345/File/City%20Government/WaterPowerPW/2020%20UWMP.pdf

[14] Meets State Conservation Guidelines for Landscape facilities.

ISSUES & SUPPORTING INFORMATION SOURCES:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact

The City produces groundwater from the San Jacinto Basin within an area referred to as the "Management Area". The San Jacinto Basin Judgment estimates the groundwater safe yield of the Management Area to be approximately 45,000 acre-feet per year. The City of San Jacinto's Base Production Rights are currently 3,004 acre-feet per year. The Hemet-San Jacinto Watermaster can reduce the amount of water rights available to Producers before they must pay an assessment for expensive imported water. This action provides producers with an economic incentive to reduce demands.

The San Jacinto Basin is managed by the Hemet-San Jacinto Watermaster. During the period of management under the Judgment, significant drought events have occurred. In each drought cycle the San Jacinto Basin has been managed to maintain water levels. Therefore, based on historical and on-going management practices, the City will be able to rely on the San Jacinto Basin for adequate supply over the next 25 years under single dry years and a five consecutive year drought periods.

Local water purveyors in the San Jacinto Basin developed a Groundwater Management Plan (GWMP) in November 2007 for the San Jacinto-Hemet Valley to effectively manage the groundwater basin, allocate and protect groundwater resources. In April 2013, a Stipulated Judgment was entered with the Superior Court of the State of California for the County of Riverside adopting the GWMP and creating the Hemet-San Jacinto Watermaster.

As stated in the City of San Jacinto 2020 UWMP, the system had 4,136 connections in 2020 and supplied 2,650 acre-feet of water that year. The UWMP stated that during a multiple dry-year period, the City's total water supply would be 3,547 acre-feet (AF) by 2045, while the total water demand is projected to be 3,547 AF in the same year for multiple dry years, resulting in neither surplus nor deficit. The UWMP indicates that the City's supplies have been determined to be sufficient to meet demands within the district's service area during normal, dry, and multiple dry years through the year 2045.

No new wells or additional water infrastructure are proposed. The Project will be designed for compliance with existing federal, State, and local water quality laws and regulations related to groundwater and will have a less than significant impact on groundwater supplies.

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?			X	

Response: *Source: General Plan Update Draft EIR, July 2022; Drainage Study and Water Quality Management Plan (WQMP), July 2025.*

Erosion is the wearing away of the ground surface as a result of the movement of wind or water, and siltation is the process by which water is affected by fine mineral particles in the water. Soil erosion could occur due to a storm event. Construction activities covered under the State of California's General Construction permit include removal of vegetation, grading, excavating, or any other activities that causes the disturbance of one acre or more. The General Construction permit requires recipients to reduce or eliminate non-storm water discharges into stormwater systems, and to develop and implement a Storm Water Pollution Prevention Plan (SWPPP). The purpose of the SWPPP is to: 1) identify pollutant sources that may affect the quality of discharges of stormwater associated with construction activities; and 2) identify, construct, and implement stormwater pollution control measures to reduce pollutants in stormwater discharges from the construction site during and after construction. The SWPPP must list BMPs to avoid and minimize soil erosion. Adherence to BMPs would prevent substantial soil erosion or the loss of topsoil. Examples of BMPs include, i.e., sandbag barriers, geotextiles, storm drain inlet

ISSUES & SUPPORTING INFORMATION SOURCES:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
protection, sediment traps, rip rap soil stabilizers, sweep roadway from track-out, and rumble strips. BMPs applicable to the Proposed Project will be subject to City approval and provided in contract bid documents. Therefore, less than significant impacts are identified or anticipated, and no mitigation measures are required.				
ii) Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite?			X	
Response: *Source: General Plan Update Draft EIR, July 2022; Drainage Study and Water Quality Management Plan (WQMP), July 2025.* Results of the Drainage Study prepared for TTM 34271 by Thomas Love with the provision of off-site drainage improvements provided in Lots A, E and F, determined that the flows exiting the Project Site, in developed conditions, would be less than or equal to the flows exiting the site in existing condition. As concluded in the report, the developed condition creates additional travel length and therefore yields a longer time of concentration. Since the Project would result in less runoff, mitigation of developed flows would not be required. Site design and other applicable requirements would ensure that drainage and stormwater would not create or contribute water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff. Therefore, the Project will have a less than significant impact to the rate or amount of surface runoff in a manner which would result in flooding on- or off-site.				
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?			X	
Response: *Source: General Plan Update Draft EIR, July 2022; Water Quality Management Plan (WQMP), July 2025.* See responses to a) and b) above.				
iv) Impede or redirect flood flows?			X	
Response: *Source: General Plan Update Draft EIR, July 2022; Drainage Study and Water Quality Management Plan (WQMP), July 2025.* See response to c) ii) above.				
d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?				X
Response: *Source: General Plan Update Draft EIR, July 2022.* Due to the inland distance from the Pacific Ocean and any other significant body of water, tsunamis and seiches are not potential hazards at the site. According to City of San Jacinto General Plan Figure PS-2, the Project Site is neither located within a 100-year floodplain nor a 500-year floodplain. Therefore, the risk of release of pollutants due to project inundation is low. No impacts would result and no mitigation measures are required.				

ISSUES & SUPPORTING INFORMATION SOURCES:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
e) Conflict with or obstruct implementation of a water quality control plan or substantial groundwater management plan			X	

Response: *Source: General Plan Update Draft EIR, July 2022; Drainage Study and Water Quality Management Plan (WQMP), July 2025.*

Requirements of a NPDES permit to be issued for the Proposed Project would include development and implementation of a SWPPP as discussed and required by the WQMP prepared for the Project and is subject to RWQCB review and approval. The Proposed Project would not otherwise substantially degrade water quality as appropriate measures relating to water quality protection would be implemented. Therefore, less than significant impacts would result, and no mitigation measures are required.

XI. LAND USE AND PLANNING – Would the project:				
a) Physically divide an established community?				X

Response: *Source: General Plan Update Draft EIR, July 2022*

The physical division of an established community is typically associated with construction of a linear feature, such as a major highway or railroad tracks, or removal of a means of access, such as a local road or bridge, which would impair mobility in an existing community or between a community and an outlying area. The Proposed Project does not include the construction of a linear feature, and the Project Site, except for a single-family residence near the southwest corner, is currently vacant. Therefore, the Proposed Project would neither physically divide an established community nor cause a significant environmental impact due to conflict with any land use plans or policies. No impacts would occur, and no mitigation measures are required.

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?			X	

Response: *Source: City of San Jacinto General Plan Update Final EIR, November 2022.*

The Project Site is currently under the jurisdiction of Riverside County. Under the County's General Plan, the Project site is designated as AG and is zoned Heavy Agriculture (A-2-10). The Applicant is initiating the annexation of the Project Site into the City of San Jacinto.

Upon annexation and under City of San Jacinto pre-zone conditions, the 43.68-acre site would be designated Low Density Residential (LDR) and Public/Institutional (PI) and zoned Residential, Low Density (RL) and Public Institutional (PI).The RL zoning would allow for density ranging from 2.1 to 7.0 dwelling units per net acre, and allows for the proposed 152 single-family residential units. For the 0.37-acre parcel the PI designation is not residential, the designation is suited for the 0.37-acre site and will provide necessary drainage facilities for the area.

Under the existing County designation of Agricultural, the Project Site depending on water availability could be used for agricultural purposes or may be divided into to four lots. Under proposed City pre-zone

ISSUES & SUPPORTING INFORMATION SOURCES:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
designation as discussed above, up to 215 dwelling units could be developed; resulting in 211 dwelling units more when compared to development under the County General Plan. Approval of the Project would not conflict with any land use plan, policy, or regulation. Therefore, impacts are identified or anticipated, and no mitigation measures are required.				
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?				X
Response: *Source: City of San Jacinto General Plan Update Final EIR, November 2022* The Project Site is within Mineral Resources Zone 3 (MRZ-3)[15]. MRZ-3 designation is an area where the available geologic information indicates that mineral deposits are likely to exist, however, the significance of the deposit is undetermined. Neither the County nor the City has designated the Project Site for mineral recovery. The Project Site occurs in a partially developed, residential area. It is surrounded by residential development to the west, vacant land to the east and south (approved for residential development), and vacant land, residential and agricultural uses to the north. The surrounding land uses make the site unsuitable for mineral resources extraction. Therefore, no impact would result, and no mitigation measures are required.				
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?				X
Response: *Source: City of San Jacinto General Plan Update Final EIR, November 2022* The Project Site is not delineated for mineral recovery on a local general plan, specific plan or other land use plan and therefore would have no impact to the availability of important mineral resources. Therefore, no impacts are identified or anticipated, and no mitigation measures are required.				
XIII. NOISE – Would the project result in:				
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		X		
Response: *Source: Municipal Code Chapter 8.40 – Noise Control; Kasbergen/Halfigler TT34271 P22-004, Noise and Vibration Impact Analysis, prepared by Urban Crossroads, September 13, 2023.* In September 13, 2023, a Noise Study was prepared by Urban Crossroads, Inc. to determine the noise exposure and any necessary noise mitigation measures for the proposed residential subdivision (see Appendix F). The noise study was prepared to satisfy applicable City of San Jacinto noise standards and significance criteria based on Appendix G of the CEQA Guidelines. The Noise Study is available for review				

[15] City of San Jacinto General Plan Update Final EIR, Figure 5.12-1. Mineral Resource Zones

ISSUES & SUPPORTING INFORMATION SOURCES:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact

at the City of San Jacinto Community Development Department and results of the study are summarized herein.

Environmental noise descriptors are generally based on averages, rather than instantaneous, noise levels. The most used metric is the equivalent level (L_{eq}). Equivalent sound levels are not measured directly but are calculated from sound pressure levels typically measured in A- weighted decibels (dBA). The equivalent sound level (L_{eq}) represents a steady state sound level containing the same total energy as a time varying signal over a given sample period and is commonly used to describe the "average" noise levels within the environment.

Peak hour or average noise levels, while useful, do not completely describe a given noise environment. Noise levels lower than peak hour may be disturbing if they occur during times when quiet is most desirable, namely evening and nighttime (sleeping) hours. To account for this, the Community Noise Equivalent Level (CNEL), representing a composite 24-hour noise level is utilized. The CNEL is the weighted average of the intensity of a sound, with corrections for time of day, and averaged over 24 hours. T he time-of-day corrections require the addition of 5 decibels to dBA L_{eq} sound levels in the evening from 7:00 p.m. to 10:00 p.m., and the addition of 10 decibels to dBA L_{eq} sound levels at night between 10:00 p.m. and 7:00 a.m. These additions are made to account for the noise sensitive time periods during the evening and night hours when noise can become more intrusive. CNEL does not represent the actual sound level heard at any time, but rather represents the total sound exposure. The City of San Jacinto relies on the 24-hour CNEL level to assess land use compatibility with transportation related noise sources.

City of Jacinto General Plan noise standards are set forth in Table PS-1 of the Public Safety Element. The table outlines the acceptable exterior noise standards from transportation and stationary sources. The noise criteria identified in the City of San Jacinto Public Safety Element (Tables PS-1, PS-2, PS-3 and PS-4) are guidelines to evaluate the land use compatibility of transportation related noise. The Project's residential land use is considered normally acceptable with exterior noise levels below 60 dBA CNEL, conditionally acceptable with exterior noise levels of up to 70 dBA CNEL, and normally unacceptable with exterior noise levels of up to 75 dBA CNEL. According to the General Plan Noise Element, Table PS-1, the City's interior noise level limits for daytime and nighttime single-family residential is 45 dBA Leq and 40 dBA Leq[16], respectively. Section 8.40.040 (A) from the City's Noise Ordinance outlines the City's exterior noise limes as it relates to stationary noise sources. The allowable daytime and nighttime exterior noise levels[17] for the proposed subdivision are 65 dBA Leq and 45 dBA Leq, respectively.

To control noise impacts associated with the construction of the proposed Project, the City of San Jacinto has established limits to the hours of operation. Section 8.40.090 (A) of the Noise Regulation ordinance indicates that noise associated with construction activity is considered exempt from the noise ordinance between the hours of 7:00 a.m. and 7:00 p.m. Monday through Saturday. However, neither the City of San Jacinto General Plan nor Municipal Code establish numeric maximum acceptable construction source noise levels at potentially affected receivers. Therefore, a numerical construction threshold based on Federal Transit Administration (FTA) *Transit Noise and Vibration Impact Assessment Manual* is used for analysis of daytime construction impacts.

In general, the more a new noise exceeds the previously existing ambient noise level, the less acceptable the new noise will typically be judged. The Federal Interagency Committee on Noise (FICON) developed guidance to be used for the assessment of project-generated increases in noise levels that consider the

[16] Leq represents a steady state sound level containing the same total energy as a time varying signal over a given period.
[17] Daytime" = 7:00 a.m. to 10:00 p.m.; "Nighttime" = 10:01 p.m. to 6:59 a.m.

ambient noise level. The FICON recommendations are based on studies that relate aircraft noise levels to the percentage of people highly annoyed by aircraft noise. Although the FICON recommendations were specifically developed to assess aircraft noise impacts, these recommendations are often used in environmental noise impact assessments involving the use of cumulative noise exposure metrics, such as the average-daily noise level (CNEL) and equivalent continuous noise level (Leq). The FICON guidance provides an established source of criteria to assess the impacts of substantial temporary or permanent increase in ambient noise levels. Based on the FICON criteria, the amount to which a given noise level increase is considered acceptable is reduced when the without Project noise levels are already shown to exceed certain land-use specific exterior noise level criteria. The specific levels are based on typical responses to noise level increases of 5 dBA or *readily perceptible*, 3 dBA or *barely perceptible*, and 1.5 dBA depending on the underlying without Project noise levels for noise-sensitive uses. These levels of increases and their perceived acceptance are consistent with guidance provided by both the Federal Highway Administration and Caltrans.

Noise impacts shall be considered significant if any of the following occur as a direct result of the proposed development. Table 6 shows the significance criteria summary that includes the allowable criteria used to identify potentially significant incremental noise level increases.

Table 6
Significant Noise Criteria Summary

Analysis	Condition(s)	Significance Criteria	
		Daytime	Nighttime
Off-Site Traffic[1]	If ambient is < 60 dBA CNEL[1]	≥ 5 dBA CNEL Project increase	
	If ambient is 60 - 65 dBA CNEL[1]	≥ 3 dBA CNEL Project increase	
	If ambient is > 65 dBA CNEL[1]	≥ 1.5 dBA CNEL Project increase	
On-Site Traffic[2]	Exterior Noise Compatibility Criteria[2]	See Exhibit 3-B	
	Interior Noise Level Standard[3]	See Exhibit 3-D	
Operational	Exterior Noise Level Standards[4]	See Exhibit 3-C	
	If ambient is < 60 dBA Leq[1]	≥ 5 dBA L_{eq} Project increase	
	If ambient is 60 - 65 dBA Leq[1]	≥ 3 dBA L_{eq} Project increase	
	If ambient is > 65 dBA Leq[1]	≥ 1.5 dBA L_{eq} Project increase	
Construction	Noise Level Threshold[5]	80 dBA L_{eq}	
	Vibration Level Threshold[6]	0.3 PPV (in/sec)	

[1] FICON, 1992.
[2] City of San Jacinto General Plan Noise Element Table PS-2.
[3] City of San Jacinto General Plan Noise Element Table PS-4
[4] City of San Jacinto General Plan Noise Element Table PS-3
[5] Federal Transit Administration, Transit Noise and Vibration Impact Assessment Manual.
[6] Caltrans Transportation and Construction Vibration Manual, April 2020 Table 19. "Daytime" = 7:00 a.m. to 10:00 p.m.; "Nighttime" = 10:00 p.m. to 7:00 a.m.

To assess the existing noise level environment, 24-hour noise level measurements were taken at three locations in the Project study area. The receiver locations were selected to describe and document the existing noise environment within the Project study area. The long-term noise level measurements were positioned as close to the nearest sensitive receiver locations as possible to assess the existing ambient hourly noise levels surrounding the Project site. Both Caltrans and the FTA recognize that it is not reasonable to collect noise level measurements that can fully represent every part of a private yard, patio,

deck, or balcony normally used for human activity when estimating impacts for new development projects.

The noise measurements presented below focus on the equivalent or the hourly energy average sound levels (Leq). The equivalent sound level (Leq) represents a steady state sound level containing the same total energy as a time varying signal over a given sample period. Table 7 identifies the hourly daytime (7:00 a.m. to 10:00 p.m.) and nighttime (10:00 p.m. to 7:00 a.m.) noise levels at each noise level measurement location.

Table 7
Ambient Noise Level Measurements

Location[1]	Description	Energy Average Noise Level (dBA L_{eq})[2]	
		Daytime	Nighttime
L1	Located directly west of the Project site near single-family residence at 22145 Alessandro Avenue North.	65.7	64.8
L2	Located near existing single-family residence on the Project Site at 22384 Alessandro Avenue North.	48.8	48.9
L3	Located directly west of the Project site near Marvo Heifer Ranch Holsteins at 22323 Alessandro Avenue North.	67.3	65.5

[1] See Exhibit 5-A for the noise level measurement locations.
[2] Energy (logarithmic) average levels. The long-term 24-hour measurement worksheets are included in Appendix 5.2 of the TA. "Daytime" = 7:00 a.m. to 7:00 p.m.; "Nighttime" = 10:00 p.m. to 7:00 a.m.

To assess the off-site transportation CNEL noise level impacts associated with development of the proposed Project, noise contours were developed based on *Kasbergen/Halfigler TT34271 Traffic Impact Analysis* by Urban Crossroads, Inc. Noise contour boundaries represent the equal levels of noise exposure and are measured in CNEL from the center of the roadway. Table 8 provides a list of roadway segments and their parameters.

Table 8
Study Area Roadway Parameters

Roadway	Segment	Classification[1]	Centerline Distance to Receiving Land Use[2]	Vehicle Speed (mph)
Ramona Expy.	w/o State St.	Limited Access Conventional Highway	73'	65
Ramona Expy.	e/o State St.	Limited Access Conventional Highway	73'	65
Ramona Expy.	e/o Alessandro Ave.	Limited Access Conventional Highway	73'	65
Ramona Expy.	e/o Vernon Ave.	Limited Access Conventional Highway	73'	65
State St.	n/o Ramona Expy.	Major	50'	45
State St.	s/o Ramona Expy.	Major	50'	45
Alessandro Ave.	s/o Ramona Expy.	Collector	39'	25
Alessandro Ave.	s/o 1st St.	Collector	39'	25
Alessandro Ave.	s/o Main St.	Collector	39'	25
Vernon Ave.	s/o Ramona Expy.	Collector	39'	45
Vernon Ave.	s/o 1st St.	Collector	39'	25
Vernon Ave.	s/o Main St.	Collector	39'	25

1st St.	w/o Alessandro Ave.	Collector	39'	25
1st St.	e/o Alessandro Ave.	Collector	39'	25
1st St.	e/o Vernon Ave.	Collector	39'	25
Main St.	w/o Alessandro Ave.	Collector	39'	35

[1] City of San Jacinto General Plan Circulation Element

[2] Based upon the right-of-way distances for each roadway classification provided in the General Plan Circulation Element.

Existing Project Traffic Noise Level Increases

The existing without Project exterior noise levels ranged from 49.8 to 73.8 dBA CNEL, without accounting for any noise attenuation features such as noise barriers or topography. The existing Project conditions were determined to range from 50.1 to 73.9 dBA CNEL. The Project off-site traffic noise level increases range from 0.0 to 1.1 dBA CNEL on the study area roadway segments. Based on the significance criteria for offsite traffic noise, land uses adjacent to the study area roadway segments would experience *less than significant* noise level increases on receiving land uses due to the Project-related traffic.

Existing Plus Ambient Plus Cumulative Project Traffic Noise Level Increases

An analysis of existing plus ambient plus cumulative traffic noise levels plus traffic noise generated by the proposed Project has been included in this report. The Existing without Project exterior noise levels range from 53.1 to 74.9 dBA CNEL, without accounting for any noise attenuation features such as noise barriers or topography, and the Existing with Project conditions ranging from 53.4 to 75.0 dBA CNEL. As discussed in the Noise Analysis, the Project off-site traffic noise level increases range from 0.0 to 1.4 dBA CNEL on the study area roadway segments. Based on the significance criteria for off-site traffic noise, land uses adjacent to the study area roadway segments would experience less than significant noise level increases on receiving land uses due to the Project-related traffic.

Operational Noise Impacts

The proposed 152 residential subdivision (including 151 new single-family residential units and one existing single-family residential unit) is not expected to include any operational noise source levels beyond those typically associated with residential land use in the Project study area. This includes people talking, vehicle movements on local streets, ground mounted heating, ventilation, and air conditioning (HVAC) units, etc., and is considered a noise-sensitive receiving land use. The primary operational noise source activities are likely associated with the planned ground mounted HVAC units.

Using the reasonable assumption that an HVAC is placed at the rear of a dwelling unit and requires a 3-foot distance from the wall for air circulation, this would provide at least a separation of 45 feet from the nearest Project boundary line. This would result in noise levels as high as 48 dBA Leq during the daytime and 43 dBA Leq at night. These noise levels would be below the City of San Jacinto's noise level limits for residential properties.

Based on the noise level measurements, the existing daytime ambient noise levels within the adjacent community range from 48.8 to 67.3 dBA Leq during daytime hours and 48.9 to 65.5 dBA Leq during the nighttime hours and are expected to largely overshadow the typical low noise-generating activities associated with the Project's residential land uses. Therefore, the potential operational noise impacts from the Project's residential land uses are not anticipated to result in substantial increase in ambient noise levels and therefore impacts are considered *less than significant*.

ISSUES & SUPPORTING INFORMATION SOURCES:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact

Interior Noise Analysis

The City of San Jacinto interior noise limit outlined in Section 8.40.050 (A) of the City's Noise Ordinance was used for evaluation of interior noise levels. As concluded in the Noise Analysis, dwellings fronting Ramona Expressway and Vernon Avenue would require the windows to be closed[18] closed and a means of mechanical ventilation (e.g., air conditioning) in order to achieve the interior noise level standard of 45 dBA Leq. As demonstrated in the analysis, with closed windows dwellings facing Ramona Expressway and Vernon Avenue daytime interior noise levels are expected to range from 32.3 to 42.9 dBA Leq for all units (e.g., single and two-story). The interior noise level analysis determined that the 45 dBA Leq daytime interior noise level standard can be satisfied using standard building construction providing windows and sliding glass doors are equipped with minimum STC ratings of 27. Second Floor daytime and nighttime interior noise levels would range from 33.4 to 44.1 DBA leq and 31.3 to 39.8 dBA Leq, respectively. The interior noise level analysis shows that the 45 dBA Leq daytime and nighttime interior noise level standard can be satisfied using standard building construction providing windows and sliding glass doors with minimum STC ratings of 27.

Off-Site Sensitive Receiver Locations

To describe the potential off-site Project noise levels, four receiver locations in the vicinity of the Project site were identified. All distances were measured from the Project site boundary to the outdoor living areas (e.g., private backyards) or at the building façade, whichever is closer to the Project Site. The selection of receiver locations is based on FHWA guidelines and is consistent with additional guidance provided by Caltrans and the FTA. Other sensitive land uses in the Project study area that are located at greater distances than those identified will experience lower noise levels than those presented in the report due to the additional attenuation from distance and the shielding of intervening structures. Distance is measured in a straight line from the Project boundary to each receiver location as follows:

R1: Location R1 represents the existing noise sensitive residence at 22019 Alessandro Avenue North, approximately 255 feet northwest of the Project Site. Receiver R1 is placed in the private outdoor living areas facing the Project site. A 24-hour noise measurement was taken near this location, L1, to describe the existing ambient noise environment.

R2: Location R2 represents the existing noise sensitive residence at 22384 Alessandro Avenue North, on the southwestern Project Site boundary. Receiver R2 is placed in the private outdoor living areas facing the Project site. A 24-hour noise measurement was taken near this location, L2, to describe the existing ambient noise environment.

R3: Location R3 represents the existing noise sensitive Marvo Heifer Ranch Holsteins at 22323 Alessandro Avenue North, approximately 104 feet west of the Project site. Since there are no private outdoor living areas (backyards) facing the Project Site, receiver R3 is placed at the building façade. A 24-hour noise measurement was taken near this location, L3, to describe the existing ambient noise environment.

R4: Location R4 represents the existing noise sensitive residence at 22145 Alessandro Avenue North, approximately 128 feet west of the Project Site. Since there are no private outdoor living areas (backyards) facing the Project Site, receiver R4 is placed at the building façade. A 24-hour noise measurement was taken near this location, L1, to describe the existing ambient noise environment.

Construction Noise Levels at Sensitive Receiver Locations

[18] Homeowners could have the windows open provided noise levels above 45 dBA Leq do not disturb them.

ISSUES & SUPPORTING INFORMATION SOURCES:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact

Using the reference construction equipment noise levels and the CadnaA noise prediction model, calculations of the Project construction noise level impacts at the nearby sensitive receiver locations were completed. Construction noise levels are expected to range from 46.9 to 64.6 dBA Leq at the nearby receiver locations. To evaluate whether the Project will generate potentially significant short-term noise levels at nearest sensitive receiver locations, a construction-related daytime noise level threshold of 80 dBA Leq is used as a reasonable threshold to assess the daytime construction noise level impacts. Based on the construction noise analysis, the nearest receiver locations will satisfy the reasonable daytime 80 dBA Leq significance threshold during Project construction activities. Therefore, the noise impacts due to Project construction noise are considered *less than significant* at all receiver locations.

Operational Noise Impacts at Sensitive Receiver Locations

Based on the noise level measurements, the existing daytime ambient noise levels within the adjacent community range from 48.8 to 67.3 dBA Leq during the typical daytime hours and 48.9 to 65.5 dBA Leq during the nighttime hours and are expected to largely overshadow the typical low noise-generating activities associated with the Project's residential land uses. Therefore, the potential operational noise impacts from the Project's residential land uses are not anticipated to result in substantial increase in ambient noise levels are considered *less than significant* under CEQA.

Summary of Noise Reduction Measures for interior and exterior locations

Certain lots fronting Ramona Expressway, Vernon Avenue and Alessandro Avenue would require the windows to be closed as well as upgraded windows and sliding glass doors in order to achieve the City's interior noise level standard of 45 dBA Leq. To ensure proper noise isolation, mitigation would be required. The Project will be compliant with the City's noise regulations with the implementation of the mitigation measures, and such the Project will have a less than significant impact with mitigation on the 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.

MM NOI-1: The Developer shall ensure all buildings plans reflect that all 1st-floor windows and sliding glass doors for Lots 59,63,65,69, 71, 73 fronting Ramona Expressway and Lots 77, 81 and 89 fronting Vernon Avenue shall have a minimum STC rating of 27. Second floor windows for Lots 46, 50, 54 and 55 fronting Alessandro Avenue, and Lots 59, 63, 65, 69, 71,73 fronting Ramona Expressway, and Lots 76, 77, 81 and 89 fronting Vernon Avenue shall also have a minimum STC rating of 27. For proper acoustical performance, all exterior windows, doors, and sliding glass doors must have positive seals and weather stripping, and leaks/cracks must be kept to a minimum.

b) Generation of excessive groundborne vibration or groundborne noise levels?			X	

Response: *Source: Municipal Code Chapter 8.40 – Noise Control; Kasbergen/Halfigler TT34271, Noise and Vibration Impact Analysis, prepared by Urban Crossroads, September 13, 2023.*

Per the Federal Transit Administration (FTA) Transit Noise Impact and Vibration Impact Assessment Manual (9), vibration is the periodic oscillation of a medium or object. The rumbling sound caused by the vibration of room surfaces is called structure-borne noise. Sources of ground-borne vibrations include natural phenomena (e.g., earthquakes, volcanic eruptions, sea waves, landslides) or human-made causes (e.g., explosions, machinery, traffic, trains, construction equipment). Vibration sources may be continuous, such as factory machinery, or transient, such as explosions. As is the case with airborne sound, ground-borne vibrations may be described by amplitude and frequency.

ISSUES & SUPPORTING INFORMATION SOURCES:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact

There are several different methods that are used to quantify vibration. The peak particle velocity (PPV) is defined as the maximum instantaneous peak of the vibration signal. The PPV is most frequently used to describe vibration impacts to buildings but is not always suitable for evaluating human response (annoyance) because it takes some time for the human body to respond to vibration signals. Instead, the human body responds to average vibration amplitude often described as the root mean square (RMS). The RMS amplitude is defined as the average of the squared amplitude of the signal and is most frequently used to describe the effect of vibration on the human body. Decibel notation (VdB) is commonly used to measure RMS. Decibel notation (VdB) serves to reduce the range of numbers used to describe human response to vibration.

To analyze vibration impacts originating from the operation and construction of the 151 single-family residential units, vibration-generating activities are appropriately evaluated against standards established under a City's Municipal Code, if such standards exist. However, the City of San Jacinto identifies a vibration level limit of 0.30 peak particle velocity PPV (in/sec).. The nearest noise sensitive buildings adjacent to the Project Site are residential structures located with a maximum acceptable continuous vibration threshold of 0.30 PPV (in/sec).

At distances ranging from 25 to 255 feet from Project construction activities, construction vibration velocity levels are estimated to range from 0.01 to 0.09 in/sec PPV (see Table 9). Based on maximum acceptable continuous vibration threshold of 0.30 PPV (in/sec), the typical Project construction vibration levels will fall below the building damage thresholds at all the noise sensitive receiver locations (i.e., R1, R2, R3 and R4). Therefore, the Project-related vibration impacts would be considered less than significant during typical construction activities at the Project Site. Moreover, the vibration levels reported at the sensitive receiver locations are unlikely to be sustained during the entire construction period but will occur during heavy construction equipment operation that occurs near the Project Site boundary.

Table 9
Project Construction Vibration Levels
at Sensitive Receiver Locations

Receiver[1]	Distance to Const. Activity (Feet)[2]	Typical Construction Vibration Levels PPV (in/sec)[3]					Thresholds PPV (in/sec)[4]	Thresholds Exceeded?[5]
		Small bulldozer	Jackhammer	Loaded Trucks	Large bulldozer	Highest Vibration Level		
R1	255'	0.00	0.00	0.00	0.00	0.00	0.30	No
R2	25'	0.00	0.04	0.08	0.09	0.09	0.30	No
R3	104'	0.00	0.00	0.01	0.01	0.01	0.30	No
R4	128'	0.00	0.00	0.01	0.01	0.01	0.30	No

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?					X

Response: *Source: Municipal Code Chapter 8.40 – Noise Control; Kasbergen/Halfigler TT34271, Noise and Vibration Impact Analysis, prepared by Urban Crossroads, September 13, 2023.*

ISSUES & SUPPORTING INFORMATION SOURCES:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact

The Project site is not located within two miles of an airport or airstrip. The closest airport is the Hemet Ryan Airport located over five miles southwest of the Project Site. As such, the Project Site would not be exposed to excessive noise levels from airport operations, and therefore, the Project will have no impact, directly, indirectly, or cumulatively to exposing people residing or working in the project area to excessive noise.

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)?			X	

Response:

The 43.68-acre annexation area occurs within the unincorporated area of the County of Riverside, and within the City's Sphere of Influence. Approximately 1.98 acres of the 43.68-acre annexation area is developed with a single-family residence and related structures. The remaining area is currently vacant and includes a 0.37-acre area north of Ramona Expressway. The entire 43.68-acre Project Site is currently designated AG by the County of Riverside. Under the City of San Jacinto General Plan, the site is designated LDR and PI within its sphere-of-influence. Upon annexation and other entitlement approvals, the Project Site may be developed with 151 new single-family residential units. The increase in population was planned and anticipated under the City's General Plan.

Based on 3.45 people per household, the proposed development would result in 521 more people when compared to the County of Riverside General Plan existing land use designation of Agriculture. However, the Project Site is within the City of San Jacinto's Sphere of Influence and was assessed for residential development in the City's General Plan Update Final EIR. The addition of 151 single-family homes would not be considered growth inducing although it would result in a more intense use when compared to the County's current designation. In addition, existing infrastructure occurs within the area (i.e., Ramona Expressway, Vernon Avenue, Alessandro Avenue); except for the extension of water and sewer, no other significant expansion of utilities would be required. The extension of water and sewer service for the proposed residential development would not indirectly result in population growth for the area as surrounding parcels have already been approved for development and are served by the City.

The Project will not induce growth as it is consistent with the City's General Plan policies for residential development. The City's General Plan establishes the development potential of the City to accommodate the City's growth to 2050. The Project, as proposed, will help to accommodate that growth, but will not induce it. The Project site is located adjacent to existing improved streets, and utilities and public facilities are all available in the immediate area. No new road or utility infrastructure, beyond the necessary extensions to the Project Site, is required. Project-related impacts are expected to be less than significant.

ISSUES & SUPPORTING INFORMATION SOURCES:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
b) Displace substantial numbers of existing people or housing, necessitating the construction of re-placement housing elsewhere?				X

Response:

The Proposed Project would not displace any people, or necessitate the construction of replacement housing elsewhere, because the existing home will remain and the remainder of the site is vacant; **no impacts** are anticipated.

XV. PUBLIC SERVICES – Would the project:				
Fire protection?			X	

Response: *Source:. https://www.sanjacintoca.gov/city_departments/special_districts/community-facilities-districts*

The City of San Jacinto began contracting with the Riverside County Fire Department for fire and emergency services in 1996. The City's fire service is provided by two fire stations located in the City including Station 25 and Station 78. The Community Facilities Act of 1982 permits the City of San Jacinto to form Community Facilities Districts (CFD) that allows for financing of public improvements and services. The services and improvements that CFDs finance include streets, sewer systems, storm drains, streetlights, and other basic infrastructure, police protection, fire protection and parks. There are a number of CFDs established throughout the City. Upon annexation, the Project would be required to annex into the appropriate CFD including CFD No. 2003-1, and No. 2020-1.

CFD No. 2003-1 is a Public Safety Special Tax District, formed in 2003 under the Mello-Roos Community Facilities Act of 1982 for the purpose of providing funds for police and fire in new developments. The CFD was created in November 2003 in response to a public safety funding crisis in view of a rapidly growing residential base without any significant growth projection in retail sales to help off-set the projected increase in costs of police and fire services needed for an increased population.

In 2003, a financial impact study was completed that analyzed the shortfall of revenue projected compared to the budget needed to fund the projected growth in the police and fire protection to accommodate the projected growth in the City's population through build out. The projected police protection cost was based on 1.0 police officer/per 1,000 population. The projected fire protection was based on growing the current one (1) fire station to (3) fire stations plus a ladder company. A lengthy review process was done that included input by landowners and the community. On November 6, 2003, City Council adopted Resolution 2484 establishing CFD # 2003-1, a Police and Fire Special Tax on all new developments in the City of San Jacinto. The resolution established a maximum initial annual Special Tax A per single-family unit to be due on the annual property tax roll, and a one-timeSpecial Tax B per single-family unit due at building permit issuance.

According to the annual district report for Fiscal Year 2019/20, the maximum Special Tax Rate A was $535.45 per single-family unit and a maximum Special Tax Rate B was $917.91 per single-family unit.[19] According to the annual report, the maximum special tax rates increase annually based on the percentage change in the Los Angeles Consumer Price Index with a maximum annual increase of six percent and a minimum annual increase of two percent per fiscal year.

[19] https://cdnsm5-hosted.civiclive.com/UserFiles/Servers/Server_10384345/File/City%20Government/Finance/SpecialDistricts/CFD%202003-1%202019-20%20Annual%20Report.pdf

ISSUES & SUPPORTING INFORMATION SOURCES:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Currently, the Project Site and surrounding area is served by the Riverside County Fire Department Station 25 located at 132 South San Jacinto Avenue, approximately 0.75 miles southwest of the Project Site. Upon annexation the Project Site would continue to be served by the County through annexation and payment into CFD No. 2003-1. The Community Development Department and the Department of Public Safety enforce fire standards during review of building plans and inspections. The proposed development would be required to comply with County fire suppression standards and adequate fire access and pay the required development fees. . The Project would be designed and constructed to be consistent with applicable codes and standards for access and fire suppression infrastructure. The developer of the lots must ensure that: • New private access roads are at least 24 feet wide and provide an adequate turning radius for fire and emergency vehicles; the Proposed Development includes 3, 40-foot wide driveways. • Adequate service and response times can be provided to the development without reducing service to existing areas. • Development plans clearly identify fire flows, hydrant siting, and access points. The Project would not require the construction of a new fire station to maintain service ratios. Through the implementation of all regulations and City policies for development projects, and collection of fees associated with CFD # 2003-1, Police and Fire Special Tax, the Project will have a less than significant impact on fire services.				

ISSUES & SUPPORTING INFORMATION SOURCES:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Police protection?			X	

Response: *Source:. https://www.sanjacintoca.gov/city_departments/special_districts/community-facilities-districts*

The City of San Jacinto contracts with the Riverside County Sheriff's Department (RCSD) for police services. The police department's primary objective is to provide general law enforcement services to the City, ensuring safety and security for residents throughout the community. The nearest station is located at 160 W Sixth Street, approximately one mile south of the Project Site.

As stated in response (a) above, the Project would be required to annex into Upon annexation, police services for the Project Site would be provided by the City of San Jacinto through contract with the RCSD. Since the City of San Jacinto contracts with the RCSD, no substantial change in services would result. The RCSD currently has 50sworn officers/personnel serving the City[20]. The proposed development of 151 single-family units would result in an additional 521 people (based on 3.45 people per household[21]). The officer to citizen ratio is not anticipated to result in a significant impact to current response times. Given the distance to the Project Site from the station (e.g., one mile), the Proposed Project would not significantly increase response times and therefore would have a less of an impact on police services. In addition, through the implementation of all regulations and City policies for development projects (i.e., collection of developer impact fees), the Project will have a less than significant impact on police services.

Schools?			X	

Response: *Source:.*

School services for the Project Site are currently provided by the San Jacinto School District (SJSD). Upon annexation, the Project Site would continue to be served by SJSD. The development of 151 single-family units on the proposed lots would result in an additional 521 people. The Project is required to pay the state-mandated school fees in place at the time that development occurs. In addition, on-going school taxes are collected as part of local tax assessment. These fees are designed to mitigate impacts to schools by providing funds for the construction of new facilities. Through the implementation of all regulations and City and School District policies for development projects, the Project will have a less than significant impact on schools.

Parks?			X	

[20] City of San Jacinto Sheriff Dispatch phone conversation, March 1, 2024.
[21] https://sanjacinto.generalplan.org/documents-amp-maps. Accessed December 6, 2022.

ISSUES & SUPPORTING INFORMATION SOURCES:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact

Response: *Source:.*

The Quimby Act of 1975, (California Government Code § 66477), commonly called the "Quimby Act", allows a city or county to pass an ordinance that requires, as a condition of approval of a subdivision, either the dedication of land, the payment of a fee in lieu of dedication, or a combination of both for park and recreational purposes allows a city or county to require a maximum parkland dedication standard of 3 acres of parkland per 1,000 residents for new subdivision development unless the jurisdiction can demonstrate that the amount of existing neighborhood and community parkland exceeds that limit. In accordance with Section 66477, a jurisdiction may establish a parkland dedication standard based on its existing parkland ratio, provided required dedications do not exceed 5 acres per 1,000 people.

The City of San Jacinto Trails Master Plan (TMP) serves as San Jacinto's active transportation and trails guide for the development of multi-modal projects that best meet the needs of the community. The TMP aims to be the basis for the City's commitment to make San Jacinto a greener, more pedestrian and bicycle friendly community as part of a comprehensive sustainability strategy by reducing the need for motor vehicle travel and associated emissions. The TMP establishes a system of corridors by incorporating walking, biking, and multi-use paths (trails) within San Jacinto's streets and open space. Additionally, the plan provides recommendations on how to successfully implement and maintain the proposed corridor improvements.

The Valley-wide Recreation and Parks District (VWRPD) was created to provide recreation, and park services and now serves residents within an 800-square-mile area encompassing San Jacinto, Hemet, Valley Vista, Sage, Aguanga, Winchester, Menifee, and French Valley. In December 2019, Riverside County and VWRPD updated the Memorandum of Understanding (MOU) to establish protocols to coordinate developer-initiated development projects within the unincorporated portions of the VWRPD service area. The 2020 Master Plan updates the previous 2010 Master Plan with goals to maintain, sustain, and improve the existing system, and prepare the District for future growth associated with new development. In addition, the Riverside County - Regional Park Department and the Valley-Wide Recreation and Park District provide recreational facilities and amenities for the Project Site.[22] There are a total of nine regional parks within the system encompassing 7,982 acres. In addition to regional-scale parks, there are several community parks within the system. The nearest regional park to the Project Site is Hurkey Creek Park located approximately 22 miles southeast of the Project Site. Since there are no local or regional County Park facilities in the immediate annexation area it is likely that future residents of the development will use nearby City Park facilities, in addition to park space (4.13-acres located throughout the development) proposed as part of the Project.

The Project includes approximately 4.5 acres of park throughout the Project Site. The Project is not anticipated to result in significant impacts to park facility with the collection of Quimby Act fees, park space provided on-site and amenities available within the Valley-Wide Recreation and Parks District which would continue to serve the area. A less than significant impact on recreational facilities, directly, indirectly, and cumulatively.

Other public facilities?				X

Response: *Source: City of San Jacinto General Plan Update Final EIR, November 2022.*

The City Council of the City of San Jacinto established Community Facilities District No. 2020-1 (the

[22] https://rivcoparks.org/ and chrome-extension://efaidnbmnnnibpcajpcglclefindmkaj/https://www.gorecreation.org/files/ab5e857a7/Master+Plan+2010.pdf

ISSUES & SUPPORTING INFORMATION SOURCES:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact

"District") pursuant to the Mello-Roos Community Facilities Act of 1982, commencing with Section 53311 of the Government Code of the State of California (the "Act"). The types of facilities and services provided and financed by the District include maintenance of landscaped areas, parkways, medians and public right-of-ways, including, but not limited to, street trees, fencing, irrigation systems, sidewalks, drainage systems, graffiti removal, replacement, furnishing of water, electric current or energy, gas, streetlights, traffic signals and appurtenant facilities, including, but not limited to furnishing of electric current, materials, contracted services, and the necessary maintenance, replacement, and repair required to keep the improvements in operational and satisfactory condition and any other services authorized under the Act.

Upon annexation, the Project Site will be included into the City of San Jacinto's Street Lighting District. Once the Project Site is annexed into the City and the Street Lighting District, installation and maintenance of new street lights will be provided by the City. There are no traffic signals planned for the Project.

The developer is expected to cover all street light installation costs in addition to maintenance costs for a year. After a year, the City will start maintaining the street lights and will charge an annual assessment fee per single-family unit. Therefore, no impacts to other public facilities.

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?			X	

Response: *Source: City of San Jacinto General Plan Update Final EIR, November 2022.*

Upon approval of the Project, park services would continue to be provided by the Valley-Wide Recreation and Parks District..

Upon annexation and approval of the Project, an additional 521 people, which according to the City's adopted residents to parkland ratio, would require an additional 2.6 acres of parkland. The Project includes the construction of approximately 4.5 acres of park space within the proposed development, which would provide the necessary park amenities for the new residents. In addition, with the collection of Quimby fees required for all new construction, the City will continue to seek out opportunities to enhance parklands. Therefore, within collection of park development fees the Project will have a less than significant impact on recreational facilities.

ISSUES & SUPPORTING INFORMATION SOURCES:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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?			X	

Response: *Source:.*

The Project includes the construction of 4.5-acres of park space for on-site residential use the development. The construction of the on-site parks was reviewed as part of the technical studies prepared for the Project. As discussed in the air quality and greenhouse gas portions of this Initial Study, less than significant impacts would result. Therefore, the Project will have a less than significant impact on recreational facilities.

XVII. TRANSPORTATION – Would the project:				
a) Conflict with program plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?		X		

Response: *Source: Traffic Analysis for Kasbergen/Hafliger TT34271, Urban Crossroads, June 13, 2023*

A Traffic Analysis for Kasbergen/Hafliger TT 34271 was prepared by Urban Crossroads and is dated June 13, 2023. The report is available for review at the City of San Jacinto Community Development Department and results of the study are summarized herein. The Project is proposed to consist of 152 residential dwelling units (including one existing residence and the future construction of 151 single-family residences). It is anticipated that the Project would be fully developed by year 2026. Project will have two full access points along the Alessandro Avenue and one full access point along Vernon Avenue.

For the purposes of this traffic study, potential impacts to traffic and circulation have been evaluated for each of the following conditions:

- Existing (2022) Conditions
- Existing plus Ambient Growth plus Cumulative (EAC) (2024) Conditions
- Existing plus Ambient Growth plus Project Plus Cumulative (EAPC) (2024) Conditions

Based on consultation with City of San Jacinto staff, the following ten study area intersections as listed in Table 10 were selected for review

Table 10
Intersection Analysis Locations

ID	Intersection	ID	Intersection
1	State St. (SR-79) / Ramona Exwy. (SR-79)	6	Alessandro Av. / Main St.
2	Alessandro Av. / Ramona Exwy.	7	Vernon Av. / Main St.
3	Vernon Av. / Ramona Exwy.	8	Alessandro Av. / St. 'A' - *(Future Project Drivewa*
4	Alessandro Av. / 1st St.	9	Alessandro Av. / St. 'G'- *(Future Project Drivewa*
5	Vernon Av. / 1st St.	10	Vernon Av. / St. 'E'- *(Future Project Driveway)*

The following is a summary of the analysis results for Existing (2022), EAC (2024), and EAPC (2024) conditions.

Existing (2022) Conditions - For Existing (2022) traffic conditions, the study area intersection of Alessandro Avenue / Ramona Expressway (#2) is currently operating at an unacceptable LOS (i.e., LOS "E" or worse) during AM and PM peak hours.

Opening Year (2024) Conditions - For EAC (2024) traffic conditions, the study area intersection of Vernon Avenue / Main Street (#7) is currently operating at an unacceptable LOS (i.e., LOS "F" or worse) during AM and PM peak hours. For EAPC (2024) traffic conditions, no additional study area intersections are anticipated to operate at an unacceptable LOS (i.e., LOS E or worse) during one or more peak hours.

All study area intersections are evaluated using the Highway Capacity Manual (HCM) 6th Edition analysis methodology. Trips generated by the Project's proposed land uses have been estimated based on trip generation rates collected by the Institute of Transportation Engineers (ITE) Trip Generation Manual, 11th Edition, 2021. (2) The Project is anticipated to generate a net total of 1,424 trip-ends per day with 106 AM peak hour trips and 140 PM peak hour trips.

For Existing plus Ambient plus Cumulative (EAC) traffic conditions, the intersections of Alessandro Avenue/Ramona Expressway (#2) and Vernon Avenue/Main Street (#7) are anticipated to operate at an unacceptable level of service (LOS "E" or worse). Both deficient intersections are projected to meet traffic signal warrants under EAC (2024) conditions.

For Existing plus Ambient plus Project plus Cumulative (EAPC) traffic conditions, the addition of Project traffic to study area intersections did not result in new deficient intersection operations. Installation of a traffic signal at the two deficient locations are anticipated to address intersection operational deficiencies. To reduce potential impacts to a less than significant level, the following mitigation measure shall be implemented:

TRANS-1: Prior to the issuance of grading permits, the Project Applicant shall participate in the Western Riverside County Transportation Uniform Mitigation Fee (TUMF) Program[23] by paying the requisite fee; and in addition, pay the Project's fair share towards the installation of traffic signals at the intersection of #2 - Alessandro Avenue/Ramona Expressway (6.8% fair share) and #7 - Vernon Avenue/Main Street (5.2%), or as agreed to by the City and Project Applicant.

TEMPORARY TRAFFIC IMPACTS FROM CONSTRUCTION

The Project will be importing approximately 14,000 cubic yards of fill dirt during the grading stage of construction. The applicant projects that this will relate to approximately 1,000 truckloads of dirt. To ensure that these truck trips do not significantly impact the roadway system, Mitigation Measure TRAN-1 **and TRAN-2** are proposed.

LOCAL FUNDING MECHANISMS

Upon annexation, the Project would be subject to the City's Development Impact Fees. The Applicant would be required to participate in the cost of off-site improvements through payment of City Development Impact Fees based on the current fees at the time of construction.

SUMMARY

Based upon the analysis above the Project as designed and conditioned will have a less than significant impact with mitigation on the performance of the circulation system, non-motorized plans, and ordinances or policies establishing measures of effectiveness for the performance of the non-motorized circulation system.

ISSUES & SUPPORTING INFORMATION SOURCES:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
TRANS-2: Prior to grading permit issuance, the developer shall submit a Construction Haul Route Plan per the California Manual on Uniform Traffic Control Devices, for review and approval by the City Engineer. The plan shall include, but not be limited to, signing, truck routes, dirt hauling hours, and start/end dates. Implementation of the Mitigation Measure TRANS-2 would ensure potential traffic hazards related to construction activity is reduced to a less than significant level.				
b) Conflict or be inconsistent with CEQA Guidelines section 15064.3[6] or will conflict with an applicable congestion management program, including, but not limited to, level of service standards and travel demand measures, or other standards established by the county congestion		X		

Response: *Kasbergen/Hafliger TT3427 Vehicle Miles Traveled (VMT) Analysis, Urban Crossroads, February 23, 2022*

The Project is proposed to consist of 151 residential dwelling units. Project will have two full access driveways along the Alessandro Avenue and one full access driveway along Vernon Avenue. Trips generated by the Project's proposed land uses have been estimated based on trip generation rates collected by the Institute of Transportation Engineers (ITE) Trip Generation Manual, 11th Edition, 2021. (2) The Project is anticipated to generate a net total of 1,424 trip-ends per day with 106 AM peak hour trips and 140 PM peak hour trips.

PROJECT SCREENING

The San Jacinto Guidelines provide details on appropriate "screening thresholds" that can be used to identify when a proposed land use project is anticipated to result in a less-than-significant impact without conducting a more detailed analysis. Screening thresholds are broken into three types:

- Transit Priority Area (TPA) Screening
- Low VMT Area Screening
- Project Type Screening

A land use project need only to meet one of the above screening thresholds to result in a less than significant impact. For the purposes of this analysis, the initial VMT screening process was conducted using the Riverside County Transportation Analysis Model (RIVTAM).

TPA SCREENING

Consistent with guidance identified in the Technical Advisory, projects located within a Transit Priority Area (TPA) may be presumed to have a less than significant impact. A TPA is defined as within ½ mile of: 1) an existing "major transit stop" (containing a rail transit station served by either bus services or rail transit service, or the intersection of two or more major bus routes with a frequency of service interval of 15 minutes or less during the morning and afternoon peak commute periods) or 2) an existing stop along a "high-quality transit corridor" (a corridor with fixed route bus service with service intervals no longer than 15 minutes during peak commute hours). The Project site is not located within ½ mile of an existing major transit stop, or along a high-quality transit

[23] Transportation Uniform Mitigation Fee **is** a component of Riverside County's Measure A program to provide funding for transportation projects throughout the region. CVAG administers the TUMF program for the Coachella Valley and applies fee revenues toward priority projects in the regional arterial system as determined by the Transportation Project Prioritization Study and Nexus Report. The TUMF, like all impact fees, is authorized through California's Mitigation Fee Act, government code §66000-66025.

corridor. Thus, the TPA screen threshold is not met.

LOW VMT AREA SCREENING

The San Jacinto Guidelines also states that, "residential and office projects located within a low VMT generating area may be presumed to have a less than significant impact absent substantial evidence to the contrary. In addition, other employment-related and mixed-use land use projects may qualify for the use of screening if the project can reasonably be expected to generate VMT per resident, per worker, or per service population that is similar to the existing land uses in the low VMT area." The sub-regional RIVTAM is used to measure VMT performance within individual traffic analysis zones (TAZs). An estimate of the VMT in the Project's physical location was calculated to determine the relevant TAZ's VMT as compared to the jurisdictional average. The WRCOG screening tool has been reviewed and the Project is not in a low VMT area. Thus, the Low VMT Area screening threshold is not met.

PROJECT TYPE SCREENING

The San Jacinto Guidelines allow residential projects of 53 or fewer single family housing units to be screened out. Because there are more than 53 residential units in the Project, the Project is not considered small enough to not warrant assessment. Therefore, the Project would not be eligible to screen out based on project type screening. Thus, the Project Type screening threshold is not met.

Since none of the project level screening criteria were met, a project-level VMT analysis was prepared.

PROJECT VMT ASSESSMENT

The VMT projections are based upon the RIVCOM version 3.0 which became available in 2021. RIVCOM is a useful tool to estimate VMT as it considers interaction between different land uses based on socio-economic data such as population, households, and employment. The San Jacinto Guidelines identify RIVCOM as the appropriate tool for conducting VMT analysis for land use projects in San Jacinto.

CITYWIDE BASELINE RESIDENTIAL VMT CALCULATION

In order to provide an appropriate baseline for VMT comparison, the RIVCOM VMT was extracted for the City of San Jacinto. Table 11 shows the total population and VMT data for the City of San Jacinto for 2018 and 2045 conditions. VMT data for 2022 conditions has been interpolated to provide a baseline for the Project comparisons. The Citywide Baseline daily Residential Home Based VMT per Capita based on RIVCOM is 14.12 VMT/Capita, which is less than the RIVTAM VMT/Capita.

Table 11
Citywide Home-Based VMT

Category	2018	2045	2022 (Interpolated)
Population	46,149	70,941	49,822
VMT	639,424	1,070,626	703,306
VMT/Capita	13.86	15.09	14.12

Project VMT has been calculated using the most current version of RIVCOM. Adjustments in socioeconomic data (SED) (i.e., employment) have been made to within the RIVCOM model to reflect the Project's proposed residential land use and population. Table 12 summarizes the household / population estimates for the Project. The population estimates provided in the VMT Assessment have been developed from household land use to population factors from the City Guidelines.

Table 12
Household Population Estimates

Socio-Economic Variable	Estimated Quantity
Single Family Households	152 households
Population	560 residents

Adjustments to household and population data for the Project TAZ were made to the RIVCOM base year model (2018) and the cumulative year model (2045). Each model was then run with the updated SED factors included for the Project TAZ.

PROJECT RESIDENTIAL VMT CALCULATION

Consistent with recommendations contained in the San Jacinto Guidelines, the residential calculation of VMT is based upon the home-based project-generated VMT per population and also upon the project effect on VMT. The home-based VMT associated with the Project was used for both baseline and cumulative conditions. VMT estimates are provided for both the base year model (2018) and cumulative year model (2045), and linear interpolation was used to determine the Project's home-based baseline (2022) VMT.

Table 13
Baseline and Cumulative Project Residential Home-Based VMT

Category	Project 2018	Project 2045	Project 2022 (Interpolated)
Residents	560	560	560
VMT	7,673	10,155	8,041
VMT/Resident	13.70	18.13	14.36

For baseline (2022) conditions, the Project generates 8,041 Home-Based VMT. There would be an estimated 560 Project residents. The result is approximately 14.36 home-based VMT / Capita for the 2022 Baseline with Project conditions.

The Project effect on VMT is based upon the Citywide home-based VMT estimates, which have been developed from the "Without Project" and "With Project" RIVCOM model runs. Once total home-based VMT for the area is calculated, total area VMT is then normalized by dividing by the population as shown on Table 14.

Table 14
Project-Related Effect on Citywide Home-Based VMT

Category	2018	2045	2022 (Interpolated)
Without Project Population	46,149	70,941	49,822
Without Project VMT	639,424	1,070,626	703,306
Without Project VMT/Capita	13.86	15.09	14.12
With Project Population	43,709	70,941	50,299
With Project VMT	646,063	1,071,033	709,022
With Project VMT/Capita	13.83	15.10	14.10

The estimates of baseline residential home-based Project VMT / Capita are compared to the City of San Jacinto VMT of 14.12 home-based VMT / Capita. The Project home-based VMT / Capita of 14.36 is greater than the

ISSUES & SUPPORTING INFORMATION SOURCES:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact

City VMT / Capita threshold based on RIVCOM procedures.

PROJECT DESIGN FEATURES FOR VMT REDUCTION

Transportation demand management (TDM) strategies have been evaluated for the purpose of reducing VMT impacts determined to be potentially significant. Quantifying Greenhouse Gas Mitigation Measures (CAPCOA, 2010) provides information on individual measures for potential reduction in VMT. Of the 50 transportation measures presented by CAPCOA, approximately 41 are applicable at a building and site level. The remaining 9 measures are functions of, or depend on, site location and/or actions by local and regional agencies or funders.

On page 58 of the CAPCOA 2010 document, ten percent is referenced as the maximum reduction when combining multiple mitigation strategies for the *suburban* place type (characterized by dispersed, low density, single-use, automobile dependent land use patterns) and requires a project to contain a diverse land use mix, workforce housing, and project-specific transit. The maximum percent reductions were derived from a limited comparison of aggregate citywide VMT performance rather than based on data comparing the actual performance of VMT reduction strategies in the place type.

Even under the most favorable circumstances, projects located within a suburban context, such as the Proposed Project, can realize a maximum 10 percent reduction in VMT through implementation of feasible TDM measures. To ensure the project reduces VMT, the following mitigation measures shall be made conditions of project approval:

> **TRANS-3: The Project Proponent shall ensure that design elements that enhance walkability and connectivity are included as part of the Project design. In addition to sidewalks on all interior streets, the Project shall include sidewalks adjacent to the development on Vernon Street and Alessandro Avenue. A sidewalk shall also be proposed along the existing residential parcel on the southwest corner of the Project.**
>
> **TRANS-4: The Project Proponent shall construct, two 10-foot shared-use path paseos shall be constructed to connect Street "D" with Alessandro Avenue and connect Street "J" with Vernon Street. The path paseos shall be verified by Planning Staff at the time of final inspection and prior to occupancy.**

With implementation of Mitigation Measures TRANS 3 and TRANS-4, the Project would provide non-motorized access connections and opportunities for residents to have more direct walk /bike access to adjacent collector streets as well as the regional trail/off-road Class I Bikeway parallel to Ramona Expressway. The implementation of these measures would reduce impacts to less than significant and would provide for a potential reduction in Project residential VMT of two percent, resulting in 14.07, which is less than the City of San Jacinto VMT threshold. In summary, VMT for the Project based upon City of San Jacinto guidelines and accounting for the enhanced pedestrian design features, indicates that the Project VMT would be lower than the threshold.

c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?			X	

Response: *Traffic Analysis for Kasbergen/Hafliger TT3427, Urban Crossroads, February 23, 2022*

As designed the Project does not have geometric design features that are dangerous. The Project has been reviewed for both on-site and off-site safety hazards by City Engineering and Fire. The Project will have less than significant impact as it will not create or increase hazards on the circulation system.

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?			X	

Response:

The Project has been reviewed for both on-site and off-site safety hazards by Engineering and Fire to ensure adequate emergency access is provided and was found to be compliant with City standards. The Project will have less than significant impact as it will not create or increase hazards on the circulation system.

XVIII. TRIBAL CULTURAL RESOURCES – Would the project:

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			X	
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.			X	

Response:

California Assembly Bill 52 (AB52) was approved by Governor Brown on September 25, 2014. AB52 specifies that CEQA projects with an effect that may cause a substantial adverse change in the significance of a tribal cultural resource may have a significant effect on the environment. As such, the bill requires lead agency consultation with California Native American tribes traditionally and culturally affiliated with the geographic area of a proposed project, if the tribe requested to the lead agency, in writing, to be informed of proposed projects in that geographic area. The legislation further requires that the tribe-requested consultation be completed prior to determining whether a negative declaration, mitigated negative declaration, or environmental impact report is required for a project.

On February 15, 2023 following determination of a complete Project Application, the City of San Jacinto contacted representatives of the following tribes: Agua Caliente, Rincon and Soboba Band of Luiseño Indians. All tribes declined consultation with the exception of Soboba whom requested consultation on February 27, 2023. Consultation concluded on March 16, 2023 with the Tribe accepting the City's standard conditions of approval (as presented below) for the project:

Tribal Cultural Resources

Prior to grading permit issuance, the developer shall enter into a Treatment and Disposition Agreement (TDA) with the Soboba Band of Luiseño Indians to address treatment and disposition of archaeological, or Tribal Cultural Resources and human remains associated with the Soboba Band of Luiseño Indians that may be uncovered or otherwise discovered during ground-disturbing activities related to the project, if monitoring deemed necessary by Soboba Band of Luiseño Indians. The TDA will establish provisions for tribal monitoring and shall be submitted

ISSUES & SUPPORTING INFORMATION SOURCES:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact

to the Planning Division once it has been executed.

Discovery of Human Remains

If human remains, grave goods, ceremonial items, and/or sacred items are encountered, work will immediately halt within the immediate area and any nearby area reasonably suspected to overlie adjacent remains, and a 100-foot ESA boundary will be established to protect the find from impact, and the Soboba Band of Luiseno Indians and the City of San Jacinto Planning Division shall be immediately notified.

In accordance with Section 7050.5 of the California Health and Safety Code and State CEQA Guidelines Section 15064.5(e), if human remains are found, the Riverside County Coroner's office shall be notified by the permittee within 24 hours of the discovery. County Coroner's determination regarding the origin of the remains and any required notification is described in Section 7050.5 of the California Health and Safety Code and State CEQA Guidelines Section 15064.5(e). No further excavation or disturbance of the potential human remains, or any area reasonably suspected to overlie additional remains, shall occur until a determination has been made, any notifications have been sent and received, and the Riverside County Coroner's Office has cleared the site.

No other conditions or mitigations were determined to be required. With implementation of the above conditions of approval, impacts to tribal cultural resources would be less than significant.

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 relocation of which could cause significant environmental effects?			X	

Response:

Water

Upon Annexation, the Project would be served by City of San Jacinto Water Department through an Interagency Permit Agreement with EMWD. The Project would connect to an existing 12-inch water line in Vernon Street. The waterline will be a looping waterline..

Wastewater Treatment

Upon Annexation, EMWD will provide wastewater treatment for the Proposed Project. A will-serve letter was issued for the Project in May 2022..

Storm Water Drainage

A series of detention basins are planned for the Project Site, including two basins in Lot A located at the northeast and northwest corners of the Project Site, a basin in the dual-use playfield area located within Lot E (park/basin combo), a basin in Lot F that was designed for City offsite water drainage and flood control. Lot 'F' will be dedicated to the City /CFD-2020-1 Maintenance District and includes offsite grading and drainage easements on a portion of an adjacent EMWD parcel (APN 433-070-031) and a portion of a Riverside County owned parcel (APN 433-060-024) that would form a combined Storm Drain/ Percolation/Infiltration Basin to provide surplus detention quantities and flooding protection of Ramona Expressway and the adjacent 175 acres of undeveloped land south to Main Street. Drainage from basins in Lot A and Lot E would be carried westerly and returned at approximately no net increase through the 8-

ISSUES & SUPPORTING INFORMATION SOURCES:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact

inch curb-face outfalls located on the south side of Ramona Expressway and the northeast 6-inch curb-face of Alessandro Avenue.

Electric Power

Electric power would be provided to the Project Site by SCE. The Project will connect to an existing distribution line located within Alessandro Avenue. SCE has committed to providing service to the planned uses of the General Plan and its Sphere of Influence. The Project will not require or result in the relocation or construction of new or expanded electric power which could cause significant environmental effects.

Natural Gas

Natural gas would be provided to the Project Site by SCG. The Project will connect to an existing distribution line in Alessandro Avenue. SCG has committed to providing service to the planned uses of the General Plan 2040, and the City's Sphere of Influence. The Project will not require or result in the relocation or construction of new or expanded natural gas facilities power which could cause significant environmental effects.

Telephone and Cable

The Proposed Project would be serviced by Verizon telephone for landline requirements and Frontier Cable for cable service. The Proposed Project is not anticipated to require the expansion or construction of new communications systems facilities. Furthermore, the telecommunication lines would be joint trenched with the electricity and natural gas lines.

The Proposed Project is not anticipated to require or result in the relocation or construction of new or the extensive expansion of water, wastewater treatment or storm water drainage, electrical power, natural gas, or telecommunications facilities that could cause significant environmental effects. adverse impacts are identified or are anticipated, and no mitigation measures are required.

ISSUES & SUPPORTING INFORMATION SOURCES:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?			X	

Response: *TTM 34271 Plan of Services, 2025.*

Upon Annexation, the Project would be served by City of San Jacinto Water Department through an Interagency Permit Agreement with EMWD. An appropriate will serve letter would be provided to Planning Staff as a condition of project approval..

A well near the intersection of Main Street and Ramona Expressway began operating during the summer of 2005. Additionally, a new well is being drilled at Grand Avenue and is estimated to be in service by 2025. The City's Urban Water Management Plan states that it has adequate water service projected through 2045. In the event of emergencies, additional water supply is available to be purchased from EMWD for domestic water service. The estimated water use for the Project is 63,420 gallons per day (gpd) at 420 gpd per unit (71 acre-feet per year)), and irrigation of Lettered Lots at 15,411 gpd.[24]

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?			X	

Response: *TTM 34271 Plan of Services, November 2022.*

EMWD will provide wastewater treatment for the proposed 151 new single-family residential development; the existing single family home would remain on septic). The proposed development would connect to existing sewer lines for wastewater and would be treated at the Hemet/San Jacinto Regional Water Reclamation Facility. The 255-acre facility is located at 770 North Sanderson Avenue in the western portion of the City of San Jacinto. The plant performs primary, secondary, and tertiary treatment of wastewater, The facility's current capacity is 14 million gallons per day (mgd), and the ultimate planned expansion capacity is 27 mgd.

The proposed 151 lot subdivision would result in water demand of 63,420 gpd (420 gpd times 151 dwelling units), and irrigation requirements for the lettered lots at 15,411 gpd.

The Proposed Project is anticipated to generate 30,804 gallons of wastewater per day[25] or approximately 0.2 percent of the WWTP's capacity. The wastewater generated would not exceed the WWTP's daily capacity. The Proposed Project would generate wastewater that can be discharged to a municipal system with sufficient capacity.

The Proposed Project would be reviewed by the City and the applicable wastewater providers to determine that sufficient sewer capacity exists to serve the additional population that would be generated by the Proposed Project. The City would continue to coordinate with the wastewater service providers to ensure that new development would not exceed the capacity of wastewater conveyance and treatment facilities, and that new development would pay development fees to increase capacity of those facilities. adverse impacts are identified or anticipated, and no mitigation measures are required.

[24] Meets State Conservation Guidelines for Landscape facilities.

[25] Black & Veatch Wastewater Collection System Master Plan. Prepared for the East Valley Water District. Land Use Sewer Generation Study Results. October 18, 2013. (204 gallons per day per unit)

ISSUES & SUPPORTING INFORMATION SOURCES:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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?			X	

Response:

Upon approval of the Project, CR&R Waste and Recycling Services would transport solid waste to the Lamb Canyon landfill. The Project Site is located approximately nine miles south of the Lamb Canyon Landfill at 16411 Lamb Canyon Road, Beaumont, California. The landfill is owned and operated by Riverside County Department of Waste Resources. The landfill property area consists of approximately 703.4 acres, The landfill has a permitted capacity of 5,000 tons per day and has an estimated disposal capacity of 39,681,513 cubic yards.[26] The Proposed Project includes 98 residential lots. According to CalRecycle's estimated solid waste generation rates for single-family residences, the Proposed Project would generate approximately 1,510 pounds of solid waste per day, or approximately 0.75 tons per day, based on 10 pounds per unit per day.[27] The proposed waste generation represents 0.015 percent of the landfill's maximum daily tonnage. Therefore, the Proposed Project solid waste generation contribution to these landfills would be nominal and would not exceed the daily permitted capacities of these facilities. No significant adverse impacts are identified or are anticipated, and no mitigation measures are required.

The Proposed Project will generate construction/demolition waste (CDW) as well as ongoing domestic waste. Solid waste generated by the residential development would likely be disposed of at the Lamb Canyon Landfill. It is presumed that construction waste would be comprised of concrete, metals, wood, landscape, and typical domestic material. CDW associated with the Proposed Project will be recycled to the extent practicable with the remainder sent to a landfill. The construction debris would be processed and recycled or sent to the landfill. Pursuant to Chapter 8.34 – Construction Demolition Waste Management of the Municipal Code 50 percent of the construction debris must be diverted.

With the implementation of the City's and CR&R's recycling programs the City continues to divert waste from the landfill. As well, compliance with Municipal Code Chapter 8.34 – Construction and Demolition Waste Management will further divert waste to the landfill. Therefore, landfill capacity is available to accommodate this Project and the Project will have a less than significant impact.

e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?			X	

Response:

Federal, State, and local statutes and regulations regarding solid waste generation, transport, and disposal are intended to assure adequate landfill capacity through mandatory reductions in solid waste quantities (for example, through recycling and composting of green waste) and the safe and efficient transportation of solid waste. The Project will comply with all regulatory requirements regarding solid waste including AB 939 and AB 341. AB 939, which is administered by the California Department of Resources Recycling and Recovery required local governments to achieve a landfill diversion rate of at least 50 percent by January 1, 2000, through source reduction, recycling, and composting activities. Moreover, AB 341 increases the minimum solid waste diversion rate to 75 percent by 2020. Such regulations will apply to this Project and compliance is mandatory. Further, mandates set forth by the CALGreen Code aim to reduce solid waste

[26] https://secure.calrecycle.ca.gov/SWISDocument/Document/Details/387999 Accessed December 15, 2022.
[27] CalRecycle. Estimated Solid Waste Generation Rates. Accessed December 15, 2022.

ISSUES & SUPPORTING INFORMATION SOURCES:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
generation and promote recycling and diversion design and activities, to which this Project is required to comply. There will be less than significant impacts, regarding compliance with federal, State, and local statutes and regulations related to solid waste.				
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?			X	
Response: The City's Emergency Operation Plan describes the City's process for responding to emergencies or disasters. In addition, the City, along with most other jurisdictions in Riverside County, joined with the County of Riverside to submit a Multi-Jurisdictional LHMP program for providing a framework for emergency response. As previously discussed, the proposed development would not alter the existing circulation pattern in the Project area. Emergency access and evacuation routes will be unaffected by the proposed Project. Construction activities may temporarily restrict vehicular traffic. However, even temporary changes to the existing roadway network require the approval of the City and notification to all emergency responders. The Project provides adequate access for emergency vehicles, including adequate street widths and vertical clearance. Implementation of federal, State, and local laws and regulations in the construction of this Project would result in less than significant impacts to adopted emergency response or evacuation plans.				
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?				X
Response: *City of San Jacinto General Plan 2040, November 2022* Due to climate, vegetation, and topography, the City is subject to both wildland and urban fires. The natural vegetation of the largely undeveloped hillsides located in both the westernmost and easternmost portions of the City are highly prone to wildland fires. The Public Safety Element addresses both wildland and urban fire risk reduction and prevention, as well as mitigation efforts. The City does not have its own Local Hazard Mitigation Plan (LHMP), but adopted Resolution 3738 on September 18, 2018 approving the City of San Jacinto Local Hazard Mitigation Plan Annex from the Riverside County Operational Area Jurisdictional LHMP, therefore allowing the City to utilize the County LHMP, which addresses the topic of wildfires. The Project Site is not located within a Fire Hazard Severity Zone[28]. In addition, the Project Site is relatively flat. Therefore, the Project will not exacerbate wildfire risks and would result in no impact from the exposure of pollutant concentration from a wildfire or the uncontrolled spread of a wildfire.				

[28] https://drive.google.com/file/d/12Vj9c-gjvsqypdwprdq_9OCvIt8OCksM/view. Accessed December 16, 2022.

ISSUES & SUPPORTING INFORMATION SOURCES:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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?				X

Response: *City of San Jacinto General Plan 2040, November 2022*

Proposed off-site and on-site improvements include installation of curb, gutter, and sidewalk. The Proposed Project will connect to existing utilities and service system infrastructure with the exception of water and sewer line extensions that will be needed. These would occur within public rights-of-way and not within areas prone to wildfires. The Project will not require the installation or maintenance of associated infrastructure that would exacerbate fire risk, or that may result in temporary or ongoing impacts to the environment and as such will have a no impact.

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?				X

Response:

As previously discussed, the Project Site is not located within a Fire Hazard Severity Zone and is relatively flat. Therefore, the potential for landslides as a result of runoff from post-fire slope instability does not exist at the site. Therefore, no impacts are expected and the Project would not expose people or structures to significant risk, from flooding, or landslides as a result of post-wildfire.

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?			X	

Biological Resources

In Section IV (Biological Resources), it is noted that the MSHCP has identified burrowing owl as a species of concern. There was no sign of burrowing owl or burrowing owl use on the site. Depending upon the timing of the proposed construction, the burrowing owl could move on site. Also, impacts on active bird nests could also occur. Therefore, Mitigation are proposed to require a pre-construction survey for the burrowing owl and requiring grading/construction to occur outside of the nesting season for birds. No other biological impacts are expected. Therefore, it was determined that the Project would have a less than significant impact with mitigation on any species identified as a candidate, sensitive, or special status species in local or regional plans, or policies.

ISSUES & SUPPORTING INFORMATION SOURCES:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Cultural and Tribal Resources The cultural resources survey for the Project Site was negative for the presence of CRHR-eligible archaeological sites. Additional research revealed that a previous study (Sanka 2006) evaluated Site RIV-7967, identified within the Project Site, as not eligible for listing on the CRHR. The findings of the current study are consistent with the 2006 Sanka study. The Project Site was developed in the mid-twentieth century, and the dairy features were abandoned and impacted by grading sometime after the year 2000. Given the current condition of Site RIV-7967 and the lack of additional resources within the Project Site, the proposed development would not have any impact to any known CRHR-eligible resources. Based upon the results of the research and survey of the Project Site, no cultural resources will be affected by development. Furthermore, based upon the prior development and subsequent clearing of the Project Site, there is little to no potential for archaeological deposits on-site. No significant impacts are identified or anticipated, and no additional mitigation measures are required.				
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.)			X	
Cumulative impacts are defined as two or more individual affects that, when considered together, are considerable or that compound or increase other environmental impacts. The cumulative impact from several projects is the change in the environment that results from the incremental impact of the development when added to the impacts of other closely related past, present, and reasonably foreseeable or probable future developments. Cumulative impacts can result from individually minor, but collectively significant, developments taking place over a period. The CEQA Guidelines, Section 15130 (a) and (b), states: (a) Cumulative impacts shall be discussed when the project's incremental effect is cumulatively considerable. (b) The discussion of cumulative impacts shall reflect the severity of the impacts and their likelihood of occurrence, but the discussion need not provide as great detail as is provided of the effects attributable to the project. The discussion should be guided by the standards of practicality and reasonableness. The potential cumulative environmental effects of the Proposed Project would fall within the impacts identified in the County's General Plan Update EIR. This includes cumulative air quality/GHG, noise, traffic, water and cultural impacts. No cumulative impact greater than that identified in the General Plan EIR would result from construction of the Proposed Project. The Proposed Project will permanently increase the ambient noise levels in the project vicinity above levels existing without the project. However, the Proposed Project meets all applicable Noise element policies and is anticipated to have a less than significant noise impact. The Proposed Project occurs within the Highway 79 Policy Area and would provide adequate circulation to and within the Project Site and is therefore consistent with and meets all other applicable polices within the Circulation Element of the General Plan. Potential impacts to traffic with implementation of the Proposed Project would be mitigated to a less than significant level with adherence to Mitigation Measure TRAN-1 through TRAN-6 as provided in this Initial				

ISSUES & SUPPORTING INFORMATION SOURCES:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact

Study. Construction of the Project would be required to adhere to standards provided by the National Institute for Occupational Safety and Health. Potential impacts from traffic noise along Ramona Expressway would be reduced to a less than significant level with implementation of Mitigation Measure NOI-1 provided in this Initial Study.

CEQA guidelines require that other reasonably foreseeable development projects which are either approved or being processed concurrently in the study area be included as part of a cumulative analysis scenario. A cumulative project list was developed through consultation with planning and engineering staff from the City of San Jacinto. The traffic generated by individual cumulative projects was manually added to the Opening Year Cumulative forecasts to ensure that traffic generated by the listed cumulative development projects are reflected as part of the background traffic.

An existing transportation deficiency occurs at the intersection of Alessandro Avenue / Ramona Expressway. With the addition of cumulative traffic, the intersection of Vernon Avenue / Main Street is also anticipated to operate at an unacceptable LOS (LOS "E" or worse). Installation of traffic signals at both deficient locations are projected to address intersection operational deficiencies. The intersection operations analysis worksheets for EAC (2024) traffic condition are provided in Appendix 5.1 of the TA.

The TA reviewed the cumulative future peak hour traffic queues to the storage distances provided at the intersections of Alessandro Avenue / Ramona Expressway (#2) and Vernon Avenue / Ramona Expressway (#3). As discussed in the TA, the existing northbound left turn pocket at Alessandro Avenue / Ramona Expressway (#2) is recommended to provide a minimum of 100 ft. to adequately accommodate EAPC (2024) traffic conditions. Providing a cross-street stop controls and shared left/right outbound lanes provides acceptable peak hour service levels at the three Project access point locations (#8 – Alessandro Avenue / Street 'A', #9 – Alessandro Avenue / Street 'G', and #10 – Vernon Avenue / Street 'E').

Air Quality

Development of the Proposed Project will be conditioned to comply with current SCAQMD rules and regulations to minimize impacts to air quality as discussed. Although approval of the Project does require a pre-zone. No General Plan Amendment is proposed as the Project is consistent with the City General Plan (i.e., proposing residential). The 0.37-acre portion of the Project Site occurring on the north side of Ramona Expressway would be changed to PI to allow for necessary drainage improvements. Therefore, cumulative impacts are anticipated to be less than significant.

Greenhouse Gas

Greenhouse gas (GHG) emissions are cumulative in nature, in that, no one single project can measurably contribute to climate change and its affects (global average change in temperature, rising sea levels etc.). The direct or indirect GHG impacts are therefore not evaluated on a local level, but whether or not the GHG emissions resulting from the project are cumulative; that is, they add considerably to an increase in GHGs as compared to the existing environmental setting based on: 1) an established significance threshold(s); or 2) the extent to which the project complies with regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of greenhouse gas emissions.

The Project's emissions meet the threshold for compliance with Executive Order S-3-05. In addition, the Project's emissions also comply with the goals of AB 32. Also, as the Project meets the current interim emissions targets/thresholds established by SCAQMD, the Project would also be on track to meet the reduction target of 40 percent below 1990 levels by 2030 mandated by SB-32. Furthermore, all the post-2020 reductions in GHG emissions are addressed via regulatory requirements at the State level, and the Project will be required to comply with these regulations as they come into effect. Therefore, with the incorporation of mitigation measures identified in this document, the Proposed Project would result in individually limited, but not cumulatively considerable, impacts.

ISSUES & SUPPORTING INFORMATION SOURCES:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?			X	

Effects on human beings were evaluated as part of the Aesthetics, Air Quality, Energy, Greenhouse Gas Emissions, Hazards and Hazardous Materials, Hydrology and Water Quality Land Use/Planning, Population and Housing, Public Services, Recreation, Utilities and Service Systems and Wildfire sections of this Initial Study and were found to be less than significant for each of the above sections. As well, effects on human beings were evaluated as part of the Geology and Soils, Noise, Transportation, and sections of this Initial Study and were found to be less than significant with mitigation. Based on the analysis and conclusions in this Initial Study, the Project will not cause substantial adverse effects, directly or indirectly to human beings. Therefore, potential direct and indirect impacts on human beings that result from the proposed Project are less than significant with Mitigation Measures NOI-1, and TRANS-1 and TRANS-2. No additionally mitigation measures are warranted.

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(909) 534-4547
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March 9, 2022

Cheryl A. Tubbs, Vice President
Lilburn Corporation
1905 Business Center Drive
San Bernardino, CA 92408

RE: BIOLOGICAL RESOURCES ASSESSMENT AND WESTERN RIVERSIDE MSHCP UPDATE FOR APNS 434-180-007, 433-070-030, AND 050 IN UNINCORPORATED RIVERSIDE COUNTY, CALIFORNIA

Dear Ms. Tubbs,

Jennings Environmental was retain by Lilburn Corporation to conduct an updated survey of the proposed development of APNs 434-180-007, 433-070-030, and 050 (Project). The purpose of this update is to determine the current site conditions at the location of the proposed project and document any changes to the project area from the previous study.

This letter report provides an update to the November 2006, Habitat Assessment and MSHCP Consistency Analysis, performed by Michael Brandman Associates.

Previous Biological Assessment

On November 16, 2006, Michael Brandman Associates, completed a Habitat Assessment and MSHCP Consistency Analysis for the proposed Project. The report concluded that the project site did not overlap with Criteria Cells of the Western Riverside County MSHCP. However, the property falls within the MSHCP survey area for burrowing owl (*Athene cunicularia*) {BUOW}. The assessment further determined that the site did contain suitable habitat for the BUOW and recommended focused surveys.

The previous report also indicated that although Riverside County's Conservation Summary Report Generator (no called the RCA MSHCP Information Map) didn't identify the need to assess the habitat for Narrow Endemic Plan Species, the City of San Jacinto specifically requested that it be addressed in this report. At the time of this report, the project site did not contain habitat that was suitable for Narrow Endemic Plant Species. This was due to the lack of vernal pools and the disturbed nature of the site from agricultural activities. It was also noted that the site did contain suitable avian nesting habitat, no jurisdictional drainage features or riparian/riverine habitat, and no vernal pools or vernal pool habitat.

Project Description and Location

The Proposed Project is to develop a subdivision on this 44-acre property, consisting of residential homes, roads, utilities, and stormwater drainage. The Project is generally located in Section 26, Township 4 South, Range 1 West, and is depicted on the *San Jacinto* U.S. Geological Survey's (USGS) 7.5-minute topographic

map. More specifically the project is located within APNs 434-180-007, 433-070-030, and 050, within unincorporated Riverside County, California. The site is surrounded by residential parcels to the south and west, with undeveloped parcels to the north and east. Figures 1 and 2, in Appendix A depict the site location.

Methods

Prior to performing the updated field survey, existing documentation relevant to the Project site was reviewed. The most recent records of the California Natural Diversity Database (CNDDB) managed by CDFW (CDFW 2022), the USFWS Critical Habitat Mapper (USFWS 2022), and the California Native Plant Society's Electronic Inventory (CNPSEI) of Rare and Endangered Vascular Plants of California (CNPS 2022) were reviewed for the following quadrangles containing and surrounding the Project site: *San Jacinto*, USGS 7.5-minute quadrangle. These databases contain records of reported occurrences of federal- or state-listed endangered or threatened species, California Species of Concern (SSC), or otherwise special status species or habitats that may occur within or in the immediate vicinity of the Project site.

Jennings biologist, Gene Jennings, conducted the general reconnaissance survey within the Project site to identify the potential for the occurrence of special status species, vegetation communities, or habitats that could support special status wildlife species. The surveys were conducted on foot, throughout the Project site between 1338 and 1500 hours on January 31, 2022. Weather conditions during the survey included temperatures ranging from 69.4 to 71.7 degrees Fahrenheit, with partly to mostly cloudy skies, no precipitation, 0.9 to 2.3 mile per hour winds. Photographs of the Project site were taken to document existing conditions and are included in Appendix B.

Biological Resources Update

According to the CNDDB, CNPSEI, and other relevant literature and databases, 32 sensitive species including 6 listed species and 4 sensitive habitats, have been documented in the *San Jacinto* quad. This list of sensitive species and habitats includes any State and/or federally listed threatened or endangered species, CDFW designated Species of Special Concern (SSC), and otherwise Special Animals. "Special Animals" is a general term that refers to all of the taxa the CNDDB is interested in tracking, regardless of their legal or protection status. This list is also referred to as the list of "species at risk" or "special status species." The CDFW considers the taxa on this list to be those of greatest conservation need.

An analysis of the likelihood for the occurrence of all CNDDB sensitive plant and wildlife species documented in the *San Jacinto* quad is provided in Table 1, in Appendix 3. This analysis takes into account species range as well as documentation within the vicinity of the project area and includes the habitat requirements for each species and the potential for their occurrence on the site, based on required habitat elements and range relative to the current site conditions. According to the databases, no USFWS designated critical habitat occurs within or adjacent to the project site.

Special Status Species Background

Burrowing owl (BUOW)

The BUOW is a state and federal SSC. This owl is a mottled, brownish and sand-colored, dove-sized raptor, with large, yellow eyes, a rounded head lacking ear tufts, white eyebrows, and long legs compared to other owl species. It is a ground-dwelling owl typically found in arid prairies, fields, and open areas where

vegetation is sparse and low to the ground. The BUOW is heavily dependent upon the presence of mammal burrows, with ground squirrel burrows being a common choice, in its habitat to provide shelter from predators, inclement weather, and to provide a nesting place (Coulombe 1971). They are also known to make use of human-created structures, such as cement culverts and pipes, for burrows.

BUOW spends a great deal of time standing on dirt mounds at the entrance to a burrow or perched on a fence post or other low to the ground perch from which they hunt for prey. BUOW frequently hunt by hovering in place above the ground and dropping on their prey from above. They feed primarily on insects such as grasshoppers, June beetles, and moths, but will also take small rodents, birds, and reptiles. They are active during the day and night but are considered a crepuscular owl; generally observed in the early morning hours or at twilight. The breeding season for BUOW is February 1 through August 31. Up to 11, but typically 7 to 9, eggs are laid in a burrow, abandoned pipe, or other subterranean hollows where incubation is complete in 28-30 days. Young BUOW fledges in 44 days. The BUOW is considered a migratory species in portions of its range, which includes western North America from Canada to Mexico, and east to Texas and Louisiana. BUOW populations in California are considered to be sedentary or locally migratory.

Throughout its range, the BUOW is vulnerable to habitat loss, predation, vehicular collisions, and destruction of burrow sites, and the poisoning of ground squirrels (Grinnell and Miller 1944, Zarn 1974, Remsen 1978). BUOW has disappeared from significant portions of their range in the last 15 years and, overall, nearly 60% of the breeding groups of owls known to have existed in California during the 1980s had disappeared by the early 1990s (Burrowing Owl Consortium 1993). The BUOW is not listed under the state or federal Endangered Species Act but is considered both a federal and state Species of Special Concern. The BUOW is a migratory bird protected by the international treaty under the Migratory Bird Treaty Act of 1918 and by State law under the California Fish and Game Code (CDFG Code #3513 & #3503.5).

Habitat and Wildlife

The habitat on-site consists of disturbed ruderal vegetation. The site shows signs of recent vegetation management in the form of mowing as well as pedestrian traffic and vehicle traffic. Plant species observed on site are; Mediterranean mustard (*Hirschfeldia incana*), tumbleweed (*Salsola tragus*), rip gut brome (*Bromus Diandrus*), and wall barley (*Hordeum murinum*). Animal species observed or otherwise detected on or in the vicinity of the project site during the surveys included; common raven (*Corvus corax*), Anna's humingbird (*Calypte anna*), mourning dove (*Zenaida macroura*), house sparrow (*Passer domesticus*), and California ground squirrel (*Otospermophilus beecheyi*).

The project site is located within a moderately developed portion of San Jacinto. Although the site is undeveloped, very little evidence of any wildlife existed on-site. As indicated above very few species were observed during the site survey.

Western Riverside Multi-Species Habitat Conservation Plan

Prior to the field visit the Riverside Conservation Authority's website and databases were searched. This includes the MSHCP plan itself and any relevant protocol survey requirements. The database also includes a mapping program that contains site-specific information related to criteria cell location, special survey areas for plants and animals, and vegetation mapping.

The Project is located within The San Jacinto Valley Area Plan of the MSHCP. The target conservation acreage range for The San Jacinto Valley Area Plan is 21,740 – 29,665 acres; it is composed of approximately 10,200 acres of existing Public/Quasi-Public Lands and 11,540 – 19465 acres of Additional Reserve Lands.

The San Jacinto Valley Area Plan of the MSHCP comprises a variety of existing and proposed Cores, Linkages, Constrained Linkages, and Noncontiguous Habitat Blocks (referred to herein generally as "Cores and Linkages"). These Cores are a block of Habitat of appropriate size, configuration, and vegetation characteristics to generally support the life history requirements of one or more Covered Species. While the Linkages are a connection between Core Areas with adequate size, configuration and vegetation characteristics to generally provide for “Live-In” Habitat and/or provide for genetic flow for identified Planning Species. The Cores and Linkages within the San Jacinto Valley Area Plan that were evaluated for their relationship to the Project are described in the Plan as:

- Contains a portion of Proposed Constrained Linkage 20
- Contains all of Proposed Constrained Linkage 21
- Contains a portion of Proposed Core 3
- Contains a portion of Proposed Core 4
- Contains most of Proposed Core 5
- Contains most of Proposed Linkage 11
- Contains a large portion of Proposed Linkage 14
- Contains eastern portion of Proposed Noncontiguous Habitat Block 5
- Contains all of Proposed Noncontiguous Habitat Block 6
- Contains a large portion of Proposed Noncontiguous Habitat Block 7
- Contains a small portion of Existing
- Constrained Linkage C Contains a small portion of Existing Core J

As noted in Table 2, the Project would not affect any linkages or core areas within the San Jacinto Valley Plan Area. A summary of all MSHCP Conservation Goals and Policies as they relate to this Project is provided. The only conservation goal applicable to the Project is that it is located within a Burrowing owl survey area..

Table 2: MSHCP Conservation Goals for Project Area

Conservation Goals	**Within /Adjacent**	**Not Within /Adjacent**
Proposed Constrained Linkages: **None**		X
Core Areas: **None**		X
Linkages: **None**		X
Constrained Linkage:		X
Habitat Block:		X
Core: **None**		X

Conservation Goals	Within /Adjacent	Not Within /Adjacent
Criteria Cell:		X
Pre-existing Conservation Area		X
Riparian/Riverine or Vernal Pool Habitat		X
Narrow Endemic Plant Survey Area		X
Urban/Wildlife Interface		X
Mammal Survey Area		X
Amphibian Survey Area		X
Burrowing Owl Survey Area	X	

Conclusions and Recommendations

Biological Resources Assessment

Based on the literature review and personal observations made in the immediate vicinity, no State and/or federally listed threatened or endangered species are documented/or expected to occur within the Project site. Additionally, no plant species with the California Rare Plant Rank (CRPR) of 1 or 2 were observed on-site or documented to occur on-site in the relevant databases. No other sensitive species were observed within the project area or buffer area.

The Project Site appears to be largely unchanged from the previous report. The site is still vacant, and the habitat is ruderal/disturbed vegetation. The previous report did indicate that the site is suitable for BUOW, and that condition remains on site. As such, focused surveys are recommended to be completed prior to site disturbance using the approved Western Riverside MSHCP Protocols for Breeding Season Survey. The protocols require a series of 4 site visits conducted between March 1 and August 31.

Western Riverside MSHCP

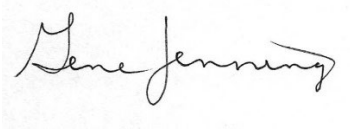
As indicated in the previous report, the site is not mapped within a criteria cell or subunit. The Project is also consistent with the MSHCP policies found in Section 6 which include Riparian/Riverine Areas/ Vernal Pools; Narrow Endemic Plant Species; Urban/Wildlands Interface; and Surveys for Special Status Species. The site is not located within an area mapped for Narrow Endemic or Criteria Area Plant Species, Special Status Species, Riparian/Riverine/Vernal Pools, and Urban/Wildlife Interface. Therefore, the Project is consistent with MSCHP policies and conditions.

The conditions onsite are, as mentioned above, very similar to the conditions documented in the previous report. The Proposed Project is consistent with the MSHCP as mentioned in the previous report and will not cause the MSHCP to not meet its' conservation goals.

Certification

I hereby certify that the statements furnished herein, and in the attached exhibits present data and information required for this analysis to the best of my ability, and the facts, statements, and information presented are true and correct to the best of my knowledge and belief. This report was prepared in accordance with professional requirements and standards. Fieldwork conducted for this assessment was performed by me. I certify that I have not signed a non-disclosure or consultant confidentiality agreement with the project proponent and that I have no financial interest in the project.

Please do not hesitate to contact me at 909-534-4547 should you have any questions or require further information.
Sincerely,

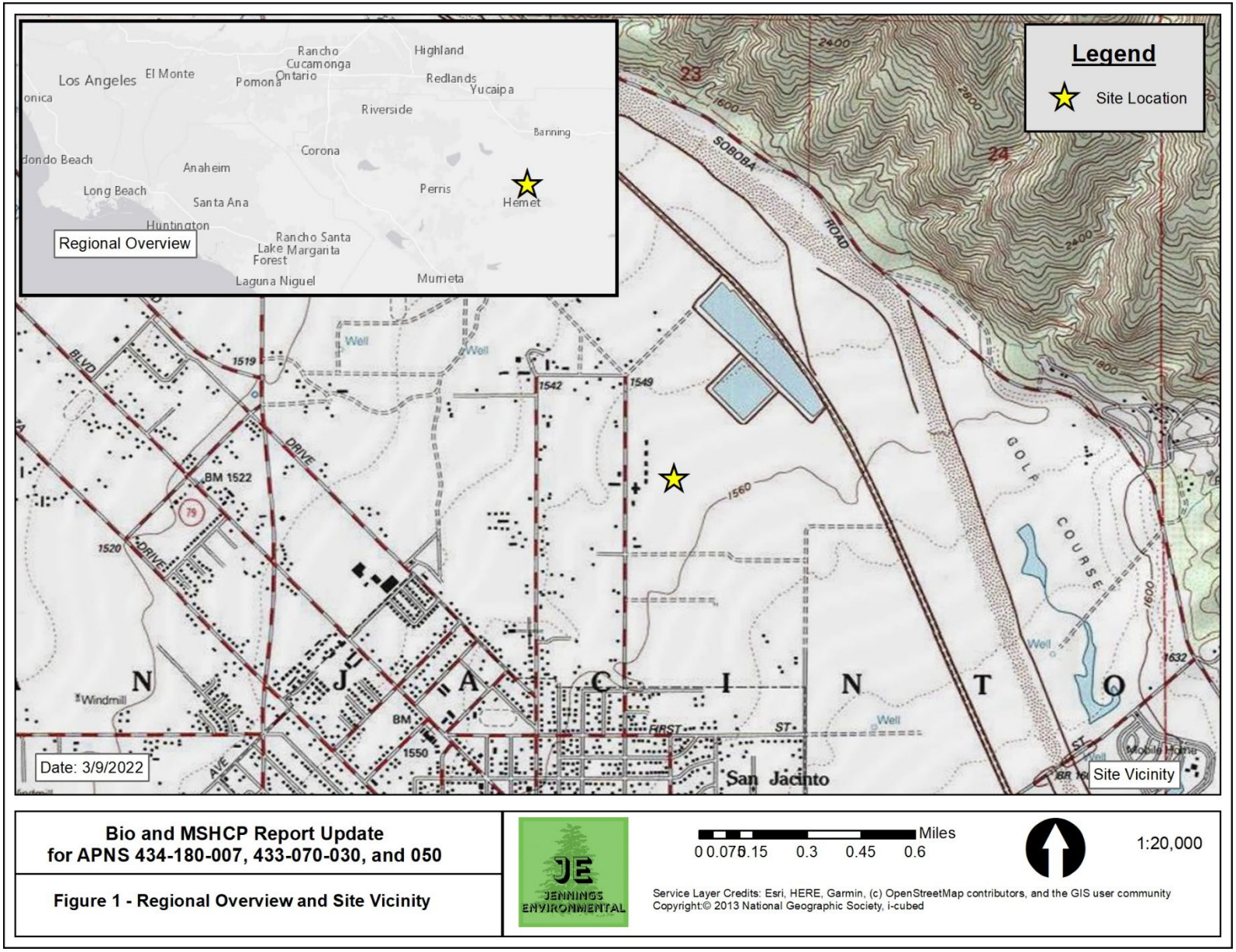


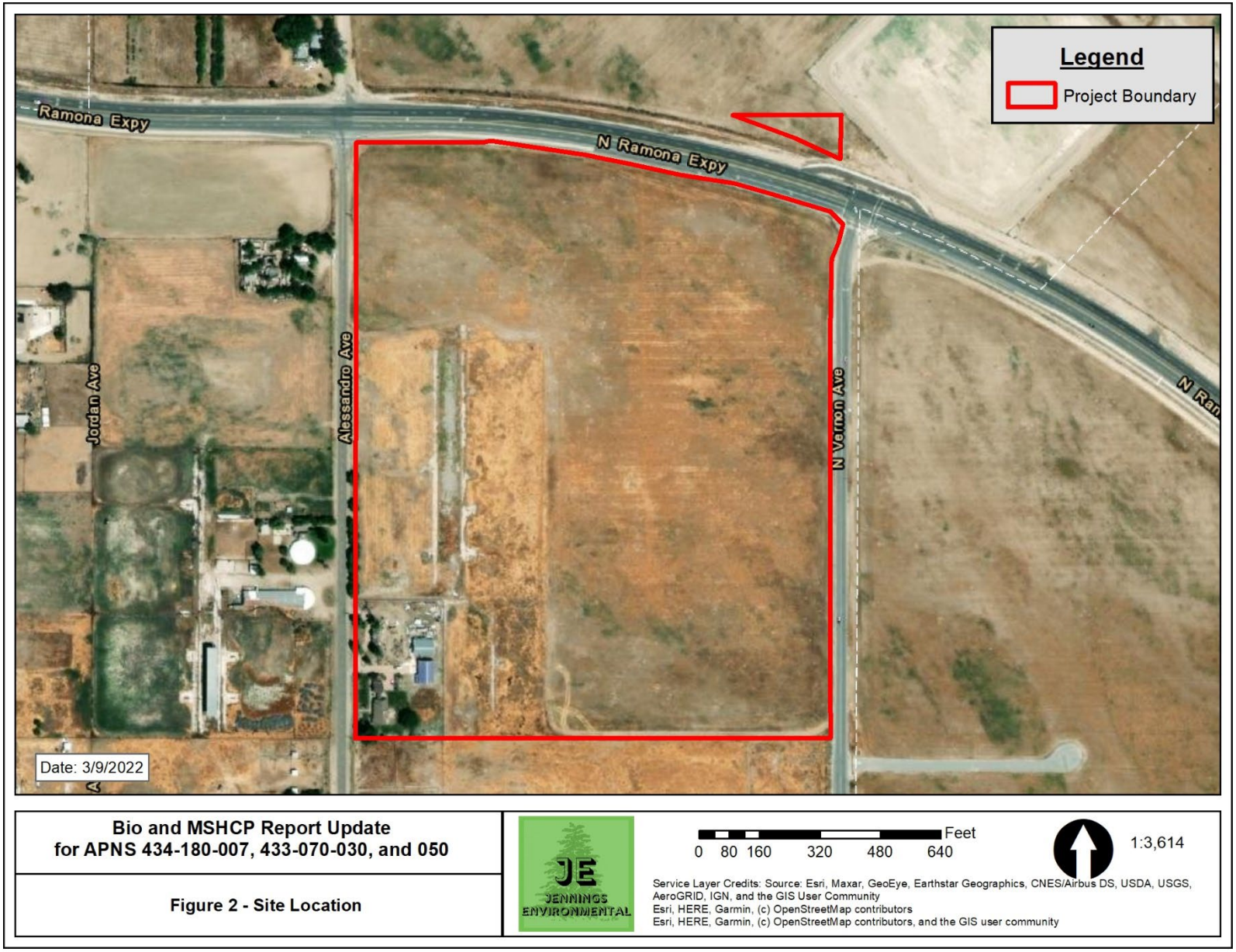
Gene Jennings
Principal/Regulatory Specialist

Appendices:

- Appendix A – Figures
- Appendix B – Site Photos
- Appendix C – Table 2

Appendix A - Figures


Legend
Site Location
Regional Overview
Los Angeles
El Monte
Pomona
Rancho Cucamonga
Ontario
Highland
Redlands
Yucaipa
Riverside
Banning
Corona
Anaheim
Long Beach
Santa Ana
Perris
Hemet
Huntington
Rancho Santa Margarita
Lake Forest
Laguna Niguel
Murrieta
SOBOBA ROAD
BM 1522
Windmill
San Jacinto
GOLF COURSE
Mobile Home
Site Vicinity
Date: 3/9/2022
Bio and MSHCP Report Update
for APNS 434-180-007, 433-070-030, and 050
Figure 1 - Regional Overview and Site Vicinity
JE
JENNINGS ENVIRONMENTAL
Miles
0 0.075 0.15 0.3 0.45 0.6
1:20,000
Service Layer Credits: Esri, HERE, Garmin, (c) OpenStreetMap contributors, and the GIS user community
Copyright:© 2013 National Geographic Society, i-cubed


Legend
Project Boundary
Ramona Expy
N Ramona Expy
Jordan Ave
Alessandro Ave
N Vernon Ave
N Ran
Date: 3/9/2022
Bio and MSHCP Report Update
for APNS 434-180-007, 433-070-030, and 050
Figure 2 - Site Location
JE
JENNINGS
ENVIRONMENTAL
Feet
0 80 160 320 480 640
1:3,614
Service Layer Credits: Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community
Esri, HERE, Garmin, (c) OpenStreetMap contributors
Esri, HERE, Garmin, (c) OpenStreetMap contributors, and the GIS user community

Appendix B - Photos

	Photo 1 – Northwest corner of parcel facing southeast. Showing ruderal vegetation and recent mowing.
	Photo 2 – Western edge of parcel, near the center, facing east. Showing ruderal vegetation and recent mowing.

	Photo 3 – Center of parcel facing northwest. Showing disturbance and concrete stockpiles.
	Photo 4 – South edge of parcel, facing north/northeast. Showing ruderal vegetation and recent mowing.

Appendix C – Table 1

Scientific Name	Common Name	Federal/State Status	Other Status	Habitat	Potential to Occur
Abronia villosa var. aurita	chaparral sand-verbena	None, None	G5T2?, S2, 1B.1	Chaparral, coastal scrub, desert dunes. Sandy areas. -60-1570 m.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project site.
Agelaius tricolor	tricolored blackbird	None, Threatened	G1G2, S1S2, CDFW-SSC	Highly colonial species, most numerous in Central Valley and vicinity. Largely endemic to California. Requires open water, protected nesting substrate, and foraging area with insect prey within a few km of the colony.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project site.
Allium marvinii	Yucaipa onion	None, None	G1, S1, 1B.2	Chaparral. In openings on clay soils. 850-1070 m.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project site.
Anniella stebbinsi	Southern California legless lizard	None, None	G3, S3, CDFW-SSC	Generally south of the Transverse Range, extending to northwestern Baja California. Occurs in sandy or loose loamy soils under sparse vegetation. Disjunct populations in the Tehachapi and Piute Mountains in Kern County. Variety of habitats; generally in moist, loose soil. They prefer soils with a high moisture content.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project site.

Scientific Name	Common Name	Federal/State Status	Other Status	Habitat	Potential to Occur
Antrozous pallidus	pallid bat	None, None	G4, S3, CDFW-SSC	Deserts, grasslands, shrublands, woodlands and forests. Most common in open, dry habitats with rocky areas for roosting. Roosts must protect bats from high temperatures. Very sensitive to disturbance of roosting sites.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project site.
Aquila chrysaetos	golden eagle	None, None	G5, S3, CDFW-WL	Rolling foothills, mountain areas, sage-juniper flats, and desert. Cliff-walled canyons provide nesting habitat in most parts of range; also, large trees in open areas.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project site.
Arizona elegans occidentalis	California glossy snake	None, None	G5T2, S2, CDFW-SSC	Patchily distributed from the eastern portion of San Francisco Bay, southern San Joaquin Valley, and the Coast, Transverse, and Peninsular ranges, south to Baja California. Generalist reported from a range of scrub and grassland habitats, often with loose or sandy soils.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project site.

Scientific Name	Common Name	Federal/State Status	Other Status	Habitat	Potential to Occur
Aspidoscelis hyperythra	orange-throated whiptail	None, None	G5, S2S3, CDFW-WL	Inhabits low-elevation coastal scrub, chaparral, and valley-foothill hardwood habitats. Prefers washes and other sandy areas with patches of brush and rocks. Perennial plants necessary for its major food: termites.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project site.
Astragalus pachypus var. jaegeri	Jaeger's milk-vetch	None, None	G4T1, S1, 1B.1	Coastal scrub, chaparral, valley and foothill grassland, cismontane woodland. Dry ridges and valleys and open sandy slopes; often in grassland and oak-chaparral. 365-1040 m.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project site.
Athene cunicularia	burrowing owl	None, None	G4, S3, CDFW-SSC	Open, dry annual or perennial grasslands, deserts, and scrublands characterized by low-growing vegetation. Subterranean nester, dependent upon burrowing mammals, most notably, the California ground squirrel.	Suitable habitat for this species does occur on site. As such, **focused breeding season surveys are recommended.**

Scientific Name	Common Name	Federal/State Status	Other Status	Habitat	Potential to Occur
Bombus crotchii	Crotch bumble bee	None, None	G3G4, S1S2	Coastal California east to the Sierra-Cascade crest and south into Mexico. Food plant genera include Antirrhinum, Phacelia, Clarkia, Dendromecon, Eschscholzia, and Eriogonum.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project site.
Buteo regalis	ferruginous hawk	None, None	G4, S3S4, CDFW-WL	Open grasslands, sagebrush flats, desert scrub, low foothills and fringes of pinyon and juniper habitats. Eats mostly lagomorphs, ground squirrels, and mice. Population trends may follow lagomorph population cycles.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project site.
Calochortus plummerae	Plummer's mariposa-lily	None, None	G4, S4, 4.2	Coastal scrub, chaparral, valley and foothill grassland, cismontane woodland, lower montane coniferous forest. Occurs on rocky and sandy sites, usually of granitic or alluvial material. Can be very common after fire. 60-2500 m.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project site.

Scientific Name	Common Name	Federal/State Status	Other Status	Habitat	Potential to Occur
Centromadia pungens ssp. laevis	smooth tarplant	None, None	G3G4T2, S2, 1B.1	Valley and foothill grassland, chenopod scrub, meadows and seeps, playas, riparian woodland. Alkali meadow, alkali scrub; also in disturbed places. 5-1170 m.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project site.
Chaetodipus fallax fallax	northwestern San Diego pocket mouse	None, None	G5T3T4, S3S4, CDFW-SSC	Coastal scrub, chaparral, grasslands, sagebrush, etc. in western San Diego County. Sandy, herbaceous areas, usually in association with rocks or coarse gravel.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project site.
Chorizanthe parryi var. parryi	Parry's spineflower	None, None	G3T2, S2, 1B.1	Coastal scrub, chaparral, cismontane woodland, valley and foothill grassland. Dry slopes and flats; sometimes at interface of 2 vegetation types, such as chaparral and oak woodland. Dry, sandy soils. 90-1220 m.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project site.
Coccyzus americanus occidentalis	western yellow-billed cuckoo	Threatened, Endangered	G5T2T3, S1	Riparian forest nester, along the broad, lower flood-bottoms of larger river systems. Nests in riparian jungles of willow, often mixed with cottonwoods, with lower story of blackberry, nettles, or wild grape.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project site.

Scientific Name	Common Name	Federal/State Status	Other Status	Habitat	Potential to Occur
Corynorhinus townsendii	Townsend's big-eared bat	None, None	G4, S2, CDFW-SSC	Throughout California in a wide variety of habitats. Most common in mesic sites. Roosts in the open, hanging from walls and ceilings. Roosting sites limiting. Extremely sensitive to human disturbance.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project site.
Crotalus ruber	red-diamond rattlesnake	None, None	G4, S3, CDFW-SSC	Chaparral, woodland, grassland, and desert areas from coastal San Diego County to the eastern slopes of the mountains. Occurs in rocky areas and dense vegetation. Needs rodent burrows, cracks in rocks or surface cover objects.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project site.
Deinandra mohavensis	Mojave tarplant	None, Endangered	G2, S3, 1B.3	Riparian scrub, coastal scrub, chaparral. Low sand bars in river bed; mostly in riparian areas or in ephemeral grassy areas. 640-1645 m.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project site.
Desert Fan Palm Oasis Woodland	Desert Fan Palm Oasis Woodland	None, None	G3, S3.2	Riparian woodland	This habitat **does not** occur within the Project Boundary.

Scientific Name	Common Name	Federal/State Status	Other Status	Habitat	Potential to Occur
Dipodomys merriami parvus	San Bernardino kangaroo rat	Endangered, Candidate Endangered	G5T1, S1, CDFW-SSC	Alluvial scrub vegetation on sandy loam substrates characteristic of alluvial fans and flood plains. Needs early to intermediate seral stages.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project site.
Dipodomys stephensi	Stephens' kangaroo rat	Endangered, Threatened	G2, S2	Primarily annual and perennial grasslands, but also occurs in coastal scrub and sagebrush with sparse canopy cover. Prefers buckwheat, chamise, brome grass and filaree. Will burrow into firm soil.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project site.
Imperata brevifolia	California satintail	None, None	G4, S3, 2B.1	Coastal scrub, chaparral, riparian scrub, mojavean desert scrub, meadows and seeps (alkali), riparian scrub. Mesic sites, alkali seeps, riparian areas. 3-1495 m.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project site.
Lasiurus xanthinus	western yellow bat	None, None	G4G5, S3, CDFW-SSC	Found in valley foothill riparian, desert riparian, desert wash, and palm oasis habitats. Roosts in trees, particularly palms. Forages over water and among trees.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project site.

Scientific Name	Common Name	Federal/State Status	Other Status	Habitat	Potential to Occur
Neotoma lepida intermedia	San Diego desert woodrat	None, None	G5T3T4, S3S4, CDFW-SSC	Coastal scrub of Southern California from San Diego County to San Luis Obispo County. Moderate to dense canopies preferred. They are particularly abundant in rock outcrops, rocky cliffs, and slopes.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project site.
Onychomys torridus ramona	southern grasshopper mouse	None, None	G5T3, S3, CDFW-SSC	Desert areas, especially scrub habitats with friable soils for digging. Prefers low to moderate shrub cover. Feeds almost exclusively on arthropods, especially scorpions and orthopteran insects.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project site.
Perognathus longimembris brevinasus	Los Angeles pocket mouse	None, None	G5T2, S1S2, CDFW-SSC	Lower elevation grasslands and coastal sage communities in and around the Los Angeles Basin. Open ground with fine, sandy soils. May not dig extensive burrows, hiding under weeds and dead leaves instead.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project site.

Scientific Name	Common Name	Federal/State Status	Other Status	Habitat	Potential to Occur
Phrynosoma blainvillii	coast horned lizard	None, None	G3G4, S3S4, CDFW-SSC	Frequents a wide variety of habitats, most common in lowlands along sandy washes with scattered low bushes. Open areas for sunning, bushes for cover, patches of loose soil for burial, and abundant supply of ants and other insects.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project site.
Pseudognaphalium leucocephalum	white rabbit-tobacco	None, None	G4, S2, 2B.2	Riparian woodland, cismontane woodland, coastal scrub, chaparral. Sandy, gravelly sites. 35-515 m.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project site.
Southern Coast Live Oak Riparian Forest	Southern Coast Live Oak Riparian Forest	None, None	G4, S4	Riparian forest	This habitat **does not** occur within the Project Boundary.
Southern Cottonwood Willow Riparian Forest	Southern Cottonwood Willow Riparian Forest	None, None	G3, S3.2	Riparian forest	This habitat **does not** occur within the Project Boundary.
Southern Mixed Riparian Forest	Southern Mixed Riparian Forest	None, None	G2, S2.1,	Riparian forest	This habitat **does not** occur within the Project Boundary.

Scientific Name	Common Name	Federal/State Status	Other Status	Habitat	Potential to Occur
Spea hammondii	western spadefoot	None, None	G2G3, S3, CDFW-SSC	Occurs primarily in grassland habitats, but can be found in valley-foothill hardwood woodlands. Vernal pools are essential for breeding and egg-laying.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project site.
Taxidea taxus	American badger	None, None	G5, S3, CDFW-SSC	Most abundant in drier open stages of most shrub, forest, and herbaceous habitats, with friable soils. Needs sufficient food, friable soils and open, uncultivated ground. Preys on burrowing rodents. Digs burrows.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project site.
Vireo bellii pusillus	least Bell's vireo	Endangered, Endangered	G5T2, S2	Summer resident of Southern California in low riparian in vicinity of water or in dry river bottoms; below 2000 ft. Nests placed along margins of bushes or on twigs projecting into pathways, usually willow, Baccharis, mesquite.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project site.

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CORNELL KASBERGEN
21744 Road 152
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May 20, 2022
Project No. 1-0446

Attention: Mr. Cornell Kasbergen

Subject: **GEOTECHNICAL INVESTIGATION**
Tentative Tract 34271, City of San Jacinto,
Riverside County, California

References: See Appendix A

Dear Mr. Kasbergen:

Presented herein is Alta California Geotechnical, Inc.'s (Alta) geotechnical investigation for the proposed development of Tentative Tract 34271, in the City of San Jacinto, County of Riverside, California. This report is based on Alta's recent subsurface investigation, laboratory testing, a review of the 1-inch equals 100-feet scale tentative tract map prepared by Land Strategies, LLC., and a review of the referenced reports.

Alta's review of the tentative tract map indicates that the proposed development is feasible, from a geotechnical standpoint, provided that the recommendations presented in this report are incorporated into the grading and improvement plans and implemented during site development.

Also included in this report are:

- Discussion of the site geotechnical conditions.
- Recommendations for remedial and site grading, including unsuitable soil removals.
- Geotechnical site construction recommendations.
- Liquefaction analysis.
- Preliminary foundation design parameters.
- Infiltration analyses.

If you have any questions or should you require any additional information, please contact the undersigned at (951) 509-7090. Alta appreciates the opportunity to provide geotechnical consulting services for your project.

Sincerely,
Alta California Geotechnical, Inc.

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1-0446, May 20, 2022 (Geotechnical Report, Tract 34271, San Jacinto)

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1.0 INTRODUCTION

The following report presents Alta's findings, conclusions, and geotechnical recommendations for the proposed development of Tentative Tract 34271, located southeast of the intersection of the Romona Expressway and Alessandro Avenue, in the City of San Jacinto, County of Riverside, California.

1.1 Purpose

The purpose of this report is to examine the existing onsite geotechnical conditions and assess the impacts that the geotechnical conditions may have on the proposed development as depicted on the enclosed tentative tract map (Plate 1) provide by Land Strategies, LLC., This report is suitable for use in developing grading plans and engineer's cost estimates.

1.2 Scope of Work

Alta's *Scope of Work* for this geotechnical investigation included the following:

- Reviewing the referenced literature, maps, reports and aerial photos (Appendix A).
- Site geologic mapping.
- Excavating, logging, and select sampling twenty-five (25) backhoe test pits to a maximum depth of 12.5 feet below the ground surface (Appendix B).
- Excavating, logging, and select sampling two (2) hollow-stem auger borings to a maximum depth of 51.5 feet below the ground surface (Appendix B).
- Commissioning of four (4) CPT soundings to a maximum depth of 50.0 feet below the ground surface.
- In-place moisture/density testing of soils exposed in the test pits, utilizing a Nuclear Test Gauge, at various depth intervals.
- Conducting laboratory testing on samples obtained during our investigation (Appendix C).

- Performing an infiltration study to provide an assessment of the infiltration characteristics of the onsite soil and their impact on storm water disposal.
- Reviewing subsidence potential in the area.
- Evaluating engineering geologic and geotechnical engineering data, including laboratory data, to develop recommendations for site remedial grading, import soil, foundations and utilities.
- Preparing this report and accompanying exhibits.

1.3 Report Limitations

The conclusions and recommendations presented in this report are based on the field and laboratory information generated during this investigation, and a review of the referenced reports. The information contained in this report is intended to be used for development of grading plans and preliminary construction cost estimates.

2.0 PROJECT DESCRIPTION

2.1 Site Location and Existing Conditions

The rectangular-shaped approximately 43-acre site, is relatively flat and gently slopes to the northwest with elevations ranging from 1,559 feet above sea level (ASL) in the southeast corner to 1,549 feet (ASL) in the northwest corner providing approximately 10 feet of relief. The property is bounded to the west by Alessandro Avenue, to the north by Ramona Expressway, to the east by Vernon Avenue, and to the south by private property. Review of vintage air photos indicates that the site has been vacant since 1966. Livestock corrals were present in the western portion of the site until 2002 leaving a stockpile of concrete debris and artificial fill that are still present onsite (Historic Aerials, 2022).

2.2 Proposed Development

It is our understanding that Tract 34271 will be developed to support 151 single-family residential structures with three basins, a park, and associated streets. Alta anticipates that conventional cut-and-fill grading techniques will be used to develop the site for the support of wood-frame and stucco construction with shallow foundations and reinforced concrete slabs-on-grade, and associated improvements.

3.0 SITE INVESTIGATION

3.1 Subsurface Investigation

Alta conducted a subsurface investigation on April 18th, 19th, and 29 of 2022 consisting of the excavation, logging and select sampling of twenty five (25) rubber-tire backhoe test pits up to a maximum depth of 12.5 feet below the existing ground surface, two (2) hollow-stem auger borings up to a maximum depth of 51.5 feet below the existing ground surface, four (4) Cone Penetrometer soundings to a maximum depth of 50.0 feet below the ground surface, and three (3) infiltration trenches to a depth of five (5) feet below the ground surface. The locations of the exploratory excavations are shown on Plate 1 and the subsurface logs are presented in Appendix B.

Laboratory testing was performed on bulk samples obtained during the field investigation. A brief description of the laboratory test procedures and the test results are presented in Appendix C.

3.2 Infiltration Testing

Infiltration testing was undertaken utilizing shallow percolation test procedures in three 5.0-ft. deep test pits (P-1, P-2, and P-3) as shown on Plate 1. The testing was performed in general conformance with County of Riverside WQMP standards. The test pits were presoaked, and the water level readings were recorded every 10 or 30 minutes until the readings stabilized.

The data was then adjusted to provide an infiltration rate utilizing the Porchet Method. The resulting infiltration rates are summarized in Table 3-1 and do not include a factor of safety. Recommendations for infiltration BMP design are presented in Section 6.4.

Table 3-1
Summary of Infiltration Testing
(No Factor of Safety)

Test Designation	P-1	P-2	P-3
Approximate Depth of Test	5 ft	5 ft	5 ft
Final Time Interval	10 minutes	10 minutes	10 minutes
Radius of Test Hole	4 inches	4 inches	4 inches
Tested Infiltration Rate	2.6 inches/hr	1.9 inches/hr	2.4 inches/hr

4.0 GEOLOGIC CONDITIONS

4.1 Geologic and Geomorphic Setting

Regionally, the subject site is located in the Peninsular Ranges geomorphic province, which characterizes the southwest portion of southern California where major right-lateral active fault zones predominately trend northwest-southeast. The Peninsular Ranges province is composed of plutonic and metamorphic rock, with lesser amounts of Tertiary volcanic and sedimentary rock, Quaternary drainage in-fills and sedimentary veneers.

4.2 Stratigraphy

Based on Alta's review of the referenced geologic literature and our subsurface investigation, the project site is underlain by artificial fill and Quaternary-age alluvium. The geologic units are briefly described below.

4.2.1 Artificial Fill-Undocumented (Map symbol afu)

Undocumented artificial fills are locally derived and consist of grayish brown and gray, fine to coarse grained sand and silty sand, in a dry to moist, and loose to moderately dense condition.

4.2.2 **Alluvium** (Map symbol Qa)

Diblee and others (2003) indicate the area is underlain by Holocene-age Alluvium (Qa). Alta observed that the alluvium consists of tannish brown to grayish brown sand and silty sand, in a dry to wet, loose to dense condition. Some fine to coarse gravels occur at varying depths. The unit was logged to a maximum depth of 51.5 feet below the ground surface.

4.3 Geologic Structure

4.3.1 Tectonic Framework

Jennings (1985) defined eight structural provinces within California that have been classified by predominant regional fault trends and similar fold structure. These provinces are in turn divided into blocks and sub-blocks that are defined by "major Quaternary faults." These blocks and sub-blocks exhibit similar structural features. Within this framework the site is located within Structural Province I, which is controlled by the dominant northwest trend of the San Andreas Fault and is divided into two blocks, the Coast Range Block and the Peninsular Range Block. The Peninsular Range Block, on which the site is located, is characterized by a series of parallel, northwest trending faults that exhibit right lateral dip-slip movement. These faults are terminated by the Transverse Range block to the north and extend southward to the Baja Peninsula. These northwest trending faults divide the Peninsular Range block into eight sub-blocks. The site is located on the Riverside sub-block, which is bound to the west by the Elsinore-Whittier fault zone and to the east by the San Jacinto fault zone.

4.3.2 Regionally Mapped Active Faults

Several large, active fault systems, including the Elsinore-Whittier, the San Jacinto, and the San Andreas, occur in the region surrounding the site. These fault systems have been studied extensively and in a large part control the geologic structure of southern California.

4.3.3 Geologic Structure

Based upon our site investigation and literature review, the onsite sediments are of Quaternary age, and are not folded or faulted.

4.4 Groundwater

Perched groundwater was encountered at 20.2-ft and 36.1-ft below the ground surface in B-1 and at 47.3-ft below the ground surface in B-2. Groundwater level data from closest known well (Local Well ID: EMWD12229) located near the southeast portion of the site across Vernon Avenue, indicates that groundwater was approximately 334-feet below the existing ground surface in November of 2021 (CDWR, 2022).

4.5 Earthquake Hazards

The subject site is located in southern California, which is a tectonically active area. The type and magnitude of seismic hazards affecting a site are dependent on the distance to the causative fault and the intensity and magnitude of the seismic event. The seismic hazard may be primary, such as surface rupture and/or ground shaking, or secondary, such as liquefaction and/or ground lurching.

4.5.1 Local and Regional Faulting

The site is located on the northern portion of the Riverside sub-block, approximately 0.6 miles west of the San Jacinto Fault, 14.0 miles southwest of the San Andreas fault zone, and 21.8 miles east of the Elsinore fault zone.

4.5.2 Seismicity

Ground shaking hazards caused by earthquakes along other active regional faults do exist. The 2019 California Building Code requires use-modified spectral accelerations and velocities for most structural designs. Seismic design parameters using soil profile types identified in the 2019 California Building Code are presented in Section 7.3.

4.5.3 Surface Rupture

Active faults are not known to exist within the project and a review of Special Publication 42 indicates the site is not within a California State designated Earthquake Fault Zone. Accordingly, the potential for fault surface rupture on the subject site is very low.

4.5.4 Liquefaction

Seismic agitation of relatively loose saturated sands, silty sands, and some silts can result in a buildup of pore pressure. If the pore pressure exceeds the overburden stresses, a temporary quick condition known as liquefaction can occur. Liquefaction effects can manifest in several ways including: 1) loss of bearing; 2) lateral spread; 3) dynamic settlement; and 4) flow failure. Lateral spreading has typically been the most damaging mode of failure.

In general, the more recent that a sediment has been deposited, the more likely it will be susceptible to liquefaction. Other factors that must be considered are groundwater, confining stresses, relative density, and the intensity and duration of seismically induced ground shaking.

Groundwater level data from the closest known well indicates the ground water level was approximately 334-feet below the ground surface in November 2021 (CDWR, 2022), although perched water was encountered

as shallow as 20-ft. The site is located in a moderate liquefaction potential zone per the Riverside County Mapping Portal (RCIT, 2022)

Alta performed a liquefaction analysis utilizing data from our subsurface investigation to determine the liquefaction potential of the alluvium. A description of Alta's analysis and calculations are presented in Appendix D of this report. A groundwater level of 20 feet below existing ground surface was assumed given the perched water onsite, although this level is considered conservative as the perched water appears to be localized, with actual groundwater levels deeper than 50-feet. The results of our findings are discussed below under the headings of the specific types of liquefaction which can be manifested during seismic shaking. Conclusions regarding liquefaction are presented in Section 6.3.

- **Loss of Bearing:**

  Liquefaction can potentially cause foundation bearing failure due to ground softening and near-failure in bearing. Based on the removal recommendations presented in this report, Alta anticipates that the potential for loss of bearing will be minimal.

- **Lateral Spreading:**

  The lateral displacement of surficial blocks of sediment can occur as a result of liquefaction in a subsurface layer. The most pervasive forms of lateral spreading typically involve sites located near a "free-face" (large slopes, channels, etc.), however, it has been noted that lateral spreading can occur on sites with gently sloping (1% or more) ground, such as the subject site.

  Determination of the potential for lateral spread is based on the presence of continuous potentially liquefiable soil layers underneath the structures, the presence of lateral confinement, and various analyses such as empirical modeling. Bartlett, Hansen and Youd (2002) state that surface manifestation of lateral spread is typically limited to sites with liquefiable soils within 10 meters (32 feet) of grade, and that sites underlain by soils with $(N1)_{60}$

values 15 and greater do not experience significant displacements from earthquakes with magnitudes less than 8.

Given the flat nature of the site, the limited extent of the perched water, our recommended unsuitable soil removals (Section 6.1.2) and our foundation design recommendations (Section 7.1), it is our opinion that the potential for lateral spread to occur onsite is considered within design tolerances of the proposed foundation systems, upon the completion of remedial grading.

- **Settlement:**

  Settlement due to seismic shaking can occur as a result of both liquefaction of saturated sediments and/or rearrangement of dry sand particles. Our liquefaction analysis was performed utilizing CPT data and laboratory test results to analyze the potential amount of settlement. A description of Alta's analysis and calculations are presented in Appendix D of this report. A discussion of settlement analysis results is presented in Section 6.3. Dynamic settlement design recommendations are presented in Section 7.1.

- **Flow Failure:**

  Due to the relatively flat nature of the site, and the relatively horizontal deposition of the underlying deposits, the potential for flow failure onsite is considered minimal.

4.5.5 Dry Sand Settlement

Dry sand settlement is the process of non-uniform settlement of the ground surface during a seismic event. In order to analyze the potential for dry sand settlement Alta utilized data from the subsurface investigation. A discussion of our analysis and the calculation results are presented in Appendix D. Based on our analysis, due in large part to the presence of the nearby fault zone and the granular nature of the alluvium, the sand layers in the underlying alluvium are subject to potential dry sand settlement during a seismic event. Differential settlement across an individual structure is anticipated to be less severe as the settlement will likely be generally uniform across the site (and in

the region). Design recommendations for the structures based on the potential settlement are presented in Section 7.1.

4.6 Regional Subsidence

The site is located in an area of active subsidence designated by the County of Riverside (RCIT, 2022). Upon implementation of the remedial grading recommendations presented herein, the effects of subsidence on the development are considered to be negligible. If subsidence due to groundwater extraction were to occur, it would likely affect the entire region and not result in significant differential settlement across the site or individual structures.

5.0 ENGINEERING PROPERTIES AND ANALYSIS

5.1 Materials Properties

Presented herein is a general discussion of the engineering properties of the onsite materials that will be encountered during construction of the proposed project. Descriptions of the soil (Unified Soil Classification System) and in-place moisture/density results are presented on the boring logs in Appendix B.

5.1.1 Excavation Characteristics

Based on the data provided from the subsurface investigation, it is our opinion that the majority of the onsite materials possess favorable excavation characteristics such that conventional earth moving equipment can be utilized.

5.1.2 Compressibility

The artificial fill and the weathered portions of the alluvium onsite are considered compressible and unsuitable to support the proposed improvements. Recommended removal depths are presented in Section 6.1.2.

5.1.3 Hydro-Consolidation

Hydro-consolidation is the effect of introducing water into soil that is prone to collapse. Upon loading and initial wetting, the soil structure and apparent strength are altered resulting in almost immediate settlement. That settlement can have adverse impacts on engineered structures, particularly in areas where it is manifested differentially. Differential settlements are typically associated with differential wetting, irregularities in the subsurface soil conditions, and/or irregular loading patterns.

Based on laboratory testing from our investigation (Appendix C), there is a potential for hydro-collapse in the upper portions of the alluvium onsite. The recommended removal/recompaction depths presented in Section 6.1.2 is intended to reduce the potential for hydro-collapse to within foundation tolerances.

5.1.4 Expansion Potential

Expansion index testing was performed on samples taken during our subsurface investigation (Appendix C). Based on the results, it is anticipated that the majority of materials onsite are “very low” to “low” in expansion potential (0≤EI≤50, Appendix C) when tested per ASTM D: 4829.

5.1.5 Earthwork Adjustments

The values presented in Table 5-1 are deemed appropriate for estimating purposes and may be used in an effort to balance earthwork quantities. As is the case with every project, contingencies should be made to adjust the earthwork balance when grading is in-progress and actual conditions are better defined. Some soil may be lost during the clearing and grubbing and should be considered in earthwork calculations.

TABLE 5-1 Earthwork Adjustment Factors		
Geologic Unit	**Adjustment Factor Range**	**Average**
Alluvium (Qa)	Shrink 10% to 14%	12%

5.1.6 Chemical Analyses

Chemical testing was performed on a sample of material underlying the proposed site during the previous investigation. Soluble sulfate test results indicate that the soluble sulfate concentrations of the soils tested are classified as negligible (Class S0) per ACI 318-14.

Negligible chloride levels were detected in the onsite soils. Resistivity testing conducted as part of this investigation, indicates that the soils are "mildly corrosive" to buried metals (per Romanoff, 1989). Additional discussions on corrosion are presented in Section 7.9. Corrosion tests results are presented in Appendix C.

5.1.7 Organic Content

Portions of the site were previously utilized for dairy operations unto 2002. No manure was observed during our subsurface investigation. Organic content testing was conducted, and the results are presented in Appendix C. The results indicated that the upper one foot of soil has organic contents ranging from 2% to 4%. Below one foot, the organic content is less than 1%.

5.2 Engineering Analysis

Presented below is a general discussion of the engineering analysis methods that were utilized to develop the conclusions and recommendations presented in this report.

5.2.1 Bearing Capacity and Lateral Earth Pressures

Ultimate bearing capacity values were obtained using the graphs and formula presented in NAVFAC DM-7.1. Allowable bearing was determined by applying a factor of safety of at least 3 to the ultimate bearing capacity. Static lateral earth pressures were calculated using Rankine methods for active and passive cases. If it is desired to use Coulomb forces, a separate analysis specific to the application can be conducted.

6.0 CONCLUSIONS AND RECOMMENDATIONS

Based on Alta's findings during our subsurface investigation, the laboratory test results, our staff's previous experience in the area, it is Alta's opinion that the development of the site is feasible from a geotechnical perspective. Presented below are recommendations that should be incorporated into site development and construction plans.

6.1 Remedial Grading Recommendations

All grading shall be accomplished under the observation and testing of the project geotechnical consultant in accordance with the recommendations contained herein and the City of San Jacinto criteria.

6.1.1 Site Preparation

Vegetation, construction debris, and other deleterious materials are unsuitable as structural fill material and should be disposed of off-site prior to commencing grading/construction. Any septic tanks, seepage pits or wells should be abandoned as per the County of Riverside Department of Health Services.

6.1.2 Disposal of Existing Concrete

Existing concrete and debris associated with the previously demolished structure should be removed prior to the placement of engineered fill. The demolished concrete may be incorporated into compacted, engineered fills after it is crushed to a maximum size of six (6) inches. Prior to placement as engineered fill any protruding steel rebar should be cut from the concrete pieces and disposed of offsite. These recommendations should be approved by the City of San Jacinto.

6.1.3 Unsuitable Soil Removals

The artificial fill and upper portions of the alluvium onsite are compressible and as such, are not suitable to support the proposed structures. Accordingly, it is recommended to completely remove/recompact the undocumented artificial fills. It is anticipated that the upper six (6) to eight (8) feet of existing alluvium will require removal and recompaction, extending a minimum horizontal distance of five (5) feet outside the structures. This recommended removal combined with the foundation recommendations presented in Section 7.1 should provide suitable support for the proposed structures.

For fill areas in streets, in general, a minimum removal and recompaction of the upper two (2) feet is recommended, however all unsuitable material shall be removed and recompacted. For cuts greater than two (2) feet in street areas, removals are not required. For cuts less than two (2) feet, the two (2) foot removal and recompaction applies.

The Project Geotechnical Consultant should observe the removal bottom prior to placing fill. If unsuitable soils are exposed upon the completion of the removals recommended above, additional removals may be

required. Material removed as part of the unsuitable soil removals can be used as artificial fill, provided it is free of deleterious materials.

6.2 General Earthwork Recommendations

6.2.1 Compaction Standards

All fill and processed natural ground shall be compacted to a minimum relative compaction of 90 percent, as determined by ASTM Test Method: D-1557. Fill material should be moisture conditioned to optimum moisture or above, and as generally discussed in Alta's Earthwork Specification Section presented in Appendix F. Compaction shall be achieved with the use of sheepsfoot rollers or similar kneading type equipment. Mixing and moisture conditioning will be required in order to achieve the recommended moisture conditions.

Per governing agency requirements, fill materials shall contain no more than 2 percent organics. The majority of soils with organic concentrations greater than 2% appear to be in the upper one foot, with concentrations decreasing with depth.

Soils with organic concentrations greater than 2% can either be: 1) removed from the site; or 2) blended with soils with limited to no organics. This blending can be accomplished by repeatedly corner-plowing the material with a dozer as well as discing the material with a tractor-drawn disc. After blending, the soils can be disposed of in structural fill areas throughout the site. Once fill material is placed in structural fill areas, it should be thoroughly mixed with a tractor-drawn disc, brought to above optimum moisture content, and compacted in-place to project specifications.

Periodic observation pits should be excavated during the rough grading. If any concentration of organics is detected during the excavation of the observation pits or compaction test pits, the area should be completely removed or re-mixed until no concentrations of organics are present.

6.2.2 Groundwater/Seepage

It is anticipated that groundwater will not be encountered during construction. It is possible that perched water conditions could be encountered depending on the time of year construction occurs.

6.2.3 Documentation of Removals

All removal/over-excavation bottoms should be observed and approved by the project Geotechnical Consultant prior to fill placement. Consideration should be given to surveying the removal bottoms and undercuts after approval by the geotechnical consultant and prior to the placement of fill. Staking should be provided in order to verify undercut locations and depths.

6.2.4 Treatment of Removal Bottoms

At the completion of removals/over-excavation, the exposed removal bottom should be ripped to a minimum depth of eight (8) inches, moisture-conditioned to above optimum moisture content and compacted in-place to the project standards.

6.2.5 Fill Placement

After removals, scarification, and compaction of in-place materials are completed, additional fill may be placed. Fill should be placed in eight-inch bulk maximum lifts, moisture conditioned to optimum moisture content or above, compacted and tested as grading/construction progresses until final grades are attained.

6.2.6 Moisture Content

The moisture content of the upper in-situ soils is, as shown on the logs in Appendix B. Moisture conditioning will be required during grading to achieve optimum or above conditions. Most soils will require the addition of water and mixing prior to placement as compacted fill.

6.2.7 Mixing

Mixing of materials may be necessary to prevent layering of different soil types and/or different moisture contents. The mixing should be accomplished prior to and as part of the compaction of each fill lift.

6.2.8 Import Soils

Import soils, if necessary, should consist of clean, structural quality, low expansive compactable materials similar to the on-site soils and should be free of trash, debris or other objectionable materials. The project Geotechnical Consultant should be notified not less than 72 hours in advance of the locations of any soils proposed for import. Import sources should be sampled, tested, and approved by the project Geotechnical Consultant at the source prior to the importation of the soils to the site. The project Civil Engineer should include these requirements on plans and specifications for the project.

6.2.9 Utility Trenches

6.2.9.1 Excavation

Utility trenches should be supported, either by laying back excavations or shoring, in accordance with applicable OSHA standards. In general, existing site soils are classified as Soil Types "B" and “C” per OSHA standards. Upon completion of the recommended removals and re-compaction, the artificial fill will be classified as Soil Type "B". The Project

Geotechnical Consultant should be consulted if geologic conditions vary from what is presented in this report.

6.2.9.2 Backfill

Trench backfill should be compacted to at least 90 percent of maximum dry density as determined by ASTM D-1557. Onsite soils will not be suitable for use as bedding material but will be suitable for use in backfill provided oversized materials are removed. No surcharge loads should be imposed above excavations. This includes spoil piles, lumber, concrete trucks, or other construction materials and equipment. Drainage above excavations should be directed away from the banks. Care should be taken to avoid saturation of the soils. Compaction should be accomplished by mechanical means. Jetting of native soils will not be acceptable.

Under-slab trenches should also be compacted to project specifications. If select granular backfill (SE > 30) is used, compaction by flooding will be acceptable.

6.2.10 Backcut Stability

Temporary backcuts, if required during unsuitable soil removals, should be made no steeper than 1:1 without review and approval of the geotechnical consultant. Flatter backcuts may be necessary where geologic conditions dictate and where minimum width dimensions are to be maintained.

Care should be taken during remedial grading operations in order to minimize risk of failure. Should failure occur, complete removal of the disturbed material will be required.

In consideration of the inherent instability created by temporary construction backcuts for removals, it is imperative that grading schedules are coordinated to minimize the unsupported exposure time of these excavations. Once started, these excavations and subsequent fill operations should be maintained to completion without intervening delays imposed by avoidable circumstances. In cases where five-day workweeks comprise a normal schedule, grading should be planned to avoid exposing at-grade or near-grade excavations through a non-work weekend. Where improvements may be affected by temporary instability, either on or offsite, further restrictions such as slot cutting, extending workdays, implementing weekend schedules, and/or other requirements considered critical to serving specific circumstances may be imposed.

6.3 Liquefaction/Dynamic Settlement

As discussed in Sections 4.5.4 and 4.5.5 of this report, there is a potential for liquefaction and/or dynamic settlement to occur at the site during seismic shaking. More specifically, liquefaction could cause differential settlement. Typically, half to two thirds of that settlement should be considered differential (California Division of Mines and Geology, 2008, Special Publication 117a). If the analysis is based on multiple borings, seismic induced differential settlement may be determined as one-half the total settlement. For lightly loaded, well-constructed structures underlain by a non-liquefiable layer over the liquefiable layers, such as will be developed at the site, the ultimate differential settlement across the structure may be more limited (Idriss and Boulinger, 2008).

In consideration of the proposed removal and recompaction of the soils below the proposed structures, the differential settlement shown in the liquefaction calculations, and the relatively uniform thickness of the liquefiable layers under the site, it is Alta's opinion that a dynamic differential settlement presented in Table 7-1 can be utilized in the design of the proposed structures. Given the potential for differential settlement and the close proximity to the San Jacinto fault, it is recommended to utilize post-tensioned or mat slabs. The removal/recompaction and the foundation/slab recommendations are intended to reduce the liquefaction potential onsite to an acceptable level of risk as defined by the State of California. Repairs to structures and infrastructure may still be necessary after a seismic event.

6.4 Storm Water Infiltration Systems

Municipalities have been increasing the requirement for onsite storm water infiltration, rather than allowing water to enter storm drain systems. From a geotechnical perspective, allowing storm water to infiltrate the onsite soil in concentrated areas increases the potential for settlement, liquefaction, and water-related damage to structures/improvements, such as wet slabs or pumping subgrade, and should be avoided where possible. If infiltration systems are required on this site, care should be taken in designing systems that control the storm water as much as possible.

Infiltration testing was conducted at the site as part of this investigation, and the methodology is discussed in 3.3. The resulting infiltration rates for P-1, P-2 and P-3 were calculated to be 2.6 inches per hour, 1.9 inches per hour and 2.4 inches per hour, respectively. Perched groundwater was encountered during our investigation at depths of 20.1, 36.1 feet in boring B-1 and at a depth of 47.3 feet in boring B-2. The results do not include a factor of safety.

Given the infiltration rates, infiltration WQMP systems are feasible at the subject site at the depths tested. The Project Geotechnical Consultant should review the final WQMP design prior to construction.

6.5 Methane Testing

Portions of the site were previously utilized as a dairy; however, it appears all waste has been removed from the site for some time. The 2 percent organics in fill recommendation presented herein is intended to limit the potential for methane generation. The governing agency may still require post-grading methane testing in areas where livestock were previously present.

7.0 DESIGN CONSIDERATIONS

7.1 Structural Design

It is anticipated that one to two-story, wood-framed residential structures with slab on-grade and shallow foundations will be constructed. Upon the completion of rough grading, finish grade samples should be collected and tested in order to provide specific recommendations as they relate to individual building pads. These test results and corresponding design recommendations should be presented in a final rough grading report. Final slab and foundation design recommendations should be made based upon specific structure sitings, loading conditions, and as-graded soil conditions.

It is anticipated that the majority of onsite soils will possess "very low" to “low” expansion potential when tested in general accordance with ASTM Test Method D: 4829. Due to the potential for dynamic settlement onsite, it is recommended to utilize post-tensioned or mat slabs for this project.

7.1.1 Foundation Design

Foundations may be preliminary designed based on the values presented in Table 7-1 below.

Table 7-1 Foundation Design Parameters*	
Allowable Bearing	2000 lbs/ft^2 (assuming a minimum embedment depth and width of 12 inches)
Lateral Bearing	250 lbs/ft^2 at a depth of 12 inches plus 250 lbs/ft^2 for each additional 12 inches of embedment to a maximum of 2000 lbs/ft^2.
Sliding Coefficient	0.35
Settlement	Differential Settlement - 2.0 inches in 40 feet

*These values may be increased as allowed by Code to resist transient loads such as wind or seismic. Building code and structural design considerations may govern depth and reinforcement requirements and should be evaluated.

7.1.2 Post-Tensioned Slabs/Foundation Design Recommendations

Post-tensioned slabs for the project may be designed utilizing the parameters presented in Tables 7-1 and 7-2. The parameters presented herein are based on methodology provided in the Design of Post-Tensioned Slabs-On-Ground, Third Edition, by the Post-Tensioning Institute, in accordance with the 2019 CBC. The California Slab Design Methodology may be used for lots underlain by very low expansive soils.

TABLE 7-2
POST-TENSION SLAB DESIGN PARAMETERS

Category	Expansion Potential	Minimum Embedment	Edge Lift		Center Lift	
			Em (ft)	Ym (inch)	Em (ft)	Ym (inch)
I	Very Low	12 inches*	5.7	0.24	9.0	0.11
IA	Low	12 inches*	5.4	0.61	9.0	0.26
Slab Subgrade Moisture						
Categories I and II	Minimum 110% of optimum moisture to a depth of 12 inches prior to pouring concrete					
Embedment* The minimum footing embedments presented herein are based on expansion indexes. The structural engineer should determine minimum embedments based on the number of floors supported by the footings, the structural loading, and the requirements of the latest California Building Code. If mat slabs are utilized, alternate embedment depths can be provided.						
Moisture Barrier A moisture barrier should be provided in accordance with the recommendations presented in Section 7.2						
The parameters presented herein are based on procedures presented in the Design of Post-Tensioned Slabs-On-Ground, Third Edition. No corrections for vertical barriers at the edge of the slab, or for adjacent vegetation have been assumed. The design parameters are based on a Constant Suction Value of 3.9 pF.						

7.2 Moisture Barrier

A moisture and vapor retarding system should be placed below the slabs-on-grade in portions of the structure considered to be moisture sensitive and should be capable of effectively preventing the migration of water and reducing the transmission of water vapor to acceptable levels. Historically, a 10-mil plastic membrane, such as Visqueen, placed between two to four inches of clean sand, has been used for this purpose. The use of this system or other systems can be considered, at the discretion of the designer, provided the system reduces the vapor transmission rates to acceptable levels.

7.3 Seismic Design

In accordance with the requirements in Section 11.4.8 of ASCE 7-16 for sites with Site Class D and S1 values greater than 0.2, Alta has performed a site-specific ground motion analysis for the subject project. The analysis was performed in

accordance with Chapter 21 of ASCE 7-16, the 2019 CBC, and the 2014 USGS Ground Acceleration Maps. The USGS Unified Hazard Tool (https://earthquake.usgs.gov/hazards/interactive/index.php) and the USGS National Seismic Hazard Map source model was utilized to perform the analysis.

The site class was determined based on the referenced reports and published geologic maps in the area in general conformance with Chapter 20 of ASCE 7-16. Based on density of the underlying soil, a Site Class of D was selected.

Probabilistic (MCER) ground motions were determined in accordance with Method 2 of Section 21.2.1 of ACE 7-16. The site specific MCER was taken as the lesser of the probabilistic and deterministic ground motions.

The design response spectrum was determined per Section 21.3 of ASCE 7-16. Design acceleration parameters were determined per Section 21.4 of ASCE 7-16 and the results are presented in Table 7-3. These parameters should be verified by the structural engineer. Additional parameters should be determined by the structural engineer based on the Occupancy Category of the proposed structures.

TABLE 7-3 Seismic Ground Motion Values 2019 CBC and ASCE 7-16	
Parameter	*Value*
Site Class	D
Site Latitude	33.7987
Site Longitude	-116.9525
Spectral Response Acceleration Parameter, S_S	2.215
Spectral Response Acceleration Parameter, S_1	0.898
Site Coefficient, F_a	1.0
Site Coefficient, F_v (Per Table 11.4-2 of ASCE 7-16. Site Specific Parameters Govern)	1.7
Site Specific Parameters Per Chapter 21 of ASCE 7-16	
MCE Spectral Response Acceleration Parameter, S_{MS}	2.215
MCE Spectral Response Acceleration Parameter, S_{M1}	2.310
Design Spectral Response Acceleration Parameter, S_{DS}	1.477
Design Spectral Response Acceleration Parameter, S_{D1}	1.540
Peak Ground Acceleration, PGA_M	1.07

7.4 Fence and Garden Walls

Block walls, if used, should be embedded a minimum of 2 feet below the lowest adjacent grade. Construction joints (not more than 20 feet apart) should be included in the block wall construction. Side yard walls should be structurally separated from the rear yard wall.

7.5 Footing Excavations

Soils from the footing excavations should not be placed in slab-on-grade areas unless properly compacted and tested. The excavations should be cleaned of all loose/sloughed materials and be neatly trimmed at the time of concrete

placement. The Project Geotechnical Consultant should observe the footing excavations prior to the placement of concrete to determine that the excavations are founded in suitably compacted material.

7.6 Retaining Wall Design

Retaining walls should be founded on engineered fill and should be backfilled with granular soils that allow for drainage behind the wall. Foundations may be designed in accordance with the recommendations presented in Table 7-1, above. Unrestrained walls, free to horizontally move 0.0005H (for dense cohesionless backfill), may be designed to resist lateral pressures imposed by a fluid with a unit weight determined in accordance with the Table 7-4 below. The table also presents design parameters for restrained (at-rest) retaining walls. These parameters may be used to design retaining walls that may be considered as restrained due to the method of construction or location (corner sections of unrestrained retaining walls).

TABLE 7-4
Equivalent Fluid Pressures for 90% Compacted Fill (Select Material)

Backfill	Active Pressure (psf/ft)	At-Rest Pressure (psf/ft)
Level	35	55

Per the requirements of the 2019 CBC, the seismic force acting on the retaining walls with backfill exceeding 6-feet in height may be resolved utilizing the formula $22H^2$ lb/lineal ft (H=height of the wall). This force acts at approximately 0.6H above the base of the wall. The seismic value can be converted as required by the retaining wall engineer. Retaining walls should be designed in general accordance with Section 1807A.2 of the 2019 CBC.

- Restrained retaining walls should be designed for “at-rest” conditions.
- The design loads presented in the above table are to be applied on the retaining wall in a horizontal fashion and as such friction between wall and retained soils should not be allowed in the retaining wall analyses.
- Additional allowances should be made in the retaining wall design to account for the influence of construction loads, temporary loads, and possible nearby structural footing loads.
- Select backfill should be granular, structural quality backfill with a Sand Equivalent of 20 or better and an ASCE Expansion Index of 20 or less. The backfill must encompass the full active wedge area. The upper one foot of backfill should be comprised of native on-site soils (see Plates A-1 and A-2).
- The wall design should include waterproofing (where appropriate) and backdrains or weep holes for relieving possible hydrostatic pressures. The backdrain should be comprised of a 4-inch perforated PVC pipe in a 1 ft. by 1 ft., ¾-inch gravel matrix, wrapped with a geofabric. The backdrain should be installed with a minimum gradient of 2 percent and should be outletted to an appropriate location.
- No backfill should be placed against concrete until minimum design strengths are achieved.

It should be noted that the allowable bearing and lateral bearing values presented in Table 7-1 are based on level conditions at the toe. Modified design parameters can be presented for retaining walls with sloping condition at the toe. Other conditions should be evaluated on a case-by-case basis.

7.7 Exterior Slabs and Walkways

Exterior concrete slabs and walkways should be designed and constructed in consideration of the following recommendations.

7.7.1 Subgrade Compaction

The subgrade below exterior concrete slabs should be compacted to a minimum of 90 percent relative compaction as determined by ASTM Test Method: D 1557.

7.7.2 Subgrade Moisture

The subgrade below concrete slabs should be moisture conditioned to a minimum of 110 percent of optimum moisture prior to concrete placement.

7.7.3 Concrete Slab Thickness

Concrete flatwork and driveways should be designed utilizing four-inch minimum thickness.

7.7.4 Concrete Slab Reinforcement

Utilization of reinforcement for flatwork and driveways is subject to a cost/benefit analysis. Reinforcement will decrease the amount of cracking that may occur in flatwork, however, planning for occasional repairs may be more cost effective. Utilizing closely spaced control joints is likely more cost-effective than utilizing reinforcement. The majority of the soils onsite are classified as very low to low in expansion potential. Consideration should be given to reinforcing flatwork with irregular (non-square/rectangular) shapes.

7.7.5 Control Joints

Weakened plane joints should be installed on walkways at intervals of approximately eight feet (maximum) or less. Exterior slabs should be designed to withstand shrinkage of the concrete.

7.8 Concrete Design

As stated in Section 5.1.6, negligible concentrations of sulfates were detected in the onsite soils. Therefore, the use of sulfate resistant concrete is not required per ACI 318-14 at this time. Post-grading conditions should be evaluated, and final recommendations made at that time.

7.9 Corrosion

Based on preliminary testing, the onsite soils are mildly corrosive to buried metal objects. Buried ferrous metals should be protected against the effects of corrosive soils in accordance with the manufacturer's recommendations. Typical measures may include using non-corrosive backfill, protective coatings, wrapping, plastic pipes, or a combination of these methods. A corrosion engineer should be consulted if specific design recommendations are required by the improvement designer.

Per ACI 318-14, an exposure class of C1 would be applicable to metals encased in concrete (rebar in footings) due to being exposed to moisture from surrounding soils. Per Table 19.3.2.1 of ACI 318-14, the requirements for concrete with an exposure class of C1 are a minimum compressive strength of 2500 psi and a maximum water-soluble chloride ion content in concrete of 0.30 (percent by weight of cement).

7.10 Pavement Design

Pavement design recommendations for the proposed streets shall be designed based on laboratory testing conducted on samples taken from the soil subgrade. Based on an assumed R-Value related to soil encountered during the subsurface investigation (R-Value=30), the pavement may be designed utilizing the sections presented in Table 7-6. These sections should be verified upon the completion of grading, based on R-Value testing. The ultimate pavement section design for public streets is under the City of San Jacinto's purview.

Table 7-6 Preliminary Pavement Sections*	
Traffic Index	Pavement Section Options
5.5	3-inch AC on 6-inch AB or 4-inch AC on 5-inch AB
6.5	4-inch AC on 8-inch AB
7.0	4-inch AC on 9.5-inch AB
AC-Asphalt Concrete AB-Caltrans Class II Base *City Minimum Applies	

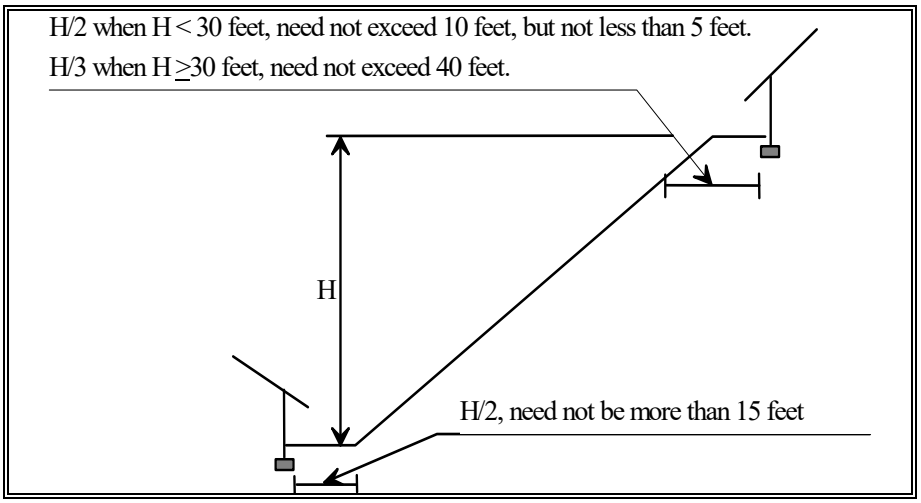
Construction of the streets should be accomplished in accordance with the current criteria of the City of San Jacinto. Prior to the placement of base material, the subgrade should be suitably moisture conditioned, processed and compacted to a minimum 95 percent of the laboratory maximum density (ASTM: D 1557) to at least twelve (12) inches below subgrade. After subgrade compaction, the exposed grade should then be "proof"-rolled with heavy equipment to ensure the grade does not "pump" and is verified as non-yielding. Aggregate base material should be placed on the compacted subgrade and compacted in-place to a minimum 95 percent of the laboratory standard obtained per ASTM: D 1557.

7.11 Site Drainage

Positive drainage away from the proposed structures should be provided and maintained. Roof, pad, and lot drainage should be collected and directed away from the structures toward approved disposal areas through drainage terraces, gutters, down drains, and other devices. Design fine grade elevations should be maintained through the life of the structure or if design fine grade elevations are altered, adequate area drains should be installed in order to provide rapid discharge of water, away from structures.

7.12 Deepened Footings and Setbacks

It is generally recognized that improvements constructed in proximity to properly constructed slopes can, over a period of time, be affected by natural processes including gravity forces, weathering of surficial soils and long term (secondary) settlement. Most building codes, including the California Building Code (CBC), require that structures be setback or footings deepened, where subject to the influence of these natural processes. For the subject site, where foundations for residential structures are to exist in proximity to slopes, the footings should be embedded to satisfy the requirements presented in the following figure.



Consideration of these natural processes should be undertaken in the design and construction of other improvements. Homeowners are advised to consult with qualified geotechnical engineers, designers, and contractors in the design and construction of future improvements. Each lot and proposed improvement should be evaluated in relation to the specific site conditions, accounting for the specific soil conditions.

8.0 LOT MAINTENANCE

Ongoing maintenance of the improvements is essential to the long-term performance of structures. The following recommendations should be implemented.

8.1 Lot Drainage

Roof, pad and lot drainage should be collected and directed away from structures and slopes and toward approved disposal areas. Design fine grade elevations should be maintained through the life of the structure or if design fine grade elevations are altered, adequate area drains should be installed in order to provide rapid discharge of water, away from structures and slopes. Owners should be made aware that they are responsible for maintenance and cleaning of all drainage terraces, down drains, and other devices that have been installed to promote structure and slope stability.

8.2 Burrowing Animals

Owners should undertake a program for the elimination of burrowing animals.

9.0 FUTURE PLAN REVIEWS

This report represents a geotechnical review of the site. As the project design for the project progresses, site specific geologic and geotechnical issues should be considered in the design and construction of the project. Consequently, future plan reviews may be necessary. These reviews may include reviews of:

- Grading Plans
- Foundation Plans
- Utility Plans

These plans should be forwarded to the project Geotechnical Consultant for review.

10.0 CLOSURE

10.1 Geotechnical Review

For the purposes of this report, multiple working hypotheses were established for the project, utilizing the available data and the most probable model is used for the analysis. Future information collected during the proposed grading operations is intended to evaluate the hypothesis and as such, some of the assumptions summarized in this report may need to be changed. Some modifications of the grading recommendations may become necessary, should the conditions encountered in the field differ from the conditions hypothesized in this report.

Plans and sections of the project specifications should be reviewed by Alta to evaluate conformance with the intent of the recommendations contained in this report. If the project description or final design varies from that described in herein, Alta must be consulted regarding the applicability of the recommendations contained herein and whether any changes are required. Alta accepts no liability for any use of its recommendations if the project description or final design varies and Alta is not consulted regarding the alterations.

10.2 Limitations

This report is based on the following: 1) the project as presented on the attached plan; 2) the information obtained from Alta's laboratory testing included herein; and 3) from the information presented in the referenced reports. The findings and recommendations are based on the results of the subsurface investigation, laboratory testing, and office analysis combined with an interpolation and extrapolation of conditions between and beyond the subsurface excavation locations. However, the materials adjacent to or beneath those observed may have different characteristics than those observed, and no precise representations are made as to the quality or extent of the materials not

observed. The results reflect an interpretation of the direct evidence obtained. Work performed by Alta has been conducted in a manner consistent with the level of care and skill ordinarily exercised by members of the geotechnical profession currently practicing in the same locality under similar conditions. No other representation, either expressed or implied, and no warranty or guarantee is included or intended.

The recommendations presented in this report are based on the assumption that an appropriate level of field review will be provided by a geotechnical consultant who is familiar with the design and site geologic conditions. That field review shall be sufficient to confirm that geotechnical and geologic conditions exposed during grading are consistent with the geologic representations and corresponding recommendations presented in this report.

The conclusions and recommendations included in this report are applicable to the specific design of this project as discussed in this report. They have no applicability to any other project or to any other location and any and all subsequent users accept any and all liability resulting from any use or reuse of the data, opinions, and recommendations without the prior written consent of Alta.

Alta has no responsibility for construction means, methods, techniques, sequences, procedures, safety precautions, programs in connection with the construction, acts or omissions of the CONTRACTOR or any other person performing any of the construction, or for the failure of any of them to carry out the construction in accordance with the final design drawings and specifications.

APPENDIX A

REFERENCES

APPENDIX A

References

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Riverside County Mapping Portal, https://gis.rivcoit.org/

APPENDIX B

Subsurface Investigation

APPENDIX B

Subsurface Investigation

Alta's subsurface investigation consisted of excavating, logging, and sampling twenty-five (25) backhoe test pits, two (2) hollow stem auger borings, and four (4) CPT's. Details of the subsurface investigation are presented in Table B-1. The approximate locations of the exploratory excavations are shown on the accompanying Plates 1 through 4 and the Geotechnical Logs are attached. In-situ density/moisture testing was conducted utilizing a nuclear test gauge. The results are presented in Table B-2.

TABLE B-1
SURFACE INVESTIGATION DETAILS

Equipment	Range of Depths	Sampling Methods	Sample Locations
Hollow-stem auger	Up to 51.5 feet	1. Bulk 2. Ring Samples 3. SPT Samples	1. Bulk-Select Depths 2. Ring-Every 5 Feet to 20 Feet 3. SPT-25 Feet and Deeper
Backhoe	Up to 12.5 feet	1. Bulk	1. Bulk-Select Depths

TABLE B-2
In-Situ Density Testing

Date	Test Location	Depth (ft)	Moisture (%)	Wet Density (pcf)	Dry Density (pcf)	USCS Soil Type	% Saturation
4/18/22	T-1	2	1.8	98	96.3	SM	7
4/18/22	T-1	4	1.2	99.3	98.1	SP	5
4/18/22	T-2	1	2.2	100.6	98.4	SM	9
4/18/22	T-2	3	0.8	86.7	86.0	SM	2
4/18/22	T-3	2	3.1	100.5	97.5	SM	12
4/18/22	T-3	4	1.8	92.0	90.4	SP	6
4/18/22	T-4	1	1.1	100.7	99.6	SM	4
4/18/22	T-4	3	1.3	101.7	100.4	SP	5
4/18/22	T-4	5	1.8	106.1	104.2	SP	8
4/18/22	T-5	2	3.3	84.2	81.5	SP	9
4/18/22	T-5	4	3.2	86.0	83.3	SP	9
4/18/22	T-6	1	2.9	102.0	99.1	SM	12
4/18/22	T-6	3	2.4	106.6	104.1	SP	11
4/18/22	T-7	2	1.6	104.5	102.9	SP	7
4/18/22	T-7	4	2.7	99.5	96.9	SP	10
4/18/22	T-8	1	1.8	105.1	103.2	SM	8
4/18/22	T-8	3	0.9	102.4	101.5	SP	4
4/18/22	T-9	2	1.7	106.8	105.0	SP	8
4/18/22	T-9	4	2.3	99.0	96.8	SP	9
4/18/22	T-10	1	2.6	99.8	97.3	SM	10
4/18/22	T-10	3	1.7	99.7	98.0	SP	7
4/18/22	T-10	5	1.9	98.1	96.3	SP	7
4/18/22	T-11	2	2.9	86.4	84.0	SP	8
4/18/22	T-11	4	1.6	90.8	89.4	SP	5
4/18/22	T-12	1	1.8	101.5	99.7	SM	7
4/18/22	T-12	3	1.6	98.1	96.6	SP	6
4/18/22	T-13	2	1.6	102.1	100.5	SP	7
4/18/22	T-13	4	1.8	104.2	102.4	SP	8
4/19/22	T-14	1	3.8	91.3	88.0	SM	12
4/19/22	T-14	3	2.1	93.9	92.0	SP	7
4/19/22	T-15	2	1.8	103.0	101.2	SP	8
4/19/22	T-15	4	0.9	99.9	99.0	SP	4
4/19/22	T-16	1	2.4	100.5	98.1	SM	9
4/19/22	T-16	3	2.3	104.0	101.7	SP	10
4/19/22	T-16	5	2.2	101.5	99.3	SP	9
4/19/22	T-17	2	2.2	102.2	100.0	SP	9
4/19/22	T-18	1	1.6	98.8	97.2	SM	6
4/19/22	T-19	2	1.1	103.9	102.8	SP	5
4/19/22	T-19	4	1.4	102.5	101.1	SP	6

TABLE B-2
In-Situ Density Testing

Date	Test Location	Depth (ft)	Moisture (%)	Wet Density (pcf)	Dry Density (pcf)	USCS Soil Type	% Saturation
4/19/22	T-20	1	1.9	104.6	102.6	SM	8
4/19/22	T-20	3	0.9	98.6	97.7	SP	3
4/19/22	T-21	2	1.9	101.7	99.8	SP	8
4/19/22	T-21	4	9.8	99.9	91.0	SP	32
4/19/22	T-22	1	1.1	98.8	97.7	SP	4
4/19/22	T-22	3	1.7	101.4	99.7	SP	7
4/19/22	T-22	5	2.6	108.5	105.8	SP	12
4/19/22	T-23	1	1.1	107.0	105.8	SM	5
4/19/22	T-23	3	2.6	100.9	98.3	SP	10
4/19/22	T-24	2	3.2	102.0	98.8	SP	13
4/19/22	T-24	4	2.6	99.6	97.1	SP	10
4/19/22	T-25	1	2.0	112.2	110.0	SP	11
4/19/22	T-25	3	14.4	103.1	90.1	SP	46

Project No.	1-0446
Date Excavated	April 18-19, 2022
Logged by	JC
Equipment	JD 310

TABLE I

LOG OF TEST PITS

Test Pit No.	Depth (ft.)	USCS	Description
T-1	0.0-10.0	SM	**ALLUVIUM** (Qa): SILTY SAND, very fine to medium grained, tannish gray, dry, loose, trace roots.
		SP	@1.0ft. SAND, fine to coarse grained, gray, dry, loose. @2.9ft. few fine gravel <3/4". @5.7ft. few fine to coarse gravel <3". @8.0ft. trace cobble <6"
			TOTAL DEPTH 10.0 FEET NO GROUNDWATER ENCOUNTERED CAVING OBSERVED THROUGHOUT.

Test Pit No.	Depth (ft.)	USCS	Description
T-2	0.0-10.0	SM	**ALLUVIUM** (Qa): SILTY SAND, very fine to medium grained, tannish gray, dry, loose, trace roots.
		SP	@1.9ft. SAND, very fine to medium grained, gray, dry, loose.
		SM	@3.4ft. SILTY SAND, very fine to fine grained, tannish gray, dry, loose to medium dense.
		SP	@5.5ft. SAND, very fine to medium grained, gray, dry, loose to medium dense. @7.3ft. fine to coarse grained.
			TOTAL DEPTH 10.0 FEET NO GROUNDWATER ENCOUNTERED SLIGHT CAVING ABOVE 6.0 FEET

Test Pit No.	Depth (ft.)	USCS	Description
T-3	0.0-10.0	SM	**ALLUVIUM** (Qa): SILTY SAND, very fine to medium grained, tannish gray, dry, loose, trace roots.
		SP	@4.3ft. SAND, very fine to medium grained, gray, dry, loose, some silt. @7.9ft. medium dense. TOTAL DEPTH 10.0 FEET NO GROUNDWATER ENCOUNTERED SLIGHT CAVING ABOVE 7.0 FEET

Test Pit No.	Depth (ft.)	USCS	Description
T-4	0.0-9.0	SM	**ALLUVIUM** (Qa): SILTY SAND, very fine to medium grained, tannish gray, dry, loose, trace roots.
		SP	@4.3ft. SAND, fine to course grained, gray, dry, loose. @3.0ft. slightly moist. @4.0ft. dry, few fine gravel <3/4". @7.3ft. some fine to coarse gravel <3". TOTAL DEPTH 9.0 FEET NO GROUNDWATER ENCOUNTERED CAVING ABOVE 5.0 FEET

Test Pit No.	Depth (ft.)	USCS	Description
T-5	0.0-12.5	SM	**ALLUVIUM** (Qa): SILTY SAND, very fine to medium grained, tannish gray, dry, loose, trace roots.
		SP	@2.0ft. SAND, very fine to fine grained, tan, dry, medium dense, some silt. @2.4ft. some roots.
		SM	@6.3ft. SILTY SAND, very fine to fine grained, tan, slightly moist, medium dense, few pores. TOTAL DEPTH 12.5 FEET NO GROUNDWATER ENCOUNTERED NO CAVING OBSERVED

Test Pit No.	Depth (ft.)	USCS	Description
T-6	0.0-10.5	SM	**ALLUVIUM** (Qa): SILTY SAND, very fine to medium grained, brownish gray, dry, loose, trace roots.
		SP	@1.4ft. SAND, very fine to fine grained, tannish gray, dry, medium dense.
		SM	@4.6ft. SILTY SAND, very fine to fine grained, brownish gray, slightly moist, medium dense.
		SP	@8.0ft. SAND, fine to coarse grained, gray, dry, loose to medium dense.
			TOTAL DEPTH 10.5 FEET NO GROUNDWATER ENCOUNTERED NO CAVING OBSERVED

Test Pit No.	Depth (ft.)	USCS	Description
T-7	0.0-8.0	SM	**ALLUVIUM** (Qa): SILTY SAND, very fine to medium grained, tannish gray, dry, loose, trace roots.
		SP	@0.8ft. SAND, very fine to medium grained, tannish gray, dry, loose. @4.2ft. fine to medium grained. @7.0ft. some silt.
			TOTAL DEPTH 8.0 FEET NO GROUNDWATER ENCOUNTERED CAVING OBSERVED ABOVE 5.0 FEET

Test Pit No.	Depth (ft.)	USCS	Description
T-8	0.0-8.5	SM	**ALLUVIUM** (Qa): SILTY SAND, very fine to medium grained, tannish gray, dry, loose, trace roots.
		SP	@1.3ft. SAND, fine to coarse grained, gray, dry, loose. @2.5ft. few fine gravel <3/4". @7.5ft. loose to medium dense.
			TOTAL DEPTH 8.5 FEET NO GROUNDWATER ENCOUNTERED HEAVY CAVING ABOVE 7.0 FEET

Test Pit No.	Depth (ft.)	USCS	Description
T-9	0.0-8.8	SM	**ALLUVIUM** (Qa): SILTY SAND, very fine to medium grained, tannish gray, dry, loose, trace roots.
		SP	@0.7ft. SAND, fine to coarse grained, gray, dry, loose. @3.0ft. brownish gray, few fine gravel <3/4". @6.0ft. some silt, loose to medium dense. TOTAL DEPTH 8.8 FEET NO GROUNDWATER ENCOUNTERED HEAVY CAVING ABOVE 6.0 FEET

Test Pit No.	Depth (ft.)	USCS	Description
T-10	0.0-9.5	SM	**ALLUVIUM** (Qa): SILTY SAND, very fine to medium grained, tannish gray, dry, loose, trace roots.
		SP	@0.9ft. SAND, fine to coarse grained, gray, dry, loose. @3.0ft. some fine to coarse gravel <3" @7.8ft. loose to medium dense. TOTAL DEPTH 9.5 FEET NO GROUNDWATER ENCOUNTERED HEAVY CAVING ABOVE 7.0 FEET

Test Pit No.	Depth (ft.)	USCS	Description
T-11	0.0-8.0	SM	**ALLUVIUM** (Qa): SILTY SAND, very fine to medium grained, tannish gray, dry, loose, trace roots.
		SP	@1.5ft. SAND, very fine to fine grained, brownish tan, dry, loose to medium dense, some silt. @4.0ft. trace pores. TOTAL DEPTH 8.0 FEET NO GROUNDWATER ENCOUNTERED NO CAVING OBSERVED

Test Pit No.	Depth (ft.)	USCS	Description
T-12	0.0-8.0	SM	**ALLUVIUM** (Qa): SILTY SAND, very fine to medium grained, tannish gray, dry, loose, trace roots.
		SP	@1.2ft. SAND, fine to coarse grained, gray dry, loose. @3.0ft. few fine gravel <3/4” @4.0ft. very fine to medium grained. @6.0ft. fine to coarse grained. TOTAL DEPTH 8.0 FEET NO GROUNDWATER ENCOUNTERED HEAVY CAVING THROUGHOUT

Test Pit No.	Depth (ft.)	USCS	Description
T-13	0.0-9.5	SM	**ALLUVIUM** (Qa): SILTY SAND, very fine to medium grained, tannish gray, dry, loose, trace roots.
		SP	@1.1ft. SAND, very fine to coarse grained, gray, dry, loose. @5.0ft. few fine gravel <3/4” @7.0ft. medium dense, some silt. TOTAL DEPTH 9.5 FEET NO GROUNDWATER ENCOUNTERED HEAVY CAVING ABOVE 7.0 FEET

Test Pit No.	Depth (ft.)	USCS	Description
T-14	0.0-8.2	SM	**ALLUVIUM** (Qa): SILTY SAND, very fine to medium grained, tannish gray, dry, loose, trace roots.
		SP	@1.8ft. SAND, fine to coarse grained, gray, dry, loose. @6.0ft. brown, slightly moist, some silt. TOTAL DEPTH 8.2 FEET NO GROUNDWATER ENCOUNTERED CAVING OBSERVED BETWEEN 2.0-7.0 FEET

Test Pit No.	Depth (ft.)	USCS	Description
T-15	0.0-9.8	SM	**ALLUVIUM** (Qa): SILTY SAND, very fine to medium grained, tannish gray, dry, loose, trace roots.
		SP	@1.3ft. SAND, fine to coarse grained, brownish gray, dry, loose to medium dense, some silt. @6.0ft. fine to coarse grained, gray, trace fine gravel <3/4” @7.0ft. very fine to coarse grained, some silt. TOTAL DEPTH 9.8 FEET NO GROUNDWATER ENCOUNTERED CAVING OBSERVED THROUGHOUT

Test Pit No.	Depth (ft.)	USCS	Description
T-16	0.0-8.0	SM	**ALLUVIUM** (Qa): SILTY SAND, very fine to medium grained, tannish gray, dry, loose, trace roots.
		SP	@1.9ft. SAND, fine to coarse grained, gray, dry, loose. @6.5ft. very fine to coarse grained. TOTAL DEPTH 8.0 FEET NO GROUNDWATER ENCOUNTERED CAVING OBSERVED ABOVE 7.0 FEET

Test Pit No.	Depth (ft.)	USCS	Description
T-17	0.0-8.5	SM	**ALLUVIUM** (Qa): SILTY SAND, very fine to medium grained, tannish gray, dry, loose, trace roots.
		SP	@1.8ft. SAND, fine to coarse grained, gray, dry, loose, few fine gravel <3/4”. @4.8ft. very fine to coarse grained, some silt. @5.9ft. medium to coarse grained, few fine gravel <3/4”. @6.5ft. very fine to medium grained. @7.3ft. fine to coarse grained. TOTAL DEPTH 8.5 FEET NO GROUNDWATER ENCOUNTERED CAVING OBSERVED THROUGHOUT

Test Pit No.	Depth (ft.)	USCS	Description
T-18	0.0-8.3	SM	**ALLUVIUM** (Qa): SILTY SAND, very fine to medium grained, tannish gray, dry, loose, trace roots.
		SP	@2.0ft. SAND, fine to coarse grained, gray, dry, very loose. @3.7ft. very fine to medium grained, loose, some silt. @5.5ft. fine to coarse grained, few fine gravel <3/4” TOTAL DEPTH 8.3 FEET NO GROUNDWATER ENCOUNTERED CAVING OBSERVED THROUGHOUT

Test Pit No.	Depth (ft.)	USCS	Description
T-19	0.0-8.8	SM	**ALLUVIUM** (Qa): SILTY SAND, very fine to medium grained, tannish gray, dry, loose, trace roots.
		SP	@1.0ft. SAND, fine to coarse grained, brownish gray, dry, loose, few fine gravel <3/4”. @3.0ft. gray @5.3ft. few fine to coarse gravel <3” @7.3ft. some silt. TOTAL DEPTH 8.8 FEET NO GROUNDWATER ENCOUNTERED CAVING OBSERVED ABOVE 5.0 FEET

Test Pit No.	Depth (ft.)	USCS	Description
T-20	0.0-9.5	SM	**ALLUVIUM** (Qa): SILTY SAND, very fine to medium grained, tannish gray, dry, loose, trace roots.
		SP	@1.2ft. SAND, fine to coarse grained, brownish gray, dry, loose, few fine gravel <3/4”. @4.0ft. some fine to coarse gravel <3/4”. @8.0ft. loose to medium dense. TOTAL DEPTH 9.5 FEET NO GROUNDWATER ENCOUNTERED CAVING OBSERVED ABOVE 7.0 FEET

Test Pit No.	Depth (ft.)	USCS	Description
T-21	0.0-0.8	SM	**ARTIFICIAL FILL-UNDOCUMENTED** (afu): SILTY SAND, very fine to medium grained, tannish gray, dry, loose, some debris.
	0.8-5.5	SP	**ALLUVIUM** (Qa): SAND, fine to coarse grained, brownish gray, dry, loose, few fine gravel <3/4". @3.5ft. slightly moist. @5.0ft. dry, medium dense, few fine to coarse gravel <3/4".
			TOTAL DEPTH 5.5 FEET NO GROUNDWATER ENCOUNTERED CAVING OBSERVED ABOVE 5.0 FEET

Test Pit No.	Depth (ft.)	USCS	Description
T-22	0.0-0.9	SM	**ARTIFICIAL FILL-UNDOCUMENTED** (afu): SILTY SAND, very fine to medium grained, tannish gray, dry, loose, some debris.
	0.9-9.5	SP	**ALLUVIUM** (Qa): SAND, fine to coarse grained, gray, dry, loose. @2.0ft. GRAVELLY SAND, medium to coarse grained, tannish gray, dry, loose, fine gravel <1/2". @5.0ft. SAND, fine to coarse grained, tannish gray, dry, loose, some fine gravel <3/4". @8.0ft, loose to medium dense.
			TOTAL DEPTH 9.5 FEET NO GROUNDWATER ENCOUNTERED CAVING OBSERVED ABOVE 6.0 FEET

Test Pit No.	Depth (ft.)	USCS	Description
T-23	0.0-3.0	SM	**ARTIFICIAL FILL-UNDOCUMENTED** (afu): SILTY SAND, very fine to medium grained, tannish gray, dry, loose. @1.9ft. pipe debris.
	3.0-7.8	SP	**ALLUVIUM** (Qa): SAND, fine to coarse grained, brownish gray, dry, loose, few fine gravel <3/4". @5.9ft. some fine to coarse gravel <3". @7.0ft. loose to medium dense. TOTAL DEPTH 7.8 FEET NO GROUNDWATER ENCOUNTERED CAVING OBSERVED ABOVE 7.0 FEET

Test Pit No.	Depth (ft.)	USCS	Description
T-24	0.0-10.0	SM	**ALLUVIUM** (Qa): SILTY SAND, very fine to medium grained, tannish gray, dry, loose, trace roots.
		SP	@0.6ft. SAND, fine to coarse grained, brownish gray, dry, loose @4.0ft. few fine gravel <3/4".
		SM	@8.0ft. SILTY SAND, very fine to medium grained, brownish gray, moist, medium dense. TOTAL DEPTH 10.0 FEET NO GROUNDWATER ENCOUNTERED CAVING OBSERVED ABOVE 8.0 FEET

Test Pit No.	Depth (ft.)	USCS	Description
T-25	0.0-10.0	SM	**ALLUVIUM** (Qa): SILTY SAND, very fine to medium grained, tannish gray, dry, loose, trace roots.
		SP	@0.6ft. SAND, fine to coarse grained, brownish gray, dry, loose @4.0ft. few fine gravel <3/4". @8.0ft. SILTY SAND, very fine to medium grained, brownish gray, moist, medium dense. TOTAL DEPTH 10.0 FEET NO GROUNDWATER ENCOUNTERED CAVING OBSERVED ABOVE 8.0 FEET

Test Pit No.	Depth (ft.)	USCS	Description
P-1	0.0-5.0	SM	**ALLUVIUM** (Qa): SILTY SAND, very fine to medium grained, tannish gray, dry, loose, trace roots.
		SP	@1.0ft. SAND, fine to coarse grained, gray, dry, loose. @3.4ft. few fine gravel <3/4". TOTAL DEPTH 5.0 FEET NO GROUNDWATER ENCOUNTERED CAVING OBSERVED THROUGHOUT

Test Pit No.	Depth (ft.)	USCS	Description
P-2	0.0-5.0	SM	**ALLUVIUM** (Qa): SILTY SAND, very fine to medium grained, tannish gray, dry, loose, trace roots. @1.9ft. few pores, trace roots. @3.1ft. trace fine gravel <3/4". @4.9ft. trace pores. TOTAL DEPTH 5.0 FEET NO GROUNDWATER ENCOUNTERED SLIGHT CAVING OBSERVED THROUGHOUT

Test Pit No.	Depth (ft.)	USCS	Description
P-3	0.0-5.0	SM	**ALLUVIUM** (Qa): SILTY SAND, very fine to medium grained, tannish gray, dry, loose, trace roots.
		SP	@0.9ft. SAND, fine to coarse grained, gray, dry, loose. @3.4ft. brownish gray, few fine gravel <3/4". TOTAL DEPTH 5.0 FEET NO GROUNDWATER ENCOUNTERED CAVING OBSERVED THROUGHOUT

GEOTECHNICAL BORING LOG

PROJECT NO.	1-0446	PROJECT NAME	Tentative Tract 34271		
DATE STARTED	4/29/22	GROUND ELEV.	1553	BORING DESIG.	B-1
DATE FINISHED	4/29/22	GW DEPTH (FT)		LOGGED BY	JC
DRILLER	2R Drilling Inc.	DRIVE WT.	140lbs	NOTE	
TYPE OF DRILL RIG	8" Hollow Stem Auger	DROP	30 in.		

DEPTH (Feet)	ELEV	SAMPLE TYPE	BLOWS	LITHOLOGY	GROUP SYMBOL	GEOTECHNICAL DESCRIPTION	MOISTURE CONT (%)	DRY (pcf) DENSITY	SAT-URATION (%)	OTHER TESTS
					SM	**ALLUVIUM** (Qa): SILTY SAND, very fine to fine grained, tannish brown, dry, loose.				
	1550	R	7			@2.5ft. fine to medium grained, tan, dry, loose.				
5		R	5		SP	@5.0ft. NO RECOVERY, SAND, fine to medium grained, tan, dry, loose.				
	1545									
10		R	11			@10.0ft. medium dense.	24.4	94	85	HY, CON
	1540									
15		R	10		SM	@15.0ft. SILTY SAND, very fine to fine grianed, brown, slightly mosit, loose.	8.6	106	41	
	1535									
20		R	18		SP	@20.0ft. SAND fine to medium grained, brown, wet, medium dense.	19.3	101	79	
						@21.2ft. PERCHED GROUNDWATER				
	1530									
25		S	5/8/10		SM	@25.0ft. SILTY SAND, fine to medium grained, brown, wet, medium dense.				
	1525									
30		S	5/8/12			@30.0ft. tannish brown.				
	1520									
35		S	7/7/16			@36.1ft. PERCHED GROUNDWATER				
	1515									
						Continued;				

SAMPLE TYPES:
R RING (DRIVE) SAMPLE
S SPT (SPLIT SPOON) SAMPLE
B BULK SAMPLE T TUBE SAMPLE

GROUNDWATER
SEEPAGE
J: JOINTING C: CONTACT
B: BEDDING F: FAULT
S: SHEAR RS: RUPTURE SURFACE

Alta California Geotechnical, Inc.

P.N. 1-0446 PLATE B-1

GEOTECHNICAL BORING LOG

PROJECT NO.	1-0446	PROJECT NAME	Tentative Tract 34271		
DATE STARTED	4/29/22	GROUND ELEV.	1553	BORING DESIG.	B-1
DATE FINISHED	4/29/22	GW DEPTH (FT)		LOGGED BY	JC
DRILLER	2R Drilling Inc.	DRIVE WT.	140lbs	NOTE	
TYPE OF DRILL RIG	8" Hollow Stem Auger	DROP	30 in.		

DEPTH (Feet)	ELEV	SAMPLE TYPE	BLOWS	LITHOLOGY	GROUP SYMBOL	GEOTECHNICAL DESCRIPTION	MOISTURE CONT (%)	DRY (pcf) DENSITY	SAT-URATION (%)	OTHER TESTS
		S	6/8/11			**ALLUVIUM** (Qa): SILTY SAND, fine to medium grained, brown, wet, medium dense.				
	1510									
45		S	16/16/17			@45.0ft. grayish tan, dense.				
	1505									
50		S	6/11/18			@50.0ft. medium dense.				
						TOTAL DEPTH 51.5 FEET PERCHED GROUNDWATER ENCOUNTERED AT 21.2 FEET AND 36.1 FEET CAVING BELOW 5.0 FEET				

SAMPLE TYPES:
R RING (DRIVE) SAMPLE
S SPT (SPLIT SPOON) SAMPLE
B BULK SAMPLE T TUBE SAMPLE

GROUNDWATER
SEEPAGE
J: JOINTING C: CONTACT
B: BEDDING F: FAULT
S: SHEAR RS: RUPTURE SURFACE

Alta California Geotechnical, Inc.

P.N. 1-0446 PLATE B-1

GEOTECHNICAL BORING LOG

PROJECT NO.	1-0446	PROJECT NAME	Tentative Tract 34271		
DATE STARTED	4/29/22	GROUND ELEV.	1555	BORING DESIG.	B-2
DATE FINISHED	4/29/22	GW DEPTH (FT)		LOGGED BY	JC
DRILLER	2R Drilling Inc.	DRIVE WT.	140lbs	NOTE	
TYPE OF DRILL RIG	8" Hollow Stem Auger	DROP	30 in.		

DEPTH (Feet)	ELEV	SAMPLE TYPE	BLOWS	LITHOLOGY	GROUP SYMBOL	GEOTECHNICAL DESCRIPTION	MOISTURE CONT (%)	DRY (pcf) DENSITY	SAT-URATION (%)	OTHER TESTS
	1555				SM	**ALLUVIUM** (Qa): SILTY SAND, very fine to fine grained, grayish tan, dry, loose.				
		R	9		SP	@2.5ft. SAND, fine to coarse grianed, tan, dry, loose.	1.0			
5	1550	R	8		SM	@5.0ft. SILTY SAND, very fine to fine grained, tannish brown, dry, loose.	6.3	83	17	HY, CON
10	1545	R	11			@10.0ft. NO RECOVERY	19.9	96	72	
15	1540	R	10			@15.0ft. brown, trace pores.	19.7	99	77	
20	1535	R	8		ML	@20.0ft. SANDY SILT, very fine to fine grained, brown, dry, stiff, trace pores.				
25	1530	S	5/6/11		SM	@25.0ft. SILTY SAND, very fine to fine grained, tannish brown, dry, medium dense.				
30	1525	S	10/12/12			@30.0ft. fine to medium grained, tannish brown, dry, medium dense.				
35	1520	S	6/11/14							
	1515					Continued;				

SAMPLE TYPES:
- R RING (DRIVE) SAMPLE
- S SPT (SPLIT SPOON) SAMPLE
- B BULK SAMPLE
- T TUBE SAMPLE

▼ GROUNDWATER
► SEEPAGE
J: JOINTING C: CONTACT
B: BEDDING F: FAULT
S: SHEAR RS: RUPTURE SURFACE

Alta California Geotechnical, Inc.

P.N. 1-0446 PLATE B-2

GEOTECHNICAL BORING LOG

PROJECT NO.	1-0446	PROJECT NAME	Tentative Tract 34271		
DATE STARTED	4/29/22	GROUND ELEV.	1555	BORING DESIG.	B-2
DATE FINISHED	4/29/22	GW DEPTH (FT)		LOGGED BY	JC
DRILLER	2R Drilling Inc.	DRIVE WT.	140lbs	NOTE	
TYPE OF DRILL RIG	8" Hollow Stem Auger	DROP	30 in.		

DEPTH (Feet)	ELEV	SAMPLE TYPE	BLOWS	LITHOLOGY	GROUP SYMBOL	GEOTECHNICAL DESCRIPTION	MOISTURE CONT (%)	DRY (pcf) DENSITY	SAT-URATION (%)	OTHER TESTS
	1515	S	10/12/15		SP	**ALLUVIUM** (Qa): SAND, fine to medium grained, tan, dry, medium dense.				
45	1510	S	5/8/12		SM	@45.0ft. SILTY SAND, very fine to fine grained, tannish brown, dry, medium dense. @47.3ft. PERCHED GROUNDWATER				
50	1505	S	5/13/25			@50.0ft. wet.				
						TOTAL DEPTH 51.5 FEET PERCHED GROUNDWATER ENCOUNTERED AT 47.3 FEET CAVING BELOW 5.0 FEET.				

SAMPLE TYPES:
R RING (DRIVE) SAMPLE
S SPT (SPLIT SPOON) SAMPLE
B BULK SAMPLE T TUBE SAMPLE

GROUNDWATER
SEEPAGE
J: JOINTING C: CONTACT
B: BEDDING F: FAULT
S: SHEAR RS: RUPTURE SURFACE

Alta California Geotechnical, Inc.

P.N. 1-0446 PLATE B-2

SUMMARY

OF

CONE PENETRATION TEST DATA

Project:

Tentative Tract 34271
San Jacinto, CA
April 18, 2022

Prepared for:

Mr. James Coyne
Alta California Geotechnical, Inc.
16870 W. Bernardo Drive, Ste 400
San Diego, CA 92127
Office (858) 674-6636

Prepared by:

KEHOE TESTING & ENGINEERING
5415 Industrial Drive
Huntington Beach, CA 92649-1518
Office (714) 901-7270 / Fax (714) 901-7289
www.kehoetesting.com

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2. **SUMMARY OF FIELD WORK**
3. **FIELD EQUIPMENT & PROCEDURES**
4. **CONE PENETRATION TEST DATA & INTERPRETATION**

APPENDIX

- CPT Plots
- CPT Classification/Soil Behavior Chart
- CPT Data Files (sent via email)

SUMMARY
OF
CONE PENETRATION TEST DATA

1. INTRODUCTION

This report presents the results of a Cone Penetration Test (CPT) program carried out for the Tentative Tract 34271 project located in San Jacinto, California. The work was performed by Kehoe Testing & Engineering (KTE) on April 18, 2022. The scope of work was performed as directed by Alta California Geotechnical, Inc. personnel.

2. SUMMARY OF FIELD WORK

The fieldwork consisted of performing CPT soundings at four locations to determine the soil lithology. A summary is provided in **TABLE 2.1**.

LOCATION	DEPTH OF CPT (ft)	COMMENTS/NOTES:
CPT-1	50	
CPT-2	50	
CPT-3	50	
CPT-4	50	

TABLE 2.1 - Summary of CPT Soundings

3. FIELD EQUIPMENT & PROCEDURES

The CPT soundings were carried out by **KTE** using an integrated electronic cone system manufactured by Vertek. The CPT soundings were performed in accordance with ASTM standards (D5778). The cone penetrometers were pushed using a 30-ton CPT rig. The cone used during the program was a 15 cm^2 cone with a cone net area ratio of 0.83. The following parameters were recorded at approximately 2.5 cm depth intervals:

- Cone Resistance (qc)
- Sleeve Friction (fs)
- Dynamic Pore Pressure (u)
- Inclination
- Penetration Speed

The above parameters were recorded and viewed in real time using a laptop computer. Data is stored at the KTE office for up to 2 years for future analysis and reference. A complete set of baseline readings was taken prior to each sounding to determine temperature shifts and any zero load offsets. Monitoring base line readings ensures that the cone electronics are operating properly.

4. CONE PENETRATION TEST DATA & INTERPRETATION

The Cone Penetration Test data is presented in graphical form in the attached Appendix. These plots were generated using the CPeT-IT program. Penetration depths are referenced to ground surface. The soil behavior type on the CPT plots is derived from the attached CPT SBT plot (Robertson, "Interpretation of Cone Penetration Test…", 2009) and presents major soil lithologic changes. The stratigraphic interpretation is based on relationships between cone resistance (qc), sleeve friction (fs), and penetration pore pressure (u). The friction ratio (Rf), which is sleeve friction divided by cone resistance, is a calculated parameter that is used along with cone resistance to infer soil behavior type. Generally, cohesive soils (clays) have high friction ratios, low cone resistance and generate excess pore water pressures. Cohesionless soils (sands) have lower friction ratios, high cone bearing and generate little (or negative) excess pore water pressures.

The CPT data files have also been provided. These files can be imported in CPeT-IT (software by GeoLogismiki) and other programs to calculate various geotechnical parameters.

It should be noted that it is not always possible to clearly identify a soil type based on qc, fs and u. In these situations, experience, judgement and an assessment of the pore pressure data should be used to infer the soil behavior type.

If you have any questions regarding this information, please do not hesitate to call our office at (714) 901-7270.

Sincerely,

KEHOE TESTING & ENGINEERING



Steven P. Kehoe
President

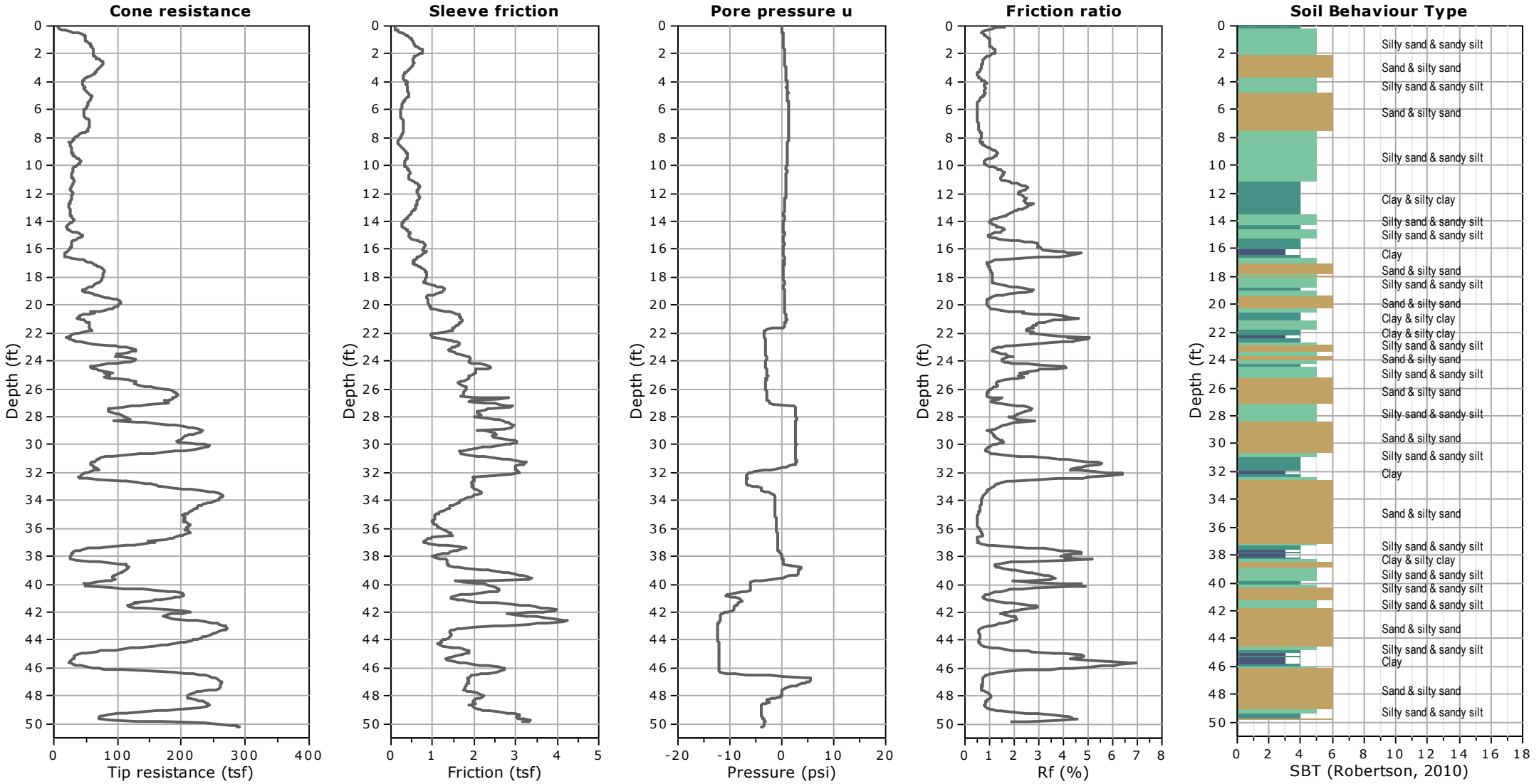
04/25/22-kd-4096

APPENDIX

Kehoe Testing and Engineering
714-901-7270
steve@kehoetesting.com
www.kehoetesting.com

Project: **Alta California Geotechnical / Tentative Tract 34271**
Location: **San Jacinto, CA**

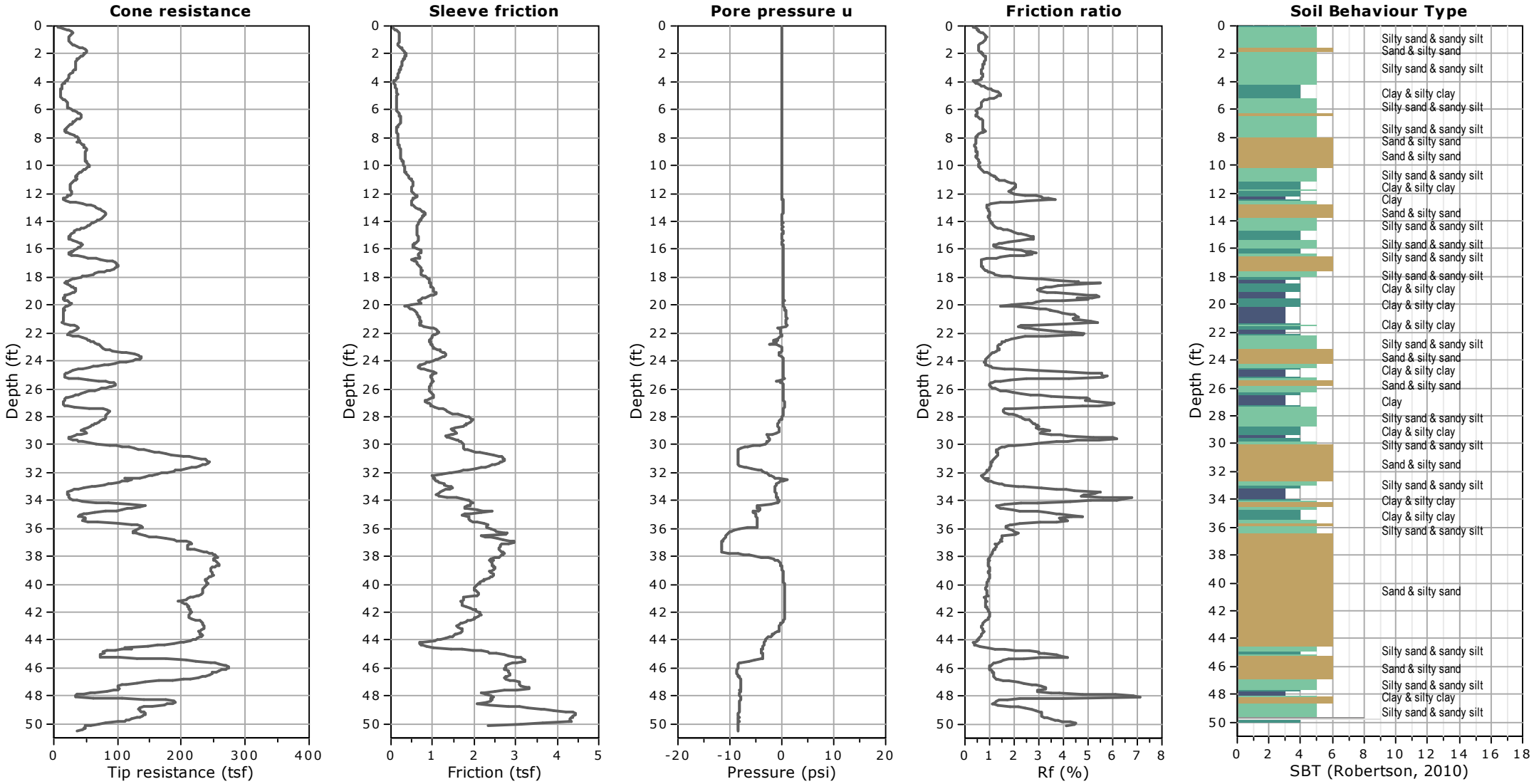
CPT-1
Total depth: 50.26 ft, Date: 4/18/2022



Kehoe Testing and Engineering
714-901-7270
steve@kehoetesting.com
www.kehoetesting.com

Project: **Alta California Geotechnical / Tentative Tract 34271**
Location: **San Jacinto, CA**

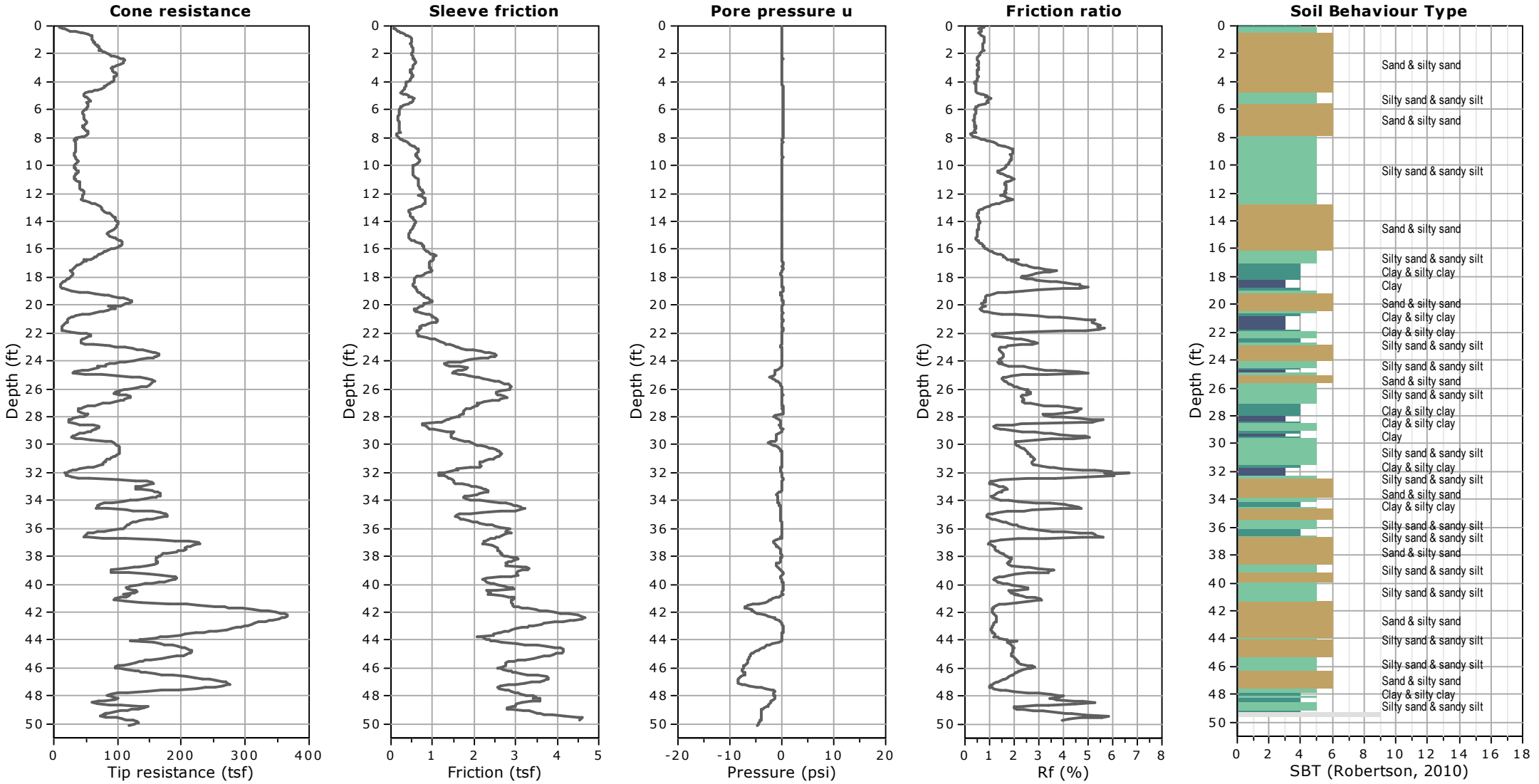
CPT-2
Total depth: 50.49 ft, Date: 4/18/2022



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www.kehoetesting.com

Project: **Alta California Geotechnical / Tentative Tract 34271**
Location: **San Jacinto, CA**

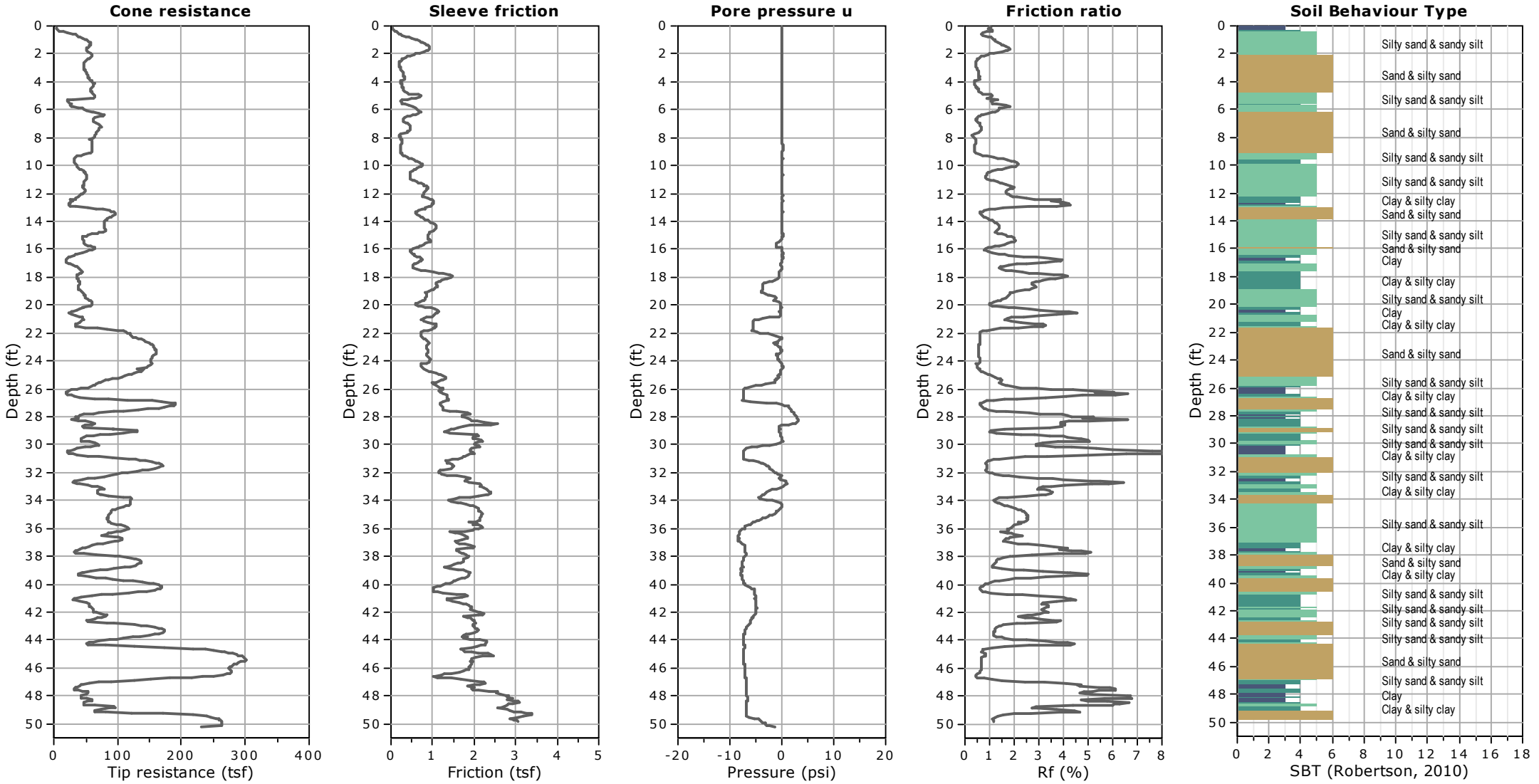
CPT-3
Total depth: 50.09 ft, Date: 4/18/2022



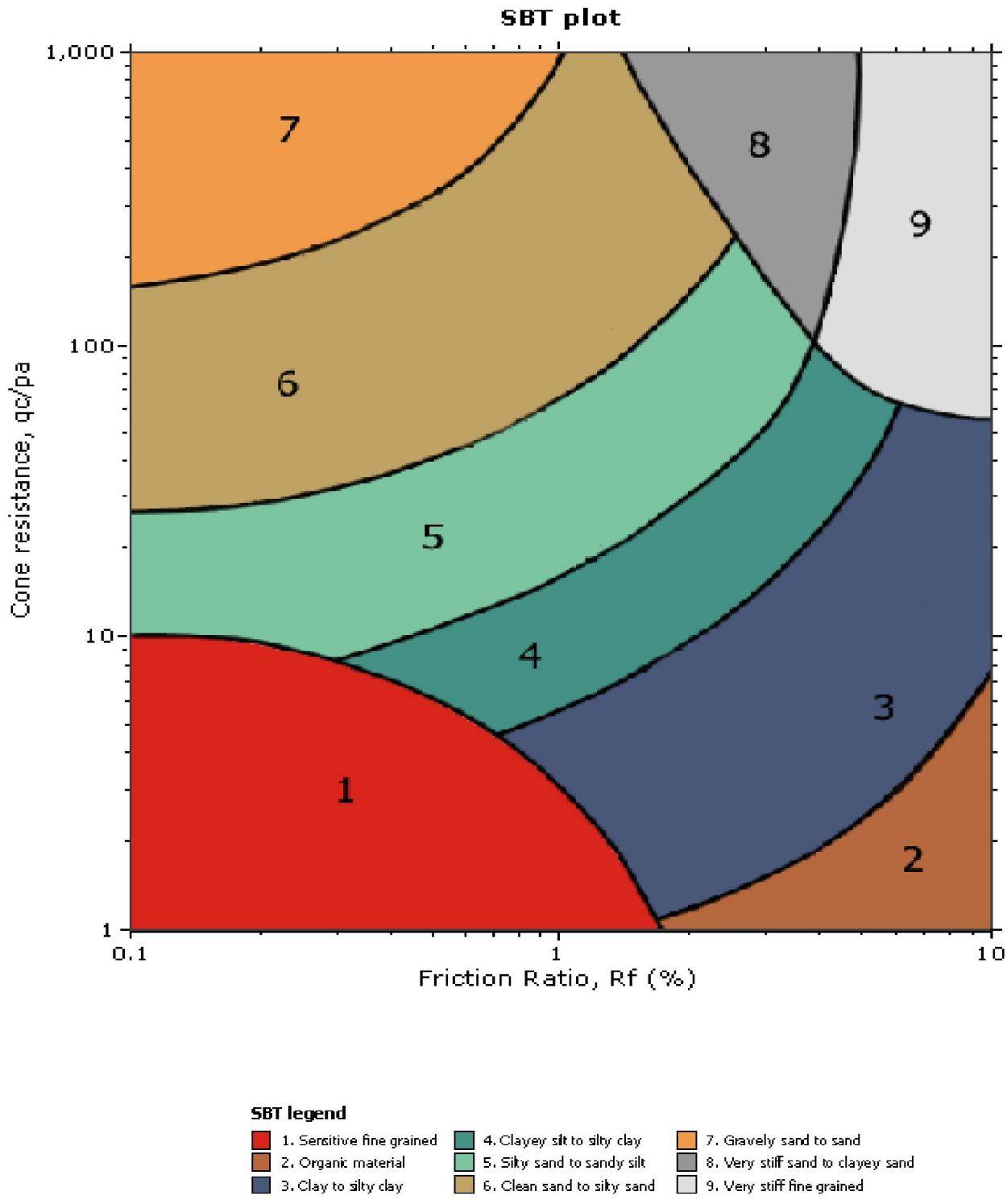
Kehoe Testing and Engineering
714-901-7270
steve@kehoetesting.com
www.kehoetesting.com

Project: **Alta California Geotechnical / Tentative Tract 34271**
Location: **San Jacinto, CA**

CPT-4
Total depth: 50.21 ft, Date: 4/18/2022



Kehoe Testing and Engineering
714-901-7270
rich@kehoetesting.com
www.kehoetesting.com



APPENDIX C

Laboratory Testing

LABORATORY TESTING

The following laboratory tests were performed on a representative sample in accordance with the applicable latest standards or methods from the ASTM, California Building Code (CBC) and California Department of Transportation.

Classification

Soils were classified with respect to the Unified Soil Classification System (USCS) in accordance with ASTM D-2487 and D-2488.

Particle Size Analysis

Modified hydrometer testing was conducted to aid in classification of the soil. The results of the particle size analysis are presented in Table C.

Maximum Density/Optimum Moisture

The maximum dry density and optimum moisture content of two representative bulk sample was evaluated in accordance with ASTM D-1557. The results are summarized in Table C.

Expansion Index Tests

Two (2) expansion index tests were performed to evaluate the expansion potential of typical on-site soil. Testing was carried out in general conformance with ASTM Test Method D-4829. The results are presented in Table C.

Consolidation Tests

Consolidation testing was performed on two (2) relatively "undisturbed" soil samples at their natural moisture content in accordance with procedures outlined in ASTM D-2435. The sample was placed in a consolidometer and loads were applied incrementally in geometric progression. The sample (2.42-inches in diameter and 1-inch in height) was permitted to consolidate under each load increment until the slope of the characteristic linear secondary compression portion of the thickness versus log of time plot was apparent. The percent consolidation for each load cycle was recorded as the ratio of the amount of vertical compression to the original 1-inch height. The consolidation test results are shown on Plates C-1 and C-2.

Chemical Analyses

Chemical testing was performed on two select samples. The results of this test (sulfate content, resistivity, chloride content and pH) is presented on Table C.

Organic Content Testing

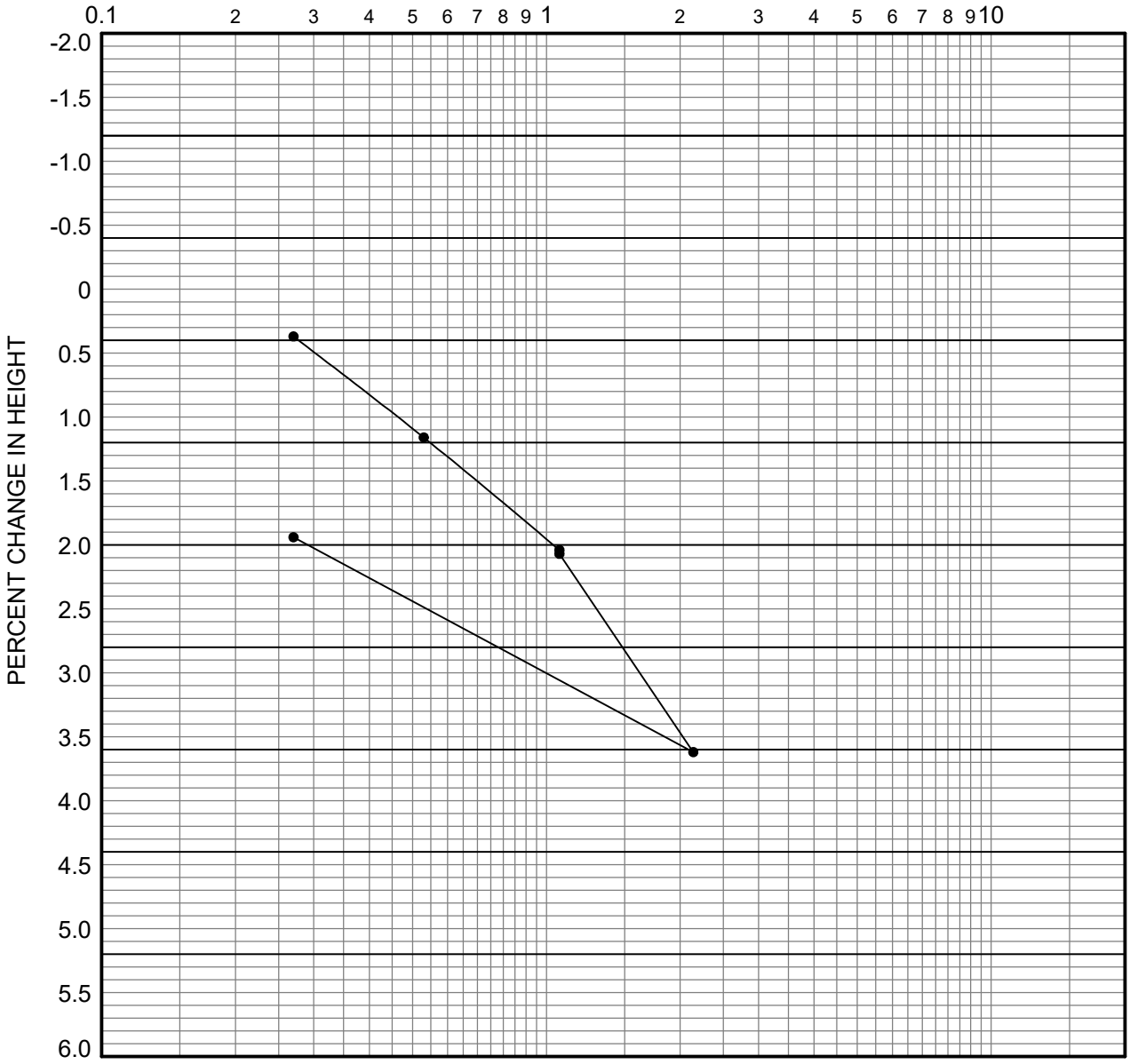
The percent organic matter was determined on select samples utilizing ASTM D2974-13. The results are presented in the table below.

Summary of Organic Content Testing	
Test Pit and Depth	*Organic Matter Content (%)*
T-9 @ 4-ft	0.22
T-10 @ 3-ft	0.53
T-11 @ 2-ft	0.72
T-14 @ 1-ft	2.47
T-21 @ 4-ft	0.87
T-22 @ 1-ft	3.97

TABLE C
SUMMARY OF LABORATORY TEST DATA
P.N. 1-0446

BORING	DEPTH (FEET)	SOIL DESCRIPTION	GROUP SYMBOL	MAXIMUM DENSITY (PCF)	OPTIMUM MOISTURE CONTENT (%)	DIRECT SHEAR	PLUS NO.4 SEIVE (plus 4.76mm) (%)	SAND (4.76mm-0.075mm) (%)	SILT (0.075mm-0.005mm) (%)	CLAY (minus 0.005mm) (%)	EXPANSION INDEX UBC 18-2	CONSOL	OTHER TESTS REMARKS
B-1	10	Sandy Silt (Qa)	ML				0	33	53	14		SEE PLATE C-1	
B-2	5	Silty Sand (Qa)	SM				1	52	32	15		SEE PLATE C-2	
T-1	5	Poorly Graded Sand w/Silt (Qa)	SP	116.4	12.3	SEE PLATE C-3	2	89	7	2	0		Min Resist:22,000 OHM CM PH:7.24,Chl:20PPMs,So4<.01%
T-22	1	Silty Sand (afu)	SM	111.3	12.4	SEE PLATE C-4	2	83	10	5	0		Min Resist:2,500 OHM CM PH:7.24,Chl:20PPMs,So4<.01%

COMPRESSIVE STRESS IN TSF



boring	depth (ft.)	dry density (pcf)	in situ moist. (%)	in situ satur. (%)	-200 sieve (%)	group symbol	typical names
B-1	10.0	94	24.4	85	67	ML	Sandy Silt (Qa)

REMARKS: WATER ADDED AT 1.07 TSF

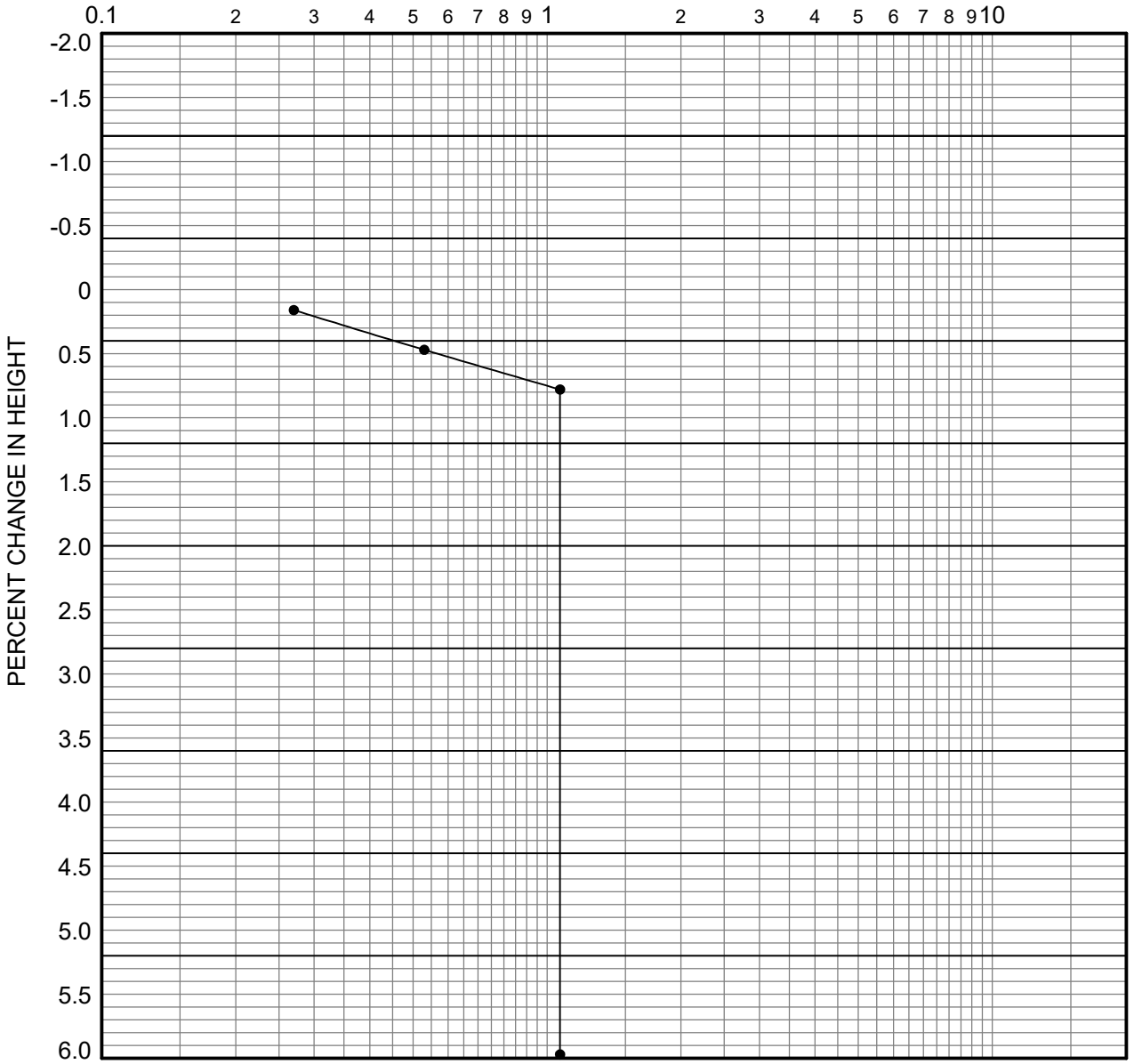
CONSOLIDATION CURVE

Alta California Geotechnical, Inc.

P.N. 1-0446

PLATE C-1

COMPRESSIVE STRESS IN TSF



boring	depth (ft.)	dry density (pcf)	in situ moist. (%)	in situ satur. (%)	-200 sieve (%)	group symbol	typical names
B-2	5.0	83	6.3	17	47	SM	Silty Sand (Qa)

REMARKS: WATER ADDED AT 1.07 TSF

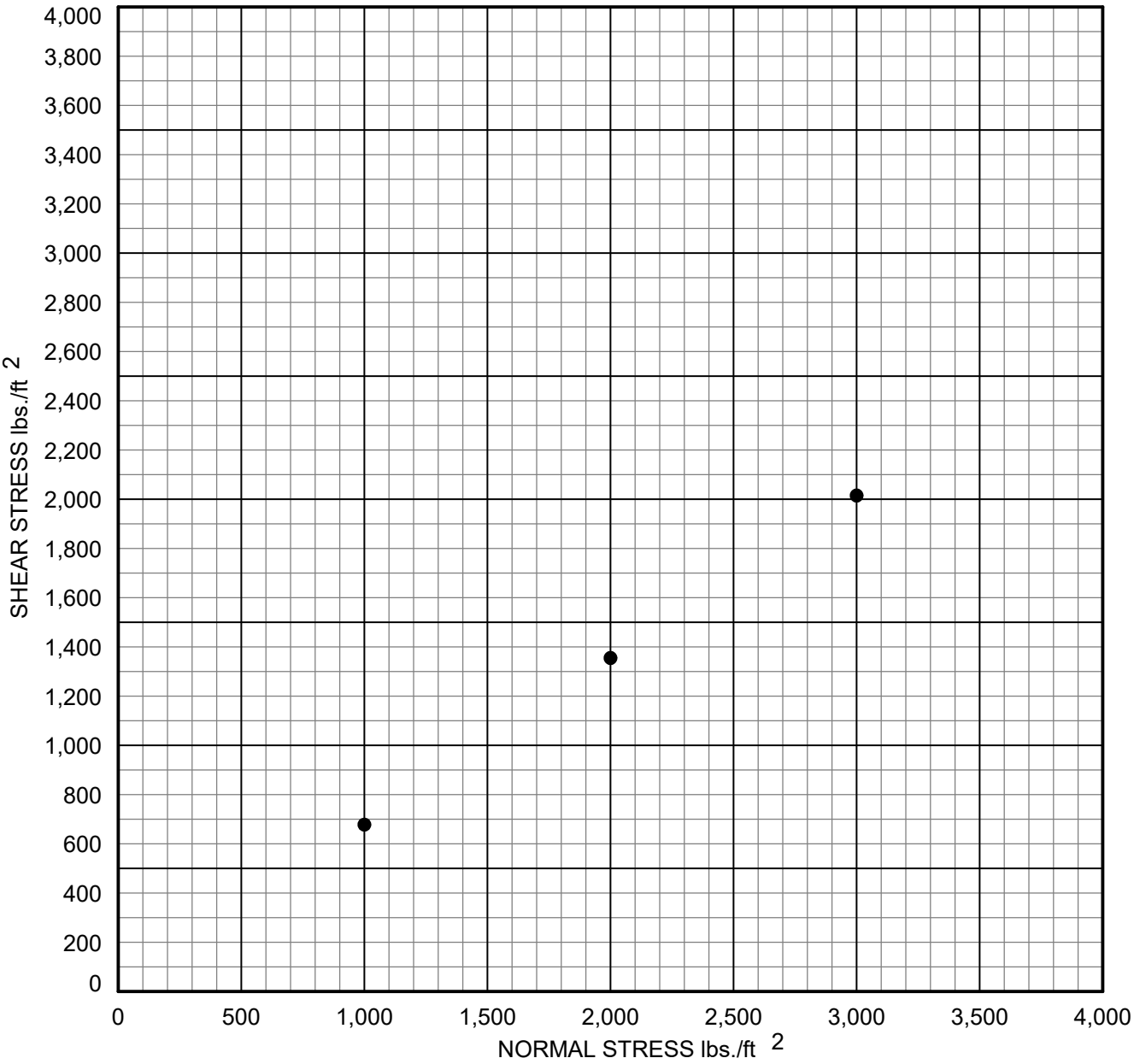
CONSOLIDATION CURVE

Alta California Geotechnical, Inc.

P.N. 1-0446

PLATE C-2

DIRECT SHEAR TEST
Remolded at 90% Relative Compaction



boring	depth (ft.)	dry density (pcf)	in situ moist. (%)	-200 sieve (%)	group symbol	typical names
T-1	5.0			9	SP	Poorly Graded Sand w/Silt (Qa)

COHESION	10	psf.
FRICTION ANGLE	34.0	degrees

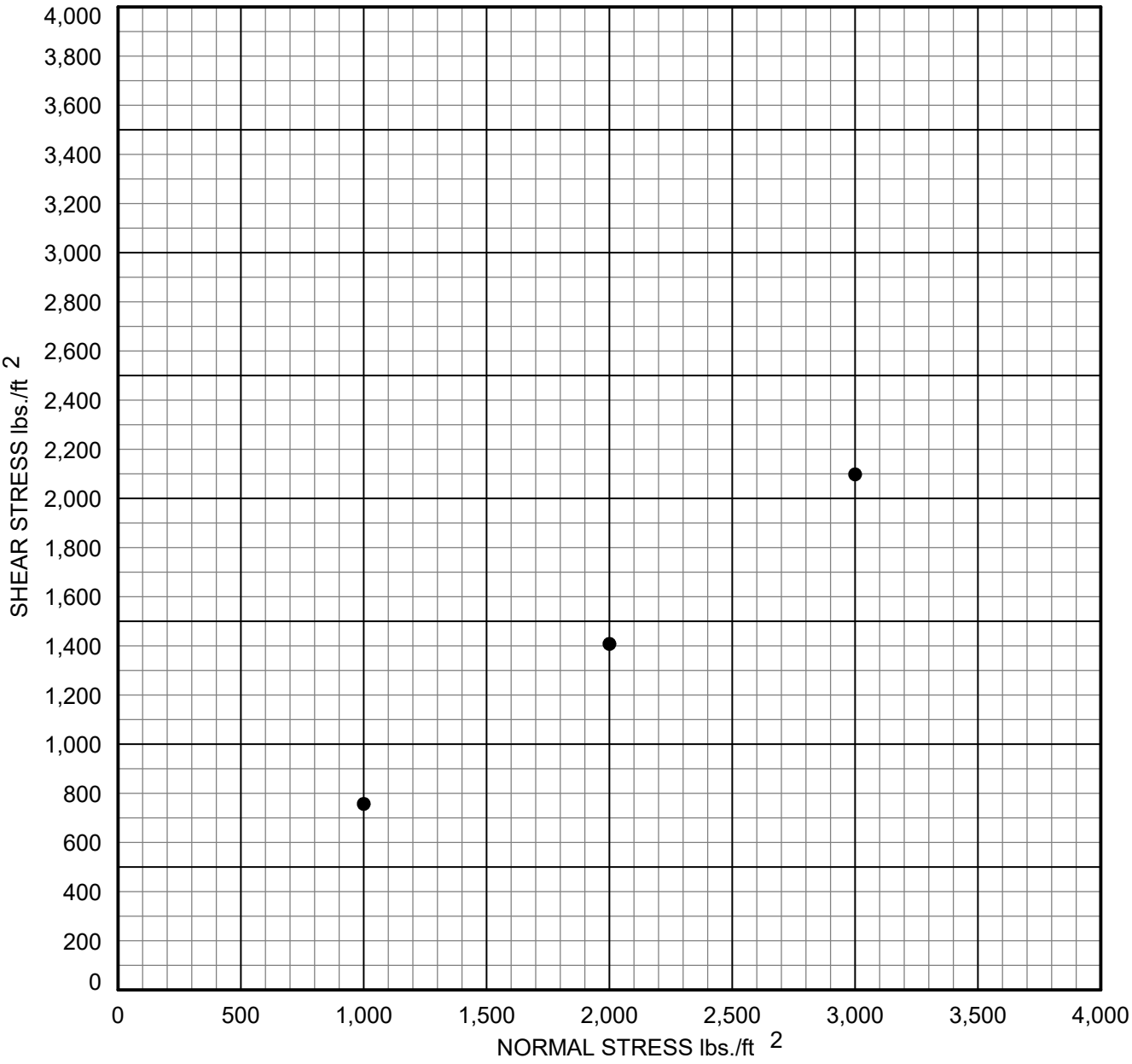
DIRECT SHEAR TEST

Alta California Geotechnical, Inc.

P.N. 1-0446

PLATE C-3

DIRECT SHEAR TEST
Remolded at 90% Relative Compaction



boring	depth (ft.)	dry density (pcf)	in situ moist. (%)	-200 sieve (%)	group symbol	typical names
T-22	1.0			15	SM	Silty Sand (afu)

COHESION	80	psf.
FRICTION ANGLE	34.0	degrees

DIRECT SHEAR TEST

Alta California Geotechnical, Inc.

P.N. 1-0446

PLATE C-4

APPENDIX D

Dynamic Settlement Analysis

APPENDIX D

DYNAMIC SETTLEMENT ANALYSIS

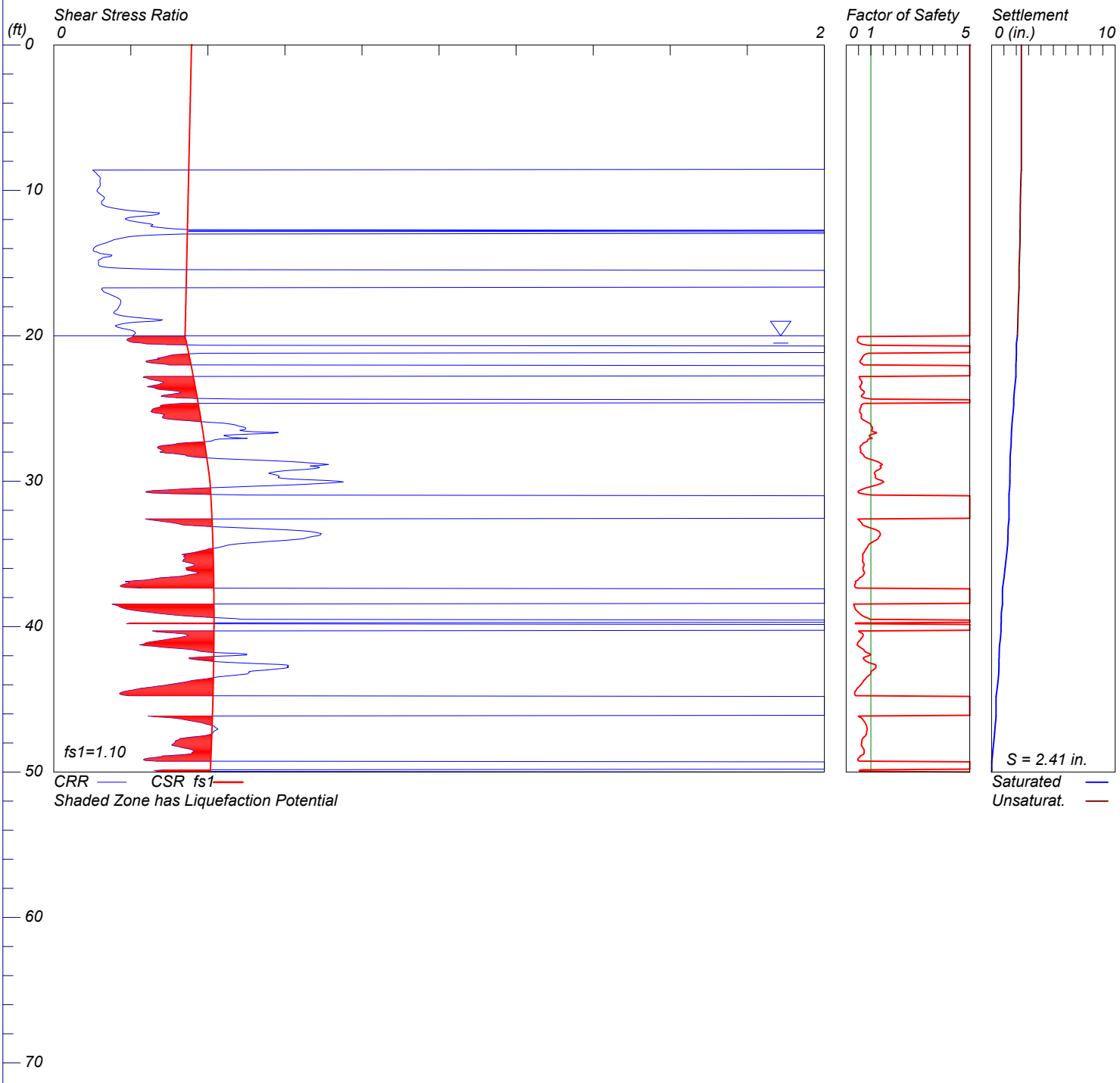
A dynamic settlement analysis was performed for the site based on the CPT data that was compared to the SPT data from the boring logs. The analysis was conducted in general conformance with the City of Los Angeles Liquefaction Guidelines. The two-thirds PGA analysis results are presented on Plates D-1, D-3, D-5, and D-7, while the full PGA analysis are presented on Plates D-2, D-4, D-6, and D-8. The calculations used the following constants: 0.81 for site acceleration based on the USGS Interactive Deaggregation website, 7.4 for the magnitude of the earthquake, and a groundwater depth of 20 feet below existing grade. The results are presented on Plates D-1 through D-8.

LIQUEFACTION ANALYSIS

San Jacinto

Hole No.=CPT-1 Water Depth=20 ft

Magnitude=8.1
Acceleration=0.50g



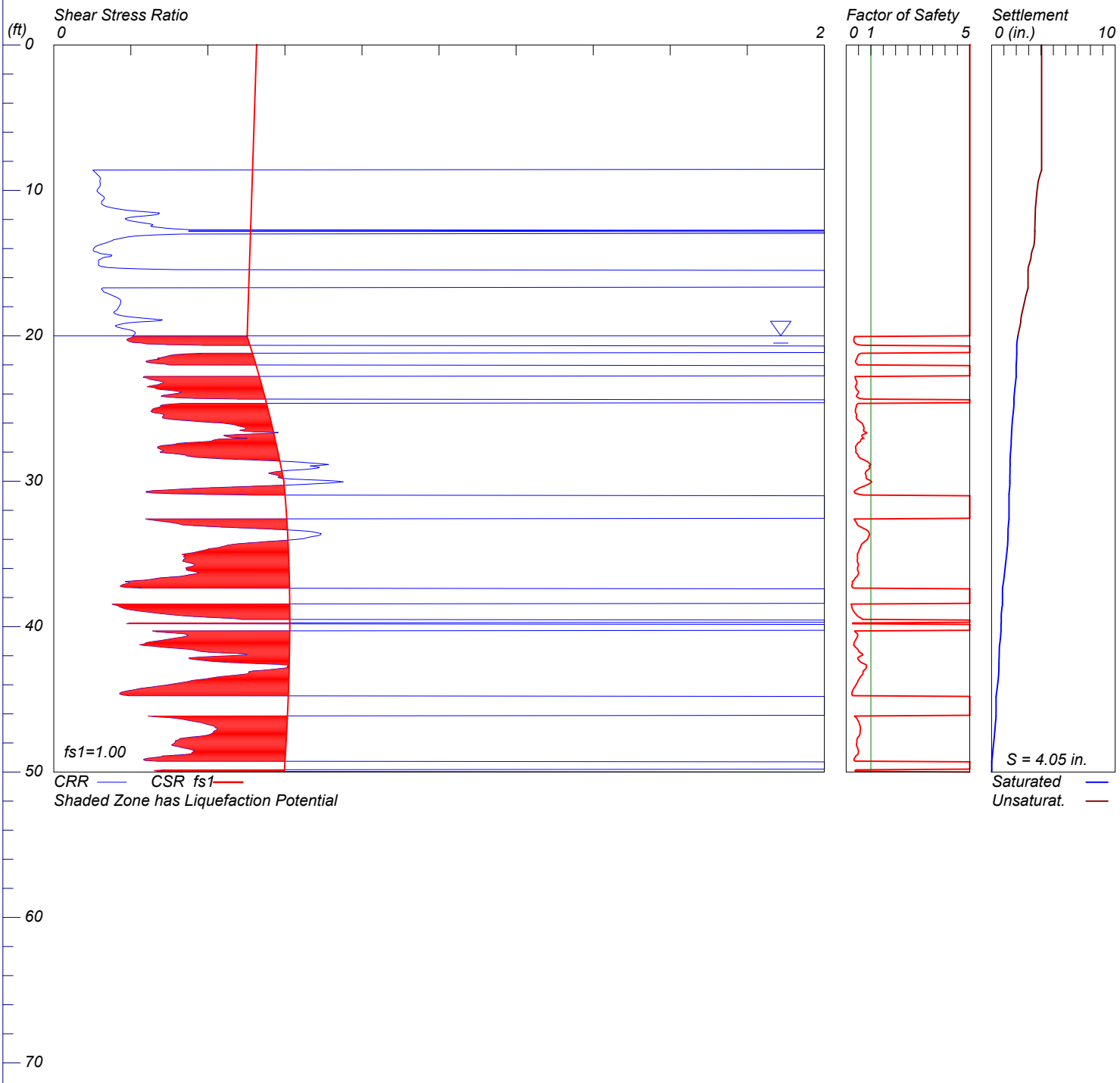
LiquefyPro CivilTech Software USA www.civiltech.com

LIQUEFACTION ANALYSIS

San Jacinto

Hole No.=CPT-1 Water Depth=20 ft

Magnitude=8.1
Acceleration=0.81g



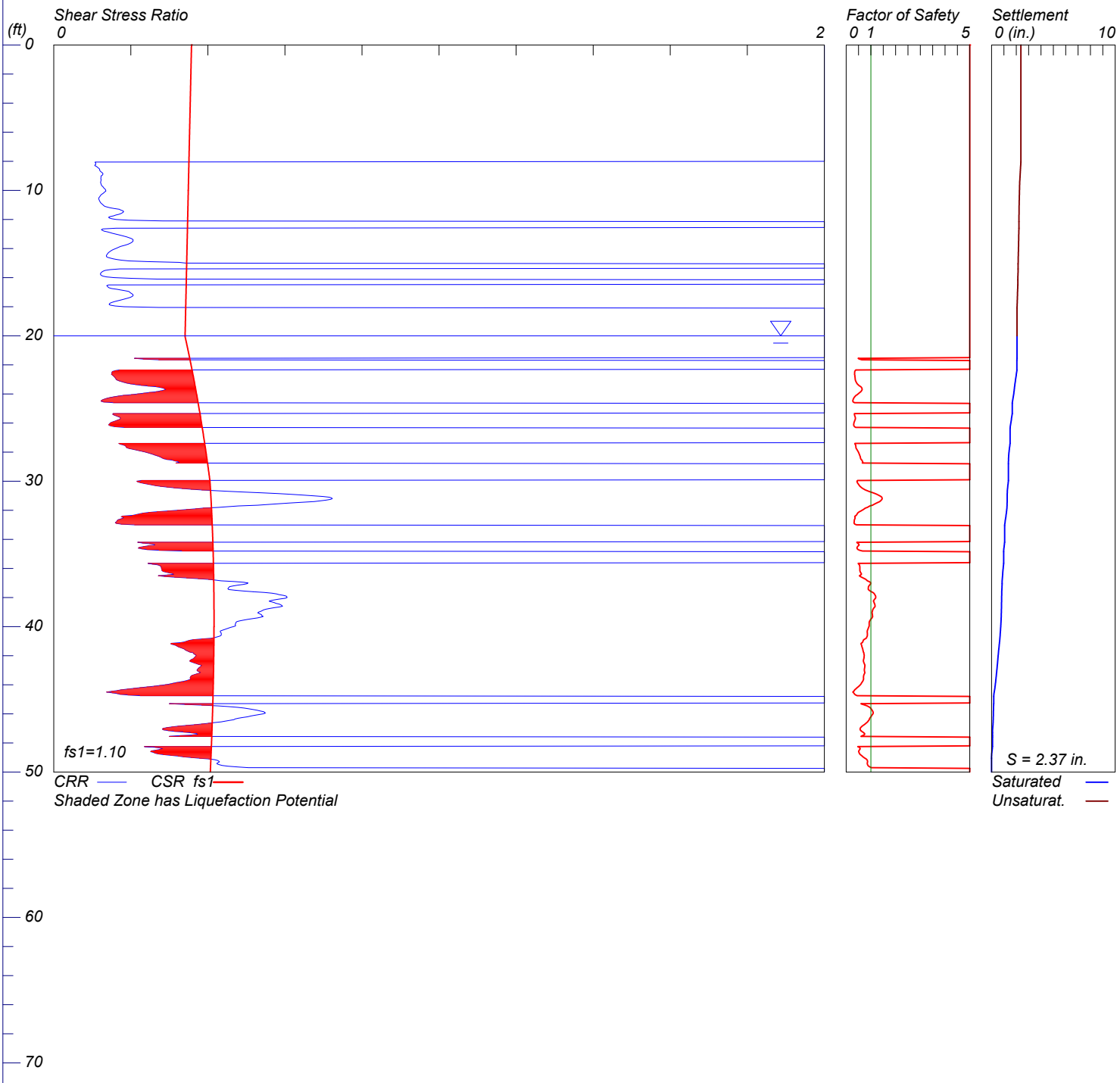
LiquefyPro CivilTech Software USA www.civiltech.com

LIQUEFACTION ANALYSIS

San Jacinto

Hole No.=CPT-2 Water Depth=20 ft

Magnitude=8.1
Acceleration=0.50g



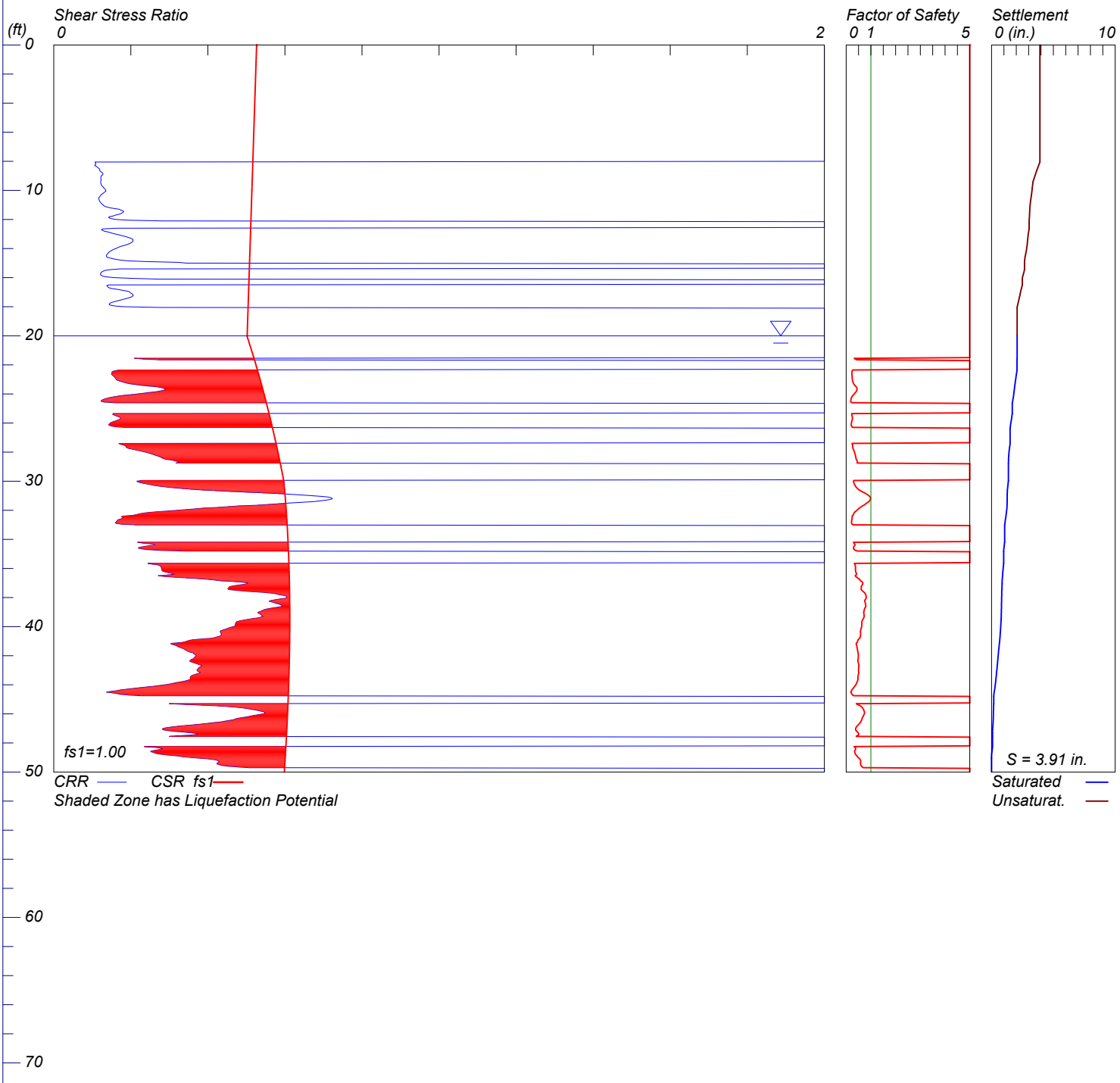
LiquefyPro CivilTech Software USA www.civiltech.com

LIQUEFACTION ANALYSIS

San Jacinto

Hole No.=CPT-2 Water Depth=20 ft

Magnitude=8.1
Acceleration=0.81g



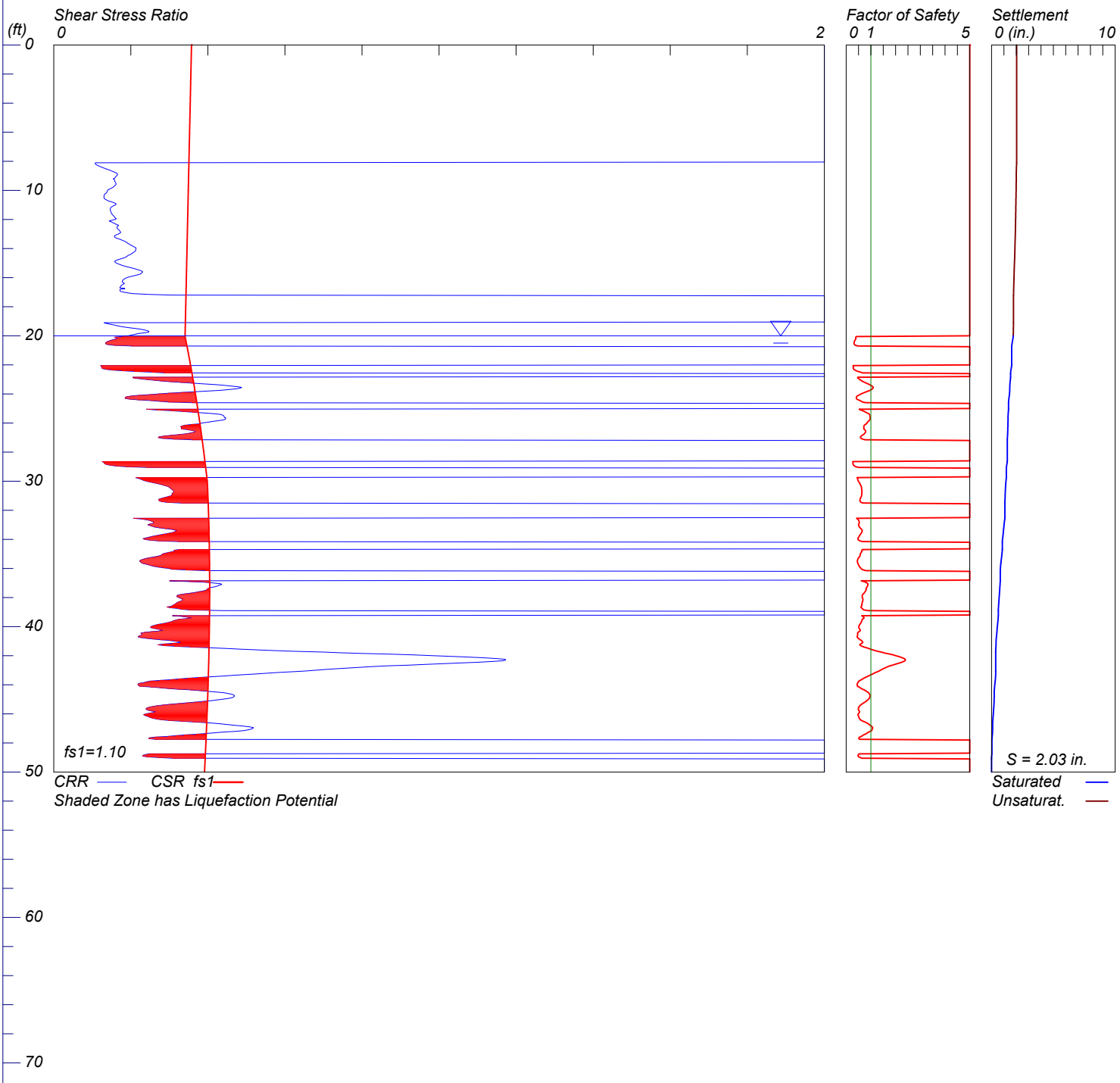
LiquefyPro CivilTech Software USA www.civiltech.com

LIQUEFACTION ANALYSIS

San Jacinto

Hole No.=CPT-3 Water Depth=20 ft

Magnitude=8.1
Acceleration=0.50g



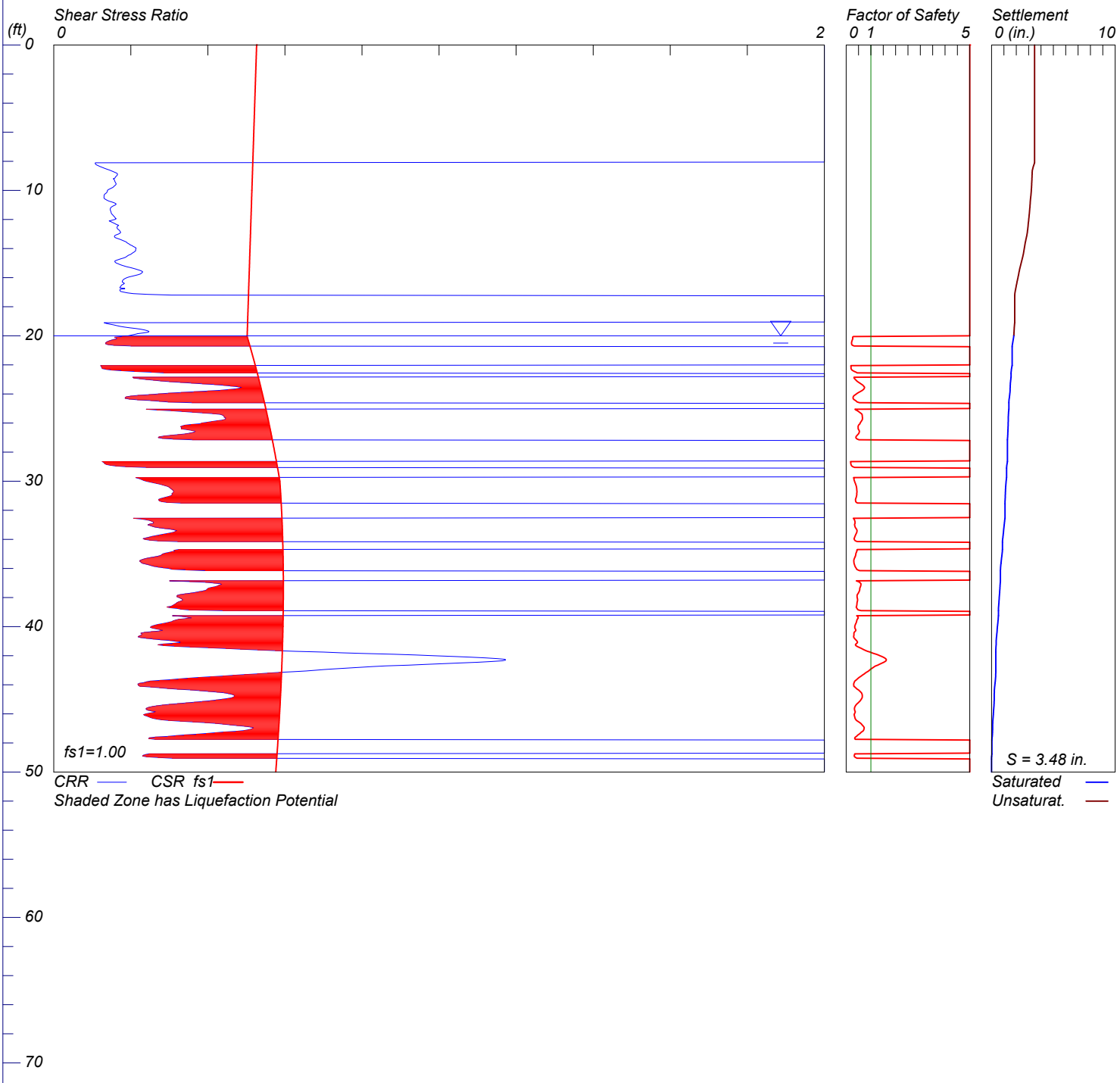
LiquefyPro CivilTech Software USA www.civiltech.com

LIQUEFACTION ANALYSIS

San Jacinto

Hole No.=CPT-3 Water Depth=20 ft

Magnitude=8.1
Acceleration=0.81g



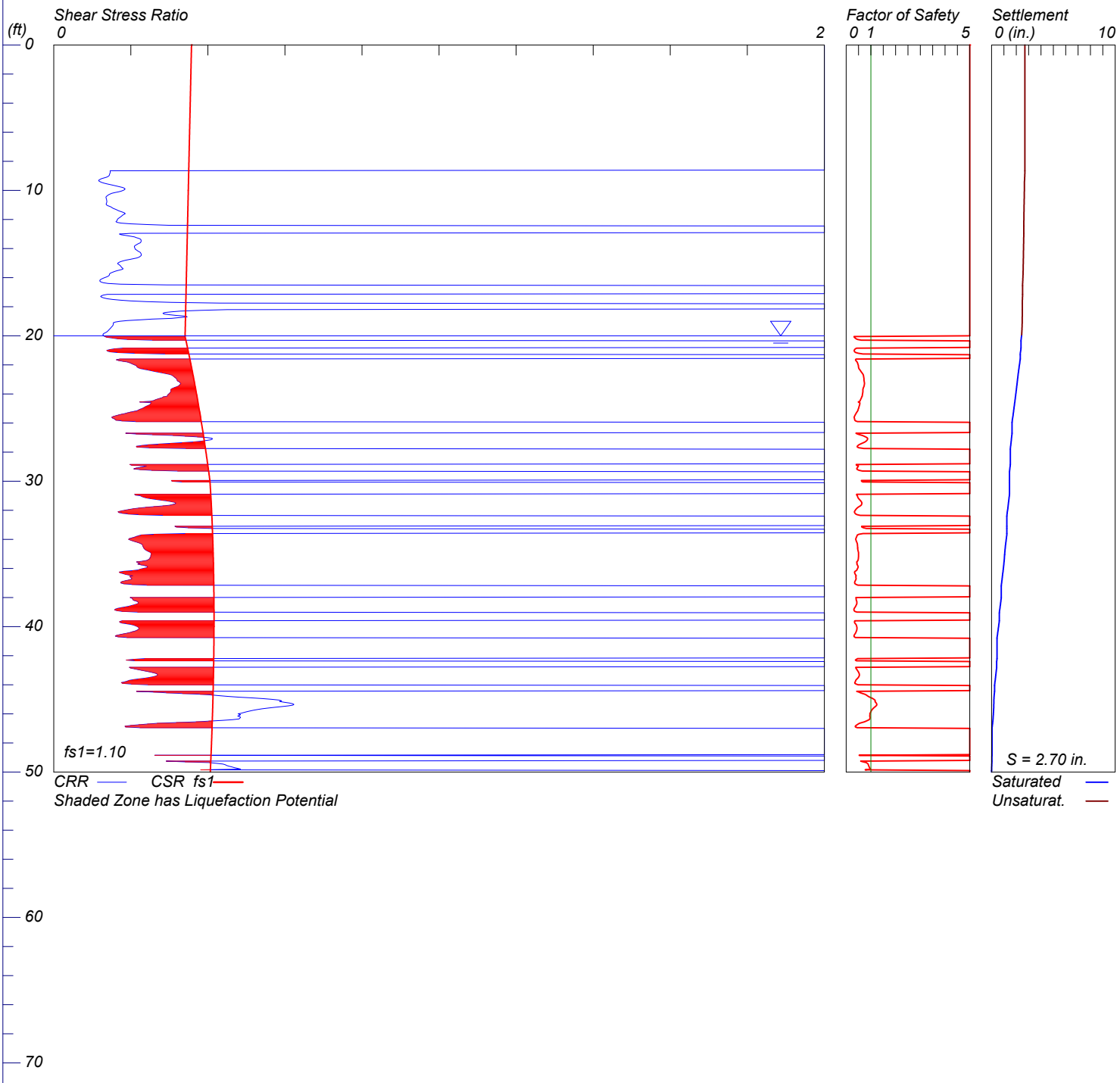
LiquefyPro CivilTech Software USA www.civiltech.com

LIQUEFACTION ANALYSIS

San Jacinto

Hole No.=CPT-4 Water Depth=20 ft

Magnitude=8.1
Acceleration=0.50g



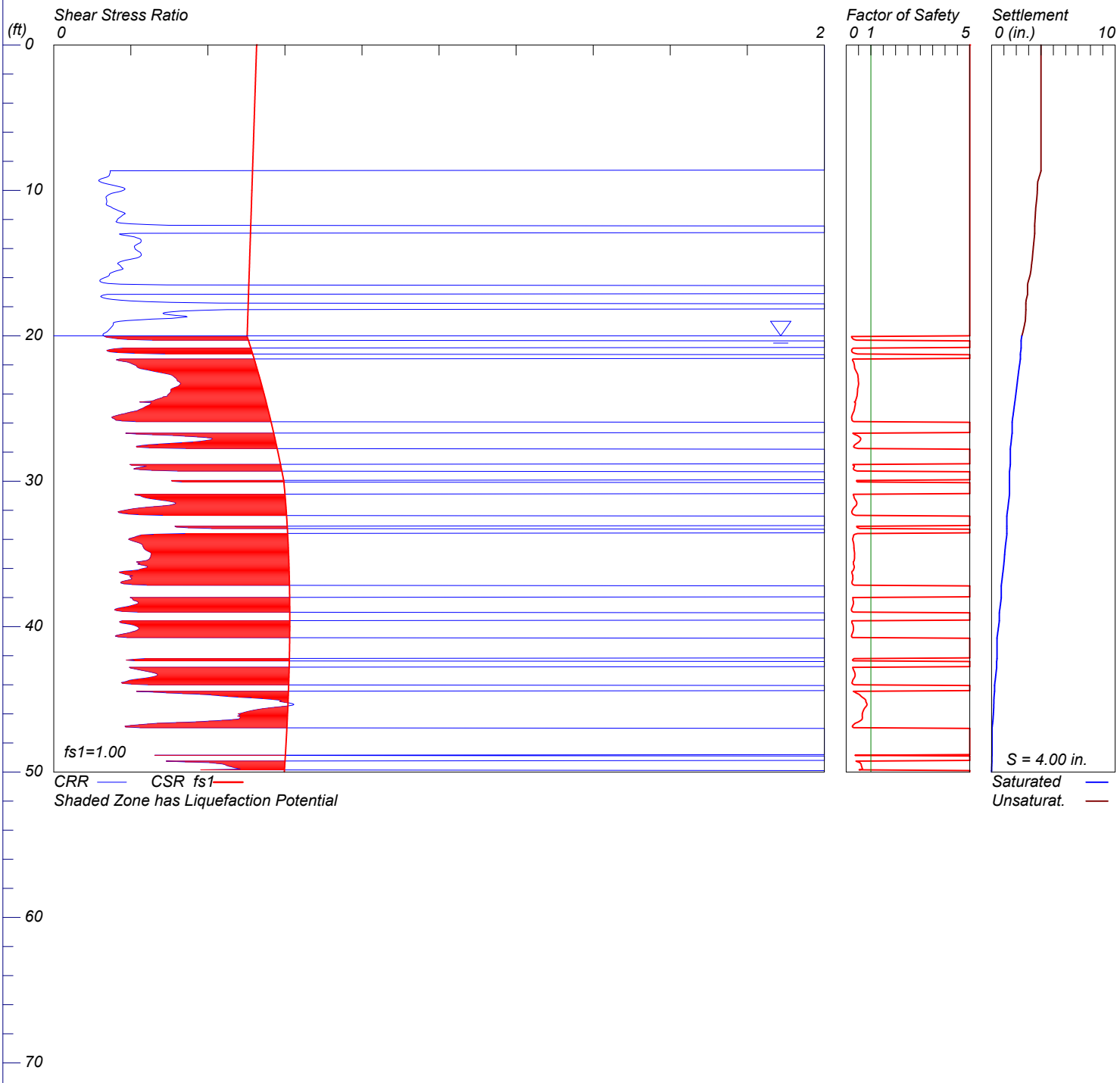
LiquefyPro CivilTech Software USA www.civiltech.com

LIQUEFACTION ANALYSIS

San Jacinto

Hole No.=CPT-4 Water Depth=20 ft

Magnitude=8.1
Acceleration=0.81g



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APPENDIX E

Maintenance and Improvement Considerations

MAINTENANCE AND IMPROVEMENT CONSIDERATIONS

General

Owners purchasing property must assume a certain degree of responsibility for improvements and for maintaining conditions around their home. Of primary importance from a geotechnical standpoint are maintaining drainage patterns and minimizing the soil moisture variation below all improvements. Such design, construction and owner maintenance provisions may include:

- Employing contractors for improvements who design and build in recognition of local building codes and specific site soils conditions.
- Establishing and maintaining positive drainage away from all foundations, walkways, driveways, patios, and other improvements.
- Avoiding the construction of planters adjacent to structural improvements. Alternatively, planter sides/bottoms can be sealed with an impermeable membrane and drained away from the improvements via subdrains into approved disposal areas.
- Sealing and maintaining construction/control joints within concrete slabs and walkways to reduce the potential for moisture infiltration into the subgrade soils.
- Utilizing landscaping schemes with vegetation that requires minimal watering. Watering should be done in a uniform manner, as equally as possible on all sides of the foundation, keeping the soil "moist" but not allowing the soil to become saturated.
- Maintaining positive drainage away from structures and providing roof gutters on all structures with downspouts that are designed to carry roof runoff directly into area drains or discharged well away from the foundation areas.
- Avoiding the placement of trees closer to the proposed structures than a distance of one-half the mature height of the tree.
- Observation of the soil conditions around the perimeter of the structure during extremely hot/dry or unusually wet weather conditions so that modifications can be made in irrigation programs to maintain relatively uniform moisture conditions.

Sulfates

Owners should be cautioned against the import and use of certain inorganic fertilizers, soil amendments, and/or other soils from offsite sources in the absence of specific information relating to their chemical composition. Some fertilizers have been known to leach sulfate compounds into soils and increase the sulfate concentrations to potentially detrimental levels.

Site Drainage

- The owners should be made aware of the potential problems that may develop when drainage is altered through construction of hardscape improvements. Ponded water, drainage over the slope face, leaking irrigation systems, overwatering, or other conditions which could lead to ground saturation must be avoided.
- No water should be allowed to flow over the slopes. No alteration of pad gradients should be allowed that would prevent pad and roof runoff from being directed to approved disposal areas.
- Drainage patterns have been established at the time of the fine grading should be maintained throughout the life of the structure. No alterations to these drainage patterns should be made unless designed by qualified professionals in compliance with local code requirements and site-specific soils conditions.

Slope Drainage

- Residents should be made aware of the importance of maintaining and cleaning all interceptor ditches, drainage terraces, down drains, and any other drainage devices, which have been installed to promote slope stability.
- Subsurface drainage pipe outlets may protrude through slope surfaces and/or wall faces. These pipes, in conjunction with the graded features, are essential to slope and wall stability and must be protected in-place. They should not be altered or damaged in any way.

Planting and Irrigation of Slopes

- Seeding and planting of the slopes should be planned to achieve, as rapidly as possible, a well-established and deep-rooted vegetal cover requiring minimal watering.
- It is the responsibility of the landscape architect to provide such plants initially and of the residents to maintain such planting. Alteration of such a planting scheme is at the resident's risk.
- The resident is responsible for proper irrigation and for maintenance and repair of properly installed irrigation systems. Leaks should be fixed immediately.
- Sprinklers should be adjusted to provide maximum uniform coverage with a minimum of water usage and overlap. Overwatering with consequent wasteful runoff and serious ground saturation must be avoided.
- If automatic sprinkler systems are installed, their use must be adjusted to account for seasonal and natural rainfall conditions.

Burrowing Animals

- Residents must undertake a program to eliminate burrowing animals. This must be an ongoing program in order to promote slope stability.

Owner Improvement

Owner improvements (pools, spas, patio slabs, retaining walls, planters, etc.) should be designed to account for the terrain of the project, as well as expansive soil conditions and chemical characteristics. Design considerations on any given lot may need to include provisions for differential bearing materials, ascending/descending slope conditions, bedrock structure, perched (irrigation) water, special geologic surcharge loading conditions, expansive soil stresses, and long-term creep/settlement.

All owner improvements should be designed and constructed by qualified professionals utilizing appropriate design methodologies, which account for the on-site soils and geologic conditions. Each lot and proposed improvement should be evaluated on an individual basis.

Setback Zones

Manufactured slopes maybe subject to long-term settlement and creep that can manifest itself in the form of both horizontal and vertical movement. These movements typically are produced as a result of weathering, erosion, gravity forces, and other natural phenomenon. A setback adjacent to slopes is required by most building codes, including the California Building Code. This zone is intended to locate and support the residential structures away from these slopes and onto soils that are not subject to the potential adverse effects of these natural phenomena.

The owner may wish to construct patios, walls, walkways, planters, swimming pools, spas, etc. within this zone. Such facilities may be sensitive to settlement and creep and should not be constructed within the setback zone unless properly engineered. It is suggested that plans for such improvements be designed by a professional engineer who is familiar with grading ordinances and design and construction requirements. In addition, we recommend that the designer and contractor familiarize themselves with the site specific geologic and geotechnical conditions on the specific lot.

APPENDIX F

Earthwork Specifications

ALTA CALIFORNIA GEOTECHNICAL, INC.
EARTHWORK SPECIFICATIONS

These specifications present the generally accepted standards and minimum earthwork requirements for the development of the project. These specifications shall be the project guidelines for earthwork except where specifically superseded in preliminary geology and soils reports, grading plan review reports or by the prevailing grading codes or ordinances of the controlling agency.

A. GENERAL

1. The Contractor shall be responsible for the satisfactory completion of all earthwork in accordance with the project plans and specifications.

2. The project Geotechnical Engineer and Engineering Geologist, or their representatives, shall provide observation and testing services, and Geotechnical consultation for the duration of the project.

3. All clearing, grubbing, stripping and site preparation for the project shall be accomplished by the Contractor to the satisfaction of the Geotechnical Engineer/Engineering Geologist.

4. It is the Contractor's responsibility to prepare the ground surface to receive fill to the satisfaction of the Geotechnical Engineer and to place, spread, mix, moisture condition, and compact the fill in accordance with the job specifications and as required by the Geotechnical Engineer. The Contractor shall also remove all material considered by the Geotechnical Engineer to be unsuitable for use in the construction of engineered fills.

5. The Contractor shall have suitable and sufficient equipment in operation to handle the amount of fill being placed. When necessary, equipment will be shut down temporarily in order to permit the proper preparation of fills.

B. PREPARATION OF FILL AREAS

1. Excessive vegetation and all deleterious material should be disposed of offsite as required by the Geotechnical Engineer.

   Existing fill, soil, alluvium or rock materials determined by the Geotechnical Engineer as being unsuitable for placement in compacted fills shall be removed and hauled from the site. Where applicable, the Contractor may obtain the

approval of the Soils Engineer and the controlling authorities for the project to dispose of the above described materials, or a portion thereof, in designated areas onsite.

After removal of the deleterious materials have been accomplished, earth materials deemed unsuitable in their natural, in-place condition, shall be removed as recommended by the Geotechnical Engineer/Engineering Geologist.

2. Upon achieving a suitable bottom for fill placement, the exposed removal bottom shall be disced or bladed by the Contractor to the satisfaction of the Geotechnical Engineer. The prepared ground surfaces shall then be brought to the specified moisture content mixed as required, and compacted and tested as specified. In localities where it is necessary to obtain the approval of the controlling agency prior to placing fill, it will be the Contractor's responsibility to contact the proper authorities to visit the site.

3. Any underground structure such as cesspools, cisterns, mining shafts, tunnels, septic tanks, wells, pipelines or other structures not located prior to grading are to be removed or treated in a manner prescribed by the Geotechnical Engineer and/or the controlling agency for the project.

C. ENGINEERED FILLS

1. Any material imported or excavated on the property may be utilized as fill, provided the material has been determined to be suitable by the Geotechnical Engineer. Deleterious materials shall be removed from the fill as directed by the Geotechnical Engineer.

2. Rock or rock fragments less than twelve inches in the largest dimension may be utilized in the fill, provided they are not placed in concentrated pockets and the distribution of the rocks is approved by the Geotechnical Engineer.

3. Rocks greater than twelve inches in the largest dimension shall be taken offsite, or placed in accordance with the recommendations of the Geotechnical Engineer in areas designated as suitable for rock disposal.

4. All materials to be used as fill, shall be tested in the laboratory by the Geotechnical Engineer. Proposed import materials shall be approved by the Geotechnical Engineer 48 hours prior to importation.

5. The fill materials shall be placed by the Contractor in lifts, that when compacted, shall not exceed six inches. Each lift shall be spread evenly and shall be

thoroughly mixed to achieve a near uniform moisture condition and a uniform blend of materials.

All compaction shall be achieved at or above the optimum moisture content, as determined by the applicable laboratory standard. The Contractor will be notified if the fill materials are too wet or too dry to achieve the required compaction standard.

6. When the moisture content of the fill material is below the limit specified by the Geotechnical Engineer, water shall be added and the materials shall be blended until a uniform moisture content, within specified limits, is achieved. When the moisture content of the fill material is above the limits specified by the Geotechnical Engineer, the fill materials shall be aerated by discing, blading, mixed with dryer fill materials, or other satisfactory methods until the moisture content is within the specified limits.

7. Each fill lift shall be compacted to the minimum project standards, in compliance with the testing methods specified by the controlling governmental agency, and in accordance with recommendations of the Geotechnical Engineer.

   In the absence of specific recommendations by the Geotechnical Engineer to the contrary, the compaction standard shall be the most recent version of ASTM:D 1557.

8. Where a slope receiving fill exceeds a ratio of five-horizontal to one-vertical, the fill shall be keyed and benched through all unsuitable materials into sound bedrock or firm material, in accordance with the recommendations and approval of the Geotechnical Engineer.

9. Side hill fills shall have a minimum key width of 15 feet into bedrock or firm materials, unless otherwise specified in the soil report and approved by the Geotechnical Engineer in the field.

10. Drainage terraces and subdrainage devices shall be constructed in compliance with the ordinances of the controlling governmental agency and/or with the recommendations of the Geotechnical Engineer and Engineering Geologist.

11. The Contractor shall be required to maintain the specified minimum relative compaction out to the finish slope face of fill slopes, buttresses, and stabilization fills as directed by the Geotechnical Engineer and/or the governing agency for the project. This may be achieved by either overbuilding the slope and cutting

back to the compacted core; by direct compaction of the slope face with suitable equipment; or by any other procedure which produces the required result.

12. The fill portion of fill-over-cut slopes shall be properly keyed into rock or firm material; and the fill area shall be stripped of all soil or unsuitable materials prior to placing fill.

    The design cut portion of the slope should be made first and evaluated for suitability by the Engineering Geologist prior to placement of fill in the keyway above the cut slope.

13. Pad areas in cut or natural ground shall be approved by the Geotechnical Engineer. Finished surfaces of these pads may require scarification and recompaction, or over excavation as determined by the Geotechnical Engineer.

D. CUT SLOPES

1. The Engineering Geologist shall observe all cut slopes and shall be notified by the Contractor when cut slopes are to be started.

2. If, during the course of grading, unforeseen adverse or potentially adverse geologic conditions are encountered, the Engineering Geologist and Soil Engineer shall investigate, analyze and make recommendations to remediate these problems.

3. Non-erodible interceptor swales shall be placed at the top of cut slopes that face the same direction as the superjacent, prevailing drainage.

4. Unless otherwise specified in specific geotechnical reports, no cut slopes shall be excavated higher or steeper than that allowed by the ordinances of controlling governmental agencies.

5. Drainage terraces shall be constructed in compliance with the ordinances of the controlling governmental agencies, and/or in accordance with the recommendations of the Geotechnical Engineer or Engineering Geologist.

E. GRADING CONTROL

1. Fill placement shall be observed and tested by the Geotechnical Engineer and/or his representative during grading.

   Field density tests shall be made by the Geotechnical Engineer and/or his representative to evaluate the compaction and moisture compliance of each fill lift. Density tests shall be conducted at intervals not to exceed two feet of fill

height. Where sheepsfoot rollers are used, the fill may be disturbed to a depth of several inches. Density determinations shall be taken in the compacted material below the disturbed surface at a depth determined by the Geotechnical Engineer or his representative.

2. Where tests indicate that the density of any layer of fill, or portion thereof, is below the required relative compaction, or improper moisture content is in evidence, that particular layer or portion thereof shall be reworked until the required density and/or moisture content has been attained. Additional fills shall not be placed over an area until the previous lift of fill has been tested and found to meet the density and moisture requirements for the project and the previous lift is approved by the Geotechnical Engineer.

3. When grading activities are interrupted by heavy rains, fill operations shall not be resumed until field observations and tests by the Geotechnical Engineer indicate the moisture content and density of the fill are within the specified limits.

4. During construction, the Contractor shall properly grade all surfaces to maintain good drainage and prevent the ponding of water. The Contractor shall take remedial action to control surface water and to prevent erosion of graded areas until such time as a permanent drainage and erosion devices have been installed.

5. Observation and testing by the Geotechnical Engineer and/or his representative shall be conducted during filling and compacting operations in order that he will be able to state in his opinion that all cut and filled areas are graded in accordance with the approved specifications.

6. Upon the completion of grading activities and after the Geotechnical Engineer and Engineering Geologist have finished their observations of the work, final reports shall be submitted. No further excavation or fill placement shall be undertaken without prior notification of the Geotechnical Engineer and/or Engineering Geologist.

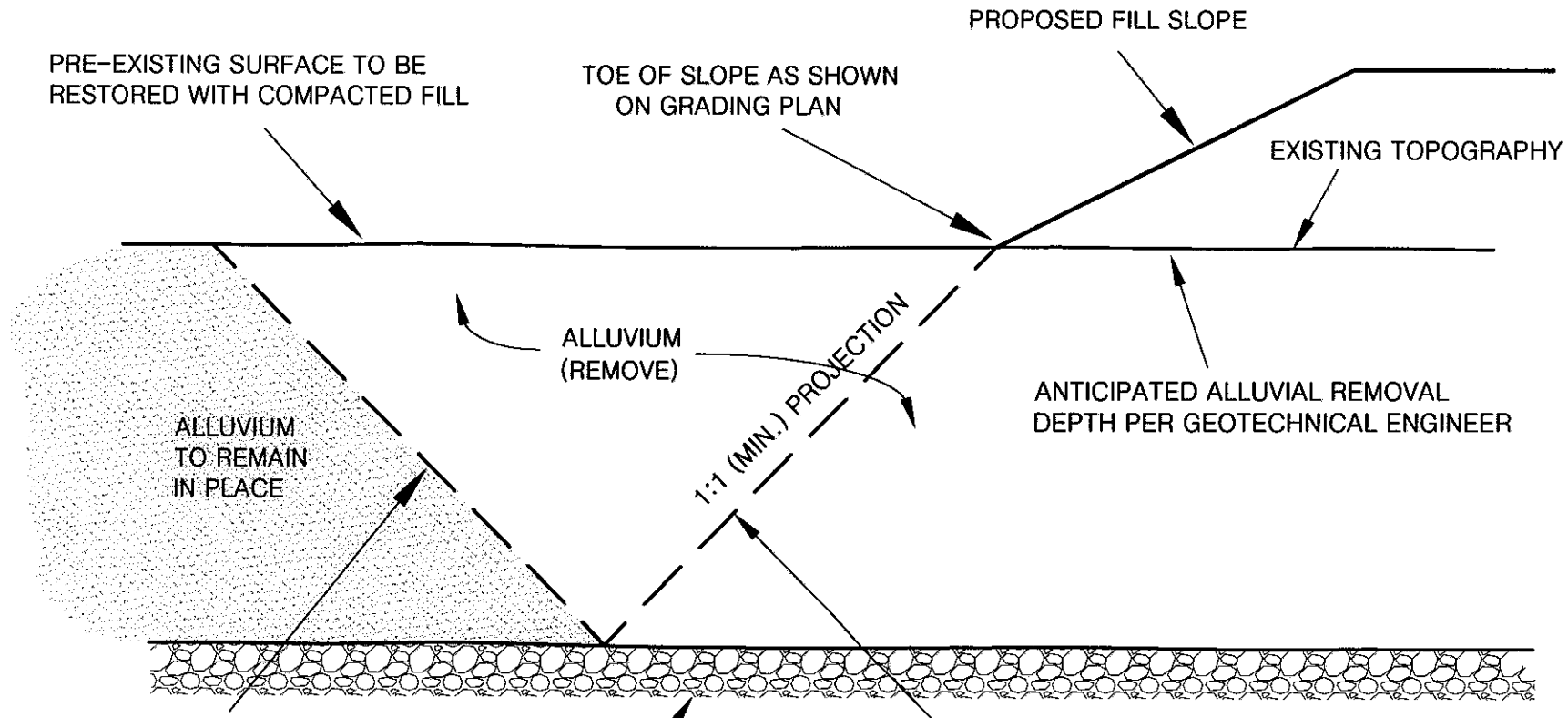
F. FINISHED SLOPES

All finished cut and fill slopes shall be planted and irrigated and/or protected from erosion in accordance with the project specifications, governing agencies, and/or as recommended by a landscape architect.

APPENDIX G

Grading Details

DETAIL FOR FILL SLOPE TOEING OUT ON FLAT ALLUVIATED CANYON

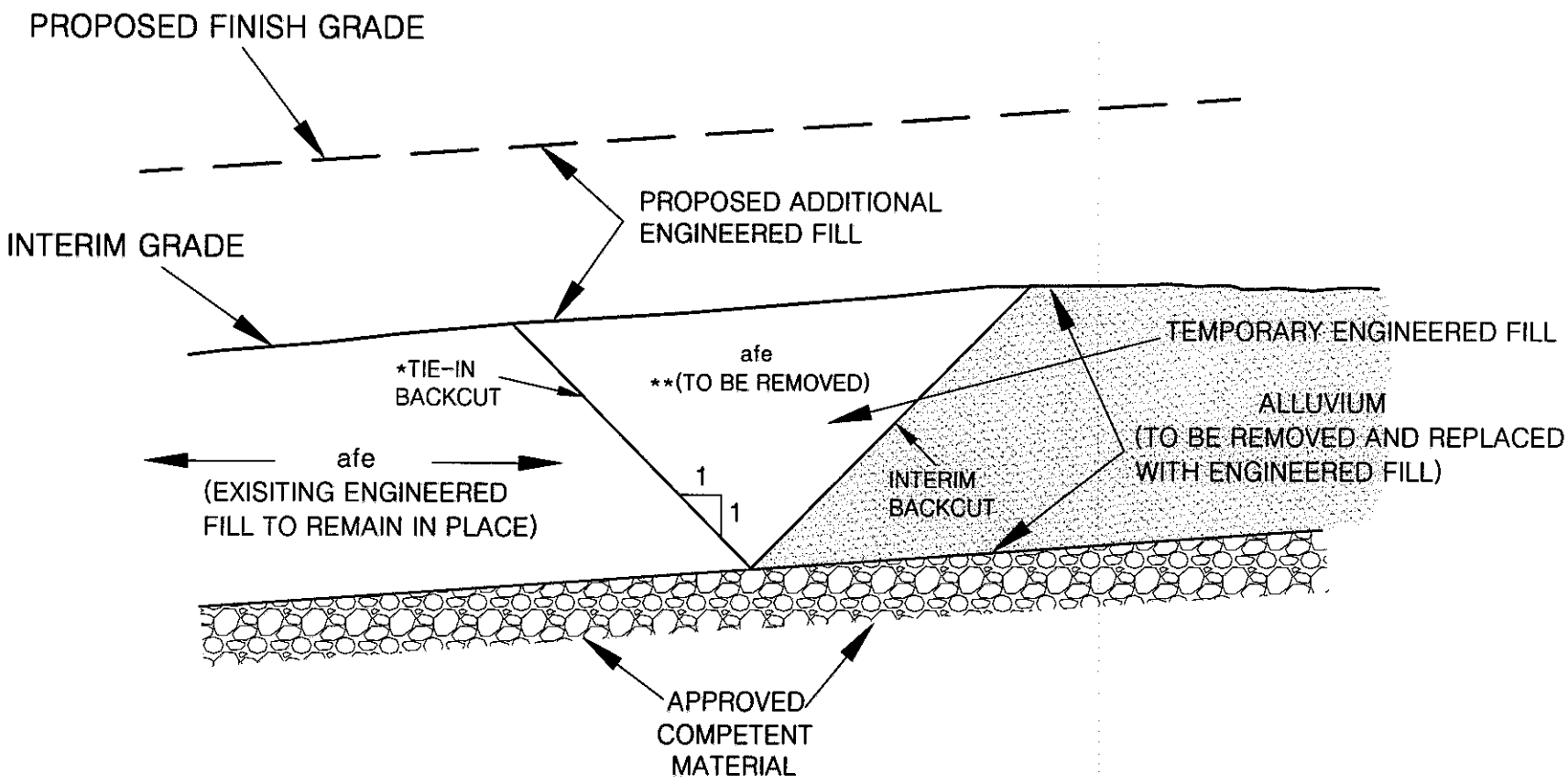


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PLATE G-1

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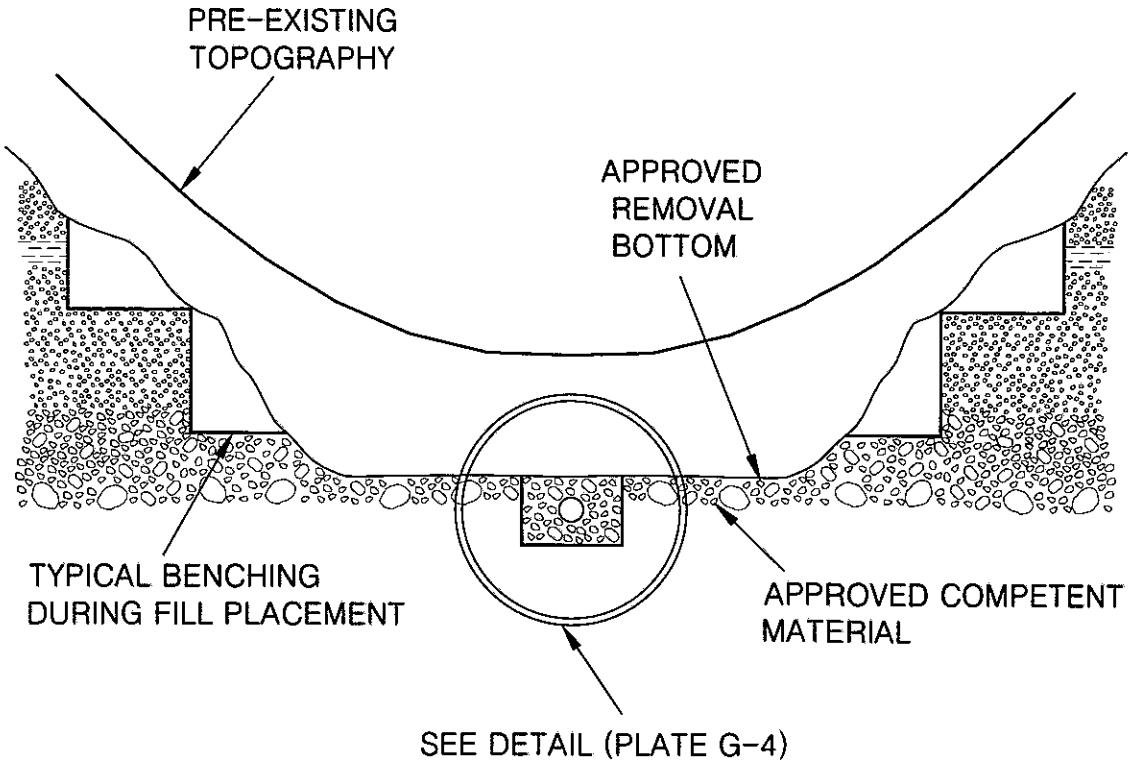
REMOVAL ADJACENT TO EXISTING FILL



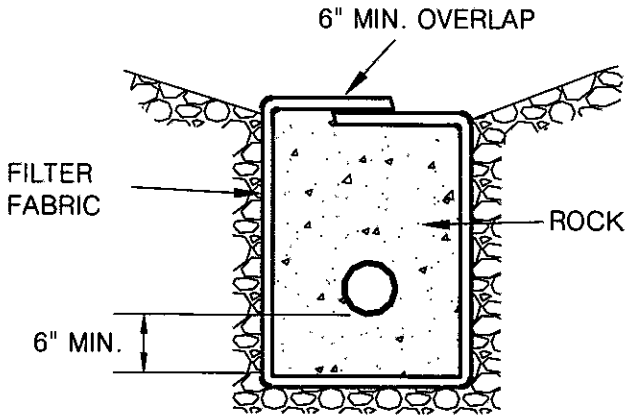
*INITIATE 1:1 TIE-IN BACKCUT TO INTERCEPT TOE OF INTERIM BACKCUT

**AS PART OF TIE-IN FOR ADDITIONAL ENGINEERED FILL

CANYON SUBDRAIN



CANYON SUBDRAIN DETAIL



PERFORATED PIPE SURROUNDED WITH ROCK AND FILTER FABRIC

ROCK: MIN. VOLUME OF 9 CU.FT. PER LINEAR FT. OF 3/4 IN. MAX. ROCK

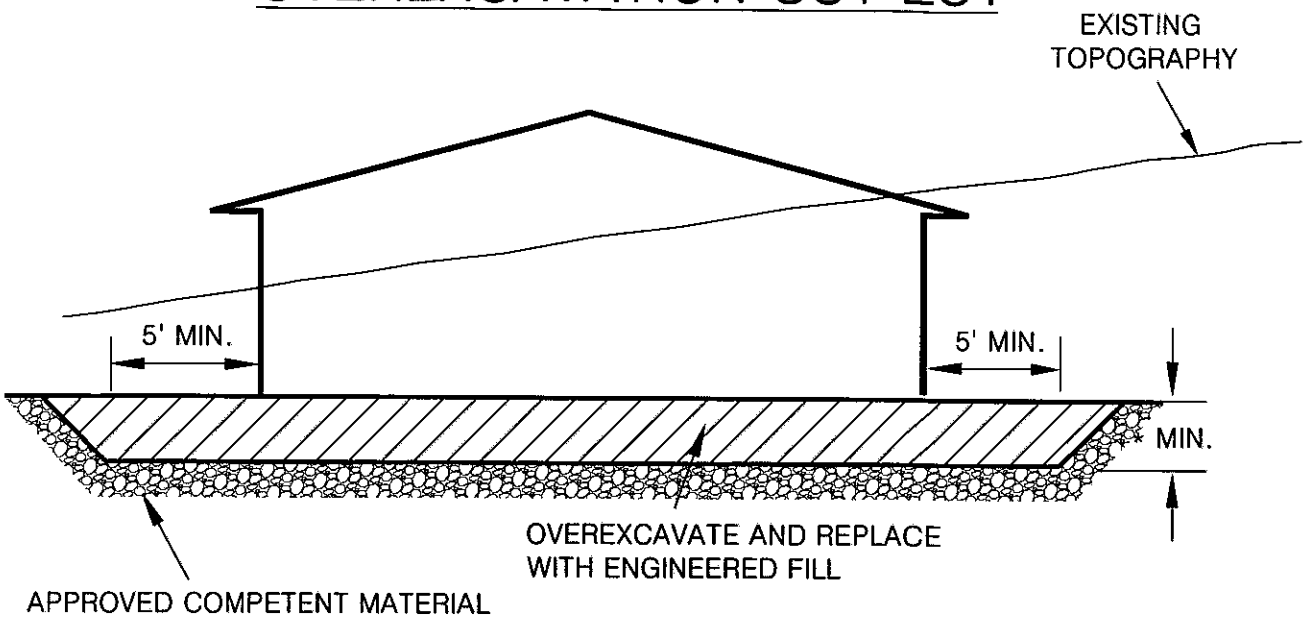
PIPE: 6 IN. ABS OR PVC PIPE WITH A MINIMUM OF 8 PERFORATIONS (1/4-IN. DIA.) PER LINEAL FT. IN BOTTOM HALF OF PIPE ASTM D2751, SDR 35, OR ASTM D3034 OR ASTM D1527, SCHD. 40 ASTM D1785, SCHD. 40

FILTER FABRIC: MIRAFI 140 FILTER FABRIC OR APPROVED EQUIVALENT

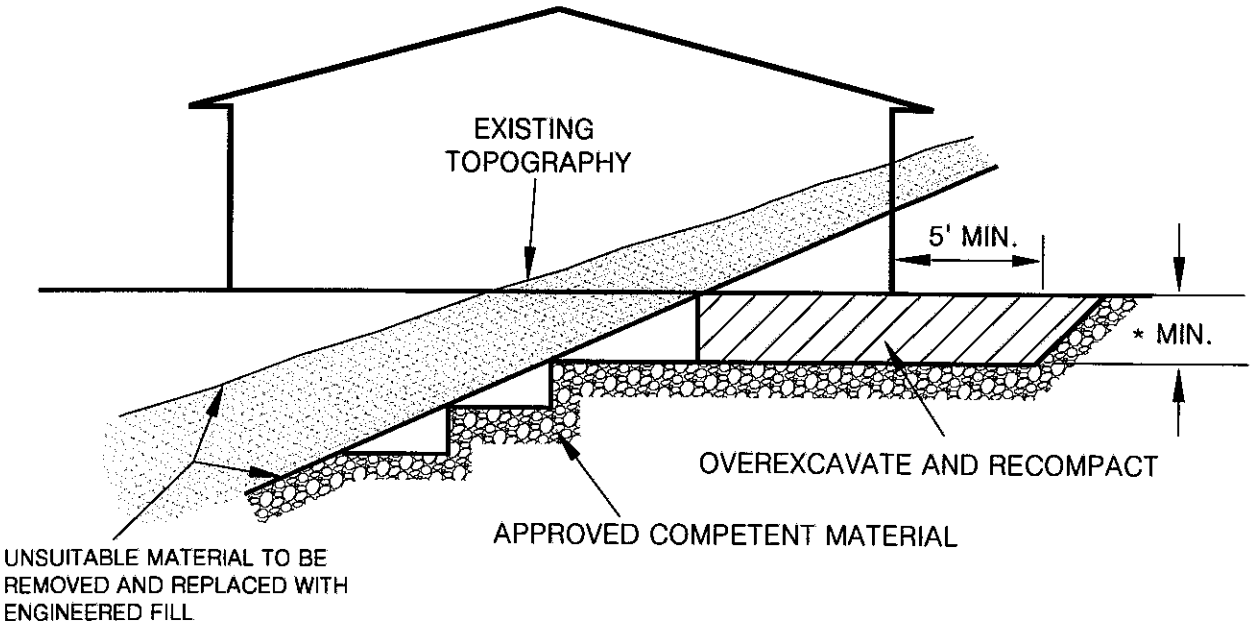
NOTES:

1. FOR CONTINUOUS RUN IN EXCESS OF 500. FT USE 8 IN. DIA. PIPE
2. ENGINEERED FILL PLACED BELOW DRAINS SHALL BE COMPACTED TO 93% OF THE LABORATORY MAXIMUM DRY DENSITY (ASTM:D1557)

OVEREXCAVATION CUT LOT



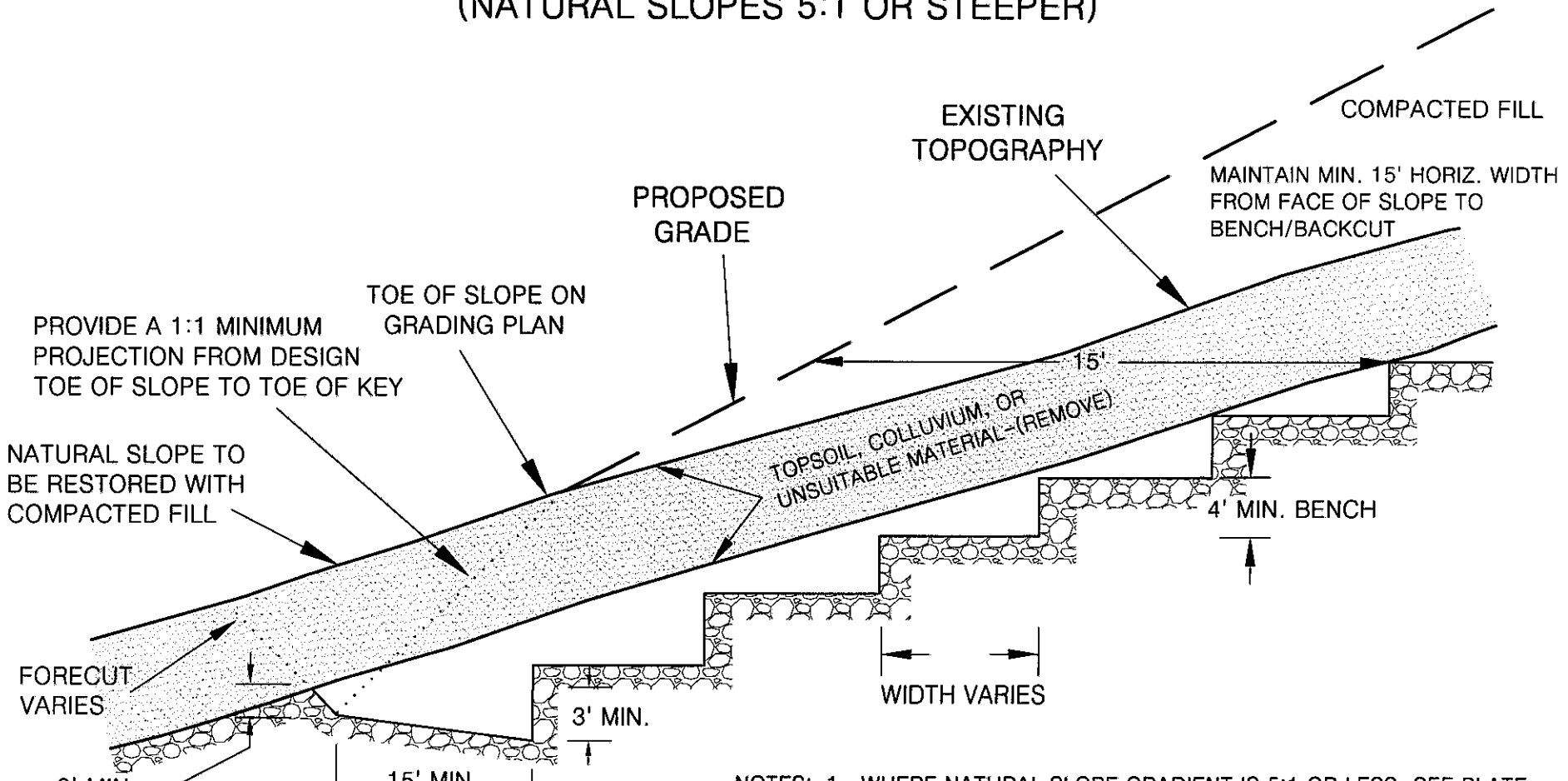
CUT-FILL LOT (TRANSITION)



*NOTE ALL BUILDING PADS SHALL BE OVER EXCAVATED TO A MINIMUM OF 1/3 OF THE MAXIMUM DEPTH OF FILL BELOW THE BUILDING PAD TO A MAXIMUM OF 17 FEET (SEE PLATE G-16)

SIDE HILL SLOPE FILL DETAIL

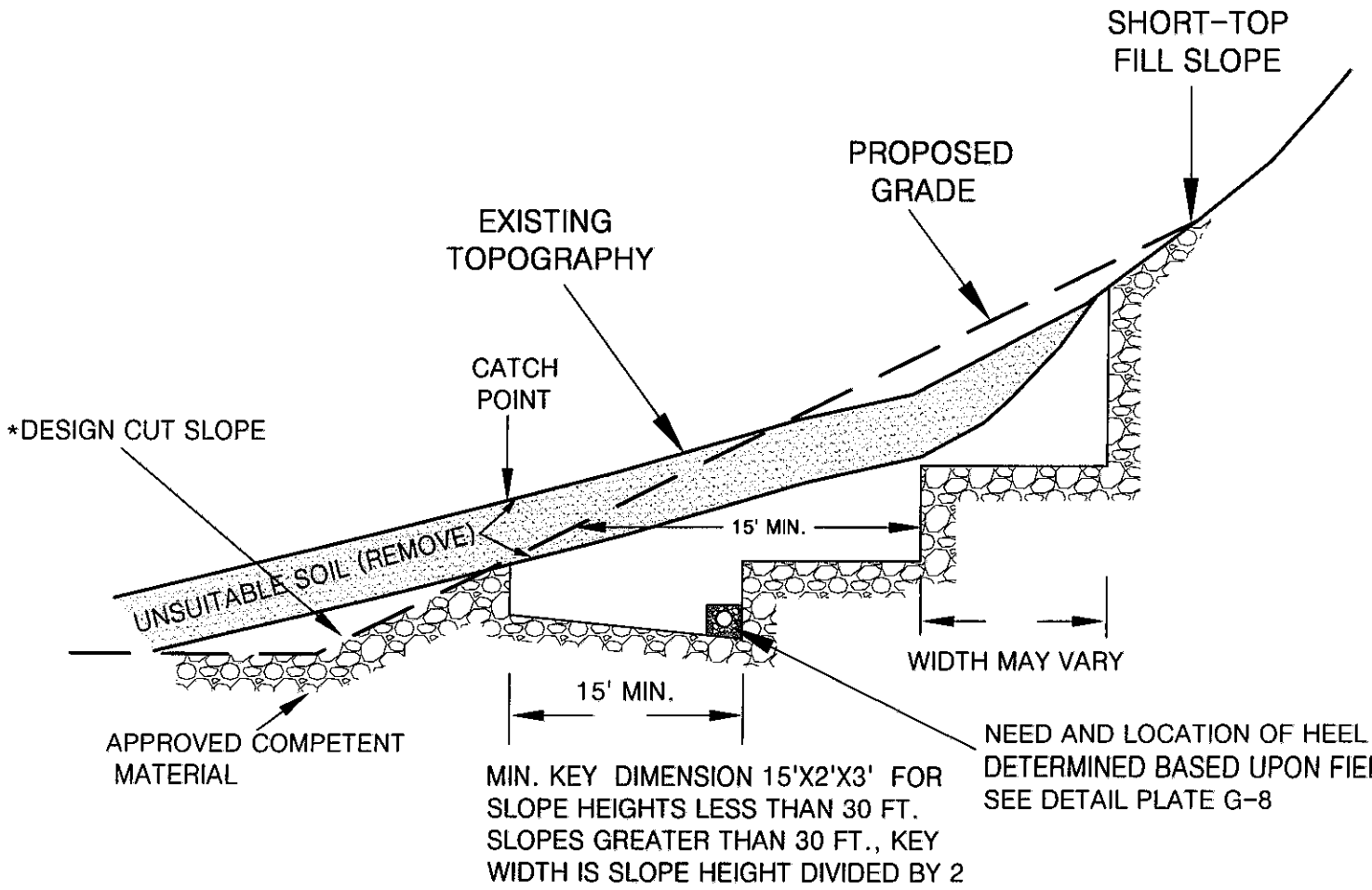
(NATURAL SLOPES 5:1 OR STEEPER)



NOTES:

1. WHERE NATURAL SLOPE GRADIENT IS 5:1 OR LESS, SEE PLATE G-1. WHERE THE NATURAL SLOPE APPROACHES OR EXCEEDS THE DESIGN SLOPE RATIO, SPECIAL RECOMMENDATIONS WILL BE PROVIDED BY THE GEOTECHNICAL ENGINEER.
2. THE NEED FOR AND PLACEMENT OF DRAINS WILL BE DETERMINED BY THE GEOTECHNICAL ENGINEER OR GEOLOGIST BASED UPON EXPOSED FIELD CONDITIONS.

FILL OVER CUT SLOPE DETAIL

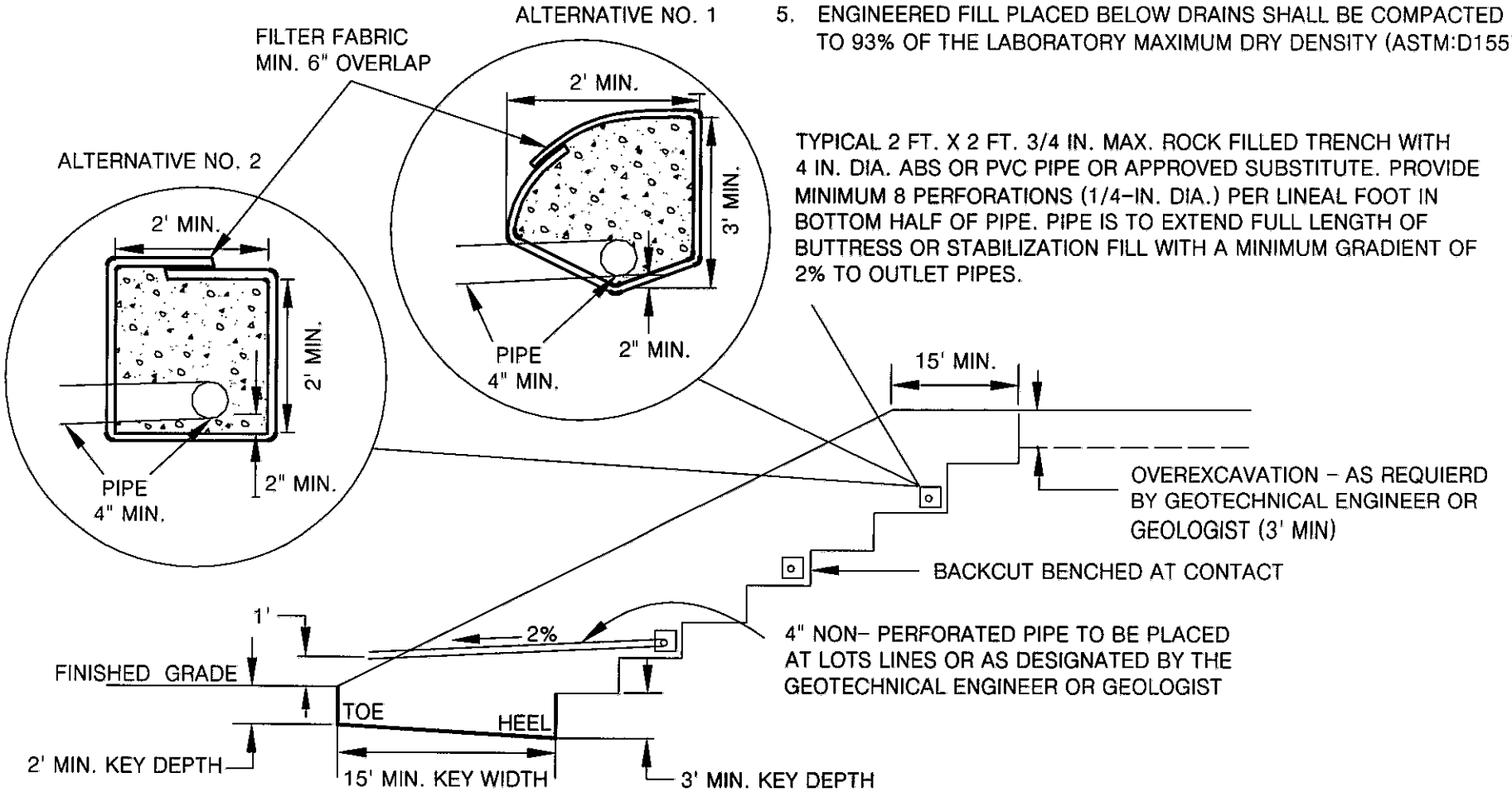


*THE CUT PORTION OF THE SLOPE SHOULD BE EXCAVATED AND EVALUATED BY THE ENGINEERING GEOLOGIST/GEOTECHNICAL ENGINEER PRIOR TO CONSTRUCTING THE FILL SLOPE

STABILIZATION/BUTTRESS FILL BACKDRAIN

NOTE:

1. ASTM D2751, SDR 35, OR ASTM D3034 OR ASTM D1527, SCHD. 40 ASTM D1785, SCHD. 40
2. SOLID PIPE OUTLETS TO BE PROVIDED EVERY 100 FT. AND JOINED TO PERFORATED BACKDRAIN PIPE WITH "L" OR "T"s. MIN. 2% GRADIENT.
3. GRAVEL TRENCH TO BE FILLED WITH 3/4 IN. MAXIMUM ROCK
4. THE NECESSITY FOR UPPER TIER BACKDRAINS SHALL BE DETERMINED IN THE FIELD BY THE GEOTECHNICAL ENGINEER OR GEOLOGIST. UPPER TIER OUTLETS SHOULD DRAIN INTO PAVED TERRACE DRAINS.
5. ENGINEERED FILL PLACED BELOW DRAINS SHALL BE COMPACTED TO 93% OF THE LABORATORY MAXIMUM DRY DENSITY (ASTM:D1557)



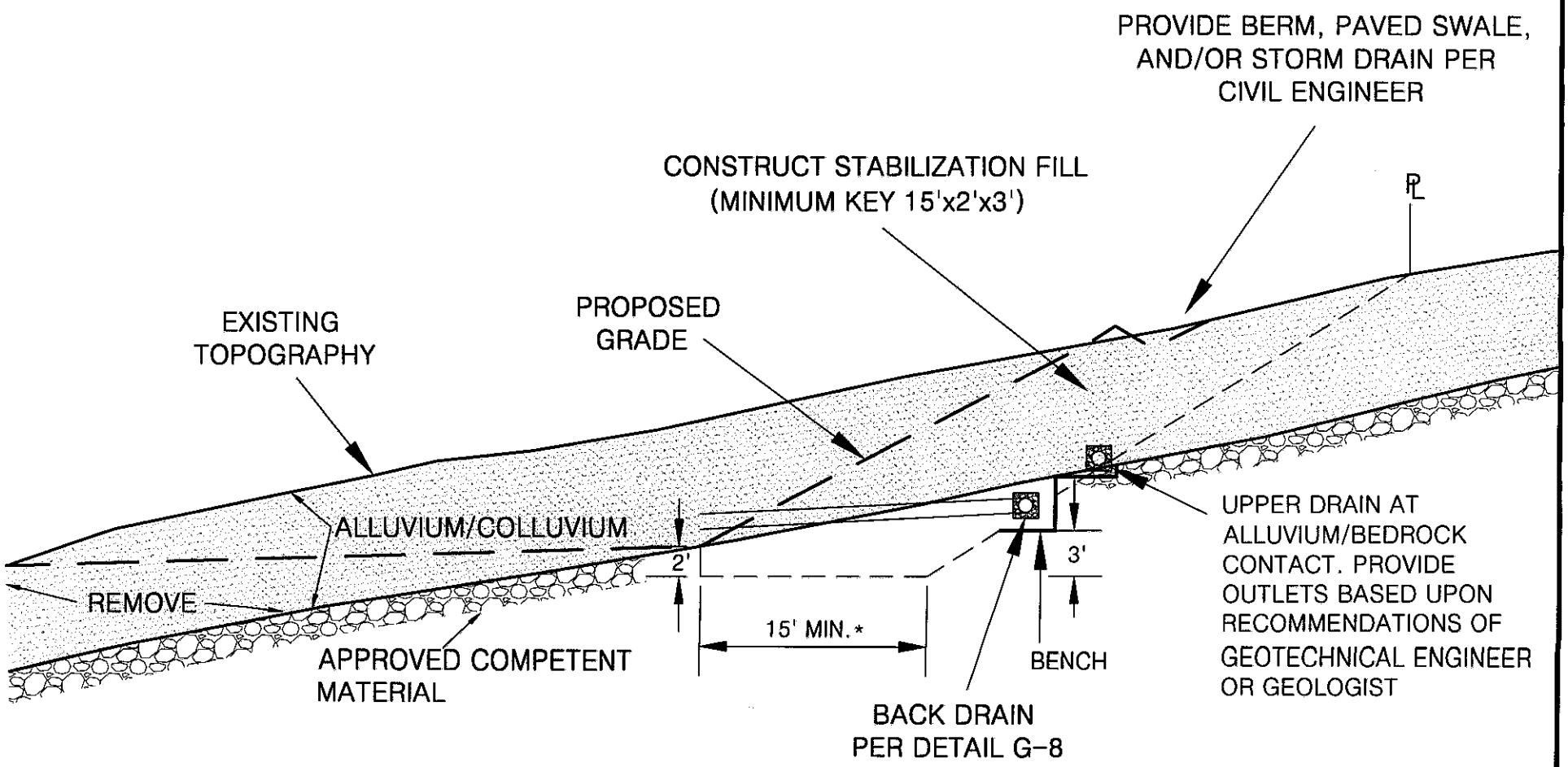
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PLATE G-8

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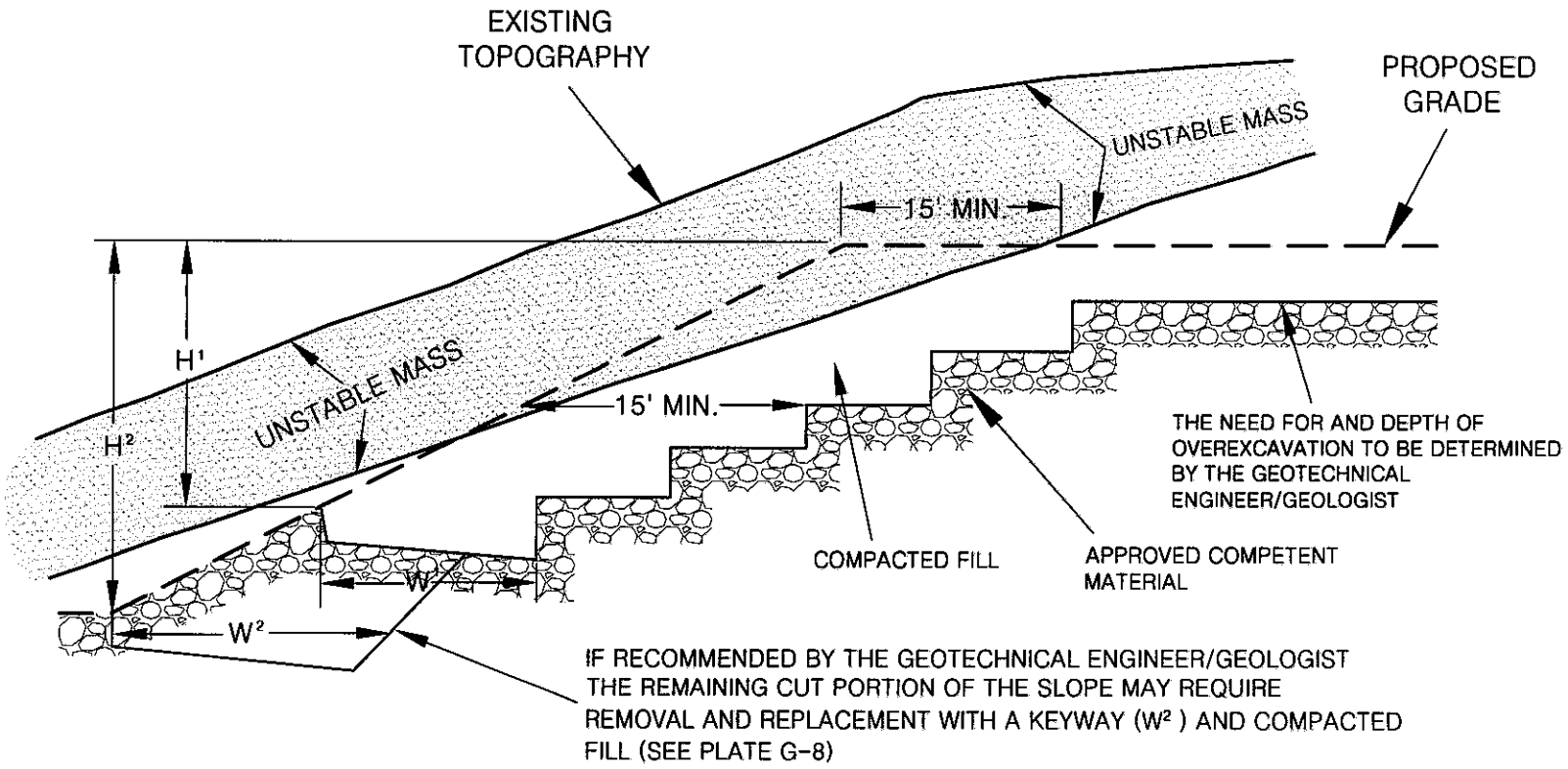
STABILIZATION FILL

(UPSLOPE ALLUVIATED AREA)



* FOR SLOPE HEIGHTS LESS THAN 30 FT. SLOPES GREATER THAN 30 FT., KEY WIDTH IS SLOPE HEIGHT DIVIDED BY 2

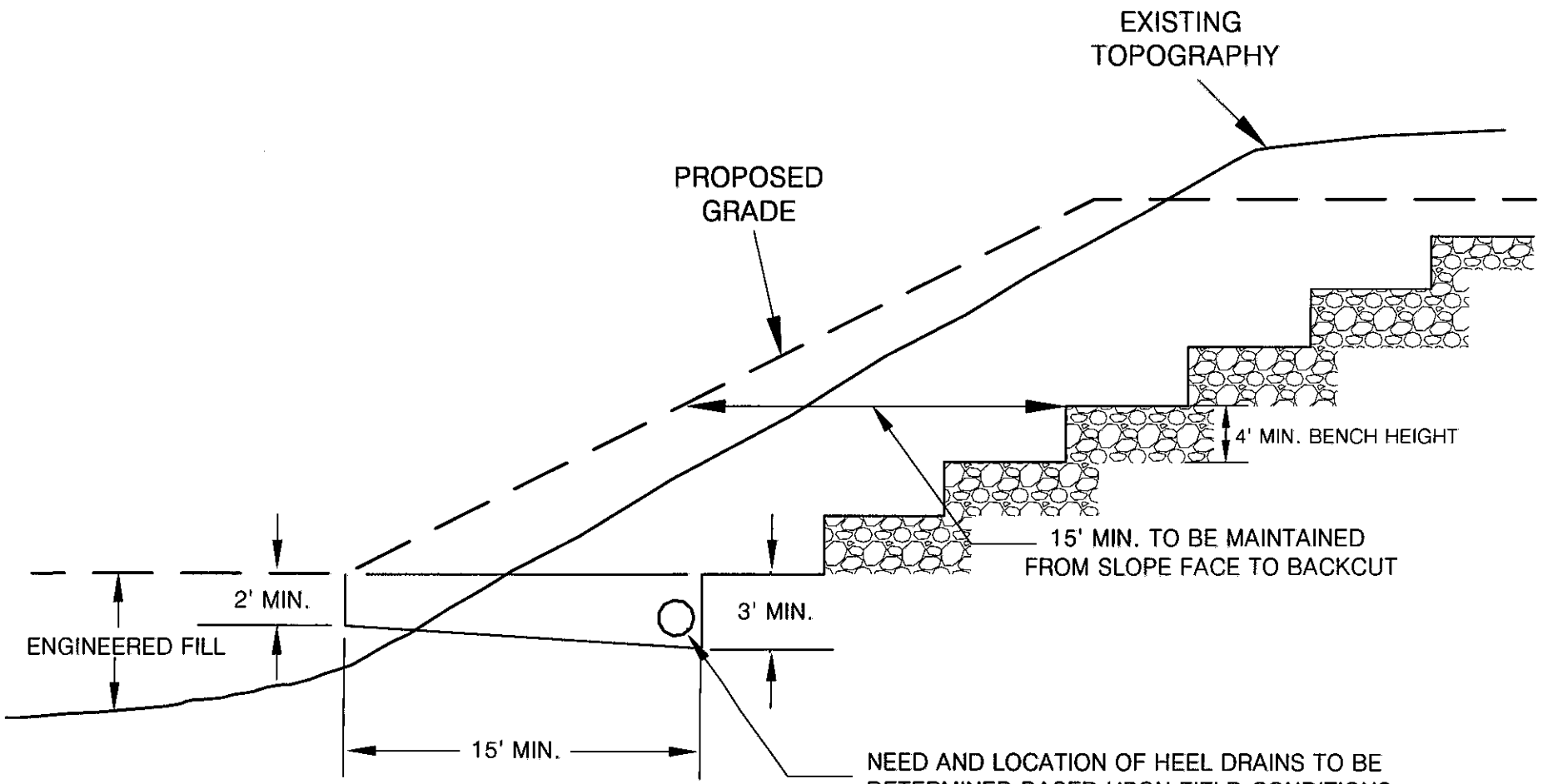
SELECTIVE GRADING DETAIL FOR STABILIZATION FILL
UNSTABLE MATERIAL EXPOSED IN PORTION OF CUT SLOPE



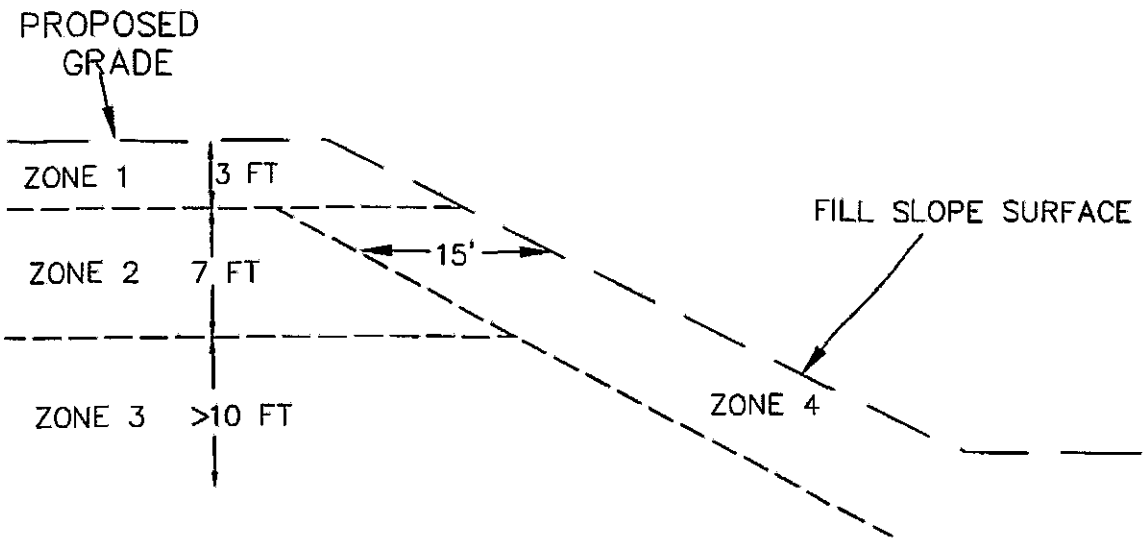
NOTES: 1. BACKDRAINS ARE NOT REQUIRED UNLESS SPECIFIED.

2. "W" SHALL BE EQUIPMENT WIDTH (15') FOR SLOPE HEIGHT LESS THAN 25 FEET. FOR SLOPES GREATER THAN 25 FEET, "W" SHALL BE DETERMINED BY THE PROJECT GEOTECHNICAL ENGINEER/GEOLOGIST. AT NO TIME SHALL "W" BE LESS THAN H/2.

SKIN FILL SLOPE OVER NATURAL GROUND



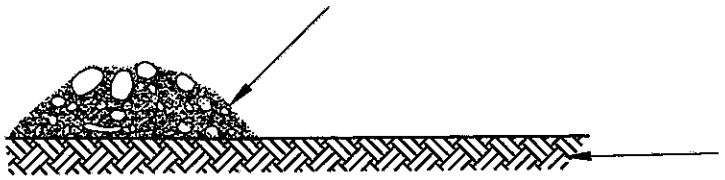
DETAIL FOR MAXIMUM PARTICLE DIMENSION



ZONE	DEPTH	PARTICLE MAX. DIMENSION	PLACEMENT METHOD
1	0-3 ft.	≤1.0 ft.	STANDARD OR CONVENTIONAL COMPACTION METHODS (SEE EARTHWORK SPECIFICATIONS)
2	3-10 ft.	≤2.0 ft.	ROCK BLANKETS (SEE PLATE G-13)
3	>10 ft.	≤8.0 ft.	ROCK BLANKETS (PLATE G-13) ROCK WINDROW (PLATE G-14) INDIVIDUAL ROCK BURIED (PLATE G-15)
4	15 HORIZONTAL FEET FROM FILL SLOPE FACE	≤1.0 ft.	STANDARD OR CONVENTIONAL COMPACTION METHODS (SEE EARTHWORK SPECIFICATIONS)

ROCK BLANKET DETAILS

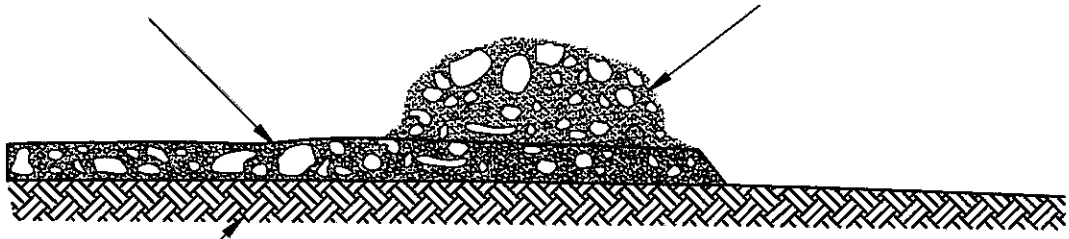
LOOSE PILE 1
LOOSE, DUMPED ROCK, GRAVEL AND SAND MIXTURE REMOVE FRAGMENTS LARGER THAT 2 FEET FOR ISOLATED BURIAL (PLATE G-15) OR WINDROW (PLATE G-10)



APPROVED BOTTOM, OR TOP OF PREVIOUSLY APPROVED BLANKET FILL

COMPACT PILE 1
SPREAD LOOSE PILE FORWARD WITH HEAVY TRACKED DOZER (D-8 OR LARGER). HEAVILY WATER, TRACK, AND APPLY ADDITIONAL SAND AND GRAVEL AS NECESSARY TO FILL VOIDS AND CREATE A DENSE MATRIX OF ROCK, COBBLES, GRAVEL AND SAND (2 FOOT MAXIMUM THICKNESS)

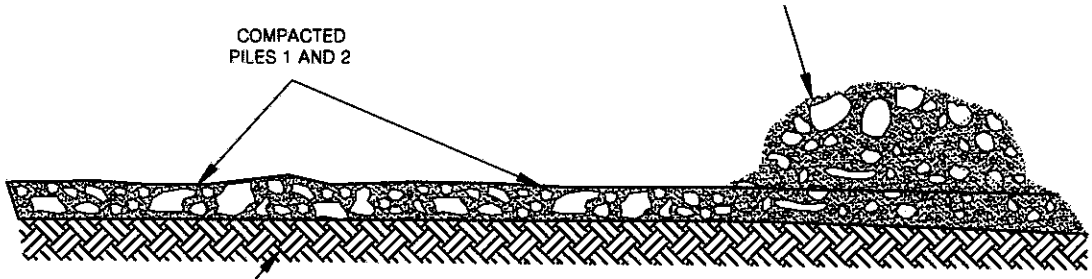
LOOSE PILE 2
DUMP SUCCESSIVE PILES OF LOOSE ROCK, GRAVEL AND SAND MIXTURE ON FORWARD EDGE OF PREVIOUSLY COMPACTED LIFT WITH TRUCKS AND/OR SCRAPERS. USE PREVIOUS LIFT TO ACCESS AND FURTHER COMPACT PILE 1.



APPROVED BOTTOM, OR TOP OF PREVIOUSLY APPROVED BLANKET FILL

LOOSE PILE 3
DUMP SUCCESSIVE PILES OF LOOSE ROCK, GRAVEL AND SAND MIXTURE ON FORWARD EDGE OF PREVIOUSLY COMPACTED LIFT WITH TRUCKS AND/OR SCRAPERS. USE PREVIOUS LIFT TO ACCESS AND FURTHER COMPACT EXISTING BLANKET.

COMPACTED PILES 1 AND 2

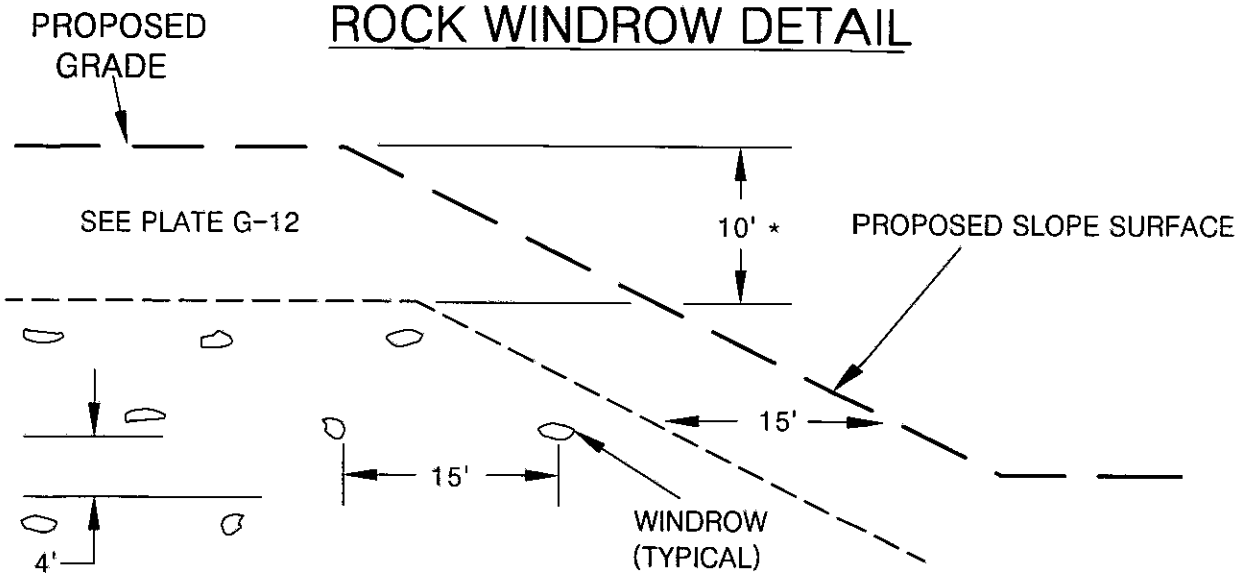


APPROVED BOTTOM, OR TOP OF PREVIOUSLY APPROVED BLANKET FILL

OBSERVATION TESTING AND APPROVAL PROCEDURES

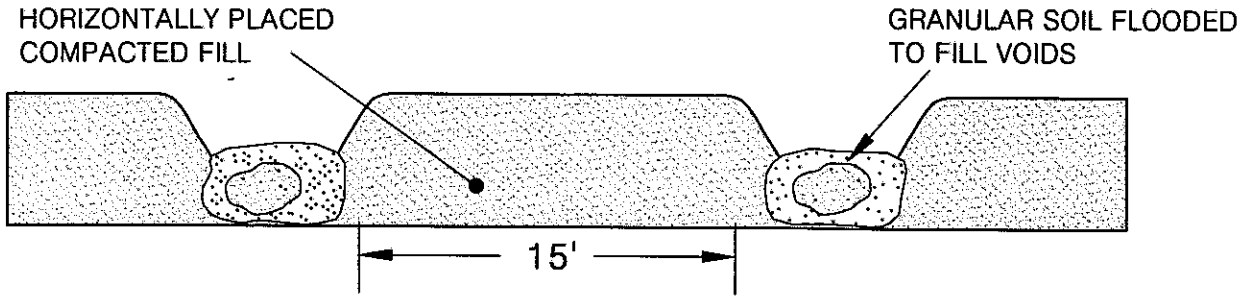
OBSERVE EQUIPMENT. SCRAPERS AND TRUCKS SHOULD BE FULLY SUPPORTED ON BLANKET WITHOUT SIGNIFICANT YIELDING. EXCAVATE TEST/OBSERVATION PITS TO CONFIRM EXISTENCE OF MIXTURE OF VARIOUS PARTICLE SIZES, WITHOUT SIGNIFICANT VOIDS, AND FORMING A DENSE, COMPACTED FILL MATRIX. TEST BY ASTM D1556, D2922 AND/OR D3017 WHEN APPROPRIATE. RECORD LIMITS AND ELEVATION OF BLANKET. ALL FILL AND COMPACTION OPERATIONS TO BE CONDUCTED UNDER THE OBSERVATION OF THE GEOTECHNICAL ENGINEER. SUBSEQUENT LIFTS TO BE APPLIED ONLY AFTER OBSERVATION AND CONFIRMATION OF SUITABILITY OF FILL AND RELEASE BY THE GEOTECHNICAL ENGINEER. BLANKETS TO BE CONSTRUCTED IN ACCORDANCE WITH PLATE G-12.

ROCK WINDROW DETAIL



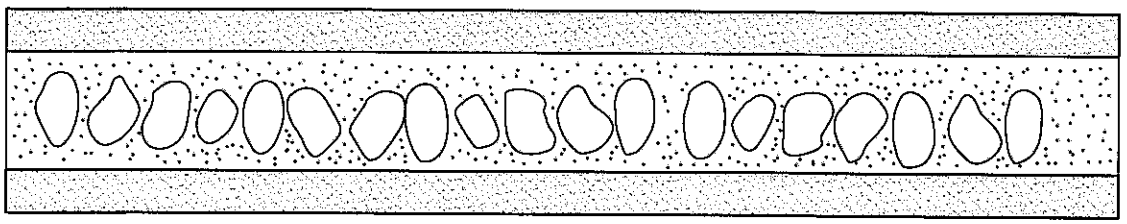
NOTE: OVERSIZED MATERIAL SHOULD BE REMOVED FROM THE 15' CLEAR ZONES WITH SPECIAL EQUIPMENT, SUCH AS A ROCK RAKE, PRIOR TO PLACING THE NEXT FILL LIFT.
*VARIANCES TO THE ABOVE ROCK HOLD DOWN MAY BE GRANTED SUBJECT TO APPROVAL BY THE OWNER, GEOTECHNICAL ENGINEER, AND GOVERNING AGENCY

TYPICAL WINDROW DETAIL (END VIEW)

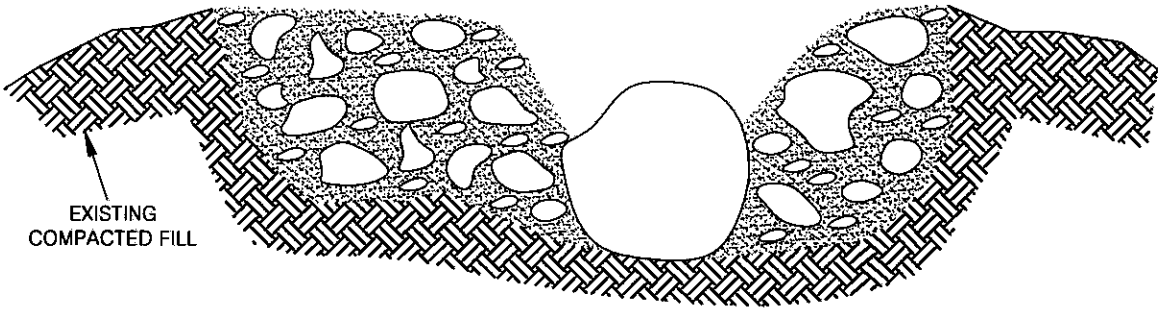


NOTE: COMPACTED FILL SHALL BE BROUGHT UP TO A HIGHER ELEVATION ALONG EACH WINDROW SO GRANULAR SOIL CAN BE FLOODED IN A "TRENCH CONDITION".

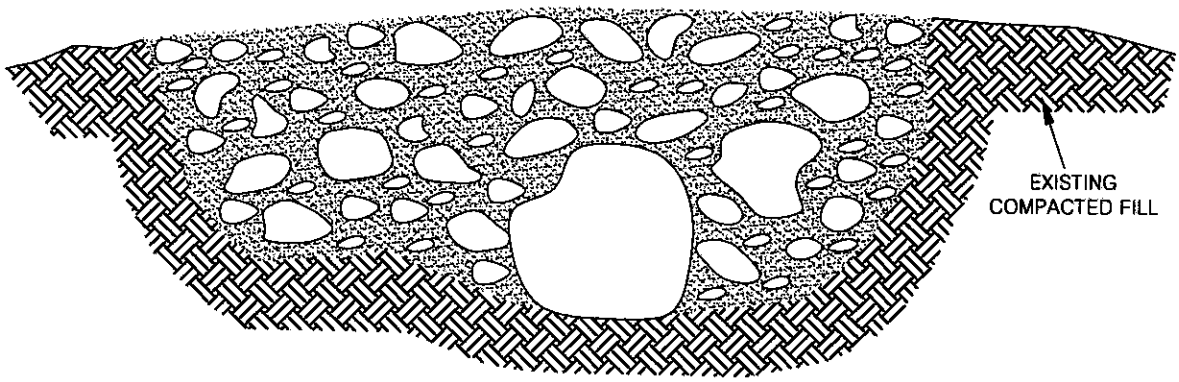
PROFILE VIEW



ISOLATED ROCK BURIAL DETAILS

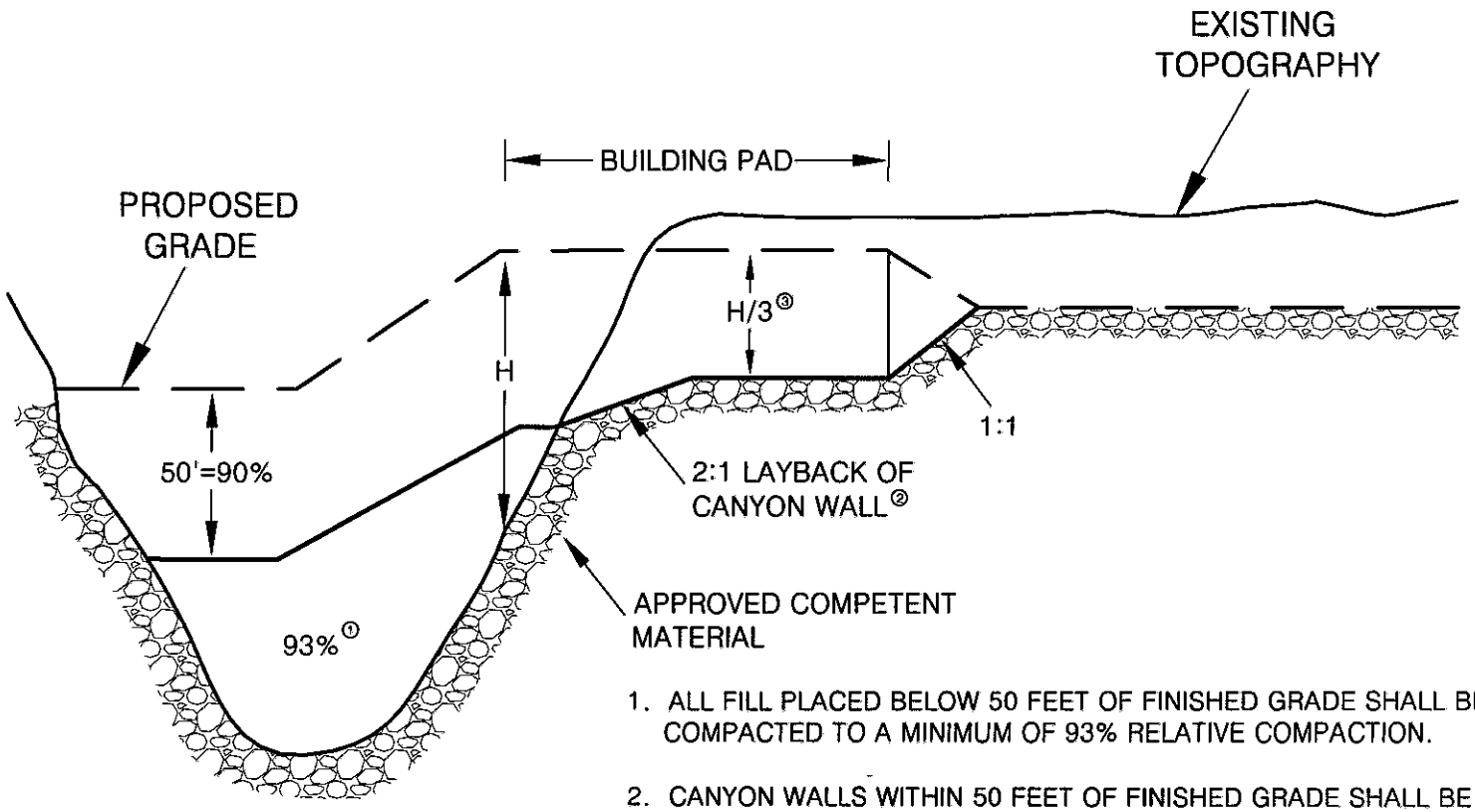


EXCAVATE HOLE INTO EXISTING FILL PRISM, PLACE BOULDER (< 8 feet in maximum dimension) INTO EXISTING COMPACTED FILL. SURROUND WITH SAND, GRAVEL, COBBLES AND WATER HEAVILY. TRACK WITH D8 OR LARGER EQUIPMENT UNTIL RESULTING FILL FULLY SUPPORTS EQUIPMENT. OBSERVE AND/OR TEST IN ACCORDANCE WITH ASTM D1556, D2922 OR D3017. ROCKS LARGER THAN 8 FEET SHALL BE FURTHER REDUCED IN SIZE BY SECONDARY BREAKING.



RELATIVE COMPACTION VS. DEPTH

CANYON WALL LAY BACK
DIFFERENTIAL FILL OVEREXCAVATION DETAILS



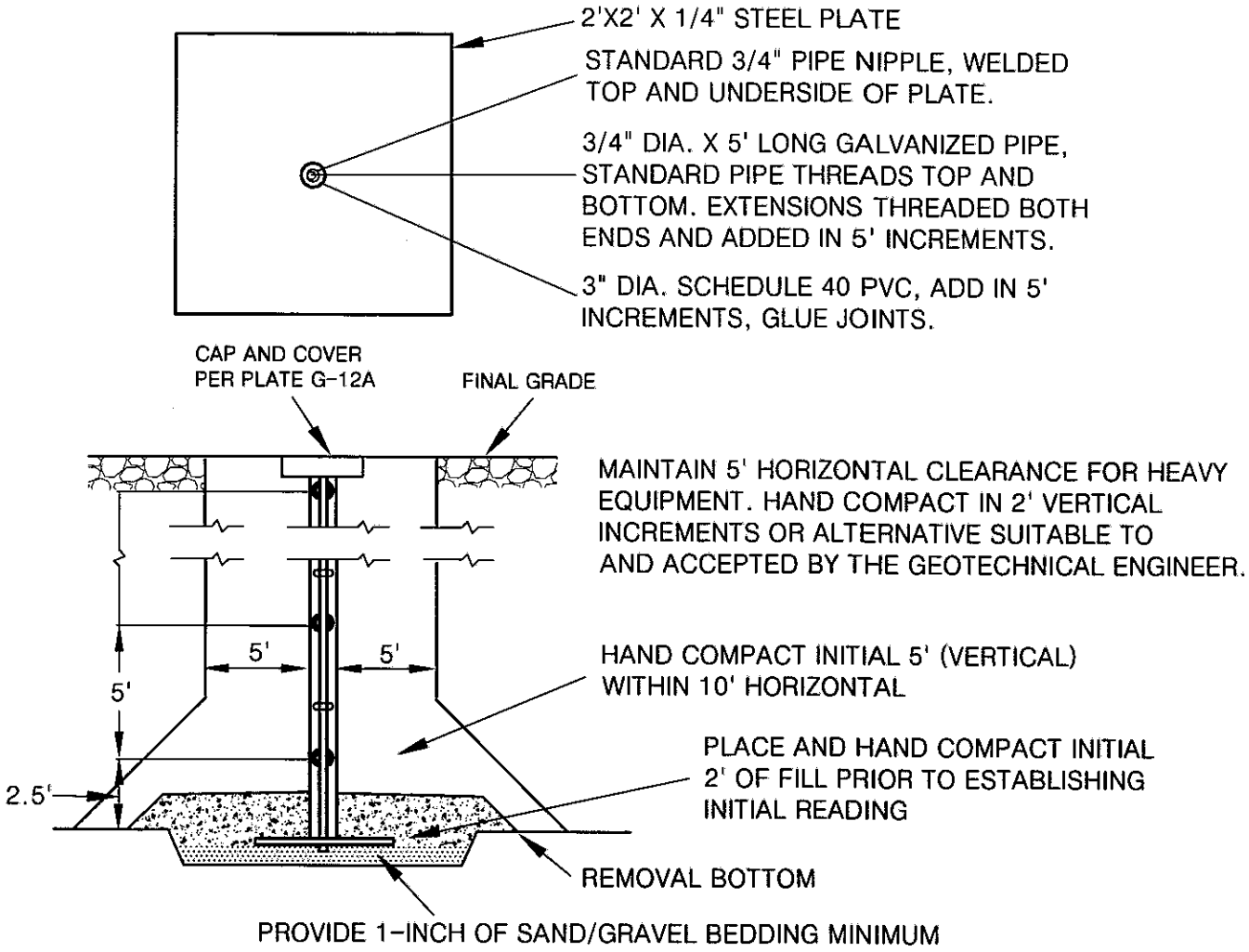
1. ALL FILL PLACED BELOW 50 FEET OF FINISHED GRADE SHALL BE COMPACTED TO A MINIMUM OF 93% RELATIVE COMPACTION.

2. CANYON WALLS WITHIN 50 FEET OF FINISHED GRADE SHALL BE LAID BACK TO A SLOPE RATIO OF 2:1 OR FLATTER.

3. ALL BUILDING PADS SHALL BE OVER EXCAVATED TO A MINIMUM OF 1/3 OF THE MAXIMUM DEPTH OF FILL BELOW THE BUILDING PAD TO A MAXIMUM OF 17 FEET.

4. IF THE 2:1 LAY BACK OF THE CANYON WALL IS IMPRACTICAL, THEN AS AN ALTERNATIVE THE INCREASED COMPACTION STANDARDS IN NOTE 1 SHOULD BE EXTENDED UP TO H/3 AND THE LAY BACK WILL NOT BE REQUIRED.

SETTLEMENT PLATE DETAIL



NOTES:

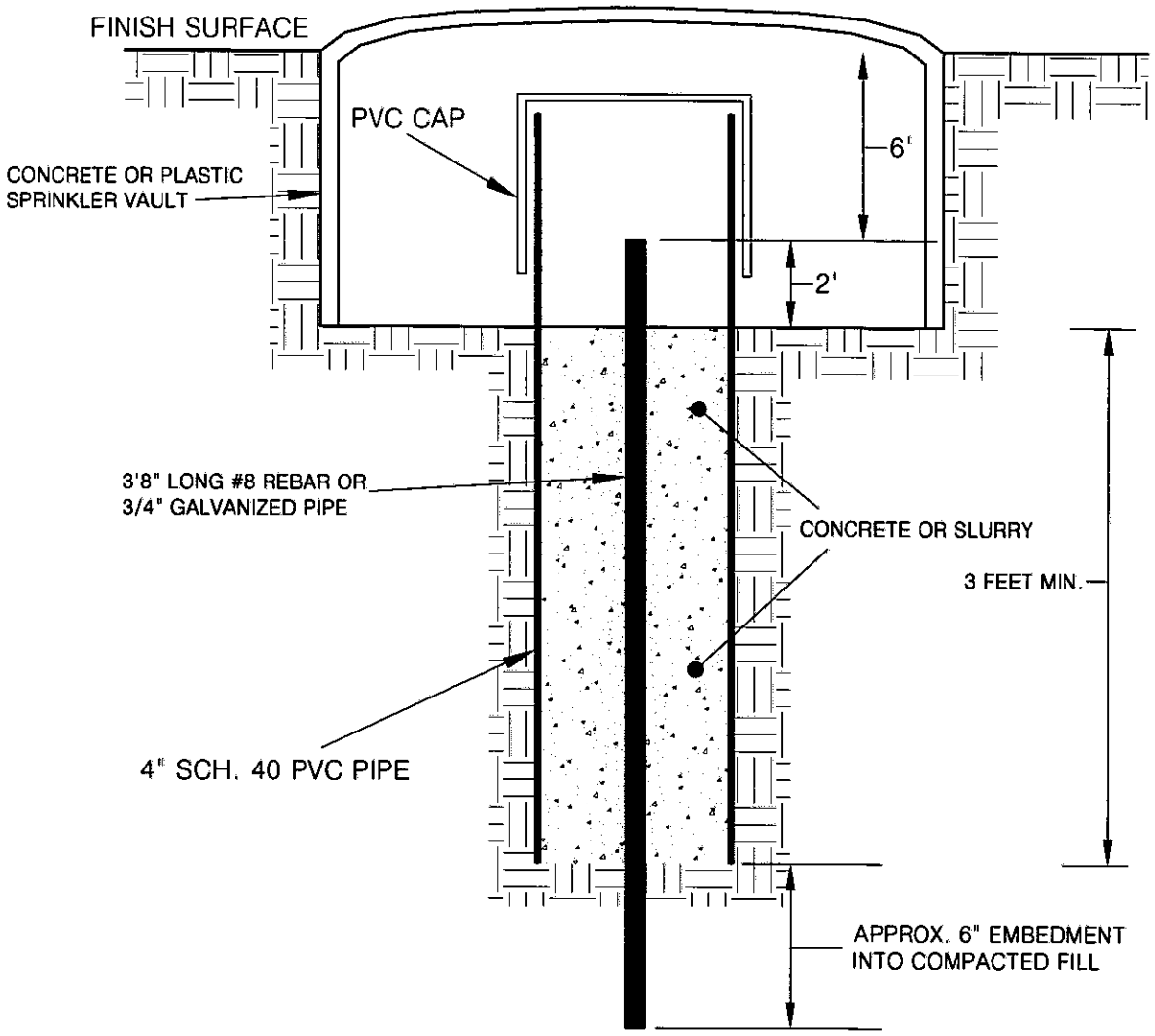
1) LOCATIONS OF SETTLEMENT PLATES SHALL BE CLEARLY MARKED AND READILY VISIBLE (RED FLAGGED) TO EQUIPMENT OPERATORS.

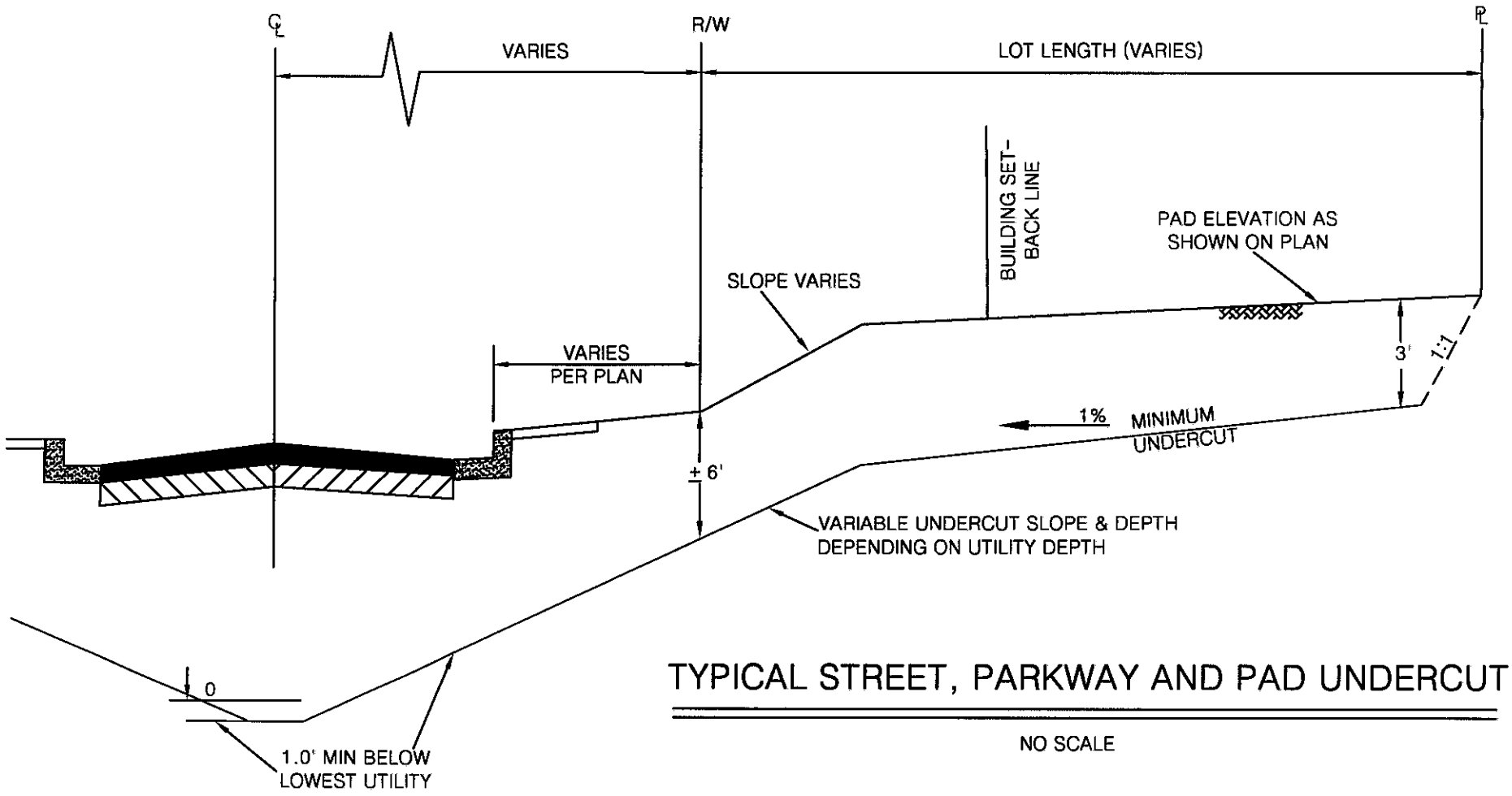
2) CONTRACTOR SHALL MAINTAIN 10' HORIZONTAL CLEARANCE FOR HEAVY EQUIPMENT WITHIN 5' (VERTICAL) OF PLATE BASE. FILL WITHIN CLEARANCE AREA SHALL BE HAND COMPACTED TO PROJECT SPECIFICATIONS OR COMPACTED BY ALTERNATIVE APPROVED BY THE GEOTECHNICAL ENGINEER.

3) AFTER 5' (VERTICAL) OF FILL IS IN PLACE, CONTRACTOR SHALL MAINTAIN 5' HORIZONTAL EQUIPMENT CLEARANCE. FILL IN CLEARANCE AREA SHALL BE HAND COMPACTED (OR APPROVED ALTERNATIVE) IN VERTICAL INCREMENTS NOT TO EXCEED 2 FEET.

4) IN THE EVENT OF DAMAGE TO SETTLEMENT PLATE OR EXTENSION RESULTING FROM EQUIPMENT OPERATING WITHIN PRESCRIBED CLEARANCE AREA, CONTRACTOR SHALL IMMEDIATELY NOTIFY GEOTECHNICAL ENGINEER AND SHALL BE RESPONSIBLE FOR RESTORING THE SETTLEMENT PLATE AND EXTENSION RODS TO WORKING ORDER.

SURFACE SETTLEMENT MONUMENT DETAIL





TYPICAL STREET, PARKWAY AND PAD UNDERCUT

NO SCALE

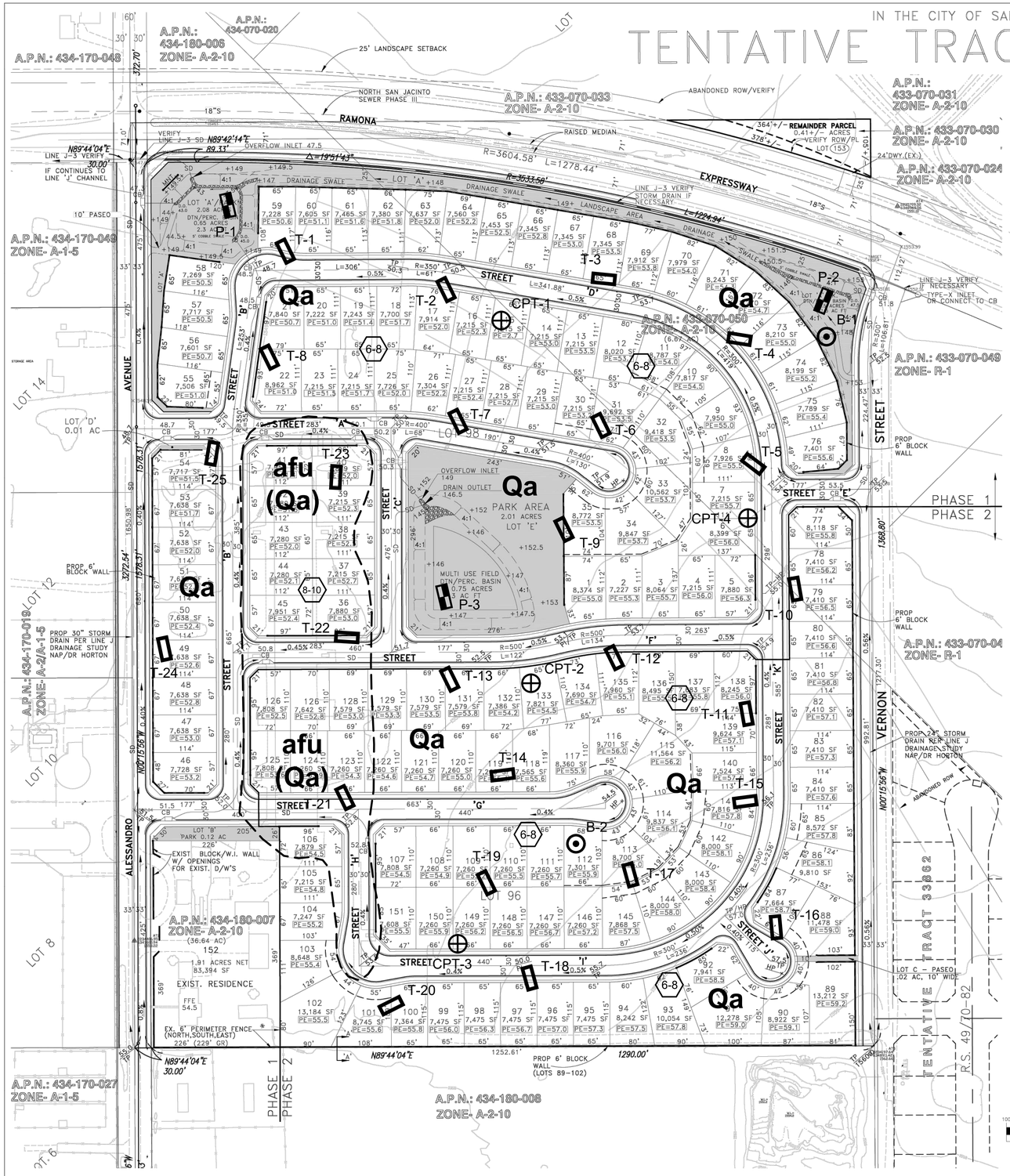
ALTA CALIFORNIA GEOTECHNICAL, INC .
VER. 3/13

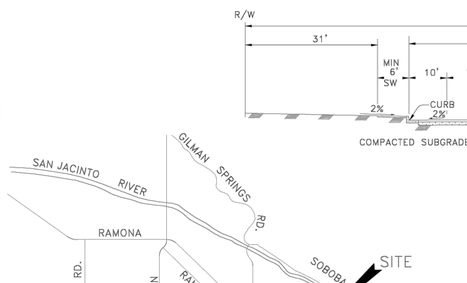
PLATE G-19

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IN THE CITY OF SAN JACINTO

TENTATIVE TRACT NO. 34271

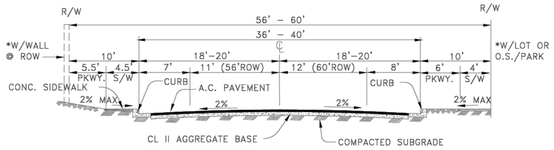




VICINITY MAP

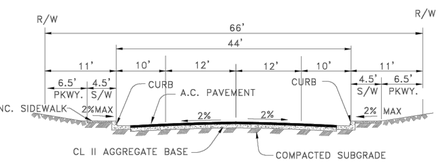
N.T.S.

NORTH



TYPICAL LOCAL STREET SECTIONS

56' CUL'S./SINGLE LOADED ('A,B,C,E,F,G,H')
60' DOUBLE LOADED STREET ('B,D,F,I,J,K')



TYPICAL COLLECTOR STREET SECTION

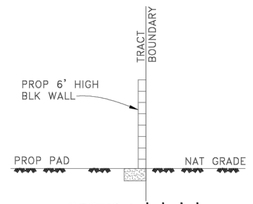
ALESSANDRO AVENUE & VERNON AVENUE
NOT TO SCALE

NORTH

GRAPHIC SCALE

100 0 50 100 200 400

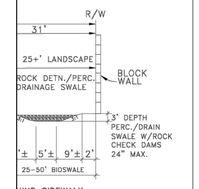
(IN FEET)
1 inch = 100 ft.



SECTION 'A'-'A'
NTS

LEGEND

afu	ARTIFICIAL FILL-UNDOCUMENTED
Qa	ALLUVIUM
P-3	APPROXIMATE LOCATION OF INFILTRATION TEST
T-25	APPROXIMATE LOCATION OF TEST PIT
CPT-4	APPROXIMATE LOCATION OF CONE PENETROMETER TEST
B-2	APPROXIMATE LOCATION OF HOLLOW STEM BORING
	APPROXIMATE LOCATION OF GEOLOGIC CONTACT
6-8	ANTICIPATED REMOVAL DEPTH



OWNERS:

CORNELL KASBERGEN
ANNETTE T KASBERGEN
ANTOINETTE HELENE HAFLIGER
21744 ROAD 152
TULARE, CA 93274
(559) 804-7393

APPLICANT

BRYAN MENNE & ASSOCIATES
31988 10TH AVENUE
SOUTH LAGUNA, CA 92651
(949) 246-6183

PARK / PASEO

LOT	'A'	2.08 AC
LOT	'B'	0.12 AC
LOT	'C'	0.02 AC
LOT	'D'	0.01 AC
LOT	'E'	2.01 AC
TOTAL		4.24 AC

LEGAL DESCRIPTION

THOSE PORTIONS OF FARM LOTS 96 AND 98 OF LANDS OF THE SAN JACINTO LAND ASSOCIATION AND OF LOTS 46, 47 AND 50 OF OLMSTEADS SUBDIVISION OF TRACT VI, IN THE COUNTY OF RIVERSIDE, STATE OF CALIFORNIA, AS PER MAPS RECORDED IN BOOK 8, PAGE 357 AND BOOK 4, PAGE 261 RESPECTIVELY, IN THE OFFICE OF THE COUNTY RECORDER OF SAN DIEGO COUNTY, CALIFORNIA, DESCRIBED AS A WHOLE AS FOLLOWS:

BEGINNING AT THE INTERSECTION OF THE WESTERLY PROLONGATION OF THE SOUTH LINE OF SAID FARM LOT 96 WITH THE CENTERLINE OF SECTION 26 AS SAID SECTION IS SHOWN ON SAID MAP OF LANDS OF THE SAN JACINTO LAND ASSOCIATION;

THENCE NORTH 1,650.00 FEET ON SAID SECTION CENTERLINE (BEING ALSO THE CENTERLINE OF ALESSANDRO AVENUE AS SHOWN ON SAID MAP);

THENCE EAST 1,320.00 FEET, PARALLEL WITH THE SOUTH LINE OF SAID FARM LOT 96, TO THE INTERSECTION OF THE NORTHERLY PROLONGATION OF THE EAST LINE OF SAID FARM LOT 96;

THENCE SOUTH 1,650.00 FEET, ON LAST SAID PROLONGATION AND EAST LINE TO THE SOUTHEAST CORNER OF SAID FARM LOT 96;

THENCE WEST 1,320.00 FEET ON THE SOUTH LINE OF SAID FARM LOT 96 PROLONGED TO THE POINT OF BEGINNING.

EXCEPT THE WEST 30.00 FEET IN SAID ALESSANDRO AVENUE, NOW MONTROSE AVENUE.

ALSO EXCEPT THAT PORTION DESCRIBED IN DEED TO THE COUNTY OF RIVERSIDE RECORDED FEBRUARY 24, 1984 AS INSTRUMENT NO. 37401 OF OFFICIAL RECORDS.

ALSO EXCEPT THAT PORTION DESCRIBED IN FINAL ORDER OF CONDEMNATION TO THE COUNTY OF RIVERSIDE RECORDED JANUARY 13, 1988 AS INSTRUMENT NO. 9372 OF OFFICIAL RECORDS.

ASSESSOR'S PARCEL NO.

433-070-050, 434-180-007, 433-070-030

GROSS ACREAGE

43.68± ACRES

DENSITY

3.48 UNITS PER ACRE

NUMBER OF LOTS

151 LOTS MIN. 7200 SF,
1 EXISTING RESIDENCE-LOT 152
1 REMAINDER LOT (A-2-10)-LOT 153

PROPOSED ZONING

RL (R-1 PRE-ANNEXATION COSJ 6-91)
A-2-10 (REMAINDER LOT)

EXISTING ZONING

A-2-10 (COUNTY) R-1 (PRE-ANNEXATION ZONING 6-91)
C-2 (PRE-ANNEXATION ZONING 6-91)

PROPOSED LAND USE

RESIDENTIAL RL (R-1 PRE-ANNEXATION, COSJ 6-91)
REMAINDER PARCEL-LOT 153 (A-2-10)

ADJACENT LAND USE

NORTH – AGRICULTURAL/VACANT
EAST – AGRICULTURAL/VACANT
SOUTH – VACANT/RESIDENTIAL
WEST – RESIDENTIAL

PUBLIC UTILITIES

GAS	– SOUTHERN CALIFORNIA GAS CO.
ELECTRIC	– SOUTHERN CALIFORNIA EDISON CO.
WATER	– CITY OF SAN JACINTO
SEWER	– CITY OF SAN JACINTO
TELEPHONE	– VERIZON
CABLE	– ADELPHIA

FLOOD PLAIN

ZONE C
COMMUNITY PANEL
REVISED 9-30-88

PLATE 1

ALTA CALIFORNIA GEOTECHNICAL, INC.
170 N. MAPLE STREET, STE 108, CORONA, CA 92880
TELEPHONE: (951) 509-7090
PROJECT NUMBER: 1-0446 DATE: May 6, 2022

NOTE:

1. LOTS 'A' THROUGH 'E' ARE TO BE DEDICATED FOR LANDSCAPE AND PARK PURPOSES & TTM 34271 SHALL BE INCORPORATED INTO CITY CFD 2020-1 (MAINTENANCE DISTRICT) AND CFD-2021-1 (PUBLIC SAFETY DISTRICT)

Underground Service Alert
Call: TOLL FREE
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227-2600
TWO WORKING DAYS BEFORE YOU DIG

SEAL

SEAL
REGISTERED PROFESSIONAL ENGINEER
ROY L. ROBERSON
NO. RCE 44160
EXP. 06/30/23
CIVIL
STATE OF CALIFORNIA

APPROVED BY: RR DATE 12-23-21

PREPARED BY: NS DATE 12-23-21

R.C.E. NO. 44160 EXP. DATE 06-30-23

LAND STRATEGIES, LLC
9241 IRVINE BLVD. SUITE 100
IRVINE, CA 92618
(949) 580-3000

REV.	DATE	DESCRIPTION	DATE	APPROVAL
	2.22.22	GRADING/LOT ELEV, ST. A&D ADJ., CB, BASIN/COBBLE, NO COMM'L		
	12.23.21	DRAINAGE UPDATES / LOT A & E DELETE ST.E, ADD COMM'L		
		LOT 153, PHASING, 66' COLLTR. 153 LOTS		
	2.11.09	COLLECTOR STREETS, LOT DEPTHS, SECTIONS REVISED, 155 LOTS		
	12.13.06	CURVILINEAR STS / ADD NEW 4 WAY ENTRY PER CITY, 155 LOTS		
	8.14.06	REMOVED COMM'L PER / CITY 2 ACRE PARK, 158 LOTS		
	12.14.05	CITY SUBTL,3 COMM'L LOTS 3.27 AC., 1.2 ACRE PARK 148 LOTS		

CITY OF SAN JACINTO

KASBERGEN / HAFLIGER

TENTATIVE TRACT 34271

SHEET NO.: 1 OF 1 SHEETS

PHASE I CULTURAL RESOURCE SURVEY UPDATE FOR THE TRACT 34271 PROJECT

CITY OF SAN JACINTO, RIVERSIDE COUNTY, CALIFORNIA

APNs 433-070-030 and -050 and 434-180-007

Submitted to:

City of San Jacinto
Community Development – Planning Division
595 South San Jacinto Avenue, Building A
San Jacinto, California 92583

Prepared for:

Lilburn Corporation
1905 Business Center Drive
San Bernardino, California 92408

Prepared by:

Brian F. Smith and Associates, Inc.
14010 Poway Road, Suite A
Poway, California 92064

March 9, 2022

Archaeological Database Information

Authors:	Tracy A. Stropes M.A., RPA and Brian F. Smith, M.A.
Consulting Firm:	Brian F. Smith and Associates, Inc. 14010 Poway Road, Suite A Poway, California 92064 (858) 679-8218
Report Date:	March 9, 2022
Report Title:	Phase I Cultural Resource Survey for the Tract 34271 Project (APNs 433-070-030 and -050 and 434-180-007)
Prepared for:	Lilburn Corporation 1905 Business Center Drive San Bernardino, California 92408
Submitted to:	City of San Jacinto Community Development – Planning Division 595 South San Jacinto Avenue, Building A San Jacinto, California 92583
Prepared by:	Brian F. Smith and Associates, Inc. 14010 Poway Road, Suite A Poway, California 92064
USGS Quadrangle:	Township 4 South, Range 1 West [Projected] of the USGS *San Jacinto, California* (7.5-minute) Quadrangle.
Study Area:	Approximately 44 acres
Key Words:	Phase I survey; city of San Jacinto; no new cultural resources; Site RIV-7967 not CRHR eligible; no archaeological monitoring recommended.

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I. PROJECT DESCRIPTION AND LOCATION

As required by the City of San Jacinto, Brian F. Smith and Associates, Inc. (BFSA) conducted an updated archaeological survey of Tract 34271 located south of the Ramona Expressway and directly east of Alessandro Avenue in the city of San Jacinto, California (Figure 1). The project is identified as Assessor's Parcel Numbers (APNs) 433-070-030 and -050 and 434-180-007 and is located within the San Jacinto Viejo Land Grant (Township 4 South, Range 1 West [Projected], in the U.S. Geological Survey (USGS) *San Jacinto* Quadrangle (Figure 2). The updated archaeological survey was undertaken in order to verify the results of the previous study conducted by Sanka (2006), to determine if cultural resources exist within the property, and to assess the possible effects of the proposed future residential development.



Plate 1: Overview of the Tract 34271 Project, facing east.

BFSA conducted the archaeological survey on January 28, 2022. No California Register of Historical Resources (CRHR) eligible cultural resources were identified during the survey. The results of the updated survey are consistent with the previous 2006 Sanka study of the same property.

II. SETTING

The project setting includes both physical and biological contexts of the proposed project, as well as the cultural setting of prehistoric and historic human activities in the general area.

Existing Setting

Riverside County lies in the Peninsular Ranges Geologic Province of southern California. The mountain range, which lies in a northwest to southeast trend through the county, extends around 1,000 miles from the Raymond-Malibu Fault Zone in western Los Angeles County to the southern tip of Baja California. The subject property is situated between the Lakeview and San Jacinto Mountains in the San Jacinto Valley. Geologically, the project

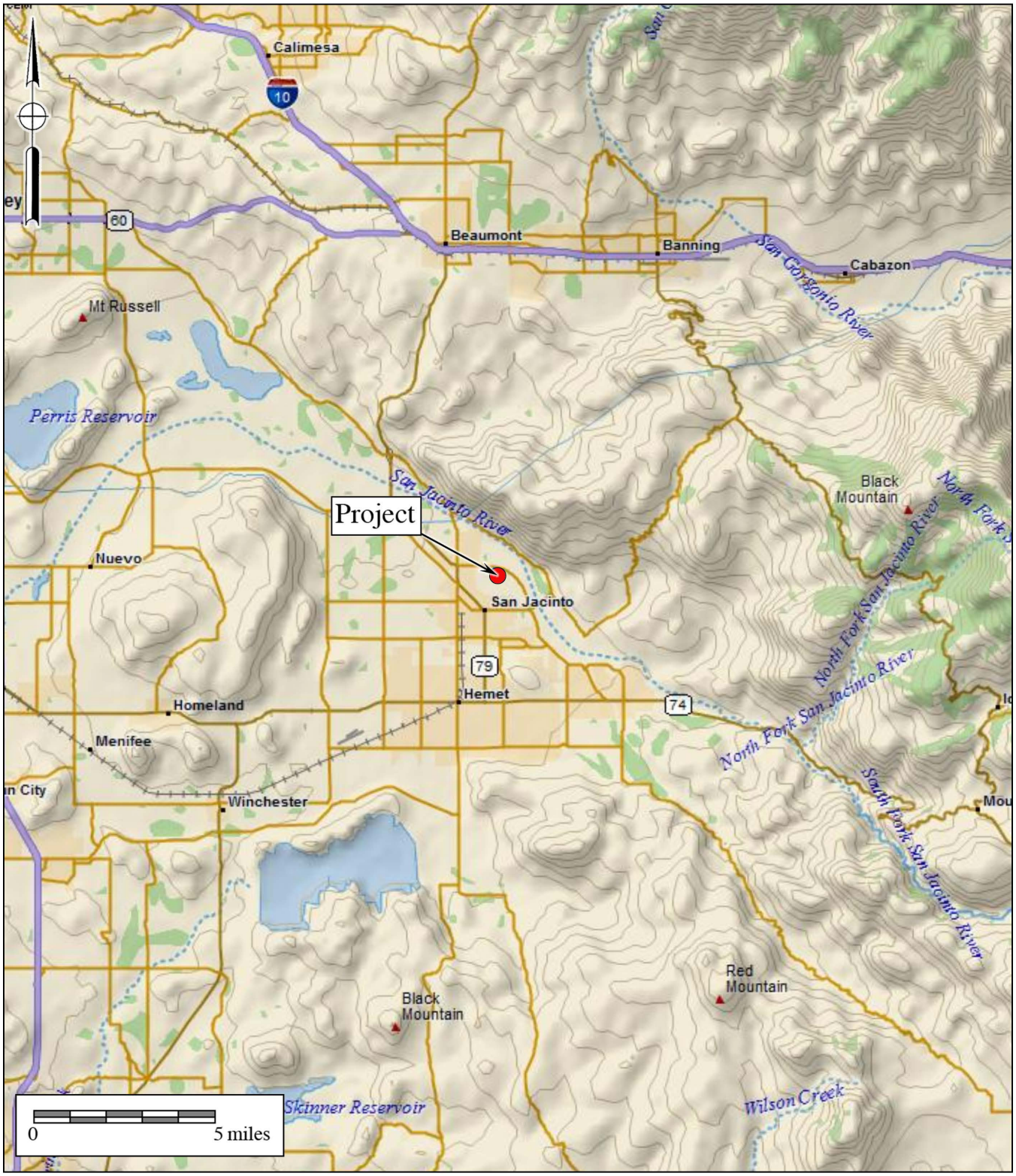


Figure 1

General Location Map

The Tract 34271 Project

DeLorme (1:250,000)

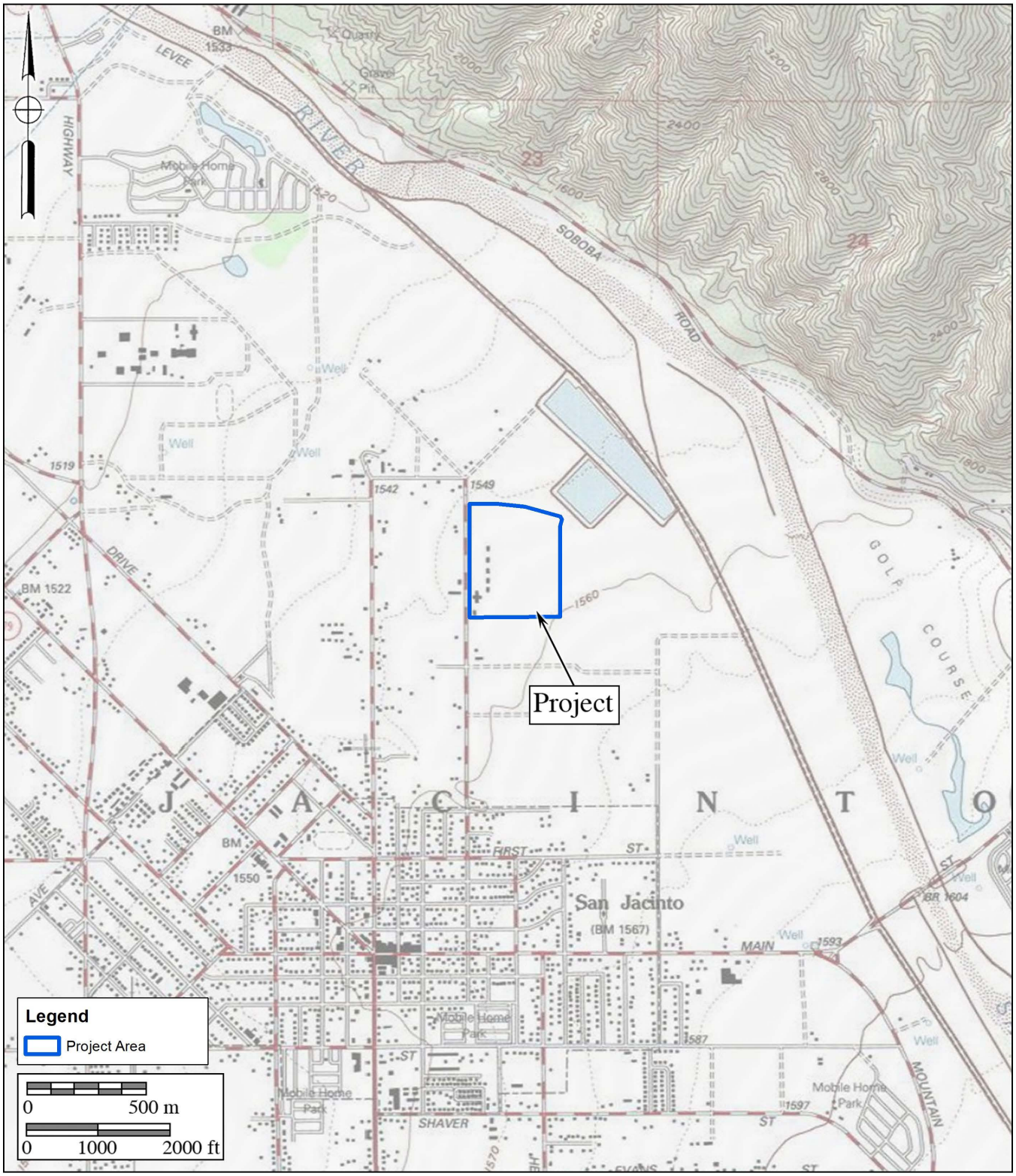


Figure 2

Project Location Map

The Tract 34271 Project

USGS *San Jacinto* Quadrangle (7.5 minute series)

site lies to the east of the main strands of the Elsinore fault zone in areas mapped by the USGS primarily as "young alluvial-valley deposits (early Holocene and late Pleistocene)" (Morton and Matti 1996). The subject property is relatively flat with an average elevation of 1,550 feet above mean sea level. The closest major natural source of water is the San Jacinto River found approximately 0.4 miles to the east.

At the time of the survey, the property contained non-native weeds and grasses and appears to have historically been utilized for agriculture and dairy farming. As with the current project, much of the surrounding area has been cleared of native vegetation to facilitate agriculture and development. However, the project vicinity originally would have contained sage and chapparal plant communities. During the prehistoric period, vegetation in the area of the project provided sufficient food resources to support prehistoric human occupants. Animals that inhabited the project area during prehistoric times included mammals such as rabbits, squirrels, gophers, mice, rats, deer, and coyotes, in addition to a variety of reptiles and amphibians. The natural setting of the project area during the prehistoric occupation offered a rich nutritional resource base. Fresh water could have been obtained from the San Jacinto River. Historically, as the project was utilized for agriculture, the property contained similar plant and animal species as are present today.

Cultural Setting

The archaeological perspective seeks to reconstruct past cultures based upon the material remains left behind. This is done using a range of scientific methodologies, almost all of which draw from evolutionary theory as the base framework. Archaeology allows one to look deeper into history or prehistory to see where the beginnings of ideas manifest themselves via analysis of material culture, allowing for the understanding of outside forces that shape social change. Thus, the archaeological perspective allows one to better understand the consequences of the history of a given culture upon modern cultures. Archaeologists seek to understand the effects of past contexts of a given culture on this moment in time, not culture in context *in* the moment.

Despite this, a distinction exists between "emic" and "etic" ways of understanding material culture, prehistoric lifeways, and cultural phenomena in general (Harris 1991). While "emic" perspectives serve the subjective ways in which things are perceived and interpreted by the participants within a culture, "etic" perspectives are those of an outsider looking in hopes of attaining a more scientific or "objective" understanding of the given phenomena. Archaeologists, by definition, will almost always serve an etic perspective as a result of the very nature of their work. As indicated by Laylander et al. (2014), it has sometimes been suggested that etic understanding, and therefore an archaeological understanding, is an imperfect and potentially ethnocentric attempt to arrive at emic understanding. In contract to this, however, an etic understanding of material culture, cultural phenomena, and prehistoric lifeways can address significant dimensions of culture that lie entirely beyond the understanding or interest of those solely utilizing an emic perspective. As Harris (1991:20) appropriately points out, "Etic studies

often involve the measurement and juxtaposition of activities and events that native informants find inappropriate or meaningless." This is also likely true of archaeological comparisons and juxtapositions of material culture. However, culture as a whole does not occur in a vacuum and is the result of several millennia of choices and consequences influencing everything from technology, to religions, to institutions. Archaeology allows for the ability to not only see what came before, but to see how those choices, changes, and consequences affect the present. Where possible, archaeology should seek to address both emic and etic understandings to the extent that they may be recoverable from the archaeological record as manifestations of patterned human behavior (Laylander et al. 2014).

To that point, the culture history offered herein is primarily based upon archaeological (etic) and ethnographic (partially emic and partially etic) information. It is understood that the ethnographic record and early archaeological records were incompletely and imperfectly collected. In addition, in most cases, more than a century of intensive cultural change and cultural evolution had elapsed since the terminus of the prehistoric period. Coupled with the centuries and millennia of prehistoric change separating the "ethnographic present" from the prehistoric past, this has affected the emic and etic understandings of prehistoric cultural settings. Regardless, there remains a need to present the changing cultural setting within the region under investigation. As a result, both archaeological and Native American perspectives are offered when possible.

Introduction

Paleo Indian, Archaic Period Milling Stone Horizon, and the Late Prehistoric Takic groups are the three general cultural periods represented in Riverside County. The following discussion of the cultural history of Riverside County references the San Dieguito Complex, Encinitas Tradition, Milling Stone Horizon, La Jolla Complex, Pauma Complex, and San Luis Rey Complex, since these culture sequences have been used to describe archaeological manifestations in the region. The Late Prehistoric component present in the Riverside County area was primarily represented by the Cahuilla, Gabrielino, and Luiseño Indians.

Absolute chronological information, where possible, will be incorporated into this archaeological discussion to examine the effectiveness of continuing to interchangeably use these terms. Reference will be made to the geological framework that divides the archaeologically-based culture chronology of the area into four segments: the late Pleistocene (20,000 to 10,000 years before the present [YBP]), the early Holocene (10,000 to 6,650 YBP), the middle Holocene (6,650 to 3,350 YBP), and the late Holocene (3,350 to 200 YBP).

Paleo Indian Period (Late Pleistocene: 11,500 to circa 9,000 YBP)

Archaeologically, the Paleo Indian Period is associated with the terminus of the late Pleistocene (12,000 to 10,000 YBP). The environment during the late Pleistocene 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). However, by the terminus of the late Pleistocene, the climate became warmer, which caused the glaciers to melt, sea levels to rise, greater coastal erosion, large lakes to recede and evaporate, extinction of Pleistocene megafauna, and major vegetation changes (Moratto 1984; Martin 1967, 1973; Fagan 1991). The coastal shoreline at 10,000 YBP, depending upon the particular area of the coast, was near the 30-meter isobath, or two to six kilometers further west than its present location (Masters 1983).

Paleo Indians were likely attracted to multiple habitat types, including mountains, marshlands, estuaries, and lakeshores. These people likely subsisted using a more generalized hunting, gathering, and collecting adaptation utilizing a variety of resources including birds, mollusks, and both large and small mammals (Erlandson and Colten 1991; Moratto 1984; Moss and Erlandson 1995).

Archaic Period (Early and Middle Holocene: circa 9,000 to 1,300 YBP)

Archaeological data indicates that between 9,000 and 8,000 YBP, a widespread complex was established in the southern California region, primarily along the coast (Warren and True 1961). This complex is locally known as the La Jolla Complex (Rogers 1939; Moriarty 1966), which is regionally associated with the Encinitas Tradition (Warren 1968) and shares cultural components with the widespread Milling Stone Horizon (Wallace 1955). The coastal expression of this complex appeared in southern California coastal areas and focused upon coastal resources and the development of deeply stratified shell middens that were primarily located around bays and lagoons. The older sites associated with this expression are located at Topanga Canyon, Newport Bay, Agua Hedionda Lagoon, and some of the Channel Islands. Radiocarbon dates from sites attributed to this complex span a period of over 7,000 years in this region, beginning over 9,000 YBP.

The Encinitas Tradition is best recognized for its pattern of large coastal sites characterized by shell middens, grinding tools that are closely associated with the marine resources of the area, cobble-based tools, and flexed human burials (Shumway et al. 1961; Smith and Moriarty 1985). While ground stone tools and scrapers are the most recognized tool types, coastal Encinitas Tradition sites also contain numerous utilized flakes, which may have been used to pry open shellfish. Artifact assemblages at coastal sites indicate a subsistence pattern focused upon shellfish collection and nearshore fishing. This suggests an incipient maritime adaptation with regional similarities to more northern sites of the same period (Koerper et al. 1986). Other artifacts associated with Encinitas Tradition sites include stone bowls, doughnut stones, discoidals, stone balls, and stone, bone, and shell beads.

The coastal lagoons in southern California supported large Milling Stone Horizon populations circa 6,000 YBP, as is shown by numerous radiocarbon dates from the many sites adjacent to the lagoons. The ensuing millennia were not stable environmentally, and by 3,000 YBP, many of the coastal sites in central San Diego County had been abandoned (Gallegos 1987, 1992). The abandonment of the area is usually attributed to the sedimentation of coastal lagoons

and the resulting deterioration of fish and mollusk habitat, which is a well-documented situation at Batiquitos Lagoon (Miller 1966; Gallegos 1987). Over a two-thousand-year period at Batiquitos Lagoon, dominant mollusk species occurring in archaeological middens shift from deep-water mollusks (*Argopecten* sp.) to species tolerant of tidal flat conditions (*Chione* sp.), indicating water depth and temperature changes (Miller 1966; Gallegos 1987).

This situation likely occurred for other small drainages (Buena Vista, Agua Hedionda, San Marcos, and Escondido creeks) along the central San Diego coast where low flow rates did not produce sufficient discharge to flush the lagoons they fed (Buena Vista, Agua Hedionda, Batiquitos, and San Elijo lagoons) (Byrd 1998). Drainages along the northern and southern San Diego coastline were larger and flushed the coastal hydrological features they fed, keeping them open to the ocean and allowing for continued human exploitation (Byrd 1998). Peñasquitos Lagoon exhibits dates as late as 2,355 YBP (Smith and Moriarty 1985) and San Diego Bay showed continuous occupation until the close of the Milling Stone Horizon (Gallegos and Kyle 1988). Additionally, data from several drainages in Camp Pendleton indicate a continued occupation of shell midden sites until the close of the period, indicating that coastal sites were not entirely abandoned during this time (Byrd 1998).

By 5,000 YBP, an inland expression of the La Jolla Complex is evident in the archaeological record, exhibiting influences from the Campbell Tradition from the north. These inland Milling Stone Horizon sites have been termed "Pauma Complex" (True 1958; Warren et al. 1961; Meighan 1954). By definition, Pauma Complex sites share a predominance of grinding implements (manos and metates), lack mollusk remains, have greater tool variety (including atlatl dart points, quarry-based tools, and crescentics), and seem to express a more sedentary lifestyle with a subsistence economy based upon the use of a broad variety of terrestrial resources. Although originally viewed as a separate culture from the coastal La Jolla Complex (True 1980), it appears that these inland sites may be part of a subsistence and settlement system utilized by the coastal peoples. Evidence from the 4S Project in inland San Diego County suggests that these inland sites may represent seasonal components within an annual subsistence round by La Jolla Complex populations (Raven-Jennings et al. 1996). Including both coastal and inland sites of this time period in discussions of the Encinitas Tradition, therefore, provides a more complete appraisal of the settlement and subsistence system exhibited by this cultural complex.

More recent work by Sutton has identified a more localized complex known as the Greven Knoll Complex. The Greven Knoll Complex is a redefined northern inland expression of the Encinitas Tradition first put forth by Mark Sutton and Jill Gardener (2010). Sutton and Gardener (2010:25) state that "[t]he early millingstone archaeological record in the northern portion of the interior southern California was not formally named but was often referred to as 'Inland Millingstone,' 'Encinitas,' or even 'Topanga.'" Therefore, they proposed that all expressions of the inland Milling Stone in southern California north of San Diego County be grouped together in the Greven Knoll Complex.

The Greven Knoll Complex, as postulated by Sutton and Gardener (2010), is broken into three phases and obtained its name from the type-site Greven Knoll located in Yucaipa, California. Presently, the Greven Knoll Site is part of the Yukaipa't Site (SBR-1000) and was combined with the adjacent Simpson Site. Excavations at Greven Knoll recovered manos, metates, projectile points, discoidal cogged stones, and a flexed inhumation with a possible cremation (Kowta 1969:39). It is believed that the Greven Knoll Site was occupied between 5,000 and 3,500 YBP. The Simpson Site contained mortars, pestles, side-notched points, and stone and shell beads. Based upon the data recovered at these sites, Kowta (1969:39) suggested that "coastal Milling Stone Complexes extended to and interdigitated with the desert Pinto Basin Complex in the vicinity of the Cajon Pass."

Phase I of the Greven Knoll Complex is generally dominated by the presence of manos and metates, core tools, hammerstones, large dart points, flexed inhumations, and occasional cremations. Mortars and pestles are absent from this early phase, and the subsistence economy emphasized hunting. Sutton and Gardener (2010:26) propose that the similarity of the material culture of Greven Knoll Phase I and that found in the Mojave Desert at Pinto Period sites indicates that the Greven Knoll Complex was influenced by neighbors to the north at that time. Accordingly, Sutton and Gardener (2010) believe that Greven Knoll Phase I may have appeared as early as 9,400 YBP and lasted until about 4,000 YBP.

Greven Knoll Phase II is associated with a period between 4,000 and 3,000 YBP. Artifacts common to Greven Knoll Phase II include manos and metates, Elko points, core tools, and discoidals. Pestles and mortars are present; however, they are only represented in small numbers. Finally, there is an emphasis upon hunting and gathering for subsistence (Sutton and Gardener 2010:8).

Greven Knoll Phase III includes manos, metates, Elko points, scraper planes, choppers, hammerstones, and discoidals. Again, small numbers of mortars and pestles are present. Greven Knoll Phase III spans from approximately 3,000 to 1,000 YBP and shows a reliance upon seeds and yucca. Hunting is still important, but bones seem to have been processed to obtain bone grease more often in this later phase (Sutton and Gardener 2010:8).

The shifts in food processing technologies during each of these phases indicate a change in subsistence strategies; although people were still hunting for large game, plant-based foods eventually became the primary dietary resource (Sutton 2011a). Sutton's (2011b) argument posits that the development of mortars and pestles during the middle Holocene can be attributed to the year-round exploitation of acorns as a main dietary provision. Additionally, the warmer and drier climate may have been responsible for groups from the east moving toward coastal populations, which is archaeologically represented by the interchange of coastal and eastern cultural traits (Sutton 2011a).

Late Prehistoric Period (Late Holocene: 1,300 YBP to 1790)

Many Luiseño hold the world view that as a population they were created in southern California; however, archaeological and anthropological data proposes a scientific/archaeological perspective. Archaeological and anthropological evidence suggests that at approximately 1,350 YBP, Takic-speaking groups from the Great Basin region moved into Riverside County, marking the transition to the Late Prehistoric Period. An analysis of the Takic expansion by Sutton (2009) indicates that inland southern California was occupied by "proto-Yuman" populations before 1,000 YBP. The comprehensive, multi-phase model offered by Sutton (2009) employs linguistic, ethnographic, archaeological, and biological data to solidify a reasonable argument for population replacement of Takic groups to the north by Penutians (Laylander 1985). As a result, it is believed that Takic expansion occurred starting around 3,500 YBP moving toward southern California, with the Gabrielino language diffusing south into neighboring Yuman (Hokan) groups around 1,500 to 1,000 YBP, possibly resulting in the Luiseño dialect.

Based upon Sutton's model, the final Takic expansion would not have occurred until about 1,000 YBP, resulting in Vanyume, Serrano, Cahuilla, and Cupeño dialects. The model suggests that the Luiseño did not simply replace Hokan speakers, but were rather a northern San Diego County/southern Riverside County Yuman population who adopted the Takic language. This period is characterized by higher population densities and elaborations in social, political, and technological systems. Economic systems diversified and intensified during this period with the continued elaboration of trade networks, the use of shell-bead currency, and the appearance of more labor-intensive, yet effective, technological innovations. Technological developments during this period included the introduction of the bow and arrow between A.D. 400 and 600 and the introduction of ceramics. Atlatl darts were replaced by smaller arrow darts, including Cottonwood series points. Other hallmarks of the Late Prehistoric Period include extensive trade networks as far-reaching as the Colorado River Basin and cremation of the dead.

Protohistoric Period (Late Holocene: 1790 to Present)

Ethnohistoric and ethnographic evidence indicates that three Takic-speaking groups occupied portions of Riverside County: the Cahuilla, the Gabrielino, and the Luiseño. The geographic boundaries between these groups in pre- and proto-historic times are difficult to place, but the project is located well within the borders of ethnographic Luiseño territory. This group was a seasonal hunting and gathering people with cultural elements that were very distinct from Archaic Period peoples. These distinctions include cremation of the dead, the use of the bow and arrow, and exploitation of the acorn as a main food staple (Moratto 1984). Along the coast, the Luiseño made use of available marine resources by fishing and collecting mollusks for food. Seasonally available terrestrial resources, including acorns and game, were also sources of nourishment for Luiseño groups. Elaborate kinship and clan systems between the Luiseño and other groups facilitated a wide-reaching trade network that included trade of Obsidian Butte

obsidian and other resources from the eastern deserts, as well as steatite from the Channel Islands.

According to Charles Handley (1967), the primary settlements of Late Prehistoric Luiseño Indians in the San Jacinto Plain were represented by Ivah and Soboba near Soboba Springs, Jusipah near the town of San Jacinto, Ararah in Webster's Canyon en route to Idyllwild, Pahsitha near Big Springs Ranch southeast of Hemet, and Corova in Castillo Canyon. These locations share features such as the availability of food and water resources. Features of this land use include petroglyphs and pictographs, as well as widespread milling, which is evident in bedrock and portable implements. Groups in the vicinity of the project, neighboring the Luiseño, include the Cahuilla and the Gabrielino.

Ethnohistoric Period (1769 to Present)

Traditionally, the history of the state of California has been divided into three general periods: the Spanish Period (1769 to 1821), the Mexican Period (1822 to 1846), and the American Period (1848 to present) (Caughey 1970). The American Period is often further subdivided into additional phases: the nineteenth century (1848 to 1900), the early twentieth century (1900 to 1950), and the Modern Period (1950 to present). From an archaeological standpoint, all of these phases can be referred to together as the Ethnohistoric Period. This provides a valuable tool for archaeologists, as ethnohistory is directly concerned with the study of indigenous or non-Western peoples from a combined historical/anthropological viewpoint, which employs written documents, oral narrative, material culture, and ethnographic data for analysis.

European exploration along the California coast began in 1542 with the landing of Juan Rodriguez Cabrillo and his men at San Diego Bay. Sixty years after the Cabrillo expeditions, an expedition under Sebastian Viscaíno made an extensive and thorough exploration of the Pacific coast. Although the voyage did not extend beyond the northern limits of the Cabrillo track, Viscaíno had the most lasting effect upon the nomenclature of the coast. Many of his place names have survived, whereas practically every one of the names created by Cabrillo have faded from use. For instance, Cabrillo named the first (now) United States port he stopped at "San Miguel"; 60 years later, Viscaíno changed it to "San Diego" (Rolle 1969). The early European voyages observed Native Americans living in villages along the coast but did not make any substantial, long-lasting impact. At the time of contact, the Luiseño population was estimated to have ranged from 4,000 to as many as 10,000 individuals (Bean and Shipek 1978; Kroeber 1976).

The historic background of the project area began with the Spanish colonization of Alta California. The first Spanish colonizing expedition reached southern California in 1769 with the intention of converting and civilizing the indigenous populations, as well as expanding the knowledge of and access to new resources in the region (Brigandi 1998). As a result, by the late eighteenth century, a large portion of southern California was overseen by Mission San Luis Rey

(San Diego County), Mission San Juan Capistrano (Orange County), and Mission San Gabriel (Los Angeles County), who began colonization the region and surrounding areas (Chapman 1921).

Up until this time, the only known way to feasibly travel from Sonora to Alta California was by sea. In 1774, Juan Bautista de Anza, an army captain at Tubac, requested and was given permission by the governor of the Mexican State of Sonora to establish an overland route from Sonora to Monterey (Chapman 1921). In doing so, Juan Bautista de Anza passed through Riverside County and described the area in writing for the first time (Caughey 1970; Chapman 1921). In 1797, Father Presidente Lausen (of Mission San Diego de Alcalá), Father Norberto de Santiago, and Corporal Pedro Lisalde (of Mission San Juan Capistrano) led an expedition through southwestern Riverside County in search of a new mission site to establish a presence between San Diego and San Juan Capistrano (Engelhardt 1921). Their efforts ultimately resulted in the establishment of Mission San Luis Rey in Oceanside, California.

Each mission gained power through the support of a large, subjugated Native American workforce. As the missions grew, livestock holdings increased and became increasingly vulnerable to theft. In order to protect their interests, the southern California missions began to expand inland to try and provide additional security (Beattie and Beattie 1939; Caughey 1970). In order to meet their needs, the Spaniards embarked on a formal expedition in 1806 to find potential locations within what is now the San Bernardino Valley. As a result, by 1810, Father Francisco Dumetz of Mission San Gabriel had succeeded in establishing a religious site, or capilla, at a Cahuilla rancheria called Guachama (Beattie and Beattie 1939). San Bernardino Valley received its name from this site, which was dedicated to San Bernardino de Siena by Father Dumetz. The Guachama rancheria was located in present-day Bryn Mawr in San Bernardino County.

These early colonization efforts were followed by the establishment of estancias at Puente (circa 1816) and San Bernardino (circa 1819) near Guachama (Beattie and Beattie 1939). These efforts were soon mirrored by the Spaniards from Mission San Luis Rey, who in turn established a presence in what is now Lake Elsinore, Temecula, and Murrieta (Chapman 1921). The indigenous groups who occupied these lands were recruited by missionaries, converted, and put to work in the missions (Pourade 1961). Throughout this period, the Native American populations were decimated by introduced diseases, a drastic shift in diet resulting in poor nutrition, and social conflicts due to the introduction of an entirely new social order (Cook 1976).

Mexico achieved independence from Spain in 1822 and became a federal republic in 1824. As a result, both Baja and Alta California became classified as territories (Rolle 1969). Shortly thereafter, the Mexican Republic sought to grant large tracts of private land to its citizens to begin to encourage immigration to California and to establish its presence in the region. Part of the establishment of power and control included the desecularization of the missions circa 1832. These same missions were also located on some of the most fertile land in California and,

as a result, were considered highly valuable. The resulting land grants, known as "ranchos," covered expansive portions of California and by 1846, more than 600 land grants had been issued by the Mexican government. Rancho Jurupa was the first rancho to be established and was issued to Juan Bandini in 1838. Although Bandini primarily resided in San Diego, Rancho Jurupa was located in what is now Riverside County (Pourade 1963). A review of Riverside County place names quickly illustrates that many of the ranchos in Riverside County lent their names to present-day locations, including Jurupa, El Rincon, La Sierra, El Sobrante de San Jacinto, La Laguna (Lake Elsinore), Santa Rosa, Temecula, Pauba, San Jacinto Nuevo y Potrero, and San Jacinto Viejo (Gunther 1984). As was typical of many ranchos, these were all located in the valley environments within western Riverside County.

The treatment of Native Americans grew worse during the Rancho Period. Most of the Native Americans were forced off of their land or put to work on the now privately-owned ranchos, most often as slave labor. In light of the brutal ranchos, the degree to which Native Americans had become dependent upon the mission system is evident when, in 1838, a group of Native Americans from Mission San Luis Rey petitioned government officials in San Diego to relieve suffering at the hands of the rancheros:

> We have suffered incalculable losses, for some of which we are in part to be blamed for because many of us have abandoned the Mission … We plead and beseech you … to grant us a Rev. Father for this place. We have been accustomed to the Rev. Fathers and to their manner of managing the duties. We labored under their intelligent directions, and we were obedient to the Fathers according to the regulations, because we considered it as good for us. (Brigandi 1998:21)

Native American culture had been disrupted to the point where they could no longer rely upon prehistoric subsistence and social patterns. Not only does this illustrate how dependent the Native Americans had become upon the missionaries, but it also indicates a marked contrast in the way the Spanish treated the Native Americans compared to the Mexican and United States ranchers. Spanish colonialism (missions) is based upon utilizing human resources while integrating them into their society. The Mexican and American ranchers did not accept Native Americans into their social order and used them specifically for the extraction of labor, resources, and profit. Rather than being incorporated, they were either subjugated or exterminated (Cook 1976).

By 1846, tensions between the United States and Mexico had escalated to the point of war (Rolle 1969). In order to reach a peaceful agreement, the Treaty of Guadalupe Hidalgo was put into effect in 1848, which resulted in the annexation of California to the United States. Once California opened to the United States, waves of settlers moved in searching for gold mines, business opportunities, political opportunities, religious freedom, and adventure (Rolle 1969;

Caughey 1970). By 1850, California had become a state and was eventually divided into 27 separate counties. While a much larger population was now settling in California, this was primarily in the central valley, San Francisco, and the Gold Rush region of the Sierra Nevada mountain range (Rolle 1969; Caughey 1970). During this time, southern California grew at a much slower pace than northern California and was still dominated by the cattle industry established during the earlier rancho period. However, by 1859, the first United States Post Office in what would eventually become Riverside County was set up at John Magee's store on the Temecula Rancho (Gunther 1984).

During the same decade, circa 1852, the Native Americans of southern Riverside County, including the Luiseño and the Cahuilla, thought they had signed a treaty resulting in their ownership of all lands from Temecula to Aguanga east to the desert, including the San Jacinto Valley and the San Gorgonio Pass. The Temecula Treaty also included food and clothing provisions for the Native Americans. However, Congress never ratified these treaties, and the promise of one large reservation was rescinded (Brigandi 1998).

With the completion of the Southern Pacific Railroad in 1869, southern California saw its first major population expansion. The population boom continued circa 1874 with the completion of connections between the Southern Pacific Railroad in Sacramento to the transcontinental Central Pacific Railroad in Los Angeles (Rolle 1969; Caughey 1970). The population influx brought farmers, land speculators, and prospective developers to the region. As the Jurupa area became more and more populated, circa 1870, Judge John Wesley North and a group of associates founded the city of Riverside on part of the former rancho.

Although the first orange trees were planted in Riverside County circa 1871, it was not until a few years later when a small number of Brazilian navel orange trees were established that the citrus industry truly began in the region (Patterson 1971). The Brazilian naval orange was well suited to the climate of Riverside County and thrived with assistance from several extensive irrigation projects. At the close of 1882, an estimated half a million citrus trees were present in California. It is estimated that nearly half of that population was in Riverside County. Population growth and 1880s tax revenue from the booming citrus industry prompted the official formation of Riverside County in 1893 out of portions of what was once San Bernardino County (Patterson 1971).

Shortly thereafter, with the start of World War I, the United States began to develop a military presence in Riverside County with the construction of March Air Reserve Base. During World War II Camp Haan and Camp Anza were constructed in the what is now the current location (of the National Veteran's Cemetery. In the decades that followed, populations spread throughout the county into Lake Elsinore, Corona, Norco, Murrieta, and Wildomar. However, a significant portion of the county remained largely agricultural well into the 1970s. Following the 1970s, Riverside saw a period of dramatic population increase as the result of new development, more than doubling the population of the county with a population of over 1.3 million residents (Patterson 1971).

History of the City of San Jacinto and the Surrounding Area

Settlement in the San Jacinto Valley began with a 35,500-acre land grant given to José Antonio Estudillo in 1842, known as the Rancho San Jacinto Viejo Land Grant. Estudillo's children began developing the ranch in the 1880s by constructing two two-story brick mansions, one of which is still located at Main and Seventh Street in San Jacinto (Plate 2.3−1). In 1889, 15,000 acres of the Rancho San Jacinto Viejo Land Grant was sold to a group of Los Angeles investors known as the San Jacinto Land Association. Prior to the secession of the acreage, these investors developed a rival town in 1883 just two miles away from San Jacinto. The town, which called itself New San Jacinto, competed for dominance with Old San Jacinto (Plate 2.3−2). However, the battle was ultimately decided when the Santa Fe Railroad built a branch line that terminated in New San Jacinto. Old San Jacinto ultimately faded from existence by the twentieth century (City of San Jacinto 2020).



Plate 2: The Estudillo Mansion, circa 1890.
(*Image courtesy of the City of San Jacinto archives)*

> The San Jacinto Land Association originally wanted the region to be a Methodist temperance colony and had even gone as far as to state that deeds to land sold by the Association would contain a clause prohibiting the manufacture or sale of alcoholic beverages upon land sold by the company. Nevertheless, it appeared as though such clauses were never initiated into the deeds. (Wiley 2018)

The valley land was divided into large farm lots, usually made up of one quarter of the sectioned land. Portions of the San Jacinto Land Association land were irrigated with water obtained in the San Jacinto Mountains to the east. However, the region still lacked a sufficient water supply to support large scale agriculture, until: Edward Mayberry, William Whitter, Albert H.H. Judson, Hancock M. Johnston, and Peter Potts formed the Lake Hemet Water Company and the Hemet Land Company after acquiring portions of Rancho San Jacinto. By 1895, the Lake Hemet Water Company had constructed a dam (Lake Hemet) that they planned to use to irrigate



Plate 3: Old San Jacinto, circa 1890.
(Image courtesy of the City of San Jacinto archives)

the holdings of the Hemet Land Company. The formation of the Lake Hemet Dam led to the incorporation of the city of Hemet in 1910 (Wiley 2018).

With the expanded irrigation capabilities, agriculture began to thrive in the San Jacinto Valley (City of San Jacinto 2020). Farming continued as an integral part of the San Jacinto Valley throughout the early twentieth century as settlements increased, giving rise to small family-owned agricultural businesses, and large-scale cattle ranching declined in popularity. Instead, "small-scale horticulture increased," with many different crops grown throughout the San Jacinto Valley due to its relatively high water table (10 to 15 feet below the surface) and warm climate (Wiley 2018; Pitman 1976). "Citrus, alfalfa, corn, potatoes, oat hay, and walnut orchards all prospered in the early twentieth century" (Wiley 2018).

Tourism also played an important role to the development of the San Jacinto Valley. In the 1880s, Helen Hunt Jackson visited the San Jacinto Valley to conduct research for her upcoming book, *Ramona*. Although *Ramona* is a fictional dramatization of Native American mistreatment, the book sparked tourism within the San Jacinto Valley which would eventually lead to the creation of the California Historic Landmark Ramona Bowl (CHL No. 1009), where the annual Ramona Pageant, a dramatization of the events depicted in the novel, was first performed in 1923 (Office of Historic Preservation 1993).

In 1909, Edwin Cawston, an English businessman, established a second location of his extremely popular ostrich farm from Pasadena just southwest of the Sanderson Ranch Project at Cawston and Cottonwood avenues. Cawston raised the birds primarily for their feathers, which were used in women's decorative clothing and accessories, such as ostrich feather fans and feather boas. The farm was considered a tourist attraction, where guests could view, feed, and ride the birds and purchase goods made from the feathers. Although Cawston's San Jacinto farm was short lived, his influence on the region is clear, as Cawston Avenue is named after him.

On July 14, 1937, in a dairy pasture located near the Sanderson Ranch Project,

> […] pilot Mikhail Gromov, co-pilot Andrei Yumashev and navigator Sergei Danilin piloted their brakeless, single-engine ANT-25 plane – with a wingspan of 125 feet – to a landing in what is now near the Riverside County city of San Jacinto.
>
> Although the fliers had charted San Diego as their destination, fog forced them to find an alternative landing site. After flying the 6,305 miles from Moscow in 62 hours and 17 minutes, the crew climbed wearily out of the red-winged, silver-bodied craft, walked up to a farmer who had watched them land and handed him first a pre-printed note asking him to call the Soviet Embassy, and then three cards that read: "Bath" "Eat" and "Sleep." (Rasmussen 2001)

The flight was one of three different Soviet attempts to establish the feasibility of flying from Russia to the United States by way of the North Pole (Wiley 2019). However, fog forced the plane to make a landing in the cow pasture owned by Earl Smith, southwest of the Sanderson Ranch Project near the corner of Cottonwood and Sanderson avenues (Plate 2.3–3; Rasmussen 2001). At the time, the 62 hour and 17 minute flight established a new world record for longest nonstop distance flown of 6,305 miles (Office of Historic Preservation 1989). As crowds gathered in the fields to get a look at the plane and Russian crew, Earl Smith began charging admission to the onlookers (Rasmussen 2001; Schultz 2017). Before long, a plane from nearby March Air Force Base landed and men were enlisted to set up a perimeter around the plane. Eventually, the plane was dismantled to be sent back to Russia while the crew were escorted throughout California before also returning to Russia (Rasmussen 2001).



Plate 4: 1937 photograph of the ANT-25 plane at the Russian Transpolar Landing Site.
(Image courtesy of the Smithsonian National Air and Space Museum)

Tourism garnered by the draw of natural hot springs located within the north side of the valley also stimulated the growth of the area by ushering in the development of resorts and hotels. Notably, the Gilman and Soboba Hot Springs, which were developed in the late nineteenth century, drew increased tourism in the early twentieth century (City of San Jacinto 2020). As the population of the valley grew, the demand for dairy products increased, and dairy farming became more prevalent within the San Jacinto Valley. By 1922, dairy farmers in the San Jacinto Valley were producing more than 500,000 gallons of milk yearly (Law 1922). The wide-open acreage and thorough irrigation allowed dairy cows in the San Jacinto Valley to free forage on ample fresh alfalfa, producing healthier cows and a better milk product, which could be shipped to Los Angeles daily on the railroad lines (City of San Jacinto 2020). Turkey ranching and lime kilns also added to the economy. These industries are still important to the economy of the San Jacinto Valley today.

III. PROJECT AREA

This archaeological review encompasses three parcels (APNs 433-070-030 and -050 and 434-180-007). The project can be characterized as largely undeveloped with the majority of previous land use modifications deriving from the agricultural use of the property. The property is located south of the Ramona Expressway and directly east of Alessandro Avenue. The proposed development consists of 151 single-family residence lots, park space, and one neighborhood commercial lot within the approximately 44-acre property (Figure 3).

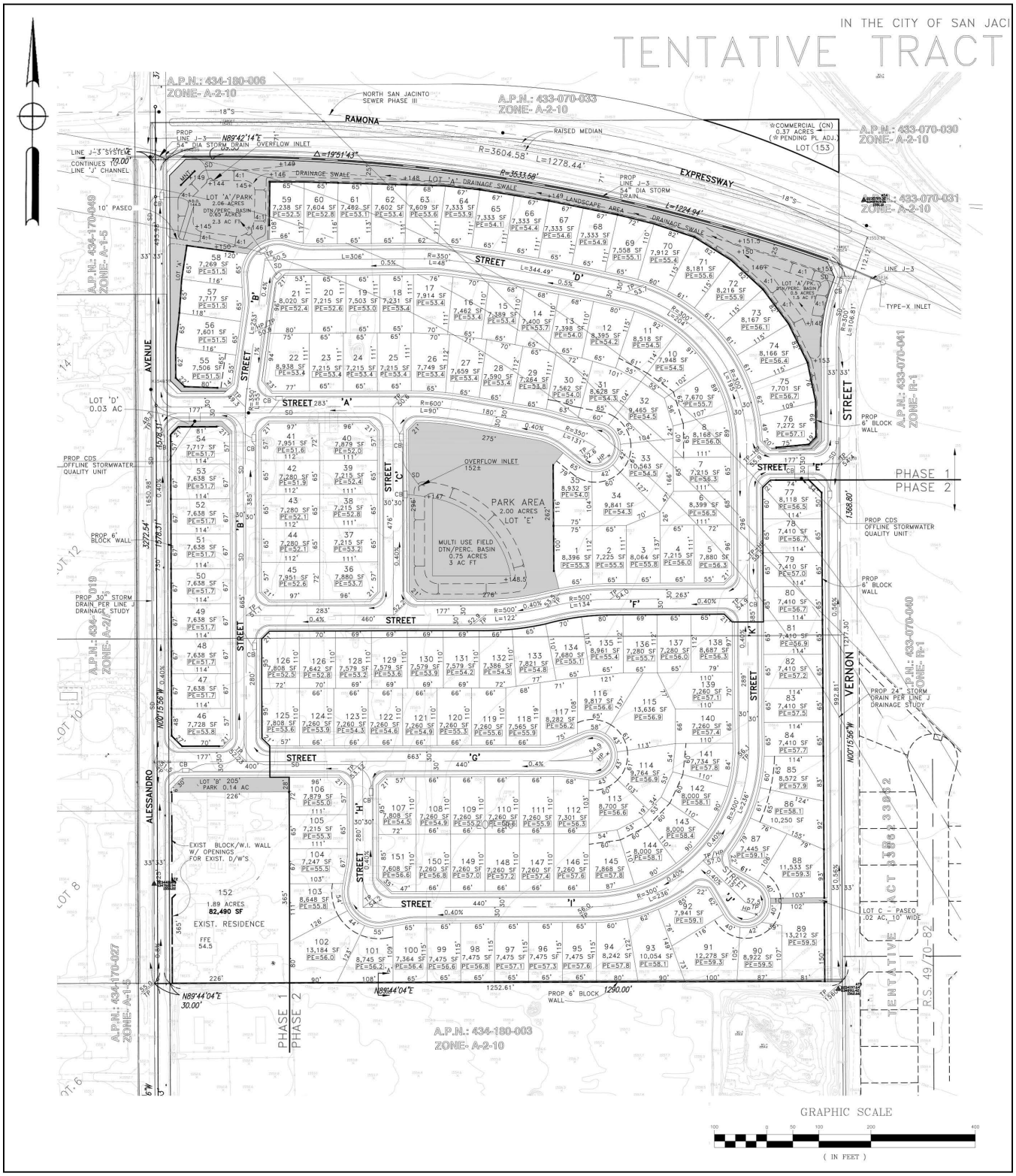


Figure3

Project Development Map

The Tract 34271 Project

IV. STUDY METHODS

The archaeological assessment included a reconnaissance of the property, an institutional records search supported by data from the Eastern Information Center (EIC) at the University of California at Riverside, and review of a previous study (Sanka 2006) to determine the presence of any previously recorded cultural resources (Appendix B).

The EIC records search data indicates that 15 studies have been conducted within one-half mile of the Tract 34271 Project, one of which encompass the entirety of the project (Sanka 2006). None of the remaining 14 studies are concerned with the project. The previous study by Sanka (2006) identified one historic site (RIV-7967) within the current project boundaries. The site includes the remains of a historic dairy farming complex and two associated residences constructed in 1956 and 1961 located within the southwestern portion of the project. Though the residential structures remain intact, the rest of this southwestern corner appears to have been demolished and/or graded. In addition, various refuse piles are scattered around the project that include recent historic and modern deposits. The study by Sanka (2006) evaluated Site RIV-7967 as not eligible for listing on the CRHR, and no additional study was recommended. An additional seven resources were identified within a half-mile of the project. These resources include five historic structures and two historic artifact scatters. However, these resources are outside of the project boundaries and will not be affected by the development of the current project.

BFSA also requested a Sacred Lands File search from the Native American Heritage Commission (NAHC). As of the date of this report, a response has not been received. All correspondence is provided in Appendix C.

V. RESULTS OF THE STUDY

Field Reconnaissance

On January 28, 2022, BFSA Senior Project Archaeologist Tracy A Stropes, M.A., RPA directed the field survey of the property. Field Archaeologist Clarence Hoff conducted the updated survey by walking transects in five-meter intervals across the property (Plate 5). Survey conditions were good, with nearly 85 percent of the ground surface visible during the survey. Particular attention was paid to areas with exposed ground surfaces such as rodent burrows. Site RIV-7967 was revisited and no changes to the resource or the property in general were noted that would modify the previous conclusion of the 2006 Sanka study (Plates 6 to 10). No additional cultural materials were identified within the property.



Plate 5: Overview of the project from the northwest corner, facing southeast.



Plate 6: View of a demolished trough, facing south.



Plate 7: View of piled concrete fence piers, facing southwest.



Plate 8: View of a concrete pad, facing south.



Plate 9: Overview of the guest house and barns/garages.



Plate 10: Overview of the main house, facing northeast.

Evaluation

Based upon the results of the survey, no cultural resources, aside from previously evaluated Site RIV-7967, have been identified on the subject property. No further archaeological investigations are necessary for the completion of this Phase I cultural resources study. The results of the current study are consistent with the 2006 Sanka study.

VI. RECOMMENDATIONS

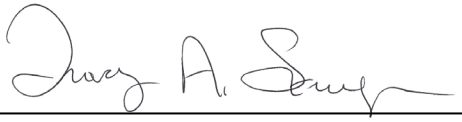
The cultural resources survey for the Tract 34271 Project was negative for the presence of CRHR-eligible archaeological sites. Additional research revealed that a previous study (Sanka 2006) evaluated Site RIV-7967, identified within the project, as not eligible for listing on the CRHR. The findings of the current study are consistent with the 2006 Sanka study. The subject property was developed in the mid-twentieth century, and the dairy features were abandoned and impacted by grading sometime after the year 2000. Given the current condition of Site RIV-7967 and the lack of additional resources within the project, the proposed development will not have any impact to any known CRHR-eligible resources. Based upon the results of the research and survey of the property, no cultural resources will be affected by development. Furthermore, based upon the prior development and subsequent clearing of the subject property, there is little to no potential for archaeological deposits at this location. Therefore, no further cultural resource studies are required, and monitoring of grading is not recommended.

VII. SOURCES CONSULTED DATE

National Register of Historic Places ☑	Month and Year: January 27, 2022
California Register of Historical Resources ☑	Month and Year: January 27, 2022
Archaeological/Historical Site Records: Eastern Information Center ☑	Month and Year: January 27, 2022
Other Sources Consulted: NAHC Sacred Lands File Search (Appendix C) References (Section IX)	

VIII. CERTIFICATION

I hereby certify that the statements furnished above and in the attached exhibits present the data and information required for this archaeological report, and that the facts, statements, and information presented are true and correct to the best of my knowledge and belief, and have been compiled in accordance with CEQA criteria as defined in Section 15064.5 and City of San Diego Historical Resources Guidelines.



March 9, 2022

Tracy A Stropes M.A., RPA
Principal Investigator

Date

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APPENDIX A

Qualifications of Key Personnel

Brian F. Smith, MA

Owner, Principal Investigator

Brian F. Smith and Associates, Inc.
14010 Poway Road • Suite A •
Phone: (858) 679-8218 • Fax: (858) 679-9896 • E-Mail: bsmith@bfsa-ca.com

Education

Master of Arts, History, University of San Diego, California **1982**

Bachelor of Arts, History, and Anthropology, University of San Diego, California **1975**

Professional Memberships

Society for California Archaeology

Experience

Principal Investigator **1977–Present**
Brian F. Smith and Associates, Inc. **Poway, California**

Brian F. Smith is the owner and principal historical and archaeological consultant for Brian F. Smith and Associates. Over the past 32 years, he has conducted over 2,500 cultural resource studies in California, Arizona, Nevada, Montana, and Texas. These studies include every possible aspect of archaeology from literature searches and large-scale surveys to intensive data recovery excavations. Reports prepared by Mr. Smith have been submitted to all facets of local, state, and federal review agencies, including the US Army Corps of Engineers, the Bureau of Land Management, the Bureau of Reclamation, the Department of Defense, and the Department of Homeland Security. In addition, Mr. Smith has conducted studies for utility companies (Sempra Energy) and state highway departments (CalTrans).

Professional Accomplishments

These selected major professional accomplishments represent research efforts that have added significantly to the body of knowledge concerning the prehistoric life ways of cultures once present in the Southern California area and historic settlement since the late 18th century. Mr. Smith has been principal investigator on the following select projects, except where noted.

Downtown San Diego Mitigation and Monitoring Reporting Programs: Large numbers of downtown San Diego mitigation and monitoring projects, some of which included Broadway Block (2019), 915 Grape Street (2019), 1919 Pacific Highway (2018), Moxy Hotel (2018), Makers Quarter Block D (2017), Ballpark Village (2017), 460 16th Street (2017), Kettner and Ash (2017), Bayside Fire Station (2017), Pinnacle on the Park (2017), IDEA1 (2016), Blue Sky San Diego (2016), Pacific Gate (2016), Pendry Hotel (2015), Cisterra Sempra Office Tower (2014), 15th and Island (2014), Park and G (2014), Comm 22 (2014), 7th and F Street Parking (2013), Ariel Suites (2013), 13th and Marker (2012), Strata (2008), Hotel Indigo (2008), Lofts at 707 10th Avenue Project (2007), Breeza (2007), Bayside at the Embarcadero (2007), Aria (2007), Icon (2007), Vantage Pointe (2007), Aperture (2007), Sapphire Tower (2007), Lofts at 655 Sixth Avenue (2007), Metrowork (2007), The Legend (2006), The Mark (2006), Smart Corner (2006), Lofts at 677 7th Avenue (2005), Aloft on Cortez Hill (2005), Front and Beech Apartments (2003), Bella Via Condominiums (2003), Acqua Vista Residential Tower (2003), Northblock Lofts (2003), Westin Park Place Hotel (2001), Parkloft

Apartment Complex (2001), Renaissance Park (2001), and Laurel Bay Apartments (2001).

1900 and 1912 Spindrift Drive: An extensive data recovery and mitigation monitoring program at the Spindrift Site, an important prehistoric archaeological habitation site stretching across the La Jolla area. The project resulted in the discovery of over 20,000 artifacts and nearly 100,000 grams of bulk faunal remains and marine shell, indicating a substantial occupation area (2013-2014).

San Diego Airport Development Project: An extensive historic assessment of multiple buildings at the San Diego International Airport and included the preparation of Historic American Buildings Survey documentation to preserve significant elements of the airport prior to demolition (2017-2018).

Citracado Parkway Extension: A still-ongoing project in the city of Escondido to mitigate impacts to an important archaeological occupation site. Various archaeological studies have been conducted by BFSA resulting in the identification of a significant cultural deposit within the project area.

Westin Hotel and Timeshare (Grand Pacific Resorts): Data recovery and mitigation monitoring program in the city of Carlsbad consisted of the excavation of 176 one-square-meter archaeological data recovery units which produced thousands of prehistoric artifacts and ecofacts, and resulted in the preservation of a significant prehistoric habitation site. The artifacts recovered from the site presented important new data about the prehistory of the region and Native American occupation in the area (2017).

The Everly Subdivision Project: Data recovery and mitigation monitoring program in the city of El Cajon resulted in the identification of a significant prehistoric occupation site from both the Late Prehistoric and Archaic Periods, as well as producing historic artifacts that correspond to the use of the property since 1886. The project produced an unprecedented quantity of artifacts in comparison to the area encompassed by the site, but lacked characteristics that typically reflect intense occupation, indicating that the site was used intensively for food processing (2014-2015).

Ballpark Village: A mitigation and monitoring program within three city blocks in the East Village area of San Diego resulting in the discovery of a significant historic deposit. Nearly 5,000 historic artifacts and over 500,000 grams of bulk historic building fragments, food waste, and other materials representing an occupation period between 1880 and 1917 were recovered (2015-2017).

Archaeology at the Padres Ballpark: Involved the analysis of historic resources within a seven-block area of the "East Village" area of San Diego, where occupation spanned a period from the 1870s to the 1940s. Over a period of two years, BFSA recovered over 200,000 artifacts and hundreds of pounds of metal, construction debris, unidentified broken glass, and wood. Collectively, the Ballpark Project and the other downtown mitigation and monitoring projects represent the largest historical archaeological program anywhere in the country in the past decade (2000-2007).

4S Ranch Archaeological and Historical Cultural Resources Study: Data recovery program consisted of the excavation of over 2,000 square meters of archaeological deposits that produced over one million artifacts, containing primarily prehistoric materials. The archaeological program at 4S Ranch is the largest archaeological study ever undertaken in the San Diego County area and has produced data that has exceeded expectations regarding the resolution of long-standing research questions and regional prehistoric settlement patterns.

Charles H. Brown Site: Attracted international attention to the discovery of evidence of the antiquity of man in North America. Site located in Mission Valley, in the city of San Diego.

Del Mar Man Site: Study of the now famous Early Man Site in Del Mar, California, for the San Diego Science Foundation and the San Diego Museum of Man, under the direction of Dr. Spencer Rogers and Dr. James R. Moriarty.

Old Town State Park Projects: Consulting Historical Archaeologist. Projects completed in the Old Town State Park involved development of individual lots for commercial enterprises. The projects completed in Old Town include Archaeological and Historical Site Assessment for the Great Wall Cafe (1992), Archaeological Study for the Old Town Commercial Project (1991), and Cultural Resources Site Survey at the Old San Diego Inn (1988).

Site W-20, Del Mar, California: A two-year-long investigation of a major prehistoric site in the Del Mar area of the city of San Diego. This research effort documented the earliest practice of religious/ceremonial activities in San Diego County (circa 6,000 years ago), facilitated the projection of major non-material aspects of the La Jolla Complex, and revealed the pattern of civilization at this site over a continuous period of 5,000 years. The report for the investigation included over 600 pages, with nearly 500,000 words of text, illustrations, maps, and photographs documenting this major study.

City of San Diego Reclaimed Water Distribution System: A cultural resource study of nearly 400 miles of pipeline in the city and county of San Diego.

Master Environmental Assessment Project, City of Poway: Conducted for the City of Poway to produce a complete inventory of all recorded historic and prehistoric properties within the city. The information was used in conjunction with the City's General Plan Update to produce a map matrix of the city showing areas of high, moderate, and low potential for the presence of cultural resources. The effort also included the development of the City's Cultural Resource Guidelines, which were adopted as City policy.

Draft of the City of Carlsbad Historical and Archaeological Guidelines: Contracted by the City of Carlsbad to produce the draft of the City's historical and archaeological guidelines for use by the Planning Department of the City.

The Mid-Bayfront Project for the City of Chula Vista: Involved a large expanse of undeveloped agricultural land situated between the railroad and San Diego Bay in the northwestern portion of the city. The study included the analysis of some potentially historic features and numerous prehistoric

Cultural Resources Survey and Test of Sites Within the Proposed Development of the Audie Murphy Ranch, Riverside County, California: Project manager/director of the investigation of 1,113.4 acres and 43 sites, both prehistoric and historic—included project coordination; direction of field crews; evaluation of sites for significance based on County of Riverside and CEQA guidelines; assessment of cupule, pictograph, and rock shelter sites, co-authoring of cultural resources project report. February- September 2002.

Cultural Resources Evaluation of Sites Within the Proposed Development of the Otay Ranch Village 13 Project, San Diego County, California: Project manager/director of the investigation of 1,947 acres and 76 sites, both prehistoric and historic—included project coordination and budgeting; direction of field crews; assessment of sites for significance based on County of San Diego and CEQA guidelines; co-authoring of cultural resources project report. May-November 2002.

Cultural Resources Survey for the Remote Video Surveillance Project, El Centro Sector, Imperial County: Project manager/director for a survey of 29 individual sites near the U.S./Mexico Border for proposed video surveillance camera locations associated with the San Diego Border barrier Project—project coordination and budgeting; direction of field crews; site identification and recordation; assessment of potential impacts to cultural resources; meeting and coordinating with U.S. Army Corps of Engineers, U.S. Border Patrol, and other government agencies involved; co-authoring of cultural resources project report. January, February, and July 2002.

Cultural Resources Survey and Test of Sites Within the Proposed Development of the Menifee West GPA, Riverside County, California: Project manager/director of the investigation of nine sites, both prehistoric and historic—included project coordination and budgeting; direction of field crews; assessment of sites

for significance based on County of Riverside and CEQA guidelines; historic research; co-authoring of cultural resources project report. January-March 2002.

Cultural Resources Survey and Test of Sites Within the Proposed French Valley Specific Plan/EIR, Riverside County, California: Project manager/director of the investigation of two prehistoric and three historic sites—included project coordination and budgeting; survey of project area; Native American consultation; direction of field crews; assessment of sites for significance based on CEQA guidelines; cultural resources project report in prep. July-August 2000.

Cultural Resources Survey and Test of Sites Within the Proposed Development of the Menifee Ranch, Riverside County, California: Project manager/director of the investigation of one prehistoric and five historic sites—included project coordination and budgeting; direction of field crews; feature recordation; historic structure assessments; assessment of sites for significance based on CEQA guidelines; historic research; co-authoring of cultural resources project report. February-June 2000.

Salvage Mitigation of a Portion of the San Diego Presidio Identified During Water Pipe Construction for the City of San Diego, California: Project archaeologist/director—included direction of field crews; development and completion of data recovery program; management of artifact collections cataloging and curation; data synthesis and authoring of cultural resources project report in prep. April 2000.

Enhanced Cultural Resource Survey and Evaluation for the Tyrian 3 Project, La Jolla, California: Project manager/director of the investigation of a single-dwelling parcel—included project coordination; assessment of parcel for potentially buried cultural deposits; authoring of cultural resources project report. April 2000.

Enhanced Cultural Resource Survey and Evaluation for the Lamont 5 Project, Pacific Beach, California: Project manager/director of the investigation of a single-dwelling parcel—included project coordination; assessment of parcel for potentially buried cultural deposits; authoring of cultural resources project report. April 2000.

Enhanced Cultural Resource Survey and Evaluation for the Reiss Residence Project, La Jolla, California: Project manager/director of the investigation of a single-dwelling parcel—included project coordination; assessment of parcel for potentially buried cultural deposits; authoring of cultural resources project report. March-April 2000.

Salvage Mitigation of a Portion of Site SDM-W-95 (CA-SDI-211) for the Poinsettia Shores Santalina Development Project and Caltrans, Carlsbad, California: Project archaeologist/ director—included direction of field crews; development and completion of data recovery program; management of artifact collections cataloging and curation; data synthesis and authoring of cultural resources project report in prep. December 1999-January 2000.

Survey and Testing of Two Prehistoric Cultural Resources for the Airway Truck Parking Project, Otay Mesa, California: Project archaeologist/director—included direction of field crews; development and completion of testing recovery program; assessment of site for significance based on CEQA guidelines; authoring of cultural resources project report, in prep. December 1999-January 2000.

Cultural Resources Phase I and II Investigations for the Tin Can Hill Segment of the Immigration and Naturalization Services Triple Fence Project Along the International Border, San Diego County, California: Project manager/director for a survey and testing of a prehistoric quarry site along the border—NRHP eligibility assessment; project coordination and budgeting; direction of field crews; feature recordation; meeting and coordinating with U.S. Army Corps of Engineers; co-authoring of cultural resources project report. December 1999-January 2000.

Mitigation of a Prehistoric Cultural Resource for the Westview High School Project for the City of San Diego, California: Project archaeologist/ director—included direction of field crews; development and completion of data recovery program including collection of material for specialized faunal and botanical analyses; assessment of sites for significance based on CEQA guidelines; management of artifact collections cataloging and curation; data synthesis; co-authoring of cultural resources project report, in prep. October 1999-January 2000.

Mitigation of a Prehistoric Cultural Resource for the Otay Ranch SPA-One West Project for the City of Chula Vista, California: Project archaeologist/director—included direction of field crews; development of data recovery program; management of artifact collections cataloging and curation; assessment of site for significance based on CEQA guidelines; data synthesis; authoring of cultural resources project report, in prep. September 1999-January 2000.

Monitoring of Grading for the Herschel Place Project, La Jolla, California: Project archaeologist/ monitor—included monitoring of grading activities associated with the development of a single- dwelling parcel. September 1999.

Survey and Testing of a Historic Resource for the Osterkamp Development Project, Valley Center, California: Project archaeologist/ director—included direction of field crews; development and completion of data recovery program; budget development; assessment of site for significance based on CEQA guidelines; management of artifact collections cataloging and curation; data synthesis; authoring of cultural resources project report. July-August 1999.

Survey and Testing of a Prehistoric Cultural Resource for the Proposed College Boulevard Alignment Project, Carlsbad, California: Project manager/director —included direction of field crews; development and completion of testing recovery program; assessment of site for significance based on CEQA guidelines; management of artifact collections cataloging and curation; data synthesis; authoring of cultural resources project report, in prep. July-August 1999.

Survey and Evaluation of Cultural Resources for the Palomar Christian Conference Center Project, Palomar Mountain, California: Project archaeologist—included direction of field crews; assessment of sites for significance based on CEQA guidelines; management of artifact collections cataloging and curation; data synthesis; authoring of cultural resources project report. July-August 1999.

Survey and Evaluation of Cultural Resources at the Village 2 High School Site, Otay Ranch, City of Chula Vista, California: Project manager/director —management of artifact collections cataloging and curation; assessment of site for significance based on CEQA guidelines; data synthesis; authoring of cultural resources project report. July 1999.

Cultural Resources Phase I, II, and III Investigations for the Immigration and Naturalization Services Triple Fence Project Along the International Border, San Diego County, California: Project manager/director for the survey, testing, and mitigation of sites along border—supervision of multiple field crews, NRHP eligibility assessments, Native American consultation, contribution to Environmental Assessment document, lithic and marine shell analysis, authoring of cultural resources project report. August 1997- January 2000.

Phase I, II, and II Investigations for the Scripps Poway Parkway East Project, Poway California: Project archaeologist/project director—included recordation and assessment of multicomponent prehistoric and historic sites; direction of Phase II and III investigations; direction of laboratory analyses including prehistoric and historic collections; curation of collections; data synthesis; coauthorship of final cultural resources report. February 1994; March-September 1994; September-December 1995.

Tracy A. Stropes, MA, RPA

Senior Project Archaeologist

Brian F. Smith and Associates, Inc.
14010 Poway Road • Suite A •
Phone: (858) 679-8218 • Fax: (858) 679-9896 • E-Mail: tstropes@bfsa-ca.com

Education

Master of Arts, Anthropology, San Diego State University, California **2007**

Bachelor of Science, Anthropology, University of California, Riverside **2000**

Professional Memberships

Register of Professional Archaeologists
Society for California Archaeology
Archaeological Institute of America

Experience

Senior Project Archaeologist **March 2009–Present**
Brian F. Smith and Associates, Inc. **Poway, California**

Project Management of all phases of archaeological investigations for local, state, and federal agencies, field supervision, lithic analysis, National Register of Historic Places (NRHP) and California Environmental Quality Act (CEQA) site evaluations, and authoring/coauthoring of cultural resource management reports.

Archaeological Principal Investigator **June 2008–February 2009**
TRC Solutions **Irvine, California**

Cultural resource segment of Natural Sciences and Permitting Division; management of archaeological investigations for private companies and local, state, and federal agencies, personnel management, field and laboratory supervision, lithic analysis, Native American consultation and reporting, MRHP and CEQA site evaluations, and authoring/coauthoring cultural resource management reports.

Principal Investigator and Project Archaeologist **June 2006–May 2008**
Archaeological Resource Analysts **Oceanside, California**

As a sub consultant, served as Principal Investigator and Project Archaeologist for several projects for SRS Inc., including field direction, project and personnel management, lab analysis, and authorship of company reports.

Project Archaeologist **September 1996–June 2006**
Gallegos & Associates **Carlsbad, California**

Project management, laboratory management, lithic analysis, field direction, Native American consultation, report authorship/technical editing, and composition of several data

recovery/preservation programs for both CEQA and NEPA level compliance.

Project Archaeologist **September 1993–September 1996**
Macko Inc. **Santa Ana, California**

Project management, laboratory management, lithic analysis, field supervision, and report authorship/technical editing.

Archaeological Field Technician **January 1993–September 1993**
Chambers Group Inc. **Irvine, California**

Archaeological excavation, surveying, monitoring, wet screen facilities management, and project logistics.

Archaeological Field Technician **May 1992–September 1992**
John Minch and Associates **San Juan Capistrano, California**

Archaeological excavation, surveying, monitoring, wet screen facilities management, and project logistics.

Professional Accomplishments

Mr. Stropes is a professional archaeologist with over 30 years of experience in cultural resource management. His experience includes over ten years in project management, report authorship, lithic analysis, laboratory management, Native American consultation, and editing for several technical reports for numerous projects throughout southern California. Mr. Stropes has conducted cultural resource surveys, archaeological site testing and evaluations for National Register eligibility and California Environmental Quality Act (CEQA) compliance, mitigation of resources through data recovery for archaeological sites, budget and report preparation, and direction of crews of all sizes for projects ranging in duration from a single day site visit to one year. Mr. Stropes is a Registered Professional Archaeologist and on the list of archaeological consultants qualified to conduct archaeological investigations southern California and the County of San Diego. He has served as project archaeologist for numerous projects and composed data recovery and preservation programs for sites throughout California for both CEQA and NEPA level compliance. He has acted as teaching assistant for archaeological field classes at several sites in Orange (Cypress College), Los Angeles (Cypress College), and San Diego Counties (San Diego State University). In addition, Mr. Stropes was employed to teach discussion sessions for introduction to cultural anthropology classes at SDSU. Internationally, Mr. Stropes has acted as field surveyor for the Natural History Foundation of Orange County & Institucion Nacional de Antropologia y Historia surveying and relocating several sites in northern Baja California. Mr. Stropes has served as the senior project archaeologist on the following select projects.

1900 and 1912 Spindrift Drive: An extensive data recovery and mitigation monitoring program at the Spindrift Site, an important prehistoric archaeological habitation site stretching across the La Jolla area. The project resulted in the discovery of over 20,000 artifacts and nearly 100,000 grams of bulk faunal remains and marine shell, indicating a substantial occupation area (2013-2014).

Ocean Breeze Ranch: An extensive CEQA and Section 106 archaeological investigation of 1,400 acres and 20 cultural resources, both prehistoric and historic, within the Bonsall neighborhood of the county of San Diego. The project included an assessment of sites for eligibility for listing on the California Register of Historical Resources, the County of San Diego Resource Protection Ordinance, and the National Register of Historic Places, which resulted in the identification of four CRHR-eligible, RPO-significant, and NRHP-eligible sites.

Citracado Parkway Extension: An ongoing project in the city of Escondido to mitigate impacts to an important archaeological occupation site. Various archaeological studies have been conducted by BFSA, including CEQA-level survey and testing programs and Section 106 historic resources studies, resulting in the identification of a significant cultural deposit within the project area (2009-present).

Otay Ranch Village 13: An extensive archaeological investigation of nearly 2,000 acres and 84 archaeological sites, both prehistoric and historic, within the county of San Diego, which included prehistoric habitation sites, quarry sites, resource processing sites, and extensive lithic scatters. The project included an assessment of sites for eligibility for listing on the National Register of Historic Places (2016-2018).

Westin Hotel and Timeshare (Grand Pacific Resorts): Data recovery and mitigation monitoring program in the city of Carlsbad consisted of the excavation of 176 one-square-meter archaeological data recovery units which produced thousands of prehistoric artifacts and ecofacts, and resulted in the preservation of a significant prehistoric habitation site. The artifacts recovered from the site presented important new data about the prehistory of the region and Native American occupation in the area (2017).

Cantarini Ranch: A Section 106 archaeological assessment and evaluation for the NRHP of 15 archaeological sites and three isolates, including NRHP-significant prehistoric temporary camp/habitation sites, in the city of Carlsbad (2015-2017).

Citracado Business Park West: An archaeological survey and testing program at a significant prehistoric archaeological site and historic building assessment for a 17-acre project in the city of Escondido. The project resulted in the identification of 82 bedrock milling features, two previously recorded loci and two additional and distinct loci, and approximately 2,000 artifacts (2018).

College Boulevard: A Section 106 archaeological assessment and evaluation for the NRHP of seven archaeological sites, including prehistoric temporary camp/habitation sites, bedrock milling feature sites, and both prehistoric and historic artifact scatters in the city of Carlsbad (2015).

The Everly Subdivision Project: Data recovery and mitigation monitoring program in the city of El Cajon resulted in the identification of a significant prehistoric occupation site from both the Late Prehistoric and Archaic Periods, as well as producing historic artifacts that correspond to the use of the property since 1886. The project produced an unprecedented quantity of artifacts in comparison to the area encompassed by the site, but lacked characteristics that typically reflect intense occupation, indicating that the site was used intensively for food processing (2014-2015).

APPENDIX B

Archaeological Records Search Results

BRIAN F. SMITH and ASSOCIATES

CALIFORNIA HISTORICAL RESOURCES INFORMATION SYSTEMS

RECORDS SEARCH

Company:	Brian F. Smith and Associates
Processed By:	Andrew Garrison
Date Processed:	February 25, 2022
Project Identification:	Tract 34271 22-031
Information Center:	Eastern Information Center
Search Radius:	One-Half-Mile

Historical Resources:

Trinomial and Primary site maps have been reviewed. All sites within the project boundaries and the specified radius of the project area have been reviewed. Copies of the site record forms have been reviewed for all recorded sites.

There are eight resources located within one-half-mile of the current project area, one of which CA-RIV-7967 is located within the subject property.

Previous Survey Report Boundaries:

Project boundary maps have been reviewed. National Archaeological Database (NADB) citations for reports within the project boundaries and within the specified radius of the project area have been reviewed.

There are 15 reports within one-half-mile of the current project area, two of which (RI-8144 and RI-8160) include the current project.

APPENDIX C

NAHC Sacred Lands File Search Results

Brian F. Smith & Associates

Archaeological/Biological/Historical/Paleontological/Air/Traffic/Noise Consulting

January 27, 2022

For: Native American Heritage Commission
915 Capitol Mall, Room 364
Sacramento, California 95814

From: Andrew Garrison M.A., RPA
Brian F. Smith and Associates Inc.
14010 Poway Rd. Suite A
Poway, CA 92064

Re: Request for Sacred Lands File and Native American Contact List for the Tract 34271 Project (22-031), City of San Jacinto, County of Riverside, California.

I would like to request a record search of the Sacred Lands File and a list of appropriate Native American contacts for the following project: Tract 34271 (22-031). The approximately 44-acre project is an assessment of three parcels (APN 433-070-030 and -050 and 434-180-007) located southeast of the intersection of Alessandro Avenue and the Ramona Expressway, city of San Jacinto, Riverside County, California. Further, the project can be found within the San Jacinto Viejo Land Grant (Township 04 South, Range 01 West [Projected], in the USGS *San Jacinto* Quadrangle. A copy of the project map showing the project area has been included for the processing of this request.

Thank you for your time.

Sincerely,

Andrew Garrison M.A., RPA
Project Archaeologist
Billing: 14678 Ibex Court, San Diego, CA 92129
Phone: 858-484-0915
Email: agarrison@bfsa-ca.com

Attachments:
USGS 7.5 *San Jacinto,* California, topographic map with project area delineated.
Sacred Lands File request form

Sacred Lands File & Native American Contacts List Request
NATIVE AMERICAN HERITAGE COMMISSION
915 Capitol Mall, RM 364 ∗ Sacramento, CA 95814 ∗ (916) 653-4082
(916) 657-5390 – Fax ∗ nahc@pacbell.net

Information Below is Required for a Sacred Lands File Search

Project: Tract 34271 (22-031).

County: Riverside

USGS Quadrangle Name(s): *San Jacinto*

the San Jacinto Viejo Land Grant (Township 04 South, Range 01 West [Projected]

Company/Firm/Agency: Brian F. Smith & Associates Inc.

Contact Person: Andrew Garrison

Street Address: 14010 Poway Road, Suite A

City: Poway Zip: 92064

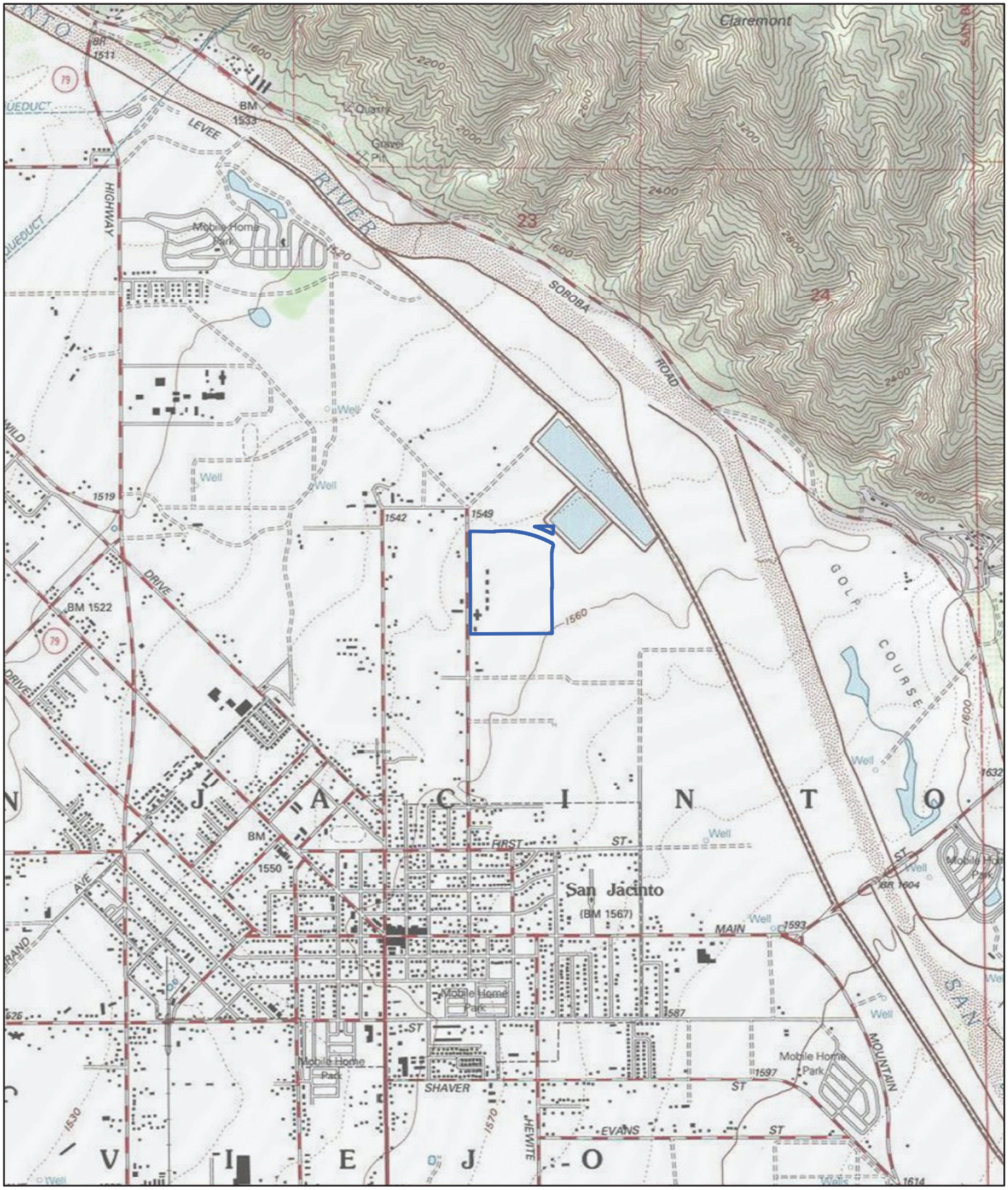
Phone: 858-484-0915

Fax: 858-679-9896

Email: agarrison@bfsa-ca.com

Project Description:

I would like to request a record search of the Sacred Lands File and a list of appropriate Native American contacts for the following project: Tract 34271 (22-031). The approximately 44-acre project is an assessment of three parcels (APN 433-070-030 and -050 and 434-180-007) located southeast of the intersection of Alessandro Avenue and the Ramona Expressway, city of San Jacinto, Riverside County, California. Further, the project can be found within the San Jacinto Viejo Land Grant (Township 04 South, Range 01 West [Projected], in the USGS *San Jacinto* Quadrangle. A copy of the project map showing the project area has been included for the processing of this request.



Tract 34271 (22-031)
USGS *San Jacinto* Quadrangle
(7.5-minute series)

Project

N

1:24,000

DRAINAGE STUDY
TRACT 34271 (OFFSITE TO VERNON/RAMONA)

Prepared By: Love Engineering
31915 Rancho California Road
Suite 200-166
Temecula, CA 92591
(951) 440-8149



Thomas S. Love

November 21, 2022

SECTION 1 – PURPOSE/METHODOLOGY/RESULTS

Project Summary
Purpose
Methodology
Assumptions
Rainfall Data
Results
Soils Data

SECTION 2 – EXISTING CONDITION HYDROLOGY

Existing Condition Unit Hydrograph Method

10 Year - 3 Hour Storm Event

10 Year – 24 Hour Storm E

SECTION 3 – ROUTING

Depth Versus Discharge

Routing: 10 Year – 3 Hour Storm Event

Routing: 10 Year – 24 Hour Storm Event

SECTION 4 – OFFSITE OUTLET CHANNEL

Offsite Channel Hydraulics (10’ wide x 1’ deep, 1.5:1 side slope concrete)

SECTION 5 – MAPS

Hydrology Map – Tributary Area

SECTION 1 – PURPOSE/METHODOLOGY/RESULTS

PURPOSE

The purpose of this study is to analyze the 10-year, 3-hour and 24-hour storm flow events for the offsite area that is tributary to the intersection of Ramona Expressway and Vernon Avenue. The 3-hour and 24-hour storm flows will be routed through a detention basin to determine the mitigated storm flow. The mitigated storm flow will eliminate the need for MDP Line J-3 storm drain. Hydraulic calculations will determine if the proposed offsite channel is adequate.

METHODOLOGY

The 10-year, 3-hour and 24-hour storm flows are calculated by using the Unit Hydrograph Method described in the Riverside County Flood Control Hydrology Manual. The flows for areas are routed via the Modified PULS Method. The Hydraulics for the offsite concrete channel are analyzed using WSPG.

ASSUMPTIONS

Storm Event: 10-year, 3-hour and 24-hour
Antecedent Moisture Condition: AMC 2
Soil Type: B
Existing Condition Impervious: 5%
Manning "N" Value: 0.040
Length along longest Watercourse: 7,157’
Length along longest watercourse measured to centroid: 3,420’
Difference in elevation: 45’
Tributary Area: 175 acres

Rainfall Data (PER NOAA ATLAS 14)

Storm Event	3 HR	24 HR
2 Year	0.84”	2.07”
100 Year	2.32”	5.49”

RESULTS (UNIT HYDROGRAPH METHOD)

Storm Event	Existing Condition	Mitigated Flow	Difference Storm Flow Dev - Ex
$Q10_{\text{Year 3 Hour}}$	68.4 CFS	31.2 CFS	-37.3 CFS
$Q10_{\text{Year 24 Hour}}$	7.7 CFS	7.2 CFS	-0.5 CFS

The results of the drainage study show that the mitigated storm flows exiting the detention basin on the northeast side of the intersection of Ramona Expressway and Vernon Avenue are significantly reduced eliminating the need for MDP Line J-3 Storm Drain. The proposed offsite channel can convey 72.2 CFS which is greater than the actual flow of 31.2 CFS.

NOAA Atlas 14, Volume 6, Version 2
Location name: San Jacinto, California, USA*
Latitude: 33.8003°, Longitude: -116.9543°
Elevation: 1553.62 ft**
* source: ESRI Maps
** source: USGS

POINT PRECIPITATION FREQUENCY ESTIMATES

Sanja Perica, Sarah Dietz, Sarah Heim, Lillian Hiner, Kazungu Maitaria, Deborah Martin, Sandra Pavlovic, Ishani Roy, Carl Trypaluk, Dale Unruh, Fenglin Yan, Michael Yekta, Tan Zhao, Geoffrey Bonnin, Daniel Brewer, Li-Chuan Chen, Tye Parzybok, John Yarchoan

NOAA, National Weather Service, Silver Spring, Maryland

PF_tabular | PF_graphical | Maps_&_aerials

PF tabular

PDS-based point precipitation frequency estimates with 90% confidence intervals (in inches)[1]

Duration	Average recurrence interval (years)									
	1	2	5	10	25	50	100	200	500	1000
5-min	**0.083** (0.070-0.101)	**0.113** (0.095-0.137)	**0.160** (0.133-0.194)	**0.204** (0.168-0.249)	**0.274** (0.218-0.347)	**0.337** (0.263-0.437)	**0.411** (0.313-0.547)	**0.499** (0.369-0.683)	**0.672** (0.475-0.960)	**0.899** (0.613-1.33)
10-min	**0.119** (0.100-0.144)	**0.163** (0.136-0.197)	**0.229** (0.190-0.278)	**0.292** (0.241-0.357)	**0.392** (0.313-0.497)	**0.484** (0.377-0.626)	**0.590** (0.448-0.784)	**0.716** (0.528-0.979)	**0.963** (0.681-1.38)	**1.29** (0.879-1.91)
15-min	**0.144** (0.121-0.175)	**0.197** (0.164-0.238)	**0.277** (0.230-0.336)	**0.353** (0.291-0.432)	**0.475** (0.378-0.602)	**0.585** (0.456-0.758)	**0.713** (0.542-0.948)	**0.866** (0.639-1.18)	**1.17** (0.824-1.66)	**1.56** (1.06-2.31)
30-min	**0.229** (0.192-0.277)	**0.312** (0.260-0.378)	**0.440** (0.366-0.534)	**0.561** (0.462-0.687)	**0.754** (0.601-0.956)	**0.929** (0.724-1.20)	**1.13** (0.861-1.51)	**1.38** (1.01-1.88)	**1.85** (1.31-2.64)	**2.48** (1.69-3.67)
60-min	**0.361** (0.302-0.437)	**0.492** (0.410-0.595)	**0.693** (0.576-0.841)	**0.883** (0.728-1.08)	**1.19** (0.946-1.51)	**1.46** (1.14-1.90)	**1.79** (1.36-2.37)	**2.17** (1.60-2.96)	**2.91** (2.06-4.16)	**3.90** (2.66-5.77)
2-hr	**0.547** (0.457-0.661)	**0.701** (0.585-0.849)	**0.932** (0.775-1.13)	**1.14** (0.943-1.40)	**1.47** (1.17-1.87)	**1.76** (1.37-2.28)	**2.09** (1.59-2.77)	**2.46** (1.82-3.37)	**3.04** (2.15-4.35)	**3.94** (2.69-5.83)
3-hr	**0.669** (0.559-0.809)	**0.842** (0.702-1.02)	**1.10** (0.912-1.33)	**1.33** (1.09-1.62)	**1.68** (1.34-2.13)	**1.98** (1.54-2.57)	**2.32** (1.76-3.08)	**2.71** (2.00-3.70)	**3.30** (2.33-4.71)	**3.98** (2.71-5.89)
6-hr	**0.938** (0.784-1.13)	**1.16** (0.969-1.41)	**1.48** (1.24-1.80)	**1.77** (1.46-2.17)	**2.20** (1.75-2.79)	**2.56** (2.00-3.32)	**2.97** (2.25-3.94)	**3.41** (2.52-4.67)	**4.08** (2.89-5.83)	**4.66** (3.18-6.89)
12-hr	**1.23** (1.03-1.48)	**1.53** (1.27-1.85)	**1.96** (1.63-2.38)	**2.34** (1.93-2.86)	**2.91** (2.32-3.68)	**3.38** (2.64-4.38)	**3.91** (2.97-5.19)	**4.49** (3.32-6.14)	**5.36** (3.79-7.65)	**6.09** (4.16-9.02)
24-hr	**1.63** (1.44-1.88)	**2.07** (1.83-2.38)	**2.69** (2.37-3.11)	**3.24** (2.83-3.78)	**4.06** (3.44-4.89)	**4.74** (3.94-5.83)	**5.49** (4.45-6.92)	**6.33** (4.99-8.19)	**7.56** (5.73-10.2)	**8.60** (6.30-12.0)
2-day	**2.00** (1.77-2.30)	**2.60** (2.30-3.01)	**3.45** (3.04-4.00)	**4.19** (3.66-4.89)	**5.26** (4.45-6.34)	**6.14** (5.09-7.55)	**7.09** (5.74-8.92)	**8.12** (6.40-10.5)	**9.62** (7.29-13.0)	**10.9** (7.96-15.1)
3-day	**2.20** (1.95-2.54)	**2.93** (2.59-3.38)	**3.93** (3.46-4.55)	**4.78** (4.18-5.58)	**6.02** (5.10-7.25)	**7.02** (5.83-8.63)	**8.09** (6.56-10.2)	**9.24** (7.29-12.0)	**10.9** (8.26-14.7)	**12.3** (8.98-17.1)
4-day	**2.35** (2.08-2.71)	**3.17** (2.80-3.66)	**4.29** (3.78-4.97)	**5.24** (4.58-6.12)	**6.61** (5.59-7.96)	**7.71** (6.40-9.48)	**8.87** (7.19-11.2)	**10.1** (7.99-13.1)	**11.9** (9.02-16.0)	**13.4** (9.79-18.6)
7-day	**2.64** (2.34-3.05)	**3.66** (3.24-4.23)	**5.05** (4.45-5.85)	**6.22** (5.44-7.26)	**7.89** (6.68-9.50)	**9.22** (7.65-11.3)	**10.6** (8.61-13.4)	**12.1** (9.56-15.7)	**14.2** (10.8-19.2)	**16.0** (11.7-22.2)
10-day	**2.87** (2.54-3.31)	**4.03** (3.56-4.65)	**5.60** (4.94-6.49)	**6.94** (6.07-8.09)	**8.82** (7.47-10.6)	**10.3** (8.57-12.7)	**11.9** (9.65-15.0)	**13.6** (10.7-17.6)	**16.0** (12.1-21.5)	**17.9** (13.1-24.9)
20-day	**3.55** (3.14-4.10)	**5.04** (4.46-5.83)	**7.07** (6.23-8.19)	**8.78** (7.68-10.2)	**11.2** (9.48-13.5)	**13.1** (10.9-16.1)	**15.2** (12.3-19.1)	**17.3** (13.7-22.4)	**20.4** (15.5-27.5)	**22.9** (16.8-31.9)
30-day	**4.17** (3.69-4.81)	**5.91** (5.22-6.83)	**8.28** (7.29-9.58)	**10.3** (8.99-12.0)	**13.1** (11.1-15.8)	**15.4** (12.8-18.9)	**17.8** (14.4-22.4)	**20.3** (16.0-26.3)	**24.0** (18.2-32.3)	**26.9** (19.7-37.5)
45-day	**4.99** (4.41-5.75)	**6.99** (6.18-8.08)	**9.74** (8.59-11.3)	**12.1** (10.6-14.1)	**15.4** (13.0-18.5)	**18.1** (15.0-22.2)	**20.9** (16.9-26.3)	**23.9** (18.9-31.0)	**28.3** (21.4-38.1)	**31.8** (23.3-44.3)
60-day	**5.82** (5.15-6.71)	**8.07** (7.14-9.32)	**11.2** (9.85-12.9)	**13.8** (12.1-16.1)	**17.6** (14.9-21.2)	**20.6** (17.1-25.4)	**23.9** (19.4-30.1)	**27.4** (21.6-35.5)	**32.5** (24.6-43.7)	**36.6** (26.8-51.0)

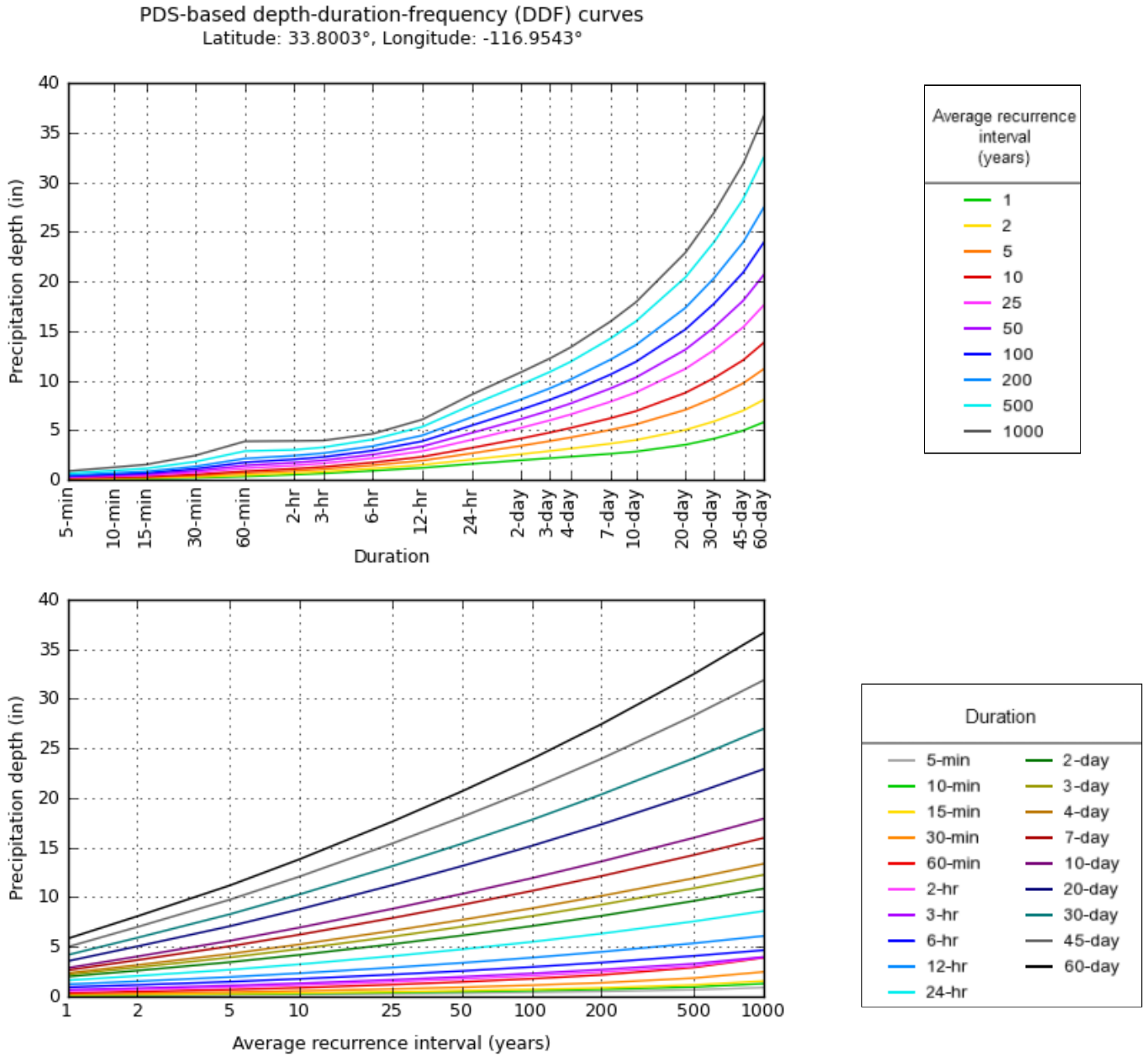
[1] Precipitation frequency (PF) estimates in this table are based on frequency analysis of partial duration series (PDS).

Numbers in parenthesis are PF estimates at lower and upper bounds of the 90% confidence interval. The probability that precipitation frequency estimates (for a given duration and average recurrence interval) will be greater than the upper bound (or less than the lower bound) is 5%. Estimates at upper bounds are not checked against probable maximum precipitation (PMP) estimates and may be higher than currently valid PMP values.

Please refer to NOAA Atlas 14 document for more information.

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PF graphical



NOAA Atlas 14, Volume 6, Version 2

Created (GMT): Fri Jan 14 00:54:57 2022

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Maps & aerials

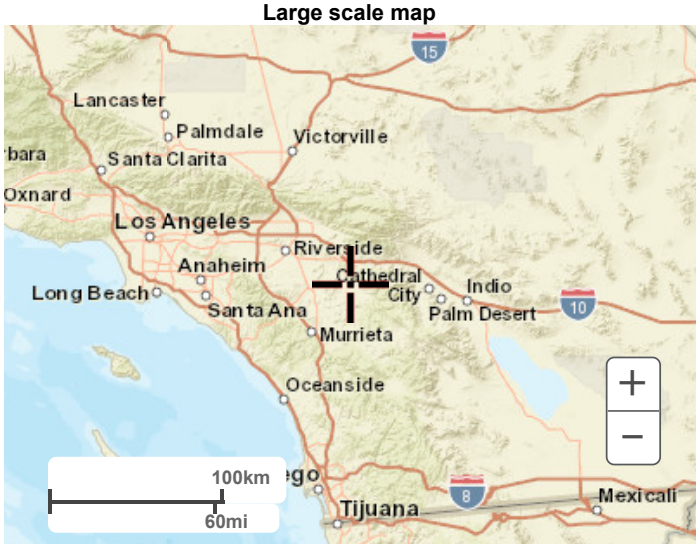
Small scale terrain



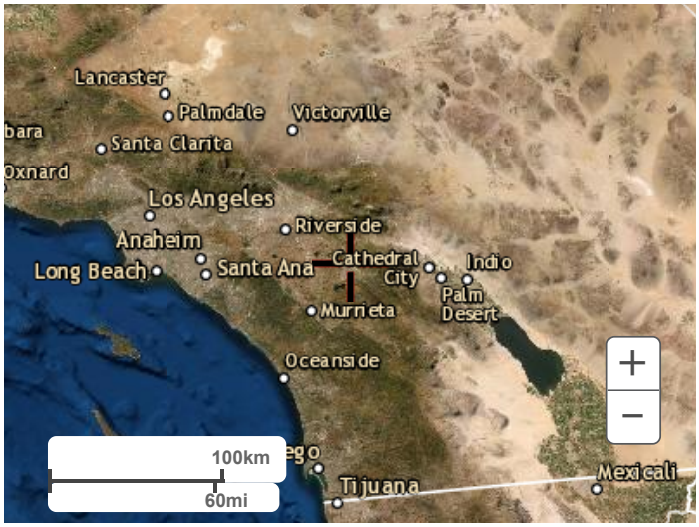
Large scale terrain



Large scale map



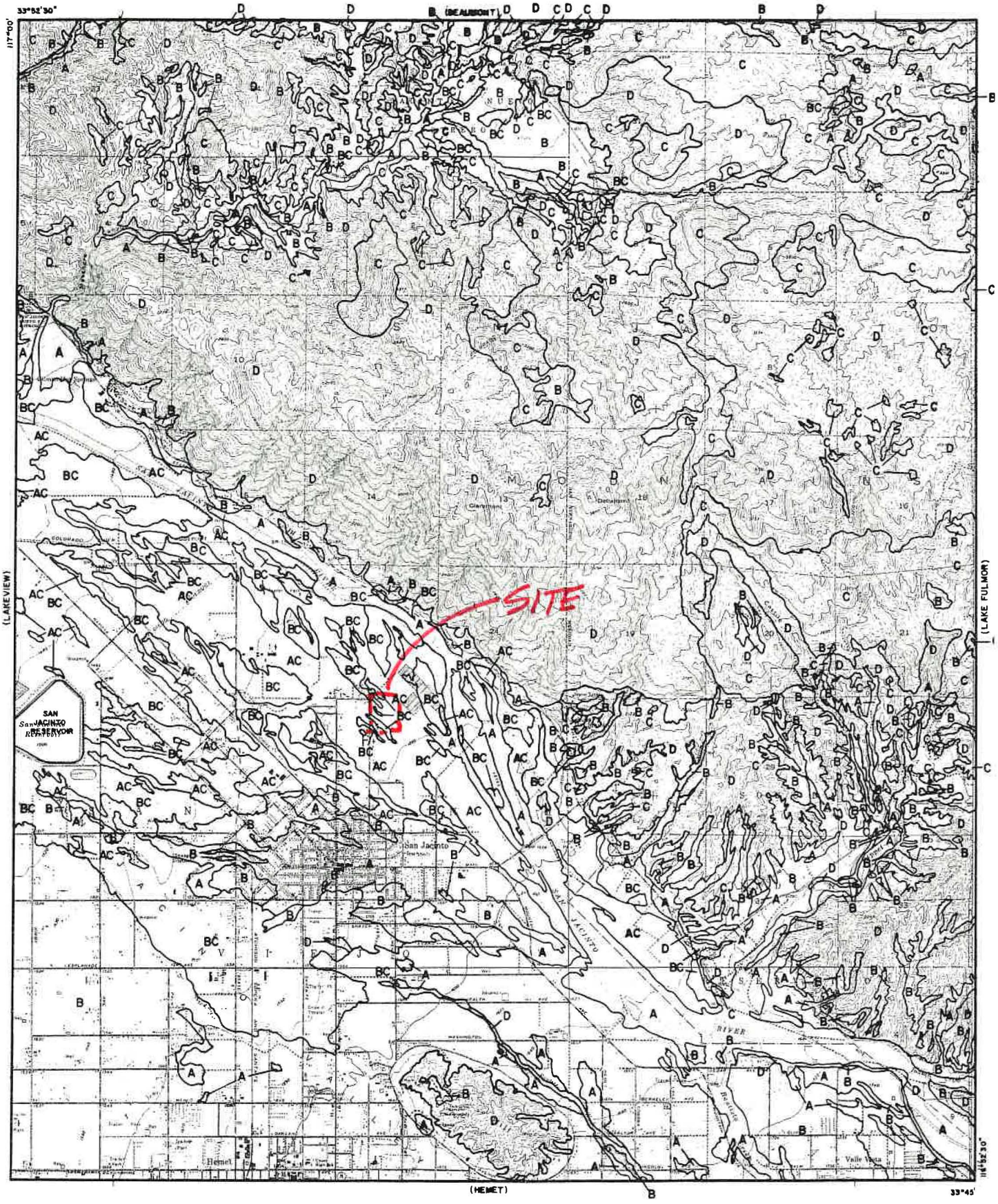
Large scale aerial



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US Department of Commerce
National Oceanic and Atmospheric Administration
National Weather Service
National Water Center
1325 East West Highway
Silver Spring, MD 20910
Questions?: HDSC.Questions@noaa.gov

Disclaimer



LEGEND

—— SOILS GROUP BOUNDARY

A SOILS GROUP DESIGNATION

RCFC&WCD

HYDROLOGY MANUAL

N

0 FEET 5000

HYDROLOGIC SOILS GROUP MAP FOR SAN JACINTO

PLATE C-I.32 3

SECTION 2 – EXISTING CONDITION HYDROLOGY

Existing Condition Unit Hydrograph Method

10 Year – 3 Hour Storm

10 Year – 24 Hour Storm

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 - 2018, Version 9.0
Study date 11/21/22 File: TR34271offsite310.out

++

Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6556

 English (in-lb) Input Units Used
 English Rainfall Data (Inches) Input Values Used

 English Units used in output format

OFFSITE TRIBUTARY AREA TO VERNON/RAMONA EXPRESSWAY

Drainage Area = 175.00(Ac.) = 0.273 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 175.00(Ac.) = 0.273 Sq. Mi.
Length along longest watercourse = 7157.00(Ft.)
Length along longest watercourse measured to centroid = 3420.00(Ft.)
Length along longest watercourse = 1.355 Mi.
Length along longest watercourse measured to centroid = 0.648 Mi.
Difference in elevation = 45.00(Ft.)
Slope along watercourse = 33.1983 Ft./Mi.
Average Manning's 'N' = 0.040
Lag time = 0.470 Hr.
Lag time = 28.18 Min.
25% of lag time = 7.04 Min.
40% of lag time = 11.27 Min.
Unit time = 5.00 Min.
Duration of storm = 3 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
175.00	0.84	147.35

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
175.00	2.32	406.00

STORM EVENT (YEAR) = 10.00
Area Averaged 2-Year Rainfall = 0.842(In)
Area Averaged 100-Year Rainfall = 2.320(In)

Point rain (area averaged) = 1.450(In)
Areal adjustment factor = 99.92 %
Adjusted average point rain = 1.449(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
175.000	56.00	0.050

Total Area Entered = 175.00(Ac.)

RI AMC2	RI AMC-2	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
56.0	56.0	0.511	0.050	0.488	1.000	0.488
					Sum (F) =	0.488

Area averaged mean soil loss (F) (In/Hr) = 0.488
Minimum soil loss rate ((In/Hr)) = 0.244
(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 (hrs)		Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	17.743	1.552	2.737
2	0.167	35.487	4.208	7.422
3	0.250	53.230	7.196	12.691
4	0.333	70.973	10.276	18.123
5	0.417	88.716	12.266	21.633
6	0.500	106.460	12.539	22.114
7	0.583	124.203	9.760	17.213
8	0.667	141.946	6.781	11.959
9	0.750	159.689	4.976	8.777
10	0.833	177.433	3.619	6.383
11	0.917	195.176	2.800	4.939
12	1.000	212.919	2.494	4.399
13	1.083	230.662	2.129	3.756
14	1.167	248.406	1.857	3.274
15	1.250	266.149	1.686	2.974
16	1.333	283.892	1.527	2.692
17	1.417	301.635	1.312	2.314
18	1.500	319.379	1.152	2.032
19	1.583	337.122	1.065	1.878
20	1.667	354.865	1.054	1.859
21	1.750	372.609	0.855	1.509
22	1.833	390.352	0.781	1.377
23	1.917	408.095	0.759	1.338
24	2.000	425.838	0.599	1.057
25	2.083	443.582	0.568	1.001
26	2.167	461.325	0.561	0.989
27	2.250	479.068	0.535	0.943
28	2.333	496.811	0.532	0.939
29	2.417	514.555	0.485	0.855
30	2.500	532.298	0.393	0.692
31	2.583	550.041	0.390	0.688
32	2.667	567.784	0.355	0.626
33	2.750	585.528	0.319	0.563
34	2.833	603.271	0.318	0.561
35	2.917	621.014	0.272	0.480
36	3.000	638.758	0.248	0.438
37	3.083	656.501	0.244	0.430
38	3.167	674.244	0.192	0.338
39	3.250	691.987	0.177	0.313
40	3.333	709.731	0.177	0.313
41	3.417	727.474	0.177	0.313
42	3.500	745.217	0.177	0.313
43	3.583	762.960	0.177	0.313
44	3.667	780.704	0.177	0.313
45	3.750	798.447	0.177	0.313
46	3.833	816.190	0.104	0.184
			Sum = 100.000	Sum= 176.367

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 (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr) Max	Low	Effective (In/Hr)
1	0.08	1.30	0.226	(0.488)	0.203	0.023
2	0.17	1.30	0.226	(0.488)	0.203	0.023
3	0.25	1.10	0.191	(0.488)	0.172	0.019
4	0.33	1.50	0.261	(0.488)	0.235	0.026
5	0.42	1.50	0.261	(0.488)	0.235	0.026
6	0.50	1.80	0.313	(0.488)	0.282	0.031
7	0.58	1.50	0.261	(0.488)	0.235	0.026
8	0.67	1.80	0.313	(0.488)	0.282	0.031
9	0.75	1.80	0.313	(0.488)	0.282	0.031
10	0.83	1.50	0.261	(0.488)	0.235	0.026
11	0.92	1.60	0.278	(0.488)	0.250	0.028
12	1.00	1.80	0.313	(0.488)	0.282	0.031
13	1.08	2.20	0.383	(0.488)	0.344	0.038
14	1.17	2.20	0.383	(0.488)	0.344	0.038
15	1.25	2.20	0.383	(0.488)	0.344	0.038
16	1.33	2.00	0.348	(0.488)	0.313	0.035
17	1.42	2.60	0.452	(0.488)	0.407	0.045
18	1.50	2.70	0.469	(0.488)	0.423	0.047
19	1.58	2.40	0.417	(0.488)	0.376	0.042
20	1.67	2.70	0.469	(0.488)	0.423	0.047
21	1.75	3.30	0.574	0.488	(0.516)	0.086
22	1.83	3.10	0.539	(0.488)	0.485	0.054
23	1.92	2.90	0.504	(0.488)	0.454	0.050
24	2.00	3.00	0.522	(0.488)	0.469	0.052
25	2.08	3.10	0.539	(0.488)	0.485	0.054
26	2.17	4.20	0.730	0.488	(0.657)	0.242
27	2.25	5.00	0.869	0.488	(0.782)	0.382
28	2.33	3.50	0.609	0.488	(0.548)	0.121
29	2.42	6.80	1.182	0.488	(1.064)	0.695
30	2.50	7.30	1.269	0.488	(1.142)	0.781
31	2.58	8.20	1.426	0.488	(1.283)	0.938
32	2.67	5.90	1.026	0.488	(0.923)	0.538
33	2.75	2.00	0.348	(0.488)	0.313	0.035
34	2.83	1.80	0.313	(0.488)	0.282	0.031
35	2.92	1.80	0.313	(0.488)	0.282	0.031
36	3.00	0.60	0.104	(0.488)	0.094	0.010
		(Loss Rate Not Used)				
Sum =		100.0			Sum =	4.8

Flood volume = Effective rainfall 0.40(In)
times area 175.0(Ac.)/[(In)/(Ft.)] = 5.8(Ac.Ft)
Total soil loss = 1.05(In)
Total soil loss = 15.354(Ac.Ft)
Total rainfall = 1.45(In)
Flood volume = 251608.8 Cubic Feet
Total soil loss = 668837.3 Cubic Feet

Peak flow rate of this hydrograph = 68.418(CFS)

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3 - 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	17.5	35.0	52.5	70.0
0+ 5	0.0004	0.06	Q	|	|	|	|
0+10	0.0020	0.23	Q	|	|	|	|
0+15	0.0055	0.51	Q	|	|	|	|
0+20	0.0118	0.91	Q	|	|	|	|
0+25	0.0215	1.41	Q	|	|	|	|
0+30	0.0349	1.95	VQ	|	|	|	|
0+35	0.0515	2.41	VQ	|	|	|	|
0+40	0.0707	2.80	VQ	|	|	|	|
0+45	0.0925	3.16	VQ	|	|	|	|
0+50	0.1162	3.45	VQ	|	|	|	|

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0+55      0.1416     3.68  V Q       |         |         |         |
1+ 0      0.1681     3.86  |VQ       |         |         |         |
1+ 5      0.1959     4.03  |VQ       |         |         |         |
1+10      0.2249     4.21  |VQ       |         |         |         |
1+15      0.2554     4.42  |VQ       |         |         |         |
1+20      0.2875     4.67  |VQ       |         |         |         |
1+25      0.3218     4.97  | Q       |         |         |         |
1+30      0.3581     5.27  | VQ      |         |         |         |
1+35      0.3964     5.56  | VQ      |         |         |         |
1+40      0.4366     5.84  |  Q      |         |         |         |
1+45      0.4795     6.23  |  Q      |         |         |         |
1+50      0.5257     6.71  |  Q      |         |         |         |
1+55      0.5753     7.20  |  VQ     |         |         |         |
2+ 0      0.6282     7.68  |   Q     |         |         |         |
2+ 5      0.6839     8.10  |   Q     |         |         |         |
2+10      0.7453     8.91  |    Q    |         |         |         |
2+15      0.8194    10.75  |    VQ   |         |         |         |
2+20      0.9122    13.48  |     VQ  |         |         |         |
2+25      1.0387    18.36  |      V  Q         |         |         |
2+30      1.2193    26.22  |       V |   Q     |         |         |
2+35      1.4749    37.12  |         V         |Q        |         |
2+40      1.8155    49.46  |         | V       |       Q |         |
2+45      2.2291    60.05  |         |    V    |         |   Q     |
2+50      2.6942    67.53  |         |       V |         |       Q |
2+55      3.1654    68.42  |         |         |V        |        Q|
3+ 0      3.5920    61.95  |         |         |   V     |     Q   |
3+ 5      3.9407    50.63  |         |         |      VQ |         |
3+10      4.2062    38.56  |         |         | Q     V |         |
3+15      4.4082    29.32  |         |     Q   |         V         |
3+20      4.5674    23.12  |         |  Q      |         |V        |
3+25      4.6970    18.82  |         Q         |         | V       |
3+30      4.8070    15.97  |        Q|         |         |  V      |
3+35      4.9027    13.89  |      Q  |         |         |  V      |
3+40      4.9869    12.22  |     Q   |         |         |   V     |
3+45      5.0621    10.92  |     Q   |         |         |    V    |
3+50      5.1293     9.76  |    Q    |         |         |    V    |
3+55      5.1889     8.66  |   Q     |         |         |    V    |
4+ 0      5.2431     7.86  |   Q     |         |         |     V   |
4+ 5      5.2921     7.13  |   Q     |         |         |     V   |
4+10      5.3366     6.46  |  Q      |         |         |     V   |
4+15      5.3770     5.86  |  Q      |         |         |      V  |
4+20      5.4130     5.24  | Q       |         |         |      V  |
4+25      5.4460     4.79  | Q       |         |         |      V  |
4+30      5.4762     4.37  | Q       |         |         |      V  |
4+35      5.5038     4.01  | Q       |         |         |       V |
4+40      5.5300     3.81  | Q       |         |         |       V |
4+45      5.5550     3.62  | Q       |         |         |       V |
4+50      5.5779     3.34  |Q        |         |         |       V |
4+55      5.5990     3.06  |Q        |         |         |       V |
5+ 0      5.6181     2.77  |Q        |         |         |       V |
5+ 5      5.6354     2.52  |Q        |         |         |        V|
5+10      5.6516     2.35  |Q        |         |         |        V|
5+15      5.6664     2.15  |Q        |         |         |        V|
5+20      5.6799     1.96  |Q        |         |         |        V|
5+25      5.6923     1.80  |Q        |         |         |        V|
5+30      5.7034     1.62  Q         |         |         |        V|
5+35      5.7136     1.47  Q         |         |         |        V|
5+40      5.7228     1.34  Q         |         |         |        V|
5+45      5.7314     1.25  Q         |         |         |        V|
5+50      5.7397     1.21  Q         |         |         |        V|
5+55      5.7477     1.17  Q         |         |         |        V|
6+ 0      5.7551     1.07  Q         |         |         |        V|
6+ 5      5.7619     0.98  Q         |         |         |        V|
6+10      5.7678     0.87  Q         |         |         |        V|
6+15      5.7722     0.64  Q         |         |         |        V|
6+20      5.7748     0.37  Q         |         |         |        V|
6+25      5.7757     0.13  Q         |         |         |        V|
6+30      5.7759     0.03  Q         |         |         |        V|
6+35      5.7761     0.02  Q         |         |         |        V|
6+40      5.7761     0.01  Q         |         |         |        V|
6+45      5.7761     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

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Study date 11/21/22 File: TR34271offsite2410.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6556

English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

OFFSITE TRIBUTARY AREA TO VERNON/RAMONA EXPRESSWAY
10 YEAR/24 HOUR STORM EVENT

Drainage Area = 175.00(Ac.) = 0.273 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 175.00(Ac.) = 0.273 Sq. Mi.
Length along longest watercourse = 7157.00(Ft.)
Length along longest watercourse measured to centroid = 3420.00(Ft.)
Length along longest watercourse = 1.355 Mi.
Length along longest watercourse measured to centroid = 0.648 Mi.
Difference in elevation = 45.00(Ft.)
Slope along watercourse = 33.1983 Ft./Mi.
Average Manning's 'N' = 0.040
Lag time = 0.470 Hr.
Lag time = 28.18 Min.
25% of lag time = 7.04 Min.
40% of lag time = 11.27 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]
175.00	2.07	362.25

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
175.00	5.49	960.75

STORM EVENT (YEAR) = 10.00
Area Averaged 2-Year Rainfall = 2.070(In)
Area Averaged 100-Year Rainfall = 5.490(In)

Point rain (area averaged) = 3.477(In)
Areal adjustment factor = 99.97 %
Adjusted average point rain = 3.476(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
175.000	56.00	0.050

Total Area Entered = 175.00(Ac.)

RI AMC2	RI AMC-2	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
56.0	56.0	0.511	0.050	0.488	1.000	0.488
					Sum (F) =	0.488

Area averaged mean soil loss (F) (In/Hr) = 0.488
Minimum soil loss rate ((In/Hr)) = 0.244
(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 (hrs)		Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	17.743	1.552	2.737
2	0.167	35.487	4.208	7.422
3	0.250	53.230	7.196	12.691
4	0.333	70.973	10.276	18.123
5	0.417	88.716	12.266	21.633
6	0.500	106.460	12.539	22.114
7	0.583	124.203	9.760	17.213
8	0.667	141.946	6.781	11.959
9	0.750	159.689	4.976	8.777
10	0.833	177.433	3.619	6.383
11	0.917	195.176	2.800	4.939
12	1.000	212.919	2.494	4.399
13	1.083	230.662	2.129	3.756
14	1.167	248.406	1.857	3.274
15	1.250	266.149	1.686	2.974
16	1.333	283.892	1.527	2.692
17	1.417	301.635	1.312	2.314
18	1.500	319.379	1.152	2.032
19	1.583	337.122	1.065	1.878
20	1.667	354.865	1.054	1.859
21	1.750	372.609	0.855	1.509
22	1.833	390.352	0.781	1.377
23	1.917	408.095	0.759	1.338
24	2.000	425.838	0.599	1.057
25	2.083	443.582	0.568	1.001
26	2.167	461.325	0.561	0.989
27	2.250	479.068	0.535	0.943
28	2.333	496.811	0.532	0.939
29	2.417	514.555	0.485	0.855
30	2.500	532.298	0.393	0.692
31	2.583	550.041	0.390	0.688
32	2.667	567.784	0.355	0.626
33	2.750	585.528	0.319	0.563
34	2.833	603.271	0.318	0.561
35	2.917	621.014	0.272	0.480
36	3.000	638.758	0.248	0.438
37	3.083	656.501	0.244	0.430
38	3.167	674.244	0.192	0.338
39	3.250	691.987	0.177	0.313
40	3.333	709.731	0.177	0.313
41	3.417	727.474	0.177	0.313
42	3.500	745.217	0.177	0.313
43	3.583	762.960	0.177	0.313
44	3.667	780.704	0.177	0.313
45	3.750	798.447	0.177	0.313
46	3.833	816.190	0.104	0.184
			Sum = 100.000	Sum= 176.367

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 (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr) Max	Low	Effective (In/Hr)
1	0.08	0.07	0.028	(0.865)	0.025	0.003
2	0.17	0.07	0.028	(0.861)	0.025	0.003
3	0.25	0.07	0.028	(0.858)	0.025	0.003
4	0.33	0.10	0.042	(0.855)	0.038	0.004
5	0.42	0.10	0.042	(0.851)	0.038	0.004
6	0.50	0.10	0.042	(0.848)	0.038	0.004
7	0.58	0.10	0.042	(0.845)	0.038	0.004
8	0.67	0.10	0.042	(0.841)	0.038	0.004
9	0.75	0.10	0.042	(0.838)	0.038	0.004
10	0.83	0.13	0.056	(0.835)	0.050	0.006
11	0.92	0.13	0.056	(0.832)	0.050	0.006
12	1.00	0.13	0.056	(0.828)	0.050	0.006
13	1.08	0.10	0.042	(0.825)	0.038	0.004
14	1.17	0.10	0.042	(0.822)	0.038	0.004
15	1.25	0.10	0.042	(0.819)	0.038	0.004
16	1.33	0.10	0.042	(0.815)	0.038	0.004
17	1.42	0.10	0.042	(0.812)	0.038	0.004
18	1.50	0.10	0.042	(0.809)	0.038	0.004
19	1.58	0.10	0.042	(0.806)	0.038	0.004
20	1.67	0.10	0.042	(0.802)	0.038	0.004
21	1.75	0.10	0.042	(0.799)	0.038	0.004
22	1.83	0.13	0.056	(0.796)	0.050	0.006
23	1.92	0.13	0.056	(0.793)	0.050	0.006
24	2.00	0.13	0.056	(0.789)	0.050	0.006
25	2.08	0.13	0.056	(0.786)	0.050	0.006
26	2.17	0.13	0.056	(0.783)	0.050	0.006
27	2.25	0.13	0.056	(0.780)	0.050	0.006
28	2.33	0.13	0.056	(0.777)	0.050	0.006
29	2.42	0.13	0.056	(0.774)	0.050	0.006
30	2.50	0.13	0.056	(0.770)	0.050	0.006
31	2.58	0.17	0.070	(0.767)	0.063	0.007
32	2.67	0.17	0.070	(0.764)	0.063	0.007
33	2.75	0.17	0.070	(0.761)	0.063	0.007
34	2.83	0.17	0.070	(0.758)	0.063	0.007
35	2.92	0.17	0.070	(0.755)	0.063	0.007
36	3.00	0.17	0.070	(0.752)	0.063	0.007
37	3.08	0.17	0.070	(0.748)	0.063	0.007
38	3.17	0.17	0.070	(0.745)	0.063	0.007
39	3.25	0.17	0.070	(0.742)	0.063	0.007
40	3.33	0.17	0.070	(0.739)	0.063	0.007
41	3.42	0.17	0.070	(0.736)	0.063	0.007
42	3.50	0.17	0.070	(0.733)	0.063	0.007
43	3.58	0.17	0.070	(0.730)	0.063	0.007
44	3.67	0.17	0.070	(0.727)	0.063	0.007
45	3.75	0.17	0.070	(0.724)	0.063	0.007
46	3.83	0.20	0.083	(0.721)	0.075	0.008
47	3.92	0.20	0.083	(0.718)	0.075	0.008
48	4.00	0.20	0.083	(0.715)	0.075	0.008
49	4.08	0.20	0.083	(0.712)	0.075	0.008
50	4.17	0.20	0.083	(0.709)	0.075	0.008
51	4.25	0.20	0.083	(0.706)	0.075	0.008
52	4.33	0.23	0.097	(0.703)	0.088	0.010
53	4.42	0.23	0.097	(0.700)	0.088	0.010
54	4.50	0.23	0.097	(0.697)	0.088	0.010
55	4.58	0.23	0.097	(0.694)	0.088	0.010
56	4.67	0.23	0.097	(0.691)	0.088	0.010
57	4.75	0.23	0.097	(0.688)	0.088	0.010
58	4.83	0.27	0.111	(0.685)	0.100	0.011
59	4.92	0.27	0.111	(0.682)	0.100	0.011
60	5.00	0.27	0.111	(0.679)	0.100	0.011
61	5.08	0.20	0.083	(0.676)	0.075	0.008
62	5.17	0.20	0.083	(0.673)	0.075	0.008
63	5.25	0.20	0.083	(0.670)	0.075	0.008
64	5.33	0.23	0.097	(0.667)	0.088	0.010
65	5.42	0.23	0.097	(0.664)	0.088	0.010
66	5.50	0.23	0.097	(0.661)	0.088	0.010
67	5.58	0.27	0.111	(0.658)	0.100	0.011

68	5.67	0.27	0.111	(0.655)	0.100	0.011
69	5.75	0.27	0.111	(0.653)	0.100	0.011
70	5.83	0.27	0.111	(0.650)	0.100	0.011
71	5.92	0.27	0.111	(0.647)	0.100	0.011
72	6.00	0.27	0.111	(0.644)	0.100	0.011
73	6.08	0.30	0.125	(0.641)	0.113	0.013
74	6.17	0.30	0.125	(0.638)	0.113	0.013
75	6.25	0.30	0.125	(0.635)	0.113	0.013
76	6.33	0.30	0.125	(0.633)	0.113	0.013
77	6.42	0.30	0.125	(0.630)	0.113	0.013
78	6.50	0.30	0.125	(0.627)	0.113	0.013
79	6.58	0.33	0.139	(0.624)	0.125	0.014
80	6.67	0.33	0.139	(0.621)	0.125	0.014
81	6.75	0.33	0.139	(0.618)	0.125	0.014
82	6.83	0.33	0.139	(0.616)	0.125	0.014
83	6.92	0.33	0.139	(0.613)	0.125	0.014
84	7.00	0.33	0.139	(0.610)	0.125	0.014
85	7.08	0.33	0.139	(0.607)	0.125	0.014
86	7.17	0.33	0.139	(0.605)	0.125	0.014
87	7.25	0.33	0.139	(0.602)	0.125	0.014
88	7.33	0.37	0.153	(0.599)	0.138	0.015
89	7.42	0.37	0.153	(0.596)	0.138	0.015
90	7.50	0.37	0.153	(0.594)	0.138	0.015
91	7.58	0.40	0.167	(0.591)	0.150	0.017
92	7.67	0.40	0.167	(0.588)	0.150	0.017
93	7.75	0.40	0.167	(0.585)	0.150	0.017
94	7.83	0.43	0.181	(0.583)	0.163	0.018
95	7.92	0.43	0.181	(0.580)	0.163	0.018
96	8.00	0.43	0.181	(0.577)	0.163	0.018
97	8.08	0.50	0.209	(0.575)	0.188	0.021
98	8.17	0.50	0.209	(0.572)	0.188	0.021
99	8.25	0.50	0.209	(0.569)	0.188	0.021
100	8.33	0.50	0.209	(0.567)	0.188	0.021
101	8.42	0.50	0.209	(0.564)	0.188	0.021
102	8.50	0.50	0.209	(0.561)	0.188	0.021
103	8.58	0.53	0.222	(0.559)	0.200	0.022
104	8.67	0.53	0.222	(0.556)	0.200	0.022
105	8.75	0.53	0.222	(0.553)	0.200	0.022
106	8.83	0.57	0.236	(0.551)	0.213	0.024
107	8.92	0.57	0.236	(0.548)	0.213	0.024
108	9.00	0.57	0.236	(0.546)	0.213	0.024
109	9.08	0.63	0.264	(0.543)	0.238	0.026
110	9.17	0.63	0.264	(0.540)	0.238	0.026
111	9.25	0.63	0.264	(0.538)	0.238	0.026
112	9.33	0.67	0.278	(0.535)	0.250	0.028
113	9.42	0.67	0.278	(0.533)	0.250	0.028
114	9.50	0.67	0.278	(0.530)	0.250	0.028
115	9.58	0.70	0.292	(0.528)	0.263	0.029
116	9.67	0.70	0.292	(0.525)	0.263	0.029
117	9.75	0.70	0.292	(0.523)	0.263	0.029
118	9.83	0.73	0.306	(0.520)	0.275	0.031
119	9.92	0.73	0.306	(0.518)	0.275	0.031
120	10.00	0.73	0.306	(0.515)	0.275	0.031
121	10.08	0.50	0.209	(0.513)	0.188	0.021
122	10.17	0.50	0.209	(0.510)	0.188	0.021
123	10.25	0.50	0.209	(0.508)	0.188	0.021
124	10.33	0.50	0.209	(0.505)	0.188	0.021
125	10.42	0.50	0.209	(0.503)	0.188	0.021
126	10.50	0.50	0.209	(0.500)	0.188	0.021
127	10.58	0.67	0.278	(0.498)	0.250	0.028
128	10.67	0.67	0.278	(0.495)	0.250	0.028
129	10.75	0.67	0.278	(0.493)	0.250	0.028
130	10.83	0.67	0.278	(0.491)	0.250	0.028
131	10.92	0.67	0.278	(0.488)	0.250	0.028
132	11.00	0.67	0.278	(0.486)	0.250	0.028
133	11.08	0.63	0.264	(0.483)	0.238	0.026
134	11.17	0.63	0.264	(0.481)	0.238	0.026
135	11.25	0.63	0.264	(0.479)	0.238	0.026
136	11.33	0.63	0.264	(0.476)	0.238	0.026
137	11.42	0.63	0.264	(0.474)	0.238	0.026
138	11.50	0.63	0.264	(0.472)	0.238	0.026

139	11.58	0.57	0.236	(0.469)	0.213	0.024
140	11.67	0.57	0.236	(0.467)	0.213	0.024
141	11.75	0.57	0.236	(0.465)	0.213	0.024
142	11.83	0.60	0.250	(0.462)	0.225	0.025
143	11.92	0.60	0.250	(0.460)	0.225	0.025
144	12.00	0.60	0.250	(0.458)	0.225	0.025
145	12.08	0.83	0.348	(0.455)	0.313	0.035
146	12.17	0.83	0.348	(0.453)	0.313	0.035
147	12.25	0.83	0.348	(0.451)	0.313	0.035
148	12.33	0.87	0.361	(0.449)	0.325	0.036
149	12.42	0.87	0.361	(0.446)	0.325	0.036
150	12.50	0.87	0.361	(0.444)	0.325	0.036
151	12.58	0.93	0.389	(0.442)	0.350	0.039
152	12.67	0.93	0.389	(0.440)	0.350	0.039
153	12.75	0.93	0.389	(0.437)	0.350	0.039
154	12.83	0.97	0.403	(0.435)	0.363	0.040
155	12.92	0.97	0.403	(0.433)	0.363	0.040
156	13.00	0.97	0.403	(0.431)	0.363	0.040
157	13.08	1.13	0.473	(0.429)	0.425	0.047
158	13.17	1.13	0.473	(0.426)	0.425	0.047
159	13.25	1.13	0.473	0.424	(0.425)	0.048
160	13.33	1.13	0.473	0.422	(0.425)	0.051
161	13.42	1.13	0.473	0.420	(0.425)	0.053
162	13.50	1.13	0.473	0.418	(0.425)	0.055
163	13.58	0.77	0.320	(0.416)	0.288	0.032
164	13.67	0.77	0.320	(0.414)	0.288	0.032
165	13.75	0.77	0.320	(0.411)	0.288	0.032
166	13.83	0.77	0.320	(0.409)	0.288	0.032
167	13.92	0.77	0.320	(0.407)	0.288	0.032
168	14.00	0.77	0.320	(0.405)	0.288	0.032
169	14.08	0.90	0.375	(0.403)	0.338	0.038
170	14.17	0.90	0.375	(0.401)	0.338	0.038
171	14.25	0.90	0.375	(0.399)	0.338	0.038
172	14.33	0.87	0.361	(0.397)	0.325	0.036
173	14.42	0.87	0.361	(0.395)	0.325	0.036
174	14.50	0.87	0.361	(0.393)	0.325	0.036
175	14.58	0.87	0.361	(0.391)	0.325	0.036
176	14.67	0.87	0.361	(0.389)	0.325	0.036
177	14.75	0.87	0.361	(0.387)	0.325	0.036
178	14.83	0.83	0.348	(0.385)	0.313	0.035
179	14.92	0.83	0.348	(0.383)	0.313	0.035
180	15.00	0.83	0.348	(0.381)	0.313	0.035
181	15.08	0.80	0.334	(0.379)	0.300	0.033
182	15.17	0.80	0.334	(0.377)	0.300	0.033
183	15.25	0.80	0.334	(0.375)	0.300	0.033
184	15.33	0.77	0.320	(0.373)	0.288	0.032
185	15.42	0.77	0.320	(0.371)	0.288	0.032
186	15.50	0.77	0.320	(0.369)	0.288	0.032
187	15.58	0.63	0.264	(0.368)	0.238	0.026
188	15.67	0.63	0.264	(0.366)	0.238	0.026
189	15.75	0.63	0.264	(0.364)	0.238	0.026
190	15.83	0.63	0.264	(0.362)	0.238	0.026
191	15.92	0.63	0.264	(0.360)	0.238	0.026
192	16.00	0.63	0.264	(0.358)	0.238	0.026
193	16.08	0.13	0.056	(0.356)	0.050	0.006
194	16.17	0.13	0.056	(0.355)	0.050	0.006
195	16.25	0.13	0.056	(0.353)	0.050	0.006
196	16.33	0.13	0.056	(0.351)	0.050	0.006
197	16.42	0.13	0.056	(0.349)	0.050	0.006
198	16.50	0.13	0.056	(0.347)	0.050	0.006
199	16.58	0.10	0.042	(0.346)	0.038	0.004
200	16.67	0.10	0.042	(0.344)	0.038	0.004
201	16.75	0.10	0.042	(0.342)	0.038	0.004
202	16.83	0.10	0.042	(0.340)	0.038	0.004
203	16.92	0.10	0.042	(0.339)	0.038	0.004
204	17.00	0.10	0.042	(0.337)	0.038	0.004
205	17.08	0.17	0.070	(0.335)	0.063	0.007
206	17.17	0.17	0.070	(0.334)	0.063	0.007
207	17.25	0.17	0.070	(0.332)	0.063	0.007
208	17.33	0.17	0.070	(0.330)	0.063	0.007
209	17.42	0.17	0.070	(0.329)	0.063	0.007

210	17.50	0.17	0.070	(0.327)	0.063	0.007
211	17.58	0.17	0.070	(0.325)	0.063	0.007
212	17.67	0.17	0.070	(0.324)	0.063	0.007
213	17.75	0.17	0.070	(0.322)	0.063	0.007
214	17.83	0.13	0.056	(0.320)	0.050	0.006
215	17.92	0.13	0.056	(0.319)	0.050	0.006
216	18.00	0.13	0.056	(0.317)	0.050	0.006
217	18.08	0.13	0.056	(0.316)	0.050	0.006
218	18.17	0.13	0.056	(0.314)	0.050	0.006
219	18.25	0.13	0.056	(0.313)	0.050	0.006
220	18.33	0.13	0.056	(0.311)	0.050	0.006
221	18.42	0.13	0.056	(0.310)	0.050	0.006
222	18.50	0.13	0.056	(0.308)	0.050	0.006
223	18.58	0.10	0.042	(0.307)	0.038	0.004
224	18.67	0.10	0.042	(0.305)	0.038	0.004
225	18.75	0.10	0.042	(0.304)	0.038	0.004
226	18.83	0.07	0.028	(0.302)	0.025	0.003
227	18.92	0.07	0.028	(0.301)	0.025	0.003
228	19.00	0.07	0.028	(0.299)	0.025	0.003
229	19.08	0.10	0.042	(0.298)	0.038	0.004
230	19.17	0.10	0.042	(0.297)	0.038	0.004
231	19.25	0.10	0.042	(0.295)	0.038	0.004
232	19.33	0.13	0.056	(0.294)	0.050	0.006
233	19.42	0.13	0.056	(0.292)	0.050	0.006
234	19.50	0.13	0.056	(0.291)	0.050	0.006
235	19.58	0.10	0.042	(0.290)	0.038	0.004
236	19.67	0.10	0.042	(0.288)	0.038	0.004
237	19.75	0.10	0.042	(0.287)	0.038	0.004
238	19.83	0.07	0.028	(0.286)	0.025	0.003
239	19.92	0.07	0.028	(0.285)	0.025	0.003
240	20.00	0.07	0.028	(0.283)	0.025	0.003
241	20.08	0.10	0.042	(0.282)	0.038	0.004
242	20.17	0.10	0.042	(0.281)	0.038	0.004
243	20.25	0.10	0.042	(0.280)	0.038	0.004
244	20.33	0.10	0.042	(0.278)	0.038	0.004
245	20.42	0.10	0.042	(0.277)	0.038	0.004
246	20.50	0.10	0.042	(0.276)	0.038	0.004
247	20.58	0.10	0.042	(0.275)	0.038	0.004
248	20.67	0.10	0.042	(0.274)	0.038	0.004
249	20.75	0.10	0.042	(0.273)	0.038	0.004
250	20.83	0.07	0.028	(0.271)	0.025	0.003
251	20.92	0.07	0.028	(0.270)	0.025	0.003
252	21.00	0.07	0.028	(0.269)	0.025	0.003
253	21.08	0.10	0.042	(0.268)	0.038	0.004
254	21.17	0.10	0.042	(0.267)	0.038	0.004
255	21.25	0.10	0.042	(0.266)	0.038	0.004
256	21.33	0.07	0.028	(0.265)	0.025	0.003
257	21.42	0.07	0.028	(0.264)	0.025	0.003
258	21.50	0.07	0.028	(0.263)	0.025	0.003
259	21.58	0.10	0.042	(0.262)	0.038	0.004
260	21.67	0.10	0.042	(0.261)	0.038	0.004
261	21.75	0.10	0.042	(0.260)	0.038	0.004
262	21.83	0.07	0.028	(0.259)	0.025	0.003
263	21.92	0.07	0.028	(0.258)	0.025	0.003
264	22.00	0.07	0.028	(0.258)	0.025	0.003
265	22.08	0.10	0.042	(0.257)	0.038	0.004
266	22.17	0.10	0.042	(0.256)	0.038	0.004
267	22.25	0.10	0.042	(0.255)	0.038	0.004
268	22.33	0.07	0.028	(0.254)	0.025	0.003
269	22.42	0.07	0.028	(0.253)	0.025	0.003
270	22.50	0.07	0.028	(0.253)	0.025	0.003
271	22.58	0.07	0.028	(0.252)	0.025	0.003
272	22.67	0.07	0.028	(0.251)	0.025	0.003
273	22.75	0.07	0.028	(0.251)	0.025	0.003
274	22.83	0.07	0.028	(0.250)	0.025	0.003
275	22.92	0.07	0.028	(0.249)	0.025	0.003
276	23.00	0.07	0.028	(0.249)	0.025	0.003
277	23.08	0.07	0.028	(0.248)	0.025	0.003
278	23.17	0.07	0.028	(0.248)	0.025	0.003
279	23.25	0.07	0.028	(0.247)	0.025	0.003
280	23.33	0.07	0.028	(0.247)	0.025	0.003

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281  23.42     0.07      0.028       (  0.246)       0.025        0.003
282  23.50     0.07      0.028       (  0.246)       0.025        0.003
283  23.58     0.07      0.028       (  0.245)       0.025        0.003
284  23.67     0.07      0.028       (  0.245)       0.025        0.003
285  23.75     0.07      0.028       (  0.245)       0.025        0.003
286  23.83     0.07      0.028       (  0.244)       0.025        0.003
287  23.92     0.07      0.028       (  0.244)       0.025        0.003
288  24.00     0.07      0.028       (  0.244)       0.025        0.003
               (Loss Rate Not Used)
    Sum =     100.0                                    Sum =     4.2
      Flood volume = Effective rainfall      0.35(In)
       times area     175.0(Ac.)/[(In)/(Ft.)] =       5.1(Ac.Ft)
      Total soil loss =      3.13(In)
      Total soil loss =    45.599(Ac.Ft)
      Total rainfall =      3.48(In)
      Flood volume =      221734.8 Cubic Feet
      Total soil loss =     1986284.5 Cubic Feet
      ---------------------------------------------------------------------
       Peak flow rate of this hydrograph =      7.707(CFS)
      ---------------------------------------------------------------------
      +++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
                          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
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   0+ 5       0.0001      0.01  Q         |         |         |         |
   0+10       0.0002      0.03  Q         |         |         |         |
   0+15       0.0007      0.06  Q         |         |         |         |
   0+20       0.0015      0.12  Q         |         |         |         |
   0+25       0.0028      0.19  Q         |         |         |         |
   0+30       0.0046      0.27  VQ        |         |         |         |
   0+35       0.0070      0.34  VQ        |         |         |         |
   0+40       0.0098      0.40  VQ        |         |         |         |
   0+45       0.0129      0.46  VQ        |         |         |         |
   0+50       0.0164      0.50  V Q       |         |         |         |
   0+55       0.0202      0.55  V Q       |         |         |         |
   1+ 0       0.0242      0.59  V Q       |         |         |         |
   1+ 5       0.0285      0.63  V Q       |         |         |         |
   1+10       0.0331      0.66  V Q       |         |         |         |
   1+15       0.0379      0.69  V Q       |         |         |         |
   1+20       0.0427      0.70  V Q       |         |         |         |
   1+25       0.0475      0.70  V Q       |         |         |         |
   1+30       0.0523      0.69  V Q       |         |         |         |
   1+35       0.0570      0.69  V Q       |         |         |         |
   1+40       0.0617      0.68  V Q       |         |         |         |
   1+45       0.0664      0.69  V Q       |         |         |         |
   1+50       0.0712      0.69  V Q       |         |         |         |
   1+55       0.0761      0.71  V Q       |         |         |         |
   2+ 0       0.0811      0.73  V Q       |         |         |         |
   2+ 5       0.0863      0.76  V  Q      |         |         |         |
   2+10       0.0917      0.79  V  Q      |         |         |         |
   2+15       0.0974      0.82  V  Q      |         |         |         |
   2+20       0.1032      0.85  V  Q      |         |         |         |
   2+25       0.1092      0.87  V  Q      |         |         |         |
   2+30       0.1153      0.88  V  Q      |         |         |         |
   2+35       0.1215      0.90  V  Q      |         |         |         |
   2+40       0.1278      0.92  |V Q      |         |         |         |
   2+45       0.1343      0.94  |V Q      |         |         |         |
   2+50       0.1410      0.98  |V Q      |         |         |         |
   2+55       0.1480      1.01  |V  Q     |         |         |         |
   3+ 0       0.1552      1.05  |V  Q     |         |         |         |
   3+ 5       0.1626      1.08  |V  Q     |         |         |         |
   3+10       0.1702      1.10  |V  Q     |         |         |         |
   3+15       0.1779      1.12  |V  Q     |         |         |         |
   3+20       0.1857      1.13  |V  Q     |         |         |         |
   3+25       0.1935      1.14  |V  Q     |         |         |         |
   3+30       0.2014      1.15  |V  Q     |         |         |         |
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3+35      0.2094      1.16  |V  Q     |         |         |         |
3+40      0.2174      1.16  |V  Q     |         |         |         |
3+45      0.2255      1.17  |V  Q     |         |         |         |
3+50      0.2336      1.18  |V  Q     |         |         |         |
3+55      0.2419      1.20  |V  Q     |         |         |         |
4+ 0      0.2502      1.22  |V  Q     |         |         |         |
4+ 5      0.2588      1.25  | V Q     |         |         |         |
4+10      0.2677      1.28  | V  Q    |         |         |         |
4+15      0.2767      1.31  | V  Q    |         |         |         |
4+20      0.2860      1.35  | V  Q    |         |         |         |
4+25      0.2955      1.38  | V  Q    |         |         |         |
4+30      0.3051      1.41  | V  Q    |         |         |         |
4+35      0.3151      1.44  | V  Q    |         |         |         |
4+40      0.3253      1.48  | V  Q    |         |         |         |
4+45      0.3358      1.52  | V   Q   |         |         |         |
4+50      0.3465      1.56  | V   Q   |         |         |         |
4+55      0.3574      1.59  | V   Q   |         |         |         |
5+ 0      0.3686      1.62  | V   Q   |         |         |         |
5+ 5      0.3800      1.66  | V   Q   |         |         |         |
5+10      0.3915      1.68  |  V  Q   |         |         |         |
5+15      0.4031      1.68  |  V  Q   |         |         |         |
5+20      0.4146      1.67  |  V  Q   |         |         |         |
5+25      0.4259      1.64  |  V  Q   |         |         |         |
5+30      0.4371      1.62  |  V  Q   |         |         |         |
5+35      0.4482      1.62  |  V  Q   |         |         |         |
5+40      0.4595      1.63  |  V  Q   |         |         |         |
5+45      0.4710      1.67  |  V  Q   |         |         |         |
5+50      0.4827      1.71  |  V  Q   |         |         |         |
5+55      0.4948      1.75  |  V   Q  |         |         |         |
6+ 0      0.5071      1.79  |  V   Q  |         |         |         |
6+ 5      0.5197      1.82  |   V  Q  |         |         |         |
6+10      0.5325      1.86  |   V  Q  |         |         |         |
6+15      0.5455      1.89  |   V  Q  |         |         |         |
6+20      0.5588      1.93  |   V  Q  |         |         |         |
6+25      0.5723      1.97  |   V  Q  |         |         |         |
6+30      0.5861      2.01  |   V   Q |         |         |         |
6+35      0.6002      2.04  |   V   Q |         |         |         |
6+40      0.6145      2.08  |   V   Q |         |         |         |
6+45      0.6290      2.11  |   V   Q |         |         |         |
6+50      0.6438      2.15  |    V  Q |         |         |         |
6+55      0.6589      2.19  |    V  Q |         |         |         |
7+ 0      0.6743      2.23  |    V  Q |         |         |         |
7+ 5      0.6899      2.27  |    V   Q|         |         |         |
7+10      0.7057      2.29  |    V   Q|         |         |         |
7+15      0.7216      2.31  |    V   Q|         |         |         |
7+20      0.7377      2.33  |    V   Q|         |         |         |
7+25      0.7539      2.35  |    V   Q|         |         |         |
7+30      0.7703      2.38  |     V  Q|         |         |         |
7+35      0.7870      2.42  |     V  Q|         |         |         |
7+40      0.8040      2.47  |     V  Q|         |         |         |
7+45      0.8214      2.53  |     V   Q         |         |         |
7+50      0.8392      2.59  |     V   Q         |         |         |
7+55      0.8575      2.65  |     V   Q         |         |         |
8+ 0      0.8762      2.72  |     V   Q         |         |         |
8+ 5      0.8954      2.79  |      V  |Q        |         |         |
8+10      0.9152      2.87  |      V  |Q        |         |         |
8+15      0.9355      2.96  |      V  |Q        |         |         |
8+20      0.9566      3.05  |      V  | Q       |         |         |
8+25      0.9782      3.14  |      V  | Q       |         |         |
8+30      1.0004      3.23  |      V  | Q       |         |         |
8+35      1.0232      3.30  |       V |  Q      |         |         |
8+40      1.0463      3.36  |       V |  Q      |         |         |
8+45      1.0699      3.42  |       V |  Q      |         |         |
8+50      1.0938      3.48  |       V |  Q      |         |         |
8+55      1.1182      3.55  |       V |   Q     |         |         |
9+ 0      1.1432      3.62  |       V |   Q     |         |         |
9+ 5      1.1686      3.70  |        V|   Q     |         |         |
9+10      1.1947      3.78  |        V|    Q    |         |         |
9+15      1.2214      3.88  |        V|    Q    |         |         |
9+20      1.2488      3.98  |        V|    Q    |         |         |
9+25      1.2769      4.09  |         V     Q   |         |         |
```

9+30	1.3058	4.20	|	V	Q	|	|	|
9+35	1.3354	4.30	|	V	Q	|	|	|
9+40	1.3657	4.39	|	V	Q	|	|	|
9+45	1.3966	4.48	|	V	Q	|	|	|
9+50	1.4281	4.57	|	|V	Q	|	|	|
9+55	1.4601	4.66	|	|V	Q	|	|	|
10+ 0	1.4928	4.75	|	|V	Q	|	|	|
10+ 5	1.5259	4.80	|	|V	Q|	|	|	|
10+10	1.5590	4.80	|	| V	Q|	|	|	|
10+15	1.5916	4.75	|	| V	Q |	|	|	|
10+20	1.6235	4.62	|	| V	Q |	|	|	|
10+25	1.6542	4.46	|	| V	Q |	|	|	|
10+30	1.6836	4.28	|	| V	Q |	|	|	|
10+35	1.7123	4.16	|	| V	Q |	|	|	|
10+40	1.7407	4.12	|	| V	Q |	|	|	|
10+45	1.7692	4.15	|	| V	Q |	|	|	|
10+50	1.7984	4.23	|	| V	Q |	|	|	|
10+55	1.8284	4.35	|	| V	Q |	|	|	|
11+ 0	1.8592	4.48	|	| V	Q |	|	|	|
11+ 5	1.8907	4.58	|	| V	Q |	|	|	|
11+10	1.9226	4.63	|	| V	Q |	|	|	|
11+15	1.9547	4.66	|	| V	Q |	|	|	|
11+20	1.9868	4.66	|	| V	Q |	|	|	|
11+25	2.0189	4.66	|	| V	Q |	|	|	|
11+30	2.0509	4.65	|	| V	Q |	|	|	|
11+35	2.0828	4.63	|	| V	Q |	|	|	|
11+40	2.1145	4.61	|	| V	Q |	|	|	|
11+45	2.1460	4.57	|	| V	Q |	|	|	|
11+50	2.1772	4.53	|	| V	Q |	|	|	|
11+55	2.2080	4.48	|	| V	Q |	|	|	|
12+ 0	2.2386	4.44	|	| V	Q |	|	|	|
12+ 5	2.2692	4.45	|	| V	Q |	|	|	|
12+10	2.3004	4.52	|	| V	Q |	|	|	|
12+15	2.3324	4.65	|	| V	Q |	|	|	|
12+20	2.3657	4.84	|	| V	Q|	|	|	|
12+25	2.4006	5.06	|	| V	Q	|	|	|
12+30	2.4370	5.30	|	| V	|Q	|	|	|
12+35	2.4749	5.50	|	| V	|Q	|	|	|
12+40	2.5139	5.66	|	| V	| Q	|	|	|
12+45	2.5539	5.81	|	| V	Q	|	|	|
12+50	2.5949	5.95	|	| V	Q	|	|	|
12+55	2.6368	6.09	|	| V	Q	|	|	|
13+ 0	2.6796	6.22	|	|	|V	Q |	|	|
13+ 5	2.7234	6.35	|	|	|V	Q |	|	|
13+10	2.7682	6.51	|	|	|V	Q |	|	|
13+15	2.8143	6.69	|	|	| V	Q |	|	|
13+20	2.8618	6.90	|	|	| V	Q |	|	|
13+25	2.9110	7.14	|	|	| V	Q |	|	|
13+30	2.9621	7.42	|	|	| V	Q|	|	|
13+35	3.0145	7.62	|	|	| V	Q	|	|
13+40	3.0676	7.71	|	|	| V	Q	|	|
13+45	3.1204	7.66	|	|	| V	Q	|	|
13+50	3.1717	7.46	|	|	| V	Q|	|	|
13+55	3.2210	7.15	|	|	| V	Q |	|	|
14+ 0	3.2677	6.78	|	|	| V	Q |	|	|
14+ 5	3.3125	6.51	|	|	| V	Q |	|	|
14+10	3.3564	6.37	|	|	| Q	V |	|	|
14+15	3.4000	6.32	|	|	| Q	V |	|	|
14+20	3.4436	6.34	|	|	| Q	V |	|	|
14+25	3.4877	6.40	|	|	| Q	V |	|	|
14+30	3.5321	6.45	|	|	| Q	V |	|	|
14+35	3.5767	6.48	|	|	| Q	V |	|	|
14+40	3.6214	6.49	|	|	| Q	V |	|	|
14+45	3.6660	6.47	|	|	| Q	V |	|	|
14+50	3.7104	6.46	|	|	| Q	V|	|	|
14+55	3.7548	6.44	|	|	| Q	V|	|	|
15+ 0	3.7989	6.41	|	|	| Q	V|	|	|
15+ 5	3.8429	6.38	|	|	| Q	V	|	|
15+10	3.8864	6.33	|	|	| Q	V	|	|
15+15	3.9297	6.28	|	|	| Q	V	|	|
15+20	3.9726	6.23	|	|	| Q	|V	|	|

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15+25       4.0150      6.17  |          |          |    Q     |V         |
15+30       4.0571      6.11  |          |          |    Q     |V         |
15+35       4.0986      6.03  |          |          |    Q     | V        |
15+40       4.1395      5.94  |          |          |  Q       | V        |
15+45       4.1796      5.82  |          |          |  Q       | V        |
15+50       4.2187      5.68  |          |          | Q        |  V       |
15+55       4.2568      5.52  |          |          | Q        |  V       |
16+ 0       4.2938      5.38  |          |          |Q         |  V       |
16+ 5       4.3296      5.20  |          |          Q          |   V      |
16+10       4.3638      4.96  |          |        Q|          |   V      |
16+15       4.3957      4.63  |          |       Q |          |   V      |
16+20       4.4247      4.21  |          |     Q   |          |   V      |
16+25       4.4503      3.71  |          |   Q     |          |   V      |
16+30       4.4724      3.22  |          | Q       |          |    V     |
16+35       4.4919      2.82  |          |Q        |          |    V     |
16+40       4.5093      2.54  |          Q         |          |    V     |
16+45       4.5253      2.31  |        Q|          |          |    V     |
16+50       4.5399      2.13  |       Q |          |          |    V     |
16+55       4.5536      1.98  |      Q  |          |          |    V     |
17+ 0       4.5662      1.83  |      Q  |          |          |    V     |
17+ 5       4.5780      1.72  |     Q   |          |          |    V     |
17+10       4.5893      1.64  |     Q   |          |          |     V    |
17+15       4.6002      1.58  |     Q   |          |          |     V    |
17+20       4.6109      1.55  |     Q   |          |          |     V    |
17+25       4.6215      1.55  |     Q   |          |          |     V    |
17+30       4.6322      1.55  |     Q   |          |          |     V    |
17+35       4.6429      1.55  |     Q   |          |          |     V    |
17+40       4.6534      1.53  |     Q   |          |          |     V    |
17+45       4.6639      1.51  |     Q   |          |          |     V    |
17+50       4.6741      1.49  |    Q    |          |          |     V    |
17+55       4.6841      1.45  |    Q    |          |          |     V    |
18+ 0       4.6939      1.42  |    Q    |          |          |     V    |
18+ 5       4.7033      1.37  |    Q    |          |          |     V    |
18+10       4.7125      1.32  |    Q    |          |          |      V   |
18+15       4.7212      1.27  |    Q    |          |          |      V   |
18+20       4.7297      1.23  |   Q     |          |          |      V   |
18+25       4.7380      1.20  |   Q     |          |          |      V   |
18+30       4.7461      1.17  |   Q     |          |          |      V   |
18+35       4.7539      1.15  |   Q     |          |          |      V   |
18+40       4.7616      1.12  |   Q     |          |          |      V   |
18+45       4.7691      1.08  |   Q     |          |          |      V   |
18+50       4.7762      1.04  |   Q     |          |          |      V   |
18+55       4.7830      0.98  |  Q      |          |          |      V   |
19+ 0       4.7893      0.92  |  Q      |          |          |      V   |
19+ 5       4.7952      0.86  |  Q      |          |          |      V   |
19+10       4.8008      0.81  |  Q      |          |          |      V   |
19+15       4.8062      0.78  |  Q      |          |          |      V   |
19+20       4.8115      0.77  |  Q      |          |          |      V   |
19+25       4.8168      0.78  |  Q      |          |          |      V   |
19+30       4.8223      0.80  |  Q      |          |          |      V   |
19+35       4.8280      0.82  |  Q      |          |          |      V   |
19+40       4.8338      0.84  |  Q      |          |          |      V   |
19+45       4.8396      0.85  |  Q      |          |          |       V  |
19+50       4.8454      0.84  |  Q      |          |          |       V  |
19+55       4.8510      0.82  |  Q      |          |          |       V  |
20+ 0       4.8564      0.78  |  Q      |          |          |       V  |
20+ 5       4.8615      0.74  | Q       |          |          |       V  |
20+10       4.8664      0.71  | Q       |          |          |       V  |
20+15       4.8711      0.69  | Q       |          |          |       V  |
20+20       4.8758      0.68  | Q       |          |          |       V  |
20+25       4.8806      0.69  | Q       |          |          |       V  |
20+30       4.8855      0.71  | Q       |          |          |       V  |
20+35       4.8904      0.72  | Q       |          |          |       V  |
20+40       4.8955      0.73  | Q       |          |          |       V  |
20+45       4.9005      0.74  | Q       |          |          |       V  |
20+50       4.9056      0.73  | Q       |          |          |       V  |
20+55       4.9106      0.72  | Q       |          |          |       V  |
21+ 0       4.9154      0.71  | Q       |          |          |       V  |
21+ 5       4.9201      0.68  | Q       |          |          |       V  |
21+10       4.9247      0.66  | Q       |          |          |       V  |
21+15       4.9292      0.65  | Q       |          |          |       V  |
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21+20	4.9336	0.65	| Q	|	|	|	V |
21+25	4.9381	0.65	| Q	|	|	|	V |
21+30	4.9426	0.65	| Q	|	|	|	V |
21+35	4.9470	0.64	| Q	|	|	|	V |
21+40	4.9514	0.63	| Q	|	|	|	V |
21+45	4.9557	0.63	| Q	|	|	|	V |
21+50	4.9600	0.63	| Q	|	|	|	V |
21+55	4.9644	0.63	| Q	|	|	|	V|
22+ 0	4.9688	0.64	| Q	|	|	|	V|
22+ 5	4.9731	0.63	| Q	|	|	|	V|
22+10	4.9774	0.62	| Q	|	|	|	V|
22+15	4.9816	0.62	| Q	|	|	|	V|
22+20	4.9859	0.62	| Q	|	|	|	V|
22+25	4.9902	0.62	| Q	|	|	|	V|
22+30	4.9945	0.63	| Q	|	|	|	V|
22+35	4.9988	0.62	| Q	|	|	|	V|
22+40	5.0029	0.60	| Q	|	|	|	V|
22+45	5.0069	0.58	| Q	|	|	|	V|
22+50	5.0108	0.56	| Q	|	|	|	V|
22+55	5.0146	0.55	| Q	|	|	|	V|
23+ 0	5.0183	0.54	| Q	|	|	|	V|
23+ 5	5.0220	0.53	| Q	|	|	|	V|
23+10	5.0256	0.53	| Q	|	|	|	V|
23+15	5.0292	0.52	| Q	|	|	|	V|
23+20	5.0328	0.52	| Q	|	|	|	V|
23+25	5.0364	0.52	| Q	|	|	|	V|
23+30	5.0399	0.51	| Q	|	|	|	V|
23+35	5.0434	0.51	| Q	|	|	|	V|
23+40	5.0470	0.51	| Q	|	|	|	V|
23+45	5.0505	0.51	| Q	|	|	|	V|
23+50	5.0540	0.51	| Q	|	|	|	V|
23+55	5.0574	0.51	| Q	|	|	|	V|
24+ 0	5.0609	0.50	| Q	|	|	|	V|
24+ 5	5.0643	0.50	|Q	|	|	|	V|
24+10	5.0676	0.47	|Q	|	|	|	V|
24+15	5.0706	0.44	|Q	|	|	|	V|
24+20	5.0732	0.39	|Q	|	|	|	V|
24+25	5.0755	0.32	|Q	|	|	|	V|
24+30	5.0773	0.26	|Q	|	|	|	V|
24+35	5.0788	0.21	Q	|	|	|	V|
24+40	5.0800	0.18	Q	|	|	|	V|
24+45	5.0811	0.15	Q	|	|	|	V|
24+50	5.0820	0.14	Q	|	|	|	V|
24+55	5.0828	0.12	Q	|	|	|	V|
25+ 0	5.0836	0.11	Q	|	|	|	V|
25+ 5	5.0843	0.10	Q	|	|	|	V|
25+10	5.0849	0.09	Q	|	|	|	V|
25+15	5.0854	0.08	Q	|	|	|	V|
25+20	5.0859	0.07	Q	|	|	|	V|
25+25	5.0864	0.07	Q	|	|	|	V|
25+30	5.0868	0.06	Q	|	|	|	V|
25+35	5.0872	0.05	Q	|	|	|	V|
25+40	5.0875	0.05	Q	|	|	|	V|
25+45	5.0878	0.04	Q	|	|	|	V|
25+50	5.0881	0.04	Q	|	|	|	V|
25+55	5.0884	0.04	Q	|	|	|	V|
26+ 0	5.0886	0.03	Q	|	|	|	V|
26+ 5	5.0888	0.03	Q	|	|	|	V|
26+10	5.0890	0.03	Q	|	|	|	V|
26+15	5.0892	0.02	Q	|	|	|	V|
26+20	5.0893	0.02	Q	|	|	|	V|
26+25	5.0895	0.02	Q	|	|	|	V|
26+30	5.0896	0.02	Q	|	|	|	V|
26+35	5.0897	0.02	Q	|	|	|	V|
26+40	5.0898	0.01	Q	|	|	|	V|
26+45	5.0899	0.01	Q	|	|	|	V|
26+50	5.0900	0.01	Q	|	|	|	V|
26+55	5.0900	0.01	Q	|	|	|	V|
27+ 0	5.0901	0.01	Q	|	|	|	V|
27+ 5	5.0901	0.01	Q	|	|	|	V|
27+10	5.0902	0.01	Q	|	|	|	V|

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   27+15       5.0902      0.01  Q         |         |         |        V|
   27+20       5.0903      0.00  Q         |         |         |        V|
   27+25       5.0903      0.00  Q         |         |         |        V|
   27+30       5.0903      0.00  Q         |         |         |        V|
   27+35       5.0903      0.00  Q         |         |         |        V|
   27+40       5.0903      0.00  Q         |         |         |        V|
   27+45       5.0903      0.00  Q         |         |         |         V
-------------------------------------------------------------------------
```

SECTION 3 – ROUTING

Depth Versus Discharge

Routing 10 Year 3 Hour Storm

Routing 10 Year 24 Hour Storm

TRACT 34271 DETENTION BASIN STORAGE/DISCHARGE

Elevation	Area (Ac-ft)	H (ft)	Storage (Ac-ft)	Discharge Infiltration (cfs)	Discharge 24" PVC (cfs)	Total Discharge (cfs)
45.00	0.3310	0	0.0000	0	0	0
46.00	0.4320	1	0.3815	0.50	0	0.50
47.00	0.4930	2	0.8440	0.50	16.379	16.88
48.00	0.5710	3	1.3760	0.50	23.163	23.66
49.00	0.6600	4	1.9915	0.50	28.369	28.87
50.00	0.7550	5	2.6990	0.50	32.758	33.26
51.00	0.8660	6	3.5095	0.50	36.624	37.12
52.00	1.0600	7	4.4725	0.50	40.120	40.62

Equations

$Q_{24"CMP} = CA(2gH)^{½}$

C=0.65

A=area=3.14 SF

g=32.2

TRACT 34271 DETENTION BASIN STORAGE/DISCHARGE

45	0		
46	0.1853	0	0.1853
47	0.4124	0.0792	0.4916
48	0.6846	0.1978	0.8824
49	1	0.3578	1.3578
50	1.38	0.566	1.946
51	1.81	0.812	2.622

```
                    FLOOD HYDROGRAPH ROUTING PROGRAM
                Copyright (c) CIVILCADD/CIVILDESIGN, 1989 - 2022
                            Study date: 11/21/22


      ---------------------------------------------------------------------


      OFFSITE TRIBUTARY AREA TO VERNON/RAMONA EXPRESSWAY
      10 YEAR/3 HOUR STORM ROUTING


      ---------------------------------------------------------------------


      Program License Serial Number 6556

      ---------------------------------------------------------------------
      ******************** HYDROGRAPH INFORMATION **********************

                    From study/file name: tr34271offsite310.rte
      ****************************HYDROGRAPH DATA**************************
                    Number of intervals =    81
                    Time interval =    5.0 (Min.)
                    Maximum/Peak flow rate =       68.418 (CFS)
                    Total volume =       5.776 (Ac.Ft)
             Status of hydrographs being held in storage
                         Stream 1  Stream 2  Stream 3  Stream 4  Stream 5
             Peak (CFS)      0.000     0.000     0.000     0.000     0.000
             Vol (Ac.Ft)      0.000     0.000     0.000     0.000     0.000
      ***********************************************************************



      ++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
      Process from Point/Station        1.000 to Point/Station        2.000
      **** RETARDING BASIN ROUTING ****
      ________________________________________________________________________

      User entry of depth-outflow-storage data
      ---------------------------------------------------------------------
      Total number of inflow hydrograph intervals = 81
      Hydrograph time unit =  5.000 (Min.)
      Initial depth in storage basin =   0.00(Ft.)
      ---------------------------------------------------------------------
      ---------------------------------------------------------------------
      Initial basin depth =   0.00 (Ft.)
      Initial basin storage =      0.00 (Ac.Ft)
      Initial basin outflow =   0.00 (CFS)
      ---------------------------------------------------------------------
      ---------------------------------------------------------------------
      Depth vs. Storage and Depth vs. Discharge data:
       Basin Depth  Storage    Outflow   (S-O*dt/2)   (S+O*dt/2)
           (Ft.)    (Ac.Ft)    (CFS)     (Ac.Ft)    (Ac.Ft)
      ---------------------------------------------------------------------
        0.000      0.000      0.000      0.000        0.000
        1.000      0.382      0.500      0.380        0.384
        2.000      0.844     16.880      0.786        0.902
        3.000      1.376     23.660      1.295        1.457
        4.000      1.992     28.870      1.893        2.091
        5.000      2.699     33.260      2.584        2.814
        6.000      3.510     37.120      3.382        3.638
        7.000      4.473     40.620      4.333        4.613
      ---------------------------------------------------------------------
                    Hydrograph Detention Basin Routing
      ---------------------------------------------------------------------

      Graph values: 'I'= unit inflow; 'O'=outflow at time shown
      ---------------------------------------------------------------------
Time   Inflow  Outflow    Storage                                        Depth
```

(Hours)	(CFS)	(CFS)	(Ac.Ft)	.0	17.1	34.21	51.31	68.42	(Ft.)
0.083	0.06	0.00	0.000	O	|	|	|	|	0.00
0.167	0.23	0.00	0.001	O	|	|	|	|	0.00
0.250	0.51	0.00	0.004	O	|	|	|	|	0.01
0.333	0.91	0.01	0.009	O	|	|	|	|	0.02
0.417	1.41	0.02	0.016	O	|	|	|	|	0.04
0.500	1.95	0.04	0.028	O	|	|	|	|	0.07
0.583	2.41	0.06	0.042	OI	|	|	|	|	0.11
0.667	2.80	0.08	0.060	OI	|	|	|	|	0.16
0.750	3.16	0.10	0.080	OI	|	|	|	|	0.21
0.833	3.45	0.13	0.102	OI	|	|	|	|	0.27
0.917	3.68	0.16	0.125	OI	|	|	|	|	0.33
1.000	3.86	0.20	0.150	OI	|	|	|	|	0.39
1.083	4.03	0.23	0.176	OI	|	|	|	|	0.46
1.167	4.21	0.26	0.202	OI	|	|	|	|	0.53
1.250	4.42	0.30	0.230	O I	|	|	|	|	0.60
1.333	4.67	0.34	0.259	O I	|	|	|	|	0.68
1.417	4.97	0.38	0.290	O I	|	|	|	|	0.76
1.500	5.27	0.42	0.322	O I	|	|	|	|	0.84
1.583	5.56	0.47	0.357	O I	|	|	|	|	0.93
1.667	5.84	0.84	0.391	O I	|	|	|	|	1.02
1.750	6.23	1.97	0.423	O I	|	|	|	|	1.09
1.833	6.71	2.95	0.451	|O I	|	|	|	|	1.15
1.917	7.20	3.82	0.476	|O I	|	|	|	|	1.20
2.000	7.68	4.61	0.498	| OI	|	|	|	|	1.25
2.083	8.10	5.32	0.518	| OI	|	|	|	|	1.29
2.167	8.91	6.01	0.538	| O I	|	|	|	|	1.34
2.250	10.75	6.84	0.561	| O I	|	|	|	|	1.39
2.333	13.48	7.99	0.593	| O I	|	|	|	|	1.46
2.417	18.36	9.72	0.642	| O I	|	|	|	|	1.56
2.500	26.22	12.45	0.719	| O | I	|	|	|	|	1.73
2.583	37.12	16.64	0.837	| O| |I	|	|	|	|	1.99
2.667	49.46	19.03	1.012	| O | I|	|	|	|	|	2.32
2.750	60.05	22.03	1.248	| | O | | I |	|	|	|	|	2.76
2.833	67.53	24.93	1.526	| | O | | | I|	|	|	|	|	3.24
2.917	68.42	27.36	1.814	| | O | | | I	|	|	|	|	3.71
3.000	61.95	29.34	2.067	| | O | | I |	|	|	|	|	4.11
3.083	50.63	30.47	2.249	| | O | | I|	|	|	|	|	4.36
3.167	38.56	31.06	2.344	| | O | I |	|	|	|	|	4.50
3.250	29.32	31.18	2.364	| | IO | |	|	|	|	|	4.53
3.333	23.12	30.97	2.330	| | I O | |	|	|	|	|	4.48
3.417	18.82	30.55	2.263	| I O | |	|	|	|	|	4.38
3.500	15.97	30.00	2.174	| I| O | |	|	|	|	|	4.26
3.583	13.89	29.37	2.073	| I | O | |	|	|	|	|	4.11
3.667	12.22	28.62	1.963	| I | O | |	|	|	|	|	3.95
3.750	10.92	27.66	1.849	| I | O | |	|	|	|	|	3.77
3.833	9.76	26.68	1.733	| I | O | |	|	|	|	|	3.58
3.917	8.66	25.69	1.616	| I | O | |	|	|	|	|	3.39
4.000	7.86	24.70	1.499	| I | O | |	|	|	|	|	3.20
4.083	7.13	23.73	1.384	| I | O | |	|	|	|	|	3.01
4.167	6.46	22.34	1.272	| I | O | |	|	|	|	|	2.81
4.250	5.86	20.98	1.166	| I |O | |	|	|	|	|	2.60
4.333	5.24	19.68	1.064	| I |O | |	|	|	|	|	2.41
4.417	4.79	18.45	0.967	| I | O | |	|	|	|	|	2.23
4.500	4.37	17.28	0.876	| I | O | |	|	|	|	|	2.06
4.583	4.01	15.07	0.793	|I | O| |	|	|	|	|	1.89
4.667	3.81	12.64	0.724	|I | O | |	|	|	|	|	1.74
4.750	3.62	10.70	0.670	|I | O | |	|	|	|	|	1.62
4.833	3.34	9.13	0.625	|I | O | |	|	|	|	|	1.53
4.917	3.06	7.84	0.589	|I O | |	|	|	|	|	1.45
5.000	2.77	6.77	0.559	|I O | |	|	|	|	|	1.38
5.083	2.52	5.87	0.533	|IO | |	|	|	|	|	1.33
5.167	2.35	5.12	0.512	|IO | |	|	|	|	|	1.28
5.250	2.15	4.50	0.495	|IO | |	|	|	|	|	1.24
5.333	1.96	3.97	0.480	IO | |	|	|	|	|	1.21
5.417	1.80	3.51	0.467	IO | |	|	|	|	|	1.18
5.500	1.62	3.12	0.456	IO | |	|	|	|	|	1.16
5.583	1.47	2.78	0.446	IO | |	|	|	|	|	1.14
5.667	1.34	2.48	0.438	IO | |	|	|	|	|	1.12
5.750	1.25	2.22	0.431	IO | |	|	|	|	|	1.11
5.833	1.21	2.00	0.424	O | |	|	|	|	|	1.09

5.917	1.17	1.83	0.419	O	|	|	|	1.08
6.000	1.07	1.67	0.415	O	|	|	|	1.07
6.083	0.98	1.53	0.411	O	|	|	|	1.06
6.167	0.87	1.40	0.407	O	|	|	|	1.05
6.250	0.64	1.26	0.403	O	|	|	|	1.05
6.333	0.37	1.10	0.399	O	|	|	|	1.04
6.417	0.13	0.91	0.394	O	|	|	|	1.03
6.500	0.03	0.73	0.389	O	|	|	|	1.01
6.583	0.02	0.58	0.384	O	|	|	|	1.00
6.667	0.01	0.50	0.381	O	|	|	|	1.00
6.750	0.00	0.49	0.377	O	|	|	|	0.99
6.833	0.00	0.49	0.374	O	|	|	|	0.98
6.917	0.00	0.48	0.370	O	|	|	|	0.97
7.000	0.00	0.48	0.367	O	|	|	|	0.96
7.083	0.00	0.48	0.364	O	|	|	|	0.95
7.167	0.00	0.47	0.361	O	|	|	|	0.94
7.250	0.00	0.47	0.357	O	|	|	|	0.94
7.333	0.00	0.46	0.354	O	|	|	|	0.93
7.417	0.00	0.46	0.351	O	|	|	|	0.92
7.500	0.00	0.46	0.348	O	|	|	|	0.91
7.583	0.00	0.45	0.345	O	|	|	|	0.90
7.667	0.00	0.45	0.342	O	|	|	|	0.89
7.750	0.00	0.44	0.339	O	|	|	|	0.89
7.833	0.00	0.44	0.335	O	|	|	|	0.88
7.917	0.00	0.44	0.332	O	|	|	|	0.87
8.000	0.00	0.43	0.329	O	|	|	|	0.86
8.083	0.00	0.43	0.327	O	|	|	|	0.85
8.167	0.00	0.42	0.324	O	|	|	|	0.85
8.250	0.00	0.42	0.321	O	|	|	|	0.84
8.333	0.00	0.42	0.318	O	|	|	|	0.83
8.417	0.00	0.41	0.315	O	|	|	|	0.82
8.500	0.00	0.41	0.312	O	|	|	|	0.82
8.583	0.00	0.40	0.309	O	|	|	|	0.81
8.667	0.00	0.40	0.307	O	|	|	|	0.80
8.750	0.00	0.40	0.304	O	|	|	|	0.80
8.833	0.00	0.39	0.301	O	|	|	|	0.79
8.917	0.00	0.39	0.298	O	|	|	|	0.78
9.000	0.00	0.39	0.296	O	|	|	|	0.77
9.083	0.00	0.38	0.293	O	|	|	|	0.77
9.167	0.00	0.38	0.290	O	|	|	|	0.76
9.250	0.00	0.38	0.288	O	|	|	|	0.75
9.333	0.00	0.37	0.285	O	|	|	|	0.75
9.417	0.00	0.37	0.283	O	|	|	|	0.74
9.500	0.00	0.37	0.280	O	|	|	|	0.73
9.583	0.00	0.36	0.278	O	|	|	|	0.73
9.667	0.00	0.36	0.275	O	|	|	|	0.72
9.750	0.00	0.36	0.273	O	|	|	|	0.71
9.833	0.00	0.35	0.270	O	|	|	|	0.71
9.917	0.00	0.35	0.268	O	|	|	|	0.70
10.000	0.00	0.35	0.265	O	|	|	|	0.69
10.083	0.00	0.34	0.263	O	|	|	|	0.69
10.167	0.00	0.34	0.261	O	|	|	|	0.68
10.250	0.00	0.34	0.258	O	|	|	|	0.68
10.333	0.00	0.34	0.256	O	|	|	|	0.67
10.417	0.00	0.33	0.254	O	|	|	|	0.66
10.500	0.00	0.33	0.251	O	|	|	|	0.66
10.583	0.00	0.33	0.249	O	|	|	|	0.65
10.667	0.00	0.32	0.247	O	|	|	|	0.65
10.750	0.00	0.32	0.245	O	|	|	|	0.64
10.833	0.00	0.32	0.243	O	|	|	|	0.63
10.917	0.00	0.31	0.240	O	|	|	|	0.63
11.000	0.00	0.31	0.238	O	|	|	|	0.62
11.083	0.00	0.31	0.236	O	|	|	|	0.62
11.167	0.00	0.31	0.234	O	|	|	|	0.61
11.250	0.00	0.30	0.232	O	|	|	|	0.61
11.333	0.00	0.30	0.230	O	|	|	|	0.60
11.417	0.00	0.30	0.228	O	|	|	|	0.60
11.500	0.00	0.30	0.226	O	|	|	|	0.59
11.583	0.00	0.29	0.224	O	|	|	|	0.59
11.667	0.00	0.29	0.222	O	|	|	|	0.58
11.750	0.00	0.29	0.220	O	|	|	|	0.57

11.833	0.00	0.28	0.218	O	|	|	|	| 0.57
11.917	0.00	0.28	0.216	O	|	|	|	| 0.56
12.000	0.00	0.28	0.214	O	|	|	|	| 0.56
12.083	0.00	0.28	0.212	O	|	|	|	| 0.55
12.167	0.00	0.27	0.210	O	|	|	|	| 0.55
12.250	0.00	0.27	0.208	O	|	|	|	| 0.54
12.333	0.00	0.27	0.206	O	|	|	|	| 0.54
12.417	0.00	0.27	0.204	O	|	|	|	| 0.53
12.500	0.00	0.27	0.203	O	|	|	|	| 0.53
12.583	0.00	0.26	0.201	O	|	|	|	| 0.53
12.667	0.00	0.26	0.199	O	|	|	|	| 0.52
12.750	0.00	0.26	0.197	O	|	|	|	| 0.52
12.833	0.00	0.26	0.195	O	|	|	|	| 0.51
12.917	0.00	0.25	0.194	O	|	|	|	| 0.51
13.000	0.00	0.25	0.192	O	|	|	|	| 0.50
13.083	0.00	0.25	0.190	O	|	|	|	| 0.50
13.167	0.00	0.25	0.188	O	|	|	|	| 0.49
13.250	0.00	0.24	0.187	O	|	|	|	| 0.49
13.333	0.00	0.24	0.185	O	|	|	|	| 0.48
13.417	0.00	0.24	0.183	O	|	|	|	| 0.48
13.500	0.00	0.24	0.182	O	|	|	|	| 0.48
13.583	0.00	0.24	0.180	O	|	|	|	| 0.47
13.667	0.00	0.23	0.178	O	|	|	|	| 0.47
13.750	0.00	0.23	0.177	O	|	|	|	| 0.46
13.833	0.00	0.23	0.175	O	|	|	|	| 0.46
13.917	0.00	0.23	0.174	O	|	|	|	| 0.45
14.000	0.00	0.23	0.172	O	|	|	|	| 0.45
14.083	0.00	0.22	0.171	O	|	|	|	| 0.45
14.167	0.00	0.22	0.169	O	|	|	|	| 0.44
14.250	0.00	0.22	0.168	O	|	|	|	| 0.44
14.333	0.00	0.22	0.166	O	|	|	|	| 0.43
14.417	0.00	0.22	0.165	O	|	|	|	| 0.43
14.500	0.00	0.21	0.163	O	|	|	|	| 0.43
14.583	0.00	0.21	0.162	O	|	|	|	| 0.42
14.667	0.00	0.21	0.160	O	|	|	|	| 0.42
14.750	0.00	0.21	0.159	O	|	|	|	| 0.42
14.833	0.00	0.21	0.157	O	|	|	|	| 0.41
14.917	0.00	0.20	0.156	O	|	|	|	| 0.41
15.000	0.00	0.20	0.155	O	|	|	|	| 0.40
15.083	0.00	0.20	0.153	O	|	|	|	| 0.40
15.167	0.00	0.20	0.152	O	|	|	|	| 0.40
15.250	0.00	0.20	0.150	O	|	|	|	| 0.39
15.333	0.00	0.20	0.149	O	|	|	|	| 0.39
15.417	0.00	0.19	0.148	O	|	|	|	| 0.39
15.500	0.00	0.19	0.146	O	|	|	|	| 0.38
15.583	0.00	0.19	0.145	O	|	|	|	| 0.38
15.667	0.00	0.19	0.144	O	|	|	|	| 0.38
15.750	0.00	0.19	0.142	O	|	|	|	| 0.37
15.833	0.00	0.18	0.141	O	|	|	|	| 0.37
15.917	0.00	0.18	0.140	O	|	|	|	| 0.37
16.000	0.00	0.18	0.139	O	|	|	|	| 0.36
16.083	0.00	0.18	0.137	O	|	|	|	| 0.36
16.167	0.00	0.18	0.136	O	|	|	|	| 0.36
16.250	0.00	0.18	0.135	O	|	|	|	| 0.35
16.333	0.00	0.18	0.134	O	|	|	|	| 0.35
16.417	0.00	0.17	0.133	O	|	|	|	| 0.35
16.500	0.00	0.17	0.131	O	|	|	|	| 0.34
16.583	0.00	0.17	0.130	O	|	|	|	| 0.34
16.667	0.00	0.17	0.129	O	|	|	|	| 0.34
16.750	0.00	0.17	0.128	O	|	|	|	| 0.33
16.833	0.00	0.17	0.127	O	|	|	|	| 0.33
16.917	0.00	0.16	0.126	O	|	|	|	| 0.33
17.000	0.00	0.16	0.124	O	|	|	|	| 0.33
17.083	0.00	0.16	0.123	O	|	|	|	| 0.32
17.167	0.00	0.16	0.122	O	|	|	|	| 0.32
17.250	0.00	0.16	0.121	O	|	|	|	| 0.32
17.333	0.00	0.16	0.120	O	|	|	|	| 0.31
17.417	0.00	0.16	0.119	O	|	|	|	| 0.31
17.500	0.00	0.15	0.118	O	|	|	|	| 0.31
17.583	0.00	0.15	0.117	O	|	|	|	| 0.31
17.667	0.00	0.15	0.116	O	|	|	|	| 0.30

17.750	0.00	0.15	0.115	O	|	|	|	|	0.30
17.833	0.00	0.15	0.114	O	|	|	|	|	0.30
17.917	0.00	0.15	0.113	O	|	|	|	|	0.30
18.000	0.00	0.15	0.112	O	|	|	|	|	0.29
18.083	0.00	0.14	0.111	O	|	|	|	|	0.29
18.167	0.00	0.14	0.110	O	|	|	|	|	0.29
18.250	0.00	0.14	0.109	O	|	|	|	|	0.28
18.333	0.00	0.14	0.108	O	|	|	|	|	0.28
18.417	0.00	0.14	0.107	O	|	|	|	|	0.28
18.500	0.00	0.14	0.106	O	|	|	|	|	0.28
18.583	0.00	0.14	0.105	O	|	|	|	|	0.27
18.667	0.00	0.14	0.104	O	|	|	|	|	0.27
18.750	0.00	0.13	0.103	O	|	|	|	|	0.27
18.833	0.00	0.13	0.102	O	|	|	|	|	0.27
18.917	0.00	0.13	0.101	O	|	|	|	|	0.26
19.000	0.00	0.13	0.100	O	|	|	|	|	0.26
19.083	0.00	0.13	0.099	O	|	|	|	|	0.26
19.167	0.00	0.13	0.098	O	|	|	|	|	0.26
19.250	0.00	0.13	0.098	O	|	|	|	|	0.26
19.333	0.00	0.13	0.097	O	|	|	|	|	0.25
19.417	0.00	0.13	0.096	O	|	|	|	|	0.25
19.500	0.00	0.12	0.095	O	|	|	|	|	0.25
19.583	0.00	0.12	0.094	O	|	|	|	|	0.25
19.667	0.00	0.12	0.093	O	|	|	|	|	0.24
19.750	0.00	0.12	0.092	O	|	|	|	|	0.24
19.833	0.00	0.12	0.092	O	|	|	|	|	0.24
19.917	0.00	0.12	0.091	O	|	|	|	|	0.24
20.000	0.00	0.12	0.090	O	|	|	|	|	0.24
20.083	0.00	0.12	0.089	O	|	|	|	|	0.23
20.167	0.00	0.12	0.088	O	|	|	|	|	0.23
20.250	0.00	0.11	0.088	O	|	|	|	|	0.23
20.333	0.00	0.11	0.087	O	|	|	|	|	0.23
20.417	0.00	0.11	0.086	O	|	|	|	|	0.23
20.500	0.00	0.11	0.085	O	|	|	|	|	0.22
20.583	0.00	0.11	0.084	O	|	|	|	|	0.22
20.667	0.00	0.11	0.084	O	|	|	|	|	0.22
20.750	0.00	0.11	0.083	O	|	|	|	|	0.22
20.833	0.00	0.11	0.082	O	|	|	|	|	0.22
20.917	0.00	0.11	0.081	O	|	|	|	|	0.21
21.000	0.00	0.11	0.081	O	|	|	|	|	0.21
21.083	0.00	0.10	0.080	O	|	|	|	|	0.21
21.167	0.00	0.10	0.079	O	|	|	|	|	0.21
21.250	0.00	0.10	0.079	O	|	|	|	|	0.21
21.333	0.00	0.10	0.078	O	|	|	|	|	0.20
21.417	0.00	0.10	0.077	O	|	|	|	|	0.20
21.500	0.00	0.10	0.076	O	|	|	|	|	0.20
21.583	0.00	0.10	0.076	O	|	|	|	|	0.20
21.667	0.00	0.10	0.075	O	|	|	|	|	0.20
21.750	0.00	0.10	0.074	O	|	|	|	|	0.19
21.833	0.00	0.10	0.074	O	|	|	|	|	0.19
21.917	0.00	0.10	0.073	O	|	|	|	|	0.19
22.000	0.00	0.09	0.072	O	|	|	|	|	0.19
22.083	0.00	0.09	0.072	O	|	|	|	|	0.19
22.167	0.00	0.09	0.071	O	|	|	|	|	0.19
22.250	0.00	0.09	0.071	O	|	|	|	|	0.18
22.333	0.00	0.09	0.070	O	|	|	|	|	0.18
22.417	0.00	0.09	0.069	O	|	|	|	|	0.18
22.500	0.00	0.09	0.069	O	|	|	|	|	0.18
22.583	0.00	0.09	0.068	O	|	|	|	|	0.18
22.667	0.00	0.09	0.067	O	|	|	|	|	0.18
22.750	0.00	0.09	0.067	O	|	|	|	|	0.17
22.833	0.00	0.09	0.066	O	|	|	|	|	0.17
22.917	0.00	0.09	0.066	O	|	|	|	|	0.17
23.000	0.00	0.09	0.065	O	|	|	|	|	0.17
23.083	0.00	0.08	0.064	O	|	|	|	|	0.17
23.167	0.00	0.08	0.064	O	|	|	|	|	0.17
23.250	0.00	0.08	0.063	O	|	|	|	|	0.17
23.333	0.00	0.08	0.063	O	|	|	|	|	0.16
23.417	0.00	0.08	0.062	O	|	|	|	|	0.16
23.500	0.00	0.08	0.062	O	|	|	|	|	0.16
23.583	0.00	0.08	0.061	O	|	|	|	|	0.16

23.667	0.00	0.08	0.061	O	|	|	|	| 0.16
23.750	0.00	0.08	0.060	O	|	|	|	| 0.16
23.833	0.00	0.08	0.059	O	|	|	|	| 0.16
23.917	0.00	0.08	0.059	O	|	|	|	| 0.15
24.000	0.00	0.08	0.058	O	|	|	|	| 0.15
24.083	0.00	0.08	0.058	O	|	|	|	| 0.15
24.167	0.00	0.08	0.057	O	|	|	|	| 0.15
24.250	0.00	0.07	0.057	O	|	|	|	| 0.15
24.333	0.00	0.07	0.056	O	|	|	|	| 0.15
24.417	0.00	0.07	0.056	O	|	|	|	| 0.15
24.500	0.00	0.07	0.055	O	|	|	|	| 0.14
24.583	0.00	0.07	0.055	O	|	|	|	| 0.14
24.667	0.00	0.07	0.054	O	|	|	|	| 0.14
24.750	0.00	0.07	0.054	O	|	|	|	| 0.14
24.833	0.00	0.07	0.053	O	|	|	|	| 0.14
24.917	0.00	0.07	0.053	O	|	|	|	| 0.14
25.000	0.00	0.07	0.052	O	|	|	|	| 0.14
25.083	0.00	0.07	0.052	O	|	|	|	| 0.14
25.167	0.00	0.07	0.051	O	|	|	|	| 0.13
25.250	0.00	0.07	0.051	O	|	|	|	| 0.13
25.333	0.00	0.07	0.051	O	|	|	|	| 0.13
25.417	0.00	0.07	0.050	O	|	|	|	| 0.13
25.500	0.00	0.06	0.050	O	|	|	|	| 0.13
25.583	0.00	0.06	0.049	O	|	|	|	| 0.13
25.667	0.00	0.06	0.049	O	|	|	|	| 0.13
25.750	0.00	0.06	0.048	O	|	|	|	| 0.13
25.833	0.00	0.06	0.048	O	|	|	|	| 0.13
25.917	0.00	0.06	0.047	O	|	|	|	| 0.12
26.000	0.00	0.06	0.047	O	|	|	|	| 0.12
26.083	0.00	0.06	0.047	O	|	|	|	| 0.12
26.167	0.00	0.06	0.046	O	|	|	|	| 0.12
26.250	0.00	0.06	0.046	O	|	|	|	| 0.12
26.333	0.00	0.06	0.045	O	|	|	|	| 0.12
26.417	0.00	0.06	0.045	O	|	|	|	| 0.12
26.500	0.00	0.06	0.045	O	|	|	|	| 0.12
26.583	0.00	0.06	0.044	O	|	|	|	| 0.12
26.667	0.00	0.06	0.044	O	|	|	|	| 0.11
26.750	0.00	0.06	0.043	O	|	|	|	| 0.11
26.833	0.00	0.06	0.043	O	|	|	|	| 0.11
26.917	0.00	0.06	0.043	O	|	|	|	| 0.11
27.000	0.00	0.06	0.042	O	|	|	|	| 0.11
27.083	0.00	0.05	0.042	O	|	|	|	| 0.11
27.167	0.00	0.05	0.041	O	|	|	|	| 0.11
27.250	0.00	0.05	0.041	O	|	|	|	| 0.11
27.333	0.00	0.05	0.041	O	|	|	|	| 0.11
27.417	0.00	0.05	0.040	O	|	|	|	| 0.11
27.500	0.00	0.05	0.040	O	|	|	|	| 0.10
27.583	0.00	0.05	0.040	O	|	|	|	| 0.10
27.667	0.00	0.05	0.039	O	|	|	|	| 0.10
27.750	0.00	0.05	0.039	O	|	|	|	| 0.10
27.833	0.00	0.05	0.039	O	|	|	|	| 0.10
27.917	0.00	0.05	0.038	O	|	|	|	| 0.10
28.000	0.00	0.05	0.038	O	|	|	|	| 0.10
28.083	0.00	0.05	0.038	O	|	|	|	| 0.10
28.167	0.00	0.05	0.037	O	|	|	|	| 0.10
28.250	0.00	0.05	0.037	O	|	|	|	| 0.10
28.333	0.00	0.05	0.037	O	|	|	|	| 0.10
28.417	0.00	0.05	0.036	O	|	|	|	| 0.09
28.500	0.00	0.05	0.036	O	|	|	|	| 0.09
28.583	0.00	0.05	0.036	O	|	|	|	| 0.09
28.667	0.00	0.05	0.035	O	|	|	|	| 0.09
28.750	0.00	0.05	0.035	O	|	|	|	| 0.09
28.833	0.00	0.05	0.035	O	|	|	|	| 0.09
28.917	0.00	0.04	0.034	O	|	|	|	| 0.09
29.000	0.00	0.04	0.034	O	|	|	|	| 0.09
29.083	0.00	0.04	0.034	O	|	|	|	| 0.09
29.167	0.00	0.04	0.033	O	|	|	|	| 0.09
29.250	0.00	0.04	0.033	O	|	|	|	| 0.09
29.333	0.00	0.04	0.033	O	|	|	|	| 0.09
29.417	0.00	0.04	0.032	O	|	|	|	| 0.09
29.500	0.00	0.04	0.032	O	|	|	|	| 0.08

29.583	0.00	0.04	0.032	O	|	|	|	|	0.08
29.667	0.00	0.04	0.032	O	|	|	|	|	0.08
29.750	0.00	0.04	0.031	O	|	|	|	|	0.08
29.833	0.00	0.04	0.031	O	|	|	|	|	0.08
29.917	0.00	0.04	0.031	O	|	|	|	|	0.08
30.000	0.00	0.04	0.031	O	|	|	|	|	0.08
30.083	0.00	0.04	0.030	O	|	|	|	|	0.08
30.167	0.00	0.04	0.030	O	|	|	|	|	0.08
30.250	0.00	0.04	0.030	O	|	|	|	|	0.08
30.333	0.00	0.04	0.029	O	|	|	|	|	0.08
30.417	0.00	0.04	0.029	O	|	|	|	|	0.08
30.500	0.00	0.04	0.029	O	|	|	|	|	0.08
30.583	0.00	0.04	0.029	O	|	|	|	|	0.07
30.667	0.00	0.04	0.028	O	|	|	|	|	0.07
30.750	0.00	0.04	0.028	O	|	|	|	|	0.07
30.833	0.00	0.04	0.028	O	|	|	|	|	0.07
30.917	0.00	0.04	0.028	O	|	|	|	|	0.07
31.000	0.00	0.04	0.027	O	|	|	|	|	0.07
31.083	0.00	0.04	0.027	O	|	|	|	|	0.07
31.167	0.00	0.04	0.027	O	|	|	|	|	0.07
31.250	0.00	0.03	0.027	O	|	|	|	|	0.07
31.333	0.00	0.03	0.026	O	|	|	|	|	0.07
31.417	0.00	0.03	0.026	O	|	|	|	|	0.07
31.500	0.00	0.03	0.026	O	|	|	|	|	0.07
31.583	0.00	0.03	0.026	O	|	|	|	|	0.07
31.667	0.00	0.03	0.025	O	|	|	|	|	0.07
31.750	0.00	0.03	0.025	O	|	|	|	|	0.07
31.833	0.00	0.03	0.025	O	|	|	|	|	0.07
31.917	0.00	0.03	0.025	O	|	|	|	|	0.06
32.000	0.00	0.03	0.025	O	|	|	|	|	0.06
32.083	0.00	0.03	0.024	O	|	|	|	|	0.06
32.167	0.00	0.03	0.024	O	|	|	|	|	0.06
32.250	0.00	0.03	0.024	O	|	|	|	|	0.06
32.333	0.00	0.03	0.024	O	|	|	|	|	0.06
32.417	0.00	0.03	0.023	O	|	|	|	|	0.06
32.500	0.00	0.03	0.023	O	|	|	|	|	0.06
32.583	0.00	0.03	0.023	O	|	|	|	|	0.06
32.667	0.00	0.03	0.023	O	|	|	|	|	0.06
32.750	0.00	0.03	0.023	O	|	|	|	|	0.06
32.833	0.00	0.03	0.022	O	|	|	|	|	0.06
32.917	0.00	0.03	0.022	O	|	|	|	|	0.06
33.000	0.00	0.03	0.022	O	|	|	|	|	0.06
33.083	0.00	0.03	0.022	O	|	|	|	|	0.06
33.167	0.00	0.03	0.022	O	|	|	|	|	0.06
33.250	0.00	0.03	0.021	O	|	|	|	|	0.06
33.333	0.00	0.03	0.021	O	|	|	|	|	0.06
33.417	0.00	0.03	0.021	O	|	|	|	|	0.06
33.500	0.00	0.03	0.021	O	|	|	|	|	0.05
33.583	0.00	0.03	0.021	O	|	|	|	|	0.05
33.667	0.00	0.03	0.021	O	|	|	|	|	0.05
33.750	0.00	0.03	0.020	O	|	|	|	|	0.05
33.833	0.00	0.03	0.020	O	|	|	|	|	0.05
33.917	0.00	0.03	0.020	O	|	|	|	|	0.05
34.000	0.00	0.03	0.020	O	|	|	|	|	0.05
34.083	0.00	0.03	0.020	O	|	|	|	|	0.05
34.167	0.00	0.03	0.019	O	|	|	|	|	0.05
34.250	0.00	0.03	0.019	O	|	|	|	|	0.05
34.333	0.00	0.02	0.019	O	|	|	|	|	0.05
34.417	0.00	0.02	0.019	O	|	|	|	|	0.05
34.500	0.00	0.02	0.019	O	|	|	|	|	0.05
34.583	0.00	0.02	0.019	O	|	|	|	|	0.05
34.667	0.00	0.02	0.018	O	|	|	|	|	0.05
34.750	0.00	0.02	0.018	O	|	|	|	|	0.05
34.833	0.00	0.02	0.018	O	|	|	|	|	0.05
34.917	0.00	0.02	0.018	O	|	|	|	|	0.05
35.000	0.00	0.02	0.018	O	|	|	|	|	0.05
35.083	0.00	0.02	0.018	O	|	|	|	|	0.05
35.167	0.00	0.02	0.017	O	|	|	|	|	0.05
35.250	0.00	0.02	0.017	O	|	|	|	|	0.05
35.333	0.00	0.02	0.017	O	|	|	|	|	0.04
35.417	0.00	0.02	0.017	O	|	|	|	|	0.04

35.500	0.00	0.02	0.017	O	|	|	|	|	0.04
35.583	0.00	0.02	0.017	O	|	|	|	|	0.04
35.667	0.00	0.02	0.017	O	|	|	|	|	0.04
35.750	0.00	0.02	0.016	O	|	|	|	|	0.04
35.833	0.00	0.02	0.016	O	|	|	|	|	0.04
35.917	0.00	0.02	0.016	O	|	|	|	|	0.04
36.000	0.00	0.02	0.016	O	|	|	|	|	0.04
36.083	0.00	0.02	0.016	O	|	|	|	|	0.04
36.167	0.00	0.02	0.016	O	|	|	|	|	0.04
36.250	0.00	0.02	0.016	O	|	|	|	|	0.04
36.333	0.00	0.02	0.015	O	|	|	|	|	0.04
36.417	0.00	0.02	0.015	O	|	|	|	|	0.04
36.500	0.00	0.02	0.015	O	|	|	|	|	0.04
36.583	0.00	0.02	0.015	O	|	|	|	|	0.04
36.667	0.00	0.02	0.015	O	|	|	|	|	0.04
36.750	0.00	0.02	0.015	O	|	|	|	|	0.04
36.833	0.00	0.02	0.015	O	|	|	|	|	0.04
36.917	0.00	0.02	0.014	O	|	|	|	|	0.04
37.000	0.00	0.02	0.014	O	|	|	|	|	0.04
37.083	0.00	0.02	0.014	O	|	|	|	|	0.04
37.167	0.00	0.02	0.014	O	|	|	|	|	0.04
37.250	0.00	0.02	0.014	O	|	|	|	|	0.04
37.333	0.00	0.02	0.014	O	|	|	|	|	0.04
37.417	0.00	0.02	0.014	O	|	|	|	|	0.04
37.500	0.00	0.02	0.014	O	|	|	|	|	0.04
37.583	0.00	0.02	0.013	O	|	|	|	|	0.04
37.667	0.00	0.02	0.013	O	|	|	|	|	0.03
37.750	0.00	0.02	0.013	O	|	|	|	|	0.03
37.833	0.00	0.02	0.013	O	|	|	|	|	0.03
37.917	0.00	0.02	0.013	O	|	|	|	|	0.03
38.000	0.00	0.02	0.013	O	|	|	|	|	0.03
38.083	0.00	0.02	0.013	O	|	|	|	|	0.03
38.167	0.00	0.02	0.013	O	|	|	|	|	0.03
38.250	0.00	0.02	0.012	O	|	|	|	|	0.03
38.333	0.00	0.02	0.012	O	|	|	|	|	0.03
38.417	0.00	0.02	0.012	O	|	|	|	|	0.03
38.500	0.00	0.02	0.012	O	|	|	|	|	0.03
38.583	0.00	0.02	0.012	O	|	|	|	|	0.03
38.667	0.00	0.02	0.012	O	|	|	|	|	0.03
38.750	0.00	0.02	0.012	O	|	|	|	|	0.03
38.833	0.00	0.02	0.012	O	|	|	|	|	0.03
38.917	0.00	0.02	0.012	O	|	|	|	|	0.03
39.000	0.00	0.02	0.012	O	|	|	|	|	0.03
39.083	0.00	0.01	0.011	O	|	|	|	|	0.03
39.167	0.00	0.01	0.011	O	|	|	|	|	0.03
39.250	0.00	0.01	0.011	O	|	|	|	|	0.03
39.333	0.00	0.01	0.011	O	|	|	|	|	0.03
39.417	0.00	0.01	0.011	O	|	|	|	|	0.03
39.500	0.00	0.01	0.011	O	|	|	|	|	0.03
39.583	0.00	0.01	0.011	O	|	|	|	|	0.03
39.667	0.00	0.01	0.011	O	|	|	|	|	0.03
39.750	0.00	0.01	0.011	O	|	|	|	|	0.03
39.833	0.00	0.01	0.011	O	|	|	|	|	0.03
39.917	0.00	0.01	0.010	O	|	|	|	|	0.03
40.000	0.00	0.01	0.010	O	|	|	|	|	0.03
40.083	0.00	0.01	0.010	O	|	|	|	|	0.03
40.167	0.00	0.01	0.010	O	|	|	|	|	0.03
40.250	0.00	0.01	0.010	O	|	|	|	|	0.03
40.333	0.00	0.01	0.010	O	|	|	|	|	0.03
40.417	0.00	0.01	0.010	O	|	|	|	|	0.03
40.500	0.00	0.01	0.010	O	|	|	|	|	0.03
40.583	0.00	0.01	0.010	O	|	|	|	|	0.03
40.667	0.00	0.01	0.010	O	|	|	|	|	0.03
40.750	0.00	0.01	0.010	O	|	|	|	|	0.02
40.833	0.00	0.01	0.009	O	|	|	|	|	0.02
40.917	0.00	0.01	0.009	O	|	|	|	|	0.02
41.000	0.00	0.01	0.009	O	|	|	|	|	0.02
41.083	0.00	0.01	0.009	O	|	|	|	|	0.02
41.167	0.00	0.01	0.009	O	|	|	|	|	0.02
41.250	0.00	0.01	0.009	O	|	|	|	|	0.02
41.333	0.00	0.01	0.009	O	|	|	|	|	0.02

41.417	0.00	0.01	0.009	O	|	|	|	|	0.02
41.500	0.00	0.01	0.009	O	|	|	|	|	0.02
41.583	0.00	0.01	0.009	O	|	|	|	|	0.02
41.667	0.00	0.01	0.009	O	|	|	|	|	0.02
41.750	0.00	0.01	0.009	O	|	|	|	|	0.02
41.833	0.00	0.01	0.008	O	|	|	|	|	0.02
41.917	0.00	0.01	0.008	O	|	|	|	|	0.02
42.000	0.00	0.01	0.008	O	|	|	|	|	0.02
42.083	0.00	0.01	0.008	O	|	|	|	|	0.02
42.167	0.00	0.01	0.008	O	|	|	|	|	0.02
42.250	0.00	0.01	0.008	O	|	|	|	|	0.02
42.333	0.00	0.01	0.008	O	|	|	|	|	0.02
42.417	0.00	0.01	0.008	O	|	|	|	|	0.02
42.500	0.00	0.01	0.008	O	|	|	|	|	0.02
42.583	0.00	0.01	0.008	O	|	|	|	|	0.02
42.667	0.00	0.01	0.008	O	|	|	|	|	0.02
42.750	0.00	0.01	0.008	O	|	|	|	|	0.02
42.833	0.00	0.01	0.008	O	|	|	|	|	0.02
42.917	0.00	0.01	0.008	O	|	|	|	|	0.02
43.000	0.00	0.01	0.007	O	|	|	|	|	0.02
43.083	0.00	0.01	0.007	O	|	|	|	|	0.02
43.167	0.00	0.01	0.007	O	|	|	|	|	0.02
43.250	0.00	0.01	0.007	O	|	|	|	|	0.02
43.333	0.00	0.01	0.007	O	|	|	|	|	0.02
43.417	0.00	0.01	0.007	O	|	|	|	|	0.02
43.500	0.00	0.01	0.007	O	|	|	|	|	0.02
43.583	0.00	0.01	0.007	O	|	|	|	|	0.02
43.667	0.00	0.01	0.007	O	|	|	|	|	0.02
43.750	0.00	0.01	0.007	O	|	|	|	|	0.02
43.833	0.00	0.01	0.007	O	|	|	|	|	0.02
43.917	0.00	0.01	0.007	O	|	|	|	|	0.02
44.000	0.00	0.01	0.007	O	|	|	|	|	0.02
44.083	0.00	0.01	0.007	O	|	|	|	|	0.02
44.167	0.00	0.01	0.007	O	|	|	|	|	0.02
44.250	0.00	0.01	0.007	O	|	|	|	|	0.02
44.333	0.00	0.01	0.006	O	|	|	|	|	0.02
44.417	0.00	0.01	0.006	O	|	|	|	|	0.02
44.500	0.00	0.01	0.006	O	|	|	|	|	0.02
44.583	0.00	0.01	0.006	O	|	|	|	|	0.02
44.667	0.00	0.01	0.006	O	|	|	|	|	0.02
44.750	0.00	0.01	0.006	O	|	|	|	|	0.02
44.833	0.00	0.01	0.006	O	|	|	|	|	0.02
44.917	0.00	0.01	0.006	O	|	|	|	|	0.02
45.000	0.00	0.01	0.006	O	|	|	|	|	0.02
45.083	0.00	0.01	0.006	O	|	|	|	|	0.02
45.167	0.00	0.01	0.006	O	|	|	|	|	0.02
45.250	0.00	0.01	0.006	O	|	|	|	|	0.02
45.333	0.00	0.01	0.006	O	|	|	|	|	0.02
45.417	0.00	0.01	0.006	O	|	|	|	|	0.02
45.500	0.00	0.01	0.006	O	|	|	|	|	0.01
45.583	0.00	0.01	0.006	O	|	|	|	|	0.01
45.667	0.00	0.01	0.006	O	|	|	|	|	0.01
45.750	0.00	0.01	0.006	O	|	|	|	|	0.01
45.833	0.00	0.01	0.006	O	|	|	|	|	0.01
45.917	0.00	0.01	0.005	O	|	|	|	|	0.01
46.000	0.00	0.01	0.005	O	|	|	|	|	0.01
46.083	0.00	0.01	0.005	O	|	|	|	|	0.01
46.167	0.00	0.01	0.005	O	|	|	|	|	0.01
46.250	0.00	0.01	0.005	O	|	|	|	|	0.01
46.333	0.00	0.01	0.005	O	|	|	|	|	0.01
46.417	0.00	0.01	0.005	O	|	|	|	|	0.01
46.500	0.00	0.01	0.005	O	|	|	|	|	0.01
46.583	0.00	0.01	0.005	O	|	|	|	|	0.01
46.667	0.00	0.01	0.005	O	|	|	|	|	0.01
46.750	0.00	0.01	0.005	O	|	|	|	|	0.01
46.833	0.00	0.01	0.005	O	|	|	|	|	0.01
46.917	0.00	0.01	0.005	O	|	|	|	|	0.01
47.000	0.00	0.01	0.005	O	|	|	|	|	0.01
47.083	0.00	0.01	0.005	O	|	|	|	|	0.01
47.167	0.00	0.01	0.005	O	|	|	|	|	0.01
47.250	0.00	0.01	0.005	O	|	|	|	|	0.01

47.333	0.00	0.01	0.005	O	|	|	|	|	0.01
47.417	0.00	0.01	0.005	O	|	|	|	|	0.01
47.500	0.00	0.01	0.005	O	|	|	|	|	0.01
47.583	0.00	0.01	0.005	O	|	|	|	|	0.01
47.667	0.00	0.01	0.005	O	|	|	|	|	0.01
47.750	0.00	0.01	0.004	O	|	|	|	|	0.01
47.833	0.00	0.01	0.004	O	|	|	|	|	0.01
47.917	0.00	0.01	0.004	O	|	|	|	|	0.01
48.000	0.00	0.01	0.004	O	|	|	|	|	0.01
48.083	0.00	0.01	0.004	O	|	|	|	|	0.01
48.167	0.00	0.01	0.004	O	|	|	|	|	0.01
48.250	0.00	0.01	0.004	O	|	|	|	|	0.01
48.333	0.00	0.01	0.004	O	|	|	|	|	0.01
48.417	0.00	0.01	0.004	O	|	|	|	|	0.01
48.500	0.00	0.01	0.004	O	|	|	|	|	0.01
48.583	0.00	0.01	0.004	O	|	|	|	|	0.01
48.667	0.00	0.01	0.004	O	|	|	|	|	0.01
48.750	0.00	0.01	0.004	O	|	|	|	|	0.01
48.833	0.00	0.01	0.004	O	|	|	|	|	0.01
48.917	0.00	0.01	0.004	O	|	|	|	|	0.01
49.000	0.00	0.01	0.004	O	|	|	|	|	0.01
49.083	0.00	0.01	0.004	O	|	|	|	|	0.01
49.167	0.00	0.01	0.004	O	|	|	|	|	0.01
49.250	0.00	0.00	0.004	O	|	|	|	|	0.01
49.333	0.00	0.00	0.004	O	|	|	|	|	0.01
49.417	0.00	0.00	0.004	O	|	|	|	|	0.01
49.500	0.00	0.00	0.004	O	|	|	|	|	0.01
49.583	0.00	0.00	0.004	O	|	|	|	|	0.01
49.667	0.00	0.00	0.004	O	|	|	|	|	0.01
49.750	0.00	0.00	0.004	O	|	|	|	|	0.01
49.833	0.00	0.00	0.004	O	|	|	|	|	0.01
49.917	0.00	0.00	0.004	O	|	|	|	|	0.01
50.000	0.00	0.00	0.004	O	|	|	|	|	0.01
50.083	0.00	0.00	0.003	O	|	|	|	|	0.01
50.167	0.00	0.00	0.003	O	|	|	|	|	0.01
50.250	0.00	0.00	0.003	O	|	|	|	|	0.01
50.333	0.00	0.00	0.003	O	|	|	|	|	0.01
50.417	0.00	0.00	0.003	O	|	|	|	|	0.01
50.500	0.00	0.00	0.003	O	|	|	|	|	0.01
50.583	0.00	0.00	0.003	O	|	|	|	|	0.01
50.667	0.00	0.00	0.003	O	|	|	|	|	0.01
50.750	0.00	0.00	0.003	O	|	|	|	|	0.01
50.833	0.00	0.00	0.003	O	|	|	|	|	0.01
50.917	0.00	0.00	0.003	O	|	|	|	|	0.01
51.000	0.00	0.00	0.003	O	|	|	|	|	0.01
51.083	0.00	0.00	0.003	O	|	|	|	|	0.01
51.167	0.00	0.00	0.003	O	|	|	|	|	0.01
51.250	0.00	0.00	0.003	O	|	|	|	|	0.01
51.333	0.00	0.00	0.003	O	|	|	|	|	0.01
51.417	0.00	0.00	0.003	O	|	|	|	|	0.01
51.500	0.00	0.00	0.003	O	|	|	|	|	0.01
51.583	0.00	0.00	0.003	O	|	|	|	|	0.01
51.667	0.00	0.00	0.003	O	|	|	|	|	0.01
51.750	0.00	0.00	0.003	O	|	|	|	|	0.01
51.833	0.00	0.00	0.003	O	|	|	|	|	0.01
51.917	0.00	0.00	0.003	O	|	|	|	|	0.01
52.000	0.00	0.00	0.003	O	|	|	|	|	0.01
52.083	0.00	0.00	0.003	O	|	|	|	|	0.01
52.167	0.00	0.00	0.003	O	|	|	|	|	0.01
52.250	0.00	0.00	0.003	O	|	|	|	|	0.01
52.333	0.00	0.00	0.003	O	|	|	|	|	0.01
52.417	0.00	0.00	0.003	O	|	|	|	|	0.01
52.500	0.00	0.00	0.003	O	|	|	|	|	0.01
52.583	0.00	0.00	0.003	O	|	|	|	|	0.01
52.667	0.00	0.00	0.003	O	|	|	|	|	0.01
52.750	0.00	0.00	0.003	O	|	|	|	|	0.01
52.833	0.00	0.00	0.003	O	|	|	|	|	0.01
52.917	0.00	0.00	0.003	O	|	|	|	|	0.01
53.000	0.00	0.00	0.003	O	|	|	|	|	0.01
53.083	0.00	0.00	0.003	O	|	|	|	|	0.01
53.167	0.00	0.00	0.002	O	|	|	|	|	0.01

53.250	0.00	0.00	0.002	O	|	|	|	|	0.01
53.333	0.00	0.00	0.002	O	|	|	|	|	0.01
53.417	0.00	0.00	0.002	O	|	|	|	|	0.01
53.500	0.00	0.00	0.002	O	|	|	|	|	0.01
53.583	0.00	0.00	0.002	O	|	|	|	|	0.01
53.667	0.00	0.00	0.002	O	|	|	|	|	0.01
53.750	0.00	0.00	0.002	O	|	|	|	|	0.01
53.833	0.00	0.00	0.002	O	|	|	|	|	0.01
53.917	0.00	0.00	0.002	O	|	|	|	|	0.01
54.000	0.00	0.00	0.002	O	|	|	|	|	0.01
54.083	0.00	0.00	0.002	O	|	|	|	|	0.01
54.167	0.00	0.00	0.002	O	|	|	|	|	0.01
54.250	0.00	0.00	0.002	O	|	|	|	|	0.01
54.333	0.00	0.00	0.002	O	|	|	|	|	0.01
54.417	0.00	0.00	0.002	O	|	|	|	|	0.01
54.500	0.00	0.00	0.002	O	|	|	|	|	0.01
54.583	0.00	0.00	0.002	O	|	|	|	|	0.01
54.667	0.00	0.00	0.002	O	|	|	|	|	0.01
54.750	0.00	0.00	0.002	O	|	|	|	|	0.01
54.833	0.00	0.00	0.002	O	|	|	|	|	0.01
54.917	0.00	0.00	0.002	O	|	|	|	|	0.01
55.000	0.00	0.00	0.002	O	|	|	|	|	0.01
55.083	0.00	0.00	0.002	O	|	|	|	|	0.01
55.167	0.00	0.00	0.002	O	|	|	|	|	0.01
55.250	0.00	0.00	0.002	O	|	|	|	|	0.01
55.333	0.00	0.00	0.002	O	|	|	|	|	0.01
55.417	0.00	0.00	0.002	O	|	|	|	|	0.01
55.500	0.00	0.00	0.002	O	|	|	|	|	0.01
55.583	0.00	0.00	0.002	O	|	|	|	|	0.01
55.667	0.00	0.00	0.002	O	|	|	|	|	0.00
55.750	0.00	0.00	0.002	O	|	|	|	|	0.00
55.833	0.00	0.00	0.002	O	|	|	|	|	0.00
55.917	0.00	0.00	0.002	O	|	|	|	|	0.00
56.000	0.00	0.00	0.002	O	|	|	|	|	0.00
56.083	0.00	0.00	0.002	O	|	|	|	|	0.00
56.167	0.00	0.00	0.002	O	|	|	|	|	0.00
56.250	0.00	0.00	0.002	O	|	|	|	|	0.00
56.333	0.00	0.00	0.002	O	|	|	|	|	0.00
56.417	0.00	0.00	0.002	O	|	|	|	|	0.00
56.500	0.00	0.00	0.002	O	|	|	|	|	0.00
56.583	0.00	0.00	0.002	O	|	|	|	|	0.00
56.667	0.00	0.00	0.002	O	|	|	|	|	0.00
56.750	0.00	0.00	0.002	O	|	|	|	|	0.00
56.833	0.00	0.00	0.002	O	|	|	|	|	0.00
56.917	0.00	0.00	0.002	O	|	|	|	|	0.00
57.000	0.00	0.00	0.002	O	|	|	|	|	0.00
57.083	0.00	0.00	0.002	O	|	|	|	|	0.00
57.167	0.00	0.00	0.002	O	|	|	|	|	0.00
57.250	0.00	0.00	0.002	O	|	|	|	|	0.00
57.333	0.00	0.00	0.002	O	|	|	|	|	0.00
57.417	0.00	0.00	0.002	O	|	|	|	|	0.00
57.500	0.00	0.00	0.002	O	|	|	|	|	0.00
57.583	0.00	0.00	0.002	O	|	|	|	|	0.00
57.667	0.00	0.00	0.002	O	|	|	|	|	0.00
57.750	0.00	0.00	0.002	O	|	|	|	|	0.00
57.833	0.00	0.00	0.002	O	|	|	|	|	0.00
57.917	0.00	0.00	0.001	O	|	|	|	|	0.00
58.000	0.00	0.00	0.001	O	|	|	|	|	0.00
58.083	0.00	0.00	0.001	O	|	|	|	|	0.00
58.167	0.00	0.00	0.001	O	|	|	|	|	0.00
58.250	0.00	0.00	0.001	O	|	|	|	|	0.00
58.333	0.00	0.00	0.001	O	|	|	|	|	0.00
58.417	0.00	0.00	0.001	O	|	|	|	|	0.00
58.500	0.00	0.00	0.001	O	|	|	|	|	0.00
58.583	0.00	0.00	0.001	O	|	|	|	|	0.00
58.667	0.00	0.00	0.001	O	|	|	|	|	0.00
58.750	0.00	0.00	0.001	O	|	|	|	|	0.00
58.833	0.00	0.00	0.001	O	|	|	|	|	0.00
58.917	0.00	0.00	0.001	O	|	|	|	|	0.00
59.000	0.00	0.00	0.001	O	|	|	|	|	0.00
59.083	0.00	0.00	0.001	O	|	|	|	|	0.00

```
59.167    0.00    0.00      0.001  O       |       |       |       |     0.00
59.250    0.00    0.00      0.001  O       |       |       |       |     0.00
59.333    0.00    0.00      0.001  O       |       |       |       |     0.00
59.417    0.00    0.00      0.001  O       |       |       |       |     0.00
59.500    0.00    0.00      0.001  O       |       |       |       |     0.00
59.583    0.00    0.00      0.001  O       |       |       |       |     0.00
59.667    0.00    0.00      0.001  O       |       |       |       |     0.00
59.750    0.00    0.00      0.001  O       |       |       |       |     0.00
59.833    0.00    0.00      0.001  O       |       |       |       |     0.00
59.917    0.00    0.00      0.001  O       |       |       |       |     0.00
60.000    0.00    0.00      0.001  O       |       |       |       |     0.00
60.083    0.00    0.00      0.001  O       |       |       |       |     0.00
60.167    0.00    0.00      0.001  O       |       |       |       |     0.00
60.250    0.00    0.00      0.001  O       |       |       |       |     0.00
60.333    0.00    0.00      0.001  O       |       |       |       |     0.00
60.417    0.00    0.00      0.001  O       |       |       |       |     0.00
60.500    0.00    0.00      0.001  O       |       |       |       |     0.00
60.583    0.00    0.00      0.001  O       |       |       |       |     0.00
60.667    0.00    0.00      0.001  O       |       |       |       |     0.00
60.750    0.00    0.00      0.001  O       |       |       |       |     0.00
60.833    0.00    0.00      0.001  O       |       |       |       |     0.00
60.917    0.00    0.00      0.001  O       |       |       |       |     0.00
61.000    0.00    0.00      0.001  O       |       |       |       |     0.00
61.083    0.00    0.00      0.001  O       |       |       |       |     0.00
61.167    0.00    0.00      0.001  O       |       |       |       |     0.00
61.250    0.00    0.00      0.001  O       |       |       |       |     0.00
61.333    0.00    0.00      0.001  O       |       |       |       |     0.00
61.417    0.00    0.00      0.001  O       |       |       |       |     0.00
61.500    0.00    0.00      0.001  O       |       |       |       |     0.00
61.583    0.00    0.00      0.001  O       |       |       |       |     0.00
61.667    0.00    0.00      0.001  O       |       |       |       |     0.00
61.750    0.00    0.00      0.001  O       |       |       |       |     0.00
61.833    0.00    0.00      0.001  O       |       |       |       |     0.00
61.917    0.00    0.00      0.001  O       |       |       |       |     0.00
62.000    0.00    0.00      0.001  O       |       |       |       |     0.00
62.083    0.00    0.00      0.001  O       |       |       |       |     0.00
62.167    0.00    0.00      0.001  O       |       |       |       |     0.00
62.250    0.00    0.00      0.001  O       |       |       |       |     0.00
62.333    0.00    0.00      0.001  O       |       |       |       |     0.00
62.417    0.00    0.00      0.001  O       |       |       |       |     0.00
62.500    0.00    0.00      0.001  O       |       |       |       |     0.00
62.583    0.00    0.00      0.001  O       |       |       |       |     0.00
62.667    0.00    0.00      0.001  O       |       |       |       |     0.00
62.750    0.00    0.00      0.001  O       |       |       |       |     0.00
62.833    0.00    0.00      0.001  O       |       |       |       |     0.00
62.917    0.00    0.00      0.001  O       |       |       |       |     0.00
63.000    0.00    0.00      0.001  O       |       |       |       |     0.00
63.083    0.00    0.00      0.001  O       |       |       |       |     0.00
63.167    0.00    0.00      0.001  O       |       |       |       |     0.00
63.250    0.00    0.00      0.001  O       |       |       |       |     0.00
63.333    0.00    0.00      0.001  O       |       |       |       |     0.00
63.417    0.00    0.00      0.001  O       |       |       |       |     0.00
63.500    0.00    0.00      0.001  O       |       |       |       |     0.00
63.583    0.00    0.00      0.001  O       |       |       |       |     0.00
63.667    0.00    0.00      0.001  O       |       |       |       |     0.00
63.750    0.00    0.00      0.001  O       |       |       |       |     0.00
63.833    0.00    0.00      0.001  O       |       |       |       |     0.00
63.917    0.00    0.00      0.001  O       |       |       |       |     0.00
64.000    0.00    0.00      0.001  O       |       |       |       |     0.00
64.083    0.00    0.00      0.001  O       |       |       |       |     0.00

    ****************************HYDROGRAPH DATA****************************
                Number of intervals =   769
                Time interval =    5.0 (Min.)
                Maximum/Peak flow rate =       31.179 (CFS)
                Total volume =       5.775 (Ac.Ft)
          Status of hydrographs being held in storage
                     Stream 1  Stream 2  Stream 3  Stream 4  Stream 5
          Peak (CFS)      0.000     0.000     0.000     0.000     0.000
          Vol (Ac.Ft)      0.000     0.000     0.000     0.000     0.000
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                    FLOOD HYDROGRAPH ROUTING PROGRAM
                Copyright (c) CIVILCADD/CIVILDESIGN, 1989 - 2022
                            Study date: 11/21/22


      ----------------------------------------------------------------------


      OFFSITE TRIBUTARY AREA TO VERNON/RAMONA EXPRESSWAY
      10 YEAR/24 HOUR STORM ROUTING


      ----------------------------------------------------------------------


      Program License Serial Number 6556

      ----------------------------------------------------------------------
      ******************** HYDROGRAPH INFORMATION **********************

                    From study/file name: tr34271offsite2410.rte
      ****************************HYDROGRAPH DATA***************************
                    Number of intervals =   333
                    Time interval =    5.0 (Min.)
                    Maximum/Peak flow rate =       7.707 (CFS)
                    Total volume =       5.090 (Ac.Ft)
             Status of hydrographs being held in storage
                         Stream 1  Stream 2  Stream 3  Stream 4  Stream 5
             Peak (CFS)      0.000     0.000     0.000     0.000     0.000
             Vol (Ac.Ft)     0.000     0.000     0.000     0.000     0.000
      **********************************************************************



      ++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
      Process from Point/Station        1.000 to Point/Station        2.000
      **** RETARDING BASIN ROUTING ****
      ________________________________________________________________________

      User entry of depth-outflow-storage data
      ----------------------------------------------------------------------
      Total number of inflow hydrograph intervals = 333
      Hydrograph time unit =  5.000 (Min.)
      Initial depth in storage basin =   0.00(Ft.)
      ----------------------------------------------------------------------
      ----------------------------------------------------------------------
      Initial basin depth =   0.00 (Ft.)
      Initial basin storage =      0.00 (Ac.Ft)
      Initial basin outflow =   0.00 (CFS)
      ----------------------------------------------------------------------
      ----------------------------------------------------------------------
      Depth vs. Storage and Depth vs. Discharge data:
       Basin Depth  Storage    Outflow   (S-O*dt/2)   (S+O*dt/2)
           (Ft.)    (Ac.Ft)    (CFS)     (Ac.Ft)    (Ac.Ft)
      ----------------------------------------------------------------------
        0.000      0.000      0.000      0.000        0.000
        1.000      0.382      0.500      0.380        0.384
        2.000      0.844     16.880      0.786        0.902
        3.000      1.376     23.660      1.295        1.457
        4.000      1.992     28.870      1.893        2.091
        5.000      2.699     33.260      2.584        2.814
        6.000      3.510     37.120      3.382        3.638
        7.000      4.473     40.620      4.333        4.613
      ----------------------------------------------------------------------
                    Hydrograph Detention Basin Routing
      ----------------------------------------------------------------------

      Graph values: 'I'= unit inflow; 'O'=outflow at time shown
      ----------------------------------------------------------------------
Time   Inflow  Outflow    Storage                                        Depth
```

(Hours)	(CFS)	(CFS)	(Ac.Ft)	.0	1.9	3.85	5.78	7.71 (Ft.)
0.083	0.01	0.00	0.000	O	|	|	|	| 0.00
0.167	0.03	0.00	0.000	O	|	|	|	| 0.00
0.250	0.06	0.00	0.000	O	|	|	|	| 0.00
0.333	0.12	0.00	0.001	O	|	|	|	| 0.00
0.417	0.19	0.00	0.002	O	|	|	|	| 0.01
0.500	0.27	0.00	0.004	OI	|	|	|	| 0.01
0.583	0.34	0.01	0.006	OI	|	|	|	| 0.01
0.667	0.40	0.01	0.008	OI	|	|	|	| 0.02
0.750	0.46	0.01	0.011	OI	|	|	|	| 0.03
0.833	0.50	0.02	0.014	O I	|	|	|	| 0.04
0.917	0.55	0.02	0.018	O I	|	|	|	| 0.05
1.000	0.59	0.03	0.021	O I	|	|	|	| 0.06
1.083	0.63	0.03	0.025	O I	|	|	|	| 0.07
1.167	0.66	0.04	0.030	O I	|	|	|	| 0.08
1.250	0.69	0.04	0.034	O I	|	|	|	| 0.09
1.333	0.70	0.05	0.039	O I	|	|	|	| 0.10
1.417	0.70	0.06	0.043	O I	|	|	|	| 0.11
1.500	0.69	0.06	0.047	O I	|	|	|	| 0.12
1.583	0.69	0.07	0.052	O I	|	|	|	| 0.14
1.667	0.68	0.07	0.056	O I	|	|	|	| 0.15
1.750	0.69	0.08	0.060	O I	|	|	|	| 0.16
1.833	0.69	0.08	0.064	O I	|	|	|	| 0.17
1.917	0.71	0.09	0.068	O I	|	|	|	| 0.18
2.000	0.73	0.10	0.073	O I	|	|	|	| 0.19
2.083	0.76	0.10	0.077	O I	|	|	|	| 0.20
2.167	0.79	0.11	0.082	O I	|	|	|	| 0.21
2.250	0.82	0.11	0.087	O I	|	|	|	| 0.23
2.333	0.85	0.12	0.092	O I	|	|	|	| 0.24
2.417	0.87	0.13	0.097	O I	|	|	|	| 0.25
2.500	0.88	0.13	0.102	O I	|	|	|	| 0.27
2.583	0.90	0.14	0.107	O I	|	|	|	| 0.28
2.667	0.92	0.15	0.112	O I	|	|	|	| 0.29
2.750	0.94	0.15	0.118	O I	|	|	|	| 0.31
2.833	0.98	0.16	0.123	O I	|	|	|	| 0.32
2.917	1.01	0.17	0.129	O I	|	|	|	| 0.34
3.000	1.05	0.18	0.135	O I	|	|	|	| 0.35
3.083	1.08	0.18	0.141	O I	|	|	|	| 0.37
3.167	1.10	0.19	0.147	O I	|	|	|	| 0.38
3.250	1.12	0.20	0.153	O I	|	|	|	| 0.40
3.333	1.13	0.21	0.160	O I	|	|	|	| 0.42
3.417	1.14	0.22	0.166	O I	|	|	|	| 0.43
3.500	1.15	0.23	0.172	O I	|	|	|	| 0.45
3.583	1.16	0.23	0.179	O I	|	|	|	| 0.47
3.667	1.16	0.24	0.185	|O I	|	|	|	| 0.48
3.750	1.17	0.25	0.191	|O I	|	|	|	| 0.50
3.833	1.18	0.26	0.198	|O I	|	|	|	| 0.52
3.917	1.20	0.27	0.204	|O I	|	|	|	| 0.53
4.000	1.22	0.28	0.211	|O I	|	|	|	| 0.55
4.083	1.25	0.28	0.217	|O I	|	|	|	| 0.57
4.167	1.28	0.29	0.224	|O I	|	|	|	| 0.59
4.250	1.31	0.30	0.231	|O I	|	|	|	| 0.60
4.333	1.35	0.31	0.238	|O I	|	|	|	| 0.62
4.417	1.38	0.32	0.245	|O I	|	|	|	| 0.64
4.500	1.41	0.33	0.252	|O I	|	|	|	| 0.66
4.583	1.44	0.34	0.260	|O I	|	|	|	| 0.68
4.667	1.48	0.35	0.268	|O I	|	|	|	| 0.70
4.750	1.52	0.36	0.275	|O I	|	|	|	| 0.72
4.833	1.56	0.37	0.283	|O I	|	|	|	| 0.74
4.917	1.59	0.38	0.292	|O I	|	|	|	| 0.76
5.000	1.62	0.39	0.300	|O I	|	|	|	| 0.79
5.083	1.66	0.40	0.309	|O I	|	|	|	| 0.81
5.167	1.68	0.42	0.317	|O I	|	|	|	| 0.83
5.250	1.68	0.43	0.326	|O I	|	|	|	| 0.85
5.333	1.67	0.44	0.335	|O I	|	|	|	| 0.88
5.417	1.64	0.45	0.343	|O I	|	|	|	| 0.90
5.500	1.62	0.46	0.351	|O I	|	|	|	| 0.92
5.583	1.62	0.47	0.359	|O I	|	|	|	| 0.94
5.667	1.63	0.48	0.367	|O I	|	|	|	| 0.96
5.750	1.67	0.49	0.375	| O I	|	|	|	| 0.98
5.833	1.71	0.53	0.383	| O I	|	|	|	| 1.00

5.917	1.75	0.80	0.390	O I				1.02
6.000	1.79	1.01	0.396	O I				1.03
6.083	1.82	1.18	0.401	O I				1.04
6.167	1.86	1.33	0.405	O I				1.05
6.250	1.89	1.44	0.409	O I				1.06
6.333	1.93	1.55	0.411	O I				1.06
6.417	1.97	1.63	0.414	O I				1.07
6.500	2.01	1.71	0.416	OI				1.07
6.583	2.04	1.78	0.418	OI				1.08
6.667	2.08	1.84	0.420	OI				1.08
6.750	2.11	1.89	0.421	OI				1.09
6.833	2.15	1.95	0.423	O				1.09
6.917	2.19	1.99	0.424	OI				1.09
7.000	2.23	2.04	0.425	OI				1.09
7.083	2.27	2.09	0.427	OI				1.10
7.167	2.29	2.13	0.428	OI				1.10
7.250	2.31	2.17	0.429	OI				1.10
7.333	2.33	2.20	0.430	O				1.10
7.417	2.35	2.23	0.431	O				1.11
7.500	2.38	2.26	0.432	O				1.11
7.583	2.42	2.29	0.433	OI				1.11
7.667	2.47	2.33	0.433	OI				1.11
7.750	2.53	2.36	0.435	OI				1.11
7.833	2.59	2.41	0.436	OI				1.12
7.917	2.65	2.45	0.437	OI				1.12
8.000	2.72	2.50	0.438	OI				1.12
8.083	2.79	2.56	0.440	OI				1.13
8.167	2.87	2.62	0.442	OI				1.13
8.250	2.96	2.68	0.444	OI				1.13
8.333	3.05	2.75	0.445	OI				1.14
8.417	3.14	2.83	0.448	O I				1.14
8.500	3.23	2.90	0.450	OI				1.15
8.583	3.30	2.98	0.452	OI				1.15
8.667	3.36	3.06	0.454	OI				1.16
8.750	3.42	3.13	0.456	O I				1.16
8.833	3.48	3.20	0.458	OI				1.16
8.917	3.55	3.27	0.460	OI				1.17
9.000	3.62	3.34	0.462	O I				1.17
9.083	3.70	3.41	0.464	OI				1.18
9.167	3.78	3.48	0.466	OI				1.18
9.250	3.88	3.56	0.468	O I				1.19
9.333	3.98	3.64	0.470	OI				1.19
9.417	4.09	3.72	0.473	OI				1.20
9.500	4.20	3.81	0.475	O I				1.20
9.583	4.30	3.91	0.478	OI				1.21
9.667	4.39	4.00	0.481	O I				1.21
9.750	4.48	4.10	0.483	OI				1.22
9.833	4.57	4.19	0.486	OI				1.23
9.917	4.66	4.28	0.489	O I				1.23
10.000	4.75	4.38	0.491	OI				1.24
10.083	4.80	4.46	0.494	OI				1.24
10.167	4.80	4.54	0.496	OI				1.25
10.250	4.75	4.59	0.497	O				1.25
10.333	4.62	4.61	0.498	O				1.25
10.417	4.46	4.59	0.497	IO				1.25
10.500	4.28	4.54	0.496	IO				1.25
10.583	4.16	4.47	0.494	IO				1.24
10.667	4.12	4.40	0.492	IO				1.24
10.750	4.15	4.34	0.490	IO				1.23
10.833	4.23	4.31	0.489	O				1.23
10.917	4.35	4.31	0.489	OI				1.23
11.000	4.48	4.33	0.490	OI				1.23
11.083	4.58	4.37	0.491	OI				1.24
11.167	4.63	4.42	0.493	OI				1.24
11.250	4.66	4.47	0.494	OI				1.24
11.333	4.66	4.51	0.495	OI				1.24
11.417	4.66	4.54	0.496	OI				1.25
11.500	4.65	4.57	0.497	OI				1.25
11.583	4.63	4.58	0.497	O				1.25
11.667	4.61	4.59	0.497	O				1.25
11.750	4.57	4.59	0.497	IO				1.25

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11.833    4.53    4.58      0.497  |        |        | IO    |       |     1.25
11.917    4.48    4.56      0.497  |        |        | O     |       |     1.25
12.000    4.44    4.54      0.496  |        |        | O     |       |     1.25
12.083    4.45    4.52      0.495  |        |        | O     |       |     1.25
12.167    4.52    4.51      0.495  |        |        | O     |       |     1.24
12.250    4.65    4.53      0.496  |        |        | OI    |       |     1.25
12.333    4.84    4.58      0.497  |        |        | O I   |       |     1.25
12.417    5.06    4.66      0.499  |        |        |  O I  |       |     1.25
12.500    5.30    4.77      0.502  |        |        |  O I  |       |     1.26
12.583    5.50    4.91      0.506  |        |        |   O I |       |     1.27
12.667    5.66    5.05      0.510  |        |        |   O  I|       |     1.28
12.750    5.81    5.20      0.515  |        |        |    O  I       |     1.29
12.833    5.95    5.35      0.519  |        |        |     O I       |     1.30
12.917    6.09    5.50      0.523  |        |        |     O |I      |     1.30
13.000    6.22    5.64      0.527  |        |        |      O|I      |     1.31
13.083    6.35    5.78      0.531  |        |        |      O| I     |     1.32
13.167    6.51    5.92      0.535  |        |        |       O  I    |     1.33
13.250    6.69    6.07      0.539  |        |        |       |O I   |     1.34
13.333    6.90    6.23      0.544  |        |        |       |O  I   |     1.35
13.417    7.14    6.40      0.548  |        |        |       | O  I  |     1.36
13.500    7.42    6.59      0.554  |        |        |       |  O  I |     1.37
13.583    7.62    6.79      0.559  |        |        |       |   O  I|     1.38
13.667    7.71    6.98      0.565  |        |        |       |   O   I     1.40
13.750    7.66    7.13      0.569  |        |        |       |    O I|     1.41
13.833    7.46    7.23      0.572  |        |        |       |     O |     1.41
13.917    7.15    7.24      0.572  |        |        |       |    IO |     1.41
14.000    6.78    7.18      0.570  |        |        |       |   IO  |     1.41
14.083    6.51    7.07      0.567  |        |        |       |  I O  |     1.40
14.167    6.37    6.93      0.563  |        |        |       | I O   |     1.39
14.250    6.32    6.80      0.560  |        |        |       | I O   |     1.38
14.333    6.34    6.70      0.557  |        |        |       | IO    |     1.38
14.417    6.40    6.63      0.555  |        |        |       | IO    |     1.37
14.500    6.45    6.58      0.554  |        |        |       | IO    |     1.37
14.583    6.48    6.56      0.553  |        |        |       | IO    |     1.37
14.667    6.49    6.54      0.552  |        |        |       | IO    |     1.37
14.750    6.47    6.53      0.552  |        |        |       | IO    |     1.37
14.833    6.46    6.51      0.552  |        |        |       | IO    |     1.37
14.917    6.44    6.50      0.551  |        |        |       | O     |     1.37
15.000    6.41    6.48      0.551  |        |        |       | O     |     1.37
15.083    6.38    6.46      0.550  |        |        |       | O     |     1.36
15.167    6.33    6.44      0.550  |        |        |       | O     |     1.36
15.250    6.28    6.41      0.549  |        |        |       | O     |     1.36
15.333    6.23    6.38      0.548  |        |        |       |IO     |     1.36
15.417    6.17    6.34      0.547  |        |        |       |IO     |     1.36
15.500    6.11    6.29      0.545  |        |        |       |IO     |     1.35
15.583    6.03    6.24      0.544  |        |        |       |O      |     1.35
15.667    5.94    6.19      0.542  |        |        |       IO      |     1.35
15.750    5.82    6.12      0.541  |        |        |       IO      |     1.34
15.833    5.68    6.04      0.538  |        |        |      I|O     |     1.34
15.917    5.52    5.94      0.536  |        |        |     I O       |     1.33
16.000    5.38    5.84      0.533  |        |        |     I O       |     1.33
16.083    5.20    5.72      0.529  |        |        |    I O|       |     1.32
16.167    4.96    5.58      0.525  |        |        |   I  O|       |     1.31
16.250    4.63    5.41      0.520  |        |        |  I  O |       |     1.30
16.333    4.21    5.19      0.514  |        |        |I   O  |       |     1.29
16.417    3.71    4.93      0.507  |        |      I|   O   |       |     1.27
16.500    3.22    4.61      0.498  |        |    I  |  O    |       |     1.25
16.583    2.82    4.26      0.488  |        |  I    |O      |       |     1.23
16.667    2.54    3.92      0.478  |        | I     O       |       |     1.21
16.750    2.31    3.59      0.469  |        |I    O |       |       |     1.19
16.833    2.13    3.29      0.461  |        I    O  |       |       |     1.17
16.917    1.98    3.02      0.453  |        I   O   |       |       |     1.15
17.000    1.83    2.78      0.446  |      I|  O    |       |       |     1.14
17.083    1.72    2.56      0.440  |      I| O     |       |       |     1.13
17.167    1.64    2.37      0.435  |     I |O      |       |       |     1.11
17.250    1.58    2.20      0.430  |     I |O      |       |       |     1.10
17.333    1.55    2.07      0.426  |     I O       |       |       |     1.10
17.417    1.55    1.95      0.423  |     I O       |       |       |     1.09
17.500    1.55    1.87      0.421  |     IO|       |       |       |     1.08
17.583    1.55    1.80      0.419  |     IO|       |       |       |     1.08
17.667    1.53    1.74      0.417  |     IO|       |       |       |     1.08
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17.750	1.51	1.69	0.416	IO				1.07
17.833	1.49	1.65	0.414	O				1.07
17.917	1.45	1.61	0.413	O				1.07
18.000	1.42	1.57	0.412	IO				1.07
18.083	1.37	1.53	0.411	IO				1.06
18.167	1.32	1.49	0.410	IO				1.06
18.250	1.27	1.45	0.409	IO				1.06
18.333	1.23	1.41	0.408	O				1.06
18.417	1.20	1.37	0.406	IO				1.05
18.500	1.17	1.33	0.405	IO				1.05
18.583	1.15	1.29	0.404	IO				1.05
18.667	1.12	1.26	0.403	IO				1.05
18.750	1.08	1.22	0.402	IO				1.04
18.833	1.04	1.19	0.401	O				1.04
18.917	0.98	1.15	0.400	O				1.04
19.000	0.92	1.10	0.399	IO				1.04
19.083	0.86	1.06	0.398	IO				1.03
19.167	0.81	1.01	0.396	IO				1.03
19.250	0.78	0.96	0.395	O				1.03
19.333	0.77	0.92	0.394	O				1.03
19.417	0.78	0.89	0.393	O				1.02
19.500	0.80	0.87	0.392	O				1.02
19.583	0.82	0.86	0.392	O				1.02
19.667	0.84	0.85	0.392	O				1.02
19.750	0.85	0.85	0.392	O				1.02
19.833	0.84	0.85	0.392	O				1.02
19.917	0.82	0.84	0.392	O				1.02
20.000	0.78	0.83	0.391	O				1.02
20.083	0.74	0.82	0.391	O				1.02
20.167	0.71	0.80	0.390	IO				1.02
20.250	0.69	0.78	0.390	IO				1.02
20.333	0.68	0.76	0.389	IO				1.02
20.417	0.69	0.74	0.389	IO				1.01
20.500	0.71	0.73	0.389	IO				1.01
20.583	0.72	0.73	0.388	O				1.01
20.667	0.73	0.73	0.388	O				1.01
20.750	0.74	0.73	0.388	O				1.01
20.833	0.73	0.73	0.388	O				1.01
20.917	0.72	0.73	0.388	O				1.01
21.000	0.71	0.73	0.388	IO				1.01
21.083	0.68	0.72	0.388	O				1.01
21.167	0.66	0.71	0.388	O				1.01
21.250	0.65	0.70	0.388	O				1.01
21.333	0.65	0.69	0.387	O				1.01
21.417	0.65	0.68	0.387	O				1.01
21.500	0.65	0.67	0.387	O				1.01
21.583	0.64	0.67	0.387	O				1.01
21.667	0.63	0.66	0.387	O				1.01
21.750	0.63	0.65	0.386	O				1.01
21.833	0.63	0.65	0.386	O				1.01
21.917	0.63	0.64	0.386	O				1.01
22.000	0.64	0.64	0.386	O				1.01
22.083	0.63	0.64	0.386	O				1.01
22.167	0.62	0.64	0.386	O				1.01
22.250	0.62	0.63	0.386	O				1.01
22.333	0.62	0.63	0.386	O				1.01
22.417	0.62	0.63	0.386	O				1.01
22.500	0.63	0.63	0.386	O				1.01
22.583	0.62	0.63	0.386	O				1.01
22.667	0.60	0.62	0.385	O				1.01
22.750	0.58	0.62	0.385	O				1.01
22.833	0.56	0.61	0.385	O				1.01
22.917	0.55	0.60	0.385	O				1.01
23.000	0.54	0.58	0.384	O				1.01
23.083	0.53	0.57	0.384	O				1.00
23.167	0.53	0.56	0.384	O				1.00
23.250	0.52	0.56	0.384	O				1.00
23.333	0.52	0.55	0.383	O				1.00
23.417	0.52	0.54	0.383	O				1.00
23.500	0.51	0.54	0.383	O				1.00
23.583	0.51	0.53	0.383	O				1.00

23.667	0.51	0.53	0.383	| O	|	|	|	1.00
23.750	0.51	0.52	0.383	| O	|	|	|	1.00
23.833	0.51	0.52	0.383	| O	|	|	|	1.00
23.917	0.51	0.52	0.382	| O	|	|	|	1.00
24.000	0.50	0.51	0.382	| O	|	|	|	1.00
24.083	0.50	0.51	0.382	| O	|	|	|	1.00
24.167	0.47	0.51	0.382	|IO	|	|	|	1.00
24.250	0.44	0.50	0.382	|IO	|	|	|	1.00
24.333	0.39	0.50	0.381	|IO	|	|	|	1.00
24.417	0.32	0.50	0.380	|IO	|	|	|	1.00
24.500	0.26	0.50	0.379	|IO	|	|	|	0.99
24.583	0.21	0.49	0.377	I O	|	|	|	0.99
24.667	0.18	0.49	0.375	I O	|	|	|	0.98
24.750	0.15	0.49	0.373	I O	|	|	|	0.98
24.833	0.14	0.48	0.370	I O	|	|	|	0.97
24.917	0.12	0.48	0.368	I O	|	|	|	0.96
25.000	0.11	0.48	0.366	IO	|	|	|	0.96
25.083	0.10	0.48	0.363	IO	|	|	|	0.95
25.167	0.09	0.47	0.360	IO	|	|	|	0.94
25.250	0.08	0.47	0.358	IO	|	|	|	0.94
25.333	0.07	0.46	0.355	IO	|	|	|	0.93
25.417	0.07	0.46	0.352	IO	|	|	|	0.92
25.500	0.06	0.46	0.350	IO	|	|	|	0.92
25.583	0.05	0.45	0.347	IO	|	|	|	0.91
25.667	0.05	0.45	0.344	IO	|	|	|	0.90
25.750	0.04	0.45	0.341	IO	|	|	|	0.89
25.833	0.04	0.44	0.339	IO	|	|	|	0.89
25.917	0.04	0.44	0.336	IO	|	|	|	0.88
26.000	0.03	0.44	0.333	IO	|	|	|	0.87
26.083	0.03	0.43	0.330	IO	|	|	|	0.86
26.167	0.03	0.43	0.327	IO	|	|	|	0.86
26.250	0.02	0.42	0.325	IO	|	|	|	0.85
26.333	0.02	0.42	0.322	IO	|	|	|	0.84
26.417	0.02	0.42	0.319	IO	|	|	|	0.84
26.500	0.02	0.41	0.316	IO	|	|	|	0.83
26.583	0.02	0.41	0.314	IO	|	|	|	0.82
26.667	0.01	0.41	0.311	IO	|	|	|	0.81
26.750	0.01	0.40	0.308	IO	|	|	|	0.81
26.833	0.01	0.40	0.306	IO	|	|	|	0.80
26.917	0.01	0.40	0.303	IO	|	|	|	0.79
27.000	0.01	0.39	0.300	IO	|	|	|	0.79
27.083	0.01	0.39	0.298	IO	|	|	|	0.78
27.167	0.01	0.39	0.295	IO	|	|	|	0.77
27.250	0.01	0.38	0.292	IO	|	|	|	0.77
27.333	0.00	0.38	0.290	IO	|	|	|	0.76
27.417	0.00	0.38	0.287	IO	|	|	|	0.75
27.500	0.00	0.37	0.285	IO	|	|	|	0.75
27.583	0.00	0.37	0.282	IO	|	|	|	0.74
27.667	0.00	0.37	0.280	IO	|	|	|	0.73
27.750	0.00	0.36	0.277	IO	|	|	|	0.73
27.833	0.00	0.36	0.275	IO	|	|	|	0.72
27.917	0.00	0.36	0.272	IO	|	|	|	0.71
28.000	0.00	0.35	0.270	IO	|	|	|	0.71
28.083	0.00	0.35	0.267	IO	|	|	|	0.70
28.167	0.00	0.35	0.265	IO	|	|	|	0.69
28.250	0.00	0.34	0.263	IO	|	|	|	0.69
28.333	0.00	0.34	0.260	IO	|	|	|	0.68
28.417	0.00	0.34	0.258	IO	|	|	|	0.68
28.500	0.00	0.33	0.256	IO	|	|	|	0.67
28.583	0.00	0.33	0.253	IO	|	|	|	0.66
28.667	0.00	0.33	0.251	IO	|	|	|	0.66
28.750	0.00	0.33	0.249	IO	|	|	|	0.65
28.833	0.00	0.32	0.247	IO	|	|	|	0.65
28.917	0.00	0.32	0.244	IO	|	|	|	0.64
29.000	0.00	0.32	0.242	IO	|	|	|	0.63
29.083	0.00	0.31	0.240	IO	|	|	|	0.63
29.167	0.00	0.31	0.238	IO	|	|	|	0.62
29.250	0.00	0.31	0.236	IO	|	|	|	0.62
29.333	0.00	0.31	0.234	IO	|	|	|	0.61
29.417	0.00	0.30	0.231	IO	|	|	|	0.61
29.500	0.00	0.30	0.229	IO	|	|	|	0.60

29.583	0.00	0.30	0.227	IO				0.60
29.667	0.00	0.29	0.225	IO				0.59
29.750	0.00	0.29	0.223	IO				0.58
29.833	0.00	0.29	0.221	IO				0.58
29.917	0.00	0.29	0.219	IO				0.57
30.000	0.00	0.28	0.217	IO				0.57
30.083	0.00	0.28	0.215	IO				0.56
30.167	0.00	0.28	0.213	IO				0.56
30.250	0.00	0.28	0.211	IO				0.55
30.333	0.00	0.27	0.210	IO				0.55
30.417	0.00	0.27	0.208	IO				0.54
30.500	0.00	0.27	0.206	IO				0.54
30.583	0.00	0.27	0.204	IO				0.53
30.667	0.00	0.26	0.202	IO				0.53
30.750	0.00	0.26	0.200	IO				0.52
30.833	0.00	0.26	0.199	IO				0.52
30.917	0.00	0.26	0.197	IO				0.52
31.000	0.00	0.26	0.195	IO				0.51
31.083	0.00	0.25	0.193	IO				0.51
31.167	0.00	0.25	0.192	IO				0.50
31.250	0.00	0.25	0.190	IO				0.50
31.333	0.00	0.25	0.188	IO				0.49
31.417	0.00	0.24	0.186	IO				0.49
31.500	0.00	0.24	0.185	IO				0.48
31.583	0.00	0.24	0.183	O				0.48
31.667	0.00	0.24	0.181	O				0.47
31.750	0.00	0.24	0.180	O				0.47
31.833	0.00	0.23	0.178	O				0.47
31.917	0.00	0.23	0.177	O				0.46
32.000	0.00	0.23	0.175	O				0.46
32.083	0.00	0.23	0.173	O				0.45
32.167	0.00	0.22	0.172	O				0.45
32.250	0.00	0.22	0.170	O				0.45
32.333	0.00	0.22	0.169	O				0.44
32.417	0.00	0.22	0.167	O				0.44
32.500	0.00	0.22	0.166	O				0.43
32.583	0.00	0.22	0.164	O				0.43
32.667	0.00	0.21	0.163	O				0.43
32.750	0.00	0.21	0.161	O				0.42
32.833	0.00	0.21	0.160	O				0.42
32.917	0.00	0.21	0.158	O				0.41
33.000	0.00	0.21	0.157	O				0.41
33.083	0.00	0.20	0.156	O				0.41
33.167	0.00	0.20	0.154	O				0.40
33.250	0.00	0.20	0.153	O				0.40
33.333	0.00	0.20	0.152	O				0.40
33.417	0.00	0.20	0.150	O				0.39
33.500	0.00	0.19	0.149	O				0.39
33.583	0.00	0.19	0.147	O				0.39
33.667	0.00	0.19	0.146	O				0.38
33.750	0.00	0.19	0.145	O				0.38
33.833	0.00	0.19	0.144	O				0.38
33.917	0.00	0.19	0.142	O				0.37
34.000	0.00	0.18	0.141	O				0.37
34.083	0.00	0.18	0.140	O				0.37
34.167	0.00	0.18	0.138	O				0.36
34.250	0.00	0.18	0.137	O				0.36
34.333	0.00	0.18	0.136	O				0.36
34.417	0.00	0.18	0.135	O				0.35
34.500	0.00	0.17	0.134	O				0.35
34.583	0.00	0.17	0.132	O				0.35
34.667	0.00	0.17	0.131	O				0.34
34.750	0.00	0.17	0.130	O				0.34
34.833	0.00	0.17	0.129	O				0.34
34.917	0.00	0.17	0.128	O				0.33
35.000	0.00	0.17	0.127	O				0.33
35.083	0.00	0.16	0.125	O				0.33
35.167	0.00	0.16	0.124	O				0.33
35.250	0.00	0.16	0.123	O				0.32
35.333	0.00	0.16	0.122	O				0.32
35.417	0.00	0.16	0.121	O				0.32

35.500	0.00	0.16	0.120	O	|	|	|	| 0.31
35.583	0.00	0.16	0.119	O	|	|	|	| 0.31
35.667	0.00	0.15	0.118	O	|	|	|	| 0.31
35.750	0.00	0.15	0.117	O	|	|	|	| 0.31
35.833	0.00	0.15	0.116	O	|	|	|	| 0.30
35.917	0.00	0.15	0.115	O	|	|	|	| 0.30
36.000	0.00	0.15	0.114	O	|	|	|	| 0.30
36.083	0.00	0.15	0.113	O	|	|	|	| 0.29
36.167	0.00	0.15	0.112	O	|	|	|	| 0.29
36.250	0.00	0.14	0.111	O	|	|	|	| 0.29
36.333	0.00	0.14	0.110	O	|	|	|	| 0.29
36.417	0.00	0.14	0.109	O	|	|	|	| 0.28
36.500	0.00	0.14	0.108	O	|	|	|	| 0.28
36.583	0.00	0.14	0.107	O	|	|	|	| 0.28
36.667	0.00	0.14	0.106	O	|	|	|	| 0.28
36.750	0.00	0.14	0.105	O	|	|	|	| 0.27
36.833	0.00	0.14	0.104	O	|	|	|	| 0.27
36.917	0.00	0.13	0.103	O	|	|	|	| 0.27
37.000	0.00	0.13	0.102	O	|	|	|	| 0.27
37.083	0.00	0.13	0.101	O	|	|	|	| 0.26
37.167	0.00	0.13	0.100	O	|	|	|	| 0.26
37.250	0.00	0.13	0.099	O	|	|	|	| 0.26
37.333	0.00	0.13	0.098	O	|	|	|	| 0.26
37.417	0.00	0.13	0.097	O	|	|	|	| 0.26
37.500	0.00	0.13	0.097	O	|	|	|	| 0.25
37.583	0.00	0.13	0.096	O	|	|	|	| 0.25
37.667	0.00	0.12	0.095	O	|	|	|	| 0.25
37.750	0.00	0.12	0.094	O	|	|	|	| 0.25
37.833	0.00	0.12	0.093	O	|	|	|	| 0.24
37.917	0.00	0.12	0.092	O	|	|	|	| 0.24
38.000	0.00	0.12	0.091	O	|	|	|	| 0.24
38.083	0.00	0.12	0.091	O	|	|	|	| 0.24
38.167	0.00	0.12	0.090	O	|	|	|	| 0.24
38.250	0.00	0.12	0.089	O	|	|	|	| 0.23
38.333	0.00	0.12	0.088	O	|	|	|	| 0.23
38.417	0.00	0.11	0.087	O	|	|	|	| 0.23
38.500	0.00	0.11	0.087	O	|	|	|	| 0.23
38.583	0.00	0.11	0.086	O	|	|	|	| 0.22
38.667	0.00	0.11	0.085	O	|	|	|	| 0.22
38.750	0.00	0.11	0.084	O	|	|	|	| 0.22
38.833	0.00	0.11	0.084	O	|	|	|	| 0.22
38.917	0.00	0.11	0.083	O	|	|	|	| 0.22
39.000	0.00	0.11	0.082	O	|	|	|	| 0.21
39.083	0.00	0.11	0.081	O	|	|	|	| 0.21
39.167	0.00	0.11	0.081	O	|	|	|	| 0.21
39.250	0.00	0.10	0.080	O	|	|	|	| 0.21
39.333	0.00	0.10	0.079	O	|	|	|	| 0.21
39.417	0.00	0.10	0.078	O	|	|	|	| 0.21
39.500	0.00	0.10	0.078	O	|	|	|	| 0.20
39.583	0.00	0.10	0.077	O	|	|	|	| 0.20
39.667	0.00	0.10	0.076	O	|	|	|	| 0.20
39.750	0.00	0.10	0.076	O	|	|	|	| 0.20
39.833	0.00	0.10	0.075	O	|	|	|	| 0.20
39.917	0.00	0.10	0.074	O	|	|	|	| 0.19
40.000	0.00	0.10	0.074	O	|	|	|	| 0.19
40.083	0.00	0.10	0.073	O	|	|	|	| 0.19
40.167	0.00	0.09	0.072	O	|	|	|	| 0.19
40.250	0.00	0.09	0.072	O	|	|	|	| 0.19
40.333	0.00	0.09	0.071	O	|	|	|	| 0.19
40.417	0.00	0.09	0.070	O	|	|	|	| 0.18
40.500	0.00	0.09	0.070	O	|	|	|	| 0.18
40.583	0.00	0.09	0.069	O	|	|	|	| 0.18
40.667	0.00	0.09	0.069	O	|	|	|	| 0.18
40.750	0.00	0.09	0.068	O	|	|	|	| 0.18
40.833	0.00	0.09	0.067	O	|	|	|	| 0.18
40.917	0.00	0.09	0.067	O	|	|	|	| 0.17
41.000	0.00	0.09	0.066	O	|	|	|	| 0.17
41.083	0.00	0.09	0.066	O	|	|	|	| 0.17
41.167	0.00	0.08	0.065	O	|	|	|	| 0.17
41.250	0.00	0.08	0.064	O	|	|	|	| 0.17
41.333	0.00	0.08	0.064	O	|	|	|	| 0.17

41.417	0.00	0.08	0.063	O	|	|	|	|	0.17
41.500	0.00	0.08	0.063	O	|	|	|	|	0.16
41.583	0.00	0.08	0.062	O	|	|	|	|	0.16
41.667	0.00	0.08	0.062	O	|	|	|	|	0.16
41.750	0.00	0.08	0.061	O	|	|	|	|	0.16
41.833	0.00	0.08	0.060	O	|	|	|	|	0.16
41.917	0.00	0.08	0.060	O	|	|	|	|	0.16
42.000	0.00	0.08	0.059	O	|	|	|	|	0.16
42.083	0.00	0.08	0.059	O	|	|	|	|	0.15
42.167	0.00	0.08	0.058	O	|	|	|	|	0.15
42.250	0.00	0.08	0.058	O	|	|	|	|	0.15
42.333	0.00	0.07	0.057	O	|	|	|	|	0.15
42.417	0.00	0.07	0.057	O	|	|	|	|	0.15
42.500	0.00	0.07	0.056	O	|	|	|	|	0.15
42.583	0.00	0.07	0.056	O	|	|	|	|	0.15
42.667	0.00	0.07	0.055	O	|	|	|	|	0.14
42.750	0.00	0.07	0.055	O	|	|	|	|	0.14
42.833	0.00	0.07	0.054	O	|	|	|	|	0.14
42.917	0.00	0.07	0.054	O	|	|	|	|	0.14
43.000	0.00	0.07	0.053	O	|	|	|	|	0.14
43.083	0.00	0.07	0.053	O	|	|	|	|	0.14
43.167	0.00	0.07	0.052	O	|	|	|	|	0.14
43.250	0.00	0.07	0.052	O	|	|	|	|	0.14
43.333	0.00	0.07	0.051	O	|	|	|	|	0.13
43.417	0.00	0.07	0.051	O	|	|	|	|	0.13
43.500	0.00	0.07	0.050	O	|	|	|	|	0.13
43.583	0.00	0.07	0.050	O	|	|	|	|	0.13
43.667	0.00	0.06	0.050	O	|	|	|	|	0.13
43.750	0.00	0.06	0.049	O	|	|	|	|	0.13
43.833	0.00	0.06	0.049	O	|	|	|	|	0.13
43.917	0.00	0.06	0.048	O	|	|	|	|	0.13
44.000	0.00	0.06	0.048	O	|	|	|	|	0.13
44.083	0.00	0.06	0.047	O	|	|	|	|	0.12
44.167	0.00	0.06	0.047	O	|	|	|	|	0.12
44.250	0.00	0.06	0.047	O	|	|	|	|	0.12
44.333	0.00	0.06	0.046	O	|	|	|	|	0.12
44.417	0.00	0.06	0.046	O	|	|	|	|	0.12
44.500	0.00	0.06	0.045	O	|	|	|	|	0.12
44.583	0.00	0.06	0.045	O	|	|	|	|	0.12
44.667	0.00	0.06	0.044	O	|	|	|	|	0.12
44.750	0.00	0.06	0.044	O	|	|	|	|	0.12
44.833	0.00	0.06	0.044	O	|	|	|	|	0.11
44.917	0.00	0.06	0.043	O	|	|	|	|	0.11
45.000	0.00	0.06	0.043	O	|	|	|	|	0.11
45.083	0.00	0.06	0.043	O	|	|	|	|	0.11
45.167	0.00	0.06	0.042	O	|	|	|	|	0.11
45.250	0.00	0.05	0.042	O	|	|	|	|	0.11
45.333	0.00	0.05	0.041	O	|	|	|	|	0.11
45.417	0.00	0.05	0.041	O	|	|	|	|	0.11
45.500	0.00	0.05	0.041	O	|	|	|	|	0.11
45.583	0.00	0.05	0.040	O	|	|	|	|	0.11
45.667	0.00	0.05	0.040	O	|	|	|	|	0.10
45.750	0.00	0.05	0.040	O	|	|	|	|	0.10
45.833	0.00	0.05	0.039	O	|	|	|	|	0.10
45.917	0.00	0.05	0.039	O	|	|	|	|	0.10
46.000	0.00	0.05	0.038	O	|	|	|	|	0.10
46.083	0.00	0.05	0.038	O	|	|	|	|	0.10
46.167	0.00	0.05	0.038	O	|	|	|	|	0.10
46.250	0.00	0.05	0.037	O	|	|	|	|	0.10
46.333	0.00	0.05	0.037	O	|	|	|	|	0.10
46.417	0.00	0.05	0.037	O	|	|	|	|	0.10
46.500	0.00	0.05	0.036	O	|	|	|	|	0.10
46.583	0.00	0.05	0.036	O	|	|	|	|	0.09
46.667	0.00	0.05	0.036	O	|	|	|	|	0.09
46.750	0.00	0.05	0.035	O	|	|	|	|	0.09
46.833	0.00	0.05	0.035	O	|	|	|	|	0.09
46.917	0.00	0.05	0.035	O	|	|	|	|	0.09
47.000	0.00	0.05	0.035	O	|	|	|	|	0.09
47.083	0.00	0.04	0.034	O	|	|	|	|	0.09
47.167	0.00	0.04	0.034	O	|	|	|	|	0.09
47.250	0.00	0.04	0.034	O	|	|	|	|	0.09

47.333	0.00	0.04	0.033	O	|	|	|	| 0.09
47.417	0.00	0.04	0.033	O	|	|	|	| 0.09
47.500	0.00	0.04	0.033	O	|	|	|	| 0.09
47.583	0.00	0.04	0.032	O	|	|	|	| 0.08
47.667	0.00	0.04	0.032	O	|	|	|	| 0.08
47.750	0.00	0.04	0.032	O	|	|	|	| 0.08
47.833	0.00	0.04	0.032	O	|	|	|	| 0.08
47.917	0.00	0.04	0.031	O	|	|	|	| 0.08
48.000	0.00	0.04	0.031	O	|	|	|	| 0.08
48.083	0.00	0.04	0.031	O	|	|	|	| 0.08
48.167	0.00	0.04	0.030	O	|	|	|	| 0.08
48.250	0.00	0.04	0.030	O	|	|	|	| 0.08
48.333	0.00	0.04	0.030	O	|	|	|	| 0.08
48.417	0.00	0.04	0.030	O	|	|	|	| 0.08
48.500	0.00	0.04	0.029	O	|	|	|	| 0.08
48.583	0.00	0.04	0.029	O	|	|	|	| 0.08
48.667	0.00	0.04	0.029	O	|	|	|	| 0.08
48.750	0.00	0.04	0.029	O	|	|	|	| 0.07
48.833	0.00	0.04	0.028	O	|	|	|	| 0.07
48.917	0.00	0.04	0.028	O	|	|	|	| 0.07
49.000	0.00	0.04	0.028	O	|	|	|	| 0.07
49.083	0.00	0.04	0.028	O	|	|	|	| 0.07
49.167	0.00	0.04	0.027	O	|	|	|	| 0.07
49.250	0.00	0.04	0.027	O	|	|	|	| 0.07
49.333	0.00	0.04	0.027	O	|	|	|	| 0.07
49.417	0.00	0.03	0.027	O	|	|	|	| 0.07
49.500	0.00	0.03	0.026	O	|	|	|	| 0.07
49.583	0.00	0.03	0.026	O	|	|	|	| 0.07
49.667	0.00	0.03	0.026	O	|	|	|	| 0.07
49.750	0.00	0.03	0.026	O	|	|	|	| 0.07
49.833	0.00	0.03	0.025	O	|	|	|	| 0.07
49.917	0.00	0.03	0.025	O	|	|	|	| 0.07
50.000	0.00	0.03	0.025	O	|	|	|	| 0.07
50.083	0.00	0.03	0.025	O	|	|	|	| 0.06
50.167	0.00	0.03	0.025	O	|	|	|	| 0.06
50.250	0.00	0.03	0.024	O	|	|	|	| 0.06
50.333	0.00	0.03	0.024	O	|	|	|	| 0.06
50.417	0.00	0.03	0.024	O	|	|	|	| 0.06
50.500	0.00	0.03	0.024	O	|	|	|	| 0.06
50.583	0.00	0.03	0.023	O	|	|	|	| 0.06
50.667	0.00	0.03	0.023	O	|	|	|	| 0.06
50.750	0.00	0.03	0.023	O	|	|	|	| 0.06
50.833	0.00	0.03	0.023	O	|	|	|	| 0.06
50.917	0.00	0.03	0.023	O	|	|	|	| 0.06
51.000	0.00	0.03	0.022	O	|	|	|	| 0.06
51.083	0.00	0.03	0.022	O	|	|	|	| 0.06
51.167	0.00	0.03	0.022	O	|	|	|	| 0.06
51.250	0.00	0.03	0.022	O	|	|	|	| 0.06
51.333	0.00	0.03	0.022	O	|	|	|	| 0.06
51.417	0.00	0.03	0.021	O	|	|	|	| 0.06
51.500	0.00	0.03	0.021	O	|	|	|	| 0.06
51.583	0.00	0.03	0.021	O	|	|	|	| 0.06
51.667	0.00	0.03	0.021	O	|	|	|	| 0.05
51.750	0.00	0.03	0.021	O	|	|	|	| 0.05
51.833	0.00	0.03	0.020	O	|	|	|	| 0.05
51.917	0.00	0.03	0.020	O	|	|	|	| 0.05
52.000	0.00	0.03	0.020	O	|	|	|	| 0.05
52.083	0.00	0.03	0.020	O	|	|	|	| 0.05
52.167	0.00	0.03	0.020	O	|	|	|	| 0.05
52.250	0.00	0.03	0.020	O	|	|	|	| 0.05
52.333	0.00	0.03	0.019	O	|	|	|	| 0.05
52.417	0.00	0.03	0.019	O	|	|	|	| 0.05
52.500	0.00	0.02	0.019	O	|	|	|	| 0.05
52.583	0.00	0.02	0.019	O	|	|	|	| 0.05
52.667	0.00	0.02	0.019	O	|	|	|	| 0.05
52.750	0.00	0.02	0.019	O	|	|	|	| 0.05
52.833	0.00	0.02	0.018	O	|	|	|	| 0.05
52.917	0.00	0.02	0.018	O	|	|	|	| 0.05
53.000	0.00	0.02	0.018	O	|	|	|	| 0.05
53.083	0.00	0.02	0.018	O	|	|	|	| 0.05
53.167	0.00	0.02	0.018	O	|	|	|	| 0.05

53.250	0.00	0.02	0.018	O	|	|	|	0.05
53.333	0.00	0.02	0.017	O	|	|	|	0.05
53.417	0.00	0.02	0.017	O	|	|	|	0.05
53.500	0.00	0.02	0.017	O	|	|	|	0.04
53.583	0.00	0.02	0.017	O	|	|	|	0.04
53.667	0.00	0.02	0.017	O	|	|	|	0.04
53.750	0.00	0.02	0.017	O	|	|	|	0.04
53.833	0.00	0.02	0.016	O	|	|	|	0.04
53.917	0.00	0.02	0.016	O	|	|	|	0.04
54.000	0.00	0.02	0.016	O	|	|	|	0.04
54.083	0.00	0.02	0.016	O	|	|	|	0.04
54.167	0.00	0.02	0.016	O	|	|	|	0.04
54.250	0.00	0.02	0.016	O	|	|	|	0.04
54.333	0.00	0.02	0.016	O	|	|	|	0.04
54.417	0.00	0.02	0.015	O	|	|	|	0.04
54.500	0.00	0.02	0.015	O	|	|	|	0.04
54.583	0.00	0.02	0.015	O	|	|	|	0.04
54.667	0.00	0.02	0.015	O	|	|	|	0.04
54.750	0.00	0.02	0.015	O	|	|	|	0.04
54.833	0.00	0.02	0.015	O	|	|	|	0.04
54.917	0.00	0.02	0.015	O	|	|	|	0.04
55.000	0.00	0.02	0.015	O	|	|	|	0.04
55.083	0.00	0.02	0.014	O	|	|	|	0.04
55.167	0.00	0.02	0.014	O	|	|	|	0.04
55.250	0.00	0.02	0.014	O	|	|	|	0.04
55.333	0.00	0.02	0.014	O	|	|	|	0.04
55.417	0.00	0.02	0.014	O	|	|	|	0.04
55.500	0.00	0.02	0.014	O	|	|	|	0.04
55.583	0.00	0.02	0.014	O	|	|	|	0.04
55.667	0.00	0.02	0.014	O	|	|	|	0.04
55.750	0.00	0.02	0.013	O	|	|	|	0.04
55.833	0.00	0.02	0.013	O	|	|	|	0.03
55.917	0.00	0.02	0.013	O	|	|	|	0.03
56.000	0.00	0.02	0.013	O	|	|	|	0.03
56.083	0.00	0.02	0.013	O	|	|	|	0.03
56.167	0.00	0.02	0.013	O	|	|	|	0.03
56.250	0.00	0.02	0.013	O	|	|	|	0.03
56.333	0.00	0.02	0.013	O	|	|	|	0.03
56.417	0.00	0.02	0.012	O	|	|	|	0.03
56.500	0.00	0.02	0.012	O	|	|	|	0.03
56.583	0.00	0.02	0.012	O	|	|	|	0.03
56.667	0.00	0.02	0.012	O	|	|	|	0.03
56.750	0.00	0.02	0.012	O	|	|	|	0.03
56.833	0.00	0.02	0.012	O	|	|	|	0.03
56.917	0.00	0.02	0.012	O	|	|	|	0.03
57.000	0.00	0.02	0.012	O	|	|	|	0.03
57.083	0.00	0.02	0.012	O	|	|	|	0.03
57.167	0.00	0.02	0.012	O	|	|	|	0.03
57.250	0.00	0.01	0.011	O	|	|	|	0.03
57.333	0.00	0.01	0.011	O	|	|	|	0.03
57.417	0.00	0.01	0.011	O	|	|	|	0.03
57.500	0.00	0.01	0.011	O	|	|	|	0.03
57.583	0.00	0.01	0.011	O	|	|	|	0.03
57.667	0.00	0.01	0.011	O	|	|	|	0.03
57.750	0.00	0.01	0.011	O	|	|	|	0.03
57.833	0.00	0.01	0.011	O	|	|	|	0.03
57.917	0.00	0.01	0.011	O	|	|	|	0.03
58.000	0.00	0.01	0.011	O	|	|	|	0.03
58.083	0.00	0.01	0.010	O	|	|	|	0.03
58.167	0.00	0.01	0.010	O	|	|	|	0.03
58.250	0.00	0.01	0.010	O	|	|	|	0.03
58.333	0.00	0.01	0.010	O	|	|	|	0.03
58.417	0.00	0.01	0.010	O	|	|	|	0.03
58.500	0.00	0.01	0.010	O	|	|	|	0.03
58.583	0.00	0.01	0.010	O	|	|	|	0.03
58.667	0.00	0.01	0.010	O	|	|	|	0.03
58.750	0.00	0.01	0.010	O	|	|	|	0.03
58.833	0.00	0.01	0.010	O	|	|	|	0.03
58.917	0.00	0.01	0.010	O	|	|	|	0.02
59.000	0.00	0.01	0.009	O	|	|	|	0.02
59.083	0.00	0.01	0.009	O	|	|	|	0.02

59.167	0.00	0.01	0.009	O	|	|	|	0.02
59.250	0.00	0.01	0.009	O	|	|	|	0.02
59.333	0.00	0.01	0.009	O	|	|	|	0.02
59.417	0.00	0.01	0.009	O	|	|	|	0.02
59.500	0.00	0.01	0.009	O	|	|	|	0.02
59.583	0.00	0.01	0.009	O	|	|	|	0.02
59.667	0.00	0.01	0.009	O	|	|	|	0.02
59.750	0.00	0.01	0.009	O	|	|	|	0.02
59.833	0.00	0.01	0.009	O	|	|	|	0.02
59.917	0.00	0.01	0.009	O	|	|	|	0.02
60.000	0.00	0.01	0.008	O	|	|	|	0.02
60.083	0.00	0.01	0.008	O	|	|	|	0.02
60.167	0.00	0.01	0.008	O	|	|	|	0.02
60.250	0.00	0.01	0.008	O	|	|	|	0.02
60.333	0.00	0.01	0.008	O	|	|	|	0.02
60.417	0.00	0.01	0.008	O	|	|	|	0.02
60.500	0.00	0.01	0.008	O	|	|	|	0.02
60.583	0.00	0.01	0.008	O	|	|	|	0.02
60.667	0.00	0.01	0.008	O	|	|	|	0.02
60.750	0.00	0.01	0.008	O	|	|	|	0.02
60.833	0.00	0.01	0.008	O	|	|	|	0.02
60.917	0.00	0.01	0.008	O	|	|	|	0.02
61.000	0.00	0.01	0.008	O	|	|	|	0.02
61.083	0.00	0.01	0.008	O	|	|	|	0.02
61.167	0.00	0.01	0.007	O	|	|	|	0.02
61.250	0.00	0.01	0.007	O	|	|	|	0.02
61.333	0.00	0.01	0.007	O	|	|	|	0.02
61.417	0.00	0.01	0.007	O	|	|	|	0.02
61.500	0.00	0.01	0.007	O	|	|	|	0.02
61.583	0.00	0.01	0.007	O	|	|	|	0.02
61.667	0.00	0.01	0.007	O	|	|	|	0.02
61.750	0.00	0.01	0.007	O	|	|	|	0.02
61.833	0.00	0.01	0.007	O	|	|	|	0.02
61.917	0.00	0.01	0.007	O	|	|	|	0.02
62.000	0.00	0.01	0.007	O	|	|	|	0.02
62.083	0.00	0.01	0.007	O	|	|	|	0.02
62.167	0.00	0.01	0.007	O	|	|	|	0.02
62.250	0.00	0.01	0.007	O	|	|	|	0.02
62.333	0.00	0.01	0.007	O	|	|	|	0.02
62.417	0.00	0.01	0.007	O	|	|	|	0.02
62.500	0.00	0.01	0.006	O	|	|	|	0.02
62.583	0.00	0.01	0.006	O	|	|	|	0.02
62.667	0.00	0.01	0.006	O	|	|	|	0.02
62.750	0.00	0.01	0.006	O	|	|	|	0.02
62.833	0.00	0.01	0.006	O	|	|	|	0.02
62.917	0.00	0.01	0.006	O	|	|	|	0.02
63.000	0.00	0.01	0.006	O	|	|	|	0.02
63.083	0.00	0.01	0.006	O	|	|	|	0.02
63.167	0.00	0.01	0.006	O	|	|	|	0.02
63.250	0.00	0.01	0.006	O	|	|	|	0.02
63.333	0.00	0.01	0.006	O	|	|	|	0.02
63.417	0.00	0.01	0.006	O	|	|	|	0.02
63.500	0.00	0.01	0.006	O	|	|	|	0.02
63.583	0.00	0.01	0.006	O	|	|	|	0.02
63.667	0.00	0.01	0.006	O	|	|	|	0.01
63.750	0.00	0.01	0.006	O	|	|	|	0.01
63.833	0.00	0.01	0.006	O	|	|	|	0.01
63.917	0.00	0.01	0.006	O	|	|	|	0.01
64.000	0.00	0.01	0.005	O	|	|	|	0.01
64.083	0.00	0.01	0.005	O	|	|	|	0.01
64.167	0.00	0.01	0.005	O	|	|	|	0.01
64.250	0.00	0.01	0.005	O	|	|	|	0.01
64.333	0.00	0.01	0.005	O	|	|	|	0.01
64.417	0.00	0.01	0.005	O	|	|	|	0.01
64.500	0.00	0.01	0.005	O	|	|	|	0.01
64.583	0.00	0.01	0.005	O	|	|	|	0.01
64.667	0.00	0.01	0.005	O	|	|	|	0.01
64.750	0.00	0.01	0.005	O	|	|	|	0.01
64.833	0.00	0.01	0.005	O	|	|	|	0.01
64.917	0.00	0.01	0.005	O	|	|	|	0.01
65.000	0.00	0.01	0.005	O	|	|	|	0.01

65.083	0.00	0.01	0.005	O	|	|	|	|	0.01
65.167	0.00	0.01	0.005	O	|	|	|	|	0.01
65.250	0.00	0.01	0.005	O	|	|	|	|	0.01
65.333	0.00	0.01	0.005	O	|	|	|	|	0.01
65.417	0.00	0.01	0.005	O	|	|	|	|	0.01
65.500	0.00	0.01	0.005	O	|	|	|	|	0.01
65.583	0.00	0.01	0.005	O	|	|	|	|	0.01
65.667	0.00	0.01	0.005	O	|	|	|	|	0.01
65.750	0.00	0.01	0.005	O	|	|	|	|	0.01
65.833	0.00	0.01	0.005	O	|	|	|	|	0.01
65.917	0.00	0.01	0.004	O	|	|	|	|	0.01
66.000	0.00	0.01	0.004	O	|	|	|	|	0.01
66.083	0.00	0.01	0.004	O	|	|	|	|	0.01
66.167	0.00	0.01	0.004	O	|	|	|	|	0.01
66.250	0.00	0.01	0.004	O	|	|	|	|	0.01
66.333	0.00	0.01	0.004	O	|	|	|	|	0.01
66.417	0.00	0.01	0.004	O	|	|	|	|	0.01
66.500	0.00	0.01	0.004	O	|	|	|	|	0.01
66.583	0.00	0.01	0.004	O	|	|	|	|	0.01
66.667	0.00	0.01	0.004	O	|	|	|	|	0.01
66.750	0.00	0.01	0.004	O	|	|	|	|	0.01
66.833	0.00	0.01	0.004	O	|	|	|	|	0.01
66.917	0.00	0.01	0.004	O	|	|	|	|	0.01
67.000	0.00	0.01	0.004	O	|	|	|	|	0.01
67.083	0.00	0.01	0.004	O	|	|	|	|	0.01
67.167	0.00	0.01	0.004	O	|	|	|	|	0.01
67.250	0.00	0.01	0.004	O	|	|	|	|	0.01
67.333	0.00	0.01	0.004	O	|	|	|	|	0.01
67.417	0.00	0.00	0.004	O	|	|	|	|	0.01
67.500	0.00	0.00	0.004	O	|	|	|	|	0.01
67.583	0.00	0.00	0.004	O	|	|	|	|	0.01
67.667	0.00	0.00	0.004	O	|	|	|	|	0.01
67.750	0.00	0.00	0.004	O	|	|	|	|	0.01
67.833	0.00	0.00	0.004	O	|	|	|	|	0.01
67.917	0.00	0.00	0.004	O	|	|	|	|	0.01
68.000	0.00	0.00	0.004	O	|	|	|	|	0.01
68.083	0.00	0.00	0.004	O	|	|	|	|	0.01
68.167	0.00	0.00	0.003	O	|	|	|	|	0.01
68.250	0.00	0.00	0.003	O	|	|	|	|	0.01
68.333	0.00	0.00	0.003	O	|	|	|	|	0.01
68.417	0.00	0.00	0.003	O	|	|	|	|	0.01
68.500	0.00	0.00	0.003	O	|	|	|	|	0.01
68.583	0.00	0.00	0.003	O	|	|	|	|	0.01
68.667	0.00	0.00	0.003	O	|	|	|	|	0.01
68.750	0.00	0.00	0.003	O	|	|	|	|	0.01
68.833	0.00	0.00	0.003	O	|	|	|	|	0.01
68.917	0.00	0.00	0.003	O	|	|	|	|	0.01
69.000	0.00	0.00	0.003	O	|	|	|	|	0.01
69.083	0.00	0.00	0.003	O	|	|	|	|	0.01
69.167	0.00	0.00	0.003	O	|	|	|	|	0.01
69.250	0.00	0.00	0.003	O	|	|	|	|	0.01
69.333	0.00	0.00	0.003	O	|	|	|	|	0.01
69.417	0.00	0.00	0.003	O	|	|	|	|	0.01
69.500	0.00	0.00	0.003	O	|	|	|	|	0.01
69.583	0.00	0.00	0.003	O	|	|	|	|	0.01
69.667	0.00	0.00	0.003	O	|	|	|	|	0.01
69.750	0.00	0.00	0.003	O	|	|	|	|	0.01
69.833	0.00	0.00	0.003	O	|	|	|	|	0.01
69.917	0.00	0.00	0.003	O	|	|	|	|	0.01
70.000	0.00	0.00	0.003	O	|	|	|	|	0.01
70.083	0.00	0.00	0.003	O	|	|	|	|	0.01
70.167	0.00	0.00	0.003	O	|	|	|	|	0.01
70.250	0.00	0.00	0.003	O	|	|	|	|	0.01
70.333	0.00	0.00	0.003	O	|	|	|	|	0.01
70.417	0.00	0.00	0.003	O	|	|	|	|	0.01
70.500	0.00	0.00	0.003	O	|	|	|	|	0.01
70.583	0.00	0.00	0.003	O	|	|	|	|	0.01
70.667	0.00	0.00	0.003	O	|	|	|	|	0.01
70.750	0.00	0.00	0.003	O	|	|	|	|	0.01
70.833	0.00	0.00	0.003	O	|	|	|	|	0.01
70.917	0.00	0.00	0.003	O	|	|	|	|	0.01

71.000	0.00	0.00	0.003	O	|	|	|	|	0.01
71.083	0.00	0.00	0.003	O	|	|	|	|	0.01
71.167	0.00	0.00	0.003	O	|	|	|	|	0.01
71.250	0.00	0.00	0.003	O	|	|	|	|	0.01
71.333	0.00	0.00	0.002	O	|	|	|	|	0.01
71.417	0.00	0.00	0.002	O	|	|	|	|	0.01
71.500	0.00	0.00	0.002	O	|	|	|	|	0.01
71.583	0.00	0.00	0.002	O	|	|	|	|	0.01
71.667	0.00	0.00	0.002	O	|	|	|	|	0.01
71.750	0.00	0.00	0.002	O	|	|	|	|	0.01
71.833	0.00	0.00	0.002	O	|	|	|	|	0.01
71.917	0.00	0.00	0.002	O	|	|	|	|	0.01
72.000	0.00	0.00	0.002	O	|	|	|	|	0.01
72.083	0.00	0.00	0.002	O	|	|	|	|	0.01
72.167	0.00	0.00	0.002	O	|	|	|	|	0.01
72.250	0.00	0.00	0.002	O	|	|	|	|	0.01
72.333	0.00	0.00	0.002	O	|	|	|	|	0.01
72.417	0.00	0.00	0.002	O	|	|	|	|	0.01
72.500	0.00	0.00	0.002	O	|	|	|	|	0.01
72.583	0.00	0.00	0.002	O	|	|	|	|	0.01
72.667	0.00	0.00	0.002	O	|	|	|	|	0.01
72.750	0.00	0.00	0.002	O	|	|	|	|	0.01
72.833	0.00	0.00	0.002	O	|	|	|	|	0.01
72.917	0.00	0.00	0.002	O	|	|	|	|	0.01
73.000	0.00	0.00	0.002	O	|	|	|	|	0.01
73.083	0.00	0.00	0.002	O	|	|	|	|	0.01
73.167	0.00	0.00	0.002	O	|	|	|	|	0.01
73.250	0.00	0.00	0.002	O	|	|	|	|	0.01
73.333	0.00	0.00	0.002	O	|	|	|	|	0.01
73.417	0.00	0.00	0.002	O	|	|	|	|	0.01
73.500	0.00	0.00	0.002	O	|	|	|	|	0.01
73.583	0.00	0.00	0.002	O	|	|	|	|	0.01
73.667	0.00	0.00	0.002	O	|	|	|	|	0.01
73.750	0.00	0.00	0.002	O	|	|	|	|	0.01
73.833	0.00	0.00	0.002	O	|	|	|	|	0.00
73.917	0.00	0.00	0.002	O	|	|	|	|	0.00
74.000	0.00	0.00	0.002	O	|	|	|	|	0.00
74.083	0.00	0.00	0.002	O	|	|	|	|	0.00
74.167	0.00	0.00	0.002	O	|	|	|	|	0.00
74.250	0.00	0.00	0.002	O	|	|	|	|	0.00
74.333	0.00	0.00	0.002	O	|	|	|	|	0.00
74.417	0.00	0.00	0.002	O	|	|	|	|	0.00
74.500	0.00	0.00	0.002	O	|	|	|	|	0.00
74.583	0.00	0.00	0.002	O	|	|	|	|	0.00
74.667	0.00	0.00	0.002	O	|	|	|	|	0.00
74.750	0.00	0.00	0.002	O	|	|	|	|	0.00
74.833	0.00	0.00	0.002	O	|	|	|	|	0.00
74.917	0.00	0.00	0.002	O	|	|	|	|	0.00
75.000	0.00	0.00	0.002	O	|	|	|	|	0.00
75.083	0.00	0.00	0.002	O	|	|	|	|	0.00
75.167	0.00	0.00	0.002	O	|	|	|	|	0.00
75.250	0.00	0.00	0.002	O	|	|	|	|	0.00
75.333	0.00	0.00	0.002	O	|	|	|	|	0.00
75.417	0.00	0.00	0.002	O	|	|	|	|	0.00
75.500	0.00	0.00	0.002	O	|	|	|	|	0.00
75.583	0.00	0.00	0.002	O	|	|	|	|	0.00
75.667	0.00	0.00	0.002	O	|	|	|	|	0.00
75.750	0.00	0.00	0.002	O	|	|	|	|	0.00
75.833	0.00	0.00	0.002	O	|	|	|	|	0.00
75.917	0.00	0.00	0.002	O	|	|	|	|	0.00
76.000	0.00	0.00	0.001	O	|	|	|	|	0.00
76.083	0.00	0.00	0.001	O	|	|	|	|	0.00
76.167	0.00	0.00	0.001	O	|	|	|	|	0.00
76.250	0.00	0.00	0.001	O	|	|	|	|	0.00
76.333	0.00	0.00	0.001	O	|	|	|	|	0.00
76.417	0.00	0.00	0.001	O	|	|	|	|	0.00
76.500	0.00	0.00	0.001	O	|	|	|	|	0.00
76.583	0.00	0.00	0.001	O	|	|	|	|	0.00
76.667	0.00	0.00	0.001	O	|	|	|	|	0.00
76.750	0.00	0.00	0.001	O	|	|	|	|	0.00
76.833	0.00	0.00	0.001	O	|	|	|	|	0.00

76.917	0.00	0.00	0.001	O	|	|	|	|	0.00
77.000	0.00	0.00	0.001	O	|	|	|	|	0.00
77.083	0.00	0.00	0.001	O	|	|	|	|	0.00
77.167	0.00	0.00	0.001	O	|	|	|	|	0.00
77.250	0.00	0.00	0.001	O	|	|	|	|	0.00
77.333	0.00	0.00	0.001	O	|	|	|	|	0.00
77.417	0.00	0.00	0.001	O	|	|	|	|	0.00
77.500	0.00	0.00	0.001	O	|	|	|	|	0.00
77.583	0.00	0.00	0.001	O	|	|	|	|	0.00
77.667	0.00	0.00	0.001	O	|	|	|	|	0.00
77.750	0.00	0.00	0.001	O	|	|	|	|	0.00
77.833	0.00	0.00	0.001	O	|	|	|	|	0.00
77.917	0.00	0.00	0.001	O	|	|	|	|	0.00
78.000	0.00	0.00	0.001	O	|	|	|	|	0.00
78.083	0.00	0.00	0.001	O	|	|	|	|	0.00
78.167	0.00	0.00	0.001	O	|	|	|	|	0.00
78.250	0.00	0.00	0.001	O	|	|	|	|	0.00
78.333	0.00	0.00	0.001	O	|	|	|	|	0.00
78.417	0.00	0.00	0.001	O	|	|	|	|	0.00
78.500	0.00	0.00	0.001	O	|	|	|	|	0.00
78.583	0.00	0.00	0.001	O	|	|	|	|	0.00
78.667	0.00	0.00	0.001	O	|	|	|	|	0.00
78.750	0.00	0.00	0.001	O	|	|	|	|	0.00
78.833	0.00	0.00	0.001	O	|	|	|	|	0.00
78.917	0.00	0.00	0.001	O	|	|	|	|	0.00
79.000	0.00	0.00	0.001	O	|	|	|	|	0.00
79.083	0.00	0.00	0.001	O	|	|	|	|	0.00
79.167	0.00	0.00	0.001	O	|	|	|	|	0.00
79.250	0.00	0.00	0.001	O	|	|	|	|	0.00
79.333	0.00	0.00	0.001	O	|	|	|	|	0.00
79.417	0.00	0.00	0.001	O	|	|	|	|	0.00
79.500	0.00	0.00	0.001	O	|	|	|	|	0.00
79.583	0.00	0.00	0.001	O	|	|	|	|	0.00
79.667	0.00	0.00	0.001	O	|	|	|	|	0.00
79.750	0.00	0.00	0.001	O	|	|	|	|	0.00
79.833	0.00	0.00	0.001	O	|	|	|	|	0.00
79.917	0.00	0.00	0.001	O	|	|	|	|	0.00
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80.083	0.00	0.00	0.001	O	|	|	|	|	0.00
80.167	0.00	0.00	0.001	O	|	|	|	|	0.00
80.250	0.00	0.00	0.001	O	|	|	|	|	0.00
80.333	0.00	0.00	0.001	O	|	|	|	|	0.00
80.417	0.00	0.00	0.001	O	|	|	|	|	0.00
80.500	0.00	0.00	0.001	O	|	|	|	|	0.00
80.583	0.00	0.00	0.001	O	|	|	|	|	0.00
80.667	0.00	0.00	0.001	O	|	|	|	|	0.00
80.750	0.00	0.00	0.001	O	|	|	|	|	0.00
80.833	0.00	0.00	0.001	O	|	|	|	|	0.00
80.917	0.00	0.00	0.001	O	|	|	|	|	0.00
81.000	0.00	0.00	0.001	O	|	|	|	|	0.00
81.083	0.00	0.00	0.001	O	|	|	|	|	0.00
81.167	0.00	0.00	0.001	O	|	|	|	|	0.00
81.250	0.00	0.00	0.001	O	|	|	|	|	0.00
81.333	0.00	0.00	0.001	O	|	|	|	|	0.00
81.417	0.00	0.00	0.001	O	|	|	|	|	0.00
81.500	0.00	0.00	0.001	O	|	|	|	|	0.00
81.583	0.00	0.00	0.001	O	|	|	|	|	0.00
81.667	0.00	0.00	0.001	O	|	|	|	|	0.00
81.750	0.00	0.00	0.001	O	|	|	|	|	0.00
81.833	0.00	0.00	0.001	O	|	|	|	|	0.00
81.917	0.00	0.00	0.001	O	|	|	|	|	0.00
82.000	0.00	0.00	0.001	O	|	|	|	|	0.00
82.083	0.00	0.00	0.001	O	|	|	|	|	0.00
82.167	0.00	0.00	0.001	O	|	|	|	|	0.00
82.250	0.00	0.00	0.001	O	|	|	|	|	0.00

**********HYDROGRAPH DATA**********

Number of intervals = 987
Time interval = 5.0 (Min.)
Maximum/Peak flow rate = 7.244 (CFS)
Total volume = 5.090 (Ac.Ft)

```
       Status of hydrographs being held in storage
                  Stream 1  Stream 2  Stream 3  Stream 4  Stream 5
       Peak (CFS)      0.000     0.000     0.000     0.000     0.000
       Vol (Ac.Ft)     0.000     0.000     0.000     0.000     0.000
*******************************************************************************

-------------------------------------------------------------------
```

SECTION 4 – HYDRAULICS

Hydraulics (Offsite Channel)

Hydraulic Calculations (Offsite Channel)

Channel will convey the following CFS via normal depth calculations:

Channel: 10’ wide x 1’ deep (1.5:1 side slope)

$Q_{max} = 1.486AR^{2/3}S_f^{1/2}/n$

A = 11.5 SF
R = 0.90
S_f = 0.5%
N = 0.015

$Q_{max} = (1.486 \times 11.5 \times 0.90^{2/3} \times .005^{1/2})/.015$
Q_{max} = 72.2 CFS

Q_{max} = 72.2 CFS > Q_{actual} = 31.2 CFS

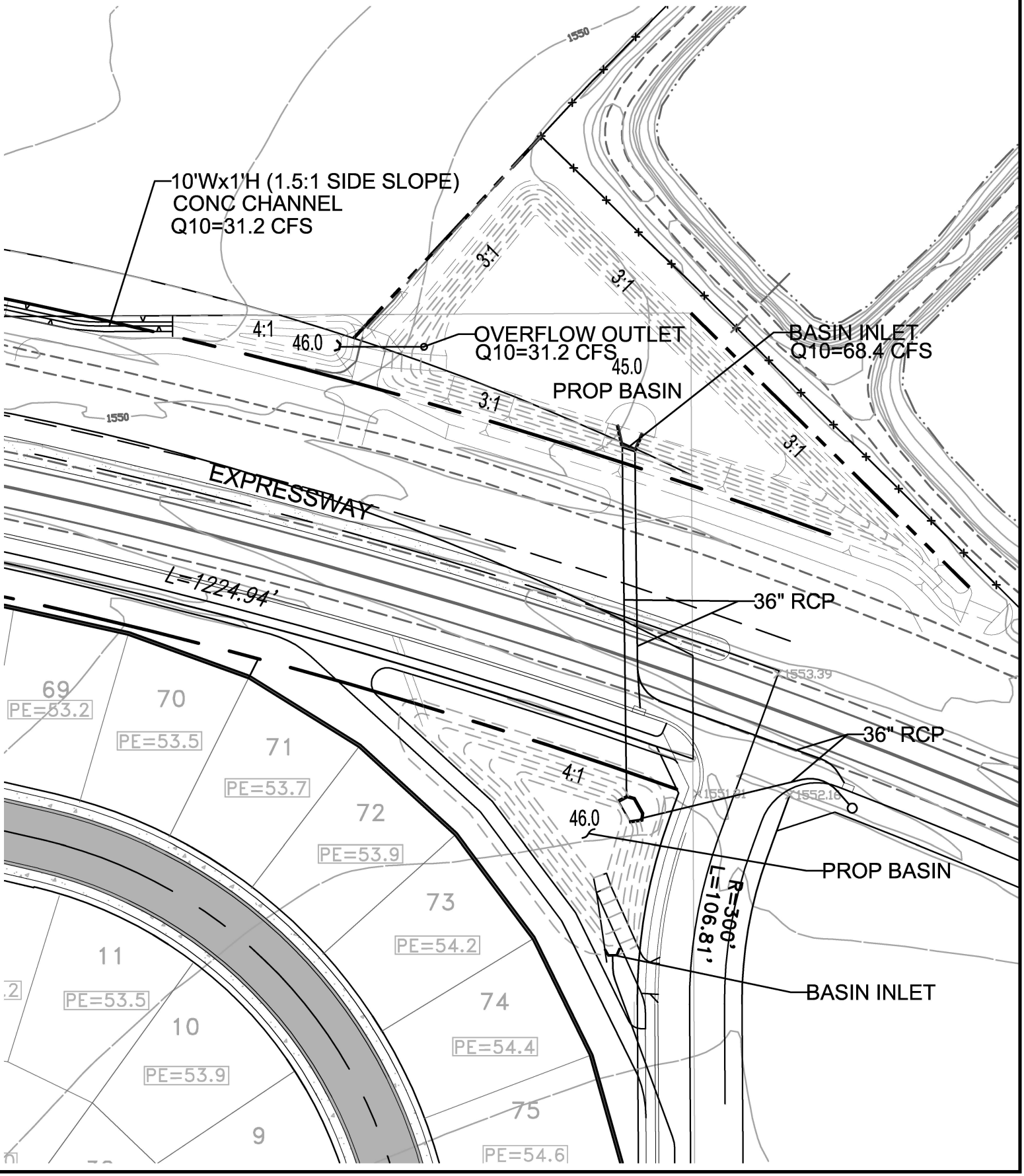
SECTION 5 – MAPS

Hydrology Map – Existing Condition Tributary Area

Proposed Detention Basin


TR 34271 OFFSITE HYDROLOGY
EL=1552
W Ramona Expy
W Ramona Expy
VERNON AVE
A=175 ACRES
L=7,157'
Elev Diff=45'
EL=1597
SOBOBA HOT SPRINGS
Soboba Springs Golf Course
Soboba Casino
Google Earth
2000 ft
N

TR 34271 OFFSITE PROPOSED BASIN



Habitat Assessment (Burrowing Owl) and MSHCP Consistency Analysis

APN 434-180-003, -005, and 433-070-039

A 65.2-acre Property, Total Area Surveyed: 65.2 acres

City of San Jacinto, Riverside County, California
San Jacinto USGS Topographic Quadrangle
Section 26, T4S, R1W

Prepared for:

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Principal/Regional Manager

Michael Brandman Associates

Survey Conducted By: Mikael Romich

Surveys Conducted On: January 4 and November 13, 2006

Report Date: November 16, 2006

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SECTION 1:
SUMMARY

This report contains the results of a habitat assessment and Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP) Consistency Analysis conducted by Michael Brandman Associates (MBA) on an approximately 65.2-acre property located in the City of San Jacinto, Riverside County, California. The Project Site does not overlap with Criteria Cells of the Western Riverside County MSHCP. The property falls within the MSHCP survey area for burrowing owl (*Athene cunicularia*) (BUOW). The assessment determined that the Project Site contains suitable habitat for the BUOW, and a focused survey is recommended. Although Riverside County's Conservation Summary Report Generator didn't identify the need to assess the habitat for Narrow Endemic Plan Species, the City of San Jacinto specifically requested that it be addressed in this report. The project site does not provide typically suitable Narrow Endemic Plant Species habitat due to the lack of vernal pools and the disturbed nature of the site from agricultural activities. The Project Site contains suitable avian nesting habitat. There are no jurisdictional drainage features or riparian/riverine habitat on the Project Site. No vernal pools or vernal pool habitat occur on the Project Site. The Project Site does not support fairy shrimp habitat.

SECTION 2:
INTRODUCTION

At the request of the Kasbergen Hafliger Property, MBA conducted a habitat assessment and MSHCP Consistency Analysis consistent with the Western Riverside County MSHCP, including an assessment for BUOW, within a 65.2-acre property located in the City of San Jacinto, Riverside County, California. This property is hereinafter referred to as Project Site or Site.

2.1 - PROJECT LOCATION

The Project Site is located east of and abutting Alessandro Avenue, south of and abutting the Ramona Expressway, and north of Burt Avenue in the City of San Jacinto, Riverside County, California (Exhibits 1 and 2). It consists of Assessor's Parcel Numbers 434-180-005 and 433-070-039 and is within unsectioned land of Township 4 South and Range 1 West of the San Jacinto U.S. Geological Survey (USGS) 7.5-minute topographic quadrangle (Exhibit 3).

2.2 - PROJECT DESCRIPTION

Kasbergen Hafliger Property is proposing to develop a subdivision on this 65.2-acre property, consisting of residential homes, roads, utilities, and stormwater drainage. A site map will be provided when available.

Exhibit 1: Regional Vicinity Map

Exhibit 2: Local Vicinity Map

Exhibit 3: USGS Quadrangle Map

Exhibit 4: Site Plan
(not currently available)

SECTION 3:
REGULATORY BACKGROUND

Special status species are native species that have been afforded special legal or management protection because of concern for their continued existence. There are several categories of protection at both federal and state levels, depending on the magnitude of threat to continued existence and existing knowledge of population levels.

3.1 - FEDERAL ENDANGERED SPECIES ACT

The U.S. Fish and Wildlife Service (USFWS) administers the federal Endangered Species Act (FESA) that provides a process for listing species as either threatened or endangered, and methods of protecting listed species. The FESA defines as "endangered" any plant or animal species that is in danger of extinction throughout all or a significant portion of its range. A "threatened" species is a species that is likely to become endangered in the foreseeable future. A "proposed" species is one that has been officially proposed by USFWS for addition to the federal threatened and endangered species list.

Section 9 of the FESA prohibits "take" of threatened or endangered species. The term "take" means to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in such conduct. The presence of any federally threatened or endangered species that are in a project area generally imposes severe constraints on development, particularly if development would result in "take" of the species or its habitat. Under the regulations of the FESA, the USFWS may authorize "take" when it is incidental to, but not the purpose of, an otherwise lawful act.

3.2 - CALIFORNIA ENDANGERED SPECIES ACT

The California Department of Fish and Game (CDFG) administers the California Endangered Species Act (CESA). The State of California considers an endangered species as one whose prospects of survival and reproduction are in immediate jeopardy. A threatened species is considered as one present in such small numbers throughout its range that it is likely to become an endangered species in the near future in the absence of special protection or management. A rare species is one that is considered present in such small numbers throughout its range that it may become endangered if its present environment worsens. State threatened and endangered species are fully protected against take, as defined above.

3.3 - SECTION 3503 AND 3511 OF CALIFORNIA FISH AND GAME CODE

The CDFG administers the California Fish and Game Code. There are particular sections of the Code that are applicable to natural resource management. For example, section 3503 of the Code states it is unlawful to take, possess, or needlessly destroy the nest or eggs of any bird. Section 3511 of the Code lists fully-protected birds species, where the CDFG is unable to authorize the issuance of permits or licenses to take these species. Pertinent species that are state fully protected include golden eagle (*Aquila chrysaetos*) and white-tailed kite (*Elanus leucurus*).

3.4 - MIGRATORY BIRD TREATY ACT

The Migratory Bird Treaty Act (MBTA) makes it unlawful to pursue, capture, kill, or possess or attempt to do the same to any migratory bird or part, nest, or egg of any such bird listed in wildlife protection treaties between the United States, Great Britain, Mexico, Japan, and the countries of the former Soviet Union.

3.5 - SECTION 404 OF THE FEDERAL CLEAN WATER ACT

Section 404 of the federal Clean Water Act, which is administered by the U.S. Army Corps of Engineers (USACE), regulates the discharge of dredge and fill material into waters of the United States (U.S.). USACE has established a series of nationwide permits that authorize certain activities in waters of the U.S., provided that a proposed activity can demonstrate compliance with standard conditions. Normally, USACE requires an individual permit for an activity that will affect an area equal to or in excess of 0.5 acre of waters of the U.S. Projects that result in impacts to less than 0.5 acre can normally be conducted pursuant to one of the nationwide permits, if consistent with the standard permit conditions. Use of any nationwide permit is contingent on the activities having no impacts to endangered species.

3.6 - SECTION 1600 OF THE CALIFORNIA FISH AND GAME CODE

All diversions, obstructions, or changes to the natural flow or bed, channel, or bank of any river, stream, or lake in California are subject to the regulatory authority of the CDFG pursuant to Sections 1600 through 1603 of the Code, requiring preparation of a Streambed Alteration Agreement. Under the Code, a stream is defined as a body of water that flows at least periodically, or intermittently, through a bed or channel having banks and supporting fish or other aquatic life. Included are watercourses with surface or subsurface flows that support or have supported riparian vegetation. CDFG also has jurisdiction within altered or artificial waterways based on the value of those waterways to fish and wildlife, and also has jurisdiction over dry washes that carry water ephemerally during storm events.

3.7 - SECTION 401 OF THE CLEAN WATER ACT

Section 401 of the Clean Water Act requires that "any applicant for a federal permit for activities that involve a discharge to waters of the State, shall provide the federal permitting agency a certification from the State in which the discharge is proposed that states that the discharge will comply with the applicable provisions under the federal Clean Water Act." Therefore, before the USACE will issue a Section 404 permit, applicants must apply for and receive a Section 401 water quality certification from the Regional Water Quality Control Board (RWQCB).

3.8 - PORTER COLOGNE ACT

The RWQCB regulates actions that would involve "discharging waste, or proposing to discharge waste, with any region that could affect the water of the state" (water code 13260(a)), pursuant to provisions of the State Porter-Cologne Water Quality Act. "Waters of the State" are defined as "any surface water or groundwater, including saline waters, within the boundaries of the state" (water code 13050 (e).

3.9 - WESTERN RIVERSIDE COUNTY MSHCP

The MSHCP is a comprehensive, multi-jurisdictional HCP focusing on conservation of species and their associated habitats in western Riverside County. The goal of the MSHCP is to maintain biological and ecological diversity within a rapidly urbanizing region.

The approval of the MSHCP and execution of the Implementing Agreement (IA) by the wildlife agencies allows signatories of the IA to issue "take" authorizations for all species covered by the MSHCP, including state- and federal-listed species as well as other identified sensitive species and/or their habitats. Each city or local jurisdiction will impose a Development Mitigation Fee for projects within their jurisdiction. With payment of the mitigation fee to the County and compliance with the survey requirements of the MSHCP where required, full mitigation in compliance with the California Environmental Quality Act (CEQA), National Environmental Policy Act (NEPA), CESA, and FESA will be granted. The Development Mitigation Fee varies according to project size and project description. The fee for residential development ranges from approximately $800 per unit to $1,600 per unit depending on development density (County Ordinance 810.2). Payment of the mitigation fee and compliance with the requirements of Section 6.0 of the MSHCP are intended to provide full mitigation under CEQA, NEPA, CESA, and FESA for impacts to the species and habitats covered by the MSHCP pursuant to agreements with the USFWS, the CDFG, and/or any other appropriate participating regulatory agencies and as set forth in the IA for the MSHCP.

SECTION 4:
METHODS

4.1 - WESTERN RIVERSIDE COUNTY MSHCP CONSISTENCY ANALYSIS

The Project Site was reviewed to determine consistency with the MSHCP. Geographic Information System (GIS) software was utilized to map the Project Site in relation to MSHCP areas including: Criteria Cells (core habitat and wildlife movement corridors); Narrow Endemic Plants and Criteria Area Species Survey Areas for plant, bird, mammal, and amphibian species; and survey requirements for inadequately covered species. The Riverside County Integrated Project (RCIP) Conservation Summary Report Generator was queried to determine habitat assessment and potential survey requirements for the Project Site (Appendix A).

The MSHCP also requires that an assessment be completed of the potentially significant effects of the project on riparian/riverine areas and vernal pools. According to the MSHCP, the documentation for the assessment shall include mapping and a description of the functions and values of the mapped areas with respect to the species listed in Section 6.1.2, Protection of Species Associated with Riparian/Riverine Areas and Vernal Pools.

4.2 - LITERATURE REVIEW

Prior to the field visit, a literature review was conducted of the environmental setting of the Project Site. Literature reviewed includes the United States Department of Agriculture (USDA 1971) Soil Survey for the Project Site, the California Natural Diversity Database (CNDDB 2006), and literature detailing the habitat requirements of the BUOW.

4.3 - PLANT COMMUNITIES

Plant communities were mapped using 7.5-minute USGS topographic base maps and aerial photography. The plant communities within the Project Site were classified according to CDFG's List of Terrestrial Natural Communities (2003) and cross-referenced to descriptions provided in Holland's *Preliminary Descriptions of the Terrestrial Natural Communities of California* (1986 and 1992 update). The CDFG does not currently have a narrative description of the vegetation communities; therefore, the descriptions provided are according to Holland.

4.4 - JURISDICTIONAL AREAS

Aerial photography was reviewed prior to conducting general surveys. The photographs were used to locate and inspect any potential natural drainage features and water bodies that may be considered

under the jurisdiction of either USACE and/or CDFG. In general, surface drainage features indicated as blue-line streams on USGS maps that are observed or expected to exhibit evidence of flow are considered potentially subject to state and federal regulatory authority as "waters." The property was evaluated for any jurisdictional drainage features during the habitat assessment.

4.5 - FIELD INVESTIGATION

MBA biologist Mikael Romich assessed the Project Site on January 4 and November 13, 2006. Weather conditions during the survey included sunny skies with temperatures in the mid 60° F (degrees Fahrenheit) and mid 70° F. The entire Project Site was surveyed to assess the presence of suitable habitat for BUOW. Parameters assessed included soil conditions, presence of indicator species, slope, aspect and hydrology.

4.5.1 - Plants

Common plant species observed during the field survey were identified by visual characteristics and morphology in the field and recorded in a field notebook. Unusual and less familiar plants were identified in the laboratory using taxonomical guides. A list of all species observed on the Project Site was compiled from the survey data (Appendix B). Taxonomic nomenclature used in this study follows the California Native Plant Society (CNPS 2005). In this report, scientific names are provided immediately following common names of plant species (first reference only).

4.5.2 - Wildlife

Wildlife species detected during field surveys by sight, calls, tracks, scat, or other sign were recorded during surveys in a field notebook. Field guides were used to assist with identification of species during surveys and included Stebbins (1996) for amphibians and reptiles, Altig et al. (undated) for tadpoles, the Sibley Filed Guide to Birds of Western North America (2003) for birds, and Burt and Grossenheider (1980) for mammals. Although common names of wildlife species are fairly well standardized, scientific names are used in this report and are provided in Appendix B for reference.

SECTION 5:
EXISTING CONDITIONS

5.1 - ENVIRONMENTAL SETTING

The Project Site has a relatively flat topography with an elevation ranging between 1,542 to 1562 feet above mean sea level. The San Jacinto USGS topographic quadrangle shows no blue-line stream on the Project Site. There are two residences that occur on the project site, as well as a abandoned dairy farm and an active cattle farm.

The north and eastern portions of the Project Area appear to be under agriculture (watermelon) but were recently disked and are dominated by bare ground during the habitat assessment. The southwestern portion of the Project Area has not been recently plowed and supported ruderal vegetation. Areas within the cattle farm are also classified as ruderal.

5.2 - SOILS

Exhibit 5 presents the soils that are located inside the Project Site. The soils on the Project Site are dominated by the Dello Series (DrA and DnB) and the Grangeville Series (GoB and GwA). Dello soils are somewhat poorly drained to poorly drained, typical to alluvial fans and flood plains, and have developed in alluvium consisting mainly of granitic material. Grangeville soils are moderately well-drained to poorly drained, typical to alluvial fans and flood plains, and have developed in alluvium consisting mainly of granitic material. These are not listed as sensitive soils by the MSHCP.

5.3 - PLANT COMMUNITIES

The Project Site contains four main plant community types: ruderal, agriculture, developed, ornamental, and stock pond. (Exhibit 6)

5.3.1 - Ruderal

The ruderal plant community on the Project Site is dominated by weedy vegetation that is typically associated with a past disturbance. The disturbances creating ruderal areas are typically a result of anthropogenic impacts and, in this situation, would be attributed to dairy farm and cattle activities. The ruderal plant community is dominated by black mustard (*Brassica nigra*), annual burrweed (*Ambrosia acanthicarpa*), and Russian thistle (*Salsola tragus*) in the abandoned dairy farm. Bare ground was dominant in the active cattle farm.

5.3.2 - Agriculture (Disked)

A large portion of the Project Site appears to be in active agriculture. Although the has been recently disked, there were remnant watermelon plants observed. Currently, this portion of the site is dominated by bare ground.

5.3.3 - Developed

Developed areas occur on the Project Site in the form of abandoned dairy farm infrastructure and several buildings associated with two single family residences. These areas are mostly void of vegetation.

5.3.4 - Ornamental

There is some ornamental landscaping that is associated with the single family residence that occurs on the Project Site. The plants observed include large California sycamore (*Platanus racemosa*) trees, as well as several pine (*Pinus* species) trees. These may provide nesting opportunities for raptor species.

5.3.5 - Stock Pond

One small stock pond is present in the southeastern portion of the project site. This carries flows from the active cattle farm. The water appeared highly contaminated with cattle manure and had an unbearable odor. This was not considered as fairy shrimp habitat die to the extreme contamination.

5.4 - NESTING BIRDS

Avian nesting habitat occurs in the southwestern portion of the Project Site. The ornamental landscaping provides pine and sycamore trees that may provide nesting opportunities for several raptor species observed during the habitat assessment, including American kestrel (*Falco sparverius*) and red-tailed hawk (*Buteo jamaicensis*). Other species not detected that may breed on the Project Site include loggerhead shrike (*Lanius ludovicianus*), Cooper's hawk (*Accipter cooperii*), and California horned lark (*Eremophila alpestris actia*).

Exhibit 5: Soils Map

Exhibit 6: Vegetation Map

SECTION 6:
WESTERN RIVERSIDE COUNTY MSHCP CONSISTENCY ANALYSIS

6.1 - MSHCP REQUIREMENTS

The proposed Project Site is located in the San Jacinto Area Plan but is not within a Criteria Cell (see Exhibit 7). A HANS review is not required The closest Criteria Cell (2893) of the MSHCP occurs approximately 0.25 mile to the east and will not be affected by project activities.

The MSHCP also establishes habitat assessment survey requirements for certain plant, bird, mammal, and amphibian species. The project is within the survey area for BUOW. The proposed project is not within a Narrow Endemic Plant Species survey area or a Criteria Area Species survey area for plants, mammals, or amphibians.

6.1.1 - Urban/Wildlands Interface Guidelines

According to the MSHCP, the Urban/Wildlands Interface Guidelines are intended to address indirect effects associated with locating development in proximity to the MSHCP Conservation Area (MSHCP, p 6-42). The proposed Project Site is not within a Criteria Cell and is not adjacent to existing proposed MSHCP Conservation Areas. The MSHCP Urban/Wildlife Interface Guidelines will, therefore, not be required for the proposed project.

6.2 - HABITAT ASSESSMENT

6.2.1 - Burrowing Owl

The entire Project Site is included in the MSHCP habitat assessment area for BUOW. Due to their decline in the state of California over the past 30 years, the BUOW is a state species of concern. It occurs in grasslands, lowland scrub, agricultural lands (particularly rangelands), and some artificial, open areas as a year-long resident. The BUOW may also use golf courses, cemeteries, road allowances within cities, airports, vacant lots in residential areas and university campuses, fairgrounds, abandoned buildings, and irrigation ditches. As a critical habitat feature need, they require rodent or other fossorial burrows for roosting and nesting cover, with the preferred burrow being the California ground squirrel (*Spermophilus beecheyi*). They may also use pipes, culverts, and nest boxes where burrows are scarce. One burrow is typically selected for use as the nest; however, satellite burrows are usually found within the defended territory.

Exhibit 7: MSHCP Areas Map

The agricultural areas do not contain suitable BUOW nesting habitat since no burrows are present. No burrows were observed in the ruderal areas but debris piles could provide suitable cover for BUOW. The active cattle farm provided some burrows suitable for nesting. During the survey, no BUOW or BUOW sign was observed onsite. However, since BUOW are known to occur in the vicinity, that the cattle farm provides suitable habitat, and the condition of the site could change, a focused BUOW survey is recommended. This survey includes four site visits conducted between March 1 and August 31.

6.2.2 - Jurisdictional Drainages and Riparian/Riverine Areas

USACE and CDFG jurisdictional waters are not present on the Project Site. The topography of the Site is flat and no drainage features were observed during the Site assessment. No riparian/riverine habitat exists on the Project Site.

6.2.3 - Vernal Pool Habitat/Fairy Shrimp Habitat

No vernal pools were observed during the habitat assessment. The site does not contain soils highly suitbale to vernal pool formation and they are not expected to occur. The only area were water was observed to pond was at the stock pond. However, it appeared highly contaminated from run-off associated with the cattle farm. It appeared so shallow and disturbed, that it was determined not to be fairy shrimp habitat.

6.2.4 - Narrow Endemic Plant Species

Although Riverside County's Conservation Summary Report Generator didn't identify the need to assess the habitat for Narrow Endemic Plant Species, the City of San Jacinto specifically requested that it be addressed in this report. Since an assessment for Narrow Endemic Plant Species is not required for this site, the permits under the MSHCP would cover all impacts to these plant species regardless of their presence or absence. The project site does not provide typically suitable Narrow Endemic Plan Species habitat due to the lack of vernal pools and the disturbed nature of the site from agricultural activities.

SECTION 7:
RECOMMENDATIONS

7.1 - BURROWING OWL

Portions of the Project Site provide suitable habitat for the BUOW and a focused survey is recommended. This survey includes four site visits conducted between March 1 and August 31. Under the MSHCP, if three or more pair of BUOW are identified during the focused survey at least 90 percent of the area with long-term conservation value and burrowing owl pairs will be conserved onsite. If it is determined that the 90 percent threshold cannot be met, the Permittee(s) must make a determination of biologically equivalent or superior preservation (DBESP).

SECTION 8:
CONCLUSIONS

A habitat assessment and MSHCP consistency analysis was conducted for a 65.2-acre project site in the City of San Jacinto, Riverside County. The project site is not within a MSHCP criteria cell and a HANS review is not required.

The only habitat assessment requirement for the Project Site, pursuant to the MSHCP, was BUOW. Suitable BUOW habitat was observed on the project site and a focused BUOW survey is recommended. If the focused survey is positive, additional actions/mitigation may be required pursuant to the MSHCP, Fish and Game Code, and the MBTA.

The City of San Jacinto requested that Narrow Endemic Plants be addressed, although any impacts would be covered by the MSHCP permit. The project site does not provide typically suitable Narrow Endemic Plant Species habitat due to the lack of vernal pools and the disturbed nature of the site from agricultural activities.

No jurisdictional drainages, riparian/riverine habitat or fairy shrimp habitat occur on the Project Site. There is suitable nesting bird habitat on the Project Site and vegetation removal should occur outside the avian breeding season (February-July). If vegetation clearance and/or tree removal occurs during this time frame, a preconstruction nesting bird survey should be conducted.

With payment of the MSHCP mitigation fees, SKR HCP mitigation fees, and BUOW focused survey, the project will be fully consistent with the required course of action under the Western Riverside County MSHCP.

SECTION 9:
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: November 16, 2006 Signed: _____

Mikael Romich, Project Manager

SECTION 10:
REFERENCES

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Appendix A: RCIP Conservation Summary Report

Appendix B: Floral and Faunal Compendia

Floral Compendium

Asteraceae	**Sunflower Family**
Ambrosia acanthicarpa	annual burrweed
Heterotheca grandiflora	telegraph weed
Brassicaceae	**Mustard Family**
**Brassica nigra*	black mustard
Chenopodiaceae	**Goosefoot Family**
**Salsola damascena*	Russian thistle
Pinaceae	**Pine Family**
Pinus species	Pine species
Platanaceae	**Plane Tree Family**
Platanus racemosa	California sycamore

* non-native species

Faunal Compendia

Birds

Accipitridae	**Hawks**
Accipiter cooperii	Cooper's hawk
Buteo jamaicensis	red-tailed hawk
Columbidae	**Pigeons and Doves**
Zenaida macroura	mourning dove
Corvidae	**Crows, Ravens**
Corvus corax	common raven
Falconidae	**Falcons**
Falco sparverius	American kestrel
Fringillidae	**Finches, Blackbirds**
Agelaius phoeniceus	red-winged blackbird
Carpodacus mexicanus	house finch
Dendroica coronata	yellow-rumped warbler
Euphagus cyanocephalus	Brewer's blackbird
Zonotrichia leucophrys	white-crowned sparrow
Sturnidae	**Starlings**
Sturnus vulgaris	European starling
Tyrannidae	**Flycatchers**
Sayornis nigricans	black Phoebe
Sayornis saya	Say's phoebe

Appendix C: Site Photographs

Appendix D: Riverside County Attachments

MULTIPLE SPECIES HABITAT CONSERVATION PLAN (MSHCP) CONSISTENCY REPORT

Kasbergen Hafliger Property
APN 434-180-005 and 433-070-039
San Jacinto, CA

EXECUTIVE SUMMARY

Michael Brandman Associates (MBA) conducted a habitat assessment and MSHCP consistency analysis for the 44.8-acre Kasbergen Hafliger property (APN 434-180-005 and 433-070-039) in the City of San Jacinto, Riverside County. The site visit of the project site was conducted on January 4, 2006. Weather conditions were excellent, with clear skies and temperatures in the 60s (degrees Fahrenheit). The pedestrian survey included the entire 44.8-acre site.

The project site is located east of and abutting Alessandro Avenue, south of and abutting the Ramona Expressway, and north of Burt Avenue in the City of San Jacinto, Riverside County, California. It consists of Assessor's Parcel Numbers 434-180-005 and 433-070-039 and is within unsectioned land of Township 4 South and Range 1 West of the San Jacinto U.S. Geological Survey (USGS) 7.5-minute topographic quadrangle. The site occurs on flat topography at approximately 1,550 feet above mean sea level. The soils on the project site are dominated by the Dello Series.

The MSHCP lists the burrowing owl (*Athene cunicularia*) (BUOW) as the only MSHCP habitat assessment requirement. The project site is not within a Criteria Cell of the MSHCP and no HANS Review is required. The closest Criteria Cell (2893) of the MSHCP occurs approximately 0.25 mile to the east and will not be affected by project activities.

In its current condition, the project site contains two main habitat types: disked bare ground (33.8 acres) and ruderal (11 acres). The disked areas do not contain suitable BUOW habitat since no burrows are present. No burrows were observed in the ruderal areas but debris piles could provide suitable cover for BUOW. During the survey, no BUOW or BUOW sign was observed onsite and it is believed that BUOW do not currently occupy the site. In addition, no ground squirrel colonies were observed on the project site. No further BUOW surveys are needed at this time. However, since BUOW are known to occur in the vicinity and the condition of the site could change, a 30-day BUOW clearance survey is recommended prior to grading. This survey takes one day to perform and a brief letter report documenting the continued absence of BUOW on the project site is generated.

The project site does not contain suitable habitat for any sensitive plant species. The ornamental hedgerow that is present on the project site along Alessandro Avenue could provide suitable breeding habitat for loggerhead shrike, a MSHCP planning species. In addition, the sycamore and pine trees present near the existing residence on the project site could provide suitable nesting habitat for Cooper's hawk, also a MSHCP planning species. It is recommended that to avoid impacts to nesting birds, vegetation removal should be conducted outside of the avian breeding season (February 15 through July 15) to avoid impacts to nests. If vegetation clearance is required during this period, a pre-construction nesting bird survey will be required.

The project is inside the Stephens' kangaroo rat (SKR) HCP fee area boundary and payment of a fee to the Riverside County Habitat Conservation Agency will be required.

With payment of the MSHCP mitigation fees, SKR HCP mitigation fees, a pre-construction BUOW survey (if grading is not completed by February 4, 2006), and nesting bird survey (if construction activities occur after February 15, 2006), the Kasbergen Hafliger property should be fully consistent with the Western Riverside County MSHCP.

KASBERGEN/HALFIGLER TT34271; P22-004

NOISE AND VIBRATION IMPACT ANALYSIS

CITY OF SAN JACINTO

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SEPTEMBER 13, 2023

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LIST OF ABBREVIATED TERMS

(1)	Reference
ANSI	American National Standards Institute
Calveno	California Vehicle Noise
CEQA	California Environmental Quality Act
CNEL	Community Noise Equivalent Level
dBA	A-weighted decibels
EPA	Environmental Protection Agency
FHWA	Federal Highway Administration
FTA	Federal Transit Administration
INCE	Institute of Noise Control Engineering
L_{eq}	Equivalent continuous (average) sound level
L_{max}	Maximum level measured over the time interval
mph	Miles per hour
PPV	Peak Particle Velocity
Project	Kasbergen/Halfigler TT34271; P22-004
REMEL	Reference Energy Mean Emission Level
RMS	Root-mean-square
VdB	Vibration Decibels

EXECUTIVE SUMMARY

Urban Crossroads, Inc. has prepared this noise study to determine the noise exposure and the necessary noise mitigation measures for the proposed Kasbergen/Halfigler TT34271; P22-004 development ("Project"). The Project site is located east of Alessandro Avenue, south of Ramona Expressway, and west of Vernon Avenue in the City of San Jacinto The Project as proposed consists of 151 residential dwelling units. This noise study has been prepared to satisfy applicable City of San Jacinto noise standards and significance criteria based on Appendix G of the California Environmental Quality Act (CEQA) Guidelines. (1)

The results of this Noise and Vibration Impact Analysis are summarized below based on the significance criteria in Section 4 of this report consistent with Appendix G of the California Environmental Quality Act (CEQA) Guidelines. (1) Table ES-1 shows the findings of significance for each potential noise and/or vibration impact under CEQA before and after any required mitigation measures.

TABLE ES-1: SUMMARY OF CEQA SIGNIFICANCE FINDINGS

Analysis	Report Section	Significance Findings	
		Unmitigated	Mitigated
Off-Site Traffic Noise	7	*Less Than Significant*	-
On-Site Exterior Noise	8	*Less Than Significant*	-
On-Site Interior Noise		*Less Than Significant*	-
Operational Noise	10	*Less Than Significant*	-
Construction Noise	11	*Less Than Significant*	-
Construction Vibration		*Less Than Significant*	-

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1 INTRODUCTION

This noise analysis has been completed to determine the noise impacts associated with the development of the proposed Kasbergen/Halfigler TT34271; P22-004 ("Project"). This noise study briefly describes the proposed Project, provides information regarding noise fundamentals, sets out the regulatory setting, presents the study methods and procedures for transportation related CNEL traffic noise analysis, and evaluates the future exterior noise environment. In addition, this study includes an analysis of the potential Project-related long-term stationary-source operational noise and short-term construction noise and vibration impacts.

1.1 SITE LOCATION

The proposed Project is located east of Alessandro Avenue, south of Ramona Expressway, and west of Vernon Avenue in the City of San Jacinto, as shown on Exhibit 1-A. The project site has a General Plan Land Use designation of low density residential. The area surrounding the Project Site consists of existing single-family residential homes to the south, west, and north, and undeveloped land east of the Project site.

1.2 PROJECT DESCRIPTION

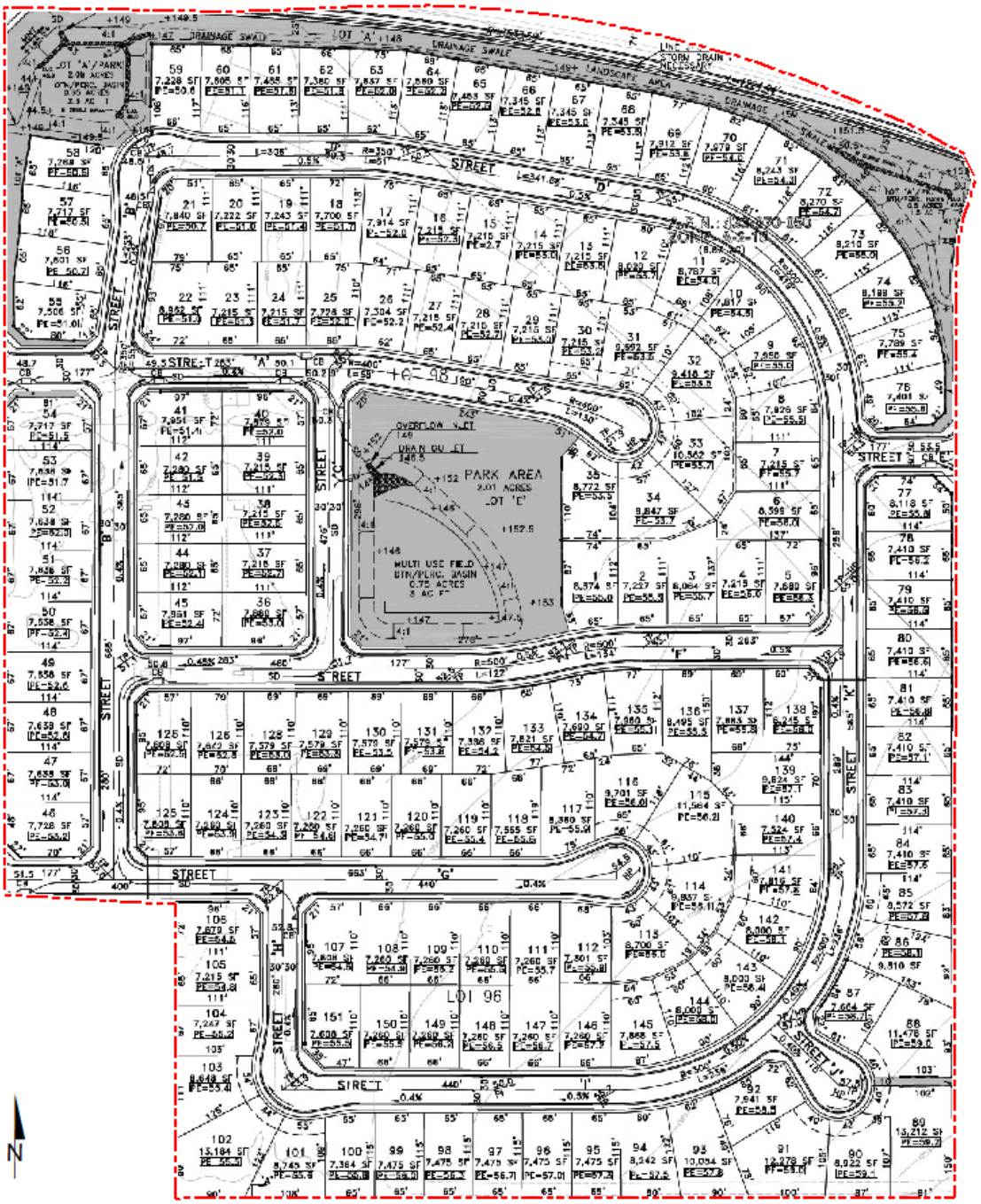
The Project is proposed to consist of 151 residential dwelling units. It is anticipated that the Project would be fully developed by year 2024. A preliminary subdivision map of the proposed Project is shown in Exhibit 1-1. Project will have two full access entrance along Alessandro Avenue and one full access entrance along Vernon Avenue.

Trips generated by the Project's proposed land uses have been estimated based on trip generation rates collected by the Institute of Transportation Engineers (ITE) Trip Generation Manual, 11th Edition, 2021. (2) The Project is anticipated to generate a net total of 1,424 trip-ends per day with 106 AM peak hour trips and 140 PM peak hour trips.

EXHIBIT 1-A: LOCATION MAP



EXHIBIT 1-B: SITE PLAN



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2 FUNDAMENTALS

Noise is simply defined as "unwanted sound." Sound becomes unwanted when it interferes with normal activities, when it causes actual physical harm or when it has adverse effects on health. Noise is measured on a logarithmic scale of sound pressure level known as a decibel (dB). A-weighted decibels (dBA) approximate the subjective response of the human ear to broad frequency noise source by discriminating against very low and very high frequencies of the audible spectrum. They are adjusted to reflect only those frequencies which are audible to the human ear. Exhibit 2-A presents a summary of the typical noise levels and their subjective loudness and effects that are described in more detail below.

EXHIBIT 2-A: TYPICAL NOISE LEVELS

COMMON OUTDOOR ACTIVITIES	COMMON INDOOR ACTIVITIES	A - WEIGHTED SOUND LEVEL dBA	SUBJECTIVE LOUDNESS	EFFECTS OF NOISE
THRESHOLD OF PAIN		140	INTOLERABLE OR DEAFENING	HEARING LOSS
NEAR JET ENGINE		130		
		120		
JET FLY-OVER AT 300m (1000 ft)	ROCK BAND	110		
LOUD AUTO HORN		100	VERY NOISY	
GAS LAWN MOWER AT 1m (3 ft)		90		
DIESEL TRUCK AT 15m (50 ft), at 80 km/hr (50 mph)	FOOD BLENDER AT 1m (3 ft)	80		SPEECH INTERFERENCE
NOISY URBAN AREA, DAYTIME	VACUUM CLEANER AT 3m (10 ft)	70	LOUD	
HEAVY TRAFFIC AT 90m (300 ft)	NORMAL SPEECH AT 1m (3 ft)	60		
QUIET URBAN DAYTIME	LARGE BUSINESS OFFICE	50	MODERATE	SLEEP DISTURBANCE
QUIET URBAN NIGHTTIME	THEATER, LARGE CONFERENCE ROOM (BACKGROUND)	40		
QUIET SUBURBAN NIGHTTIME	LIBRARY	30	FAINT	NO EFFECT
QUIET RURAL NIGHTTIME	BEDROOM AT NIGHT, CONCERT HALL (BACKGROUND)	20		
	BROADCAST/RECORDING STUDIO	10	VERY FAINT	
LOWEST THRESHOLD OF HUMAN HEARING	LOWEST THRESHOLD OF HUMAN HEARING	0		

Source: Environmental Protection Agency Office of Noise Abatement and Control, Information on Levels of Environmental Noise Requisite to Protect Public Health and Welfare with an Adequate Margin of Safety (EPA/ONAC 550/9-74-004) March 1974.

2.1 RANGE OF NOISE

Since the range of intensities that the human ear can detect is so large, the scale frequently used to measure intensity is a scale based on multiples of 10, the logarithmic scale. The scale for measuring intensity is the decibel scale. Each interval of 10 decibels indicates a sound energy ten times greater than before, which is perceived by the human ear as being roughly twice as loud. (3) The most common sounds vary between 40 dBA (very quiet) to 100 dBA (very loud). Normal conversation at three feet is roughly at 60 dBA, while loud jet engine noises equate to 110 dBA

at approximately 1,000 feet, which can cause serious discomfort. (4) Another important aspect of noise is the duration of the sound and the way it is described and distributed in time.

2.2 NOISE DESCRIPTORS

Environmental noise descriptors are generally based on averages, rather than instantaneous, noise levels. The most used metric is the equivalent level (L_{eq}). Equivalent sound levels are not measured directly but are calculated from sound pressure levels typically measured in A-weighted decibels (dBA). The equivalent sound level (L_{eq}) represents a steady state sound level containing the same total energy as a time varying signal over a given sample period and is commonly used to describe the "average" noise levels within the environment.

Peak hour or average noise levels, while useful, do not completely describe a given noise environment. Noise levels lower than peak hour may be disturbing if they occur during times when quiet is most desirable, namely evening and nighttime (sleeping) hours. To account for this, the Community Noise Equivalent Level (CNEL), representing a composite 24-hour noise level is utilized. The CNEL is the weighted average of the intensity of a sound, with corrections for time of day, and averaged over 24 hours. The time-of-day corrections require the addition of 5 decibels to dBA L_{eq} sound levels in the evening from 7:00 p.m. to 10:00 p.m., and the addition of 10 decibels to dBA L_{eq} sound levels at night between 10:00 p.m. and 7:00 a.m. These additions are made to account for the noise sensitive time periods during the evening and night hours when noise can become more intrusive. CNEL does not represent the actual sound level heard at any time, but rather represents the total sound exposure. The City of San Jacinto relies on the 24-hour CNEL level to assess land use compatibility with transportation related noise sources.

2.3 SOUND PROPAGATION

When sound propagates over a distance, it changes in level and frequency content. The way noise reduces with distance depends on the following factors.

2.3.1 GEOMETRIC SPREADING

Sound from a localized source (i.e., a stationary point source) propagates uniformly outward in a spherical pattern. The sound level attenuates (or decreases) at a rate of 6 dB for each doubling of distance from a point source. Highways consist of several localized noise sources on a defined path and hence can be treated as a line source, which approximates the effect of several point sources. Noise from a line source propagates outward in a cylindrical pattern, often referred to as cylindrical spreading. Sound levels attenuate at a rate of 3 dB for each doubling of distance from a line source. (3)

2.3.2 GROUND ABSORPTION

The propagation path of noise from a highway to a receiver is usually very close to the ground. Noise attenuation from ground absorption and reflective wave canceling adds to the attenuation associated with geometric spreading. Traditionally, the excess attenuation has also been expressed in terms of attenuation per doubling of distance. This approximation is usually

sufficiently accurate for distances of less than 200 ft. For acoustically hard sites (i.e., sites with a reflective surface between the source and the receiver, such as a parking lot or body of water), no excess ground attenuation is assumed. For acoustically absorptive or soft sites (i.e., those sites with an absorptive ground surface between the source and the receiver such as soft dirt, grass, or scattered bushes and trees), an excess ground attenuation value of 1.5 dB per doubling of distance is normally assumed. When added to the cylindrical spreading, the excess ground attenuation results in an overall drop-off rate of 4.5 dB per doubling of distance from a line source. (5)

2.3.3 ATMOSPHERIC EFFECTS

Receivers located downwind from a source can be exposed to increased noise levels relative to calm conditions, whereas locations upwind can have lowered noise levels. Sound levels can be increased at large distances (e.g., more than 500 feet) due to atmospheric temperature inversion (i.e., increasing temperature with elevation). Other factors such as air temperature, humidity, and turbulence can also have significant effects. (3)

2.3.4 SHIELDING

A large object or barrier in the path between a noise source and a receiver can substantially attenuate noise levels at the receiver. The amount of attenuation provided by shielding depends on the size of the object and the frequency content of the noise source. Shielding by trees and other such vegetation typically only has an "out of sight, out of mind" effect. That is, the perception of noise impact tends to decrease when vegetation blocks the line-of-sight to nearby residents. However, for vegetation to provide a substantial, or even noticeable, noise reduction, the vegetation area must be at least 15 feet in height, 100 feet wide and dense enough to completely obstruct the line-of-sight between the source and the receiver. This size of vegetation may provide up to 5 dBA of noise reduction. The Federal Highway Administration (FHWA) does not consider the planting of vegetation to be a noise abatement measure. (6)

2.4 NOISE CONTROL

Noise control is the process of obtaining an acceptable noise environment for an observation point or receiver by controlling the noise source, transmission path, receiver, or all three. This concept is known as the source-path-receiver concept. In general, noise control measures can be applied to these three elements.

2.5 NOISE BARRIER ATTENUATION

Effective noise barriers can reduce noise levels by 10 to 15 dBA, cutting the loudness of traffic noise in half. A noise barrier is most effective when placed close to the noise source or receiver. Noise barriers, however, do have limitations. For a noise barrier to work, it must block the line-of-sight path of sound from the noise source.

2.6 LAND USE COMPATIBILITY WITH NOISE

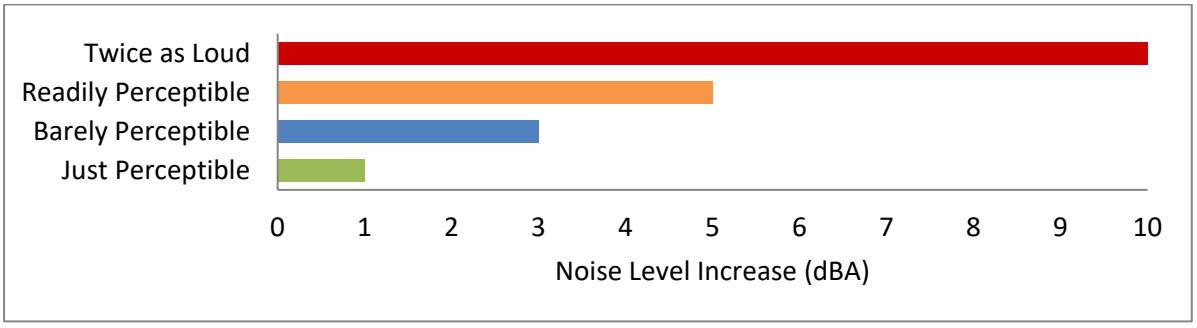
Some land uses are more tolerant of noise than others. For example, schools, hospitals, churches, and residences are more sensitive to noise intrusion than are commercial or industrial developments and related activities. As ambient noise levels affect the perceived amenity or livability of a development, so too can the mismanagement of noise impacts impair the economic health and growth potential of a community by reducing the area's desirability as a place to live, shop and work. For this reason, land use compatibility with the noise environment is an important consideration in the planning and design process. The FHWA encourages State and Local government to regulate land development in such a way that noise-sensitive land uses are either prohibited from being located adjacent to a highway, or that the developments are planned, designed, and constructed in such a way that noise impacts are minimized. (7)

2.7 COMMUNITY RESPONSE TO NOISE

Approximately sixteen percent of the population has a very low tolerance for noise and will object to any noise not of their making. Consequently, even in the quietest environment, some complaints may occur. Twenty to thirty percent of the population will not complain even in very severe noise environments. (8 pp. 8-6) Thus, a variety of reactions can be expected from people exposed to any given noise environment.

Surveys have shown that community response to noise varies from no reaction to vigorous action for newly introduced noises averaging from 10 dB below existing to 25 dB above existing. (9) According to research originally published in the Noise Effects Handbook (8), the percentage of high annoyance ranges from approximately 0 percent at 45 dB or less, 10 percent are highly annoyed around 60 dB, and increases rapidly to approximately 70 percent being highly annoyed at approximately 85 dB or greater. Despite this variability in behavior on an individual level, the population can be expected to exhibit the following responses to changes in noise levels as shown on Exhibit 2-B. A change of 3 dBA is considered barely perceptible, and changes of 5 dBA are considered readily perceptible. (5)

EXHIBIT 2-B: NOISE LEVEL INCREASE PERCEPTION



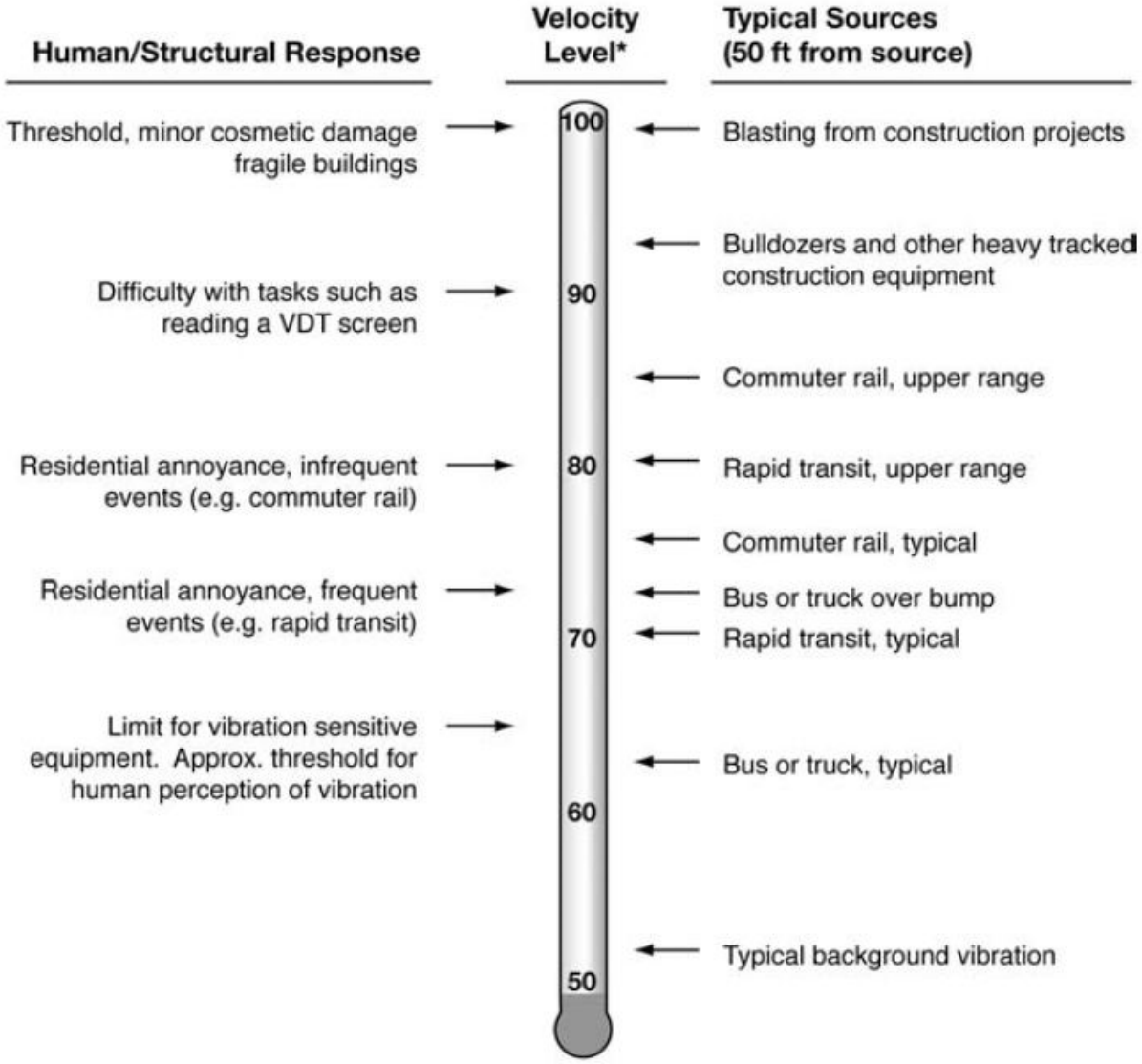
2.8 VIBRATION

Per the Federal Transit Administration (FTA) *Transit Noise Impact and Vibration Impact Assessment Manual* (9) , vibration is the periodic oscillation of a medium or object. The rumbling sound caused by the vibration of room surfaces is called structure-borne noise. Sources of ground-borne vibrations include natural phenomena (e.g., earthquakes, volcanic eruptions, sea waves, landslides) or human-made causes (e.g., explosions, machinery, traffic, trains, construction equipment). Vibration sources may be continuous, such as factory machinery, or transient, such as explosions. As is the case with airborne sound, ground-borne vibrations may be described by amplitude and frequency.

There are several different methods that are used to quantify vibration. The peak particle velocity (PPV) is defined as the maximum instantaneous peak of the vibration signal. The PPV is most frequently used to describe vibration impacts to buildings but is not always suitable for evaluating human response (annoyance) because it takes some time for the human body to respond to vibration signals. Instead, the human body responds to average vibration amplitude often described as the root mean square (RMS). The RMS amplitude is defined as the average of the squared amplitude of the signal and is most frequently used to describe the effect of vibration on the human body. Decibel notation (VdB) is commonly used to measure RMS. Decibel notation (VdB) serves to reduce the range of numbers used to describe human response to vibration. Typically, ground-borne vibration generated by man-made activities attenuates rapidly with distance from the source of the vibration. Sensitive receivers for vibration include structures (especially older masonry structures), people (especially residents, the elderly, and sick), and vibration-sensitive equipment and/or activities.

The background vibration-velocity level in residential areas is generally 50 VdB. Ground-borne vibration is normally perceptible to humans at approximately 65 VdB. For most people, a vibration-velocity level of 75 VdB is the approximate dividing line between barely perceptible and distinctly perceptible levels. Typical outdoor sources of perceptible ground-borne vibration are construction equipment, steel-wheeled trains, and traffic on rough roads. If a roadway is smooth, the ground-borne vibration is rarely perceptible. The range of interest is from approximately 50 VdB, which is the typical background vibration-velocity level, to 100 VdB, which is the general threshold where minor damage can occur in fragile buildings. Exhibit 2-C illustrates common vibration sources and the human and structural response to ground-borne vibration.

EXHIBIT 2-C: TYPICAL LEVELS OF GROUND-BORNE VIBRATION



** RMS Vibration Velocity Level in VdB relative to 10^{-6} inches/second*

Source: Federal Transit Administration (FTA) Transit Noise and Vibration Impact Assessment Manual.

3 REGULATORY SETTING

To limit population exposure to physically and/or psychologically damaging as well as intrusive noise levels, the federal government, the State of California, various county governments, and most municipalities in the state have established standards and ordinances to control noise. In most areas, automobile and truck traffic is the major source of environmental noise. Traffic activity generally produces an average sound level that remains constant with time. Air and rail traffic, and commercial and industrial activities are also major sources of noise in some areas. Federal, state, and local agencies regulate different aspects of environmental noise. Federal and state agencies generally set noise standards for mobile sources such as aircraft and motor vehicles, while regulation of stationary sources is left to local agencies.

3.1 STATE OF CALIFORNIA NOISE REQUIREMENTS

The State of California regulates freeway noise, sets standards for sound transmission, provides occupational noise control criteria, identifies noise standards, and provides guidance for local land use compatibility. State law requires that each county and city adopt a General Plan that includes a Noise Element which is to be prepared per guidelines adopted by the Governor's Office of Planning and Research (OPR). (10) The purpose of the Noise Element is to *limit the exposure of the community to excessive noise levels*. In addition, the California Environmental Quality Act (CEQA) requires that all known environmental effects of a project be analyzed, including environmental noise impacts.

3.1.1 RESIDENTIAL CONSTRUCTION

The State of California's noise insulation standards for all residential units are codified in the California Code of Regulations (CCR), Title 24, Building Standards Administrative Code, Chapter 12, Section 1206. These noise standards are applied to new construction that contains dwelling units or sleeping units, such as residential and hotel or motel uses, in California for controlling interior noise levels resulting from exterior noise sources. For new buildings, the acceptable interior noise limit is 45 dBA CNEL in habitable rooms (11).

3.1.2 NON-RESIDENTIAL CONSTRUCTION

The State of California's Green Building Standards Code contains mandatory measures for non-residential building construction in Section 5.507 on Environmental Comfort. (12) These noise standards are applied to new construction in California for controlling interior noise levels resulting from exterior noise sources. The regulations specify that acoustical studies must be prepared when non-residential structures are developed in areas where the exterior noise levels exceed 65 dBA CNEL, such as within a noise contour of an airport, freeway, railroad, and other noise source. If the development falls within an airport or freeway 65 dBA CNEL noise contour, buildings shall be construction to provide an interior noise level environment attributable to exterior sources that does not exceed an hourly equivalent level of 50 dBA L_{eq} in occupied areas during any hour of operation.

3.2 CITY OF SAN JACINTO GENERAL PLAN

City of Jacinto General Plan noise standards are set forth in the General Public Safety Element. Table PS-1 of the Public Safety Element outlines the acceptable exterior noise standards from transportation and stationary sources. The policies, goals and implementation program measures from the Noise Element that would mitigate potential impacts on noise include the following.

Public Safety Goal 6: A comfortable community environment that is free from excessive noise pollution.

PS-6.1 Noise Exposure. Consider the noise compatibility of existing and future development when making land use planning decisions. Require development and infrastructure projects to be consistent with the land use compatibility standards contained in Tables PS-1, PS-2, PS-3 and PS-4 *(Exhibits 3-A through 3-D of this report)* to ensure acceptable noise exposure levels for existing and future development.

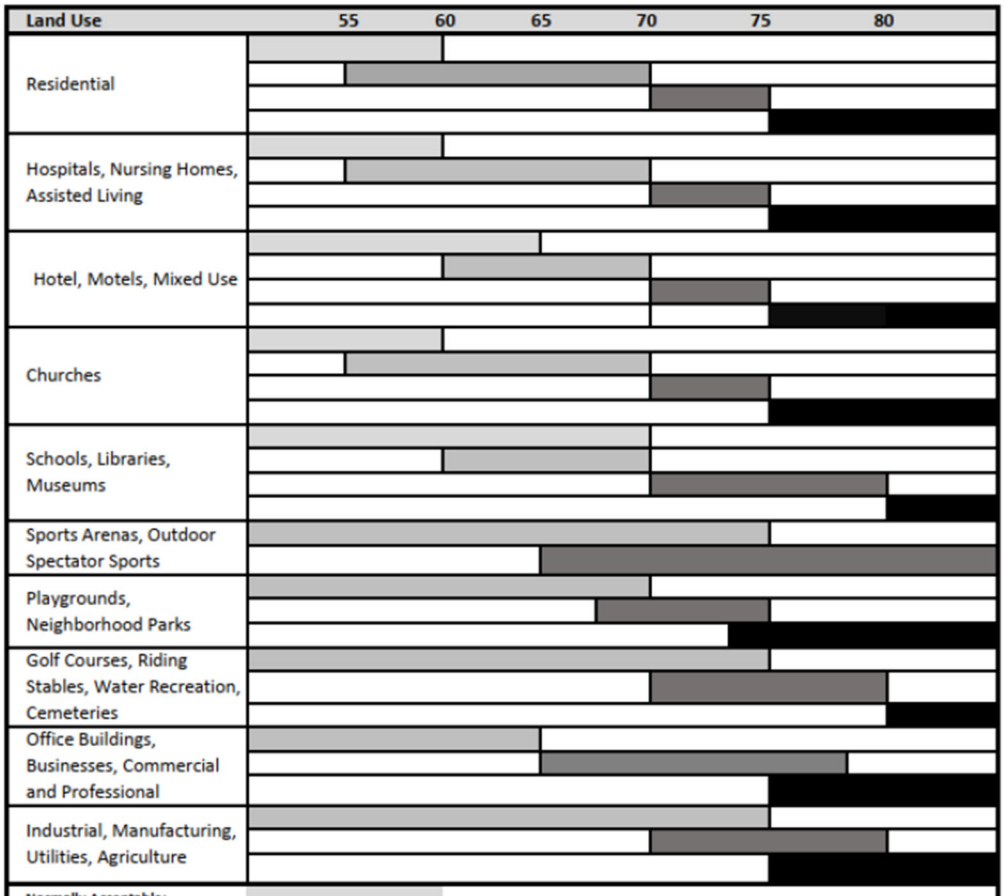
PS-6.2 Noise Mitigation. Require new development to mitigate excessive noise to the standards indicated in Tables PS-1, PS-2, PS-3 and PS-4 to the extent feasible through best practices, including building location and orientation, building design features, placement of noise generating equipment away from sensitive receptors, shielding of noise-generating equipment, placement of noise-tolerant features between noise sources and sensitive receptors, and use of noise-minimizing materials.

PS-6.3 Acoustical Studies. Require acoustical studies for new discretionary developments and transportation improvements that have the potential to affect existing noise-sensitive uses such as schools, hospitals, libraries, care facilities, and residential areas, and for projects that would introduce new noise-sensitive uses into an area where existing noise levels may exceed the thresholds identified in this element. For projects that are required to prepare an acoustical study, the following mobile and stationary noise source criteria shall be used to determine the significance of those impacts.

A. Mobile Noise Sources:

- Where existing traffic noise levels are within or below the "normally acceptable" noise criteria at the affected land use (see Table PS-1), a readily perceptible 5 dBA CNEL or greater increase in roadway noise will be considered significant;
- Where existing traffic noise levels falls within the "conditionally acceptable" noise criteria at the sensitive land use, a +3 dBA CNEL or greater increase in roadway noise levels will be considered significant; and
- Where existing traffic noise levels exceed the "conditionally acceptable" noise criteria at the sensitive land use, a + 1.5 dBA CNEL or greater increase in roadway noise levels will be considered significant.

EXHIBIT 3-A: LAND USE COMPATIBILITY FOR COMMUNITY NOISE EXPOSURE (dBA, CNEL)



Source: City of San Jacinto General Plan Noise Element, Table PS-1.

EXHIBIT 3-B: MAXIMUM ALLOWABLE NOISE EXPOSURE FROM MOBILE NOISE SOURCES

Land Use	Noise Standards[1]	
	Exterior	Interior
Residential – single-family, multi-family, duplex and mobile home	65 dB(A)	45 dB(A)
Residential – transient lodging, hotels, motels, nursing homes, hospitals, assisted care facilities	65 dB(A)	45 dB(A)
Private offices, churches, libraries, theaters, concert halls, meeting halls, schools	65 dB(A)	45 dB(A)
General commercial, office, retail, reception, restaurant	65 dB(A)	45 dB(A)
Light industrial[2]	---	---
Parks and playgrounds[3]	65 dB(A)	50 dB(A)
Golf courses, outdoor spectator sports	70 dB(A)	---

1. In Community Noise Equivalent Level (CNEL)
2. Noise standards do not apply to Light Industrial areas.
3. Outdoor environment limited to playground areas, picnic areas and other areas of frequent human use.

Source: City of San Jacinto General Plan Noise Element, Table PS-2.

EXHIBIT 3-C: ALLOWABLE EXTERIOR NOISE LEVEL DUE TO STATIONARY NOISE SOURCES[1]

Type of Land Use	Allowed Equivalent Noise Level, dBA Leq2	
	7:00 a.m. to 10:00 p.m.	10:00 p.m. to 7:00 a.m.
All single-family residential properties	65	45
All multifamily residential properties and mobile home parks	65	50
All commercial property	65	60
The residential portion of mixed-use properties	70	70
All manufacturing or industrial properties and all other uses	70	70

Source: City of San Jacinto Municipal Code 8.40.040

Notes:

1. If the ambient noise level exceeds the resulting standard, the ambient noise level shall be the standard.
2. Measurements for compliance are made on the affected property pursuant to Municipal Code Section 8.40.160.
3. It is unlawful for any person at any location within the incorporated area of the city to create noise, or to allow the creation of any noise on property owned, leased, occupied, or otherwise controlled by such person, which noise causes the noise level, when measured at any location on any other property, to exceed either of the following:
   a. The noise standard for the applicable zone for any fifteen (15) minute period;
   b. A maximum instantaneous (single instance) noise level equal to the value of the noise standard plus twenty (20) dBA for any period of time (measured using A-weighted slow response).
4. In the event the ambient noise level exceeds the noise standard, the maximum allowable noise level under such category shall be increased to reflect the maximum ambient noise level.
5. The residential portion of mixed-use properties standard shall apply to that portion of residential property falling within one hundred (100) feet of a commercial property or use if the noise originates from that commercial property or use.
6. If the measurement location is on a boundary between two different types of land uses, the lower noise level standard applicable to types of land uses shall apply.

Source: City of San Jacinto General Plan Noise Element, Table PS-3.

EXHIBIT 3-D: ALLOWABLE INTERIOR NOISE LEVEL DUE TO STATIONARY NOISE SOURCES[1]

Type of Land Use	Allowed Equivalent Noise Level, dBA Leq2	
	7:00 a.m. to 10:00 p.m.	10:00 p.m. to 7:00 a.m.
All single-family residential properties	45	40
All multifamily residential properties and mobile home parks	45	40
All commercial property	45	40
Residential Portion of Mixed Use	45	40

Notes:

1 If the ambient noise level exceeds the resulting standard, the ambient noise level shall be the standard.

2. Measurements for compliance are made on the affected property pursuant to Municipal Code Section 8.40.160.

3. It is unlawful for any person at any location within the incorporated area of the city to create noise, or to allow the creation of any noise on property owned, leased, occupied, or otherwise controlled by such person, which noise causes the noise level, when measured at any location on any other property, to exceed either of the following:

a. The noise standard for the applicable zone for any fifteen (15) minute period;

b. A maximum instantaneous (single instance) noise level equal to the value of the noise standard plus twenty (20) dBA for any period of time (measured using A-weighted slow response).

4. In the event the ambient noise level exceeds the noise standard, the maximum allowable noise level under such category shall be increased to reflect the maximum ambient noise level.

5. The Residential portion of mixed-use standard shall apply to that portion of residential property falling within one hundred (100) feet of a commercial property or use if the noise originates from that commercial property or use.

6. If the measurement location is on a boundary between two different types of land uses, the lower noise level standard applicable to the types of land uses shall apply.

Source: City of San Jacinto General Plan Noise Element, Table PS-1.

B. Stationary and Non-Transportation Noise Sources

- A significant impact will occur if the project results in an exceedance of the noise level standards contained in this element, or the project will result in an increase in ambient noise levels by more than 3 dB, whichever is greater.

PS-6.4 Roadway Noise. Encourage nonmotorized transportation alternatives for local trips and the implementation of noise sensitivity measures in the public realm, including traffic-calming road design, lateral separation, natural buffers, and setbacks to decrease excessive motor vehicle noise.

PS-6.5 Vehicular Traffic. Monitor and enforce existing speed limits and motor vehicle codes requiring adequate mufflers on all types of vehicles traveling through the city.

PS-6.6 Commercial Noise. Require the use of noise attenuation measures, including screening and buffering techniques, for all new commercial development expected to produce excessive noise; in existing cases where the City's noise standards are exceeded, work with Code Enforcement to require compliance.

PS-6.7 Construction Noise. Require construction activities to reduce noise impacts on adjacent uses to the criteria identified in Tables PS-3 and PS-4, or, if the criteria cannot be met, to the maximum extent feasible complying with Chapter 8.40 of the San Jacinto Municipal Code (Noise Control) and use best practices. Construction activities outside of the

permitted construction hours identified in the San Jacinto Municipal Code may be approved on a case-by-case basis by the Community Development Director.

PS-6.8 Temporary Special Events. Temporary special events including, but not limited to, festivals, concerts, parades, and other similar activities may be allowed to exceed the noise standards established in this General Plan and the standards established by Chapter 8.40 of the San Jacinto Municipal Code (Noise Control) through issuance of a temporary use permit (see Section 17.640 of the San Jacinto Municipal Code (Temporary Use Permits).

PS-6.9 Temporary Emergency Operations and Emergency Equipment Usage. Temporary emergency operations or emergency equipment usage is exempt from noise standard criteria set by this element.

PS-6.10 Interjurisdictional Coordination. Coordinate with neighboring cities to minimize noise conflicts between land uses along the City's boundaries.

3.2.1 LAND USE COMPATIBILITY GUIDELINES

The noise criteria identified in the City of San Jacinto are guidelines to evaluate the land use compatibility of transportation related noise. The compatibility criteria, shown on Table PS-1 of the Public Safety Element, Exhibit 3-A of this report, provides the City with a planning tool to gauge the compatibility of land uses relative to existing and future exterior noise levels. The *Land Use Compatibility for Community Noise Exposure* describes categories of compatibility and not specific noise standards. The Project's residential land use is considered *normally acceptable* with exterior noise levels below 60 dBA CNEL, *conditionally acceptable* with exterior noise levels of up to 70 dBA CNEL, and *normally unacceptable* with exterior noise levels of up to 75 dBA CNEL.

3.3 INTERIOR NOISE STANDARDS

Section 8.40.050(B) from the noise ordinance outlines the City's interior noise level standards.

A. The following allowable interior noise standards (Table 3-1) due to stationary noise sources shall apply to all development and infrastructure projects, unless otherwise specifically indicated:

TABLE 3-1: ALLOWABLE INTERIOR NOISE LEVEL

Type of Land Use	Allowed Equivalent Noise Level, dBA L_{eq}	
	7:00 a.m. to 10:00 p.m.	10:00 p.m. to 7:00 a.m.
All single-family residential properties	45	40
All multifamily residential properties and mobile home parks	45	40
All commercial property	45	40
Residential portion of mixed use	45	40

Source: City of San Jacinto Municipal Code, Chapter 8.40.050(B), Interior Noise Standards (Appendix 3.1).
[1] Leq represents a steady state sound level containing the same total energy as a time varying signal over a given period.

3.4 OPERATIONAL NOISE STANDARDS

To analyze noise impacts originating from a designated fixed location or private property such as the Project, stationary-source (operational) noise such as the expected residential air conditioners are typically evaluated against standards established under a jurisdiction's Municipal Code. Section 8.40.040(A) from the noise ordinance outlines the City's exterior noise standards (Table 3-2) as it relates to stationary noise sources.

TABLE 3-2: EXTERIOR NOISE LEVEL

Type of Land Use	Allowed Equivalent Noise Level, dBA L_{eq}	
	7:00 a.m. to 10:00 p.m.	10:00 p.m. to 7:00 a.m.
All single-family residential properties	65	45
All multifamily residential properties and mobile home parks	65	50
All commercial property	65	60
The residential portion of mixed-use properties	70	70
All manufacturing or industrial properties and all other uses	70	70

Source: City of San Jacinto Municipal Code, Chapter 8.40.050(A), Exterior Noise Standards (Appendix 3.1).
[1] Leq represents a steady state sound level containing the same total energy as a time varying signal over a given period.

3.5 CONSTRUCTION NOISE STANDARDS

To control noise impacts associated with the construction of the proposed Project, the City of San Jacinto has established limits to the hours of operation. Section 8.40.090 (A) of the Noise Regulation ordinance indicates that noise associated with construction activity is considered exempt from the noise ordinance between the hours of 7:00 a.m. and 7:00 p.m. Monday through Saturday (13). However, neither the City of San Jacinto General Plan nor Municipal Code establish numeric maximum acceptable construction source noise levels at potentially affected receivers. Therefore, a numerical construction threshold based on Federal Transit Administration (FTA) *Transit Noise and Vibration Impact Assessment Manual* is used for analysis of daytime construction impacts, as discussed below.

According to the FTA, local noise ordinances are typically not very useful in evaluating construction noise. They usually relate to nuisance and hours of allowed activity, and sometimes specify limits in terms of maximum levels, but are generally not practical for assessing the impact of a construction project. Project construction noise criteria should account for the existing noise environment, the absolute noise levels during construction activities, the duration of the construction, and the adjacent land use. Due to the lack of standardized construction noise thresholds, the FTA provides guidelines that can be considered reasonable criteria for construction noise assessment. The FTA considers a daytime exterior construction noise level of 80 dBA L_{eq} as a reasonable threshold for noise sensitive residential land use. (9 p. 179)

3.6 CONSTRUCTION VIBRATION STANDARDS

Construction activity can result in varying degrees of ground-borne vibration, depending on the equipment and methods used, distance to the affected structures and soil type. Construction vibration is generally associated with pile driving and rock blasting. Other construction equipment such as air compressors, light trucks, hydraulic loaders, etc., generates little or no ground vibration. (9)

To analyze vibration impacts originating from the operation and construction of the Project vibration-generating activities are appropriately evaluated against standards established under a City's Municipal Code, if such standards exist. The City of San Jacinto does identify specific a vibration level limit of 0.30 PPV (in/sec). Therefore, for analysis purposes a maximum acceptable continuous vibration threshold of 0.30 PPV (in/sec) is used to assess construction impacts.

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4 SIGNIFICANCE CRITERIA

The following significance criteria are based on currently adopted guidance provided by Appendix G of the California Environmental Quality Act (CEQA) Guidelines. (1) For the purposes of this report, impacts would be potentially significant if the Project results in or causes:

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?

B. Generation of excessive ground-borne vibration or ground-borne 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?

4.1 NOISE LEVEL INCREASES (THRESHOLD A)

Noise level increases resulting from the Project are evaluated based on the Appendix G CEQA Guidelines described above at the closest sensitive receiver locations. Under CEQA, consideration must be given to the magnitude of the increase, the existing ambient noise levels, and the location of noise-sensitive receivers to determine if a noise increase represents a significant adverse environmental impact. This approach *recognizes that there is no single noise increase that renders the noise impact significant.* (14) This is primarily because of the wide variation in individual thresholds of annoyance and differing individual experiences with noise. Thus, an important way of determining a person's subjective reaction to a new noise is the comparison of it to the existing environment to which one has adapted—the so-called *ambient* environment.

In general, the more a new noise exceeds the previously existing ambient noise level, the less acceptable the new noise will typically be judged. The Federal Interagency Committee on Noise (FICON) (15) developed guidance to be used for the assessment of project-generated increases in noise levels that consider the ambient noise level. The FICON recommendations are based on studies that relate aircraft noise levels to the percentage of persons highly annoyed by aircraft noise. Although the FICON recommendations were specifically developed to assess aircraft noise impacts, these recommendations are often used in environmental noise impact assessments involving the use of cumulative noise exposure metrics, such as the average-daily noise level (CNEL) and equivalent continuous noise level (L_{eq}). The FICON guidance provides an established source of criteria to assess the impacts of substantial temporary or permanent increase in ambient noise levels. Based on the FICON criteria, the amount to which a given noise level increase is considered acceptable is reduced when the without Project noise levels are already shown to exceed certain land-use specific exterior noise level criteria. The specific levels are based on typical responses to noise level increases of 5 dBA or *readily perceptible*, 3 dBA or *barely perceptible*, and 1.5 dBA depending on the underlying without Project noise levels for noise-sensitive uses. These levels of increases and their perceived acceptance are consistent with guidance provided by both the Federal Highway Administration (5 p. 9) and Caltrans (16 p. 2_48).

4.2 VIBRATION (THRESHOLD B)

As described in Section 3.6, the vibration impacts originating from the construction of the Kasbergen/Halfigler TT34271; P22-004, vibration-generating activities are appropriately evaluated using the Caltrans vibration damage thresholds to assess potential temporary construction-related impacts at adjacent building locations. The nearest noise sensitive buildings adjacent to the Project site can best be described as "older residential structures" with a maximum acceptable continuous vibration threshold of 0.30 PPV (in/sec).

4.3 CEQA GUIDELINES NOT FURTHER ANALYZED (THRESHOLD C)

CEQA Noise Threshold C applies when there are nearby public and private airports and/or air strips and focuses on land use compatibility of the Project to nearby airports and airstrips. The Project site is not located within two miles of an airport or airstrip. The closest airport is the Hemet Ryan Airport located over 5.5 miles southwest of the Project site. As such, the Project site would not be exposed to excessive noise levels from airport operations, and therefore, impacts are considered *less than significant,* and no further noise analysis is conducted in relation to Appendix G to the CEQA Guidelines, Noise Threshold C.

4.4 SIGNIFICANCE CRITERIA SUMMARY

Noise impacts shall be considered significant if any of the following occur as a direct result of the proposed development. Table 4-1 shows the significance criteria summary matrix that includes the allowable criteria used to identify potentially significant incremental noise level increases.

TABLE 4-1: SIGNIFICANCE CRITERIA SUMMARY

Analysis	Condition(s)	Significance Criteria	
		Daytime	**Nighttime**
Off-Site Traffic[1]	If ambient is < 60 dBA CNEL[1]	≥ 5 dBA CNEL Project increase	
	If ambient is 60 - 65 dBA CNEL[1]	≥ 3 dBA CNEL Project increase	
	If ambient is > 65 dBA CNEL[1]	≥ 1.5 dBA CNEL Project increase	
On-Site Traffic[2]	Exterior Noise Compatibility Criteria[2]	See Exhibit 3-B	
	Interior Noise Level Standard[3]	See Exhibit 3-D	
Operational	Exterior Noise Level Standards[4]	See Exhibit 3-C	
	If ambient is < 60 dBA Leq[1]	≥ 5 dBA L_{eq} Project increase	
	If ambient is 60 - 65 dBA Leq[1]	≥ 3 dBA L_{eq} Project increase	
	If ambient is > 65 dBA Leq[1]	≥ 1.5 dBA L_{eq} Project increase	
Construction	Noise Level Threshold[5]	80 dBA L_{eq}	
	Vibration Level Threshold[6]	0.3 PPV (in/sec)	

[1] FICON, 1992.
[2] City of San Jacinto General Plan Noise Element Table PS-2.
[3] City of San Jacinto General Plan Noise Element Table PS-4
[4] City of San Jacinto General Plan Noise Element Table PS-3
[5] Federal Transit Administration, Transit Noise and Vibration Impact Assessment Manual.
[6] Caltrans Transportation and Construction Vibration Manual, April 2020 Table 19.
"Daytime" = 7:00 a.m. to 10:00 p.m.; "Nighttime" = 10:00 p.m. to 7:00 a.m.

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5 EXISTING NOISE LEVEL MEASUREMENTS

To assess the existing noise level environment, 24-hour noise level measurements were taken at three locations in the Project study area. The receiver locations were selected to describe and document the existing noise environment within the Project study area. Exhibit 5-A provides the boundaries of the Project study area and the noise level measurement locations. To fully describe the existing noise conditions, noise level measurements were collected by Urban Crossroads, Inc. on Tuesday, March 8, 2022. Appendix 5.1 includes study area photos.

5.1 MEASUREMENT PROCEDURE AND CRITERIA

To describe the existing noise environment, the hourly noise levels were measured during typical weekday conditions over a 24-hour period. By collecting individual hourly noise level measurements, it is possible to describe the equivalent daytime and nighttime hourly noise levels. The long-term noise readings were recorded using Piccolo Type 2 integrating sound level meter and dataloggers. The Piccolo sound level meters were calibrated using a Larson-Davis calibrator, Model CAL 150. All noise meters were programmed in "slow" mode to record noise levels in "A" weighted form. The sound level meters and microphones were equipped with a windscreen during all measurements. All noise level measurement equipment satisfies the American National Standards Institute (ANSI) standard specifications for sound level meters ANSI S1.4-2014/IEC 61672-1:2013. (17)

5.2 NOISE MEASUREMENT LOCATIONS

The long-term noise level measurements were positioned as close to the nearest sensitive receiver locations as possible to assess the existing ambient hourly noise levels surrounding the Project site. Both Caltrans and the FTA recognize that it is not reasonable to collect noise level measurements that can fully represent every part of a private yard, patio, deck, or balcony normally used for human activity when estimating impacts for new development projects. This is demonstrated in the Caltrans general site location guidelines which indicate that, *sites must be free of noise contamination by sources other than sources of interest. Avoid sites located near sources such as barking dogs, lawnmowers, pool pumps, and air conditioners unless it is the express intent of the analyst to measure these sources*. (3) Further, FTA guidance states, t*hat it is not necessary nor recommended that existing noise exposure be determined by measuring at every noise-sensitive location in the project area. Rather, the recommended approach is to characterize the noise environment for clusters of sites based on measurements or estimates at representative locations in the community*. (9)

Based on recommendations of Caltrans and the FTA, it is not necessary to collect measurements at each individual building or residence, because each receiver measurement represents a group of buildings that share acoustical equivalence. (9) In other words, the area represented by the receiver shares similar shielding, terrain, and geometric relationship to the reference noise source. Receivers represent a location of noise sensitive areas and are used to estimate the future noise level impacts. Collecting reference ambient noise level measurements at the nearby sensitive receiver locations allows for a comparison of the before and after Project noise levels

and is necessary to assess potential noise impacts due to the Project's contribution to the ambient noise levels.

5.3 NOISE MEASUREMENT RESULTS

The noise measurements presented below focus on the equivalent or the hourly energy average sound levels (L_{eq}). The equivalent sound level (L_{eq}) represents a steady state sound level containing the same total energy as a time varying signal over a given sample period. Table 5-1 identifies the hourly daytime (7:00 a.m. to 10:00 p.m.) and nighttime (10:00 p.m. to 7:00 a.m.) noise levels at each noise level measurement location.

TABLE 5-1: AMBIENT NOISE LEVEL MEASUREMENTS

Location[1]	Description	Energy Average Noise Level (dBA L_{eq})[2]	
		Daytime	Nighttime
L1	Located west of the Project site near single-family residence at 22145 Alessandro Avenue North.	65.7	64.8
L2	Located south of the Project site near single-family residence at 22384 Alessandro Avenue North.	48.8	48.9
L3	Located west of the Project site near Marvo Heifer Ranch Holsteins at 22323 Alessandro Avenue North.	67.3	65.5

[1] See Exhibit 5-A for the noise level measurement locations.
[2] Energy (logarithmic) average levels. The long-term 24-hour measurement worksheets are included in Appendix 5.2. "Daytime" = 7:00 a.m. to 7:00 p.m.; "Nighttime" = 10:00 p.m. to 7:00 a.m.

Table 5-1 provides the equivalent noise levels used to describe the daytime and nighttime ambient conditions. These daytime and nighttime energy average noise levels represent the average of all hourly noise levels observed during these time periods expressed as a single number. Appendix 5.2 provides summary worksheets of the noise levels for each of the daytime and nighttime hours.

EXHIBIT 5-A: NOISE MEASUREMENT LOCATIONS



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6 TRAFFIC NOISE METHODS AND PROCEDURES

The following section outlines the methods and procedures used to estimate and analyze the future traffic noise environment. Consistent with the City of San Jacinto *Land Use Compatibility* guidelines, all transportation related noise levels are presented in terms of the 24-hour CNEL's.

6.1 FHWA TRAFFIC NOISE PREDICTION MODEL

The expected roadway noise level increases from vehicular traffic were calculated by Urban Crossroads, Inc. using a computer program that replicates the Federal Highway Administration (FHWA) Traffic Noise Prediction Model- FHWA-RD-77-108. (18) The FHWA Model arrives at a predicted noise level through a series of adjustments to the Reference Energy Mean Emission Level (REMEL). In California the national REMELs are substituted with the California Vehicle Noise (Calveno) Emission Levels. (19) Adjustments are then made to the REMEL to account for: the roadway classification (e.g., collector, secondary, major or arterial), the roadway active width (i.e., the distance between the center of the outermost travel lanes on each side of the roadway), the total average daily traffic (ADT), the travel speed, the percentages of automobiles, medium trucks, and heavy trucks in the traffic volume, the roadway grade, the angle of view (e.g., whether the roadway view is blocked), the site conditions ("hard" or "soft" relates to the absorption of the ground, pavement, or landscaping), and the percentage of total ADT which flows each hour throughout a 24-hour period. Research conducted by Caltrans has shown that the use of soft site conditions is appropriate for the application of the FHWA traffic noise prediction model used in this analysis. (20)

6.1.1 OFF-SITE TRAFFIC NOISE PREDICTION MODEL INPUTS

Table 6-1 presents the roadway parameters used to assess the Project's off-site transportation noise impacts. Table 6-1 identifies the sixteen off-site study area roadway segments, the distance from the centerline to adjacent receiving land use based on the functional roadway classifications per the City of San Jacinto General Plan Circulation Element, and the vehicle speeds. The ADT volumes used in this study are presented on Table 6-2 are based on the *Kasbergen/Halfigler TT34271; P22-004 Traffic Impact Analysis* by Urban Crossroads, Inc. included in Appendix 6.1 for the following traffic conditions:

1. Existing Without Project
2. Existing With Project
3. Existing plus Ambient plus Cumulative Without Project
4. Existing plus Ambient plus Cumulative With Project

TABLE 6-1: OFF-SITE ROADWAY PARAMETERS

ID	Roadway	Segment	Classification[1]	Centerline Distance to Receiving Land Use[2]	Vehicle Speed (mph)
1	Ramona Expy.	w/o State St.	Limited Access Conventional Highway	73'	65
2	Ramona Expy.	e/o State St.	Limited Access Conventional Highway	73'	65
3	Ramona Expy.	e/o Alessandro Ave.	Limited Access Conventional Highway	73'	65
4	Ramona Expy.	e/o Vernon Ave.	Limited Access Conventional Highway	73'	65
5	State St.	n/o Ramona Expy.	Major	50'	45
6	State St.	s/o Ramona Expy.	Major	50'	45
7	Alessandro Ave.	s/o Ramona Expy.	Collector	39'	25
8	Alessandro Ave.	s/o 1st St.	Collector	39'	25
9	Alessandro Ave.	s/o Main St.	Collector	39'	25
10	Vernon Ave.	s/o Ramona Expy.	Collector	39'	45
11	Vernon Ave.	s/o 1st St.	Collector	39'	25
12	Vernon Ave.	s/o Main St.	Collector	39'	25
13	1st St.	w/o Alessandro Ave.	Collector	39'	25
14	1st St.	e/o Alessandro Ave.	Collector	39'	25
15	1st St.	e/o Vernon Ave.	Collector	39'	25
16	Main St.	w/o Alessandro Ave.	Collector	39'	35

[1] City of San Jacinto General Plan Circulation Element
[2] Based upon the right-of-way distances for each roadway classification provided in the General Plan Circulation Element.

The ADT volumes vary for each roadway segment based on the existing traffic volumes and the combination of project traffic distributions. Table 6-3 provides the time of day (daytime, evening, and nighttime) vehicle splits and Table 6-4 presents the traffic flow distributions (vehicle mix) used for this analysis. The vehicle mix provides the hourly distribution percentages of automobile, medium trucks, and heavy trucks for input into the FHWA noise prediction model.

6.1.2 ON-SITE TRAFFIC NOISE PREDICTION MODEL INPUTS

The maximum two-way traffic volumes at a level of service C shown on Table 6-5, were obtained from the City of San Jacinto Overview of Street Classifications, Table C-1 (21) and reflect future long-range traffic conditions needed to assess the on-site traffic noise environment and to identify potential mitigation measures (if any) that address the worst-case future conditions.

TABLE 6-2: AVERAGE DAILY TRAFFIC VOLUMES

ID	Roadway	Segment	Existing Average Daily Traffic Volumes (ADT)[1]		Cumulative Average Daily Traffic Volumes (ADT)[1]	
			Without Project	With Project	Without Project	With Project
1	Ramona Expy.	w/o State St.	29,200	29,600	37,900	38,200
2	Ramona Expy.	e/o State St.	23,500	24,000	32,200	32,700
3	Ramona Expy.	e/o Alessandro Ave.	19,100	19,300	27,500	27,700
4	Ramona Expy.	e/o Vernon Ave.	17,500	17,600	24,900	25,000
5	State St.	n/o Ramona Expy.	19,700	19,800	30,600	22,500
6	State St.	s/o Ramona Expy.	26,500	26,600	22,500	30,700
7	Alessandro Ave.	s/o Ramona Expy.	1,500	1,900	2,500	3,400
8	Alessandro Ave.	s/o 1st St.	1,800	2,100	2,900	3,100
9	Alessandro Ave.	s/o Main St.	600	650	1,300	1,400
10	Vernon Ave.	s/o Ramona Expy.	1,700	2,100	4,400	4,900
11	Vernon Ave.	s/o 1st St.	1,900	2,300	4,200	4,600
12	Vernon Ave.	s/o Main St.	1,100	1,400	3,000	3,300
13	1st St.	w/o Alessandro Ave.	2,800	2,900	3,000	3,100
14	1st St.	e/o Alessandro Ave.	2,200	2,250	2,400	2,500
15	1st St.	e/o Vernon Ave.	2,200	2,200	2,400	2,500
16	Main St.	w/o Alessandro Ave.	4,000	4,200	10,600	10,800

[1] Kasbergen/Halfigler TT34271 Traffic Analysis, Urban Crossroads, Inc.

TABLE 6-3: TIME OF DAY VEHICLE SPLITS

Vehicle Type	Time of Day Splits[1]			Total of Time of Day Splits
	Daytime	Evening	Nighttime	
Autos	77.50%	12.90%	9.60%	100.00%
Medium Trucks	84.80%	4.90%	10.30%	100.00%
Heavy Trucks	86.50%	2.70%	10.80%	100.00%

[1] Typical Southern California vehicle mix.
"Daytime" = 7:00 a.m. to 7:00 p.m.; "Evening" = 7:00 p.m. to 10:00 p.m.; "Nighttime" = 10:00 p.m. to 7:00 a.m.

TABLE 6-4: TRAFFIC FLOW BY VEHICLE TYPE (VEHICLE MIX)

Classification	Total % Traffic Flow			Total
	Autos	Medium Trucks	Heavy Trucks	
All Roadways[1]	97.42%	1.84%	0.74%	100.00%

[1] Typical Southern California vehicle mix.

To predict the future noise environment at Planning Areas within the Project site, coordinate information was collected to identify the noise transmission path between the noise source and receiver. The coordinate information is based on the Project site plan (Exhibit 1-B) showing the proposed Project land uses adjacent City of San Jacinto roadways. The first-floor exterior noise level receivers were placed five feet above the pad elevation. All second-floor receivers were located 14 feet above the proposed finished floor elevation. Table 6-5 presents the on-site roadway parameters including the ADT volumes used for this study. The on-site roadway parameters are based on the City of San Jacinto Overview of Street Classifications, Table C-1.

TABLE 6-5: ON-SITE ROADWAY PARAMETERS

Roadway	Classification[1]	Lanes	Average Daily Traffic Volume[2]	Speed Limit (mph)
Ramona Expy.	Limited Access Conventional Highway	4	28,630	65
Alessandro St.	Collector	2	9,100	25
Vernon Ave.	Collector	2	9,100	25

[1] Road classifications based upon the City of San Jacinto General Plan Circulation Element.
[2] City of San Jacinto Overview of Street Classifications, Table C-1

6.1.3 INTERIOR NOISE LEVEL REDUCTION METHODOLOGY

The interior noise level is the difference between the predicted exterior noise level at the building façade and the noise reduction of the structure. Typical building construction will provide a Noise Reduction (NR) of approximately 12 dBA with "windows open" and a minimum 25 dBA noise reduction with "windows closed." (5) (22) However, sound leaks, cracks and openings within the window assembly can greatly diminish its effectiveness in reducing noise. Several methods are used to improve interior noise reduction, including: [1] weather-stripped solid core exterior doors; [2] upgraded dual glazed windows; [3] mechanical ventilation/air conditioning; and [4] exterior wall/roof assembles free of cut outs or openings.

7 OFF-SITE TRAFFIC NOISE ANALYSIS

To assess the off-site transportation CNEL noise level impacts associated with development of the proposed Project, noise contours were developed based on *Kasbergen/Halfigler TT34271; P22-004 Traffic Impact Analysis* by Urban Crossroads, Inc. and included in Appendix 6.1. Noise contour boundaries represent the equal levels of noise exposure and are measured in CNEL from the center of the roadway.

7.1 NOISE CONTOURS

Noise contours were used to assess the Project's incremental 24-hour dBA CNEL traffic-related noise impacts at receiving land uses adjacent to roadways conveying Project traffic. The noise contours represent the distance to noise levels of a constant value and are measured from the center of the roadway for the 70, 65, and 60 dBA CNEL noise levels. The noise contours do not consider the effect of any existing noise barriers or topography that may attenuate ambient noise levels. In addition, because the noise contours reflect modeling of vehicular noise on area roadways, they appropriately do not reflect noise contributions from the surrounding stationary noise sources within the Project study area.

Tables 7-1 and 7-2 present a summary of the exterior dBA CNEL traffic noise levels, without barrier attenuation, for the 16 study area roadway segments analyzed from the existing without Project to the existing with Project conditions. Tables 7-3 and 7-4 present a summary of the exterior dBA CNEL traffic noise levels, without barrier attenuation, for the 16 study area roadway segments analyzed from the existing plus ambient plus cumulative without Project to the existing plus ambient plus cumulative with Project conditions. Appendix 7.1 includes a summary of the dBA CNEL traffic noise level contours for each of the traffic scenarios.

TABLE 7-1: EXISTING WITHOUT PROJECT CONTOURS

ID	Road	Segment	CNEL at Nearest Receiving Land-Use (dBA)[1]	Distance to Contour from Centerline (Feet)		
				70 dBA CNEL	65 dBA CNEL	60 dBA CNEL
1	Ramona Expy.	w/o State St.	73.8	131	282	607
2	Ramona Expy.	e/o State St.	72.9	113	244	525
3	Ramona Expy.	e/o Alessandro Ave.	72.0	99	212	458
4	Ramona Expy.	e/o Vernon Ave.	71.6	93	200	432
5	State St.	n/o Ramona Expy.	69.8	RW	105	226
6	State St.	s/o Ramona Expy.	71.1	59	128	276
7	Alessandro Ave.	s/o Ramona Expy.	53.7	RW	RW	RW
8	Alessandro Ave.	s/o 1st St.	54.5	RW	RW	RW
9	Alessandro Ave.	s/o Main St.	49.8	RW	RW	RW
10	Vernon Ave.	s/o Ramona Expy.	60.4	RW	RW	42
11	Vernon Ave.	s/o 1st St.	54.8	RW	RW	RW
12	Vernon Ave.	s/o Main St.	52.4	RW	RW	RW
13	1st St.	w/o Alessandro Ave.	56.4	RW	RW	RW
14	1st St.	e/o Alessandro Ave.	55.4	RW	RW	RW
15	1st St.	e/o Vernon Ave.	55.4	RW	RW	RW
16	Main St.	w/o Alessandro Ave.	61.5	RW	RW	49

[1] The CNEL is calculated at the boundary of the right-of-way of each roadway and the property line of the nearest receiving land use.
"RW" = Location of the respective noise contour falls within the right-of-way of the road.

TABLE 7-2: EXISTING WITH PROJECT CONTOURS

ID	Road	Segment	CNEL at Nearest Receiving Land-Use (dBA)[1]	Distance to Contour from Centerline (Feet)		
				70 dBA CNEL	65 dBA CNEL	60 dBA CNEL
1	Ramona Expy.	w/o State St.	73.9	132	284	613
2	Ramona Expy.	e/o State St.	72.9	115	247	533
3	Ramona Expy.	e/o Alessandro Ave.	72.0	99	214	461
4	Ramona Expy.	e/o Vernon Ave.	71.6	93	201	433
5	State St.	n/o Ramona Expy.	69.9	RW	105	227
6	State St.	s/o Ramona Expy.	71.1	60	128	277
7	Alessandro Ave.	s/o Ramona Expy.	54.8	RW	RW	RW
8	Alessandro Ave.	s/o 1st St.	55.2	RW	RW	RW
9	Alessandro Ave.	s/o Main St.	50.1	RW	RW	RW
10	Vernon Ave.	s/o Ramona Expy.	61.3	RW	RW	48
11	Vernon Ave.	s/o 1st St.	55.6	RW	RW	RW
12	Vernon Ave.	s/o Main St.	53.4	RW	RW	RW
13	1st St.	w/o Alessandro Ave.	56.6	RW	RW	RW
14	1st St.	e/o Alessandro Ave.	55.5	RW	RW	RW
15	1st St.	e/o Vernon Ave.	55.4	RW	RW	RW
16	Main St.	w/o Alessandro Ave.	61.7	RW	RW	50

[1] The CNEL is calculated at the boundary of the right-of-way of each roadway and the property line of the nearest receiving land use.
"RW" = Location of the respective noise contour falls within the right-of-way of the road.

TABLE 7-3: EXISTING + AMBIENT + CUMULATIVE WITHOUT PROJECT CONTOURS

ID	Road	Segment	CNEL at Nearest Receiving Land-Use (dBA)[1]	Distance to Contour from Centerline (Feet)		
				70 dBA CNEL	65 dBA CNEL	60 dBA CNEL
1	Ramona Expy.	w/o State St.	74.9	156	335	722
2	Ramona Expy.	e/o State St.	74.2	140	301	648
3	Ramona Expy.	e/o Alessandro Ave.	73.5	126	271	583
4	Ramona Expy.	e/o Vernon Ave.	73.1	118	253	546
5	State St.	n/o Ramona Expy.	70.4	53	115	247
6	State St.	s/o Ramona Expy.	71.8	65	141	304
7	Alessandro Ave.	s/o Ramona Expy.	55.9	RW	RW	RW
8	Alessandro Ave.	s/o 1st St.	56.6	RW	RW	RW
9	Alessandro Ave.	s/o Main St.	53.1	RW	RW	RW
10	Vernon Ave.	s/o Ramona Expy.	64.6	RW	RW	79
11	Vernon Ave.	s/o 1st St.	58.2	RW	RW	RW
12	Vernon Ave.	s/o Main St.	56.7	RW	RW	RW
13	1st St.	w/o Alessandro Ave.	56.7	RW	RW	RW
14	1st St.	e/o Alessandro Ave.	55.8	RW	RW	RW
15	1st St.	e/o Vernon Ave.	55.8	RW	RW	RW
16	Main St.	w/o Alessandro Ave.	65.7	RW	43	93

[1] The CNEL is calculated at the boundary of the right-of-way of each roadway and the property line of the nearest receiving land use.
"RW" = Location of the respective noise contour falls within the right-of-way of the road.

TABLE 7-4: EXISTING + AMBIENT + CUMULATIVE WITH PROJECT CONTOURS

ID	Road	Segment	CNEL at Nearest Receiving Land-Use (dBA)[1]	Distance to Contour from Centerline (Feet)		
				70 dBA CNEL	65 dBA CNEL	60 dBA CNEL
1	Ramona Expy.	w/o State St.	75.0	156	337	726
2	Ramona Expy.	e/o State St.	74.3	141	304	655
3	Ramona Expy.	e/o Alessandro Ave.	73.6	126	272	586
4	Ramona Expy.	e/o Vernon Ave.	73.1	118	254	547
5	State St.	n/o Ramona Expy.	70.4	53	115	247
6	State St.	s/o Ramona Expy.	71.8	66	141	304
7	Alessandro Ave.	s/o Ramona Expy.	57.3	RW	RW	RW
8	Alessandro Ave.	s/o 1st St.	56.9	RW	RW	RW
9	Alessandro Ave.	s/o Main St.	53.4	RW	RW	RW
10	Vernon Ave.	s/o Ramona Expy.	65.0	RW	39	84
11	Vernon Ave.	s/o 1st St.	58.6	RW	RW	RW
12	Vernon Ave.	s/o Main St.	57.2	RW	RW	RW
13	1st St.	w/o Alessandro Ave.	56.9	RW	RW	RW
14	1st St.	e/o Alessandro Ave.	55.9	RW	RW	RW
15	1st St.	e/o Vernon Ave.	55.9	RW	RW	RW
16	Main St.	w/o Alessandro Ave.	65.8	RW	44	95

[1] The CNEL is calculated at the boundary of the right-of-way of each roadway and the property line of the nearest receiving land use.
"RW" = Location of the respective noise contour falls within the right-of-way of the road.

7.2 EXISTING PROJECT TRAFFIC NOISE LEVEL INCREASES

An analysis of existing traffic noise levels plus traffic noise generated by the proposed Project has been included in this report. Table 7-1 shows the Existing without Project conditions CNEL noise levels. The Existing without Project exterior noise levels range from 49.8 to 73.8 dBA CNEL, without accounting for any noise attenuation features such as noise barriers or topography. Table 7-2 shows the Existing with Project conditions ranging from 50.1 to 73.9 dBA CNEL. Table 7-3 shows that the Project off-site traffic noise level increases range from 0.0 to 1.1 dBA CNEL on the study area roadway segments. Based on the significance criteria for off-site traffic noise presented in Table 4-1, land uses adjacent to the study area roadway segments would experience *less than significant* noise level increases on receiving land uses due to the Project-related traffic.

7.3 EXISTING PLUS AMBIENT PLUS CUMULATIVE PROJECT TRAFFIC NOISE LEVEL INCREASES

An analysis of existing plus ambient plus cumulative traffic noise levels plus traffic noise generated by the proposed Project has been included in this report. Table 7-3 shows the Existing without Project conditions CNEL noise levels. The Existing without Project exterior noise levels range from 53.1 to 74.9 dBA CNEL, without accounting for any noise attenuation features such as noise barriers or topography. Table 7-2 shows the Existing with Project conditions ranging from 53.4 to 75.0 dBA CNEL. Table 7-3 shows that the Project off-site traffic noise level increases range from 0.0 to 1.4 dBA CNEL on the study area roadway segments. Based on the significance criteria for off-site traffic noise presented in Table 4-1, land uses adjacent to the study area roadway segments would experience *less than significant* noise level increases on receiving land uses due to the Project-related traffic.

TABLE 7-5: EXISTING PROJECT TRAFFIC NOISE LEVEL INCREASES

ID	Road	Segment	CNEL at Receiving Land Use (dBA)[1]			Incremental Noise Level Increase Threshold[2]	
			No Project	With Project	Project Addition	Limit	Exceeded?
1	Ramona Expy.	w/o State St.	73.8	73.9	0.1	1.5	No
2	Ramona Expy.	e/o State St.	72.9	72.9	0.0	1.5	No
3	Ramona Expy.	e/o Alessandro Ave.	72.0	72.0	0.0	1.5	No
4	Ramona Expy.	e/o Vernon Ave.	71.6	71.6	0.0	1.5	No
5	State St.	n/o Ramona Expy.	69.8	69.9	0.1	1.5	No
6	State St.	s/o Ramona Expy.	71.1	71.1	0.0	1.5	No
7	Alessandro Ave.	s/o Ramona Expy.	53.7	54.8	1.1	5.0	No
8	Alessandro Ave.	s/o 1st St.	54.5	55.2	0.7	5.0	No
9	Alessandro Ave.	s/o Main St.	49.8	50.1	0.3	5.0	No
10	Vernon Ave.	s/o Ramona Expy.	60.4	61.3	0.9	3.0	No
11	Vernon Ave.	s/o 1st St.	54.8	55.6	0.8	5.0	No
12	Vernon Ave.	s/o Main St.	52.4	53.4	1.0	5.0	No
13	1st St.	w/o Alessandro Ave.	56.4	56.6	0.2	5.0	No
14	1st St.	e/o Alessandro Ave.	55.4	55.5	0.1	5.0	No
15	1st St.	e/o Vernon Ave.	55.4	55.4	0.0	5.0	No
16	Main St.	w/o Alessandro Ave.	61.5	61.7	0.2	3.0	No

[1] The CNEL is calculated at the boundary of the right-of-way of each roadway and the property line of the receiving land use.
[2] Does the Project create an incremental noise level increase exceeding the significance criteria (Table 4-1)?

TABLE 7-6: EXISTING PROJECT TRAFFIC NOISE LEVEL INCREASES

ID	Road	Segment	CNEL at Receiving Land Use (dBA)[1]			Incremental Noise Level Increase Threshold[2]	
			No Project	With Project	Project Addition	Limit	Exceeded?
1	Ramona Expy.	w/o State St.	74.9	75.0	0.1	1.5	No
2	Ramona Expy.	e/o State St.	74.2	74.3	0.1	1.5	No
3	Ramona Expy.	e/o Alessandro Ave.	73.5	73.6	0.1	1.5	No
4	Ramona Expy.	e/o Vernon Ave.	73.1	73.1	0.0	1.5	No
5	State St.	n/o Ramona Expy.	70.4	70.4	0.0	1.5	No
6	State St.	s/o Ramona Expy.	71.8	71.8	0.0	1.5	No
7	Alessandro Ave.	s/o Ramona Expy.	55.9	57.3	1.4	5.0	No
8	Alessandro Ave.	s/o 1st St.	56.6	56.9	0.3	5.0	No
9	Alessandro Ave.	s/o Main St.	53.1	53.4	0.3	5.0	No
10	Vernon Ave.	s/o Ramona Expy.	64.6	65.0	0.4	3.0	No
11	Vernon Ave.	s/o 1st St.	58.2	58.6	0.4	5.0	No
12	Vernon Ave.	s/o Main St.	56.7	57.2	0.5	5.0	No
13	1st St.	w/o Alessandro Ave.	56.7	56.9	0.2	5.0	No
14	1st St.	e/o Alessandro Ave.	55.8	55.9	0.1	5.0	No
15	1st St.	e/o Vernon Ave.	55.8	55.9	0.1	5.0	No
16	Main St.	w/o Alessandro Ave.	65.7	65.8	0.1	1.5	No

[1] The CNEL is calculated at the boundary of the right-of-way of each roadway and the property line of the receiving land use.
[2] Does the Project create an incremental noise level increase exceeding the significance criteria (Table 4-1)?

8 ON-SITE TRAFFIC NOISE ANALYSIS

An on-site exterior noise impact analysis has been completed to determine the noise exposure levels that would result from adjacent transportation noise sources in the Project study area, and to identify potential noise mitigation measures that would achieve acceptable Project exterior and interior noise levels. The primary source of transportation noise affecting the Project site is anticipated to be from Ramona Expressway, Alessandro Avenue, and Vernon Avenue. The modeling includes the proposed 6-foot high permitter wall shown in Exhibit 8-A. The Project would also be exposed to nominal traffic noise from the Project's internal roads. However, due to the distance, topography and low traffic volume/speed, traffic noise from these roads will not make a substantive contribution to ambient noise conditions. This section analyzes on-site exterior and interior noise levels at the Project buildings.

8.1 EXTERIOR NOISE ANALYSIS

Using the FHWA traffic noise prediction model and the parameters outlined in Tables 6-3 to 6-5, the expected future exterior noise levels for the on-site Project land uses were estimated at on-site receiver locations. To describe the on-site traffic noise impacts, fifteen on-site receiver locations were identified at the residential locations facing Ramona Expressway, Alessandro Avenue, and Vernon Avenue as shown on Exhibit 8-A. Table 8-1 presents a summary of future on-site exterior traffic noise levels. The on-site traffic noise analysis calculations are provided in Appendix 8.1.

As shown on Table 8-1, the proposed residential land use will experience transportation related exterior ground floor noise levels of ranging from 51.8 to 64.9 dBA CNEL. Based on Exhibit 3-A, residential land uses are considered *normally acceptable* as noise approaches 60 dBA CNEL, *conditionally acceptable* up to 70 dBA CNEL, and *normally unacceptable* up to 75 dBA CNEL. For *normally acceptable* noise levels, the *Land Use Compatibility Standards* indicate that the *land use is satisfactory, based upon the assumption that any buildings involved are of normal conventional construction, without any special noise insultation requirements.* For *conditionally acceptable* noise levels, the *land use compatibility guidelines* indicates that *new construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed noise insulation features included in the design. Conventional construction, but with closed windows and fresh air supply systems or air conditioning will normally suffice.* For *normally unacceptable* noise levels, *new construction or development should generally be discouraged. If it does proceed, a detailed analysis of the noise reduction requirements is made and needed noise insulation features included in the design.*

Based on the noise levels reported in Table 8-1, several lots would be exposed to conditionally acceptable noise levels. Therefore, the following interior noise analysis has been provided to identify the needed noise insulation features.

EXHIBIT 8-A: ON-SITE RECEIVER LOCATIONS



TABLE 8-1: UNMITIGATED EXTERIOR NOISE LEVELS (CNEL)

Receiver Location[1]	Roadway	Land Use	Unmitigated Exterior Noise Level (dBA CNEL)[2]	Land Use Compatibility[3]
Lot 46	Alessandro Ave.	Single-Family Residential	54.3	*Normally Acceptable*
Lot 50	Alessandro Ave.	Single-Family Residential	54.9	*Normally Acceptable*
Lot 54	Alessandro Ave.	Single-Family Residential	54.9	*Normally Acceptable*
Lot 55	Alessandro Ave.	Single-Family Residential	53.1	*Normally Acceptable*
Lot 58	Alessandro Ave.	Single-Family Residential	51.8	*Normally Acceptable*
Lot 59	Ramona Expy.	Single-Family Residential	64.0	*Conditionally Acceptable*
Lot 63	Ramona Expy.	Single-Family Residential	64.8	*Conditionally Acceptable*
Lot 65	Ramona Expy.	Single-Family Residential	64.9	*Conditionally Acceptable*
Lot 69	Ramona Expy.	Single-Family Residential	64.8	*Conditionally Acceptable*
Lot 71	Ramona Expy.	Single-Family Residential	62.2	*Conditionally Acceptable*
Lot 73	Ramona Expy.	Single-Family Residential	61.3	*Conditionally Acceptable*
Lot 76	Vernon Ave.	Single-Family Residential	57.8	*Normally Acceptable*
Lot 77	Vernon Ave.	Single-Family Residential	60.7	*Conditionally Acceptable*
Lot 81	Vernon Ave.	Single-Family Residential	60.6	*Conditionally Acceptable*
Lot 89	Vernon Ave.	Single-Family Residential	60.4	*Conditionally Acceptable*

[1] On-site multi-family receiver locations shown on Exhibit 8-A.
[2] Exterior on-site traffic noise level calculations are included in Appendix 8.1.
[3] Based on section 8.40.030 of the City Municipal Code and the General Plan maximum exterior noise levels from mobile sources as shown on Exhibit 3-B.

8.2 INTERIOR NOISE ANALYSIS

To ensure that the Project provides an acceptable interior noise environment, this analysis relies on the City of San Jacinto interior noise limit outlined in Section 8.40.050 (A).

8.2.2 FIRST FLOOR DAYTIME INTERIOR NOISE LEVEL ASSESSMENT

Table 8-2 shows that the buildings fronting Ramona Expressway and Vernon Avenue will require a windows-closed condition and a means of mechanical ventilation (e.g., air conditioning). Table 8-2 shows that with windows in a closed condition for units fronting Ramona Expressway and Vernon Avenue daytime interior noise levels are expected to range from 32.3 to 42.9 dBA L_{eq} in all units. The interior noise level analysis shows that the 45 dBA L_{eq} daytime interior noise level standard can be satisfied using standard building construction providing windows and sliding glass doors with minimum STC ratings of 27.

TABLE 8-2: FIRST FLOOR DAYTIME INTERIOR NOISE LEVELS

Receiver Location	Roadway	Noise Level at Façade (dBA L_{eq})[1]	Daytime Noise Level Limit (dBA L_{eq})[2]	Windows Open Interior Noise Reduction[3]	Interior Noise Level	Requires Windows Closed?	Windows Closed Interior Noise Reduction[4]	Interior Noise Level	Upgraded Windows[5]	Minimum STC Rating
Lot 46	Alessandro Ave.	51.4	45.0	12.0	39.4	No	12.0	39.4	No	27.0
Lot 50	Alessandro Ave.	52.1	45.0	12.0	40.1	No	12.0	40.1	No	27.0
Lot 54	Alessandro Ave.	52.1	45.0	12.0	40.1	No	12.0	40.1	No	27.0
Lot 55	Alessandro Ave.	50.3	45.0	12.0	38.3	No	12.0	38.3	No	27.0
Lot 58	Alessandro Ave.	49.3	45.0	12.0	37.3	No	12.0	37.3	No	27.0
Lot 59	Ramona Expy.	62.0	45.0	12.0	50.0	Yes	25.0	37.0	No	27.0
Lot 63	Ramona Expy.	62.6	45.0	12.0	50.6	Yes	25.0	37.6	No	27.0
Lot 65	Ramona Expy.	62.6	45.0	12.0	50.6	Yes	25.0	37.6	No	27.0
Lot 69	Ramona Expy.	62.7	45.0	12.0	50.7	Yes	25.0	37.7	No	27.0
Lot 71	Ramona Expy.	60.3	45.0	12.0	48.3	Yes	25.0	35.3	No	27.0
Lot 73	Ramona Expy.	59.5	45.0	12.0	47.5	Yes	25.0	34.5	No	27.0
Lot 76	Vernon Ave.	54.9	45.0	12.0	42.9	No	12.0	42.9	No	27.0
Lot 77	Vernon Ave.	57.6	45.0	12.0	45.6	Yes	25.0	32.6	No	27.0
Lot 81	Vernon Ave.	57.5	45.0	12.0	45.5	Yes	25.0	32.5	No	27.0
Lot 89	Vernon Ave.	57.3	45.0	12.0	45.3	Yes	25.0	32.3	No	27.0

[1] Exterior noise level at the facade with a windows closed condition requiring a means of mechanical ventilation (e.g. air conditioning).
[3] City of San Jacinto Daytime Interior Noise Level Limit 45 dBA L_{eq}.
[3] A minimum of 12 dBA noise reduction is assumed with standard building construction.
[4] A minimum of 25 dBA noise reduction is assumed with standard building construction.
[5] Does the required interior noise reduction trigger upgraded windows with a minimum STC rating of greater than 27?

8.2.3 SECOND FLOOR DAYTIME INTERIOR NOISE LEVEL ASSESSMENT

Table 8-3 shows that the buildings fronting surrounding roadways, will require a windows-closed condition and a means of mechanical ventilation (e.g., air conditioning). Table 8-3 shows that with windows in a closed condition for all units daytime interior noise levels are expected to range from 33.4 to 44.1 dBA L_{eq}. The interior noise level analysis shows that the 45 dBA L_{eq} daytime interior noise level standard can be satisfied using standard building construction providing windows and sliding glass doors with minimum STC ratings of 27.

8.2.4 FIRST FLOOR NIGHTTIME INTERIOR NOISE LEVEL ASSESSMENT

Table 8-4 shows that the buildings fronting Ramona Expressway will require a windows-closed condition and a means of mechanical ventilation (e.g., air conditioning). Table 8-4 shows that with windows in a closed condition for units fronting Ramona Expressway nighttime interior noise levels are expected to range from 27.9 to 39.0 dBA L_{eq} in all units. The interior noise level analysis shows that the 40 dBA L_{eq} nighttime interior noise level standard can be satisfied using standard building construction providing windows and sliding glass doors with minimum STC ratings of 27.

8.2.5 SECOND FLOOR NIGHTTIME INTERIOR NOISE LEVEL ASSESSMENT

Table 8-5 shows that the buildings fronting Ramona Expressway and Vernon Avenue will require a windows-closed condition and a means of mechanical ventilation (e.g., air conditioning). Table 8-5 shows that with windows in a closed condition for units fronting Ramona Expressway and Vernon Avenue nighttime interior noise levels are expected to range from 31.1 to 39.8 dBA L_{eq} in all units. The interior noise level analysis shows that the 45 dBA L_{eq} nighttime interior noise level standard can be satisfied using standard building construction providing windows and sliding glass doors with minimum STC ratings of 27.

TABLE 8-3: SECOND FLOOR DAYTIME INTERIOR NOISE LEVELS

Receiver Location	Roadway	Noise Level at Façade (dBA L_{eq})[1]	Nighttime Noise Level Limit (dBA L_{eq})[2]	Windows Open Interior Noise Reduction[3]	Interior Noise Level	Requires Windows Closed?	Windows Closed Interior Noise Reduction[4]	Interior Noise Level	Upgraded Windows[5]	Minimum STC Rating
Lot 46	Alessandro Ave.	58.4	45.0	12.0	46.4	Yes	25.0	33.4	No	27.0
Lot 50	Alessandro Ave.	58.4	45.0	12.0	46.4	Yes	25.0	33.4	No	27.0
Lot 54	Alessandro Ave.	58.4	45.0	12.0	46.4	Yes	25.0	33.4	No	27.0
Lot 55	Alessandro Ave.	58.4	45.0	12.0	46.4	Yes	25.0	33.4	No	27.0
Lot 58	Alessandro Ave.	55.8	45.0	12.0	43.8	No	12.0	43.8	No	27.0
Lot 59	Ramona Expy.	68.1	45.0	12.0	56.1	Yes	25.0	43.1	No	27.0
Lot 63	Ramona Expy.	68.8	45.0	12.0	56.8	Yes	25.0	43.8	No	27.0
Lot 65	Ramona Expy.	69.1	45.0	12.0	57.1	Yes	25.0	44.1	No	27.0
Lot 69	Ramona Expy.	68.9	45.0	12.0	56.9	Yes	25.0	43.9	No	27.0
Lot 71	Ramona Expy.	66.2	45.0	12.0	54.2	Yes	25.0	41.2	No	27.0
Lot 73	Ramona Expy.	65.3	45.0	12.0	53.3	Yes	25.0	40.3	No	27.0
Lot 76	Vernon Ave.	62.7	45.0	12.0	50.7	Yes	25.0	37.7	No	27.0
Lot 77	Vernon Ave.	64.6	45.0	12.0	52.6	Yes	25.0	39.6	No	27.0
Lot 81	Vernon Ave.	64.6	45.0	12.0	52.6	Yes	25.0	39.6	No	27.0
Lot 89	Vernon Ave.	64.6	45.0	12.0	52.6	Yes	25.0	39.6	No	27.0

[1] Exterior noise level at the facade with a windows closed condition requiring a means of mechanical ventilation (e.g. air conditioning).
[3] City of San Jacinto Daytime Interior Noise Level Limit 45 dBA L_{eq}.
[3] A minimum of 12 dBA noise reduction is assumed with standard building construction.
[4] A minimum of 25 dBA noise reduction is assumed with standard building construction.
[5] Does the required interior noise reduction trigger upgraded windows with a minimum STC rating of greater than 27?

TABLE 8-4: FIRST FLOOR NIGHTTIME INTERIOR NOISE LEVELS

Receiver Location	Roadway	Noise Level at Façade (dBA L_{eq})[1]	Daytime Noise Level Limit (dBA L_{eq})[2]	Windows Open Interior Noise Reduction[3]	Interior Noise Level	Requires Windows Closed?	Windows Closed Interior Noise Reduction[4]	Interior Noise Level	Upgraded Windows [5]	Minimum STC Rating
Lot 46	Alessandro Ave.	44.8	40.0	12.0	32.8	No	12.0	32.8	No	27.0
Lot 50	Alessandro Ave.	45.5	40.0	12.0	33.5	No	12.0	33.5	No	27.0
Lot 54	Alessandro Ave.	45.5	40.0	12.0	33.5	No	12.0	33.5	No	27.0
Lot 55	Alessandro Ave.	43.7	40.0	12.0	31.7	No	12.0	31.7	No	27.0
Lot 58	Alessandro Ave.	42.7	40.0	12.0	30.7	No	12.0	30.7	No	27.0
Lot 59	Ramona Expy.	55.3	40.0	12.0	43.3	Yes	25.0	30.3	No	27.0
Lot 63	Ramona Expy.	56.0	40.0	12.0	44.0	Yes	25.0	31.0	No	27.0
Lot 65	Ramona Expy.	56.0	40.0	12.0	44.0	Yes	25.0	31.0	No	27.0
Lot 69	Ramona Expy.	56.1	40.0	12.0	44.1	Yes	25.0	31.1	No	27.0
Lot 71	Ramona Expy.	53.7	40.0	12.0	41.7	Yes	25.0	28.7	No	27.0
Lot 73	Ramona Expy.	52.9	40.0	12.0	40.9	Yes	25.0	27.9	No	27.0
Lot 76	Vernon Ave.	48.3	40.0	12.0	36.3	No	12.0	36.3	No	27.0
Lot 77	Vernon Ave.	51.0	40.0	12.0	39.0	No	12.0	39.0	No	27.0
Lot 81	Vernon Ave.	50.9	40.0	12.0	38.9	No	12.0	38.9	No	27.0
Lot 89	Vernon Ave.	50.7	40.0	12.0	38.7	No	12.0	38.7	No	27.0

[1] Exterior noise level at the facade with a windows closed condition requiring a means of mechanical ventilation (e.g. air conditioning).
[3] City of San Jacinto Nighttime Interior Noise Level Limit 45 dBA L_{eq}.
[3] A minimum of 12 dBA noise reduction is assumed with standard building construction.
[4] A minimum of 25 dBA noise reduction is assumed with standard building construction.
[5] Does the required interior noise reduction trigger upgraded windows with a minimum STC rating of greater than 27?

TABLE 8-5: SECOND FLOOR INTERIOR NIGHTTIME NOISE LEVELS

Receiver Location	Roadway	Noise Level at Façade (dBA L_{eq})[1]	Daytime Noise Level Limit (dBA L_{eq})[2]	Windows Open Interior Noise Reduction[3]	Interior Noise Level	Requires Windows Closed?	Windows Closed Interior Noise Reduction[4]	Interior Noise Level	Upgraded Windows [5]	Minimum STC Rating
Lot 46	Alessandro Ave.	51.7	40.0	12.0	39.7	No	12.0	39.7	No	27.0
Lot 50	Alessandro Ave.	51.8	40.0	12.0	39.8	No	12.0	39.8	No	27.0
Lot 54	Alessandro Ave.	51.8	40.0	12.0	39.8	No	12.0	39.8	No	27.0
Lot 55	Alessandro Ave.	5.7	40.0	12.0	-6.3	No	12.0	-6.3	No	27.0
Lot 58	Alessandro Ave.	49.1	40.0	12.0	37.1	No	12.0	37.1	No	27.0
Lot 59	Ramona Expy.	61.4	40.0	12.0	49.4	Yes	25.0	36.4	No	27.0
Lot 63	Ramona Expy.	62.1	40.0	12.0	50.1	Yes	25.0	37.1	No	27.0
Lot 65	Ramona Expy.	64.5	40.0	12.0	52.5	Yes	25.0	39.5	No	27.0
Lot 69	Ramona Expy.	62.2	40.0	12.0	50.2	Yes	25.0	37.2	No	27.0
Lot 71	Ramona Expy.	59.6	40.0	12.0	47.6	Yes	25.0	34.6	No	27.0
Lot 73	Ramona Expy.	58.7	40.0	12.0	46.7	Yes	25.0	33.7	No	27.0
Lot 76	Vernon Ave.	56.1	40.0	12.0	44.1	Yes	25.0	31.1	No	27.0
Lot 77	Vernon Ave.	58.0	40.0	12.0	46.0	Yes	25.0	33.0	No	27.0
Lot 81	Vernon Ave.	58.0	40.0	12.0	46.0	Yes	25.0	33.0	No	27.0
Lot 89	Vernon Ave.	57.9	40.0	12.0	45.9	Yes	25.0	32.9	No	27.0

[1] Exterior noise level at the facade with a windows closed condition requiring a means of mechanical ventilation (e.g. air conditioning).
[3] City of San Jacinto Nighttime Interior Noise Level Limit 45 dBA L_{eq}.
[3] A minimum of 12 dBA noise reduction is assumed with standard building construction.
[4] A minimum of 25 dBA noise reduction is assumed with standard building construction.
[5] Does the required interior noise reduction trigger upgraded windows with a minimum STC rating of greater than 27?

9 OFF-SITE RECEIVER LOCATIONS

To assess the potential for long-term operational and short-term construction noise impacts, the following sensitive receiver locations, as shown on Exhibit 9-A, were identified as representative locations for analysis. Sensitive receivers are generally defined as locations where people reside or where the presence of unwanted sound could otherwise adversely affect the use of the land. Noise-sensitive land uses are generally considered to include schools, hospitals, single-family dwellings, mobile home parks, churches, libraries, and recreation areas. Moderately noise-sensitive land uses typically include multifamily dwellings, hotels, motels, dormitories, out-patient clinics, cemeteries, golf courses, country clubs, athletic/tennis clubs, and equestrian clubs. Land uses that are considered relatively insensitive to noise include business, commercial, and professional developments. Land uses that are typically not affected by noise include: industrial, manufacturing, utilities, agriculture, undeveloped land, parking lots, warehousing, liquid and solid waste facilities, salvage yards, and transit terminals.

To describe the potential off-site Project noise levels, four receiver locations in the vicinity of the Project site were identified. All distances are measured from the Project site boundary to the outdoor living areas (e.g., private backyards) or at the building façade, whichever is closer to the Project site. The selection of receiver locations is based on FHWA guidelines and is consistent with additional guidance provided by Caltrans and the FTA, as previously described in Section 5.2. Other sensitive land uses in the Project study area that are located at greater distances than those identified in this noise study will experience lower noise levels than those presented in this report due to the additional attenuation from distance and the shielding of intervening structures. Distance is measured in a straight line from the project boundary to each receiver location.

R1: Location R1 represents the existing noise sensitive residence at 22019 Alessandro Avenue North, approximately 255 feet northwest of the Project site. Receiver R1 is placed in the private outdoor living areas facing the Project site. A 24-hour noise measurement was taken near this location, L1, to describe the existing ambient noise environment.

R2: Location R2 represents the existing noise sensitive residence at 22384 Alessandro Avenue North, on the southwestern Project site boundary. Receiver R2 is placed in the private outdoor living areas facing the Project site. A 24-hour noise measurement was taken near this location, L2, to describe the existing ambient noise environment.

R3: Location R3 represents the existing noise sensitive Marvo Heifer Ranch Holsteins at 22323 Alessandro Avenue North, approximately 104 feet west of the Project site. Since there are no private outdoor living areas (backyards) facing the Project site, receiver R3 is placed at the building façade. A 24-hour noise measurement was taken near this location, L3, to describe the existing ambient noise environment.

R4: Location R4 represents the existing noise sensitive residence at 22145 Alessandro Avenue North, approximately 128 feet west of the Project site. Since there are no private outdoor living areas (backyards) facing the Project site, receiver R4 is placed at the building façade. A 24-hour noise measurement was taken near this location, L1, to describe the existing ambient noise environment.

EXHIBIT 9-A: OFF-SITE RECEIVER LOCATIONS



10 OPERATIONAL NOISE IMPACTS

The Kasbergen/Halfigler TT34271; P22-004 is not expected to include any operational noise source levels beyond those typically associated with residential land use in the Project study area. This includes people talking, vehicle movements on local streets, ground mounted heating, ventilation, and air conditioning (HVAC) units, etc., and is considered a noise-sensitive receiving land use. The primary operational noise source activities are likely associated with the planned ground mounted HVAC units.

At the current conceptual design stage of the Project, no specific HVAC have been selected and no locations for HVAC have been identified. Based on input from the Project applicant, the proposed dwelling units are anticipated to be approximately 2,000 square feet. At 1-ton per 400 square feet, each dwelling unit is estimated to require a 5-ton HVAC unit.

Based on a review of several manufactures (Rheem, Carrier, Trane, Lennox, etc.) a typical 5-ton residential HVAC unit generates a sound-power levels ranging from 74 to 80 dBA L_w. Assuming the units are ground mounted, this is equivalent to noise levels of 42 to 48 dBA L_{eq} at 50 feet, if the units operated continuously for a full hour. Properly sized and functioning HVAC typically operate for 30-45 minutes in multiple cycles in a given hour during the daytime. As these are new HVAC units for new construction, they are assumed to be properly functioning and sized. Operating times are less at night due to cooler outdoor temperatures after sunset. This results in anticipated HVAC noise levels 41 to 47 dBA at 50 feet during daytime hours and 39 to 45 dBA at 50 feet during nighttime hours.

Using the reasonable assumption that an HVAC is placed at the rear of a dwelling unit and requires a 3-foot distance from the wall for air circulation, this would provide at least a separation of 45 feet from the nearest Project boundary line. This would result in noise levels as high as 48 dBA L_{eq} during the daytime and 43 dBA L_{eq} at night. These noise levels would be below the City of San Jacinto's noise level limits for residential properties shown in Table 3-2.

Additionally, based on the noise level measurements, the existing daytime ambient noise levels within the adjacent community range from the high 48.8 to 67.3 dBA L_{eq} during the typical daytime hours and 48.9 to 65.5 dBA L_{eq} during the nighttime hours and are expected to largely overshadow the typical low noise-generating activities associated with the Project's residential land uses. Therefore, the potential operational noise impacts from the Project's residential land uses are not anticipated to result in substantial increase in ambient noise levels are considered *less than significant* under CEQA.

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11 CONSTRUCTION IMPACTS

This section analyzes potential impacts resulting from the short-term construction activities associated with the development of the Project. Exhibit 11-A shows the construction noise source locations in relation to the nearby sensitive receiver locations previously described in Section 9.48.020 (I) of the Noise Regulation ordinance indicates that noise associated with construction activity is considered exempt from the noise ordinance between the hours of 7:00 a.m. and 7:00 p.m. Monday Through Saturday (13).

In addition, since neither the City of San Jacinto General Plan or County Code establish numeric maximum acceptable construction source noise levels at potentially affected receivers for CEQA analysis purposes, a numerical construction threshold based on Federal Transit Administration (FTA) Transit Noise and Vibration Impact Assessment Manual is used for analysis of daytime construction impacts. The FTA considers a daytime exterior construction noise level of 80 dBA L_{eq} as a reasonable threshold for noise sensitive residential land use. (9 p. 179)

11.1 CONSTRUCTION NOISE LEVELS

The FTA *Transit Noise and Vibration Impact Assessment Manual* recognizes that construction projects are accomplished in several different stages and outlines the procedures for assessing noise impacts during construction. Each stage has a specific equipment mix, depending on the work to be completed during that stage. As a result of the equipment mix, each stage has its own noise characteristics; some stages have higher continuous noise levels than others, and some have higher impact noise levels than others. The Project construction activities are expected to occur in the following stages:

- Demolition
- Site Preparation
- Grading
- Building Construction
- Paving
- Architectural Coating

11.2 CONSTRUCTION REFERENCE NOISE LEVELS

To describe construction noise activities, this construction noise analysis was prepared using reference construction equipment noise levels from the Federal Highway Administration (FHWA) published the Roadway Construction Noise Model (RCNM), which includes a national database of construction equipment reference noise emission levels. (23) The RCNM equipment database, provides a comprehensive list of the noise generating characteristics for specific types of construction equipment. In addition, the database provides an acoustical usage factor to estimate the fraction of time each piece of construction equipment is operating at full power (i.e., its loudest condition) during a construction operation.

EXHIBIT 11-A: TYPICAL CONSTRUCTION NOISE SOURCE LOCATIONS



11.3 CONSTRUCTION NOISE ANALYSIS

Using the reference construction equipment noise levels and the CadnaA noise prediction model, calculations of the Project construction noise level impacts at the nearby sensitive receiver locations were completed. Consistent with FTA guidance for general construction noise assessment, Table 11-1 presents the combined noise levels for the loudest construction equipment, assuming they operate at the same time. As shown on Table 11-2, the construction noise levels are expected to range from 46.9 to 64.6 dBA L_{eq} at the nearby receiver locations. Appendix 11.1 includes the detailed CadnaA construction noise model inputs.

TABLE 11-1: CONSTRUCTION REFERENCE NOISE LEVELS

Construction Stage	Reference Construction Activity	Reference Noise Level @ 50 Feet (dBA L_{eq})[1]	Combined Noise Level (dBA L_{eq})[2]	Combined Sound Power Level (PWL)[3]
Demolition	Demolition Equipment	82	83	115
	Backhoes	74		
	Hauling Trucks	72		
Site Preparation	Crawler Tractors	78	80	112
	Hauling Trucks	72		
	Rubber Tired Dozers	75		
Grading	Graders	81	83	115
	Excavators	77		
	Compactors	76		
Building Construction	Cranes	73	81	113
	Tractors	80		
	Welders	70		
Paving	Pavers	74	83	115
	Paving Equipment	82		
	Rollers	73		
Architectural Coating	Cranes	73	77	109
	Air Compressors	74		
	Generator Sets	70		

[1] FHWA Roadway Construction Noise Model (RCNM).
[2] Represents the combined noise level for all equipment assuming they operate at the same time consistent with FTA Transit Noise and Vibration Impact Assessment guidance.
[3] Sound power level represents the total amount of acoustical energy (noise level) produced by a sound source independent of distance or surroundings. Sound power levels calibrated using the CadnaA noise model at the reference distance to the noise source.

TABLE 11-2: CONSTRUCTION EQUIPMENT NOISE LEVEL SUMMARY

Receiver Location[1]	Construction Noise Levels (dBA L_{eq})						
	Demolition	Site Preparation	Grading	Building Construction	Paving	Architectural Coating	Highest Levels[2]
R1	52.9	49.9	52.9	50.9	52.9	46.9	52.9
R2	64.6	61.6	64.6	62.6	64.6	58.6	64.6
R3	57.2	54.2	57.2	55.2	57.2	51.2	57.2
R4	57.0	54.0	57.0	55.0	57.0	51.0	57.0

[1] Noise receiver locations are shown on Exhibit 11-A.
[2] Construction noise level calculations based on distance from the construction activity, which is measured from the Project site boundary to the nearest receiver locations. CadnaA construction noise model inputs are included in Appendix 11.1.

11.4 CONSTRUCTION NOISE LEVEL COMPLIANCE

To evaluate whether the Project will generate potentially significant short-term noise levels at nearest receiver locations, a construction-related daytime noise level threshold of 80 dBA L_{eq} is used as a reasonable threshold to assess the daytime construction noise level impacts. The construction noise analysis shows that the nearest receiver locations will satisfy the reasonable daytime 80 dBA L_{eq} significance threshold during Project construction activities as shown on Table 11-3. Therefore, the noise impacts due to Project construction noise are considered *less than significant* at all receiver locations.

TABLE 11-3: CONSTRUCTION NOISE LEVEL COMPLIANCE

Receiver Location[1]	Construction Noise Levels (dBA L_{eq})		
	Highest Construction Noise Levels[2]	Threshold[3]	Threshold Exceeded?[4]
R1	52.9	80	No
R2	64.6	80	No
R3	57.2	80	No
R4	57.0	80	No

[1] Noise receiver locations are shown on Exhibit 11-A.
[2] Highest construction noise level calculations based on distance from the construction noise source activity to the nearest receiver locations as shown on Table 11-2.
[3] Construction noise level thresholds as shown on Table 4-1.
[4] Do the estimated Project construction noise levels exceed the construction noise level threshold?

11.5 CONSTRUCTION VIBRATION ANALYSIS

Construction activity can result in varying degrees of ground vibration, depending on the equipment and methods employed. Operation of construction equipment causes ground vibrations that spread through the ground and diminish in strength with distance. Ground vibration levels associated with various types of construction equipment are summarized on Table 11-4. Based on the representative vibration levels presented for various construction equipment types, it is possible to estimate the potential for human response (annoyance) and

building damage using the following vibration assessment methods defined by the FTA. To describe the vibration impacts the FTA provides the following equation: $PPV_{equip} = PPV_{ref} \times (25/D)^{1.5}$

TABLE 11-4: VIBRATION SOURCE LEVELS FOR CONSTRUCTION EQUIPMENT

Equipment	PPV (in/sec) at 25 feet
Small bulldozer	0.003
Jackhammer	0.035
Loaded Trucks	0.076
Large bulldozer	0.089

Federal Transit Administration, Transit Noise and Vibration Impact Assessment Manual

Table 11-5 presents the expected Project related vibration levels at the nearby receiver locations. At distances ranging from 25 to 255 feet from Project construction activities, construction vibration velocity levels are estimated to range from less than 0.01 to 0.09 in/sec PPV. Based on maximum acceptable continuous vibration threshold of 0.30 PPV (in/sec), the typical Project construction vibration levels will fall below the building damage thresholds at all the noise sensitive receiver locations. Therefore, the Project-related vibration impacts are considered *less than significant* during typical construction activities at the Project site. Moreover, the vibration levels reported at the sensitive receiver locations are unlikely to be sustained during the entire construction period but will occur rather only during the times that heavy construction equipment is operating adjacent to the Project site perimeter.

TABLE 11-5: PROJECT CONSTRUCTION VIBRATION LEVELS

Receiver[1]	Distance to Const. Activity (Feet)[2]	Typical Construction Vibration Levels PPV (in/sec)[3]					Thresholds PPV (in/sec)[4]	Thresholds Exceeded?[5]
		Small bulldozer	Jackhammer	Loaded Trucks	Large bulldozer	Highest Vibration Level		
R1	255'	0.00	0.00	0.00	0.00	0.00	0.30	No
R2	25'	0.00	0.04	0.08	0.09	0.09	0.30	No
R3	104'	0.00	0.00	0.01	0.01	0.01	0.30	No
R4	128'	0.00	0.00	0.01	0.01	0.01	0.30	No

Moreover, the impacts at the site of the nearest sensitive receiver locations are unlikely to be sustained during the entire construction period but will occur rather only during the times that heavy construction equipment is operating adjacent to the Project site perimeter.

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12 REFERENCES

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4. **Environmental Protection Agency Office of Noise Abatement and Control.** *Information on Levels of Environmental Noise Requisite to Protect Public Health and Welfare with an Adequate Margin of Safety.* March 1974. EPA/ONAC 550/9/74-004.
5. **U.S. Department of Transportation, Federal Highway Administration, Office of Environment and Planning, Noise and Air Quality Branch.** *Highway Traffic Noise Analysis and Abatement Policy and Guidance.* December 2011.
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9. **U.S. Department of Transportation, Federal Transit Administration.** *Transit Noise and Vibration Impact Assessment Manual.* September 2018.
10. **Office of Planning and Research.** *State of California General Plan Guidelines.* October 2017.
11. **State of California.** California Code of Regulations, Title 24, Part 2, Volume 1, Chapter 12, Section 1206.4, Allowable Interior Noise Level. *ICC Digital Coes.* [Online] 2019. https://codes.iccsafe.org/content/CABCV12019/chapter-12-interior-environment.
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15. **Federal Interagency Committee on Noise.** *Federal Agency Review of Selected Airport Noise Analysis Issues.* August 1992.
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19. **California Department of Transportation Environmental Program, Office of Environmental Engineering.** *Use of California Vehicle Noise Reference Energy Mean Emission Levels (Calveno REMELs) in FHWA Highway Traffic Noise Prediction.* September 1995. TAN 95-03.
20. **California Department of Transportation.** *Traffic Noise Attenuation as a Function of Ground and Vegetation Final Report.* June 1995. FHWA/CA/TL-95/23.

21. **City of San Jacinto.** *General Plan, Circulation Element, Overview of Street Classifications, Table C-1.*

22. **California Department of Transportation.** *Traffic Noise Analysis Protocol.* May 2011.

23. **U.S. Department of Transportation, Federal Highway Administration, Office of Environment and Planning.** *FHWA Roadway Construction Noise Model.* January, 2006.

24. **California Department of Transportation.** *Transportation and Construction Vibration Guidance Manual.* April 2020.

13 CERTIFICATION

The contents of this noise study report represent an accurate depiction of the noise environment and impacts associated with the proposed Kasbergen/Halfigler TT34271; P22-004 Project. The information contained in this noise study report is based on the best available data at the time of preparation. If you have any questions, please contact me directly at (619) 778-1971.

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EDUCATION

Bachelor of Science in Urban and Regional Planning
California Polytechnic State University, Pomona • June 2000

PROFESSIONAL AFFILIATIONS

ASA – Acoustical Society of America
AEP – Association of Environmental Planners
AWMA – Air and Waste Management Association
INCE – Institute of Noise Control Engineers

PROFESSIONAL CERTIFICATIONS

Approved Acoustical Consultant • County of San Diego
FHWA Traffic Noise Model of Training • November 2004
CadnaA Basic and Advanced Training Certificate • October 2008.

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APPENDIX 3.1:

CITY OF SAN JACINTO MUNICIPAL CODE

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Chapter 8.40
NOISE CONTROL

Sections:

8.40.010 Declaration of findings and policy.

8.40.020 Definitions.

8.40.030 Designated noise zones.

8.40.040 Exterior noise standards.

8.40.050 Interior noise standards.

8.40.060 Exemptions.

8.40.070 Loud and disturbing noise.

8.40.080 Real property maintenance noise regulations.

8.40.090 Construction activity noise regulations.

8.40.100 Other public agency exceptions.

8.40.110 Schools, day care centers, churches, libraries, museums, health-care institutions—Special provisions.

8.40.120 Sound-amplifying equipment.

8.40.130 Amplified sound.

8.40.140 Heating, venting, pool/spa and air conditioning—Special provisions.

8.40.150 Motor vehicles.

8.40.160 Noise level measurement.

8.40.170 Prima facie violation.

8.40.180 Penalty.

8.40.190 Enforcement and administration.

8.40.200 City manager waiver.

8.40.210 Noise abatement program.

8.40.010 Declaration of findings and policy.

It is hereby found and declared that:

A. The making and creation of excessive, unnecessary or unusually loud noises within the limits of the city of San Jacinto is a condition that has existed for some time; however, the extent and volume of such noises is increasing; and

B. The making, creation or maintenance of such excessive, unnecessary, unnatural or unusually loud noises that are prolonged, unusual and unnatural in their time, place and use affect and are a detriment to public health, comfort, convenience, safety, welfare and prosperity of the residents of the city of San Jacinto; and

C. The necessity in the public interest for the provisions and prohibitions hereinafter contained and enacted is declared as a matter of legislative determination and public policy, and it is further declared that the provisions and prohibitions hereinafter contained and enacted are in pursuance of and for the purpose of securing and promoting the public health, comfort, convenience, safety, welfare and prosperity and the peace and quiet of the residents of the city of San Jacinto. (Ord. 07-17 § 2 (part))

8.40.020 Definitions.

As used in this chapter, specific words and phrases are defined as follows:

"A-weighted sound level" shall mean the sound pressure level in decibels (dBAs) as measured with a sound level meter using the A-weighted filter network (scale) at slow response and at a pressure of twenty (20) micropascals. The A-weighted filter de-emphasizes the very low and a very high frequency component of sound in a manner similar to the response of the human ear, and is a numerical method of rating human judgment of loudness.

"Ambient noise level" shall mean the all-encompassing noise level associated with a given environment and is a composite of sounds from all sources, excluding the alleged offensive noise or excessive sound, at the location and approximate time at which a comparison with the alleged offensive noise is to be made.

"Applicable (noise) zone" shall mean the noise zone category based on the actual use of the property; provided, that the actual use is a legal use in the city of San Jacinto.

"Decibel (dBA)" shall mean a unit for measuring the amplitude of a sound, equal to twenty (20) times the logarithm to the base ten (10) of the ratio of pressure of the sound measured to the reference pressure of twenty (20) micropascals.

"Equivalent sound or noise level (L_{eq})" shall mean the International Electrotechnical Commission (IEC) 60804 Standard for measurement, or the most recent revision thereof, for the sound level

corresponding to a steady state noise level over a given sample period with the same amount of acoustic energy as the actual time varying noise level or the energy average noise level during the sample period. The measurement period for the purposes of this chapter is fifteen (15) minutes.

“Impulsive noise” shall mean a noise of short duration usually less than one second and of high intensity, with an abrupt onset and rapid decay. Such objectionable noises may also be repetitive.

“Intrusive noise” shall mean that noise that intrudes over and above the ambient noise at a given location. The relative intrusiveness of a sound depends upon its amplitude, duration, frequency, time of occurrence and tonal information content, as well as the prevailing ambient noise level.

“Maintenance” shall mean the upkeep, repair or preservation of existing property or structures.

“Noise” shall mean any unwanted sound or sound that is undesirable because it interferes with speech and hearing, or is intense enough to damage hearing or is otherwise annoying.

“Noise level (sound level)” shall mean the weighted sound pressure level obtained by use of a sound level meter having a standard frequency filter for attenuating part of the sound spectrum. For purposes of this chapter, all noise levels (sound levels) shall be A-weighted sound pressure level.

“Noise (sound) level meter” shall mean an instrument, including a microphone, an amplifier, an output meter and frequency weighting networks for the measurement and determination of noise and sound levels. For the purposes of this chapter, the sound level meter must meet the International Electrotechnical Commission (IEC) 60651 and 60804 Standards, or the most recent revisions thereof, for Type 1 sound level meters or an instrument and the associated recording and analyzing equipment that will provide equivalent data. (Ord. 07-17 § 2 (part))

8.40.030 Designated noise zones.

The properties hereinafter described shall be assigned to the following noise zones:

Noise Zone I:	All single-family residential properties;
Noise Zone II:	All multifamily residential properties and mobile home parks;
Noise Zone III:	All commercial property;
Noise Zone IV:	The residential portion of mixed use properties;
Noise Zone V:	All manufacturing or industrial properties and all

	other uses.

The actual use of the property, and not necessarily its zoning designation, shall be the determining factor in establishing whether a property is in Noise Zone I, II, III, IV or V; provided, that the actual use is a legal use within the applicable zone. (Ord. 07-17 § 2 (part))

8.40.040 Exterior noise standards.

A. The following exterior noise standards, unless otherwise specifically indicated, shall apply to all properties within a designated noise zone:

Allowable Exterior Noise Level (1)			
		Allowed Equivalent Noise Level, L_{eq}. (2)	
Noise Zone	**Type of Land Use**	**7:00 a.m. to 10:00 p.m.**	**10:00 p.m. to 7:00 a.m.**
I	Single-Family Residential	65 dBA	45 dBA
II	Multifamily Residential, Mobile Home Parks	65 dBA	50 dBA
III	Commercial Property	65 dBA	60 dBA
IV	Residential Portion of Mixed Use	70 dBA	70 dBA
V	Manufacturing and Industrial, Other Uses	70 dBA	70 dBA

(1) If the ambient noise level exceeds the resulting standard, the ambient noise level shall be the standard.

(2) Measurements for compliance are made on the affected property pursuant to Section 8.40.160.

B. It is unlawful for any person at any location within the incorporated area of the city to create noise, or to allow the creation of any noise on property owned, leased, occupied or otherwise controlled by such person, which noise causes the noise level, when measured at any location on any other property, to exceed either of the following:

1. The noise standard for the applicable zone for any fifteen (15) minute period;

2. A maximum instantaneous (single instance) noise level equal to the value of the noise standard plus twenty (20) dBA for any period of time (measured using A-weighted slow response).

C. In the event the ambient noise level exceeds the noise standard, the maximum allowable noise level under such category shall be increased to reflect the maximum ambient noise level.

D. The Noise Zone IV standard shall apply to that portion of residential property falling within one hundred (100) feet of a commercial property or use, if the noise originates from that commercial property or use.

E. If the measurement location is on a boundary between two different noise zones, the lower noise level standard applicable to the noise zone shall apply. (Ord. 07-17 § 2 (part))

8.40.050 Interior noise standards.

A. The following interior noise standards, unless otherwise specifically indicated, shall apply to all properties within a designated noise zone:

Allowable Interior Noise Level (1)			
		Allowed Equivalent Noise Level, L_{eq}. (2)	
Noise Zone	**Type of Land Use**	**7:00 a.m. to 10:00 p.m.**	**10:00 p.m. to 7:00 a.m.**
I	Single-Family Residential	45 dBA	40 dBA
II	Multifamily	45 dBA	40 dBA

	Residential, Mobile Home Parks		
IV	Residential Portion of Mixed Use	45 dBA	40 dBA

(1) If the ambient noise level exceeds the resulting standard, the ambient noise level shall be the standard.

(2) Measurements for compliance are made on the affected property pursuant to Section 8.40.160.

B. It is unlawful for any person at any location within the incorporated area of the city to create noise, or to allow the creation of any noise on property owned, leased, occupied or otherwise controlled by such person, which noise causes the noise level, when measured at any location on any other property, to exceed either of the following:

1. The noise standard for the applicable zone for any fifteen (15) minute period;

2. A maximum instantaneous (single instance) noise level equal to the value of the noise standard plus twenty (20) dBA for any period of time (measured using A-weighted slow response).

C. In the event the ambient noise level exceeds the noise standard, the maximum allowable noise level under such category shall be increased to reflect the maximum ambient noise level.

D. The Noise Zone IV standard shall apply to that portion of residential property falling within one hundred (100) feet of a commercial property or use, if the noise originates from that commercial property or use.

E. If the measurement location is on a boundary between two different noise zones, the lower noise level standard applicable to the noise zone shall apply. (Ord. 07-17 § 2 (part))

8.40.060 Exemptions.

The following activities shall be exempted from the provisions of this chapter:

A. Any activity conducted on public property, or on private property with the consent of the owner, by any public entity or its officers, employees, representatives, agents, subcontractors, permittees, licensees or lessees that the public entity has authorized, shall be exempt from the provisions of this chapter. This includes, without limitation, sporting and recreational activities that are sponsored, co-sponsored, permitted or allowed by the city of San Jacinto or any school district within the city's jurisdictional boundaries. This also includes, without limitation, occasional outdoor gatherings, public dances, shows or sporting and entertainment events, provided such events are

conducted pursuant to an approval, authorization, contract, lease, permit or sublease by the appropriate public entity, including the planning commission or city council;

B. Occasional outdoor gatherings, public dances, show, sporting and entertainment events, provided said events are conducted pursuant to a permit or license issued by the appropriate jurisdiction relative to the staging of said events;

C. Any mechanical device, apparatus or equipment used, related to or connected with emergency machinery, vehicle, work or warning alarm or bell, provided the sounding of any bell or alarm on any building or motor vehicle shall terminate its operation within forty-five (45) minutes in any hour of its being activated;

D. Noise sources associated with construction, repair, remodeling, demolition or grading of any real property. Such activities shall instead be subject to the provisions of Section 8.40.090;

E. Noise sources associated with construction, repair, remodeling, demolition or grading of public rights-of-way or during authorized seismic surveys;

F. All mechanical devices, apparatus or equipment associated with agriculture operations; provided, that:

1. Operations do not take place between eight p.m. and seven a.m. on weekdays, including Saturday, or at any time on Sunday or a federal holiday, or

2. Such operations and equipment are utilized for the protection or salvage of agricultural crops during periods of potential or actual frost damage or other adverse weather conditions, or

3. Such operations and equipment are associated with agricultural pest control through pesticide application, provided the application is made in accordance with permits issued by or regulations enforced by the California Department of Agriculture;

G. Noise sources associated with the maintenance of real property. Such activities shall instead be subject to the provisions of Section 8.40.080;

H. Any activity to the extent regulation thereof has been preempted by state or federal law;

I. Any noise sources associated with people and/or music associated with a party at a residential property. Such noise shall be subject to the provisions of Section 8.40.070;

J. Any noise source emanating from an ice cream truck within the city of San Jacinto. Such noise shall be subject to the provisions of Section 5.28.140;

K. Any noise sources associated with barking dogs or other intermittent noises made by animals on any property within the city of San Jacinto. Such noise shall be subject to the provisions of

Section 6.24.030;

L. Noise sources related to uses approved by a permit or development agreement adopted prior to the date of adoption of the ordinance codified in this chapter and that contains acoustic or noise standard conditions of approval. This exemption shall only be applicable during the effective period of the city-approved permit or development agreement. (Ord. 07-17 § 2 (part))

8.40.070 Loud and disturbing noise.

A. It is unlawful for any person or property owner within the city to make, cause or allow to be made any loud, excessive, impulsive or intrusive noise, disturbance or commotion that disturbs the peace or quiet of any area or that causes discomfort or annoyance to any reasonable person of normal sensitivities in the area. The types of loud, disturbing, excessive, impulsive or intrusive noise may include, but shall not be limited to, yelling, shouting, hooting, whistling, singing, playing a musical instrument, or emitting or transmitting any loud music or noise from any mechanical or electrical sound-making or sound-amplifying device.

B. The factors, standards, and conditions that may be considered in determining whether a violation of the provisions of this section has been committed include, but are not limited to, the following:

1. The level of the noise;

2. The level and intensity of the background (ambient) noise, if any;

3. The proximity of the noise to residential or commercial sleeping areas;

4. The nature and zoning of the area within which the noise emanates;

5. The density of inhabitation of the area within which the noise emanates;

6. The time of day and night the noise occurs;

7. The duration of the noise;

8. Whether the noise is constant, recurrent or intermittent;

9. Whether the noise is produced by a commercial or noncommercial activity;

10. Whether the use is lawful under the provisions of this code and whether the noise is one that could reasonably be expected from the activity or allowed use. (Ord. 07-17 § 2 (part))

8.40.080 Real property maintenance noise regulations.

A. No person, while engaged in maintenance of real property, shall operate any tool, equipment or machine (including, but not limited to, any lawnmower, weedeater, leafblower, mulching machine, or chainsaw) in a manner that produces loud noise that disturbs a person of normal sensitivity who

works or resides in the vicinity, or a peace officer, except between the hours of seven a.m. and seven p.m. of the same day.

B. No landowner, occupant, gardener, property maintenance service, contractor, subcontractor or employer shall permit or allow any person or persons working under his or her direction or control to operate any tool, equipment or machine in violation of the provisions of this section. (Ord. 07-17 § 2 (part))

8.40.090 Construction activity noise regulations.

A. Weekdays and Saturdays. No person shall engage in construction, remodeling, digging, grading, demolition or any other related building activity, nor shall operate any tool, equipment or machine, on any weekday or Saturday except between the hours of seven a.m. and seven p.m.

B. Sundays and Holidays. No person shall engage in construction, remodeling, grading, demolition or other related building activity, nor shall operate any tool, equipment or machine, on any Sunday or any federal holiday.

C. No landowner, construction company owner, contractor, subcontractor or employer shall permit or allow any person or persons working under their direction and control to operate any tool, equipment or machine in violation of the provisions of this section.

D. Exceptions.

1. The provisions of this section shall not apply to emergency construction work performed by a private party when authorized by the city manager or his or her designee;

2. The maintenance, repair or improvement of any public work or facility by public employees, by any person or persons acting pursuant to a public works contract, or by any person or persons performing such work or pursuant to the direction of, or on behalf of, any public agency; provided, however, this exception shall not apply to the city of San Jacinto, or its employees, contractors or agents, unless:

a. The city manager or a department head determines that the maintenance, repair or improvement is immediately necessary to maintain public services, or

b. The maintenance, repair or improvement is of a nature that cannot feasibly be conducted during normal business hours, or

c. The city council has approved project specifications, contract provisions, or an environmental document that specifically authorizes construction during hours of the day that would otherwise be prohibited pursuant to this section;

3. Any construction that complies with the noise limits specified in Section 8.40.040 or 8.40.050. (Ord. 15-07 § 1; Ord. 07-17 § 2 (part))

8.40.100 Other public agency exceptions.

The provisions of this chapter shall not be construed to prohibit any work at different hours by or under the direction of any other public agency or public or private utility company in cases of necessity or emergency. (Ord. 07-17 § 2 (part))

8.40.110 Schools, day care centers, churches, libraries, museums, health-care institutions—Special provisions.

It is unlawful for any person to create any noise that causes the outdoor noise level at any school, day care center, hospital or similar health-care institution, church, library or museum while the same is in use, to exceed the noise standards specified in Section 8.40.040 prescribed for the assigned Noise Zone I. (Ord. 07-17 § 2 (part))

8.40.120 Sound-amplifying equipment.

Loudspeakers, sound amplifiers, public address systems or similar devices used to amplify sounds shall be subject to the provisions of Section 8.40.130. Such sound-amplifying equipment shall not be construed to include electronic devices, including, but not limited to, radios, tape players, tape recorders, compact disc players, MP3 players, electric keyboards, music synthesizers, record players or televisions, which are designed and operated for personal use, or used entirely within a building and are not designed or used to convey the human voice, music or any other sound to an audience outside such building, or which are used in vehicles and heard only by occupants of the vehicle in which installed. (Ord. 07-17 § 2 (part))

8.40.130 Amplified sound.

A. The city council enacts the following legislation for the sole purpose of securing and promoting the public health, comfort, safety and welfare for its citizenry. While recognizing that the use of sound-amplifying equipment may be entitled to certain protection by the constitutional rights of freedom of speech and assembly, the city council finds that in order to protect the public safety and the correlative rights of the citizens of this community to privacy and freedom from public nuisance of loud and unnecessary noise, reasonable regulation of the time, place and manner of the use of amplifying equipment is necessary. In no event shall approval or authorization required herein be withheld by reason of the constitutionally protected content of any material proposed to be broadcast through amplifying equipment.

B. It is unlawful for any person, other than personnel of law enforcement or governmental agencies, to install, use or operate a loudspeaker or sound-amplifying device in a fixed or movable position or mounted upon any vehicle within the city for the purpose of giving instructions, directions, talks, addresses or lectures to any persons or assemblages of persons in or upon any street, alley, sidewalk, park, place or public property without a permit to do so from the police chief or his or her designee. Notwithstanding any other provision of this chapter, the provisions of this section shall also apply to the use of sound-amplifying equipment upon public or private property when used in connection with outdoor or indoor public or private events, whether or not admission

is charged or food or beverages are sold, when such activity is to be attended by more than one hundred (100) persons and the noise emanating from the event will be audible at the property plane, or, in the case of a street dance or concert, on the nearest residential property. Those activities listed in Section 8.40.060(A) are exempt from the requirements of this section.

C. The police chief or his or her designee is authorized to approve and issue permits under this section.

D. An application for a permit required by this section shall be filed with the police chief at least sixteen (16) days and no more than one hundred twenty (120) days prior to the date on which the sound-amplifying equipment is intended to be used. Applications for events covered by the First Amendment of the United States Constitution are exempt from the time requirements of this section if it is shown that circumstances require a shorter filing period and the event will not constitute an unsafe condition. The application shall contain the following information:

1. The name, address and telephone number of both the owner and the user of the sound-amplifying equipment;

2. The license number, if a sound truck is to be used;

3. A general description of the sound-amplifying equipment which is to be used;

4. Whether sound-amplifying equipment will be used for commercial or noncommercial purpose;

5. The dates and times upon and within which, and the streets or property over or upon which, the equipment is proposed to be operated;

6. The name or names of one or more persons who will be present during the conduct of any activities for which registration is sought and who will have authority to reduce the volume of any sound-amplifying equipment during the course of the activities if required pursuant to this chapter and, otherwise, to ensure compliance with the provisions of this chapter;

7. A statement by the applicant that he or she is willing and able to comply with the provisions of this chapter and the conditions of the permit;

8. A sketch of the area or facilities within which the activities are to be conducted, with approximate dimensions and illustration of the location and orientation of all sound-amplifying equipment.

E. The police chief shall deny the permit application or revoke any permit if the chief finds any of the following:

1. The application contains materially false or intentionally misleading information; or

2. The use of sound-amplifying equipment at an event or activity proposed will be located in or upon a premises, building or structure that is hazardous to the health or safety of the employees or patrons of the premises, business, activity, or event, or the general public, under the standards established by the International Building or Fire Codes, or other applicable codes, as set forth in this title and Title 15 of this code; or

3. The use of sound-amplifying equipment at an event or activity proposed in or upon a premises, building or structure that lacks adequate on-site parking for participants attending the proposed event or activity under the applicable standards set forth in Article 15 of the San Jacinto Zoning Ordinance; or

4. The conditions of any motor vehicle movement are such that, in his or her opinion, the use of the equipment would constitute an unreasonable interference with traffic safety; or

5. The conditions of pedestrian movement are such that the use of the equipment would constitute a detriment to traffic safety; or

6. The application submitted by the applicant reveals that the applicant would violate the provisions of this section or any other provision of federal, state and/or local law; or

7. The applicant is unwilling or unable to comply with the provisions of this chapter or any conditions imposed upon any permit issued; or

8. There had already been a permitted event at the intended location, or within a two hundred (200) yard radius of the intended location and the prior permitted event was located on residentially zoned property or on a street, alley, public parking lot or neighborhood park within three months prior to the intended event. Community parks are exempt from this subsection (E)(8); or

9. The applicant or location has had previous violations within the past calendar year, and in the judgment of the police chief, issuance would be contrary to the intent of this section.

F. In determining whether the use of the equipment would constitute an unreasonable interference with or detriment to traffic safety, the police chief shall consider, but shall not necessarily be limited to:

1. The volumes, patterns and speed of vehicular and pedestrian traffic in the proposed area of use;

2. The relationship of the proposed use of equipment and potential impacts upon traffic patterns;

3. Availability of sufficient room for the operation of the equipment without significantly interfering with the traffic patterns;

4. Proximity to schools, playgrounds and similar facilities where use of such equipment might attract children into traffic patterns;

5. Proximity to busy intersections or other potentially hazardous conditions where use of such equipment might constitute a hazard by reason of its tendency to distract drivers of vehicles or pedestrians.

G. Issuance or Denial.

1. If the application is approved, the police chief shall return an approved copy of the application to the applicant and shall issue a permit. The permit shall constitute permission for the use of the sound-amplifying equipment as requested.

2. Any application filed shall be either approved or disapproved within five days of the filing thereof.

3. If the application is disapproved, the police chief shall return a disapproved copy forthwith to the applicant with a written statement on the reason for disapproval.

a. Any person aggrieved by a decision of the police chief or his or her designee may file an appeal to the city manager. A complete and proper appeal shall be filed with the city clerk within ten (10) calendar days of the action that is the subject of the appeal. If the applicant fails to file an appeal within the ten (10) day filing period provided herein, denial shall take effect immediately upon expiration of such filing period. All appeals shall be in writing and shall contain the following information: (i) name(s) of the person filing the appeal, (ii) a brief statement in ordinary and concise language of the relief sought, and (iii) the signatures of all parties named as appellants and their mailing addresses. After receiving the appeal, the city clerk shall immediately forward the matter to the city manager for handling.

b. The city manager shall, upon receipt of the appeal, set the matter for hearing before the city manager or a hearing officer. Any hearing officer shall be a licensed attorney or recognized mediator designated by the city manager. The hearing shall be set for not more than ten (10) calendar days after the receipt of the appeal unless a longer time is requested or consented to by the appellant. Notice of such hearing shall be given in writing and mailed at least five calendar days prior to the date of the hearing, by United States mail, with a proof of service attached, addressed to the address listed on the permit application, or the written appeal if different from the permit application. The notice shall state the grounds of the complaint or reason for the denial and shall state the time and place where such hearing will be held.

c. The city manager or hearing officer shall, within ten (10) calendar days following the conclusion of the hearing, make a written finding and decision, which shall be delivered to the

city and the appellant by first class mail. Notwithstanding any provisions in this code, the decision of the city manager or hearing officer shall be the final administrative decision of the city of San Jacinto. Any party dissatisfied with the decision of the city manager or hearing officer may seek review of such decision under the provisions of Code of Civil Procedure Sections 1094.5 and 1094.8, as amended from time to time.

H. In addition to any other provisions of this code, the use of sound-amplifying equipment and sound trucks in the city shall be subject to the following regulations:

1. The only sounds permitted are music and human speech;

2. Sound shall not be emitted within one hundred (100) yards of hospitals, churches, schools and City Hall;

3. The volume of sound shall be controlled so that it will not be audible for a distance in excess of one hundred (100) feet from the sound-amplifying equipment or sound truck, and so that the volume is not unreasonably loud, raucous, jarring, disturbing or a nuisance to persons within the range of allowed audibility;

4. The sound-amplifying equipment or sound truck shall not be used between the hours of eight p.m. and eight a.m. (Ord. 07-17 § 2 (part))

8.40.140 Heating, venting, pool/spa and air conditioning—Special provisions.

Permits for heating, venting and air conditioning (HVAC) and pool/spa equipment in or adjacent to residential areas shall be issued only after the installation contractor signs an acknowledgment that the installation will meet the noise limits established in Section 5-29.04. Applications for residential mechanical permits for air conditioners may use the methodology specified in Standard 275 “Standard Application of Sound Rated Outdoor Unitary Equipment” of the Air Conditioning and Refrigeration Institute (ARI), 1984, as amended. Applicants of mechanical permits for commercial HVAC equipment shall be required to submit a detailed acoustical study that demonstrates compliance with the noise limits established in Section 8.40.040. (Ord. 07-17 § 2 (part))

8.40.150 Motor vehicles.

The use of any motor vehicle in such a condition as to create excessive, impulsive or intrusive noises is prohibited. The discharge into the open air of the exhaust of any internal combustion engine, stationary or mounted on wheels, motorboat or motor vehicle, including motorcycle, whether or not discharged through a muffler or other similar device, which discharge creates excessive, unusual, impulsive or intrusive noise is prohibited. Motor vehicles shall comply with the noise regulations of the California Vehicle Code. (Ord. 07-17 § 2 (part))

8.40.160 Noise level measurement.

A. The location selected for measuring exterior noise levels in a residential area shall be at any part of a private yard, patio, deck or balcony normally used for human activity and identified by the

owner or, if occupied by someone other than the owner, the occupant of the affected property as suspected of exceeding the noise level standard. This location may be the closest point in the private yard or patio, or on the deck or balcony, to the noise source, but should not be located in nonhuman activity areas such as trash container storage areas, planter beds, above or contacting a property line fence, or other areas not normally used as part of the yard, patio, deck or balcony. The location selected for measuring exterior noise levels in a nonresidential area shall be at the closest point to the noise source. The measurement microphone height shall be five feet above finish elevation or, in the case of a deck or balcony, the measurement microphone height shall be five feet above the finished floor level.

B. The location selected for measuring interior noise levels shall be made within the affected residential unit. The measurements shall be made at a point at least four feet from the wall, ceiling or floor, or within the frame of a window opening, nearest the noise source. The measurements shall be made with windows in an open position.

C. Any decibel measurement made pursuant to the provisions of this chapter shall be measured in decibels (dBAs) as measured with a sound level meter using the A-weighted sound pressure level. (Ord. 07-17 § 2 (part))

8.40.170 Prima facie violation.

Any noise exceeding the noise level standard as specified in Sections 8.40.040 and 8.40.050 shall be deemed to be prima facie evidence of a violation of the provisions of this chapter. (Ord. 07-17 § 2 (part))

8.40.180 Penalty.

A. Any person who negligently or knowingly violates any provision of this chapter shall be guilty of an infraction and upon conviction shall be punishable by a fine specified in Section 1.24.030. Each day a violation occurs shall constitute a separate offense and shall be punishable as such.

B. As an additional remedy, the operation or maintenance of any device, instrument, vehicle or machinery in violation of any provisions of this chapter, which operation or maintenance causes or creates sound levels exceeding the allowable standards as specified in this chapter, shall be deemed and is declared to be a public nuisance and may be subject to abatement by a restraining order or injunction issued by a court of competent jurisdiction.

C. Any violation of this chapter is declared to be a public nuisance and may be abated in accordance with law. The expense of enforcing this chapter is declared to be a public nuisance and may be by resolution of the city council declared to be a lien and special assessment against the property on which such nuisance is maintained, and any such charge shall also be a personal obligation of the property owner. (Ord. 07-17 § 2 (part))

8.40.190 Enforcement and administration.

A. The police department shall have the primary responsibility for enforcing provisions of this chapter. The police department shall receive and investigate noise complaints alleged to be in violation of this chapter.

B. It shall be the responsibility of peace officers to enforce the provisions of this chapter and to perform all other functions required by this chapter. Such duties shall include, but not be limited to, investigating potential violations, issuing warning notices and citations, and providing evidence to the city prosecutor for legal action.

C. For violations of Section 8.40.070, a peace officer shall either:

1. Obtain a declaration, signed under penalty of perjury, from two declarants living in separate dwelling units, stating in detail all of the following:

a. That the declarant is a resident located within two hundred (200) yards of the noise source; and

b. Within the past month declarant has heard noise for substantially long periods to the extreme annoyance of the declarant.

2. Personally hear the subject sound and provide, at trial or any administrative hearing, percipient evidence of the loud and disturbing noise. (Ord. 07-17 § 2 (part))

8.40.200 City manager waiver.

The city manager is authorized to grant a temporary waiver to the provisions of this chapter for a period of time necessary to correct the violations of this chapter, if such temporary waiver would be in the public interest and there is no feasible and prudent alternative to the activity, or the method of conducting the activity, for which the temporary waiver is sought. This time period may include a commitment to a program that includes placing necessary orders and entering into necessary contracts within thirty (30) days for repair or installation. (Ord. 07-17 § 2 (part))

8.40.210 Noise abatement program.

A. In circumstances where adopted community-wide noise standards and policies prove impractical in controlling noise generated from a specific source, the city council may establish a noise abatement program that recognizes the characteristics of the noise source and affected property and that incorporates specialized mitigation measures.

B. Noise abatement programs shall set forth in detail the approved terms, conditions and requirements for achieving maximum compliance with noise standards and policies. Said terms, conditions and requirements may include, but shall not be limited to, limitations, restrictions, or prohibitions on operating hours, location of operations, and the types of equipment. (Ord. 07-17 § 2 (part))

APPENDIX 5.1:

STUDY AREA PHOTOS

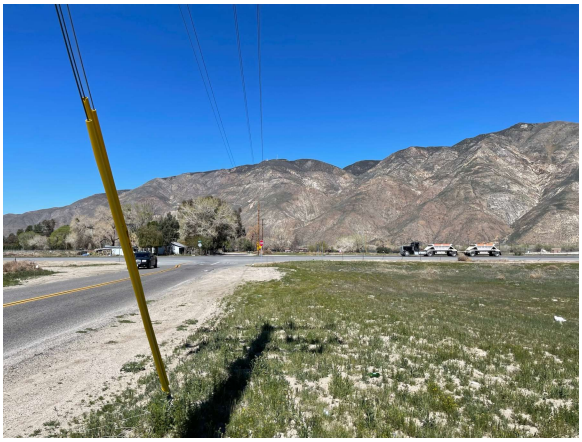
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JN: 14573 Study Area Photos

L1_E
33, 48' 1.480000"116, 57' 16.360000"



L1_N
33, 48' 1.550000"116, 57' 16.300000"



L1_S
33, 48' 1.510000"116, 57' 16.410000"



L1_W
33, 48' 1.480000"116, 57' 16.280000"



L2_E
33, 47' 51.800000"116, 57' 13.470000"



L2_N
33, 47' 51.760000"116, 57' 13.500000"



JN: 14573 Study Area Photos

L2_S
33, 47' 51.760000"116, 57' 13.560000"



L2_W
33, 47' 51.760000"116, 57' 13.470000"



L3_E
33, 47' 54.090000"116, 57' 16.300000"



L3_N
33, 47' 54.110000"116, 57' 16.300000"



L3_S
33, 47' 54.090000"116, 57' 16.300000"



APPENDIX 5.2:

NOISE LEVEL MEASUREMENT WORKSHEETS

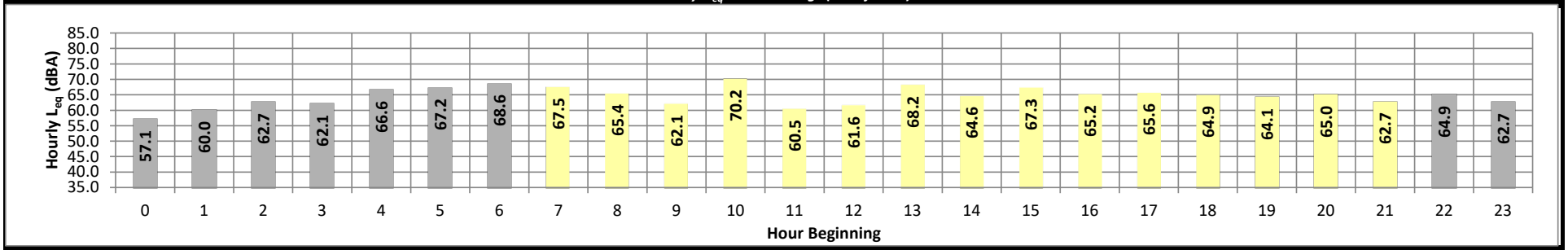
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24-Hour Noise Level Measurement Summary

Date: Tuesday, March 8, 2022 | *Location:* L1 - Located west of the Project site near single-family | *Meter:* Piccolo II | *JN:* 14573

Project: Kasbergen/Hafliger | *Source:* residence at 22145 Alessandro Avenue North. | *Analyst:* A. Khan

Hourly L_{eq} dBA Readings (unadjusted)



Timeframe	Hour	L_{eq}	L_{max}	L_{min}	L1%	L2%	L5%	L8%	L25%	L50%	L90%	L95%	L99%	L_{eq}	Adj.	Adj. L_{eq}
Night	0	57.1	67.6	45.1	67.1	66.2	63.5	61.9	57.0	52.2	46.7	46.0	45.4	57.1	10.0	67.1
	1	60.0	71.6	43.7	71.0	70.2	67.5	65.3	58.0	52.2	45.1	44.4	43.9	60.0	10.0	70.0
	2	62.7	74.7	46.5	74.2	73.3	70.1	67.7	60.5	55.0	48.5	47.7	46.7	62.7	10.0	72.7
	3	62.1	73.3	50.6	72.7	71.7	68.5	66.6	61.5	57.8	52.2	51.4	50.7	62.1	10.0	72.1
	4	66.6	77.4	55.0	76.8	75.8	73.1	71.3	66.1	62.3	57.0	55.9	55.1	66.6	10.0	76.6
	5	67.2	78.9	56.3	78.2	77.0	73.9	71.8	66.0	62.4	57.9	57.2	56.5	67.2	10.0	77.2
	6	68.6	79.6	58.5	79.0	78.1	75.5	73.2	67.4	64.2	60.0	59.3	58.7	68.6	10.0	78.6
Day	7	67.5	79.1	56.0	78.5	77.4	74.5	72.4	66.2	61.9	57.4	56.7	56.1	67.5	0.0	67.5
	8	65.4	75.9	52.6	75.4	74.5	72.0	70.3	65.1	60.8	54.7	53.6	52.8	65.4	0.0	65.4
	9	62.1	74.0	47.2	73.4	72.4	69.0	66.6	60.7	56.3	49.1	48.1	47.3	62.1	0.0	62.1
	10	70.2	84.2	46.8	83.5	82.0	78.0	76.0	60.9	55.4	48.7	47.8	47.1	70.2	0.0	70.2
	11	60.5	72.0	46.0	71.5	70.5	67.8	65.7	59.0	53.8	48.1	47.3	46.2	60.5	0.0	60.5
	12	61.6	72.9	46.7	72.3	71.3	68.4	66.6	60.9	55.2	48.9	48.0	47.0	61.6	0.0	61.6
	13	68.2	82.6	49.3	81.7	80.3	75.6	72.7	60.8	55.9	50.7	50.0	49.5	68.2	0.0	68.2
	14	64.6	75.3	54.4	74.7	73.8	71.3	69.6	63.8	60.0	55.9	55.3	54.6	64.6	0.0	64.6
	15	67.3	78.4	56.8	78.0	77.2	74.0	71.6	66.3	62.6	58.6	57.9	57.0	67.3	0.0	67.3
	16	65.2	75.7	52.5	75.2	74.4	72.1	70.4	64.6	60.5	54.5	53.6	52.7	65.2	0.0	65.2
	17	65.6	76.3	51.8	75.9	75.1	72.4	70.5	65.0	60.5	54.3	53.3	52.1	65.6	0.0	65.6
	18	64.9	75.0	50.6	74.5	73.7	71.9	70.2	64.9	60.4	53.1	51.9	50.9	64.9	0.0	64.9
	19	64.1	75.1	48.9	74.6	73.7	71.0	69.0	63.5	59.3	51.2	50.0	49.1	64.1	5.0	69.1
	20	65.0	75.9	51.3	75.3	74.4	71.7	69.8	64.5	60.0	53.1	52.3	51.5	65.0	5.0	70.0
	21	62.7	73.8	49.0	73.3	72.4	69.3	67.3	62.1	57.5	51.8	50.2	49.2	62.7	5.0	67.7
Night	22	64.9	77.1	50.9	76.3	75.2	72.2	70.3	62.2	58.1	52.4	51.8	51.1	64.9	10.0	74.9
	23	62.7	75.0	47.7	74.5	73.5	70.0	67.7	60.3	55.2	49.8	48.9	48.0	62.7	10.0	72.7

Timeframe	Hour	L_{eq}	L_{max}	L_{min}	L1%	L2%	L5%	L8%	L25%	L50%	L90%	L95%	L99%
Day	Min	60.5	72.0	46.0	71.5	70.5	67.8	65.7	59.0	53.8	48.1	47.3	46.2
	Max	70.2	84.2	56.8	83.5	82.0	78.0	76.0	66.3	62.6	58.6	57.9	57.0
Energy Average		65.7	Average:		75.8	74.9	71.9	69.9	63.2	58.7	52.7	51.7	50.9
Night	Min	57.1	67.6	43.7	67.1	66.2	63.5	61.9	57.0	52.2	45.1	44.4	43.9
	Max	68.6	79.6	58.5	79.0	78.1	75.5	73.2	67.4	64.2	60.0	59.3	58.7
Energy Average		64.8	Average:		74.4	73.4	70.5	68.4	62.1	57.7	52.2	51.4	50.7

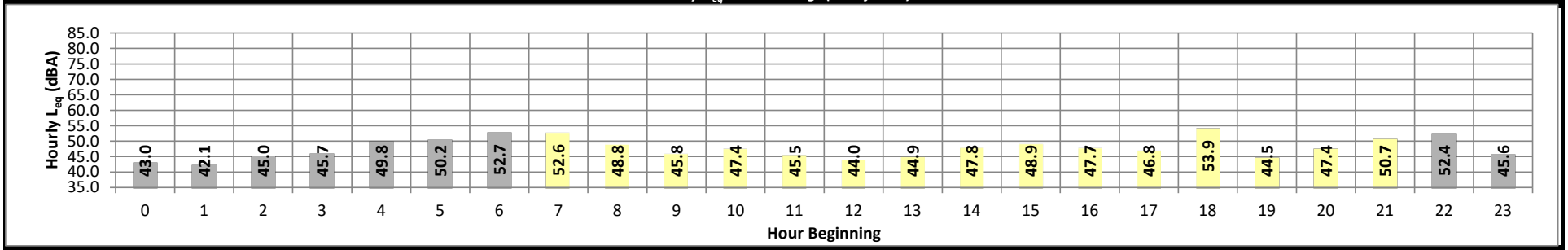
L_{eq} (dBA)		
24-Hour	Daytime (7am-10pm)	Nighttime (10pm-7am)
65.4	**65.7**	**64.8**

24-Hour Noise Level Measurement Summary

Date: Tuesday, March 8, 2022 *Location:* L2 - Located south of the Project site near single-family *Meter:* Piccolo II *JN:* 14573

Project: Kasbergen/Hafliger *Source:* residence at 22384 Alessandro Avenue North. *Analyst:* A. Khan

Hourly L_{eq} dBA Readings (unadjusted)



Timeframe	Hour	L_{eq}	L_{max}	L_{min}	L1%	L2%	L5%	L8%	L25%	L50%	L90%	L95%	L99%	L_{eq}	Adj.	Adj. L_{eq}
Night	0	43.0	48.8	38.9	48.4	48.0	46.8	46.0	43.6	41.9	39.7	39.4	39.0	43.0	10.0	53.0
	1	42.1	48.0	37.9	47.7	47.4	46.4	45.6	42.6	40.6	38.7	38.4	38.0	42.1	10.0	52.1
	2	45.0	50.7	40.3	50.3	50.0	49.0	48.2	46.0	43.9	41.3	40.9	40.5	45.0	10.0	55.0
	3	45.7	51.8	41.3	51.5	51.1	49.6	48.7	46.4	44.6	42.3	41.9	41.5	45.7	10.0	55.7
	4	49.8	55.7	46.1	55.5	55.1	53.9	53.0	50.1	48.7	47.0	46.6	46.3	49.8	10.0	59.8
	5	50.2	56.0	46.0	55.6	55.3	53.8	53.0	50.9	49.3	47.0	46.5	46.2	50.2	10.0	60.2
	6	52.7	57.3	49.4	57.1	56.7	55.8	55.2	53.4	52.0	50.1	49.8	49.5	52.7	10.0	62.7
Day	7	52.6	61.2	47.8	60.9	60.1	58.1	56.3	52.3	50.5	48.5	48.2	47.9	52.6	0.0	52.6
	8	48.8	54.8	44.5	54.4	53.9	52.8	51.9	49.6	47.9	45.3	45.0	44.7	48.8	0.0	48.8
	9	45.8	52.0	40.8	51.7	51.3	50.2	49.4	46.7	44.4	41.9	41.4	41.0	45.8	0.0	45.8
	10	47.4	56.1	40.4	55.5	54.5	52.7	51.5	47.7	45.3	41.6	41.0	40.6	47.4	0.0	47.4
	11	45.5	52.7	39.4	52.2	51.6	50.5	49.6	46.4	43.5	40.3	39.9	39.5	45.5	0.0	45.5
	12	44.0	65.1	39.8	64.8	64.2	63.3	62.7	59.8	54.1	42.8	42.1	40.0	44.0	0.0	44.0
	13	44.9	52.2	39.4	51.8	51.4	49.8	48.5	45.4	42.9	40.5	40.0	39.6	44.9	0.0	44.9
	14	47.8	54.8	42.3	54.3	53.9	52.8	52.0	48.2	45.9	43.4	43.0	42.5	47.8	0.0	47.8
	15	48.9	57.9	43.4	57.3	56.8	55.2	54.1	50.3	47.7	44.6	44.0	43.6	48.9	0.0	48.9
	16	47.7	55.8	40.9	55.4	54.8	53.2	51.9	47.9	45.1	42.1	41.5	41.1	47.7	0.0	47.7
	17	46.8	55.9	40.2	55.4	54.8	52.4	50.8	47.0	44.2	41.2	40.7	40.3	46.8	0.0	46.8
	18	53.9	62.5	41.0	62.1	61.6	60.2	59.2	55.5	47.9	42.1	41.5	41.1	53.9	0.0	53.9
	19	44.5	51.3	39.4	50.9	50.6	49.2	48.3	45.1	42.9	40.3	40.0	39.6	44.5	5.0	49.5
	20	47.4	54.7	42.0	54.3	53.9	52.5	51.3	47.8	45.5	43.0	42.6	42.1	47.4	5.0	52.4
	21	50.7	60.9	42.5	60.3	59.9	57.7	55.7	49.3	46.1	43.6	43.2	42.7	50.7	5.0	55.7
Night	22	52.4	58.2	42.4	57.9	57.6	56.8	56.5	54.5	50.1	44.7	43.1	42.5	52.4	10.0	62.4
	23	45.6	51.2	40.7	50.8	50.4	49.5	48.7	46.4	44.5	41.7	41.3	40.8	45.6	10.0	55.6

Timeframe	Hour	L_{eq}	L_{max}	L_{min}	L1%	L2%	L5%	L8%	L25%	L50%	L90%	L95%	L99%
Day	Min	44.0	51.3	39.4	50.9	50.6	49.2	48.3	45.1	42.9	40.3	39.9	39.5
	Max	53.9	65.1	47.8	64.8	64.2	63.3	62.7	59.8	54.1	48.5	48.2	47.9
Energy Average		48.8	Average:		56.1	55.6	54.0	52.9	49.3	46.3	42.8	42.3	41.8
Night	Min	42.1	48.0	37.9	47.7	47.4	46.4	45.6	42.6	40.6	38.7	38.4	38.0
	Max	52.7	58.2	49.4	57.9	57.6	56.8	56.5	54.5	52.0	50.1	49.8	49.5
Energy Average		48.9	Average:		52.8	52.4	51.3	50.6	48.2	46.2	43.6	43.1	42.7

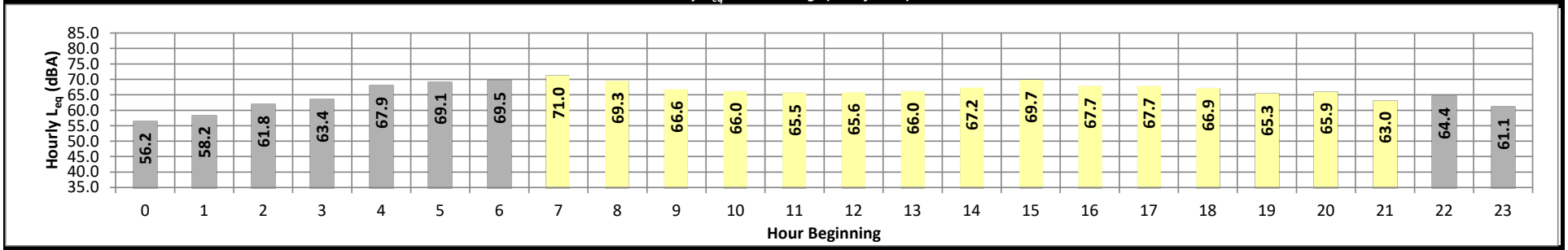
24-Hour	L_{eq} (dBA) Daytime (7am-10pm)	Nighttime (10pm-7am)
48.8	**48.8**	**48.9**

24-Hour Noise Level Measurement Summary

Date: Tuesday, March 8, 2022 *Location:* L3 - Located west of the Project site near Marvo Heifer Ranch *Meter:* Piccolo II *JN:* 14573

Project: Kasbergen/Hafliger *Source:* Holsteins at 22323 Alessandro Avenue North. *Analyst:* A. Khan

Hourly L_{eq} dBA Readings (unadjusted)



Timeframe	Hour	L_{eq}	L_{max}	L_{min}	L1%	L2%	L5%	L8%	L25%	L50%	L90%	L95%	L99%	L_{eq}	Adj.	Adj. L_{eq}
Night	0	56.2	70.5	42.4	69.9	68.6	63.6	59.3	48.3	45.8	43.3	42.9	42.5	56.2	10.0	66.2
	1	58.2	72.7	40.1	72.1	70.7	65.6	61.2	49.2	44.9	41.1	40.7	40.2	58.2	10.0	68.2
	2	61.8	75.4	44.4	74.7	73.5	69.9	66.6	54.5	50.1	45.9	45.3	44.6	61.8	10.0	71.8
	3	63.4	77.9	45.6	77.2	75.5	70.8	67.3	54.6	49.8	46.6	46.2	45.7	63.4	10.0	73.4
	4	67.9	81.8	50.9	81.1	79.7	75.7	72.4	59.8	54.8	51.9	51.5	51.1	67.9	10.0	77.9
	5	69.1	83.5	50.3	82.7	81.0	76.9	73.6	60.4	54.4	51.4	51.0	50.5	69.1	10.0	79.1
	6	69.5	82.7	54.3	81.9	80.7	77.5	74.9	63.5	58.4	55.4	55.0	54.5	69.5	10.0	79.5
Day	7	71.0	84.9	51.8	84.1	82.5	78.5	75.8	65.9	57.5	52.7	52.3	51.9	71.0	0.0	71.0
	8	69.3	82.4	46.6	81.7	80.3	77.3	74.9	64.8	55.5	47.6	47.1	46.7	69.3	0.0	69.3
	9	66.6	80.9	42.7	80.1	78.6	74.4	70.9	58.3	49.1	44.0	43.4	42.9	66.6	0.0	66.6
	10	66.0	80.3	43.6	79.5	78.1	73.5	70.3	57.6	50.3	45.0	44.4	43.8	66.0	0.0	66.0
	11	65.5	79.8	42.5	79.0	77.4	73.4	70.1	56.7	47.6	43.5	43.0	42.6	65.5	0.0	65.5
	12	65.6	79.6	44.3	78.8	77.1	73.2	70.0	59.9	54.7	48.6	46.9	45.2	65.6	0.0	65.6
	13	66.0	79.6	41.9	78.9	77.6	73.8	70.9	60.1	49.2	43.0	42.6	42.1	66.0	0.0	66.0
	14	67.2	80.4	46.5	79.7	78.3	75.0	72.6	61.8	52.2	47.7	47.2	46.7	67.2	0.0	67.2
	15	69.7	82.1	48.7	81.5	80.2	77.0	75.1	67.7	57.8	50.1	49.4	48.9	69.7	0.0	69.7
	16	67.7	80.0	46.8	79.3	78.1	75.6	73.6	64.7	55.1	48.1	47.4	47.0	67.7	0.0	67.7
	17	67.7	80.9	47.3	80.2	78.8	75.4	73.0	63.3	53.5	48.4	48.0	47.4	67.7	0.0	67.7
	18	66.9	80.1	46.1	79.5	78.1	74.8	72.4	61.8	53.6	47.6	46.9	46.3	66.9	0.0	66.9
	19	65.3	79.5	44.2	78.7	77.2	73.0	69.7	57.5	50.7	45.5	44.9	44.4	65.3	5.0	70.3
	20	65.9	79.8	46.9	79.0	77.5	73.3	70.4	60.9	52.8	47.9	47.5	47.0	65.9	5.0	70.9
	21	63.0	76.3	45.4	75.7	74.4	70.8	68.0	57.2	50.4	46.6	46.2	45.6	63.0	5.0	68.0
Night	22	64.4	78.5	47.5	77.7	76.2	71.8	68.8	57.7	52.9	48.9	48.2	47.6	64.4	10.0	74.4
	23	61.1	75.1	43.7	74.4	73.0	68.6	65.4	53.0	48.9	44.7	44.3	43.9	61.1	10.0	71.1

Timeframe	Hour	L_{eq}	L_{max}	L_{min}	L1%	L2%	L5%	L8%	L25%	L50%	L90%	L95%	L99%
Day	Min	63.0	76.3	41.9	75.7	74.4	70.8	68.0	56.7	47.6	43.0	42.6	42.1
	Max	71.0	84.9	51.8	84.1	82.5	78.5	75.8	67.7	57.8	52.7	52.3	51.9
Energy Average		67.3	Average:		79.7	78.3	74.6	71.8	61.2	52.6	47.1	46.5	45.9
Night	Min	56.2	70.5	40.1	69.9	68.6	63.6	59.3	48.3	44.9	41.1	40.7	40.2
	Max	69.5	83.5	54.3	82.7	81.0	77.5	74.9	63.5	58.4	55.4	55.0	54.5
Energy Average		65.5	Average:		76.9	75.4	71.2	67.7	55.7	51.1	47.7	47.2	46.7

L_{eq} (dBA)	Daytime (7am-10pm)	Nighttime (10pm-7am)
66.7	**67.3**	**65.5**

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APPENDIX 8.1:

ON-SITE TRAFFIC NOISE LEVEL CALCULATIONS

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (CALVENO) - 6/2/2013

Scenario: Backyard No Wall
Road Name: Alessandro Ave.
Lot No: 46

Project Name: Kasbergen/Halfigler TT34271
Job Number: 14573
Analyst: B. Maddux

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,100 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	910 vehicles
Vehicle Speed:	25 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.0 feet
Centerline Dist. to Observer:	47.0 feet
Barrier Distance to Observer:	10.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	1,553.8 feet
Road Elevation:	1,551.0 feet
Barrier Elevation:	1,553.8 feet
Road Grade:	0.5%

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	80.0%	7.0%	13.0%	97.00%
Medium Trucks:	80.0%	7.0%	13.0%	2.00%
Heavy Trucks:	80.0%	7.0%	13.0%	1.00%

Noise Source Elevations (in feet)

Autos:	1,551.000		
Medium Trucks:	1,553.297		
Heavy Trucks:	1,559.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	47.264
Medium Trucks:	46.939
Heavy Trucks:	46.616

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	59.44	0.17	0.26	-1.20	*-0.63*	0.000	0.000
Medium Trucks:	71.09	-16.68	0.31	-1.20	*-0.84*	0.000	0.000
Heavy Trucks:	77.24	-19.69	0.35	-1.20	*-1.51*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	58.7	56.9	52.4	50.3	58.2	58.5
Medium Trucks:	53.5	51.8	47.2	45.1	53.1	53.4
Heavy Trucks:	56.7	54.9	50.4	48.3	56.3	56.6
Vehicle Noise:	61.6	59.8	55.2	53.1	61.1	61.4

Mitigated Noise Levels (with Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	58.7	56.9	52.4	50.3	58.2	58.5
Medium Trucks:	53.5	51.8	47.2	45.1	53.1	53.4
Heavy Trucks:	56.7	54.9	50.4	48.3	56.3	56.6
Vehicle Noise:	61.6	59.8	55.2	53.1	61.1	61.4

Centerline Distance to Noise Contour (in feet)	*70 dBA*	*65 dBA*	*60 dBA*	*55 dBA*
CNEL:	13	27	58	126

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (CALVENO) - 6/2/2013

Scenario: Backyard No Wall
Road Name: Alessandro Ave.
Lot No: 50

Project Name: Kasbergen/Halfigler TT34271
Job Number: 14573
Analyst: B. Maddux

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,100 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	910 vehicles
Vehicle Speed:	25 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.0 feet
Centerline Dist. to Observer:	47.0 feet
Barrier Distance to Observer:	10.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	1,551.7 feet
Road Elevation:	1,551.0 feet
Barrier Elevation:	1,551.7 feet
Road Grade:	0.5%

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	80.0%	7.0%	13.0%	97.00%
Medium Trucks:	80.0%	7.0%	13.0%	2.00%
Heavy Trucks:	80.0%	7.0%	13.0%	1.00%

Noise Source Elevations (in feet)

Autos:	1,551.000		
Medium Trucks:	1,553.297		
Heavy Trucks:	1,559.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	46.963
Medium Trucks:	46.739
Heavy Trucks:	46.672

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	59.44	0.17	0.30	-1.20	*-0.82*	0.000	0.000
Medium Trucks:	71.09	-16.68	0.34	-1.20	*-1.07*	0.000	0.000
Heavy Trucks:	77.24	-19.69	0.35	-1.20	*-1.80*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	58.7	57.0	52.4	50.3	58.3	58.6
Medium Trucks:	53.5	51.8	47.2	45.1	53.1	53.4
Heavy Trucks:	56.7	54.9	50.4	48.3	56.3	56.5
Vehicle Noise:	61.6	59.8	55.3	53.2	61.1	61.4

Mitigated Noise Levels (with Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	58.7	57.0	52.4	50.3	58.3	58.6
Medium Trucks:	53.5	51.8	47.2	45.1	53.1	53.4
Heavy Trucks:	56.7	54.9	50.4	48.3	56.3	56.5
Vehicle Noise:	61.6	59.8	55.3	53.2	61.1	61.4

Centerline Distance to Noise Contour (in feet)	*70 dBA*	*65 dBA*	*60 dBA*	*55 dBA*
CNEL:	13	27	59	126

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (CALVENO) - 6/2/2013

Scenario: Backyard No Wall
Road Name: Alessandro Ave.
Lot No: 54

Project Name: Kasbergen/Halfigler TT34271
Job Number: 14573
Analyst: B. Maddux

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,100 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	910 vehicles
Vehicle Speed:	25 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.0 feet
Centerline Dist. to Observer:	47.0 feet
Barrier Distance to Observer:	10.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	1,551.7 feet
Road Elevation:	1,551.0 feet
Barrier Elevation:	1,551.7 feet
Road Grade:	0.5%

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	80.0%	7.0%	13.0%	97.00%
Medium Trucks:	80.0%	7.0%	13.0%	2.00%
Heavy Trucks:	80.0%	7.0%	13.0%	1.00%

Noise Source Elevations (in feet)

Autos:	1,551.000		
Medium Trucks:	1,553.297		
Heavy Trucks:	1,559.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	46.963
Medium Trucks:	46.739
Heavy Trucks:	46.672

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	59.44	0.17	0.30	-1.20	*-0.82*	0.000	0.000
Medium Trucks:	71.09	-16.68	0.34	-1.20	*-1.07*	0.000	0.000
Heavy Trucks:	77.24	-19.69	0.35	-1.20	*-1.80*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	58.7	57.0	52.4	50.3	58.3	58.6
Medium Trucks:	53.5	51.8	47.2	45.1	53.1	53.4
Heavy Trucks:	56.7	54.9	50.4	48.3	56.3	56.5
Vehicle Noise:	61.6	59.8	55.3	53.2	61.1	61.4

Mitigated Noise Levels (with Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	58.7	57.0	52.4	50.3	58.3	58.6
Medium Trucks:	53.5	51.8	47.2	45.1	53.1	53.4
Heavy Trucks:	56.7	54.9	50.4	48.3	56.3	56.5
Vehicle Noise:	61.6	59.8	55.3	53.2	61.1	61.4

Centerline Distance to Noise Contour (in feet)	*70 dBA*	*65 dBA*	*60 dBA*	*55 dBA*
CNEL:	13	27	59	126

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (CALVENO) - 6/2/2013

Scenario: Backyard No Wall
Road Name: Alessandro Ave.
Lot No: 55

Project Name: Kasbergen/Halfigler TT34271
Job Number: 14573
Analyst: B. Maddux

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,100 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	910 vehicles
Vehicle Speed:	25 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	47.0 feet
Centerline Dist. to Observer:	57.0 feet
Barrier Distance to Observer:	10.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	1,551.5 feet
Road Elevation:	1,547.5 feet
Barrier Elevation:	1,551.5 feet
Road Grade:	0.5%

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	80.0%	7.0%	13.0%	97.00%
Medium Trucks:	80.0%	7.0%	13.0%	2.00%
Heavy Trucks:	80.0%	7.0%	13.0%	1.00%

Noise Source Elevations (in feet)

Autos:	1,547.500		
Medium Trucks:	1,549.797		
Heavy Trucks:	1,555.506	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.393
Medium Trucks:	57.078
Heavy Trucks:	56.692

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	59.44	0.17	-1.00	-1.20	*-0.63*	0.000	0.000
Medium Trucks:	71.09	-16.68	-0.97	-1.20	*-0.80*	0.000	0.000
Heavy Trucks:	77.24	-19.69	-0.92	-1.20	*-1.31*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	57.4	55.7	51.1	49.0	57.0	57.3
Medium Trucks:	52.2	50.5	45.9	43.8	51.8	52.1
Heavy Trucks:	55.4	53.7	49.1	47.0	55.0	55.3
Vehicle Noise:	60.3	58.5	54.0	51.9	59.8	60.1

Mitigated Noise Levels (with Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	57.4	55.7	51.1	49.0	57.0	57.3
Medium Trucks:	52.2	50.5	45.9	43.8	51.8	52.1
Heavy Trucks:	55.4	53.7	49.1	47.0	55.0	55.3
Vehicle Noise:	60.3	58.5	54.0	51.9	59.8	60.1

Centerline Distance to Noise Contour (in feet)	*70 dBA*	*65 dBA*	*60 dBA*	*55 dBA*
CNEL:	13	27	58	125

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (CALVENO) - 6/2/2013

Scenario: Backyard No Wall
Road Name: Alessandro Ave.
Lot No: 58

Project Name: Kasbergen/Halfigler TT34271
Job Number: 14573
Analyst: B. Maddux

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,100 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	910 vehicles
Vehicle Speed:	25 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	66.0 feet
Centerline Dist. to Observer:	76.0 feet
Barrier Distance to Observer:	10.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	1,551.5 feet
Road Elevation:	1,548.0 feet
Barrier Elevation:	1,551.5 feet
Road Grade:	0.5%

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	80.0%	7.0%	13.0%	97.00%
Medium Trucks:	80.0%	7.0%	13.0%	2.00%
Heavy Trucks:	80.0%	7.0%	13.0%	1.00%

Noise Source Elevations (in feet)

Autos:	1,548.000		
Medium Trucks:	1,550.297		
Heavy Trucks:	1,556.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	76.238
Medium Trucks:	76.016
Heavy Trucks:	75.764

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	59.44	0.17	-2.85	-1.20	*-0.78*	0.000	0.000
Medium Trucks:	71.09	-16.68	-2.83	-1.20	*-0.92*	0.000	0.000
Heavy Trucks:	77.24	-19.69	-2.81	-1.20	*-1.30*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	55.6	53.8	49.2	47.2	55.1	55.4
Medium Trucks:	50.4	48.6	44.1	42.0	49.9	50.2
Heavy Trucks:	53.5	51.8	47.2	45.1	53.1	53.4
Vehicle Noise:	58.4	56.7	52.1	50.0	58.0	58.3

Mitigated Noise Levels (with Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	55.6	53.8	49.2	47.2	55.1	55.4
Medium Trucks:	50.4	48.6	44.1	42.0	49.9	50.2
Heavy Trucks:	53.5	51.8	47.2	45.1	53.1	53.4
Vehicle Noise:	58.4	56.7	52.1	50.0	58.0	58.3

Centerline Distance to Noise Contour (in feet)	*70 dBA*	*65 dBA*	*60 dBA*	*55 dBA*
CNEL:	13	27	58	126

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (CALVENO) - 6/2/2013

Scenario: Backyard No Wall
Road Name: Ramona Expy.
Lot No: 59

Project Name: Kasbergen/Halfigler TT34271
Job Number: 14573
Analyst: B. Maddux

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	28,630 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	2,863 vehicles
Vehicle Speed:	65 mph
Near/Far Lane Distance:	73 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	112.0 feet
Centerline Dist. to Observer:	122.0 feet
Barrier Distance to Observer:	10.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	1,552.5 feet
Road Elevation:	1,549.4 feet
Barrier Elevation:	1,552.5 feet
Road Grade:	0.5%

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	80.0%	7.0%	13.0%	97.00%
Medium Trucks:	80.0%	7.0%	13.0%	2.00%
Heavy Trucks:	80.0%	7.0%	13.0%	1.00%

Noise Source Elevations (in feet)

Autos:	1,549.400		
Medium Trucks:	1,551.697		
Heavy Trucks:	1,557.406	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	116.693
Medium Trucks:	116.557
Heavy Trucks:	116.412

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	75.54	1.00	-5.62	-1.20	*-0.93*	0.000	0.000
Medium Trucks:	81.71	-15.86	-5.62	-1.20	*-1.02*	0.000	0.000
Heavy Trucks:	85.21	-18.87	-5.61	-1.20	*-1.26*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.7	68.0	63.4	61.3	69.3	69.6
Medium Trucks:	59.0	57.3	52.7	50.6	58.6	58.9
Heavy Trucks:	59.5	57.8	53.2	51.1	59.1	59.4
Vehicle Noise:	70.4	68.7	64.1	62.0	70.0	70.3

Mitigated Noise Levels (with Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.7	68.0	63.4	61.3	69.3	69.6
Medium Trucks:	59.0	57.3	52.7	50.6	58.6	58.9
Heavy Trucks:	59.5	57.8	53.2	51.1	59.1	59.4
Vehicle Noise:	70.4	68.7	64.1	62.0	70.0	70.3

Centerline Distance to Noise Contour (in feet)	*70 dBA*	*65 dBA*	*60 dBA*	*55 dBA*
CNEL:	128	275	593	1,277

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (CALVENO) - 6/2/2013

Scenario: Backyard No Wall
Road Name: Ramona Expy.
Lot No: 63

Project Name: Kasbergen/Halfigler TT34271
Job Number: 14573
Analyst: B. Maddux

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	28,630 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	2,863 vehicles
Vehicle Speed:	65 mph
Near/Far Lane Distance:	73 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	110.0 feet
Barrier Distance to Observer:	10.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	1,553.4 feet
Road Elevation:	1,551.0 feet
Barrier Elevation:	1,553.4 feet
Road Grade:	0.5%

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	80.0%	7.0%	13.0%	97.00%
Medium Trucks:	80.0%	7.0%	13.0%	2.00%
Heavy Trucks:	80.0%	7.0%	13.0%	1.00%

Noise Source Elevations (in feet)

Autos:	1,551.000		
Medium Trucks:	1,553.297		
Heavy Trucks:	1,559.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	104.031
Medium Trucks:	103.893
Heavy Trucks:	103.770

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	75.54	1.00	-4.88	-1.20	*-0.94*	0.000	0.000
Medium Trucks:	81.71	-15.86	-4.87	-1.20	*-1.04*	0.000	0.000
Heavy Trucks:	85.21	-18.87	-4.86	-1.20	*-1.31*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.5	68.7	64.1	62.1	70.0	70.3
Medium Trucks:	59.8	58.0	53.5	51.4	59.3	59.6
Heavy Trucks:	60.3	58.5	54.0	51.9	59.8	60.1
Vehicle Noise:	71.2	69.4	64.9	62.8	70.8	71.0

Mitigated Noise Levels (with Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.5	68.7	64.1	62.1	70.0	70.3
Medium Trucks:	59.8	58.0	53.5	51.4	59.3	59.6
Heavy Trucks:	60.3	58.5	54.0	51.9	59.8	60.1
Vehicle Noise:	71.2	69.4	64.9	62.8	70.8	71.0

Centerline Distance to Noise Contour (in feet)	*70 dBA*	*65 dBA*	*60 dBA*	*55 dBA*
CNEL:	129	278	599	1,291

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (CALVENO) - 6/2/2013

Scenario: Backyard No Wall
Road Name: Ramona Expy.
Lot No: 65

Project Name: Kasbergen/Halfigler TT34271
Job Number: 14573
Analyst: B. Maddux

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	28,630 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	2,863 vehicles
Vehicle Speed:	65 mph
Near/Far Lane Distance:	73 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	94.0 feet
Centerline Dist. to Observer:	104.0 feet
Barrier Distance to Observer:	10.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	1,554.1 feet
Road Elevation:	1,550.0 feet
Barrier Elevation:	1,554.1 feet
Road Grade:	0.5%

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	80.0%	7.0%	13.0%	97.00%
Medium Trucks:	80.0%	7.0%	13.0%	2.00%
Heavy Trucks:	80.0%	7.0%	13.0%	1.00%

Noise Source Elevations (in feet)

Autos:	1,550.000		
Medium Trucks:	1,552.297		
Heavy Trucks:	1,558.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	97.809
Medium Trucks:	97.622
Heavy Trucks:	97.391

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	75.54	1.00	-4.47	-1.20	*-0.85*	0.000	0.000
Medium Trucks:	81.71	-15.86	-4.46	-1.20	*-0.95*	0.000	0.000
Heavy Trucks:	85.21	-18.87	-4.45	-1.20	*-1.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.9	69.1	64.5	62.5	70.4	70.7
Medium Trucks:	60.2	58.4	53.9	51.8	59.8	60.0
Heavy Trucks:	60.7	58.9	54.4	52.3	60.3	60.6
Vehicle Noise:	71.6	69.8	65.3	63.2	71.2	71.4

Mitigated Noise Levels (with Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.9	69.1	64.5	62.5	70.4	70.7
Medium Trucks:	60.2	58.4	53.9	51.8	59.8	60.0
Heavy Trucks:	60.7	58.9	54.4	52.3	60.3	60.6
Vehicle Noise:	71.6	69.8	65.3	63.2	71.2	71.4

Centerline Distance to Noise Contour (in feet)	*70 dBA*	*65 dBA*	*60 dBA*	*55 dBA*
CNEL:	130	280	603	1,299

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (CALVENO) - 6/2/2013

Scenario: Backyard No Wall
Road Name: Ramona Expy.
Lot No: 69

Project Name: Kasbergen/Halfigler TT34271
Job Number: 14573
Analyst: B. Maddux

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	28,630	vehicles
Peak Hour Percentage:	10%	
Peak Hour Volume:	2,863	vehicles
Vehicle Speed:	65	mph
Near/Far Lane Distance:	73	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	98.0	feet
Centerline Dist. to Observer:	108.0	feet
Barrier Distance to Observer:	10.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	1,555.6	feet
Road Elevation:	1,553.0	feet
Barrier Elevation:	1,555.6	feet
Road Grade:	0.5%	

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	80.0%	7.0%	13.0%	97.00%
Medium Trucks:	80.0%	7.0%	13.0%	2.00%
Heavy Trucks:	80.0%	7.0%	13.0%	1.00%

Noise Source Elevations (in feet)

Autos:	1,553.000		
Medium Trucks:	1,555.297		
Heavy Trucks:	1,561.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	101.929
Medium Trucks:	101.783
Heavy Trucks:	101.646

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	75.54	1.00	-4.74	-1.20	*-0.93*	0.000	0.000
Medium Trucks:	81.71	-15.86	-4.73	-1.20	*-1.03*	0.000	0.000
Heavy Trucks:	85.21	-18.87	-4.73	-1.20	*-1.30*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.6	68.8	64.3	62.2	70.2	70.5
Medium Trucks:	59.9	58.2	53.6	51.5	59.5	59.8
Heavy Trucks:	60.4	58.7	54.1	52.0	60.0	60.3
Vehicle Noise:	71.3	69.6	65.0	62.9	70.9	71.2

Mitigated Noise Levels (with Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.6	68.8	64.3	62.2	70.2	70.5
Medium Trucks:	59.9	58.2	53.6	51.5	59.5	59.8
Heavy Trucks:	60.4	58.7	54.1	52.0	60.0	60.3
Vehicle Noise:	71.3	69.6	65.0	62.9	70.9	71.2

Centerline Distance to Noise Contour (in feet)	*70 dBA*	*65 dBA*	*60 dBA*	*55 dBA*
CNEL:	129	279	601	1,294

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (CALVENO) - 6/2/2013

Scenario: Backyard No Wall
Road Name: Ramona Expy.
Lot No: 71

Project Name: Kasbergen/Halfigler TT34271
Job Number: 14573
Analyst: B. Maddux

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	28,630 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	2,863 vehicles
Vehicle Speed:	65 mph
Near/Far Lane Distance:	73 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	154.0 feet
Centerline Dist. to Observer:	164.0 feet
Barrier Distance to Observer:	10.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	1,555.6 feet
Road Elevation:	1,553.0 feet
Barrier Elevation:	1,555.6 feet
Road Grade:	0.5%

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	80.0%	7.0%	13.0%	97.00%
Medium Trucks:	80.0%	7.0%	13.0%	2.00%
Heavy Trucks:	80.0%	7.0%	13.0%	1.00%

Noise Source Elevations (in feet)

Autos:	1,553.000		
Medium Trucks:	1,555.297		
Heavy Trucks:	1,561.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	160.067
Medium Trucks:	159.975
Heavy Trucks:	159.887

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	75.54	1.00	-7.68	-1.20	*-1.00*	0.000	0.000
Medium Trucks:	81.71	-15.86	-7.68	-1.20	*-1.07*	0.000	0.000
Heavy Trucks:	85.21	-18.87	-7.68	-1.20	*-1.25*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.7	65.9	61.3	59.3	67.2	67.5
Medium Trucks:	57.0	55.2	50.7	48.6	56.5	56.8
Heavy Trucks:	57.5	55.7	51.1	49.1	57.0	57.3
Vehicle Noise:	68.4	66.6	62.1	60.0	67.9	68.2

Mitigated Noise Levels (with Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.7	65.9	61.3	59.3	67.2	67.5
Medium Trucks:	57.0	55.2	50.7	48.6	56.5	56.8
Heavy Trucks:	57.5	55.7	51.1	49.1	57.0	57.3
Vehicle Noise:	68.4	66.6	62.1	60.0	67.9	68.2

Centerline Distance to Noise Contour (in feet)	*70 dBA*	*65 dBA*	*60 dBA*	*55 dBA*
CNEL:	125	270	581	1,251

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (CALVENO) - 6/2/2013

Scenario: Backyard No Wall
Road Name: Ramona Expy.
Lot No: 73

Project Name: Kasbergen/Halfigler TT34271
Job Number: 14573
Analyst: B. Maddux

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	28,630 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	2,863 vehicles
Vehicle Speed:	65 mph
Near/Far Lane Distance:	73 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	178.0 feet
Centerline Dist. to Observer:	188.0 feet
Barrier Distance to Observer:	10.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	1,556.1 feet
Road Elevation:	1,553.0 feet
Barrier Elevation:	1,556.1 feet
Road Grade:	0.5%

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	80.0%	7.0%	13.0%	97.00%
Medium Trucks:	80.0%	7.0%	13.0%	2.00%
Heavy Trucks:	80.0%	7.0%	13.0%	1.00%

Noise Source Elevations (in feet)

Autos:	1,553.000		
Medium Trucks:	1,555.297		
Heavy Trucks:	1,561.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	184.601
Medium Trucks:	184.514
Heavy Trucks:	184.423

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	75.54	1.00	-8.61	-1.20	*-1.01*	0.000	0.000
Medium Trucks:	81.71	-15.86	-8.61	-1.20	*-1.07*	0.000	0.000
Heavy Trucks:	85.21	-18.87	-8.61	-1.20	*-1.22*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.7	65.0	60.4	58.3	66.3	66.6
Medium Trucks:	56.0	54.3	49.7	47.6	55.6	55.9
Heavy Trucks:	56.5	54.8	50.2	48.1	56.1	56.4
Vehicle Noise:	67.5	65.7	61.1	59.0	67.0	67.3

Mitigated Noise Levels (with Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.7	65.0	60.4	58.3	66.3	66.6
Medium Trucks:	56.0	54.3	49.7	47.6	55.6	55.9
Heavy Trucks:	56.5	54.8	50.2	48.1	56.1	56.4
Vehicle Noise:	67.5	65.7	61.1	59.0	67.0	67.3

Centerline Distance to Noise Contour (in feet)	*70 dBA*	*65 dBA*	*60 dBA*	*55 dBA*
CNEL:	124	268	577	1,244

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (CALVENO) - 6/2/2013

Scenario: Backyard No Wall
Road Name: Vernon Ave.
Lot No: 76

Project Name: Kasbergen/Halfigler TT34271
Job Number: 14573
Analyst: B. Maddux

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,100 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	910 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	51.0 feet
Centerline Dist. to Observer:	61.0 feet
Barrier Distance to Observer:	10.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	1,557.1 feet
Road Elevation:	1,552.0 feet
Barrier Elevation:	1,557.1 feet
Road Grade:	0.5%

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	80.0%	7.0%	13.0%	97.00%
Medium Trucks:	80.0%	7.0%	13.0%	2.00%
Heavy Trucks:	80.0%	7.0%	13.0%	1.00%

Noise Source Elevations (in feet)

Autos:	1,552.000		
Medium Trucks:	1,554.297		
Heavy Trucks:	1,560.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	61.539
Medium Trucks:	61.204
Heavy Trucks:	60.740

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	69.34	-2.38	-1.46	-1.20	*-0.59*	0.000	0.000
Medium Trucks:	77.62	-19.24	-1.42	-1.20	*-0.74*	0.000	0.000
Heavy Trucks:	82.14	-22.25	-1.37	-1.20	*-1.20*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.3	62.5	58.0	55.9	63.9	64.2
Medium Trucks:	55.8	54.0	49.4	47.4	55.3	55.6
Heavy Trucks:	57.3	55.6	51.0	48.9	56.9	57.2
Vehicle Noise:	65.6	63.8	59.3	57.2	65.1	65.4

Mitigated Noise Levels (with Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.3	62.5	58.0	55.9	63.9	64.2
Medium Trucks:	55.8	54.0	49.4	47.4	55.3	55.6
Heavy Trucks:	57.3	55.6	51.0	48.9	56.9	57.2
Vehicle Noise:	65.6	63.8	59.3	57.2	65.1	65.4

Centerline Distance to Noise Contour (in feet)	*70 dBA*	*65 dBA*	*60 dBA*	*55 dBA*
CNEL:	30	65	141	303

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (CALVENO) - 6/2/2013

Scenario: Backyard No Wall
Road Name: Vernon Ave.
Lot No: 77

Project Name: Kasbergen/Halfigler TT34271
Job Number: 14573
Analyst: B. Maddux

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,100 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	910 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	33.0 feet
Centerline Dist. to Observer:	43.0 feet
Barrier Distance to Observer:	10.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	1,556.5 feet
Road Elevation:	1,556.0 feet
Barrier Elevation:	1,556.5 feet
Road Grade:	0.5%

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	80.0%	7.0%	13.0%	97.00%
Medium Trucks:	80.0%	7.0%	13.0%	2.00%
Heavy Trucks:	80.0%	7.0%	13.0%	1.00%

Noise Source Elevations (in feet)

Autos:	1,556.000		
Medium Trucks:	1,558.297		
Heavy Trucks:	1,564.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	42.933
Medium Trucks:	42.700
Heavy Trucks:	42.653

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	69.34	-2.38	0.89	-1.20	*-0.82*	0.000	0.000
Medium Trucks:	77.62	-19.24	0.92	-1.20	*-1.09*	0.000	0.000
Heavy Trucks:	82.14	-22.25	0.93	-1.20	*-1.91*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.7	64.9	60.3	58.3	66.2	66.5
Medium Trucks:	58.1	56.3	51.8	49.7	57.7	58.0
Heavy Trucks:	59.6	57.9	53.3	51.2	59.2	59.5
Vehicle Noise:	67.9	66.2	61.6	59.5	67.5	67.8

Mitigated Noise Levels (with Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.7	64.9	60.3	58.3	66.2	66.5
Medium Trucks:	58.1	56.3	51.8	49.7	57.7	58.0
Heavy Trucks:	59.6	57.9	53.3	51.2	59.2	59.5
Vehicle Noise:	67.9	66.2	61.6	59.5	67.5	67.8

Centerline Distance to Noise Contour (in feet)	*70 dBA*	*65 dBA*	*60 dBA*	*55 dBA*
CNEL:	31	66	142	306

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (CALVENO) - 6/2/2013

Scenario: Backyard No Wall
Road Name: Vernon Ave.
Lot No: 81

Project Name: Kasbergen/Halfigler TT34271
Job Number: 14573
Analyst: B. Maddux

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,100 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	910 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	33.0 feet
Centerline Dist. to Observer:	43.0 feet
Barrier Distance to Observer:	10.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	1,556.9 feet
Road Elevation:	1,556.0 feet
Barrier Elevation:	1,556.9 feet
Road Grade:	0.5%

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	80.0%	7.0%	13.0%	97.00%
Medium Trucks:	80.0%	7.0%	13.0%	2.00%
Heavy Trucks:	80.0%	7.0%	13.0%	1.00%

Noise Source Elevations (in feet)

Autos:	1,556.000		
Medium Trucks:	1,558.297		
Heavy Trucks:	1,564.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	42.986
Medium Trucks:	42.732
Heavy Trucks:	42.631

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	69.34	-2.38	0.88	-1.20	*-0.77*	0.000	0.000
Medium Trucks:	77.62	-19.24	0.92	-1.20	*-1.04*	0.000	0.000
Heavy Trucks:	82.14	-22.25	0.94	-1.20	*-1.84*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.6	64.9	60.3	58.2	66.2	66.5
Medium Trucks:	58.1	56.3	51.8	49.7	57.7	58.0
Heavy Trucks:	59.6	57.9	53.3	51.2	59.2	59.5
Vehicle Noise:	67.9	66.2	61.6	59.5	67.5	67.8

Mitigated Noise Levels (with Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.6	64.9	60.3	58.2	66.2	66.5
Medium Trucks:	58.1	56.3	51.8	49.7	57.7	58.0
Heavy Trucks:	59.6	57.9	53.3	51.2	59.2	59.5
Vehicle Noise:	67.9	66.2	61.6	59.5	67.5	67.8

Centerline Distance to Noise Contour (in feet)	*70 dBA*	*65 dBA*	*60 dBA*	*55 dBA*
CNEL:	31	66	142	305

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (CALVENO) - 6/2/2013

Scenario: Backyard No Wall
Road Name: Vernon Ave.
Lot No: 89

Project Name: Kasbergen/Halfigler TT34271
Job Number: 14573
Analyst: B. Maddux

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,100 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	910 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	33.0 feet
Centerline Dist. to Observer:	43.0 feet
Barrier Distance to Observer:	10.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	1,559.3 feet
Road Elevation:	1,558.0 feet
Barrier Elevation:	1,559.3 feet
Road Grade:	0.5%

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	80.0%	7.0%	13.0%	97.00%
Medium Trucks:	80.0%	7.0%	13.0%	2.00%
Heavy Trucks:	80.0%	7.0%	13.0%	1.00%

Noise Source Elevations (in feet)

Autos:	1,558.000		
Medium Trucks:	1,560.297		
Heavy Trucks:	1,566.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	43.043
Medium Trucks:	42.767
Heavy Trucks:	42.613

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	69.34	-2.38	0.87	-1.20	*-0.73*	0.000	0.000
Medium Trucks:	77.62	-19.24	0.91	-1.20	*-0.99*	0.000	0.000
Heavy Trucks:	82.14	-22.25	0.94	-1.20	*-1.78*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.6	64.9	60.3	58.2	66.2	66.5
Medium Trucks:	58.1	56.3	51.8	49.7	57.7	58.0
Heavy Trucks:	59.6	57.9	53.3	51.2	59.2	59.5
Vehicle Noise:	67.9	66.1	61.6	59.5	67.5	67.8

Mitigated Noise Levels (with Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.6	64.9	60.3	58.2	66.2	66.5
Medium Trucks:	58.1	56.3	51.8	49.7	57.7	58.0
Heavy Trucks:	59.6	57.9	53.3	51.2	59.2	59.5
Vehicle Noise:	67.9	66.1	61.6	59.5	67.5	67.8

Centerline Distance to Noise Contour (in feet)	*70 dBA*	*65 dBA*	*60 dBA*	*55 dBA*
CNEL:	30	66	142	305

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (CALVENO) - 6/2/2013

Scenario: Backyard With Wall
Road Name: Alessandro Ave.
Lot No: 46

Project Name: Kasbergen/Halfigler TT34271
Job Number: 14573
Analyst: B. Maddux

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,100 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	910 vehicles
Vehicle Speed:	25 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**6.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.0 feet
Centerline Dist. to Observer:	47.0 feet
Barrier Distance to Observer:	10.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	1,553.8 feet
Road Elevation:	1,551.0 feet
Barrier Elevation:	1,553.8 feet
Road Grade:	0.5%

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	80.0%	7.0%	13.0%	97.00%
Medium Trucks:	80.0%	7.0%	13.0%	2.00%
Heavy Trucks:	80.0%	7.0%	13.0%	1.00%

Noise Source Elevations (in feet)

Autos:	1,551.00		
Medium Trucks:	1,553.30		
Heavy Trucks:	1,559.01	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	47.606
Medium Trucks:	47.135
Heavy Trucks:	46.569

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	59.44	0.17	0.22	-1.20	*0.43*	-8.150	-11.150
Medium Trucks:	71.09	-16.68	0.28	-1.20	*0.29*	-7.430	-10.430
Heavy Trucks:	77.24	-19.69	0.36	-1.20	*0.06*	-5.600	-8.600

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	58.6	56.9	52.3	50.2	58.2	58.5
Medium Trucks:	53.5	51.7	47.2	45.1	53.0	53.3
Heavy Trucks:	56.7	54.9	50.4	48.3	56.3	56.6
Vehicle Noise:	61.5	59.8	55.2	53.1	61.1	61.4

Mitigated Noise Levels (with Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	50.5	48.7	44.2	42.1	50.0	50.3
Medium Trucks:	46.1	44.3	39.7	37.7	45.6	45.9
Heavy Trucks:	51.1	49.3	44.8	42.7	50.7	51.0
Vehicle Noise:	54.5	52.7	48.2	46.1	54.0	54.3

Centerline Distance to Noise Contour (in feet)	*70 dBA*	*65 dBA*	*60 dBA*	*55 dBA*
CNEL:	13	27	58	125

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (CALVENO) - 6/2/2013

Scenario: Backyard With Wall
Road Name: Alessandro Ave.
Lot No: 50

Project Name: Kasbergen/Halfigler TT34271
Job Number: 14573
Analyst: B. Maddux

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,100 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	910 vehicles
Vehicle Speed:	25 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**6.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.0 feet
Centerline Dist. to Observer:	47.0 feet
Barrier Distance to Observer:	10.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	1,551.7 feet
Road Elevation:	1,551.0 feet
Barrier Elevation:	1,551.7 feet
Road Grade:	0.5%

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	80.0%	7.0%	13.0%	97.00%
Medium Trucks:	80.0%	7.0%	13.0%	2.00%
Heavy Trucks:	80.0%	7.0%	13.0%	1.00%

Noise Source Elevations (in feet)

Autos:	1,551.00		
Medium Trucks:	1,553.30		
Heavy Trucks:	1,559.01	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	47.170
Medium Trucks:	46.825
Heavy Trucks:	46.584

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	59.44	0.17	0.28	-1.20	*0.30*	-7.500	-10.500
Medium Trucks:	71.09	-16.68	0.32	-1.20	*0.18*	-6.640	-9.640
Heavy Trucks:	77.24	-19.69	0.36	-1.20	*0.02*	-5.200	-8.200

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	58.7	56.9	52.4	50.3	58.3	58.5
Medium Trucks:	53.5	51.8	47.2	45.1	53.1	53.4
Heavy Trucks:	56.7	54.9	50.4	48.3	56.3	56.6
Vehicle Noise:	61.6	59.8	55.2	53.2	61.1	61.4

Mitigated Noise Levels (with Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	51.2	49.4	44.9	42.8	50.8	51.0
Medium Trucks:	46.9	45.1	40.6	38.5	46.4	46.7
Heavy Trucks:	51.5	49.7	45.2	43.1	51.1	51.4
Vehicle Noise:	55.1	53.3	48.8	46.7	54.6	54.9

Centerline Distance to Noise Contour (in feet)	*70 dBA*	*65 dBA*	*60 dBA*	*55 dBA*
CNEL:	13	27	58	126

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (CALVENO) - 6/2/2013

Scenario: Backyard With Wall
Road Name: Alessandro Ave.
Lot No: 54

Project Name: Kasbergen/Halfigler TT34271
Job Number: 14573
Analyst: B. Maddux

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,100 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	910 vehicles
Vehicle Speed:	25 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**6.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.0 feet
Centerline Dist. to Observer:	47.0 feet
Barrier Distance to Observer:	10.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	1,551.7 feet
Road Elevation:	1,551.0 feet
Barrier Elevation:	1,551.7 feet
Road Grade:	0.5%

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	80.0%	7.0%	13.0%	97.00%
Medium Trucks:	80.0%	7.0%	13.0%	2.00%
Heavy Trucks:	80.0%	7.0%	13.0%	1.00%

Noise Source Elevations (in feet)

Autos:	1,551.00		
Medium Trucks:	1,553.30		
Heavy Trucks:	1,559.01	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	47.170
Medium Trucks:	46.825
Heavy Trucks:	46.584

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	59.44	0.17	0.28	-1.20	*0.30*	-7.500	-10.500
Medium Trucks:	71.09	-16.68	0.32	-1.20	*0.18*	-6.640	-9.640
Heavy Trucks:	77.24	-19.69	0.36	-1.20	*0.02*	-5.200	-8.200

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	58.7	56.9	52.4	50.3	58.3	58.5
Medium Trucks:	53.5	51.8	47.2	45.1	53.1	53.4
Heavy Trucks:	56.7	54.9	50.4	48.3	56.3	56.6
Vehicle Noise:	61.6	59.8	55.2	53.2	61.1	61.4

Mitigated Noise Levels (with Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	51.2	49.4	44.9	42.8	50.8	51.0
Medium Trucks:	46.9	45.1	40.6	38.5	46.4	46.7
Heavy Trucks:	51.5	49.7	45.2	43.1	51.1	51.4
Vehicle Noise:	55.1	53.3	48.8	46.7	54.6	54.9

Centerline Distance to Noise Contour (in feet)	*70 dBA*	*65 dBA*	*60 dBA*	*55 dBA*
CNEL:	13	27	58	126

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (CALVENO) - 6/2/2013

Scenario: Backyard With Wall
Road Name: Alessandro Ave.
Lot No: 55

Project Name: Kasbergen/Halfigler TT34271
Job Number: 14573
Analyst: B. Maddux

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,100 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	910 vehicles
Vehicle Speed:	25 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**6.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	47.0 feet
Centerline Dist. to Observer:	57.0 feet
Barrier Distance to Observer:	10.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	1,551.5 feet
Road Elevation:	1,547.5 feet
Barrier Elevation:	1,551.5 feet
Road Grade:	0.5%

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	80.0%	7.0%	13.0%	97.00%
Medium Trucks:	80.0%	7.0%	13.0%	2.00%
Heavy Trucks:	80.0%	7.0%	13.0%	1.00%

Noise Source Elevations (in feet)

Autos:	1,547.50		
Medium Trucks:	1,549.80		
Heavy Trucks:	1,555.51	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.726
Medium Trucks:	57.297
Heavy Trucks:	56.708

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	59.44	0.17	-1.04	-1.20	*0.39*	-7.950	-10.950
Medium Trucks:	71.09	-16.68	-0.99	-1.20	*0.28*	-7.360	-10.360
Heavy Trucks:	77.24	-19.69	-0.92	-1.20	*0.08*	-5.800	-8.800

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	57.4	55.6	51.1	49.0	56.9	57.2
Medium Trucks:	52.2	50.5	45.9	43.8	51.8	52.1
Heavy Trucks:	55.4	53.7	49.1	47.0	55.0	55.3
Vehicle Noise:	60.3	58.5	53.9	51.9	59.8	60.1

Mitigated Noise Levels (with Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	49.4	47.7	43.1	41.0	49.0	49.3
Medium Trucks:	44.9	43.1	38.5	36.4	44.4	44.7
Heavy Trucks:	49.6	47.9	43.3	41.2	49.2	49.5
Vehicle Noise:	53.2	51.5	46.9	44.8	52.8	53.1

Centerline Distance to Noise Contour (in feet)	*70 dBA*	*65 dBA*	*60 dBA*	*55 dBA*
CNEL:	12	27	58	125

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (CALVENO) - 6/2/2013

Scenario: Backyard With Wall
Road Name: Alessandro Ave.
Lot No: 58

Project Name: Kasbergen/Halfigler TT34271
Job Number: 14573
Analyst: B. Maddux

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,100 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	910 vehicles
Vehicle Speed:	25 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**6.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	66.0 feet
Centerline Dist. to Observer:	76.0 feet
Barrier Distance to Observer:	10.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	1,551.5 feet
Road Elevation:	1,548.0 feet
Barrier Elevation:	1,551.5 feet
Road Grade:	0.5%

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	80.0%	7.0%	13.0%	97.00%
Medium Trucks:	80.0%	7.0%	13.0%	2.00%
Heavy Trucks:	80.0%	7.0%	13.0%	1.00%

Noise Source Elevations (in feet)

Autos:	1,548.00		
Medium Trucks:	1,550.30		
Heavy Trucks:	1,556.01	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	76.460
Medium Trucks:	76.170
Heavy Trucks:	75.794

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	59.44	0.17	-2.87	-1.20	*0.25*	-7.150	-10.150
Medium Trucks:	71.09	-16.68	-2.85	-1.20	*0.18*	-6.640	-9.640
Heavy Trucks:	77.24	-19.69	-2.81	-1.20	*0.06*	-5.600	-8.600

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	55.5	53.8	49.2	47.1	55.1	55.4
Medium Trucks:	50.4	48.6	44.0	42.0	49.9	50.2
Heavy Trucks:	53.5	51.8	47.2	45.1	53.1	53.4
Vehicle Noise:	58.4	56.6	52.1	50.0	58.0	58.3

Mitigated Noise Levels (with Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	48.4	46.6	42.1	40.0	48.0	48.2
Medium Trucks:	43.7	42.0	37.4	35.3	43.3	43.6
Heavy Trucks:	47.9	46.2	41.6	39.5	47.5	47.8
Vehicle Noise:	51.9	50.1	45.6	43.5	51.5	51.8

Centerline Distance to Noise Contour (in feet)	*70 dBA*	*65 dBA*	*60 dBA*	*55 dBA*
CNEL:	13	27	58	125

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (CALVENO) - 6/2/2013

Scenario: Backyard With Wall
Road Name: Ramona Expy.
Lot No: 59

Project Name: Kasbergen/Halfigler TT34271
Job Number: 14573
Analyst: B. Maddux

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	28,630 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	2,863 vehicles
Vehicle Speed:	65 mph
Near/Far Lane Distance:	73 feet

Site Data

Barrier Height:	**6.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	112.0 feet
Centerline Dist. to Observer:	122.0 feet
Barrier Distance to Observer:	10.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	1,552.5 feet
Road Elevation:	1,549.4 feet
Barrier Elevation:	1,552.5 feet
Road Grade:	0.5%

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	80.0%	7.0%	13.0%	97.00%
Medium Trucks:	80.0%	7.0%	13.0%	2.00%
Heavy Trucks:	80.0%	7.0%	13.0%	1.00%

Noise Source Elevations (in feet)

Autos:	1,549.40		
Medium Trucks:	1,551.70		
Heavy Trucks:	1,557.41	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	116.326
Medium Trucks:	116.154
Heavy Trucks:	115.941

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	75.54	1.00	-5.60	-1.20	*0.15*	-6.400	-9.400
Medium Trucks:	81.71	-15.86	-5.59	-1.20	*0.12*	-6.160	-9.160
Heavy Trucks:	85.21	-18.87	-5.58	-1.20	*0.05*	-5.500	-8.500

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.7	68.0	63.4	61.3	69.3	69.6
Medium Trucks:	59.1	57.3	52.7	50.7	58.6	58.9
Heavy Trucks:	59.6	57.8	53.2	51.2	59.1	59.4
Vehicle Noise:	70.5	68.7	64.1	62.1	70.0	70.3

Mitigated Noise Levels (with Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.3	61.6	57.0	54.9	62.9	63.2
Medium Trucks:	52.9	51.1	46.6	44.5	52.5	52.8
Heavy Trucks:	54.1	52.3	47.7	45.7	53.6	53.9
Vehicle Noise:	64.2	62.4	57.8	55.8	63.7	64.0

Centerline Distance to Noise Contour (in feet)	*70 dBA*	*65 dBA*	*60 dBA*	*55 dBA*
CNEL:	128	276	595	1,281

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (CALVENO) - 6/2/2013

Scenario: Backyard With Wall
Road Name: Ramona Expy.
Lot No: 63

Project Name: Kasbergen/Halfigler TT34271
Job Number: 14573
Analyst: B. Maddux

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	28,630 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	2,863 vehicles
Vehicle Speed:	65 mph
Near/Far Lane Distance:	73 feet

Site Data

Barrier Height:	**6.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	110.0 feet
Barrier Distance to Observer:	10.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	1,553.4 feet
Road Elevation:	1,551.0 feet
Barrier Elevation:	1,553.4 feet
Road Grade:	0.5%

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	80.0%	7.0%	13.0%	97.00%
Medium Trucks:	80.0%	7.0%	13.0%	2.00%
Heavy Trucks:	80.0%	7.0%	13.0%	1.00%

Noise Source Elevations (in feet)

Autos:	1,551.00		
Medium Trucks:	1,553.30		
Heavy Trucks:	1,559.01	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	103.529
Medium Trucks:	103.350
Heavy Trucks:	103.151

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	75.54	1.00	-4.84	-1.20	*0.15*	-6.400	-9.400
Medium Trucks:	81.71	-15.86	-4.83	-1.20	*0.12*	-6.160	-9.160
Heavy Trucks:	85.21	-18.87	-4.82	-1.20	*0.05*	-5.500	-8.500

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.5	68.7	64.2	62.1	70.1	70.4
Medium Trucks:	59.8	58.1	53.5	51.4	59.4	59.7
Heavy Trucks:	60.3	58.6	54.0	51.9	59.9	60.2
Vehicle Noise:	71.2	69.5	64.9	62.8	70.8	71.1

Mitigated Noise Levels (with Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.1	62.3	57.8	55.7	63.7	64.0
Medium Trucks:	53.7	51.9	47.3	45.3	53.2	53.5
Heavy Trucks:	54.8	53.1	48.5	46.4	54.4	54.7
Vehicle Noise:	64.9	63.2	58.6	56.5	64.5	64.8

Centerline Distance to Noise Contour (in feet)	*70 dBA*	*65 dBA*	*60 dBA*	*55 dBA*
CNEL:	130	280	602	1,298

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (CALVENO) - 6/2/2013

Scenario: Backyard With Wall
Road Name: Ramona Expy.
Lot No: 65

Project Name: Kasbergen/Halfigler TT34271
Job Number: 14573
Analyst: B. Maddux

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	28,630 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	2,863 vehicles
Vehicle Speed:	65 mph
Near/Far Lane Distance:	73 feet

Site Data

Barrier Height:	**6.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	94.0 feet
Centerline Dist. to Observer:	104.0 feet
Barrier Distance to Observer:	10.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	1,554.1 feet
Road Elevation:	1,550.0 feet
Barrier Elevation:	1,554.1 feet
Road Grade:	0.5%

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	80.0%	7.0%	13.0%	97.00%
Medium Trucks:	80.0%	7.0%	13.0%	2.00%
Heavy Trucks:	80.0%	7.0%	13.0%	1.00%

Noise Source Elevations (in feet)

Autos:	1,550.00		
Medium Trucks:	1,552.30		
Heavy Trucks:	1,558.01	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	97.261
Medium Trucks:	97.025
Heavy Trucks:	96.699

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	75.54	1.00	-4.44	-1.20	*0.19*	-6.720	-9.720
Medium Trucks:	81.71	-15.86	-4.42	-1.20	*0.15*	-6.400	-9.400
Heavy Trucks:	85.21	-18.87	-4.40	-1.20	*0.07*	-5.700	-8.700

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.9	69.1	64.6	62.5	70.5	70.8
Medium Trucks:	60.2	58.5	53.9	51.8	59.8	60.1
Heavy Trucks:	60.7	59.0	54.4	52.3	60.3	60.6
Vehicle Noise:	71.6	69.9	65.3	63.2	71.2	71.5

Mitigated Noise Levels (with Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.2	62.4	57.9	55.8	63.7	64.0
Medium Trucks:	53.8	52.1	47.5	45.4	53.4	53.7
Heavy Trucks:	55.0	53.3	48.7	46.6	54.6	54.9
Vehicle Noise:	65.0	63.3	58.7	56.6	64.6	64.9

Centerline Distance to Noise Contour (in feet)	*70 dBA*	*65 dBA*	*60 dBA*	*55 dBA*
CNEL:	131	281	606	1,306

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (CALVENO) - 6/2/2013

Scenario: Backyard With Wall
Road Name: Ramona Expy.
Lot No: 69

Project Name: Kasbergen/Halfigler TT34271
Job Number: 14573
Analyst: B. Maddux

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	28,630	vehicles
Peak Hour Percentage:	10%	
Peak Hour Volume:	2,863	vehicles
Vehicle Speed:	65	mph
Near/Far Lane Distance:	73	feet

Site Data

Barrier Height:	**6.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	98.0	feet
Centerline Dist. to Observer:	108.0	feet
Barrier Distance to Observer:	10.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	1,555.6	feet
Road Elevation:	1,553.0	feet
Barrier Elevation:	1,555.6	feet
Road Grade:	0.5%	

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	80.0%	7.0%	13.0%	97.00%
Medium Trucks:	80.0%	7.0%	13.0%	2.00%
Heavy Trucks:	80.0%	7.0%	13.0%	1.00%

Noise Source Elevations (in feet)

Autos:	1,553.00		
Medium Trucks:	1,555.30		
Heavy Trucks:	1,561.01	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	101.405
Medium Trucks:	101.217
Heavy Trucks:	101.001

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	75.54	1.00	-4.71	-1.20	*0.16*	-6.480	-9.480
Medium Trucks:	81.71	-15.86	-4.70	-1.20	*0.12*	-6.160	-9.160
Heavy Trucks:	85.21	-18.87	-4.68	-1.20	*0.05*	-5.500	-8.500

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.6	68.9	64.3	62.2	70.2	70.5
Medium Trucks:	60.0	58.2	53.6	51.6	59.5	59.8
Heavy Trucks:	60.5	58.7	54.1	52.1	60.0	60.3
Vehicle Noise:	71.4	69.6	65.0	63.0	70.9	71.2

Mitigated Noise Levels (with Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.2	62.4	57.8	55.7	63.7	64.0
Medium Trucks:	53.8	52.0	47.5	45.4	53.4	53.7
Heavy Trucks:	55.0	53.2	48.6	46.6	54.5	54.8
Vehicle Noise:	65.0	63.2	58.7	56.6	64.6	64.8

Centerline Distance to Noise Contour (in feet)	*70 dBA*	*65 dBA*	*60 dBA*	*55 dBA*
CNEL:	130	280	604	1,301

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (CALVENO) - 6/2/2013

Scenario: Backyard With Wall
Road Name: Ramona Expy.
Lot No: 71

Project Name: Kasbergen/Halfigler TT34271
Job Number: 14573
Analyst: B. Maddux

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	28,630	vehicles
Peak Hour Percentage:	10%	
Peak Hour Volume:	2,863	vehicles
Vehicle Speed:	65	mph
Near/Far Lane Distance:	73	feet

Site Data

Barrier Height:	**6.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	154.0	feet
Centerline Dist. to Observer:	164.0	feet
Barrier Distance to Observer:	10.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	1,555.6	feet
Road Elevation:	1,553.0	feet
Barrier Elevation:	1,555.6	feet
Road Grade:	0.5%	

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	80.0%	7.0%	13.0%	97.00%
Medium Trucks:	80.0%	7.0%	13.0%	2.00%
Heavy Trucks:	80.0%	7.0%	13.0%	1.00%

Noise Source Elevations (in feet)

Autos:	1,553.00		
Medium Trucks:	1,555.30		
Heavy Trucks:	1,561.01	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	159.909
Medium Trucks:	159.795
Heavy Trucks:	159.663

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	75.54	1.00	-7.68	-1.20	*0.11*	-6.080	-9.080
Medium Trucks:	81.71	-15.86	-7.67	-1.20	*0.09*	-5.900	-8.900
Heavy Trucks:	85.21	-18.87	-7.67	-1.20	*0.05*	-5.500	-8.500

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.7	65.9	61.3	59.3	67.2	67.5
Medium Trucks:	57.0	55.2	50.7	48.6	56.5	56.8
Heavy Trucks:	57.5	55.7	51.2	49.1	57.0	57.3
Vehicle Noise:	68.4	66.6	62.1	60.0	68.0	68.2

Mitigated Noise Levels (with Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	61.6	59.8	55.3	53.2	61.1	61.4
Medium Trucks:	51.1	49.3	44.8	42.7	50.6	50.9
Heavy Trucks:	52.0	50.2	45.7	43.6	51.5	51.8
Vehicle Noise:	62.4	60.6	56.1	54.0	61.9	62.2

Centerline Distance to Noise Contour (in feet)	*70 dBA*	*65 dBA*	*60 dBA*	*55 dBA*
CNEL:	125	270	581	1,252

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (CALVENO) - 6/2/2013

Scenario: Backyard With Wall
Road Name: Ramona Expy.
Lot No: 73

Project Name: Kasbergen/Halfigler TT34271
Job Number: 14573
Analyst: B. Maddux

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	28,630 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	2,863 vehicles
Vehicle Speed:	65 mph
Near/Far Lane Distance:	73 feet

Site Data

Barrier Height:	**6.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	178.0 feet
Centerline Dist. to Observer:	188.0 feet
Barrier Distance to Observer:	10.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	1,556.1 feet
Road Elevation:	1,553.0 feet
Barrier Elevation:	1,556.1 feet
Road Grade:	0.5%

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	80.0%	7.0%	13.0%	97.00%
Medium Trucks:	80.0%	7.0%	13.0%	2.00%
Heavy Trucks:	80.0%	7.0%	13.0%	1.00%

Noise Source Elevations (in feet)

Autos:	1,553.00		
Medium Trucks:	1,555.30		
Heavy Trucks:	1,561.01	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	184.505
Medium Trucks:	184.400
Heavy Trucks:	184.271

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	75.54	1.00	-8.61	-1.20	*0.11*	-6.080	-9.080
Medium Trucks:	81.71	-15.86	-8.61	-1.20	*0.09*	-5.900	-8.900
Heavy Trucks:	85.21	-18.87	-8.60	-1.20	*0.05*	-5.500	-8.500

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.7	65.0	60.4	58.3	66.3	66.6
Medium Trucks:	56.0	54.3	49.7	47.6	55.6	55.9
Heavy Trucks:	56.5	54.8	50.2	48.1	56.1	56.4
Vehicle Noise:	67.5	65.7	61.1	59.1	67.0	67.3

Mitigated Noise Levels (with Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	60.7	58.9	54.3	52.3	60.2	60.5
Medium Trucks:	50.1	48.4	43.8	41.7	49.7	50.0
Heavy Trucks:	51.0	49.3	44.7	42.6	50.6	50.9
Vehicle Noise:	61.4	59.7	55.1	53.0	61.0	61.3

Centerline Distance to Noise Contour (in feet)	*70 dBA*	*65 dBA*	*60 dBA*	*55 dBA*
CNEL:	124	268	578	1,244

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (CALVENO) - 6/2/2013

Scenario: Backyard With Wall
Road Name: Vernon Ave.
Lot No: 76

Project Name: Kasbergen/Halfigler TT34271
Job Number: 14573
Analyst: B. Maddux

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,100 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	910 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**6.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	51.0 feet
Centerline Dist. to Observer:	61.0 feet
Barrier Distance to Observer:	10.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	1,557.1 feet
Road Elevation:	1,552.0 feet
Barrier Elevation:	1,557.1 feet
Road Grade:	0.5%

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	80.0%	7.0%	13.0%	97.00%
Medium Trucks:	80.0%	7.0%	13.0%	2.00%
Heavy Trucks:	80.0%	7.0%	13.0%	1.00%

Noise Source Elevations (in feet)

Autos:	1,552.00		
Medium Trucks:	1,554.30		
Heavy Trucks:	1,560.01	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	61.898
Medium Trucks:	61.455
Heavy Trucks:	60.790

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	69.34	-2.38	-1.49	-1.20	*0.40*	-8.000	-11.000
Medium Trucks:	77.62	-19.24	-1.45	-1.20	*0.30*	-7.500	-10.500
Heavy Trucks:	82.14	-22.25	-1.38	-1.20	*0.11*	-6.080	-9.080

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.3	62.5	58.0	55.9	63.8	64.1
Medium Trucks:	55.7	54.0	49.4	47.3	55.3	55.6
Heavy Trucks:	57.3	55.6	51.0	48.9	56.9	57.2
Vehicle Noise:	65.5	63.8	59.2	57.1	65.1	65.4

Mitigated Noise Levels (with Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	56.3	54.5	50.0	47.9	55.8	56.1
Medium Trucks:	48.2	46.5	41.9	39.8	47.8	48.1
Heavy Trucks:	51.2	49.5	44.9	42.8	50.8	51.1
Vehicle Noise:	57.9	56.2	51.6	49.5	57.5	57.8

Centerline Distance to Noise Contour (in feet)	*70 dBA*	*65 dBA*	*60 dBA*	*55 dBA*
CNEL:	30	65	140	301

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (CALVENO) - 6/2/2013

Scenario: Backyard With Wall
Road Name: Vernon Ave.
Lot No: 77

Project Name: Kasbergen/Halfigler TT34271
Job Number: 14573
Analyst: B. Maddux

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,100 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	910 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**6.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	33.0 feet
Centerline Dist. to Observer:	43.0 feet
Barrier Distance to Observer:	10.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	1,556.5 feet
Road Elevation:	1,556.0 feet
Barrier Elevation:	1,556.5 feet
Road Grade:	0.5%

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	80.0%	7.0%	13.0%	97.00%
Medium Trucks:	80.0%	7.0%	13.0%	2.00%
Heavy Trucks:	80.0%	7.0%	13.0%	1.00%

Noise Source Elevations (in feet)

Autos:	1,556.00		
Medium Trucks:	1,558.30		
Heavy Trucks:	1,564.01	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	43.144
Medium Trucks:	42.771
Heavy Trucks:	42.535

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	69.34	-2.38	0.86	-1.20	*0.33*	-7.650	-10.650
Medium Trucks:	77.62	-19.24	0.91	-1.20	*0.19*	-6.720	-9.720
Heavy Trucks:	82.14	-22.25	0.95	-1.20	*0.01*	-5.100	-8.100

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.6	64.9	60.3	58.2	66.2	66.5
Medium Trucks:	58.1	56.3	51.8	49.7	57.7	58.0
Heavy Trucks:	59.6	57.9	53.3	51.2	59.2	59.5
Vehicle Noise:	67.9	66.1	61.6	59.5	67.5	67.8

Mitigated Noise Levels (with Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	59.0	57.2	52.7	50.6	58.5	58.8
Medium Trucks:	51.4	49.6	45.1	43.0	50.9	51.2
Heavy Trucks:	54.5	52.8	48.2	46.1	54.1	54.4
Vehicle Noise:	60.8	59.1	54.5	52.4	60.4	60.7

Centerline Distance to Noise Contour (in feet)	*70 dBA*	*65 dBA*	*60 dBA*	*55 dBA*
CNEL:	30	66	141	305

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (CALVENO) - 6/2/2013

Scenario: Backyard With Wall
Road Name: Vernon Ave.
Lot No: 81

Project Name: Kasbergen/Halfigler TT34271
Job Number: 14573
Analyst: B. Maddux

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,100 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	910 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**6.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	33.0 feet
Centerline Dist. to Observer:	43.0 feet
Barrier Distance to Observer:	10.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	1,556.9 feet
Road Elevation:	1,556.0 feet
Barrier Elevation:	1,556.9 feet
Road Grade:	0.5%

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	80.0%	7.0%	13.0%	97.00%
Medium Trucks:	80.0%	7.0%	13.0%	2.00%
Heavy Trucks:	80.0%	7.0%	13.0%	1.00%

Noise Source Elevations (in feet)

Autos:	1,556.00		
Medium Trucks:	1,558.30		
Heavy Trucks:	1,564.01	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	43.225
Medium Trucks:	42.825
Heavy Trucks:	42.519

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	69.34	-2.38	0.85	-1.20	*0.35*	-7.750	-10.750
Medium Trucks:	77.62	-19.24	0.91	-1.20	*0.21*	-6.870	-9.870
Heavy Trucks:	82.14	-22.25	0.95	-1.20	*0.02*	-5.200	-8.200

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.6	64.8	60.3	58.2	66.2	66.5
Medium Trucks:	58.1	56.3	51.8	49.7	57.7	57.9
Heavy Trucks:	59.6	57.9	53.3	51.2	59.2	59.5
Vehicle Noise:	67.9	66.1	61.6	59.5	67.4	67.7

Mitigated Noise Levels (with Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	58.9	57.1	52.5	50.5	58.4	58.7
Medium Trucks:	51.2	49.5	44.9	42.8	50.8	51.1
Heavy Trucks:	54.4	52.7	48.1	46.0	54.0	54.3
Vehicle Noise:	60.7	59.0	54.4	52.3	60.3	60.6

Centerline Distance to Noise Contour (in feet)	*70 dBA*	*65 dBA*	*60 dBA*	*55 dBA*
CNEL:	30	66	141	304

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (CALVENO) - 6/2/2013

Scenario: Backyard With Wall
Road Name: Vernon Ave.
Lot No: 89

Project Name: Kasbergen/Halfigler TT34271
Job Number: 14573
Analyst: B. Maddux

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,100 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	910 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**6.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	33.0 feet
Centerline Dist. to Observer:	43.0 feet
Barrier Distance to Observer:	10.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	1,559.3 feet
Road Elevation:	1,558.0 feet
Barrier Elevation:	1,559.3 feet
Road Grade:	0.5%

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	80.0%	7.0%	13.0%	97.00%
Medium Trucks:	80.0%	7.0%	13.0%	2.00%
Heavy Trucks:	80.0%	7.0%	13.0%	1.00%

Noise Source Elevations (in feet)

Autos:	1,558.00		
Medium Trucks:	1,560.30		
Heavy Trucks:	1,566.01	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	43.311
Medium Trucks:	42.883
Heavy Trucks:	42.508

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	69.34	-2.38	0.83	-1.20	*0.38*	-7.900	-10.900
Medium Trucks:	77.62	-19.24	0.90	-1.20	*0.24*	-7.080	-10.080
Heavy Trucks:	82.14	-22.25	0.95	-1.20	*0.02*	-5.200	-8.200

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.6	64.8	60.3	58.2	66.2	66.5
Medium Trucks:	58.1	56.3	51.8	49.7	57.6	57.9
Heavy Trucks:	59.6	57.9	53.3	51.2	59.2	59.5
Vehicle Noise:	67.9	66.1	61.6	59.5	67.4	67.7

Mitigated Noise Levels (with Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	58.7	56.9	52.4	50.3	58.3	58.6
Medium Trucks:	51.0	49.2	44.7	42.6	50.6	50.9
Heavy Trucks:	54.4	52.7	48.1	46.0	54.0	54.3
Vehicle Noise:	60.6	58.8	54.3	52.2	60.2	60.4

Centerline Distance to Noise Contour (in feet)	*70 dBA*	*65 dBA*	*60 dBA*	*55 dBA*
CNEL:	30	65	141	304

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (CALVENO) - 6/2/2013

Scenario: First Floor With Wall
Road Name: Alessandro Ave.
Lot No: 46

Project Name: Kasbergen/Halfigler TT34271
Job Number: 14573
Analyst: B. Maddux

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,100 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	910 vehicles
Vehicle Speed:	25 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**6.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.0 feet
Centerline Dist. to Observer:	57.0 feet
Barrier Distance to Observer:	20.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	1,553.8 feet
Road Elevation:	1,551.0 feet
Barrier Elevation:	1,553.8 feet
Road Grade:	0.5%

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	80.0%	7.0%	13.0%	97.00%
Medium Trucks:	80.0%	7.0%	13.0%	2.00%
Heavy Trucks:	80.0%	7.0%	13.0%	1.00%

Noise Source Elevations (in feet)

Autos:	1,551.000		
Medium Trucks:	1,553.297		
Heavy Trucks:	1,559.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.581
Medium Trucks:	57.110
Heavy Trucks:	56.544

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	59.44	0.17	-1.02	-1.20	*0.51*	-8.550	-11.550
Medium Trucks:	71.09	-16.68	-0.97	-1.20	*0.32*	-7.600	-10.600
Heavy Trucks:	77.24	-19.69	-0.90	-1.20	*0.03*	-5.300	-8.300

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	57.4	55.6	51.1	49.0	57.0	57.2
Medium Trucks:	52.2	50.5	45.9	43.8	51.8	52.1
Heavy Trucks:	55.4	53.7	49.1	47.0	55.0	55.3
Vehicle Noise:	60.3	58.5	54.0	51.9	59.8	60.1

Mitigated Noise Levels (with Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	48.8	47.1	42.5	40.4	48.4	48.7
Medium Trucks:	44.6	42.9	38.3	36.2	44.2	44.5
Heavy Trucks:	50.1	48.4	43.8	41.7	49.7	50.0
Vehicle Noise:	53.2	51.4	46.9	44.8	52.8	53.1

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (CALVENO) - 6/2/2013

Scenario: First Floor With Wall
Road Name: Alessandro Ave.
Lot No: 50

Project Name: Kasbergen/Halfigler TT34271
Job Number: 14573
Analyst: B. Maddux

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,100 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	910 vehicles
Vehicle Speed:	25 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**6.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.0 feet
Centerline Dist. to Observer:	57.0 feet
Barrier Distance to Observer:	20.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	1,551.7 feet
Road Elevation:	1,551.0 feet
Barrier Elevation:	1,551.7 feet
Road Grade:	0.5%

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	80.0%	7.0%	13.0%	97.00%
Medium Trucks:	80.0%	7.0%	13.0%	2.00%
Heavy Trucks:	80.0%	7.0%	13.0%	1.00%

Noise Source Elevations (in feet)

Autos:	1,551.000		
Medium Trucks:	1,553.297		
Heavy Trucks:	1,559.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.145
Medium Trucks:	56.800
Heavy Trucks:	56.559

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	59.44	0.17	-0.97	-1.20	*0.34*	-7.700	-10.700
Medium Trucks:	71.09	-16.68	-0.93	-1.20	*0.18*	-6.640	-9.640
Heavy Trucks:	77.24	-19.69	-0.91	-1.20	*0.00*	-4.900	-7.900

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	57.4	55.7	51.1	49.0	57.0	57.3
Medium Trucks:	52.3	50.5	45.9	43.9	51.8	52.1
Heavy Trucks:	55.4	53.7	49.1	47.0	55.0	55.3
Vehicle Noise:	60.3	58.5	54.0	51.9	59.9	60.2

Mitigated Noise Levels (with Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	49.7	48.0	43.4	41.3	49.3	49.6
Medium Trucks:	45.6	43.9	39.3	37.2	45.2	45.5
Heavy Trucks:	50.5	48.8	44.2	42.1	50.1	50.4
Vehicle Noise:	53.9	52.1	47.6	45.5	53.4	53.7

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (CALVENO) - 6/2/2013

Scenario: First Floor With Wall
Road Name: Alessandro Ave.
Lot No: 54

Project Name: Kasbergen/Halfigler TT34271
Job Number: 14573
Analyst: B. Maddux

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,100 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	910 vehicles
Vehicle Speed:	25 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**6.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.0 feet
Centerline Dist. to Observer:	57.0 feet
Barrier Distance to Observer:	20.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	1,551.7 feet
Road Elevation:	1,551.0 feet
Barrier Elevation:	1,551.7 feet
Road Grade:	0.5%

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	80.0%	7.0%	13.0%	97.00%
Medium Trucks:	80.0%	7.0%	13.0%	2.00%
Heavy Trucks:	80.0%	7.0%	13.0%	1.00%

Noise Source Elevations (in feet)

Autos:	1,551.000		
Medium Trucks:	1,553.297		
Heavy Trucks:	1,559.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.145
Medium Trucks:	56.800
Heavy Trucks:	56.559

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	59.44	0.17	-0.97	-1.20	*0.34*	-7.700	-10.700
Medium Trucks:	71.09	-16.68	-0.93	-1.20	*0.18*	-6.640	-9.640
Heavy Trucks:	77.24	-19.69	-0.91	-1.20	*0.00*	-4.900	-7.900

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	57.4	55.7	51.1	49.0	57.0	57.3
Medium Trucks:	52.3	50.5	45.9	43.9	51.8	52.1
Heavy Trucks:	55.4	53.7	49.1	47.0	55.0	55.3
Vehicle Noise:	60.3	58.5	54.0	51.9	59.9	60.2

Mitigated Noise Levels (with Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	49.7	48.0	43.4	41.3	49.3	49.6
Medium Trucks:	45.6	43.9	39.3	37.2	45.2	45.5
Heavy Trucks:	50.5	48.8	44.2	42.1	50.1	50.4
Vehicle Noise:	53.9	52.1	47.6	45.5	53.4	53.7

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (CALVENO) - 6/2/2013

Scenario: First Floor With Wall
Road Name: Alessandro Ave.
Lot No: 55

Project Name: Kasbergen/Halfigler TT34271
Job Number: 14573
Analyst: B. Maddux

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,100 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	910 vehicles
Vehicle Speed:	25 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**6.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	47.0 feet
Centerline Dist. to Observer:	67.0 feet
Barrier Distance to Observer:	20.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	1,551.5 feet
Road Elevation:	1,547.5 feet
Barrier Elevation:	1,551.5 feet
Road Grade:	0.5%

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	80.0%	7.0%	13.0%	97.00%
Medium Trucks:	80.0%	7.0%	13.0%	2.00%
Heavy Trucks:	80.0%	7.0%	13.0%	1.00%

Noise Source Elevations (in feet)

Autos:	1,547.500		
Medium Trucks:	1,549.797		
Heavy Trucks:	1,555.506	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	67.701
Medium Trucks:	67.273
Heavy Trucks:	66.683

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	59.44	0.17	-2.08	-1.20	*0.47*	-8.350	-11.350
Medium Trucks:	71.09	-16.68	-2.04	-1.20	*0.31*	-7.550	-10.550
Heavy Trucks:	77.24	-19.69	-1.98	-1.20	*0.06*	-5.600	-8.600

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	56.3	54.6	50.0	47.9	55.9	56.2
Medium Trucks:	51.2	49.4	44.8	42.8	50.7	51.0
Heavy Trucks:	54.4	52.6	48.0	46.0	53.9	54.2
Vehicle Noise:	59.2	57.5	52.9	50.8	58.8	59.1

Mitigated Noise Levels (with Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	48.0	46.2	41.7	39.6	47.5	47.8
Medium Trucks:	43.6	41.9	37.3	35.2	43.2	43.5
Heavy Trucks:	48.8	47.0	42.4	40.4	48.3	48.6
Vehicle Noise:	52.1	50.3	45.8	43.7	51.6	51.9

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (CALVENO) - 6/2/2013

Scenario: First Floor With Wall
Road Name: Alessandro Ave.
Lot No: 58

Project Name: Kasbergen/Halfigler TT34271
Job Number: 14573
Analyst: B. Maddux

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,100 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	910 vehicles
Vehicle Speed:	25 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**6.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	66.0 feet
Centerline Dist. to Observer:	86.0 feet
Barrier Distance to Observer:	20.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	1,551.5 feet
Road Elevation:	1,548.0 feet
Barrier Elevation:	1,551.5 feet
Road Grade:	0.5%

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	80.0%	7.0%	13.0%	97.00%
Medium Trucks:	80.0%	7.0%	13.0%	2.00%
Heavy Trucks:	80.0%	7.0%	13.0%	1.00%

Noise Source Elevations (in feet)

Autos:	1,548.000		
Medium Trucks:	1,550.297		
Heavy Trucks:	1,556.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	86.435
Medium Trucks:	86.145
Heavy Trucks:	85.769

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	59.44	0.17	-3.67	-1.20	*0.28*	-7.360	-10.360
Medium Trucks:	71.09	-16.68	-3.65	-1.20	*0.19*	-6.720	-9.720
Heavy Trucks:	77.24	-19.69	-3.62	-1.20	*0.04*	-5.400	-8.400

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	54.7	53.0	48.4	46.3	54.3	54.6
Medium Trucks:	49.6	47.8	43.2	41.2	49.1	49.4
Heavy Trucks:	52.7	51.0	46.4	44.3	52.3	52.6
Vehicle Noise:	57.6	55.8	51.3	49.2	57.2	57.5

Mitigated Noise Levels (with Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	47.4	45.6	41.1	39.0	46.9	47.2
Medium Trucks:	42.8	41.1	36.5	34.4	42.4	42.7
Heavy Trucks:	47.3	45.6	41.0	38.9	46.9	47.2
Vehicle Noise:	51.1	49.3	44.8	42.7	50.6	50.9

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (CALVENO) - 6/2/2013

Scenario: First Floor With Wall
Road Name: Ramona Expy.
Lot No: 59

Project Name: Kasbergen/Halfigler TT34271
Job Number: 14573
Analyst: B. Maddux

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	28,630 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	2,863 vehicles
Vehicle Speed:	65 mph
Near/Far Lane Distance:	73 feet

Site Data

Barrier Height:	**6.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	112.0 feet
Centerline Dist. to Observer:	132.0 feet
Barrier Distance to Observer:	20.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	1,552.5 feet
Road Elevation:	1,549.4 feet
Barrier Elevation:	1,552.5 feet
Road Grade:	0.5%

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	80.0%	7.0%	13.0%	97.00%
Medium Trucks:	80.0%	7.0%	13.0%	2.00%
Heavy Trucks:	80.0%	7.0%	13.0%	1.00%

Noise Source Elevations (in feet)

Autos:	1,549.400		
Medium Trucks:	1,551.697		
Heavy Trucks:	1,557.406	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	126.301
Medium Trucks:	126.129
Heavy Trucks:	125.916

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	75.54	1.00	-6.14	-1.20	*0.14*	-6.320	-9.320
Medium Trucks:	81.71	-15.86	-6.13	-1.20	*0.10*	-6.000	-9.000
Heavy Trucks:	85.21	-18.87	-6.12	-1.20	*0.03*	-5.300	-8.300

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.2	67.4	62.9	60.8	68.8	69.1
Medium Trucks:	58.5	56.8	52.2	50.1	58.1	58.4
Heavy Trucks:	59.0	57.3	52.7	50.6	58.6	58.9
Vehicle Noise:	69.9	68.2	63.6	61.5	69.5	69.8

Mitigated Noise Levels (with Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	62.9	61.1	56.6	54.5	62.4	62.7
Medium Trucks:	52.5	50.8	46.2	44.1	52.1	52.4
Heavy Trucks:	53.7	52.0	47.4	45.3	53.3	53.6
Vehicle Noise:	63.7	62.0	57.4	55.3	63.3	63.6

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (CALVENO) - 6/2/2013

Scenario: First Floor With Wall
Road Name: Ramona Expy.
Lot No: 63

Project Name: Kasbergen/Halfigler TT34271
Job Number: 14573
Analyst: B. Maddux

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	28,630 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	2,863 vehicles
Vehicle Speed:	65 mph
Near/Far Lane Distance:	73 feet

Site Data

Barrier Height:	**6.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	120.0 feet
Barrier Distance to Observer:	20.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	1,553.4 feet
Road Elevation:	1,551.0 feet
Barrier Elevation:	1,553.4 feet
Road Grade:	0.5%

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	80.0%	7.0%	13.0%	97.00%
Medium Trucks:	80.0%	7.0%	13.0%	2.00%
Heavy Trucks:	80.0%	7.0%	13.0%	1.00%

Noise Source Elevations (in feet)

Autos:	1,551.000		
Medium Trucks:	1,553.297		
Heavy Trucks:	1,559.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	113.504
Medium Trucks:	113.326
Heavy Trucks:	113.127

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	75.54	1.00	-5.44	-1.20	*0.15*	-6.400	-9.400
Medium Trucks:	81.71	-15.86	-5.43	-1.20	*0.10*	-6.000	-9.000
Heavy Trucks:	85.21	-18.87	-5.42	-1.20	*0.02*	-5.200	-8.200

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.9	68.1	63.6	61.5	69.5	69.8
Medium Trucks:	59.2	57.5	52.9	50.8	58.8	59.1
Heavy Trucks:	59.7	58.0	53.4	51.3	59.3	59.6
Vehicle Noise:	70.6	68.9	64.3	62.2	70.2	70.5

Mitigated Noise Levels (with Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.5	61.7	57.2	55.1	63.1	63.4
Medium Trucks:	53.2	51.5	46.9	44.8	52.8	53.1
Heavy Trucks:	54.5	52.8	48.2	46.1	54.1	54.4
Vehicle Noise:	64.4	62.6	58.0	56.0	63.9	64.2

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (CALVENO) - 6/2/2013

Scenario: First Floor With Wall
Road Name: Ramona Expy.
Lot No: 65

Project Name: Kasbergen/Halfigler TT34271
Job Number: 14573
Analyst: B. Maddux

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	28,630 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	2,863 vehicles
Vehicle Speed:	65 mph
Near/Far Lane Distance:	73 feet

Site Data

Barrier Height:	**6.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	94.0 feet
Centerline Dist. to Observer:	114.0 feet
Barrier Distance to Observer:	20.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	1,554.1 feet
Road Elevation:	1,550.0 feet
Barrier Elevation:	1,554.1 feet
Road Grade:	0.5%

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	80.0%	7.0%	13.0%	97.00%
Medium Trucks:	80.0%	7.0%	13.0%	2.00%
Heavy Trucks:	80.0%	7.0%	13.0%	1.00%

Noise Source Elevations (in feet)

Autos:	1,550.000		
Medium Trucks:	1,552.297		
Heavy Trucks:	1,558.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	107.236
Medium Trucks:	107.000
Heavy Trucks:	106.674

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	75.54	1.00	-5.07	-1.20	*0.20*	-6.800	-9.800
Medium Trucks:	81.71	-15.86	-5.06	-1.20	*0.14*	-6.320	-9.320
Heavy Trucks:	85.21	-18.87	-5.04	-1.20	*0.04*	-5.400	-8.400

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.3	68.5	63.9	61.9	69.8	70.1
Medium Trucks:	59.6	57.8	53.3	51.2	59.2	59.5
Heavy Trucks:	60.1	58.3	53.8	51.7	59.7	60.0
Vehicle Noise:	71.0	69.2	64.7	62.6	70.6	70.8

Mitigated Noise Levels (with Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.5	61.7	57.1	55.1	63.0	63.3
Medium Trucks:	53.3	51.5	47.0	44.9	52.8	53.1
Heavy Trucks:	54.7	52.9	48.4	46.3	54.3	54.6
Vehicle Noise:	64.4	62.6	58.0	56.0	63.9	64.2

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (CALVENO) - 6/2/2013

Scenario: First Floor With Wall
Road Name: Ramona Expy.
Lot No: 69

Project Name: Kasbergen/Halfigler TT34271
Job Number: 14573
Analyst: B. Maddux

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	28,630 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	2,863 vehicles
Vehicle Speed:	65 mph
Near/Far Lane Distance:	73 feet

Site Data

Barrier Height:	**6.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	98.0 feet
Centerline Dist. to Observer:	118.0 feet
Barrier Distance to Observer:	20.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	1,555.6 feet
Road Elevation:	1,553.0 feet
Barrier Elevation:	1,555.6 feet
Road Grade:	0.5%

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	80.0%	7.0%	13.0%	97.00%
Medium Trucks:	80.0%	7.0%	13.0%	2.00%
Heavy Trucks:	80.0%	7.0%	13.0%	1.00%

Noise Source Elevations (in feet)

Autos:	1,553.000		
Medium Trucks:	1,555.297		
Heavy Trucks:	1,561.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	111.380
Medium Trucks:	111.192
Heavy Trucks:	110.976

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	75.54	1.00	-5.32	-1.20	*0.15*	-6.400	-9.400
Medium Trucks:	81.71	-15.86	-5.31	-1.20	*0.11*	-6.080	-9.080
Heavy Trucks:	85.21	-18.87	-5.30	-1.20	*0.03*	-5.300	-8.300

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.0	68.3	63.7	61.6	69.6	69.9
Medium Trucks:	59.3	57.6	53.0	50.9	58.9	59.2
Heavy Trucks:	59.8	58.1	53.5	51.4	59.4	59.7
Vehicle Noise:	70.7	69.0	64.4	62.3	70.3	70.6

Mitigated Noise Levels (with Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.6	61.9	57.3	55.2	63.2	63.5
Medium Trucks:	53.3	51.5	46.9	44.9	52.8	53.1
Heavy Trucks:	54.5	52.8	48.2	46.1	54.1	54.4
Vehicle Noise:	64.5	62.7	58.1	56.1	64.0	64.3

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (CALVENO) - 6/2/2013

Scenario: First Floor With Wall
Road Name: Ramona Expy.
Lot No: 71

Project Name: Kasbergen/Halfigler TT34271
Job Number: 14573
Analyst: B. Maddux

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	28,630 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	2,863 vehicles
Vehicle Speed:	65 mph
Near/Far Lane Distance:	73 feet

Site Data

Barrier Height:	**6.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	154.0 feet
Centerline Dist. to Observer:	174.0 feet
Barrier Distance to Observer:	20.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	1,555.6 feet
Road Elevation:	1,553.0 feet
Barrier Elevation:	1,555.6 feet
Road Grade:	0.5%

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	80.0%	7.0%	13.0%	97.00%
Medium Trucks:	80.0%	7.0%	13.0%	2.00%
Heavy Trucks:	80.0%	7.0%	13.0%	1.00%

Noise Source Elevations (in feet)

Autos:	1,553.000		
Medium Trucks:	1,555.297		
Heavy Trucks:	1,561.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	169.884
Medium Trucks:	169.770
Heavy Trucks:	169.638

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	75.54	1.00	-8.07	-1.20	*0.10*	-6.000	-9.000
Medium Trucks:	81.71	-15.86	-8.07	-1.20	*0.07*	-5.700	-8.700
Heavy Trucks:	85.21	-18.87	-8.06	-1.20	*0.03*	-5.300	-8.300

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.3	65.5	61.0	58.9	66.8	67.1
Medium Trucks:	56.6	54.8	50.3	48.2	56.2	56.4
Heavy Trucks:	57.1	55.3	50.8	48.7	56.6	56.9
Vehicle Noise:	68.0	66.2	61.7	59.6	67.6	67.8

Mitigated Noise Levels (with Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	61.3	59.5	55.0	52.9	60.8	61.1
Medium Trucks:	50.9	49.1	44.6	42.5	50.5	50.7
Heavy Trucks:	51.8	50.0	45.5	43.4	51.3	51.6
Vehicle Noise:	62.1	60.3	55.8	53.7	61.6	61.9

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (CALVENO) - 6/2/2013

Scenario: First Floor With Wall
Road Name: Ramona Expy.
Lot No: 73

Project Name: Kasbergen/Halfigler TT34271
Job Number: 14573
Analyst: B. Maddux

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	28,630 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	2,863 vehicles
Vehicle Speed:	65 mph
Near/Far Lane Distance:	73 feet

Site Data

Barrier Height:	**6.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	178.0 feet
Centerline Dist. to Observer:	198.0 feet
Barrier Distance to Observer:	20.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	1,556.1 feet
Road Elevation:	1,553.0 feet
Barrier Elevation:	1,556.1 feet
Road Grade:	0.5%

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	80.0%	7.0%	13.0%	97.00%
Medium Trucks:	80.0%	7.0%	13.0%	2.00%
Heavy Trucks:	80.0%	7.0%	13.0%	1.00%

Noise Source Elevations (in feet)

Autos:	1,553.000		
Medium Trucks:	1,555.297		
Heavy Trucks:	1,561.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	194.480
Medium Trucks:	194.375
Heavy Trucks:	194.246

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	75.54	1.00	-8.95	-1.20	*0.09*	-5.900	-8.900
Medium Trucks:	81.71	-15.86	-8.95	-1.20	*0.07*	-5.700	-8.700
Heavy Trucks:	85.21	-18.87	-8.94	-1.20	*0.03*	-5.300	-8.300

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.4	64.6	60.1	58.0	66.0	66.2
Medium Trucks:	55.7	53.9	49.4	47.3	55.3	55.6
Heavy Trucks:	56.2	54.4	49.9	47.8	55.8	56.1
Vehicle Noise:	67.1	65.4	60.8	58.7	66.7	67.0

Mitigated Noise Levels (with Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	60.5	58.7	54.2	52.1	60.1	60.3
Medium Trucks:	50.0	48.2	43.7	41.6	49.6	49.9
Heavy Trucks:	50.9	49.1	44.6	42.5	50.5	50.8
Vehicle Noise:	61.3	59.5	55.0	52.9	60.8	61.1

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (CALVENO) - 6/2/2013

Scenario: First Floor With Wall
Road Name: Vernon Ave.
Lot No: 76

Project Name: Kasbergen/Halfigler TT34271
Job Number: 14573
Analyst: B. Maddux

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,100 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	910 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**6.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	51.0 feet
Centerline Dist. to Observer:	71.0 feet
Barrier Distance to Observer:	20.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	1,557.1 feet
Road Elevation:	1,552.0 feet
Barrier Elevation:	1,557.1 feet
Road Grade:	0.5%

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	80.0%	7.0%	13.0%	97.00%
Medium Trucks:	80.0%	7.0%	13.0%	2.00%
Heavy Trucks:	80.0%	7.0%	13.0%	1.00%

Noise Source Elevations (in feet)

Autos:	1,552.000		
Medium Trucks:	1,554.297		
Heavy Trucks:	1,560.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	71.873
Medium Trucks:	71.430
Heavy Trucks:	70.765

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	69.34	-2.38	-2.47	-1.20	*0.49*	-8.450	-11.450
Medium Trucks:	77.62	-19.24	-2.43	-1.20	*0.34*	-7.700	-10.700
Heavy Trucks:	82.14	-22.25	-2.37	-1.20	*0.09*	-5.900	-8.900

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.3	61.5	57.0	54.9	62.9	63.2
Medium Trucks:	54.8	53.0	48.4	46.4	54.3	54.6
Heavy Trucks:	56.3	54.6	50.0	47.9	55.9	56.2
Vehicle Noise:	64.6	62.8	58.3	56.2	64.1	64.4

Mitigated Noise Levels (with Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	54.8	53.1	48.5	46.4	54.4	54.7
Medium Trucks:	47.1	45.3	40.7	38.7	46.6	46.9
Heavy Trucks:	50.4	48.7	44.1	42.0	50.0	50.3
Vehicle Noise:	56.7	54.9	50.4	48.3	56.3	56.5

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (CALVENO) - 6/2/2013

Scenario: First Floor With Wall
Road Name: Vernon Ave.
Lot No: 77

Project Name: Kasbergen/Halfigler TT34271
Job Number: 14573
Analyst: B. Maddux

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,100 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	910 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**6.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	33.0 feet
Centerline Dist. to Observer:	53.0 feet
Barrier Distance to Observer:	20.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	1,556.5 feet
Road Elevation:	1,556.0 feet
Barrier Elevation:	1,556.5 feet
Road Grade:	0.5%

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	80.0%	7.0%	13.0%	97.00%
Medium Trucks:	80.0%	7.0%	13.0%	2.00%
Heavy Trucks:	80.0%	7.0%	13.0%	1.00%

Noise Source Elevations (in feet)

Autos:	1,556.000		
Medium Trucks:	1,558.297		
Heavy Trucks:	1,564.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	53.120
Medium Trucks:	52.746
Heavy Trucks:	52.510

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	69.34	-2.38	-0.50	-1.20	*0.37*	-7.850	-10.850
Medium Trucks:	77.62	-19.24	-0.45	-1.20	*0.19*	-6.720	-9.720
Heavy Trucks:	82.14	-22.25	-0.42	-1.20	*0.00*	-4.900	-7.900

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.3	63.5	58.9	56.9	64.8	65.1
Medium Trucks:	56.7	55.0	50.4	48.3	56.3	56.6
Heavy Trucks:	58.3	56.5	52.0	49.9	57.8	58.1
Vehicle Noise:	66.5	64.8	60.2	58.1	66.1	66.4

Mitigated Noise Levels (with Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	57.4	55.7	51.1	49.0	57.0	57.3
Medium Trucks:	50.0	48.3	43.7	41.6	49.6	49.9
Heavy Trucks:	53.4	51.6	47.1	45.0	52.9	53.2
Vehicle Noise:	59.4	57.6	53.1	51.0	59.0	59.2

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (CALVENO) - 6/2/2013

Scenario: First Floor With Wall
Road Name: Vernon Ave.
Lot No: 81

Project Name: Kasbergen/Halfigler TT34271
Job Number: 14573
Analyst: B. Maddux

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,100 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	910 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**6.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	33.0 feet
Centerline Dist. to Observer:	53.0 feet
Barrier Distance to Observer:	20.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	1,556.9 feet
Road Elevation:	1,556.0 feet
Barrier Elevation:	1,556.9 feet
Road Grade:	0.5%

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	80.0%	7.0%	13.0%	97.00%
Medium Trucks:	80.0%	7.0%	13.0%	2.00%
Heavy Trucks:	80.0%	7.0%	13.0%	1.00%

Noise Source Elevations (in feet)

Autos:	1,556.000		
Medium Trucks:	1,558.297		
Heavy Trucks:	1,564.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	53.200
Medium Trucks:	52.800
Heavy Trucks:	52.494

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	69.34	-2.38	-0.51	-1.20	*0.40*	-8.000	-11.000
Medium Trucks:	77.62	-19.24	-0.46	-1.20	*0.22*	-6.940	-9.940
Heavy Trucks:	82.14	-22.25	-0.42	-1.20	*0.00*	-4.900	-7.900

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.3	63.5	58.9	56.9	64.8	65.1
Medium Trucks:	56.7	55.0	50.4	48.3	56.3	56.6
Heavy Trucks:	58.3	56.5	52.0	49.9	57.8	58.1
Vehicle Noise:	66.5	64.8	60.2	58.1	66.1	66.4

Mitigated Noise Levels (with Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	57.3	55.5	50.9	48.9	56.8	57.1
Medium Trucks:	49.8	48.0	43.5	41.4	49.3	49.6
Heavy Trucks:	53.4	51.6	47.1	45.0	52.9	53.2
Vehicle Noise:	59.3	57.5	52.9	50.9	58.8	59.1

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (CALVENO) - 6/2/2013

Scenario: First Floor With Wall
Road Name: Vernon Ave.
Lot No: 89

Project Name: Kasbergen/Halfigler TT34271
Job Number: 14573
Analyst: B. Maddux

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,100 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	910 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**6.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	33.0 feet
Centerline Dist. to Observer:	53.0 feet
Barrier Distance to Observer:	20.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	1,559.3 feet
Road Elevation:	1,558.0 feet
Barrier Elevation:	1,559.3 feet
Road Grade:	0.5%

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	80.0%	7.0%	13.0%	97.00%
Medium Trucks:	80.0%	7.0%	13.0%	2.00%
Heavy Trucks:	80.0%	7.0%	13.0%	1.00%

Noise Source Elevations (in feet)

Autos:	1,558.000		
Medium Trucks:	1,560.297		
Heavy Trucks:	1,566.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	53.286
Medium Trucks:	52.858
Heavy Trucks:	52.483

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	69.34	-2.38	-0.52	-1.20	*0.44*	-8.200	-11.200
Medium Trucks:	77.62	-19.24	-0.47	-1.20	*0.25*	-7.150	-10.150
Heavy Trucks:	82.14	-22.25	-0.42	-1.20	*0.00*	-4.900	-7.900

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.2	63.5	58.9	56.8	64.8	65.1
Medium Trucks:	56.7	55.0	50.4	48.3	56.3	56.6
Heavy Trucks:	58.3	56.5	52.0	49.9	57.8	58.1
Vehicle Noise:	66.5	64.8	60.2	58.1	66.1	66.4

Mitigated Noise Levels (with Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	57.0	55.3	50.7	48.6	56.6	56.9
Medium Trucks:	49.6	47.8	43.2	41.2	49.1	49.4
Heavy Trucks:	53.4	51.6	47.1	45.0	52.9	53.2
Vehicle Noise:	59.1	57.3	52.8	50.7	58.7	59.0

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (CALVENO) - 6/2/2013

Scenario: Second Floor With Wall
Road Name: Alessandro Ave.
Lot No: 46

Project Name: Kasbergen/Halfigler TT34271
Job Number: 14573
Analyst: B. Maddux

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,100 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	910 vehicles
Vehicle Speed:	25 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**6.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.0 feet
Centerline Dist. to Observer:	57.0 feet
Barrier Distance to Observer:	20.0 feet
Observer Height (Above Pad):	14.0 feet
Pad Elevation:	1,553.8 feet
Road Elevation:	1,551.0 feet
Barrier Elevation:	1,553.8 feet
Road Grade:	0.5%

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	80.0%	7.0%	13.0%	97.00%
Medium Trucks:	80.0%	7.0%	13.0%	2.00%
Heavy Trucks:	80.0%	7.0%	13.0%	1.00%

Noise Source Elevations (in feet)

Autos:	1,551.000		
Medium Trucks:	1,553.297		
Heavy Trucks:	1,559.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	59.121
Medium Trucks:	58.509
Heavy Trucks:	57.361

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	59.44	0.17	-1.19	-1.20	*-0.15*	0.000	0.000
Medium Trucks:	71.09	-16.68	-1.13	-1.20	*-0.29*	0.000	0.000
Heavy Trucks:	77.24	-19.69	-1.00	-1.20	*-0.86*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	57.2	55.5	50.9	48.8	56.8	57.1
Medium Trucks:	52.1	50.3	45.8	43.7	51.6	51.9
Heavy Trucks:	55.3	53.6	49.0	46.9	54.9	55.2
Vehicle Noise:	60.1	58.4	53.8	51.7	59.7	60.0

Mitigated Noise Levels (with Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	57.2	55.5	50.9	48.8	56.8	57.1
Medium Trucks:	52.1	50.3	45.8	43.7	51.6	51.9
Heavy Trucks:	55.3	53.6	49.0	46.9	54.9	55.2
Vehicle Noise:	60.1	58.4	53.8	51.7	59.7	60.0

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (CALVENO) - 6/2/2013

Scenario: Second Floor With Wall
Road Name: Alessandro Ave.
Lot No: 50

Project Name: Kasbergen/Halfigler TT34271
Job Number: 14573
Analyst: B. Maddux

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,100 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	910 vehicles
Vehicle Speed:	25 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**6.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.0 feet
Centerline Dist. to Observer:	57.0 feet
Barrier Distance to Observer:	20.0 feet
Observer Height (Above Pad):	14.0 feet
Pad Elevation:	1,551.7 feet
Road Elevation:	1,551.0 feet
Barrier Elevation:	1,551.7 feet
Road Grade:	0.5%

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	80.0%	7.0%	13.0%	97.00%
Medium Trucks:	80.0%	7.0%	13.0%	2.00%
Heavy Trucks:	80.0%	7.0%	13.0%	1.00%

Noise Source Elevations (in feet)

Autos:	1,551.000		
Medium Trucks:	1,553.297		
Heavy Trucks:	1,559.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	58.558
Medium Trucks:	58.024
Heavy Trucks:	57.077

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	59.44	0.17	-1.13	-1.20	*-0.27*	0.000	0.000
Medium Trucks:	71.09	-16.68	-1.07	-1.20	*-0.46*	0.000	0.000
Heavy Trucks:	77.24	-19.69	-0.97	-1.20	*-1.15*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	57.3	55.5	51.0	48.9	56.8	57.1
Medium Trucks:	52.1	50.4	45.8	43.7	51.7	52.0
Heavy Trucks:	55.4	53.6	49.1	47.0	54.9	55.2
Vehicle Noise:	60.2	58.4	53.9	51.8	59.7	60.0

Mitigated Noise Levels (with Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	57.3	55.5	51.0	48.9	56.8	57.1
Medium Trucks:	52.1	50.4	45.8	43.7	51.7	52.0
Heavy Trucks:	55.4	53.6	49.1	47.0	54.9	55.2
Vehicle Noise:	60.2	58.4	53.9	51.8	59.7	60.0

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (CALVENO) - 6/2/2013

Scenario: Second Floor With Wall
Road Name: Alessandro Ave.
Lot No: 54

Project Name: Kasbergen/Halfigler TT34271
Job Number: 14573
Analyst: B. Maddux

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,100 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	910 vehicles
Vehicle Speed:	25 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**6.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.0 feet
Centerline Dist. to Observer:	57.0 feet
Barrier Distance to Observer:	20.0 feet
Observer Height (Above Pad):	14.0 feet
Pad Elevation:	1,551.7 feet
Road Elevation:	1,551.0 feet
Barrier Elevation:	1,551.7 feet
Road Grade:	0.5%

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	80.0%	7.0%	13.0%	97.00%
Medium Trucks:	80.0%	7.0%	13.0%	2.00%
Heavy Trucks:	80.0%	7.0%	13.0%	1.00%

Noise Source Elevations (in feet)

Autos:	1,551.000		
Medium Trucks:	1,553.297		
Heavy Trucks:	1,559.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	58.558
Medium Trucks:	58.024
Heavy Trucks:	57.077

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	59.44	0.17	-1.13	-1.20	*-0.27*	0.000	0.000
Medium Trucks:	71.09	-16.68	-1.07	-1.20	*-0.46*	0.000	0.000
Heavy Trucks:	77.24	-19.69	-0.97	-1.20	*-1.15*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	57.3	55.5	51.0	48.9	56.8	57.1
Medium Trucks:	52.1	50.4	45.8	43.7	51.7	52.0
Heavy Trucks:	55.4	53.6	49.1	47.0	54.9	55.2
Vehicle Noise:	60.2	58.4	53.9	51.8	59.7	60.0

Mitigated Noise Levels (with Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	57.3	55.5	51.0	48.9	56.8	57.1
Medium Trucks:	52.1	50.4	45.8	43.7	51.7	52.0
Heavy Trucks:	55.4	53.6	49.1	47.0	54.9	55.2
Vehicle Noise:	60.2	58.4	53.9	51.8	59.7	60.0

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (CALVENO) - 6/2/2013

Scenario: Second Floor With Wall
Road Name: Alessandro Ave.
Lot No: 55

Project Name: Kasbergen/Halfigler TT34271
Job Number: 14573
Analyst: B. Maddux

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,100 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	910 vehicles
Vehicle Speed:	25 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**6.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	47.0 feet
Centerline Dist. to Observer:	67.0 feet
Barrier Distance to Observer:	20.0 feet
Observer Height (Above Pad):	14.0 feet
Pad Elevation:	1,551.5 feet
Road Elevation:	1,547.5 feet
Barrier Elevation:	1,551.5 feet
Road Grade:	0.5%

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	80.0%	7.0%	13.0%	97.00%
Medium Trucks:	80.0%	7.0%	13.0%	2.00%
Heavy Trucks:	80.0%	7.0%	13.0%	1.00%

Noise Source Elevations (in feet)

Autos:	1,547.500		
Medium Trucks:	1,549.797		
Heavy Trucks:	1,555.506	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.116
Medium Trucks:	68.554
Heavy Trucks:	67.475

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	59.44	0.17	-2.21	-1.20	*-0.21*	0.000	0.000
Medium Trucks:	71.09	-16.68	-2.16	-1.20	*-0.34*	0.000	0.000
Heavy Trucks:	77.24	-19.69	-2.06	-1.20	*-0.82*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	56.2	54.4	49.9	47.8	55.8	56.1
Medium Trucks:	51.0	49.3	44.7	42.6	50.6	50.9
Heavy Trucks:	54.3	52.5	48.0	45.9	53.9	54.1
Vehicle Noise:	59.1	57.3	52.8	50.7	58.7	59.0

Mitigated Noise Levels (with Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	56.2	54.4	49.9	47.8	55.8	56.1
Medium Trucks:	51.0	49.3	44.7	42.6	50.6	50.9
Heavy Trucks:	54.3	52.5	48.0	45.9	53.9	54.1
Vehicle Noise:	59.1	57.3	52.8	50.7	58.7	59.0

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (CALVENO) - 6/2/2013

Scenario: Second Floor With Wall
Road Name: Alessandro Ave.
Lot No: 58

Project Name: Kasbergen/Halfigler TT34271
Job Number: 14573
Analyst: B. Maddux

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,100 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	910 vehicles
Vehicle Speed:	25 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**6.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	66.0 feet
Centerline Dist. to Observer:	86.0 feet
Barrier Distance to Observer:	20.0 feet
Observer Height (Above Pad):	14.0 feet
Pad Elevation:	1,551.5 feet
Road Elevation:	1,548.0 feet
Barrier Elevation:	1,551.5 feet
Road Grade:	0.5%

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	80.0%	7.0%	13.0%	97.00%
Medium Trucks:	80.0%	7.0%	13.0%	2.00%
Heavy Trucks:	80.0%	7.0%	13.0%	1.00%

Noise Source Elevations (in feet)

Autos:	1,548.000		
Medium Trucks:	1,550.297		
Heavy Trucks:	1,556.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	87.557
Medium Trucks:	87.127
Heavy Trucks:	86.314

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	59.44	0.17	-3.75	-1.20	*-0.45*	0.000	0.000
Medium Trucks:	71.09	-16.68	-3.72	-1.20	*-0.59*	0.000	0.000
Heavy Trucks:	77.24	-19.69	-3.66	-1.20	*-1.01*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	54.7	52.9	48.3	46.3	54.2	54.5
Medium Trucks:	49.5	47.7	43.2	41.1	49.0	49.3
Heavy Trucks:	52.7	50.9	46.4	44.3	52.2	52.5
Vehicle Noise:	57.5	55.8	51.2	49.1	57.1	57.4

Mitigated Noise Levels (with Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	54.7	52.9	48.3	46.3	54.2	54.5
Medium Trucks:	49.5	47.7	43.2	41.1	49.0	49.3
Heavy Trucks:	52.7	50.9	46.4	44.3	52.2	52.5
Vehicle Noise:	57.5	55.8	51.2	49.1	57.1	57.4

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (CALVENO) - 6/2/2013

Scenario: Second Floor With Wall
Road Name: Ramona Expy.
Lot No: 59

Project Name: Kasbergen/Halfigler TT34271
Job Number: 14573
Analyst: B. Maddux

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	28,630 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	2,863 vehicles
Vehicle Speed:	65 mph
Near/Far Lane Distance:	73 feet

Site Data

Barrier Height:	**6.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	112.0 feet
Centerline Dist. to Observer:	132.0 feet
Barrier Distance to Observer:	20.0 feet
Observer Height (Above Pad):	14.0 feet
Pad Elevation:	1,552.5 feet
Road Elevation:	1,549.4 feet
Barrier Elevation:	1,552.5 feet
Road Grade:	0.5%

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	80.0%	7.0%	13.0%	97.00%
Medium Trucks:	80.0%	7.0%	13.0%	2.00%
Heavy Trucks:	80.0%	7.0%	13.0%	1.00%

Noise Source Elevations (in feet)

Autos:	1,549.400		
Medium Trucks:	1,551.697		
Heavy Trucks:	1,557.406	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	128.001
Medium Trucks:	127.714
Heavy Trucks:	127.179

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	75.54	1.00	-6.23	-1.20	*-0.79*	0.000	0.000
Medium Trucks:	81.71	-15.86	-6.21	-1.20	*-0.90*	0.000	0.000
Heavy Trucks:	85.21	-18.87	-6.19	-1.20	*-1.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.1	67.4	62.8	60.7	68.7	69.0
Medium Trucks:	58.4	56.7	52.1	50.0	58.0	58.3
Heavy Trucks:	59.0	57.2	52.6	50.6	58.5	58.8
Vehicle Noise:	69.8	68.1	63.5	61.4	69.4	69.7

Mitigated Noise Levels (with Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.1	67.4	62.8	60.7	68.7	69.0
Medium Trucks:	58.4	56.7	52.1	50.0	58.0	58.3
Heavy Trucks:	59.0	57.2	52.6	50.6	58.5	58.8
Vehicle Noise:	69.8	68.1	63.5	61.4	69.4	69.7

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (CALVENO) - 6/2/2013

Scenario: Second Floor With Wall
Road Name: Ramona Expy.
Lot No: 63

Project Name: Kasbergen/Halfigler TT34271
Job Number: 14573
Analyst: B. Maddux

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	28,630 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	2,863 vehicles
Vehicle Speed:	65 mph
Near/Far Lane Distance:	73 feet

Site Data

Barrier Height:	**6.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	120.0 feet
Barrier Distance to Observer:	20.0 feet
Observer Height (Above Pad):	14.0 feet
Pad Elevation:	1,553.4 feet
Road Elevation:	1,551.0 feet
Barrier Elevation:	1,553.4 feet
Road Grade:	0.5%

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	80.0%	7.0%	13.0%	97.00%
Medium Trucks:	80.0%	7.0%	13.0%	2.00%
Heavy Trucks:	80.0%	7.0%	13.0%	1.00%

Noise Source Elevations (in feet)

Autos:	1,551.000		
Medium Trucks:	1,553.297		
Heavy Trucks:	1,559.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	115.485
Medium Trucks:	115.181
Heavy Trucks:	114.622

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	75.54	1.00	-5.56	-1.20	*-0.76*	0.000	0.000
Medium Trucks:	81.71	-15.86	-5.54	-1.20	*-0.88*	0.000	0.000
Heavy Trucks:	85.21	-18.87	-5.51	-1.20	*-1.22*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.8	68.0	63.5	61.4	69.3	69.6
Medium Trucks:	59.1	57.4	52.8	50.7	58.7	59.0
Heavy Trucks:	59.6	57.9	53.3	51.2	59.2	59.5
Vehicle Noise:	70.5	68.8	64.2	62.1	70.1	70.4

Mitigated Noise Levels (with Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.8	68.0	63.5	61.4	69.3	69.6
Medium Trucks:	59.1	57.4	52.8	50.7	58.7	59.0
Heavy Trucks:	59.6	57.9	53.3	51.2	59.2	59.5
Vehicle Noise:	70.5	68.8	64.2	62.1	70.1	70.4

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (CALVENO) - 6/2/2013

Scenario: Second Floor With Wall
Road Name: Ramona Expy.
Lot No: 65

Project Name: Kasbergen/Halfigler TT34271
Job Number: 14573
Analyst: B. Maddux

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	28,630 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	2,863 vehicles
Vehicle Speed:	65 mph
Near/Far Lane Distance:	73 feet

Site Data

Barrier Height:	**6.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	94.0 feet
Centerline Dist. to Observer:	114.0 feet
Barrier Distance to Observer:	20.0 feet
Observer Height (Above Pad):	14.0 feet
Pad Elevation:	1,554.1 feet
Road Elevation:	1,550.0 feet
Barrier Elevation:	1,554.1 feet
Road Grade:	0.5%

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	80.0%	7.0%	13.0%	97.00%
Medium Trucks:	80.0%	7.0%	13.0%	2.00%
Heavy Trucks:	80.0%	7.0%	13.0%	1.00%

Noise Source Elevations (in feet)

Autos:	1,550.000		
Medium Trucks:	1,552.297		
Heavy Trucks:	1,558.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	109.505
Medium Trucks:	109.149
Heavy Trucks:	108.470

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	75.54	1.00	-5.21	-1.20	*-0.64*	0.000	0.000
Medium Trucks:	81.71	-15.86	-5.19	-1.20	*-0.76*	0.000	0.000
Heavy Trucks:	85.21	-18.87	-5.15	-1.20	*-1.09*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.1	68.4	63.8	61.7	69.7	70.0
Medium Trucks:	59.5	57.7	53.1	51.1	59.0	59.3
Heavy Trucks:	60.0	58.2	53.7	51.6	59.6	59.8
Vehicle Noise:	70.9	69.1	64.5	62.5	70.4	70.7

Mitigated Noise Levels (with Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.1	68.4	63.8	61.7	69.7	70.0
Medium Trucks:	59.5	57.7	53.1	51.1	59.0	59.3
Heavy Trucks:	60.0	58.2	53.7	51.6	59.6	59.8
Vehicle Noise:	70.9	69.1	64.5	62.5	70.4	70.7

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (CALVENO) - 6/2/2013

Scenario: Second Floor With Wall
Road Name: Ramona Expy.
Lot No: 69

Project Name: Kasbergen/Halfigler TT34271
Job Number: 14573
Analyst: B. Maddux

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	28,630 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	2,863 vehicles
Vehicle Speed:	65 mph
Near/Far Lane Distance:	73 feet

Site Data

Barrier Height:	**6.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	98.0 feet
Centerline Dist. to Observer:	118.0 feet
Barrier Distance to Observer:	20.0 feet
Observer Height (Above Pad):	14.0 feet
Pad Elevation:	1,555.6 feet
Road Elevation:	1,553.0 feet
Barrier Elevation:	1,555.6 feet
Road Grade:	0.5%

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	80.0%	7.0%	13.0%	97.00%
Medium Trucks:	80.0%	7.0%	13.0%	2.00%
Heavy Trucks:	80.0%	7.0%	13.0%	1.00%

Noise Source Elevations (in feet)

Autos:	1,553.000		
Medium Trucks:	1,555.297		
Heavy Trucks:	1,561.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	113.434
Medium Trucks:	113.121
Heavy Trucks:	112.542

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	75.54	1.00	-5.44	-1.20	*-0.74*	0.000	0.000
Medium Trucks:	81.71	-15.86	-5.42	-1.20	*-0.86*	0.000	0.000
Heavy Trucks:	85.21	-18.87	-5.39	-1.20	*-1.20*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.9	68.1	63.6	61.5	69.5	69.8
Medium Trucks:	59.2	57.5	52.9	50.8	58.8	59.1
Heavy Trucks:	59.8	58.0	53.4	51.4	59.3	59.6
Vehicle Noise:	70.6	68.9	64.3	62.2	70.2	70.5

Mitigated Noise Levels (with Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.9	68.1	63.6	61.5	69.5	69.8
Medium Trucks:	59.2	57.5	52.9	50.8	58.8	59.1
Heavy Trucks:	59.8	58.0	53.4	51.4	59.3	59.6
Vehicle Noise:	70.6	68.9	64.3	62.2	70.2	70.5

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (CALVENO) - 6/2/2013

Scenario: Second Floor With Wall
Road Name: Ramona Expy.
Lot No: 71

Project Name: Kasbergen/Halfigler TT34271
Job Number: 14573
Analyst: B. Maddux

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	28,630 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	2,863 vehicles
Vehicle Speed:	65 mph
Near/Far Lane Distance:	73 feet

Site Data

Barrier Height:	**6.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	154.0 feet
Centerline Dist. to Observer:	174.0 feet
Barrier Distance to Observer:	20.0 feet
Observer Height (Above Pad):	14.0 feet
Pad Elevation:	1,555.6 feet
Road Elevation:	1,553.0 feet
Barrier Elevation:	1,555.6 feet
Road Grade:	0.5%

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	80.0%	7.0%	13.0%	97.00%
Medium Trucks:	80.0%	7.0%	13.0%	2.00%
Heavy Trucks:	80.0%	7.0%	13.0%	1.00%

Noise Source Elevations (in feet)

Autos:	1,553.000		
Medium Trucks:	1,555.297		
Heavy Trucks:	1,561.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	170.937
Medium Trucks:	170.729
Heavy Trucks:	170.346

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	75.54	1.00	-8.11	-1.20	*-0.97*	0.000	0.000
Medium Trucks:	81.71	-15.86	-8.10	-1.20	*-1.06*	0.000	0.000
Heavy Trucks:	85.21	-18.87	-8.09	-1.20	*-1.30*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.2	65.5	60.9	58.8	66.8	67.1
Medium Trucks:	56.6	54.8	50.2	48.1	56.1	56.4
Heavy Trucks:	57.1	55.3	50.7	48.6	56.6	56.9
Vehicle Noise:	68.0	66.2	61.6	59.6	67.5	67.8

Mitigated Noise Levels (with Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.2	65.5	60.9	58.8	66.8	67.1
Medium Trucks:	56.6	54.8	50.2	48.1	56.1	56.4
Heavy Trucks:	57.1	55.3	50.7	48.6	56.6	56.9
Vehicle Noise:	68.0	66.2	61.6	59.6	67.5	67.8

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (CALVENO) - 6/2/2013

Scenario: Second Floor With Wall
Road Name: Ramona Expy.
Lot No: 73

Project Name: Kasbergen/Halfigler TT34271
Job Number: 14573
Analyst: B. Maddux

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	28,630 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	2,863 vehicles
Vehicle Speed:	65 mph
Near/Far Lane Distance:	73 feet

Site Data

Barrier Height:	**6.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	178.0 feet
Centerline Dist. to Observer:	198.0 feet
Barrier Distance to Observer:	20.0 feet
Observer Height (Above Pad):	14.0 feet
Pad Elevation:	1,556.1 feet
Road Elevation:	1,553.0 feet
Barrier Elevation:	1,556.1 feet
Road Grade:	0.5%

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	80.0%	7.0%	13.0%	97.00%
Medium Trucks:	80.0%	7.0%	13.0%	2.00%
Heavy Trucks:	80.0%	7.0%	13.0%	1.00%

Noise Source Elevations (in feet)

Autos:	1,553.000		
Medium Trucks:	1,555.297		
Heavy Trucks:	1,561.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	195.356
Medium Trucks:	195.169
Heavy Trucks:	194.819

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	75.54	1.00	-8.98	-1.20	*-1.01*	0.000	0.000
Medium Trucks:	81.71	-15.86	-8.98	-1.20	*-1.09*	0.000	0.000
Heavy Trucks:	85.21	-18.87	-8.96	-1.20	*-1.31*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.4	64.6	60.0	58.0	65.9	66.2
Medium Trucks:	55.7	53.9	49.4	47.3	55.2	55.5
Heavy Trucks:	56.2	54.4	49.9	47.8	55.7	56.0
Vehicle Noise:	67.1	65.3	60.8	58.7	66.6	66.9

Mitigated Noise Levels (with Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.4	64.6	60.0	58.0	65.9	66.2
Medium Trucks:	55.7	53.9	49.4	47.3	55.2	55.5
Heavy Trucks:	56.2	54.4	49.9	47.8	55.7	56.0
Vehicle Noise:	67.1	65.3	60.8	58.7	66.6	66.9

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (CALVENO) - 6/2/2013

Scenario: Second Floor With Wall
Road Name: Vernon Ave.
Lot No: 76

Project Name: Kasbergen/Halfigler TT34271
Job Number: 14573
Analyst: B. Maddux

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,100 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	910 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**6.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	51.0 feet
Centerline Dist. to Observer:	71.0 feet
Barrier Distance to Observer:	20.0 feet
Observer Height (Above Pad):	14.0 feet
Pad Elevation:	1,557.1 feet
Road Elevation:	1,552.0 feet
Barrier Elevation:	1,557.1 feet
Road Grade:	0.5%

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	80.0%	7.0%	13.0%	97.00%
Medium Trucks:	80.0%	7.0%	13.0%	2.00%
Heavy Trucks:	80.0%	7.0%	13.0%	1.00%

Noise Source Elevations (in feet)

Autos:	1,552.000		
Medium Trucks:	1,554.297		
Heavy Trucks:	1,560.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	73.279
Medium Trucks:	72.714
Heavy Trucks:	71.611

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	69.34	-2.38	-2.59	-1.20	*-0.21*	0.000	0.000
Medium Trucks:	77.62	-19.24	-2.54	-1.20	*-0.33*	0.000	0.000
Heavy Trucks:	82.14	-22.25	-2.44	-1.20	*-0.76*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.2	61.4	56.9	54.8	62.7	63.0
Medium Trucks:	54.6	52.9	48.3	46.2	54.2	54.5
Heavy Trucks:	56.3	54.5	49.9	47.8	55.8	56.1
Vehicle Noise:	64.5	62.7	58.1	56.1	64.0	64.3

Mitigated Noise Levels (with Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.2	61.4	56.9	54.8	62.7	63.0
Medium Trucks:	54.6	52.9	48.3	46.2	54.2	54.5
Heavy Trucks:	56.3	54.5	49.9	47.8	55.8	56.1
Vehicle Noise:	64.5	62.7	58.1	56.1	64.0	64.3

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (CALVENO) - 6/2/2013

Scenario: Second Floor With Wall
Road Name: Vernon Ave.
Lot No: 77

Project Name: Kasbergen/Halfigler TT34271
Job Number: 14573
Analyst: B. Maddux

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,100 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	910 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**6.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	33.0 feet
Centerline Dist. to Observer:	53.0 feet
Barrier Distance to Observer:	20.0 feet
Observer Height (Above Pad):	14.0 feet
Pad Elevation:	1,556.5 feet
Road Elevation:	1,556.0 feet
Barrier Elevation:	1,556.5 feet
Road Grade:	0.5%

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	80.0%	7.0%	13.0%	97.00%
Medium Trucks:	80.0%	7.0%	13.0%	2.00%
Heavy Trucks:	80.0%	7.0%	13.0%	1.00%

Noise Source Elevations (in feet)

Autos:	1,556.000		
Medium Trucks:	1,558.297		
Heavy Trucks:	1,564.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	54.619
Medium Trucks:	54.055
Heavy Trucks:	53.058

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	69.34	-2.38	-0.68	-1.20	*-0.22*	0.000	0.000
Medium Trucks:	77.62	-19.24	-0.61	-1.20	*-0.41*	0.000	0.000
Heavy Trucks:	82.14	-22.25	-0.49	-1.20	*-1.15*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.1	63.3	58.8	56.7	64.6	64.9
Medium Trucks:	56.6	54.8	50.3	48.2	56.1	56.4
Heavy Trucks:	58.2	56.4	51.9	49.8	57.8	58.1
Vehicle Noise:	66.4	64.6	60.1	58.0	65.9	66.2

Mitigated Noise Levels (with Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.1	63.3	58.8	56.7	64.6	64.9
Medium Trucks:	56.6	54.8	50.3	48.2	56.1	56.4
Heavy Trucks:	58.2	56.4	51.9	49.8	57.8	58.1
Vehicle Noise:	66.4	64.6	60.1	58.0	65.9	66.2

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (CALVENO) - 6/2/2013

Scenario: Second Floor With Wall
Road Name: Vernon Ave.
Lot No: 81

Project Name: Kasbergen/Halfigler TT34271
Job Number: 14573
Analyst: B. Maddux

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,100 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	910 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**6.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	33.0 feet
Centerline Dist. to Observer:	53.0 feet
Barrier Distance to Observer:	20.0 feet
Observer Height (Above Pad):	14.0 feet
Pad Elevation:	1,556.9 feet
Road Elevation:	1,556.0 feet
Barrier Elevation:	1,556.9 feet
Road Grade:	0.5%

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	80.0%	7.0%	13.0%	97.00%
Medium Trucks:	80.0%	7.0%	13.0%	2.00%
Heavy Trucks:	80.0%	7.0%	13.0%	1.00%

Noise Source Elevations (in feet)

Autos:	1,556.000		
Medium Trucks:	1,558.297		
Heavy Trucks:	1,564.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	54.727
Medium Trucks:	54.146
Heavy Trucks:	53.109

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	69.34	-2.38	-0.69	-1.20	*-0.20*	0.000	0.000
Medium Trucks:	77.62	-19.24	-0.62	-1.20	*-0.37*	0.000	0.000
Heavy Trucks:	82.14	-22.25	-0.50	-1.20	*-1.09*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.1	63.3	58.8	56.7	64.6	64.9
Medium Trucks:	56.6	54.8	50.2	48.2	56.1	56.4
Heavy Trucks:	58.2	56.4	51.9	49.8	57.8	58.1
Vehicle Noise:	66.4	64.6	60.0	58.0	65.9	66.2

Mitigated Noise Levels (with Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.1	63.3	58.8	56.7	64.6	64.9
Medium Trucks:	56.6	54.8	50.2	48.2	56.1	56.4
Heavy Trucks:	58.2	56.4	51.9	49.8	57.8	58.1
Vehicle Noise:	66.4	64.6	60.0	58.0	65.9	66.2

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (CALVENO) - 6/2/2013

Scenario: Second Floor With Wall
Road Name: Vernon Ave.
Lot No: 89

Project Name: Kasbergen/Halfigler TT34271
Job Number: 14573
Analyst: B. Maddux

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,100 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	910 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**6.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	33.0 feet
Centerline Dist. to Observer:	53.0 feet
Barrier Distance to Observer:	20.0 feet
Observer Height (Above Pad):	14.0 feet
Pad Elevation:	1,559.3 feet
Road Elevation:	1,558.0 feet
Barrier Elevation:	1,559.3 feet
Road Grade:	0.5%

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	80.0%	7.0%	13.0%	97.00%
Medium Trucks:	80.0%	7.0%	13.0%	2.00%
Heavy Trucks:	80.0%	7.0%	13.0%	1.00%

Noise Source Elevations (in feet)

Autos:	1,558.000		
Medium Trucks:	1,560.297		
Heavy Trucks:	1,566.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	54.837
Medium Trucks:	54.241
Heavy Trucks:	53.162

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	69.34	-2.38	-0.70	-1.20	*-0.17*	0.000	0.000
Medium Trucks:	77.62	-19.24	-0.63	-1.20	*-0.34*	0.000	0.000
Heavy Trucks:	82.14	-22.25	-0.50	-1.20	*-1.03*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.1	63.3	58.7	56.7	64.6	64.9
Medium Trucks:	56.6	54.8	50.2	48.1	56.1	56.4
Heavy Trucks:	58.2	56.4	51.9	49.8	57.8	58.0
Vehicle Noise:	66.4	64.6	60.0	57.9	65.9	66.2

Mitigated Noise Levels (with Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.1	63.3	58.7	56.7	64.6	64.9
Medium Trucks:	56.6	54.8	50.2	48.1	56.1	56.4
Heavy Trucks:	58.2	56.4	51.9	49.8	57.8	58.0
Vehicle Noise:	66.4	64.6	60.0	57.9	65.9	66.2

APPENDIX 11.1:

CADNAA CONSTRUCTION NOISE MODEL INPUTS

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14362 - Wildomar Crossroads

CadnaA Noise Prediction Model: 14573-02 Construction.cna
Date: 21.03.22
Analyst: B. Lawson

Calculation Configuration

Configuration	
Parameter	Value
General	
Country	(user defined)
Max. Error (dB)	0.00
Max. Search Radius (#(Unit,LEN))	2000.01
Min. Dist Src to Rcvr	0.00
Partition	
Raster Factor	0.50
Max. Length of Section (#(Unit,LEN))	999.99
Min. Length of Section (#(Unit,LEN))	1.01
Min. Length of Section (%)	0.00
Proj. Line Sources	On
Proj. Area Sources	On
Ref. Time	
Reference Time Day (min)	960.00
Reference Time Night (min)	480.00
Daytime Penalty (dB)	0.00
Recr. Time Penalty (dB)	5.00
Night-time Penalty (dB)	10.00
DTM	
Standard Height (m)	0.00
Model of Terrain	Triangulation
Reflection	
max. Order of Reflection	2
Search Radius Src	100.00
Search Radius Rcvr	100.00
Max. Distance Source - Rcvr	1000.00 1000.00
Min. Distance Rvcr - Reflector	1.00 1.00
Min. Distance Source - Reflector	0.10
Industrial (ISO 9613)	
Lateral Diffraction	some Obj
Obst. within Area Src do not shield	On
Screening	Incl. Ground Att. over Barrier
	Dz with limit (20/25)
Barrier Coefficients C1,2,3	3.0 20.0 0.0
Temperature (#(Unit,TEMP))	10
rel. Humidity (%)	70
Ground Absorption G	0.50
Wind Speed for Dir. (#(Unit,SPEED))	3.0
Roads (RLS-90)	
Strictly acc. to RLS-90	
Railways (FTA/FRA)	
Aircraft (???)	
Strictly acc. to AzB	

Receiver Noise Levels

Name	M.	ID	Level Lr			Limit. Value			Land Use			Height		Coordinates		
			Day	Night	CNEL	Day	Night	CNEL	Type	Auto	Noise Type			X	Y	Z
			(dBA)	(dBA)	(dBA)	(dBA)	(dBA)	(dBA)				(ft)		(ft)	(ft)	(ft)
RECEIVERS		R1	52.9	52.9	59.6	80.0	0.0	0.0				5.00	r	6347501.85	2236018.24	5.00
RECEIVERS		R2	64.6	64.6	71.3	80.0	0.0	0.0				5.00	r	6347852.36	2234435.77	5.00
RECEIVERS		R3	57.2	57.2	63.9	80.0	0.0	0.0				5.00	r	6347522.62	2234710.04	5.00
RECEIVERS		R4	57.0	57.0	63.7	80.0	0.0	0.0				5.00	r	6347497.66	2235450.06	5.00

Area Source(s)

Name	M.	ID	Result. PWL			Result. PWL''			Lw / Li			Operating Time			Height
			Day	Evening	Night	Day	Evening	Night	Type	Value	norm.	Day	Special	Night	(ft)
			(dBA)	(dBA)	(dBA)	(dBA)	(dBA)	(dBA)			dB(A)	(min)	(min)	(min)	
Construction Activity		CA00001	115.0	115.0	115.0	62.6	62.6	62.6	Lw	115					8

Name	Height				Coordinates			
	Begin		End		x	y	z	Ground
	(ft)		(ft)		(ft)	(ft)	(ft)	(ft)
Construction Activity	8.00	r			6347852.36	2234214.76	8.00	0.00
					6347852.36	2234607.40	8.00	0.00
					6347626.28	2234619.04	8.00	0.00
					6347625.32	2235794.90	8.00	0.00
					6347888.88	2235789.50	8.00	0.00
					6348000.87	2235793.98	8.00	0.00
					6348081.82	2235797.34	8.00	0.00

Name	Height				Coordinates			
	Begin		End		x	y	z	Ground
	(ft)		(ft)		(ft)	(ft)	(ft)	(ft)
					6348183.80	2235799.39	8.00	0.00
					6348295.53	2235792.05	8.00	0.00
					6348396.59	2235778.38	8.00	0.00
					6348500.44	2235757.19	8.00	0.00
					6348600.68	2235729.57	8.00	0.00
					6348693.26	2235697.47	8.00	0.00
					6348818.00	2235643.40	8.00	0.00
					6348899.50	2235600.73	8.00	0.00
					6348914.55	2235570.47	8.00	0.00
					6348904.37	2235541.97	8.00	0.00
					6348897.50	2235517.29	8.00	0.00
					6348893.03	2235495.12	8.00	0.00
					6348891.10	2235481.88	8.00	0.00
					6348888.77	2235453.74	8.00	0.00
					6348884.66	2234215.65	8.00	0.00

KASBERGEN/HAFLIGER TT34271

TRAFFIC ANALYSIS

CITY OF SAN JACINTO

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FEBRUARY 23, 2022

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LIST OF ABBREVIATED TERMS

(1)	Reference
ADT	Average Daily Traffic
Caltrans	California Department of Transportation
CEQA	California Environmental Quality Act
CMP	Congestion Management Program
CVAG	Coachella Valley Association of Governments
DU	Dwelling Unit
EAC	Existing Plus Ambient Growth Plus Cumulative
EAPC	Existing Plus Ambient Growth Plus Project Plus Cumulative
HCM	Highway Capacity Manual
ITE	Institute of Transportation Engineers
LOS	Level of Service
MUTCD	Manual on Uniform Traffic Control Devices
PHF	Peak Hour Factor
Project	Kasbergen/Hafliger TT34271
TA	Traffic Analysis
TUMF	Transportation Uniform Mitigation Fee

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1 INTRODUCTION

This report presents the results of the traffic analysis (TA) for the proposed Kasbergen/Hafliger TT34271 ("Project"), located east of Alessandro Avenue, south of Ramona Expressway, and west of Vernon Avenue in the City of San Jacinto.

The purpose of this TA is to evaluate the potential circulation system deficiencies that may result from the development of the proposed Project, and recommend improvements to achieve acceptable circulation system operational conditions. This TA has been prepared based in accordance with the City of San Jacinto's Traffic Impact Guidelines for Vehicle Miles Traveled and Level of Service Assessment (Adopted June 16, 2020). (1) To ensure that this TA satisfies the City of San Jacinto's traffic study requirements, Urban Crossroads, Inc. prepared a traffic study scoping package for review by City staff prior to the preparation of this report. The Agreement provides an outline of the Project study area, trip generation, trip distribution, and analysis methodology. The Agreement approved by the City is included in Appendix 1.1.

1.1 SUMMARY OF FINDINGS

For Existing (2022) traffic conditions, the intersection of Alessandro Avenue/Ramona Expressway (#2) is currently operating at an unacceptable level of service (LOS "E" or worse).

For Existing plus Ambient plus Cumulative (EAC) traffic conditions, the intersections of Alessandro Avenue/Ramona Expressway (#2) and Vernon Avenue/Main Street (#7) are anticipated to operate at an unacceptable level of service (LOS "E" or worse). Both deficient intersections are projected to meet traffic signal warrants under EAC (2024) conditions.

For Existing plus Ambient plus Project plus Cumulative (EAPC) traffic conditions, the addition of Project traffic to study area intersections did not result in new deficient intersection operations.

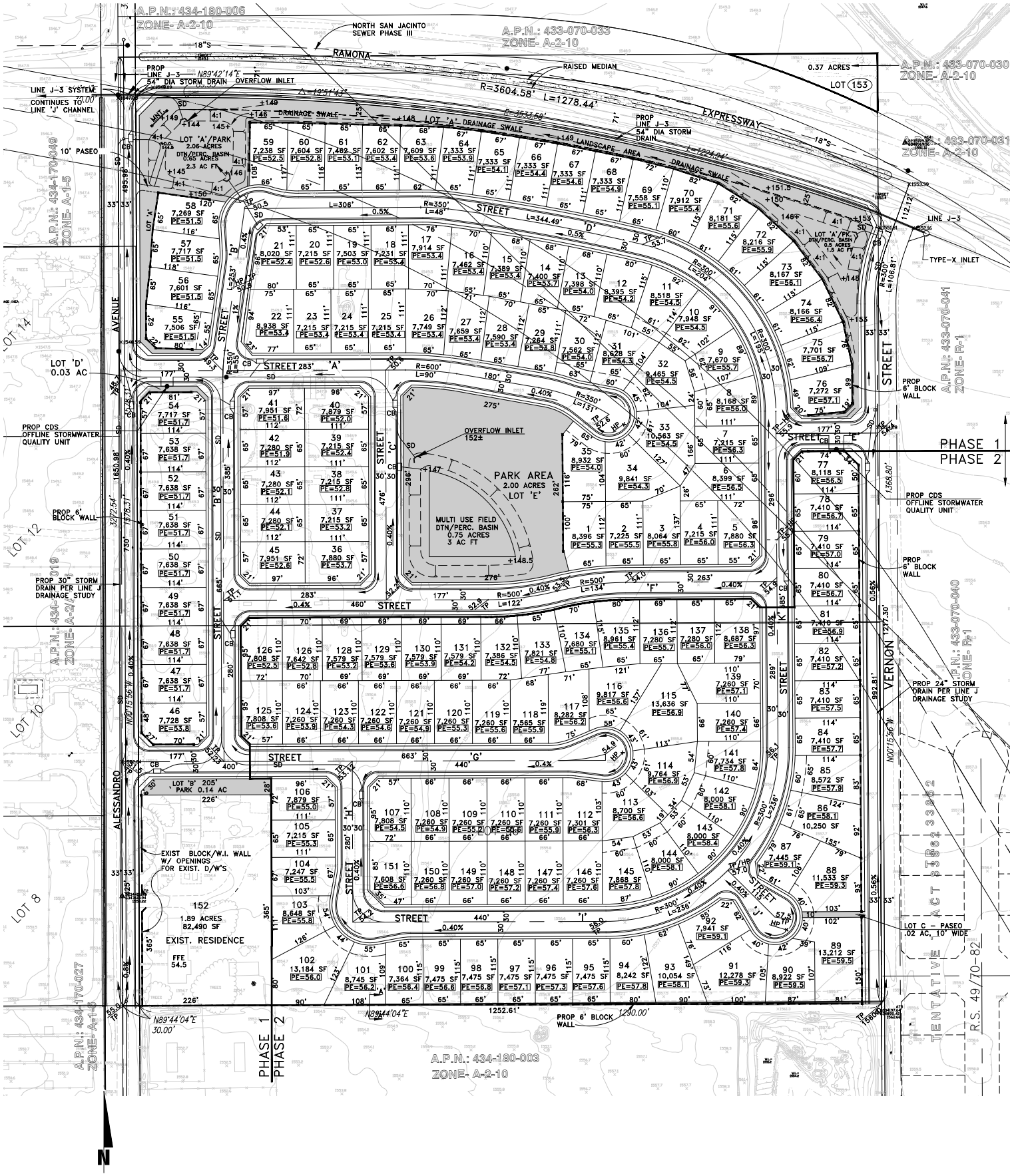
Installation of a traffic signal at the two deficient locations are anticipated to address intersection operational deficiencies. The Project applicant shall participate in the CVAG's TUMF program by paying the requisite TUMF fee; and in addition, pay the Project's fair share towards the installation of traffic signals at the intersection of #2 - Alessandro Avenue/Ramona Expressway (6.8% fair share) and #7 - Vernon Avenue/Main Street (5.2%), or as agreed to by the City and Project Applicant.

1.2 PROJECT OVERVIEW

The Project is proposed to consist of 151 residential dwelling units. It is anticipated that the Project would be fully developed by year 2024. A preliminary site plan of the proposed Project is shown in Exhibit 1-1. Project will have two full access driveways along the Alessandro Avenue and one full access driveway along Vernon Avenue.

Trips generated by the Project's proposed land uses have been estimated based on trip generation rates collected by the Institute of Transportation Engineers (ITE) Trip Generation Manual, 11th Edition, 2021. (2) The Project is anticipated to generate a net total of 1,424 trip-ends per day with 106 AM peak hour trips and 140 PM peak hour trips.

EXHIBIT 1-1: PRELIMINARY SITE PLAN



The assumptions and methods used to estimate the Project's trip generation characteristics are discussed in greater detail in Section 4.1 *Project Trip Generation* of this report.

1.3 ANALYSIS SCENARIOS

For the purposes of this traffic study, potential impacts to traffic and circulation have been evaluated for each of the following conditions:

- Existing (2022) Conditions
- Existing plus Ambient Growth plus Cumulative (EAC) (2024) Conditions
- Existing plus Ambient Growth plus Project Plus Cumulative (EAPC) (2024) Conditions

All study area intersections are evaluated using the Highway Capacity Manual (HCM) 6th Edition analysis methodology.

1.3.1 EXISTING CONDITIONS

Existing physical conditions have been disclosed to represent the baseline traffic conditions as they existed at the time this report was prepared.

1.3.2 EAC CONDITIONS

The EAC (2024) traffic conditions analyses determine potential traffic impacts based on a comparison of the EAC traffic conditions to Existing conditions. To account for background traffic growth, an ambient growth factor from Existing conditions of 4.04% (2 percent per year over 2 years, compounded annually) for 2024 conditions is included for EAC traffic conditions. Consistent with County of Riverside traffic study guidelines, the EAC analysis is intended to identify "Opening Year" deficiencies associated with the development of the proposed Project based on the expected background growth within the study area.

1.3.3 EAPC CONDITIONS

The EAPC (2024) traffic conditions analyses determine the potential near-term cumulative circulation system deficiencies. Background traffic for these analysis scenarios follow the same ambient growth methodology described above for EAC traffic conditions. However, EAPC traffic conditions also include the addition of cumulative development traffic. The comprehensive list of cumulative development projects was compiled from information provided by the City of San Jacinto.

1.4 STUDY AREA

The Project study area was defined in coordination with the City of San Jacinto. Consistent with City of San Jacinto's Traffic Impact Guidelines for Vehicle Miles Traveled and Level of Service Assessment, the study area includes any intersection of "Collector" or higher classification street, with "Collector" or higher classification streets, at which the proposed project will add 50 or more peak hour trips. Exhibit 1-2 presents the study area and intersection analysis locations.

EXHIBIT 1-2: TRAFFIC ANALYSIS STUDY AREA



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The "50 peak hour trip" criteria generally represents a minimum number of trips at which a typical intersection would have the potential to be substantively impacted by a given development proposal. Although each intersection may have unique operating characteristics, this traffic engineering rule of thumb is a widely utilized tool for estimating a potential area of impact (i.e., study area).

To ensure that this TA satisfies the needs of the City of San Jacinto, Urban Crossroads, Inc. prepared a Project specific traffic study scoping agreement for review by City staff prior to the preparation of this TA. The agreement provides an outline of the study area, trip generation, trip distribution, and analysis methodology. The agreement approved by the City of San Jacinto is included in Appendix 1.1.

1.4.1 INTERSECTIONS

The following 4 study area intersections shown on Exhibit 1-2 and listed in Table 1-1 were selected for this TA based on consultation with City of San Jacinto staff.

TABLE 1-1: INTERSECTION ANALYSIS LOCATIONS

ID	Intersection	ID	Intersection
1	State St. (SR-79) / Ramona Exwy. (SR-79)	6	Alessandro Av. / Main St.
2	Alessandro Av. / Ramona Exwy.	7	Vernon Av. / Main St.
3	Vernon Av. / Ramona Exwy.	8	Alessandro Av. / St. 'A' - *(Future Project Driveway)*
4	Alessandro Av. / 1st St.	9	Alessandro Av. / St. 'G'- *(Future Project Driveway)*
5	Vernon Av. / 1st St.	10	Vernon Av. / St. 'E'- *(Future Project Driveway)*

1.5 ANALYSIS FINDINGS

This section provides a summary of the analysis results for Existing (2022), EAC (2024), and EAPC (2024) conditions.

The results of the potentially significant cumulative impacts for the study area intersections for near term traffic conditions are summarized in Exhibit 1-3.

Existing (2022) **Conditions**

For Existing (2022) traffic conditions, the study area intersection of Alessandro Avenue / Ramona Expressway (#2) is currently operating at an unacceptable LOS (i.e., LOS "E" or worse) during AM and PM peak hours.

Opening Year (2024) Conditions

For EAC (2024) traffic conditions, the study area intersection of Vernon Avenue / Main Street (#7) is currently operating at an unacceptable LOS (i.e., LOS "F" or worse) during AM and PM peak hours.

For EAPC (2024) traffic conditions, no additional study area intersections are anticipated to operate at an unacceptable LOS (i.e., LOS E or worse) during one or more peak hours.

EXHIBIT 1-3: SUMMARY OF DEFICIENT INTERSECTIONS BY ANALYSIS SCENARIO

#	Intersection	Existing (2022)	EAC (2024)	EAPC (2024)
1	State St. (SR-79) / Ramona Exwy. (SR-79)			
2	Alessandro Av. / Ramona Exwy.			
3	Vernon Av. / Ramona Exwy.			
4	Alessandro Av. / 1st St.			
5	Vernon Av. / 1st St.			
6	Alessandro Av. / Main St.			
7	Vernon Av. / Main St.			
8	Alessandro Av. / St. 'A'	NA	NA	
9	Alessandro Av. / St. 'G'	NA	NA	
10	Vernon St. / St. 'E'	NA	NA	

LEGEND:

= AM PEAK HOUR
= PM PEAK HOUR
= LOS A-D
= LOS E
= LOS F
NA = NOT AN ANALYSIS LOCATION FOR THIS SCENARIO

1.6 CIRCULATION SYSTEM DEFICIENCIES AND RECOMMENDED IMPROVEMENTS

A summary of the operationally deficient study area intersections and recommended improvements required to achieve acceptable circulation system performance are described in detail within Section 5 *EAC (2024) Traffic Analysis*, and Section 6 *EAPC (2024) Traffic Analysis* of this report.

Installation of a traffic signals at the deficient intersections of Alessandro Avenue/Ramona Expressway (#2) and Vernon Avenue/Main Street (#7) are anticipated to address intersection operational deficiencies for EAC (2024) and EAPC (2024) conditions. Fair share financial contribution based on the Project's estimated peak hour volumes at these locations may be imposed at the discretion of the City of San Jacinto.

Detailed fair share calculations, for each peak hour, are provided in Table 1-2 for the intersections of Alessandro Avenue / Ramona Expressway (#2) and Vernon Avenue / Main Street (#7).

1.7 ON-SITE ROADWAY AND SITE ACCESS IMPROVEMENTS

Roadway improvements necessary to provide site access and on-site circulation are assumed to be constructed in conjunction with site development (see Exhibit 1-4). These improvements should be in place prior to occupancy.

Ramona Expressway – Construct Ramona Expressway at its ultimate half-section width as an urban arterial roadway from Alessandro Avenue to Vernon Avenue in conjunction with development.

Alessandro Avenue – Construct Alessandro Avenue at its ultimate half-section width as a collector roadway from Ramona Expressway to the southerly Project boundary in conjunction with development.

Vernon Avenue - Construct Vernon Avenue at its ultimate half-section width as a 2-lane roadway (including curb, gutter, and sidewalk) from Ramona Expressway to the southerly Project boundary in conjunction with development.

Alessandro Avenue / Street 'A' (#8) – Cross-street stop control on the westbound approach with a shared westbound left/right lane provides acceptable peak hour service levels.

Alessandro Avenue / Street 'G' (#9) – Cross-street stop control on the westbound approach with a shared westbound left/right lane provides acceptable peak hour service levels.

Vernon Avenue / Main Street 'E' (#10) – Cross-street stop control on the eastbound approach with a shared eastbound left/right lane provides acceptable peak hour service levels.

On-site traffic signing and striping should be implemented in conjunction with detailed construction plans for the Project site.

Sight distance at the project access point should be reviewed with respect to standard Caltrans and City of San Jacinto sight distance standards at the time of preparation of final grading, landscape and street improvement plans.

TABLE 1-2: FAIR SHARE CALCULATIONS

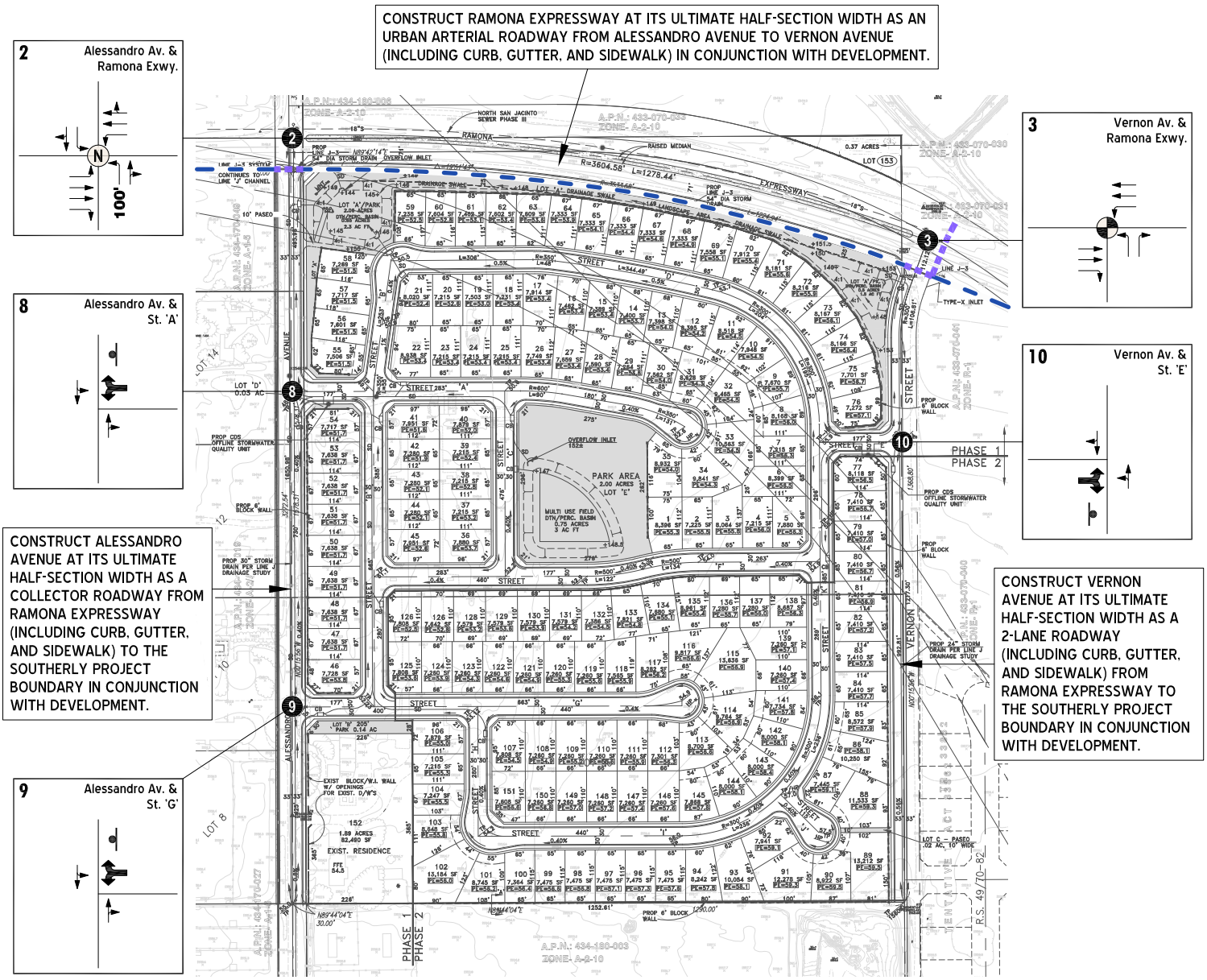
ID	Intersection	Existing (2022) Traffic	EAPC (2024) Traffic	Project Only Traffic	Total New Traffic[1]	Project Fair Share (%)[2]
2	Alessandro Av. / Ramona Exwy.					
	• AM Peak Hour	1,578	2,209	43	631	**6.8%**
	• PM Peak Hour	1,529	2,348	56	819	6.8%
7	Vernon Av. / Main St.					
	• AM Peak Hour	558	1,438	36	880	4.1%
	• PM Peak Hour	585	1,472	46	887	**5.2%**

[1] Total New Traffic = (EAPC - Existing Traffic)

[2] Project Fair Share % = (Project Only Traffic / Total New Traffic)

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EXHIBIT 1-4: SITE ACCESS AND SITE ADJACENT RECOMMENDATIONS



ON-SITE TRAFFIC SIGNING AND STRIPING SHOULD BE IMPLEMENTED IN CONJUNCTION WITH DETAILED CONSTRUCTION PLANS FOR THE PROJECT SITE.

SIGHT DISTANCE AT THE PROJECT ACCESS POINT SHOULD BE REVIEWED WITH RESPECT TO STANDARD CALTRANS AND CITY OF SAN JACINTO SIGHT DISTANCE STANDARDS AT THE TIME OF PREPARATION OF FINAL GRADING, LANDSCAPE AND STREET IMPROVEMENT PLANS.

LEGEND:

- (#) = INTERSECTION ID
- = EXISTING TRAFFIC SIGNAL
- (N) = NEW TRAFFIC SIGNAL
- = NEW STOP SIGN
- = EXISTING LANE
- = LANE IMPROVEMENT
- 100' = RECOMMENDED TURN POCKET LENGTH
- = EXISTING CROSSWALK
- = EXISTING BIKE PATH

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2 METHODOLOGIES

This section documents the methodologies and assumptions used to perform this traffic assessment.

2.1 LEVEL OF SERVICE

Traffic operations of roadway facilities are described using the term "Level of Service" (LOS). LOS is a qualitative description of traffic flow based on several factors such as speed, travel time, delay, and freedom to maneuver. Six levels are typically defined ranging from LOS A, representing completely free-flow conditions, to LOS F, representing breakdown in flow resulting in stop-and-go conditions. LOS E represents operations at or near capacity, an unstable level where vehicles are operating with the minimum spacing for maintaining uniform flow.

2.2 INTERSECTION CAPACITY ANALYSIS

The definitions of LOS for interrupted traffic flow (flow restrained by the existence of traffic signals and other traffic control devices) differ slightly depending on the type of traffic control. The LOS is typically dependent on the quality of traffic flow at the intersections along a roadway. The *Highway Capacity Manual* (HCM) methodology expresses the LOS at an intersection in terms of delay time for the various intersection approaches. (3) The HCM uses different procedures depending on the type of intersection control.

2.2.1 SIGNALIZED INTERSECTIONS

The City of San Jacinto require signalized intersection operations analysis based on the methodology described in the HCM 6th Edition (3). Intersection LOS operations are based on an intersection's average control delay. Control delay includes initial deceleration delay, queue move-up time, stopped delay, and final acceleration delay. For signalized intersections LOS is directly related to the average control delay per vehicle and is correlated to a LOS designation as described in Table 2-1. Study area intersections have been evaluated using the Synchro (Version 11) analysis software package.

Synchro is a macroscopic traffic software program that is based on the signalized intersection capacity analysis as specified in the HCM. Macroscopic level models represent traffic in terms of aggregate measures for each movement at the study intersections. Equations are used to determine measures of effectiveness in addressing such parameters as delay and queue length. The level of service and capacity analysis performed by Synchro takes into consideration optimization and coordination of signalized intersections within a network.

TABLE 2-1: SIGNALIZED INTERSECTION DESCRIPTION OF LOS

Description	Average Control Delay (Seconds), V/C ≤ 1.0	Level of Service, V/C ≤ 1.0	Level of Service, V/C > 1.0
Operations with very low delay occurring with favorable progression and/or short cycle length.	0 to 10.00	A	F
Operations with low delay occurring with good progression and/or short cycle lengths.	10.01 to 20.00	B	F
Operations with average delays resulting from fair progression and/or longer cycle lengths. Individual cycle failures begin to appear.	20.01 to 35.00	C	F
Operations with longer delays due to a combination of unfavorable progression, long cycle lengths, or high V/C ratios. Many vehicles stop and individual cycle failures are noticeable.	35.01 to 55.00	D	F
Operations with high delay values indicating poor progression, long cycle lengths, and high V/C ratios. Individual cycle failures are frequent occurrences. This is considered to be the limit of acceptable delay.	55.01 to 80.00	E	F
Operation with delays unacceptable to most drivers occurring due to over saturation, poor progression, or very long cycle lengths	80.01 and up	F	F

Source: HCM 6th Edition (3)

2.2.2 UNSIGNALIZED INTERSECTIONS

The City of San Jacinto require the operations of unsignalized intersections be evaluated using the methodology described in the HCM 6th Edition. (3) The LOS rating is based on the weighted average control delay expressed in seconds per vehicle (see Table 2-2).

TABLE 2-2: UNSIGNALIZED INTERSECTION DESCRIPTION OF LOS

Description	Average Control Delay Per Vehicle (Seconds)	Level of Service, V/C ≤ 1.0	Level of Service, V/C > 1.0
Little or no delays.	0 to 10.00	A	F
Short traffic delays.	10.01 to 15.00	B	F
Average traffic delays.	15.01 to 25.00	C	F
Long traffic delays.	25.01 to 35.00	D	F
Very long traffic delays.	35.01 to 50.00	E	F
Extreme traffic delays with intersection capacity exceeded.	> 50.00	F	F

Source: HCM 6th Edition

At two-way or side-street stop-controlled intersections, LOS is calculated for each controlled movement and for the left turn movement from the major street, as well as for the intersection as a whole. For approaches composed of a single lane, the delay is computed as the average of all movements in that lane. For all-way stop controlled intersections, LOS is computed for the intersection as a whole.

2.3 TRAFFIC SIGNAL WARRANT ANALYSIS METHODOLOGY

The term "signal warrants" refers to the list of established criteria used by Caltrans and other public agencies to quantitatively justify or ascertain the potential need for installation of a traffic signal at an otherwise unsignalized intersection. This focused TA uses the signal warrant criteria presented in the latest edition of the Caltrans California Manual on Uniform Traffic Control Devices (CA MUTCD), for all study area intersections. (4)

The signal warrant criteria for Existing conditions are based upon several factors, including volume of vehicular and pedestrian traffic, frequency of accidents, and location of school areas. The CAMUTCD indicates that the installation of a traffic signal should be considered if one or more of the signal warrants are met. (4) Specifically, this focused TA utilizes the Peak Hour Volume-based Warrant 3 as the appropriate representative traffic signal warrant analysis for existing study area intersections for all analysis scenarios. Warrant 3 is appropriate to use for this TA because it provides specialized warrant criteria for intersections with rural characteristics (e.g. located in communities with populations of less than 10,000 persons or with adjacent major streets operating above 40 miles per hour). For the purposes of this study, the speed limit was the basis for determining whether Urban or Rural warrants were used for a given intersection.

Future intersections that do not currently exist have been assessed regarding the potential need for new traffic signals based on future average daily traffic (ADT) volumes, using the Caltrans planning level ADT-based signal warrant analysis worksheets.

Traffic signal warrant analyses were performed for all of the following unsignalized study area intersections (see Table 2-3):

TABLE 2-3: UNSIGNALIZED INTERSECTION LOCATIONS

ID	Intersection	ID	Intersection
2	Alessandro Av. / Ramona Exwy.	7	Vernon Av. / Main St.
4	Alessandro Av. / 1st St.	8	Alessandro Av. / St. 'A' - *(Future Project*
5	Vernon Av. / 1st St.	9	Alessandro Av. / St. 'G'- *(Future Project*
6	Alessandro Av. / Main St.	10	Vernon Av. / St. 'E'- *(Future Project Driveway)*

The Existing conditions traffic signal warrant analysis is presented in the subsequent section, Section 3 *Existing Conditions* of this report. The traffic signal warrant analysis for future conditions is presented Section 5 *EAC (2024) Traffic Analysis and* Section 6 *EAPC (2024)* of this report.

It is important to note that a signal warrant defines the minimum condition under which the installation of a traffic signal might be warranted. Meeting this condition does not require that a traffic control signal be installed at a particular location, but rather, that other traffic factors and conditions be evaluated in order to determine whether the signal is truly justified. It should also be noted that signal warrants do not necessarily correlate with LOS. An intersection may satisfy a signal warrant condition and operate at or above acceptable LOS or operate below acceptable LOS and not meet a signal warrant.

2.4 MINIMUM LEVEL OF SERVICE (LOS)

The City of San Jacinto has established a peak hour Level of Service D or better as acceptable for all intersections along the designated street and highway system. Projects that may result in an increase in traffic must prepare a traffic analysis that evaluates long-term impacts of the project and any mitigation necessary to ensure the project achieves or maintains the peak hour intersection LOS D standard.

Signalized Intersection Operating Requirements

- Any signalized study intersection operating at an acceptable LOS D or better without project traffic in which the addition of project traffic causes the intersection to degrade to a LOS E or F shall identify improvements to improve operations to LOS D or better.
- Any signalized study intersection that is operating at LOS E or F without project traffic where the project increases delay by 5.0 or more seconds shall identify improvements to offset the increase in delay.

Unsignalized Intersection General Plan Consistency Requirements

An operational improvement would be required if the study determines that either section a) or both sections b) and c) occur:

a) The addition of project related traffic causes the intersection to degrade from an acceptable LOS D or better to LOS E or F.

OR

b) The project adds 5.0 seconds or more of delay to an intersection that is already projected to operate without project traffic at a LOS E or F,

AND

c) The intersection meets the peak hour traffic signal warrant after the addition of project traffic.

If the conditions above are satisfied, improvements will be identified that achieve LOS D or better for case a) above or to pre-project LOS and delay for case b) above.

2.5 PROJECT FAIR SHARE CALCULATION METHODOLOGY

In cases where this TA identifies that the Project would contribute additional traffic volumes to cumulative traffic deficiencies, Project fair share costs of improvements necessary to address deficiencies have been identified. The Project's fair share cost of improvements is determined based on the following equation, which is the ratio of Project traffic to total future traffic:

Project Fair Share % = Project Traffic / (EAPC Total Traffic – Existing Traffic)

The Project fair share contribution calculations are presented in Section 1.7 *Local and Regional Funding Mechanisms* of this TA.

3 EXISTING CONDITIONS

This section provides a summary of the existing circulation network, the City of San Jacinto General Plan Circulation Network, and a review of existing peak hour intersection operations, freeway mainline operations, and traffic signal warrant analyses.

3.1 EXISTING CIRCULATION NETWORK

Pursuant to the agreement with City of San Jacinto staff (Appendix 1.1), the study area includes a total of 4 existing and future intersections as shown on Exhibit 1-2. Exhibit 3-1 illustrates the study area intersections located near the proposed Project and identifies the number of through traffic lanes for existing roadways and intersection traffic controls.

3.2 CITY OF SAN JACINTO GENERAL PLAN CIRCULATION ELEMENT

Exhibit 3-2 shows the adopted City of San Jacinto General Plan Circulation Element, and Exhibit 3-3 illustrates the adopted City of San Jacinto General Plan roadway cross-sections.

3.3 TRANSIT SERVICE

The study area is currently served by the Riverside Transit Agency (RTA). RTA routes 32 and 42 serves Main Street within the study area. Transit service is reviewed and updated by RTA periodically to address ridership, budget and community demand needs. Changes in land use can affect these periodic adjustments which may lead to either enhanced or reduced service where appropriate.

3.4 PEDESTRIAN AND BICYCLE FACILITIES

Existing on-street bike lanes are located on the north and south side of Ramona Expressway (west of State Street to San Jacinto Avenue) and transitions to a bike path east of San Jacinto on the south side of Ramona Expressway within the study area. Sidewalks exist along States Street, Main Street, 1st Street. Most of the sidewalks along Ramona Expressway, Alessandro Avenue, Vernon Avenue are not yet built including the roadway adjacent to Project site.

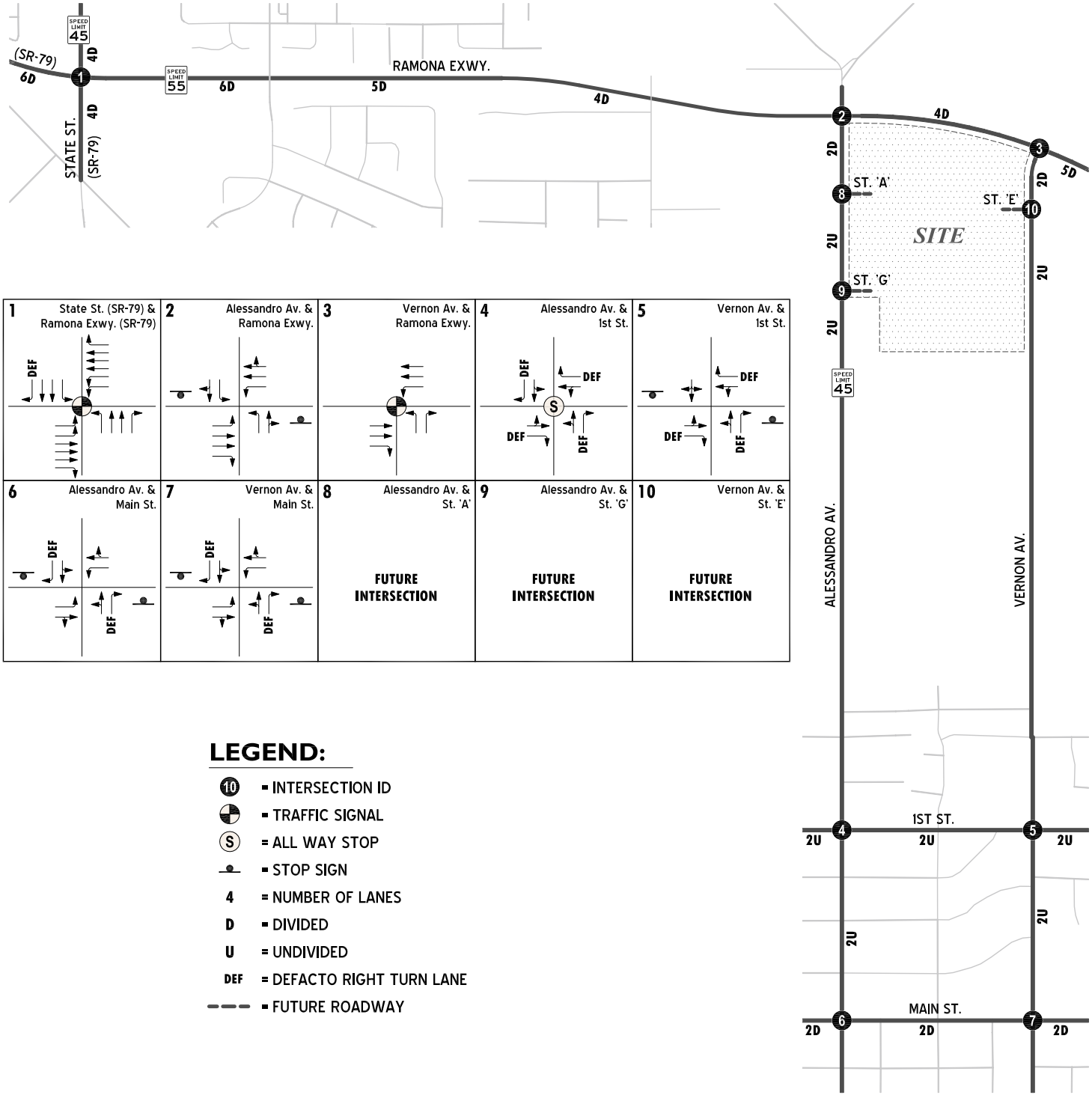
3.5 EXISTING TRAFFIC VOLUMES

The intersection LOS analysis is based on the traffic volumes observed during the peak hour conditions using traffic count data collected in January 2022. The following peak hours were selected for analysis:

- Weekday AM Peak Hour (peak hour between 7:00 AM and 9:00 AM)
- Weekday PM Peak Hour (peak hour between 4:00 PM and 6:00 PM)

The raw manual peak hour turning movement traffic count data sheets are included in Appendix 3.1.

EXHIBIT 3-1: EXISTING NUMBER OF THROUGH LANES AND INTERSECTION CONTROLS



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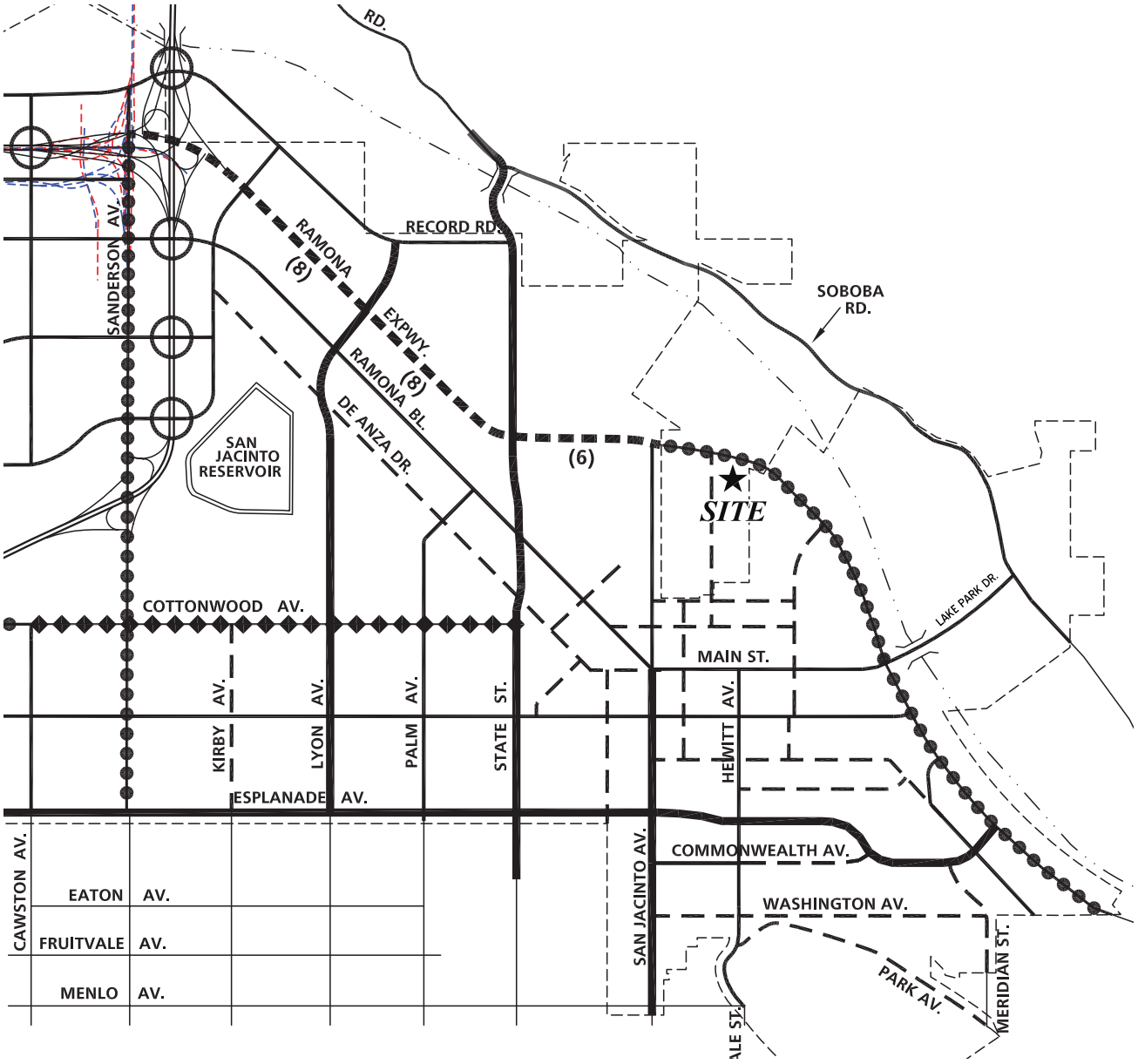
- 10 = INTERSECTION ID
- = TRAFFIC SIGNAL
- S = ALL WAY STOP
- = STOP SIGN
- 4 = NUMBER OF LANES
- D = DIVIDED
- U = UNDIVIDED
- DEF = DEFACTO RIGHT TURN LANE
- = FUTURE ROADWAY

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EXHIBIT 3-2: CITY OF SAN JACINTO GENERAL PLAN CIRCULATION ELEMENT

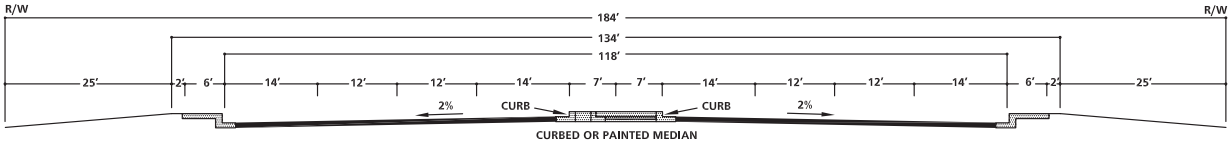


SOURCE: CITY OF SAN JACINTO

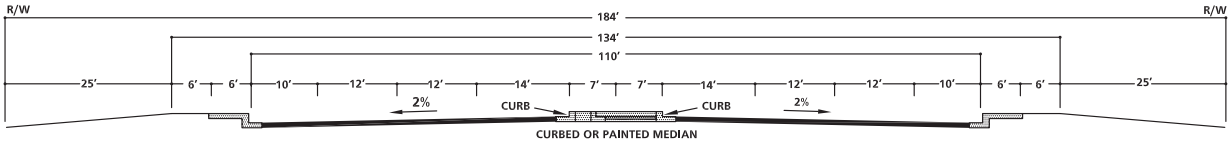
LEGEND:

- = CITY BOUNDARY
- = FREEWAY
- = LIMITED ACCESS CONVENTIONAL HIGHWAY (6 OR 8 LANES)
- = URBAN ARTERIAL
- = ARTERIAL
- = MAJOR
- = SECONDARY
- = COLLECTOR
- = ROADWAY OUTSIDE CITY SPHERE
- = OVER/UNDER CROSSING
- = MID COUNTY PARKWAY ALTERNATIVE 1
- = MID COUNTY PARKWAY ALTERNATIVE 2

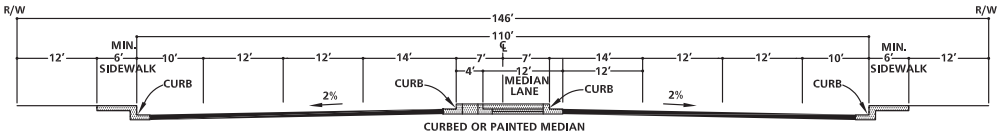
EXHIBIT 3-3: CITY OF SAN JACINTO GENERAL PLAN ROADWAY CROSS-SECTIONS



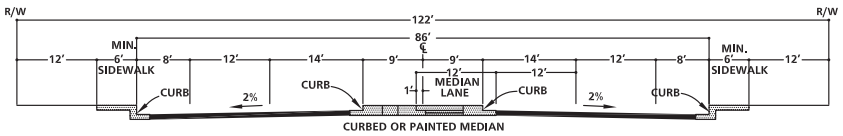
LIMITED ACCESS CONVENTIONAL HIGHWAY - 8 LANES



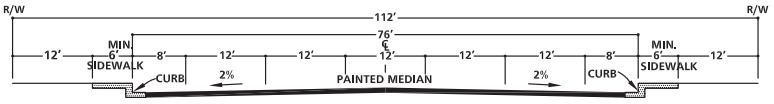
LIMITED ACCESS CONVENTIONAL HIGHWAY - 6 LANES



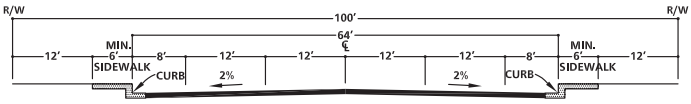
URBAN ARTERIAL HIGHWAY



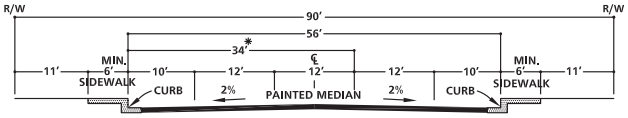
ARTERIAL HIGHWAY



MAJOR HIGHWAY

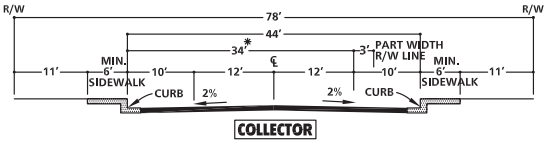


SECONDARY HIGHWAY



INDUSTRIAL COLLECTOR

*PART WIDTH STREET SECTION FOR AN INTERIOR COMMERCIAL OR INDUSTRIAL STREET



COLLECTOR

* PART WIDTH STREET SECTION FOR ALL COLLECTOR STREET - 34' IMPROVEMENTS ON 48' R/W

SOURCE: CITY OF SAN JACINTO

The weekday AM and PM peak hour count data are representative of typical peak hour traffic conditions in the study area. There were no observations made in the field that would indicate atypical traffic conditions on the count dates, such as construction activity that would prevent or limit roadway access and detour routes. These raw turning volumes have been flow conserved between intersections with limited access, no access and where there are currently no uses generating traffic.

Existing weekday average daily traffic (ADT) volumes on arterial highways throughout the study area are shown on Exhibit 3-4. Existing ADT volumes are based upon factored intersection peak hour counts collected by Urban Crossroads, Inc. using the following formula for each intersection leg where daily counts are unavailable:

Weekday PM Peak Hour (Approach Volume + Exit Volume) x 13.69 = Leg Volume

The above equation utilizing a factor of 13.69 estimates the ADT volumes on the study area roadway segments based on a peak-to-daily relationship of approximately 7.3 percent (i.e., 1/0.073 = 13.69).

Existing weekday AM and PM peak hour intersection volumes are also shown on Exhibit 3-4.

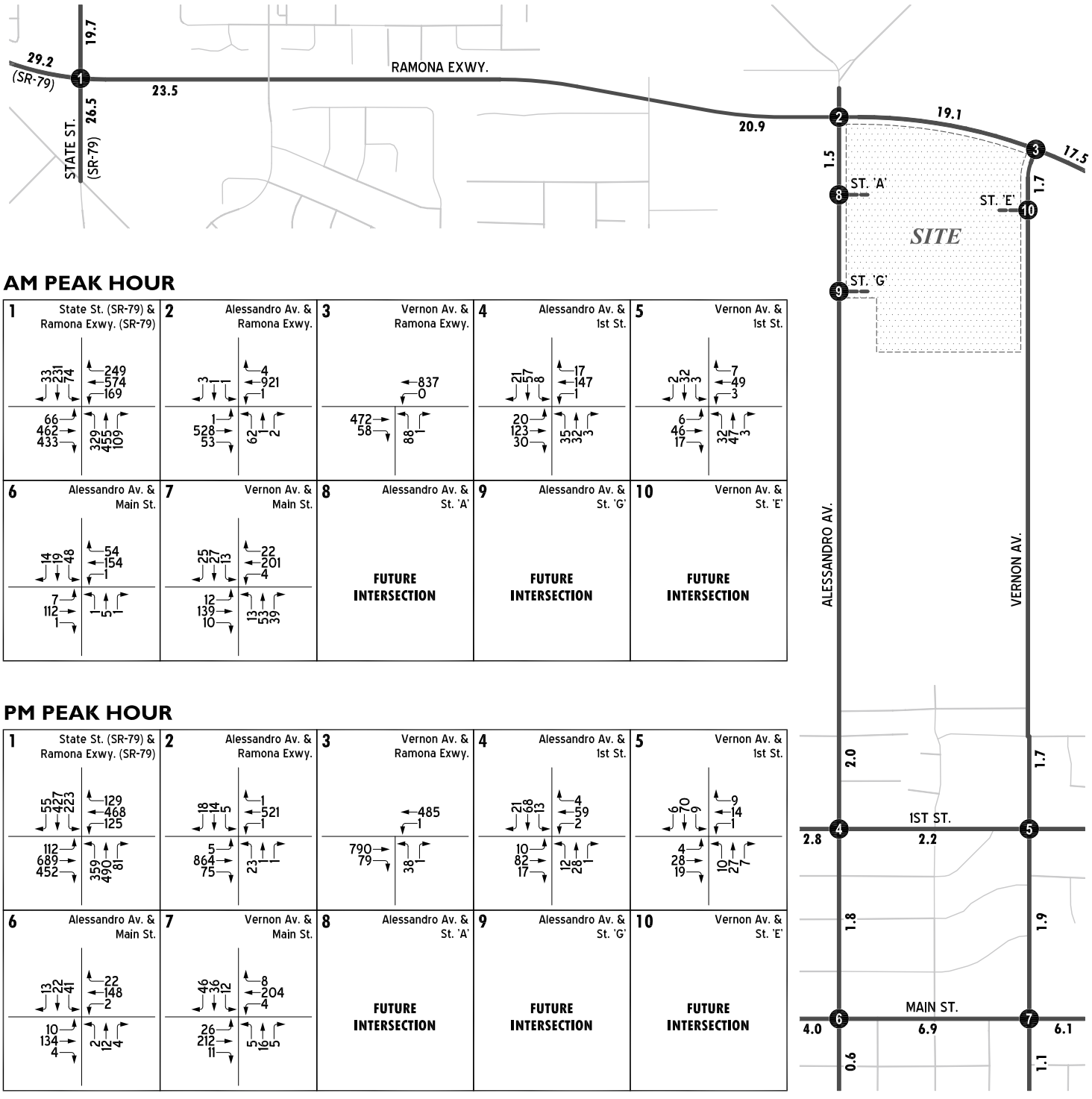
3.6 EXISTING CONDITIONS INTERSECTION OPERATIONS ANALYSIS

Existing peak hour traffic operations have been evaluated for the study area intersections based on the analysis methodologies presented in Section 2.2 *Intersection Capacity Analysis* of this report. The intersection operations analysis results are summarized in Table 3-1 which indicates that the intersection of Alessandro Avenue / Ramona Expressway (#2) is currently operating at an unacceptable LOS during the peak hours. The intersection operations analysis worksheets are included in Appendix 3.2 of this TA.

3.7 EXISTING CONDITIONS TRAFFIC SIGNAL WARRANTS ANALYSIS

Traffic signal warrants for Existing traffic conditions are based on 2022 peak hour intersection turning volumes (see Appendix 3.3).

EXHIBIT 3-4: EXISTING (2022) TRAFFIC VOLUMES



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TABLE 3-1: INTERSECTION ANALYSIS FOR EXISTING (2021) CONDITIONS

#	Intersection	Traffic Control[3]	Intersection Approach Lanes[1]												Delay[2] (Secs)		Level of Service[2]	
			Northbound			Southbound			Eastbound			Westbound						
			L	T	R	L	T	R	L	T	R	L	T	R	AM	PM	AM	PM
1	State St. (SR-79) / Ramona Exwy. (SR-79)	TS	1	2	1	1	2	d	2	3	1	2	3	1	36.8	37.8	D	D
2	Alessandro Av. / Ramona Exwy.	CSS	1	1	0	1	1	0	1	2	1	1	2	0	**42.5**	**40.8**	**E**	**E**
3	Vernon Av. / Ramona Exwy.	TS	1	0	1	0	0	0	0	2	1	1	2	0	9.6	10.3	A	B
4	Alessandro Av. / 1st St.	AWS	0.5	0.5	d	0.5	0.5	d	0.5	0.5	d	0.5	0.5	d	9.5	8.3	A	A
5	Vernon Av. / 1st St.	CSS	0.5	0.5	d	0	1!	0	0.5	0.5	d	0.5	0.5	d	10.7	10.2	B	B
6	Alessandro Av. / Main St.	CSS	0.5	0.5	d	0.5	0.5	d	1	1	0	1	1	0	12.1	12.0	B	B
7	Vernon Av. / Main St.	CSS	0.5	0.5	d	0.5	0.5	d	1	1	0	1	1	0	13.8	14.9	B	B
8	Alessandro Av. / St. 'A'		Intersection Does Not Exist															
9	Alessandro Av. / St. 'G'		Intersection Does Not Exist															
10	Vernon Av. / St. 'E'		Intersection Does Not Exist															

[1] When a right turn is designated, the lane can either be striped or unstriped. To function as a right turn lane there must be sufficient width for right turning vehicles to travel outside the through lanes.

L = Left; T = Through; R = Right; 1! = Shared Left/Through/Right Turn Lane; 0.5 = Shared Lane; d = Defacto Right Turn Lane

[2] Per the Highway Capacity Manual 6th Edition (HCM6), overall average intersection delay and level of service are shown for intersections with a traffic signal or all way stop control. For intersections with cross street stop control, the delay and level of service for the worst individual movement (or movements sharing a single lane) are shown. Delay and level of service is calculated using Synchro 11 analysis software.

BOLD = LOS does not meet the applicable jurisdictional requirements (i.e., unacceptable LOS).

[3] TS = Traffic Signal; CSS = Cross-Street Stop; AWS = All-Way Stop

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4 PROJECTED FUTURE TRAFFIC

This section presents the traffic volumes estimated to be generated by the Project, as well as the Project's trip assignment onto the study area roadway network.

The Project is proposed to consist of 151 residential dwelling units. For the purposes of this analysis, it is assumed that the Project will be fully developed by year 2024. Project will have two full access driveways along the Alessandro Avenue and one full access driveway along Vernon Avenue.

4.1 PROJECT TRIP GENERATION

Trip generation represents the amount of traffic which is both attracted to and produced by a development. Determining traffic generation for a specific project is therefore based upon forecasting the amount of traffic that is expected to be both attracted to and produced by the specific land uses being proposed for a given development.

Trip generation rates used to estimate Project traffic and a summary of the Project's trip generation are shown in Table 4-1. The trip generation rates are based upon data collected by the Institute of Transportation Engineers (ITE) for Single Family Detached Residential (ITE Land Use Code 210) land use in their published Trip Generation Manual, 11th Edition, 2021. (2) As shown on Table 4-1, the proposed Project is anticipated to generate a net total of 1,424 trip-ends per day with 106 AM peak hour trips and 140 PM peak hour trips.

4.2 PROJECT TRIP DISTRIBUTION

The trip distribution pattern for the proposed Project is depicted on Exhibit 4-1. The trip distribution has been developed based on past work experience in the vicinity of the Project site and refined to reflect the roadway network and the surrounding uses in the vicinity of the proposed Project as they exist today.

4.3 MODAL SPLIT

Although the use of public transit, walking, and/or bicycling have the potential to reduce Project-related traffic, such reductions have not been taken into considerations in this traffic study in order to provide a conservative analysis of the Project's potential to contribute to circulation system deficiencies.

4.4 TRIP ASSIGNMENT

The assignment of traffic from the Project area to the adjoining roadway system is based upon the Project trip generation, trip distribution, and the arterial highway and local street system improvements that would be in place by the time of initial occupancy of the Project. Based on the identified Project traffic generation and trip distribution patterns, Project weekday ADT, AM peak hour, and PM peak hour peak hour intersection turning movement volumes are shown on Exhibit 4-2.

TABLE 4-1: PROJECT TRIP GENERATION SUMMARY

Trip Generation Rates[1]									
			AM Peak Hour			PM Peak Hour			
Land Use	ITE LU Code	Quantity[2]	In	Out	Total	In	Out	Total	Daily
Single Family Detached	210	151 DU	0.18	0.52	0.70	0.59	0.34	0.93	9.43

Trip Generation Results									
			AM Peak Hour			PM Peak Hour			
Land Use	ITE LU Code	Quantity[2]	In	Out	Total	In	Out	Total	Daily
Single Family Detached	210	151 DU	27	79	106	89	51	140	1,424

[1] Trip Generation Source: Institute of Transportation Engineers (ITE), Trip Generation Manual, 11th Edition (2021).

[2] DU = Dwelling Unit

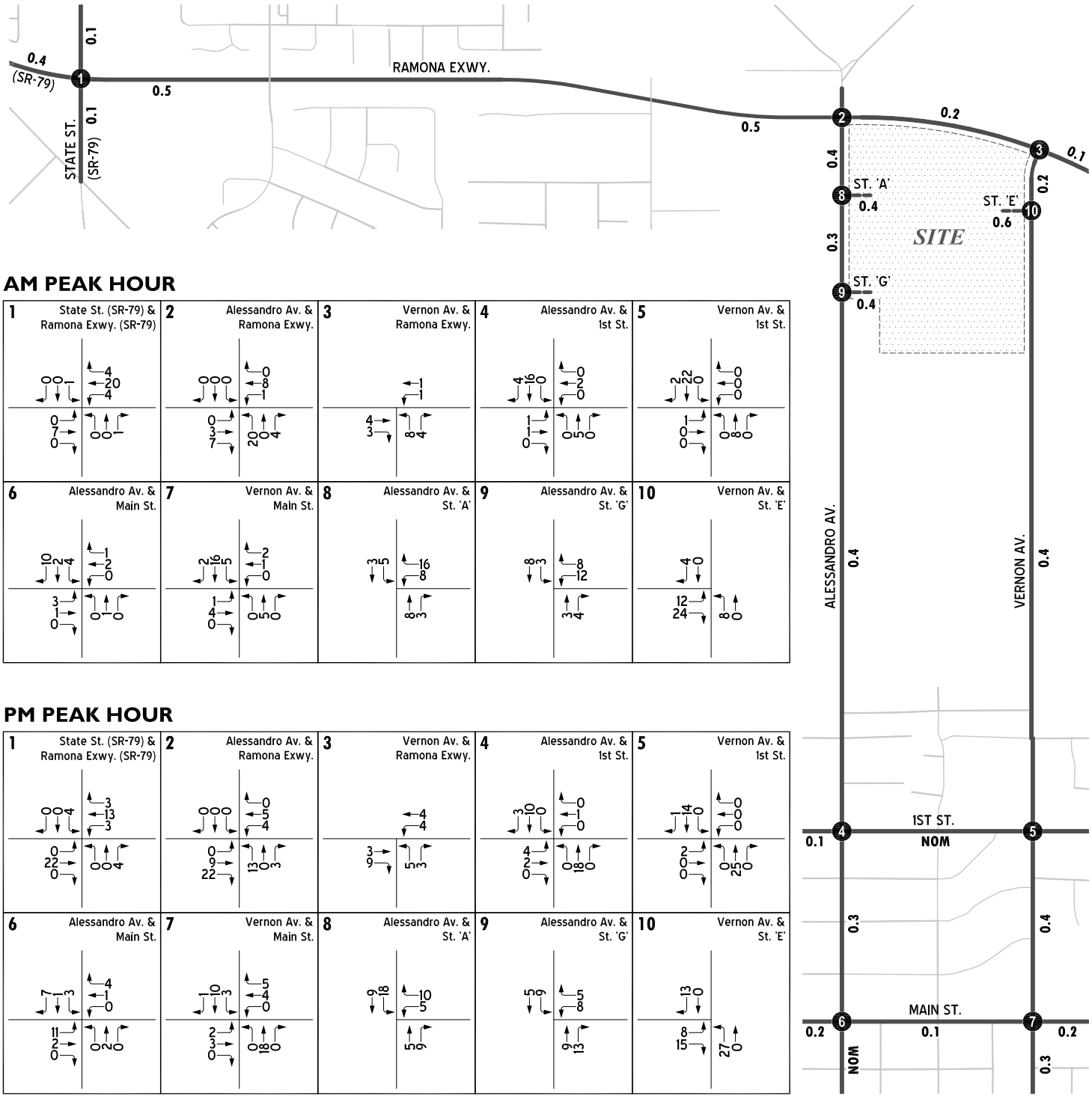
F:\UXRjobs_14100-14500\14573\LOS\Excel\[14573 - Report.xlsx]Trip Gen

EXHIBIT 4-1: PROJECT TRIP DISTRIBUTION



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EXHIBIT 4-2: PROJECT ONLY TRAFFIC VOLUMES



AM PEAK HOUR

PM PEAK HOUR

LEGEND:

- (10) = INTERSECTION ID
- 100 = PEAK HOUR INTERSECTION VOLUMES
- **10.0** = VEHICLES PER DAY (1000'S)
- **NOM** = NOMINAL, LESS THAN 50 VEHICLES PER DAY

N

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URBAN CROSSROADS

4.5 CUMULATIVE GROWTH TRAFFIC

4.5.1 AMBIENT GROWTH RATE

Future year traffic forecasts have been based upon background (ambient) growth at 4.04 percent (2 percent per year over 2 years) for EAC and EAPC traffic conditions. The ambient growth factor is intended to approximate regional traffic growth. This ambient growth rate is added to existing traffic volumes to account for area-wide growth not reflected by cumulative development projects. Ambient growth has been added to daily and peak hour traffic volumes on surrounding roadways, in addition to traffic generated by the development of future projects that have been approved but not yet built and/or for which development applications have been filed and are under consideration by governing agencies, for EAPC traffic conditions.

4.5.2 CUMULATIVE DEVELOPMENT TRAFFIC

California Environmental Quality Act (CEQA) guidelines require that other reasonably foreseeable development projects which are either approved or being processed concurrently in the study area also be included as part of a cumulative analysis scenario. A cumulative project list was developed for the purposes of this analysis through consultation with planning and engineering staff from the City of San Jacinto.

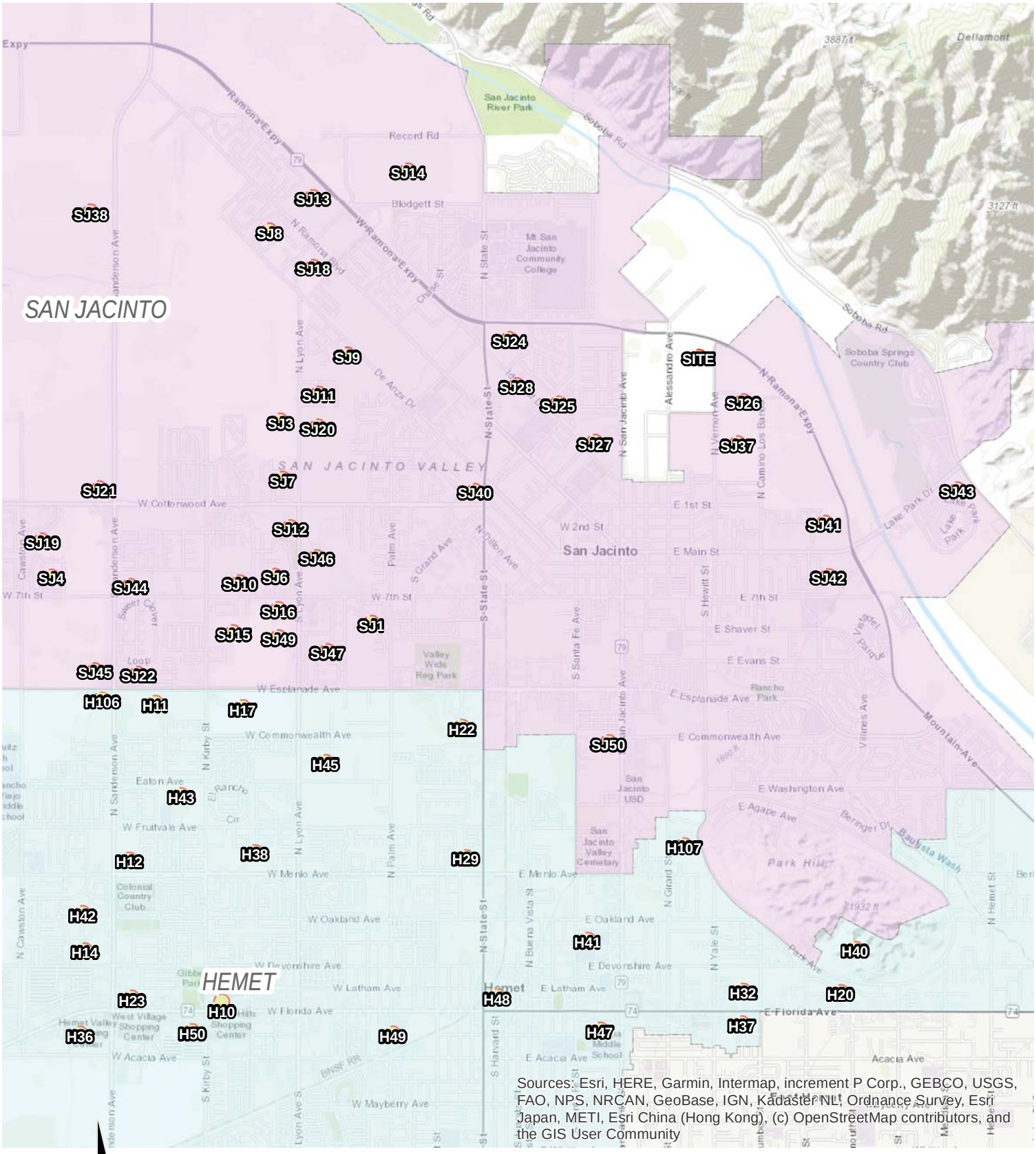
Exhibit 4-3 illustrates the cumulative development location map. A summary of cumulative development projects and their proposed land uses are shown on Table 4-2. If applicable, the traffic generated by individual cumulative projects was manually added to the Opening Year Cumulative forecasts to ensure that traffic generated by the listed cumulative development projects in Table 4-2 are reflected as part of the background traffic.

4.5.3 NEAR-TERM TRAFFIC FORECASTS

The "buildup" approach combines existing traffic counts with a background ambient growth factor to forecast EAC (2024) and EAPC (2024) traffic conditions. An ambient growth factor of 2% per year accounts for background (area-wide) traffic increases that occur over time up to the year 2024 from the year 2022 (compounded 2% per year growth over a 2-year period). Project traffic is added to assess both forecast EAC (2024) and EAPC (2024) traffic conditions. Traffic volumes generated by cumulative development projects are not included in the EAC (2024) traffic conditions. The near-term traffic analysis includes the following traffic conditions, with the various traffic components:

- EAC (2024)
    - Existing 2022 volumes
    - Ambient growth traffic (4.04%)
    - Cumulative Development traffic
- EAPC (2024)
    - Existing 2022 volumes
    - Ambient growth traffic (4.04%)
    - Cumulative Development traffic
    - Project Traffic

EXHIBIT 4-3: CUMULATIVE DEVELOPMENT MAP



14573-CD Map.mxd

TABLE 4-2: CUMULATIVE DEVELOPMENT LAND USE SUMMARY

(Page 1 of 2)

ID	Project Name	Land Use[1]	Quantity	Units[2]
City of San Jacinto				
SJ1	TR22665 (50% Occupied)	Single Family Residential	75	DU
SJ3	TR30481	Single Family Residential	30	DU
SJ4	TR30597	Single Family Residential	83	DU
SJ6	TR30878	Single Family Residential	15	DU
SJ7	TR30944	Single Family Residential	14	DU
SJ8	TR31037	Single Family Residential	263	DU
SJ9	TR31154	Single Family Residential	88	DU
SJ10	TR31294	Single Family Residential	37	DU
SJ11	VTR31384	Single Family Residential	91	DU
SJ12	TR33546	Single Family Residential	5	DU
SJ13	TR31886 - Under Construction	Single Family Residential	321	DU
SJ14	TR30598 (SP 1-03)	Single Family Residential	580	DU
SJ15	TR31929	Single Family Residential	78	DU
SJ16	TR32247	Single Family Residential	150	DU
SJ18	TR32555	Single Family Residential	12	DU
SJ19	TR33420A1	Single Family Residential	108	DU
SJ20	Future Schools (Middle / Elementary)	School	1200	STU
SJ21	PM35626	Shopping Center	195.740	TSF
		Apartments	150	DU
SJ22	PM33196 San Jacinto Retail Center	Drive-In Bank	4.700	TSF
		Fast-Food w/ Drive Thru	3.450	TSF
SJ24	CUP 6-07 99c Only Shopping Center	Shopping Ctr.	120	TSF
SJ25	TR32153	Single Family Residential	44	DU
SJ26	TR33862A1	Single Family Residential	98	DU
SJ27	TR34665	Single Family Residential	20	DU
SJ28	CUP 8-10	Multi-Family Residential	34	DU
SJ37	TR30379	Single Family Residential	126	DU
SJ38	TR36188	Single Family Residential	1323	DU
S40	San Jacinto Retail	Retail	8.54	TSF
		Conv. Market w/ Gas Station	2.95	TSF
		Fast-Food Restaurant	2.89	TSF
SJ41	KPC Promenade	Gas Station/Conv. Market	15	VFP
		Fast-Food w/ DT	6.3	TSF
		Quality Restaurant	5	TSF
		Retail	6.3	TSF
		Medical Office	9.6	TSF
		Hotel	120	RM
		Attached Senior Housing	114	DU
SJ42	Luiseno Village Retail Center	Specialty Retail Ctr.	23.94	TSF
		Fast-Food w/ DT	6.35	TSF
		Serv. Station w/ CarWash	24	VFP
SJ43	Soboba Service Center	Drive-Thru Retail	1	TSF
		Super Conv. Market/Gas Station	23	VFP
		Retail	8.5	TSF
		Car Wash	3.59	TSF

TABLE 4-2: CUMULATIVE DEVELOPMENT LAND USE SUMMARY

ID	Project Name	Land Use[1]	Quantity	Units[2]
City of San Jacinto (Continued)				
SJ44	NEC Sanderson Av./7th St.	Fast-Food w/ DT	5.4	TSF
		Gas Station/Conv. Market	12	VFP
		Retail	45.7	
SJ45	NWC Sanderson at Esplanade Av	Free-Standing Discount Store	10.266	TSF
		Fast-Food w/ DT	2.9	TSF
SJ46	TR33716	Single Family Residential	49	DU
SJ47	TR30603	Single Family Residential	10	DU
SJ49	Baypoint Preparatory Academy	Elementary School	528	STU
		Middle School	225	STU
		High School	300	STU
SJ50	Commonwealth Crossing	Health/Fitness Club	40	TSF
		Shopping Center	5.8	TSF
		Auto Car Wash	108	LF
		Fast Food w/ DT	4.72	TSF
		Conv. Market w/ Gas Station	16	VFP
City of Hemet				
H10	The Boardwalk (CUP 06-4)	Commercial	94.00 (20.00 Built)	TSF
H11	TTM 29581 (Covenant)	Single Family Residential	71	DU
H12	Zanderson Plaza (CUP 16-006 + TPM 37196)	Commercial	68.000	TSF
H14	TTM 33707 (Devonshire Partners) CUP 03-16A	Single Family Residential	98 (25 Built)	DU
H17	Page Ranch Elementary School	Elementary School	750	STU
H20	St. Deminia Center (CUP 07-16)	Commercial	33.480	TSF
H22	Nelson (SDR 06-28)	Industrial	16.200	TSF
H23	CUP 17-002 Crossroads	Commercial	1.000	TSF
H29	Santa Fe Pointe SDR 15-001	Multi-Family Residential	241	DU
H32	Scripps West (CUP 08-14)	Commercial	5.300	TSF
H37	Taco Bell (CUP 16-004)	Fast-Food Restaurant	2.090	TSF
H38	TTM 33858	Single Family Residential	37	DU
H40	7 Days Market (CUP 13-005)	Service Station	6	VFP
H41	Downtown Hemet Specific Plan	Various	Various	
H42	TM 25225 (Copenhagen)	Multi-Family Residential	40	DU
H45	TTM 37087	Single Family Residential	20	DU
H47	Clinca de Salud (SDR 16-003)	Medical Office	13.000	TSF
H48	Al For Show (CUP 16-002)	Retail	3.020	TSF
H49	Gas Mart Remodel	Gas Station w/ Convenience Store	6	VFP
H50	KPC Towne Center (SDR 15-004)	Shopping Center	124.880	TSF
H106	TR 33420A1	Single Family Residential	161	DU
H107	800 N. Girard St. (APN 439-230-005)	Single Family Residential	51	DU

[1] DU = Dwelling Units; STU = Students; TSF = Thousand Square Feet; VFP = Vehicle Fueling Position; LF = Linear Feet

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5 EAC (2024) TRAFFIC CONDITIONS

This section discusses the methods used to develop Existing plus Ambient Growth plus Project (EAP) (2024) traffic conditions and the resulting peak hour intersection operations, freeway mainline operations, and traffic signal warrant analyses.

5.1 ROADWAY IMPROVEMENTS

The lane configurations and traffic controls assumed to be in place for EAC conditions are consistent with those shown previously on Exhibit 3-1, with the exception of the following:

- Project driveways and those facilities assumed to be constructed by the Project to provide site access are also assumed to be in place for EAC conditions only (e.g., intersection and roadway improvements at the Project's frontage and driveways).

5.2 EAC (2024) TRAFFIC VOLUME FORECASTS

To account for background traffic growth, an ambient growth from Existing conditions of 4.04% (2 percent per year over 2 years, compounded annually) is included for EAC traffic conditions. Cumulative development projects are not included as part of the EAC analysis. EAC weekday ADT, weekday PM, and weekend peak hour intersection turning movement volumes are shown on Exhibit 5-1.

5.3 EAC (2024) INTERSECTION OPERATIONS ANALYSIS

EAC peak hour traffic operations have been evaluated for the study area intersections based on the analysis methodologies presented in Section 2 *Methodologies* of this TA. The intersection analysis results are summarized in Table 5-1, which indicate that there are no additional intersections operating at an unacceptable LOS with the addition of Project traffic. The intersection operations analysis worksheets for EAC traffic conditions is included in Appendix 5.1 of this TA.

5.4 EAC (2024) TRAFFIC SIGNAL WARRANTS ANALYSIS

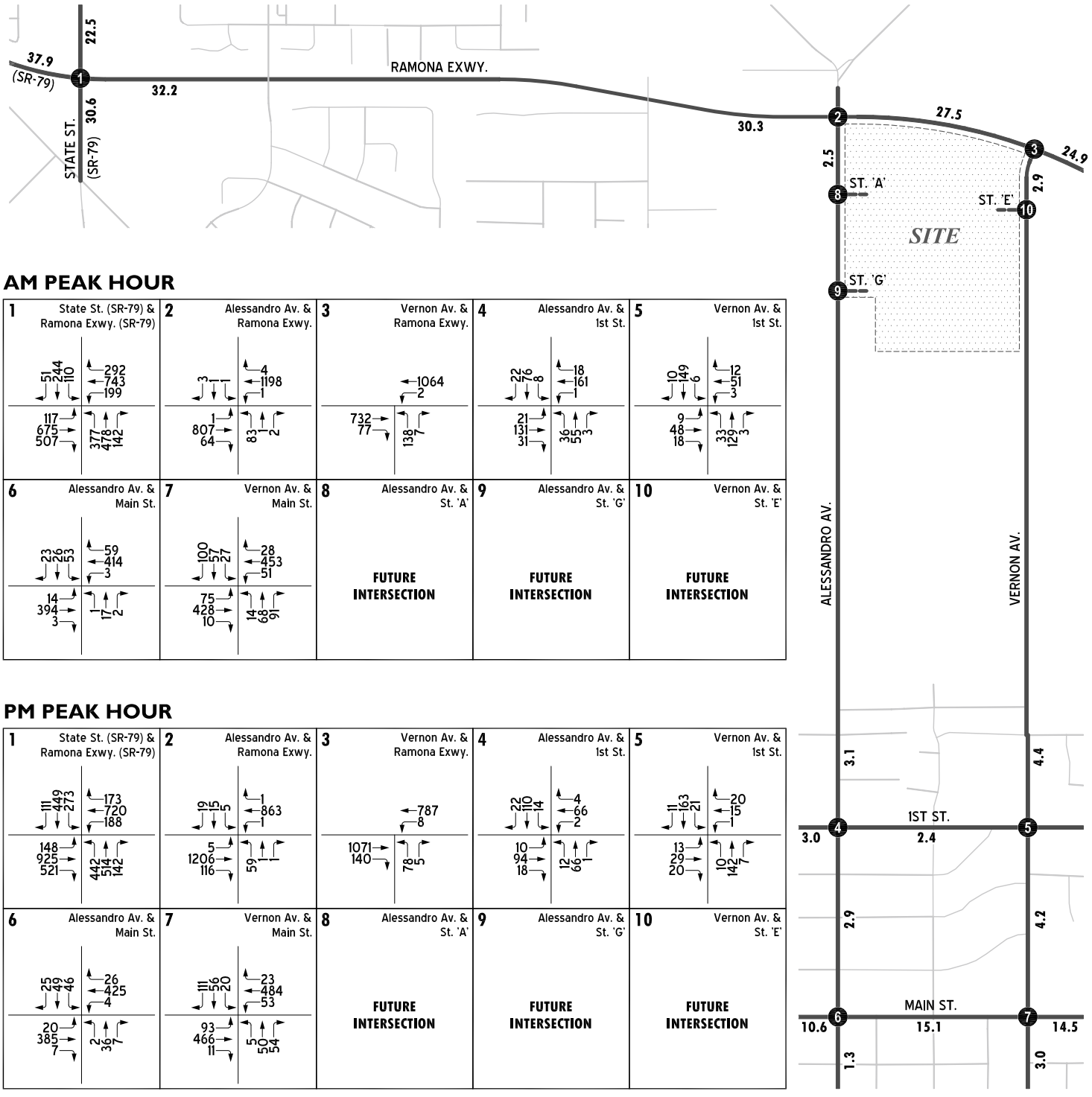
For EAC (2024) traffic conditions, the intersections of Alessandro Avenue / Ramona Expressway (#2) and Vernon Avenue / Main Street (#7) both warrant the installation of traffic signal (see Appendix 3.3).

As mentioned previously, a signal warrant defines the minimum condition under which the installation of a traffic signal might be warranted. Meeting this condition does not require that a traffic control signal be installed at a particular location, but rather, that other traffic factors and conditions be evaluated in order to determine whether the signal is truly justified. It should also be noted that signal warrants do not necessarily correlate with LOS. An intersection may satisfy a signal warrant condition and operate at or above acceptable LOS or operate below acceptable LOS and not meet a signal warrant.

5.5 RECOMMENDED IMPROVEMENTS

An existing transportation deficiency occurs at the intersection of Alessandro Avenue / Ramona Expressway (#2). With the addition of cumulative traffic, the intersection of Vernon Avenue / Main Street (#7) is also anticipated to operate at an unacceptable LOS (LOS "E" or worse). Installation of traffic signals at both deficient locations are projected to address intersection operational deficiencies. The effectiveness of the programmed traffic signal at these locations are presented in Table 5-1 for EAC (2024) traffic conditions. The intersection operations analysis worksheets for EAC (2024) traffic condition are provided in Appendix 5.1 of this TA.

EXHIBIT 5-1: EAC (2024) TRAFFIC VOLUMES



AM PEAK HOUR

1 State St. (SR-79) & Ramona Exwy. (SR-79)	2 Alessandro Av. & Ramona Exwy.	3 Vernon Av. & Ramona Exwy.	4 Alessandro Av. & 1st St.	5 Vernon Av. & 1st St.
51, 244, 110 → 292, 743, 199	3, 1, 1 → 4, 1198, 1	→ 1064, 2	22, 76, 8 → 18, 161, 1	10, 149, 6 → 12, 51, 3
117, 675, 507 → 377, 478, 142	1, 807, 64 → 83, 1, 2	732, 77 → 138, 7	21, 131, 31 → 36, 55, 3	9, 48, 18 → 33, 129, 3
6 Alessandro Av. & Main St.	**7** Vernon Av. & Main St.	**8** Alessandro Av. & St. 'A'	**9** Alessandro Av. & St. 'G'	**10** Vernon Av. & St. 'E'
23, 26, 53 → 59, 414, 3	100, 57, 27 → 28, 453, 51	FUTURE INTERSECTION	FUTURE INTERSECTION	FUTURE INTERSECTION
14, 394, 3 → 1, 17, 2	75, 428, 10 → 14, 68, 91			

PM PEAK HOUR

1 State St. (SR-79) & Ramona Exwy. (SR-79)	2 Alessandro Av. & Ramona Exwy.	3 Vernon Av. & Ramona Exwy.	4 Alessandro Av. & 1st St.	5 Vernon Av. & 1st St.
111, 449, 273 → 173, 720, 188	19, 15, 5 → 1, 863, 1	→ 787, 8	22, 110, 14 → 4, 66, 2	11, 163, 21 → 20, 15, 1
148, 925, 521 → 442, 514, 142	5, 1206, 116 → 59, 1, 1	1071, 140 → 78, 5	10, 94, 18 → 12, 66, 1	13, 29, 20 → 10, 142, 7
6 Alessandro Av. & Main St.	**7** Vernon Av. & Main St.	**8** Alessandro Av. & St. 'A'	**9** Alessandro Av. & St. 'G'	**10** Vernon Av. & St. 'E'
25, 49, 46 → 26, 425, 4	111, 56, 20 → 23, 484, 53	FUTURE INTERSECTION	FUTURE INTERSECTION	FUTURE INTERSECTION
20, 385, 7 → 2, 36, 7	93, 466, 11 → 5, 50, 54			

LEGEND:

- (10) = INTERSECTION ID
- 100 = PEAK HOUR INTERSECTION VOLUMES
- 10.0 = VEHICLES PER DAY (1000'S)

N

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URBAN CROSSROADS

TABLE 5-1: INTERSECTION ANALYSIS FOR EAC (2024) CONDITIONS

#	Intersection	Traffic Control[3]	Intersection Approach Lanes[1]												Delay[2] (Secs)		Level of Service[2]	
			Northbound			Southbound			Eastbound			Westbound						
			L	T	R	L	T	R	L	T	R	L	T	R	AM	PM	AM	PM
1	State St. (SR-79) / Ramona Exwy. (SR-79)	TS	1	2	1	1	2	d	2	3	1	2	3	1	45.8	53.0	D	D
2	Alessandro Av. / Ramona Exwy.	CSS	1	1	0	1	1	0	1	2	1	1	2	0	**>80**	**>80**	**F**	**F**
	- With Improvements	**TS**	1	1	0	1	1	0	1	2	1	1	2	0	20.8	10.8	C	B
3	Vernon Av. / Ramona Exwy.	TS	1	0	1	0	0	0	0	2	1	1	2	0	11.6	12.3	B	B
4	Alessandro Av. / 1st St.	AWS	0.5	0.5	d	0.5	0.5	d	0.5	0.5	d	0.5	0.5	d	10.1	8.9	B	A
5	Vernon Av. / 1st St.	CSS	0.5	0.5	d	0	1!	0	0.5	0.5	d	0.5	0.5	d	12.8	11.9	B	B
6	Alessandro Av. / Main St.	CSS	0.5	0.5	d	0.5	0.5	d	1	1	0	1	1	0	31.4	30.5	D	D
7	Vernon Av. / Main St.	CSS	0.5	0.5	d	0.5	0.5	d	1	1	0	1	1	0	**>80**	**>80**	**F**	**F**
	- With Improvements	**TS**	0.5	0.5	d	0.5	0.5	d	1	1	0	1	1	0	19.7	22.1	B	C
8	Alessandro Av. / St. 'A'		Intersection Does Not Exist															
9	Alessandro Av. / St. 'G'		Intersection Does Not Exist															
10	Vernon Av. / St. 'E'		Intersection Does Not Exist															

[1] When a right turn is designated, the lane can either be striped or unstriped. To function as a right turn lane there must be sufficient width for right turning vehicles to travel outside the through lanes.

L = Left; T = Through; R = Right; 1! = Shared Left/Through/Right Turn Lane; 0.5 = Shared Lane; d = Defacto Right Turn Lane; **1** = Improvement

[2] Per the Highway Capacity Manual 6th Edition (HCM6), overall average intersection delay and level of service are shown for intersections with a traffic signal or all way stop control. For intersections with cross street stop control, the delay and level of service for the worst individual movement (or movements sharing a single lane) are shown. Delay and level of service is calculated using Synchro 11 analysis software.

BOLD = LOS does not meet the applicable jurisdictional requirements (i.e., unacceptable LOS).

[3] TS = Traffic Signal; CSS = Cross-Street Stop; AWS = All-Way Stop

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6 EAPC (2024) TRAFFIC CONDITIONS

This section discusses the methods used to develop Existing plus Ambient Growth plus Project plus Cumulative (EAPC) (2024) traffic conditions and the resulting peak hour intersection operations and traffic signal warrant analyses.

6.1 ROADWAY IMPROVEMENTS

The lane configurations and traffic controls assumed to be in place for EAPC conditions are consistent with those shown previously on Exhibit 3-1, with the exception of the following:

- Project driveways and those facilities assumed to be constructed by the Project to provide site access are also assumed to be in place for EAPC conditions only (e.g., intersection and roadway improvements at the Project's frontage and driveways).
- Driveways and those facilities assumed to be constructed by cumulative developments to provide site access are also assumed to be in place for EAPC conditions only (e.g., intersection and roadway improvements along the cumulative development's frontages and driveways).

6.2 EAPC (2024) TRAFFIC VOLUME FORECASTS

To account for background traffic, other known cumulative development projects in the study area were included in addition to 4.04%of ambient growth for EAPC traffic conditions in conjunction with traffic associated with the proposed Project. EAPC weekday ADT, weekday PM, and weekend peak hour intersection turning movement volumes are shown on Exhibit 6-1.

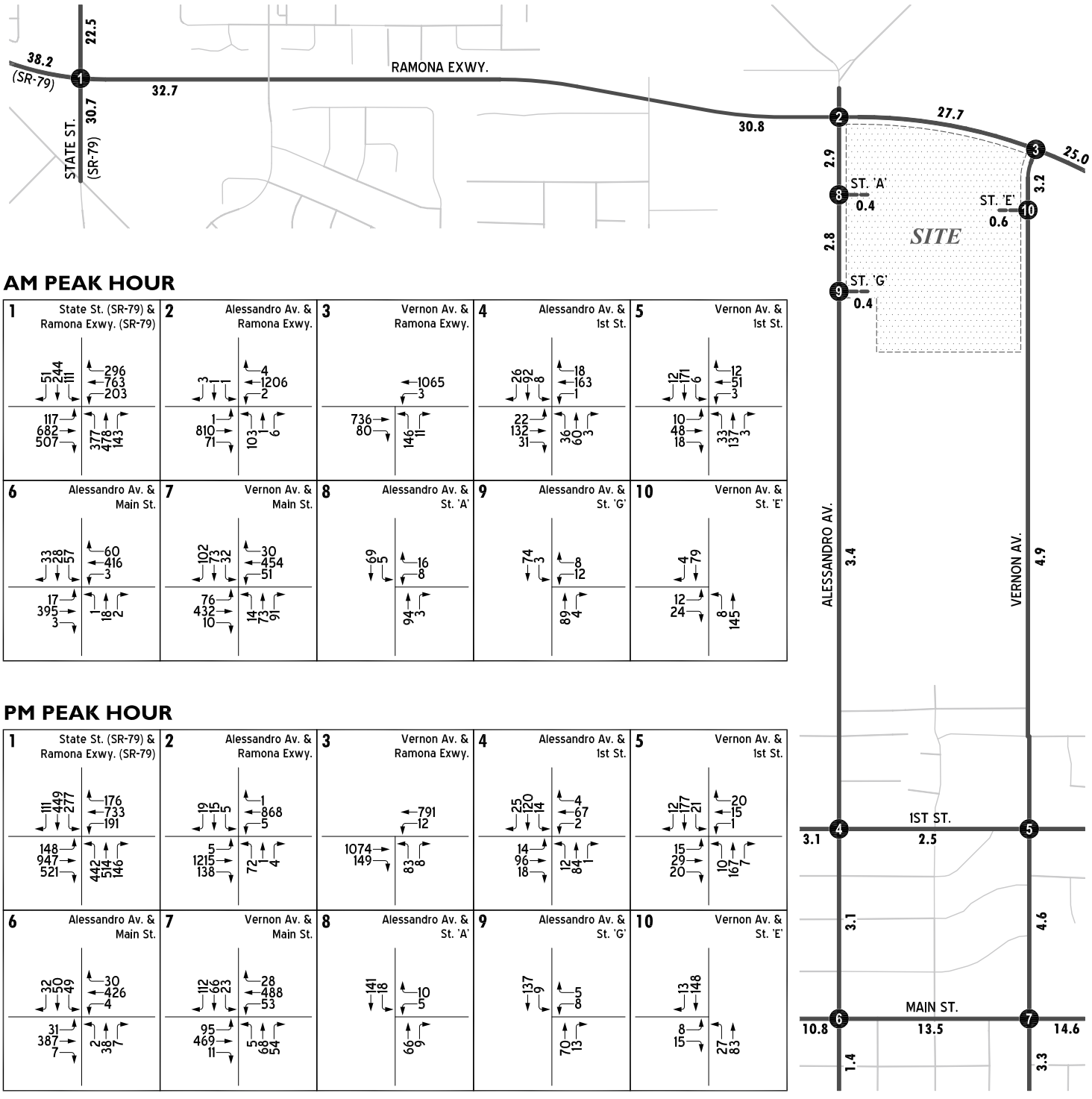
6.3 EAPC (2024) INTERSECTION OPERATIONS ANALYSIS

EAPC peak hour traffic operations have been evaluated for the study area intersections based on the analysis methodologies presented in Section 2 *Methodologies* of this TA. The intersection analysis results are summarized in Table 6-1, which indicate that the addition of Project traffic to study area intersections did not result in new deficient intersection operations, in addition to the intersections previously identified under Existing and EAC conditions. The intersection operations analysis worksheets for EAPC traffic conditions is included in Appendix 6.1 of this TA.

6.4 EAPC (2024) TRAFFIC SIGNAL WARRANTS ANALYSIS

Traffic signal warrants for EAPC (2024) are provided in Appendix 3.3. As shown in Appendix 3.3, the remaining unsignalized locations are not anticipated to meet warrants under EAPC conditions.

EXHIBIT 6-1: EAPC (2024) TRAFFIC VOLUMES



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TABLE 6-1: INTERSECTION ANALYSIS FOR EAPC (2024) CONDITIONS

#	Intersection	Traffic Control[3]	Intersection Approach Lanes[1]												Delay[2] (Secs)		Level of Service[2]	
			Northbound			Southbound			Eastbound			Westbound						
			L	T	R	L	T	R	L	T	R	L	T	R	AM	PM	AM	PM
1	State St. (SR-79) / Ramona Exwy. (SR-79)	TS	1	2	1	1	2	d	2	3	1	2	3	1	46.0	53.1	D	D
2	Alessandro Av. / Ramona Exwy.	CSS	1	1	0	1	1	0	1	2	1	1	2	0	**>80**	**>80**	**F**	**F**
	- With Improvements	**TS**	1	1	0	1	1	0	1	2	1	1	2	0	20.9	11.2	C	B
3	Vernon Av. / Ramona Exwy.	TS	1	0	1	0	0	0	0	2	1	1	2	0	11.6	12.5	B	B
4	Alessandro Av. / 1st St.	AWS	0.5	0.5	d	0.5	0.5	d	0.5	0.5	d	0.5	0.5	d	10.4	9.1	B	A
5	Vernon Av. / 1st St.	CSS	0.5	0.5	d	0	1!	0	0.5	0.5	d	0.5	0.5	d	13.1	12.3	B	B
6	Alessandro Av. / Main St.	CSS	0.5	0.5	d	0.5	0.5	d	1	1	0	1	1	0	34.0	34.3	D	D
7	Vernon Av. / Main St.	CSS	0.5	0.5	d	0.5	0.5	d	1	1	0	1	1	0	**>80**	**>80**	**F**	**F**
	- With Improvements	**TS**	0.5	0.5	d	0.5	0.5	d	1	1	0	1	1	0	19.9	22.5	B	C
8	Alessandro Av. / St. 'A'	**CSS**	0	1	0	0	1	0	0	0	0	0	**1!**	0	9.2	9.3	A	A
9	Alessandro Av. / St. 'G'	**CSS**	0	1	0	0	1	0	0	0	0	0	**1!**	0	9.4	9.6	A	A
10	Vernon Av. / St. 'E'	**CSS**	0.5	0.5	0	0	1	0	0	**1!**	0	0	0	0	9.4	9.8	A	A

[1] When a right turn is designated, the lane can either be striped or unstriped. To function as a right turn lane there must be sufficient width for right turning vehicles to travel outside the through lanes.

L = Left; T = Through; R = Right; 1! = Shared Left/Through/Right Turn Lane; 0.5 = Shared Lane; d = Defacto Right Turn Lane; **1** = Improvement

[2] Per the Highway Capacity Manual 6th Edition (HCM6), overall average intersection delay and level of service are shown for intersections with a traffic signal or all way stop control. For intersections with cross street stop control, the delay and level of service for the worst individual movement (or movements sharing a single lane) are shown. Delay and level of service is calculated using Synchro 11 analysis software.

BOLD = LOS does not meet the applicable jurisdictional requirements (i.e., unacceptable LOS).

[3] TS = Traffic Signal; CSS = Cross-Street Stop; AWS = All-Way Stop

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6.5 RECOMMENDED IMPROVEMENTS

Installation of traffic signals at the deficient intersections of Alessandro Avenue / Ramona Expressway (#2) and Vernon Avenue / Main Street (#7) are projected to address intersection operational deficiencies. The effectiveness of the programmed traffic signal at these locations are presented in Table 6-1 for EAPC (2024) traffic conditions. The intersection operations analysis worksheets for EAC (2024) traffic condition are provided Appendix 6.1 of this TA.

Table 6-2 shows the estimated cumulative future peak hour traffic queues compared to the storage distances provided at the intersections of Alessandro Avenue / Ramona Expressway (#2) and Vernon Avenue / Ramona Expressway (#3). As shown in Table 6-2, the existing northbound left turn pocket at Alessandro Avenue / Ramona Expressway (#2) is recommended to provide a minimum of 100 ft. to adequately accommodate EAPC (2024) traffic conditions.

Providing a cross-street stop controls and shared left/right outbound lanes provides acceptable peak hour service levels at the three Project access point locations (#8 – Alessandro Avenue / Street 'A', #9 – Alessandro Avenue / Street 'G', and #10 – Vernon Avenue / Street 'E').

TABLE 6-2: EAPC (2024) TURN LANE STORAGE LENGTH

ID	Intersection	Turning Movement Lane	EAPC (2024) AM	EAPC (2024) PM	EAPC (2024) Peak Hour	EAPC (2024) Volume	Storage Length[2] (feet)	95th Percentile Queue Length Per Lane (feet)[1] AM	95th Percentile Queue Length Per Lane (feet)[1] PM
2	Alessandro Av. / Ramona Exwy.								
		NBL	103	72	AM	103	**<u>100</u>**	68	60
		EBR	71	138	PM	138	100	49	24
		WBL	2	5	PM	5	300	11	26
3	Vernon Av. / Ramona Exwy.								
		NBL	146	83	AM	146	175	115	87
		EBR	80	149	PM	149	300	38	59
		WBL	3	12	PM	12	200	28	29

[1] Queue length calculated using SimTraffic.

[2] 1 = Existing; **<u>1</u>** = Proposed length of storage.

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7 REFERENCES

1. ***Traffic Impact Guidelines for Vehicle Miles Traveled and Level of Service Assessment.*** **San Jacinto : s.n., Adopted June 16, 2020.**
2. **Institute of Transportation Engineers. Trip Generation Manual. 11th Edition, 2021.**
3. **Transportation Research Board. *Highway Capacity Manual (HCM), 6th Edition.* s.l. : National Academy of Sciences, 2016.**
4. **California Department of Transportation. California Manual on Uniform Traffic Control Devices (MUTCD). [book auth.] California Department of Transportation. *California Manual on Uniform Traffic Control Devices (CAMUTCD).* 2014.**

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APPENDIX 1.1:

APPROVED TRAFFIC STUDY SCOPING AGREEMENT

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Project Scoping Form

This scoping form shall be submitted to the City of San Jacinto to assist in identifying infrastructure improvements that may be required to support traffic from the proposed project.

Project Identification:

Case Number:	
Related Cases:	
SP No.	
EIR No.	
GPA No.	
CZ No.	
Project Name:	KASBERGEN/HAFLIGER TT34271
Project Address:	east of Alessandro Av., south of Ramona Expy., and west of Vernon St.
Project Opening Year:	2024
Project Description:	151 new single family residential dwelling units

	Consultant:	Developer:
Name:	URBAN CROSSROADS, INC. - Marlie Whiteman	Cornell Kasbergen
Address:	1133 Camelback St. #8329	21744 Road 152
	Newport Beach, CA 92658	Tulare, CA 93274
Telephone:	(714) 585-0574 Mobile	
Fax/Email:	mwhiteman@urbanxroads.com	

Trip Generation Information:

Trip Generation Data Source: Institute of Transportation Engineers (ITE) Trip Generation (11th Edition, 2021) manual

Current General Plan Land Use: Low Density Residential

Proposed General Plan Land Use: Low Density Residential

Current Zoning: RL

Proposed Zoning: RL

	Existing Trip Generation			Proposed Trip Generation		
	In	Out	Total	In	Out	Total
AM Trips	0	0	0	27	79	106
PM Trips	0	0	0	89	51	140

Trip Internalization: ☐ Yes ☑ No (_____% Trip Discount)

Pass-By Allowance: ☐ Yes ☑ No (_____% Trip Discount)

Potential Screening Checks

Is your project screened from specific analyses (see Page 8 of the guidelines related to LOS assessment and Page 9 related to VMT).

Is the project screened from LOS assessment? ☐ Yes ☑ No

LOS screening justification (see Page 8 of the guidelines): _____

Is the project screened from VMT assessment? ☐ Yes ☐ No

VMT screening justification (see Page 9 of the guidelines): _____

VMT screening assessment will be prepared under separate cover

Level of Service Scoping

- Proposed Trip Distribution (Attach Graphic for Detailed Distribution):

North	South	East	West
%	45 %	10 %	45 %

- Attach list of Approved and Pending Projects that need to be considered (provided by the lead agency and adjacent agencies)
- Attach list of study intersections/roadway segments
- Attach site plan
- Note other specific items to be addressed:
  - Site access
  - On-site circulation
  - Parking
  - Consistency with Plans supporting Bikes/Peds/Transit
  - Other _____
- Date of Traffic Counts January 2022
- Attach proposed analysis scenarios (years plus proposed forecasting approach)
- Attach proposed phasing approach (if the project is phased)

VMT Scoping

For projects that are not screened, identify the following:

- Travel Demand Forecasting Model Used RIVTAM/RIVCOM
- Attach WRCOG Screening VMT Assessment output or describe why it is not appropriate for use
- Attach proposed Model Land Use Inputs and Assumed Conversion Factors (attach)

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January 19, 2022

Mr. Kevin White
City of San Jacinto
595 S. San Jacinto Avenue
San Jacinto, CA 92583

SUBJECT: KASBERGEN/HAFLIGER TT34271 TRAFFIC AND VMT ANALYSES SCOPING AGREEMENT

Dear Mr. Kevin White:

Urban Crossroads, Inc. is pleased to resubmit this scoping letter to City of San Jacinto regarding the Traffic and VMT Analyses for the proposed Kasbergen/Hafliger TT34271 development ("Project"), which is located east of Alessandro Avenue, south of Ramona Expressway, and west of Vernon Avenue. It is our understanding that the Project is to consist of 151 new single family residential dwelling units.

The remainder of this letter describes the proposed analysis methodology, Project trip generation, trip distribution, and Project traffic assignment/project trips on the surrounding roadway network. The following scoping assumptions have been prepared in accordance with the City of San Jacinto's Traffic Impact Guidelines for Vehicle Miles Traveled and Level of Service Assessment (Adopted June 16, 2020).

A preliminary site plan the proposed Project is shown on Exhibit 1. Exhibit 2 depicts the location of the proposed project in relation to the existing roadway network. It is anticipated that the Project would be fully developed by year 2024. Project will have two full access driveways along the Alessandro Avenue and one full access driveway along Vernon Avenue.

TRIP GENERATION

In order to develop the traffic characteristics of the proposed project, trip-generation statistics published in the Institute of Transportation Engineers (ITE) *Trip Generation* (11th Edition, 2021) manual for the proposed land use (ITE Land Use Codes: 210 – Single Family Detached Residential) is used. Table 1 presents the trip generation rates and the resulting trip generation summary for the proposed Project. As shown in Table 1, the Project is anticipated to generate a net total of 1,424 trip-ends per day with 106 AM peak hour trips and 140 PM peak hour trips.

TRIP DISTRIBUTION AND TRIP ASSIGNMENT

The trip distribution pattern is heavily influenced by the geographical location of the site, the location of surrounding uses, and the proximity to arterials and local collector roadways. RIVCOM Traffic forecasts in the study area have also been reviewed. Exhibit 3 presents the resulting Project distribution pattern. Based on the identified Project traffic generation and trip distribution patterns, Project ADT and peak hour intersection turning movement volumes are shown on Exhibit 4.

ANALYSIS SCENARIOS

Consistent with the City's LOS guidelines, intersection analysis will be provided for the following analysis scenarios:

- Existing (2022) Conditions
- Background Conditions: Existing plus Ambient plus Cumulative (EAC) (2024)
- Background Plus Project: Existing plus Ambient plus Project plus Cumulative (EAPC) (2024)

The City of San Jacinto General Plan Circulation Element is depicted on Exhibit 5, while the accompanying roadway cross-sections are presented on Exhibit 6.

STUDY AREA

The traffic impact study area was defined in conformance with the requirements of the City of San Jacinto's Traffic Impact Guidelines for Vehicle Miles Traveled and Level of Service Assessment. Consistent with the City's LOS guidelines, study area intersections have been identified for the Project based on the contribution of 50 or more peak hour trips. Based on this criterion, anticipated trip generation and trip distribution, the following intersections will be evaluated:

ID	Intersection	ID	Intersection
1	State St. (SR-79) / Ramona Exwy. (SR-79)	6	Alessandro Av. / Main St.
2	Alessandro Av. / Ramona Exwy.	7	Vernon Av. / Main St.
3	Vernon Av. / Ramona Exwy.	8	Alessandro Av. / St. 'A' - *(Future Project Driveway)*
4	Alessandro Av. / 1st St.	9	Alessandro Av. / St. 'G'- *(Future Project Driveway)*
5	Vernon Av. / 1st St.	10	Vernon Av. / St. 'E'- *(Future Project Driveway)*

Exhibit 2 identifies the proposed study area intersection analysis locations.

LEVEL OF SERVICE (LOS) CRITERIA

The City of San Jacinto has established a peak hour Level of Service D or better as acceptable for all intersections along the designated street and highway system. Projects that may result in an increase in traffic must prepare a traffic analysis that evaluates long-term impacts of the project and any mitigation necessary to ensure the project achieves or maintains the peak hour intersection LOS D standard.

Signalized Intersection Operating Requirements

- Any signalized study intersection operating at an acceptable LOS D1 or better without project traffic in which the addition of project traffic causes the intersection to degrade to a LOS E or F shall identify improvements to improve operations to LOS D or better.
- Any signalized study intersection that is operating at LOS E or F without project traffic where the project increases delay by 5.0 or more seconds shall identify improvements to offset the increase in delay.

Unsignalized Intersection General Plan Consistency Requirements

An operational improvement would be required if the study determines that either section a) or both sections b) and c) occur:

a) The addition of project related traffic causes the intersection to degrade from an acceptable LOS D or better to LOS E or F.

OR

b) The project adds 5.0 seconds or more of delay to an intersection that is already projected to operate without project traffic at a LOS E or F,

AND

c) The intersection meets the peak hour traffic signal warrant after the addition of project traffic.

If the conditions above are satisfied, improvements will be identified that achieve LOS D or better for case a) above or to pre-project LOS and delay for case b) above.

PREFERRED ANALYSIS METHODOLOGY

For the purposes of this analysis, signalized intersection operations analysis will be based on the methodology described in the Highway Capacity Manual (6th Edition). Intersection LOS operations are based on an intersection's average control delay. Unsignalized intersections will be evaluated using the methodology described in the HCM 6th Edition. At two-way or side-street stop-controlled intersections, LOS is calculated for each controlled movement and for the left turn movement from the major street, as well as for the intersection as a whole. For approaches composed of a single lane, the delay is computed as the average of all movements in that lane.

TRAFFIC COUNTS

Traffic count data will be collected on January 2022 during the AM peak period of 7:00 AM to 9:00 AM and PM peak period of 4:00 PM to 6:00 PM.

CUMULATIVE DEVELOPMENT TRAFFIC

It is requested that City staff review the list of cumulative development projects (shown on Exhibit 7 and listed on Table 2) for inclusion in the traffic study. Consistent with other studies performed in the area, an ambient growth rate of 2% per year will be utilized as a minimum if necessary. The rate will be compounded over a 2-year period (i.e., 1.02^{2years} = 1.0404 or 4.04%) for Interim Year (2024) conditions.

VEHICLE MILES TRAVELED (VMT)

The VMT screening assessment will be prepared under separate cover in accordance with SB743 and consistent with the methodology and thresholds outlined in the City of San Jacinto's June 2020 VMT methodology guidelines.

Please review this scoping agreement let us know if it is acceptable, or if the City requests any changes to this proposed scope of work. If you have any questions, please contact John Kain at (949) 375-2435 or Marlie Whiteman (714) 585-0574.

Respectfully submitted,

URBAN CROSSROADS, INC.

John Kain

John Kain, AICP
Principal

Marlie Whiteman

Marlie Whiteman, PE
Senior Associate

EXHIBIT 1: PRELIMINARY SITE PLAN

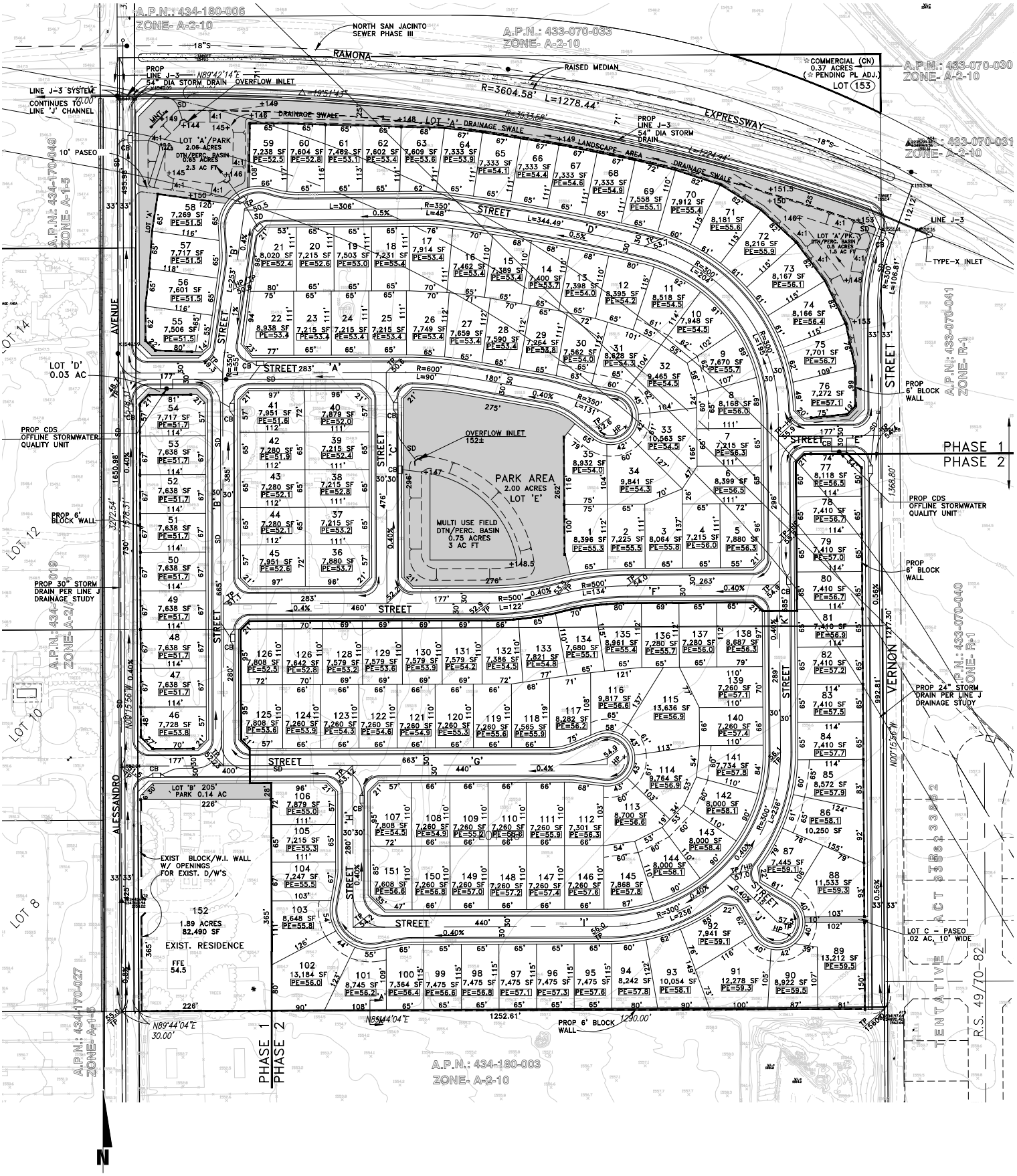


EXHIBIT 2: STUDY AREA



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URBAN CROSSROADS

TABLE 1: PROJECT TRIP GENERATION SUMMARY

Trip Generation Rates[1]									
	ITE LU		AM Peak Hour			PM Peak Hour			
Land Use	Code	Quantity[2]	In	Out	Total	In	Out	Total	Daily
Single Family Detached	210	151 DU	0.18	0.52	0.70	0.59	0.34	0.93	9.43

Trip Generation Results									
	ITE LU		AM Peak Hour			PM Peak Hour			
Land Use	Code	Quantity[2]	In	Out	Total	In	Out	Total	Daily
Single Family Detached	210	151 DU	27	79	106	89	51	140	1,424

[1] Trip Generation Source: Institute of Transportation Engineers (ITE), Trip Generation Manual, 11th Edition (2021).

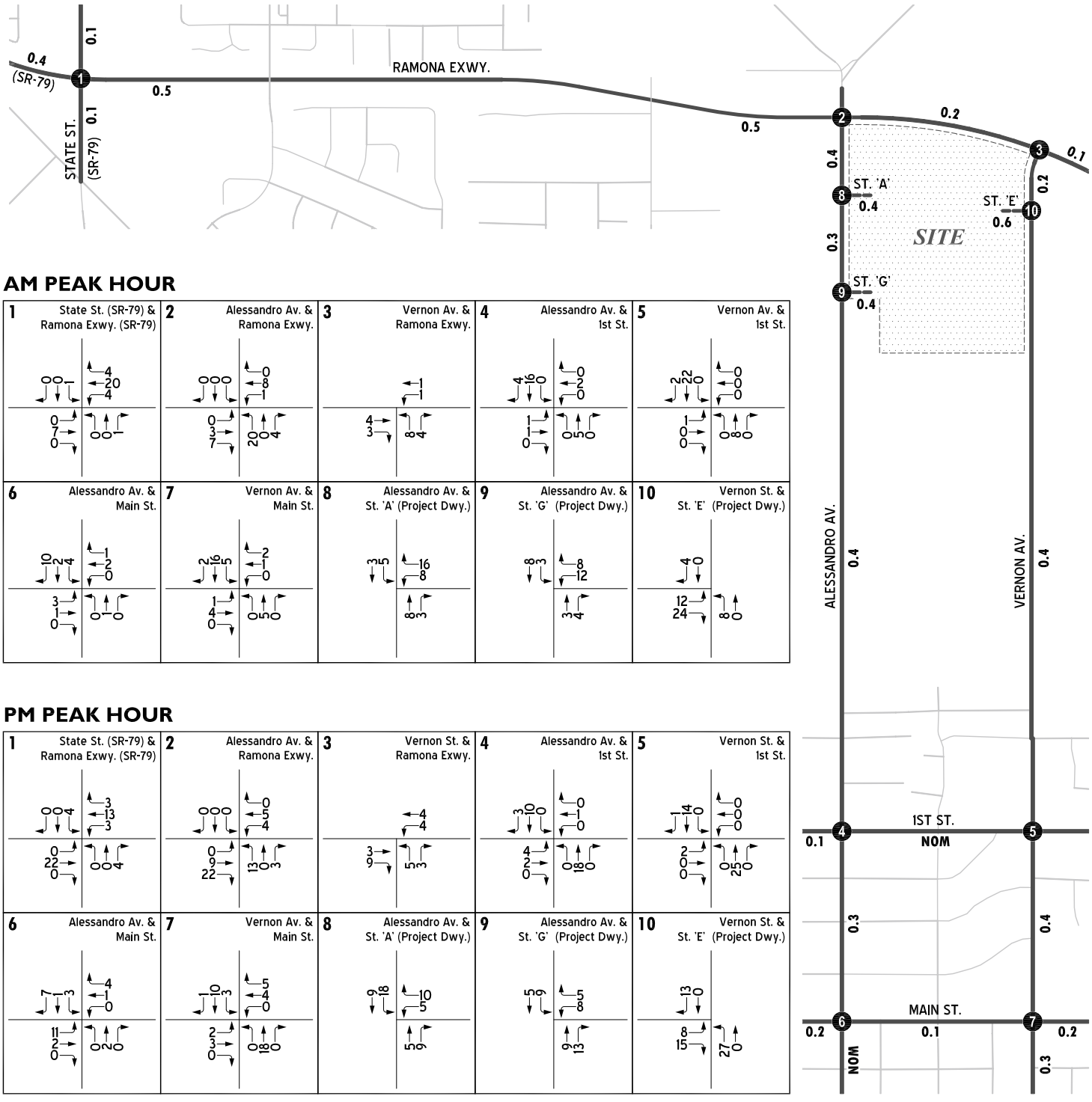
[2] DU = Dwelling Unit

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EXHIBIT 3: PROJECT TRIP DISTRIBUTION



EXHIBIT 4: PROJECT ONLY TRAFFIC VOLUMES



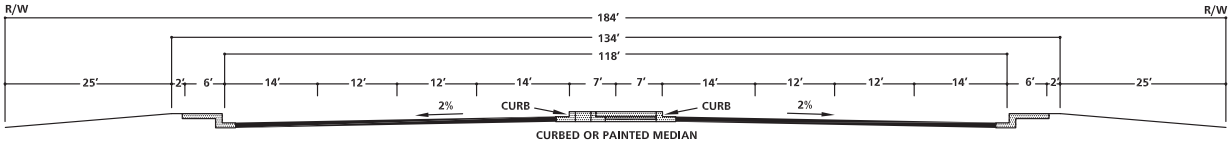
AM PEAK HOUR

1 State St. (SR-79) & Ramona Exwy. (SR-79)	2 Alessandro Av. & Ramona Exwy.	3 Vernon Av. & Ramona Exwy.	4 Alessandro Av. & 1st St.	5 Vernon Av. & 1st St.
6 Alessandro Av. & Main St.	7 Vernon Av. & Main St.	8 Alessandro Av. & St. 'A' (Project Dwy.)	9 Alessandro Av. & St. 'G' (Project Dwy.)	10 Vernon St. & St. 'E' (Project Dwy.)

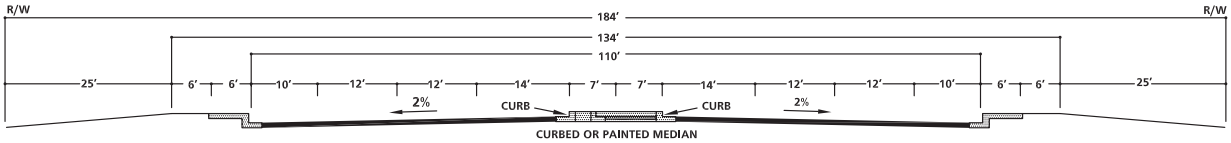
PM PEAK HOUR

1 State St. (SR-79) & Ramona Exwy. (SR-79)	2 Alessandro Av. & Ramona Exwy.	3 Vernon St. & Ramona Exwy.	4 Alessandro Av. & 1st St.	5 Vernon St. & 1st St.
6 Alessandro Av. & Main St.	7 Vernon Av. & Main St.	8 Alessandro Av. & St. 'A' (Project Dwy.)	9 Alessandro Av. & St. 'G' (Project Dwy.)	10 Vernon St. & St. 'E' (Project Dwy.)

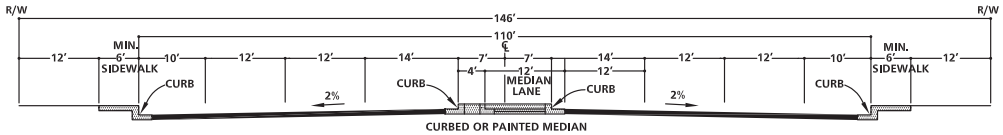
EXHIBIT 5: CITY OF SAN JACINTO GENERAL PLAN ROADWAY CROSS-SECTIONS



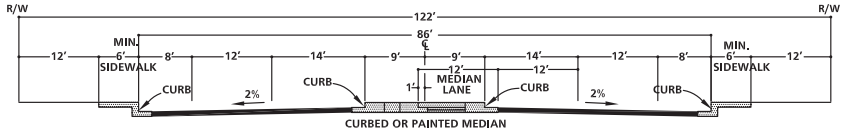
LIMITED ACCESS CONVENTIONAL HIGHWAY - 8 LANES



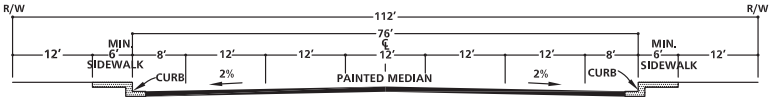
LIMITED ACCESS CONVENTIONAL HIGHWAY - 6 LANES



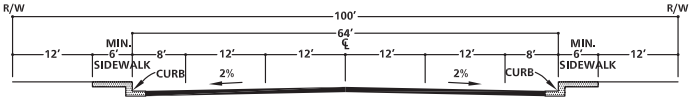
URBAN ARTERIAL HIGHWAY



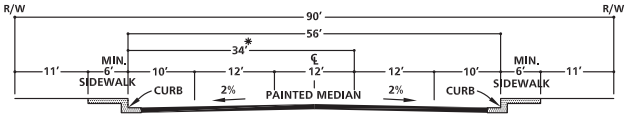
ARTERIAL HIGHWAY



MAJOR HIGHWAY

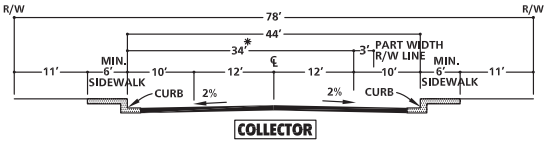


SECONDARY HIGHWAY



INDUSTRIAL COLLECTOR

*PART WIDTH STREET SECTION FOR AN INTERIOR COMMERCIAL OR INDUSTRIAL STREET

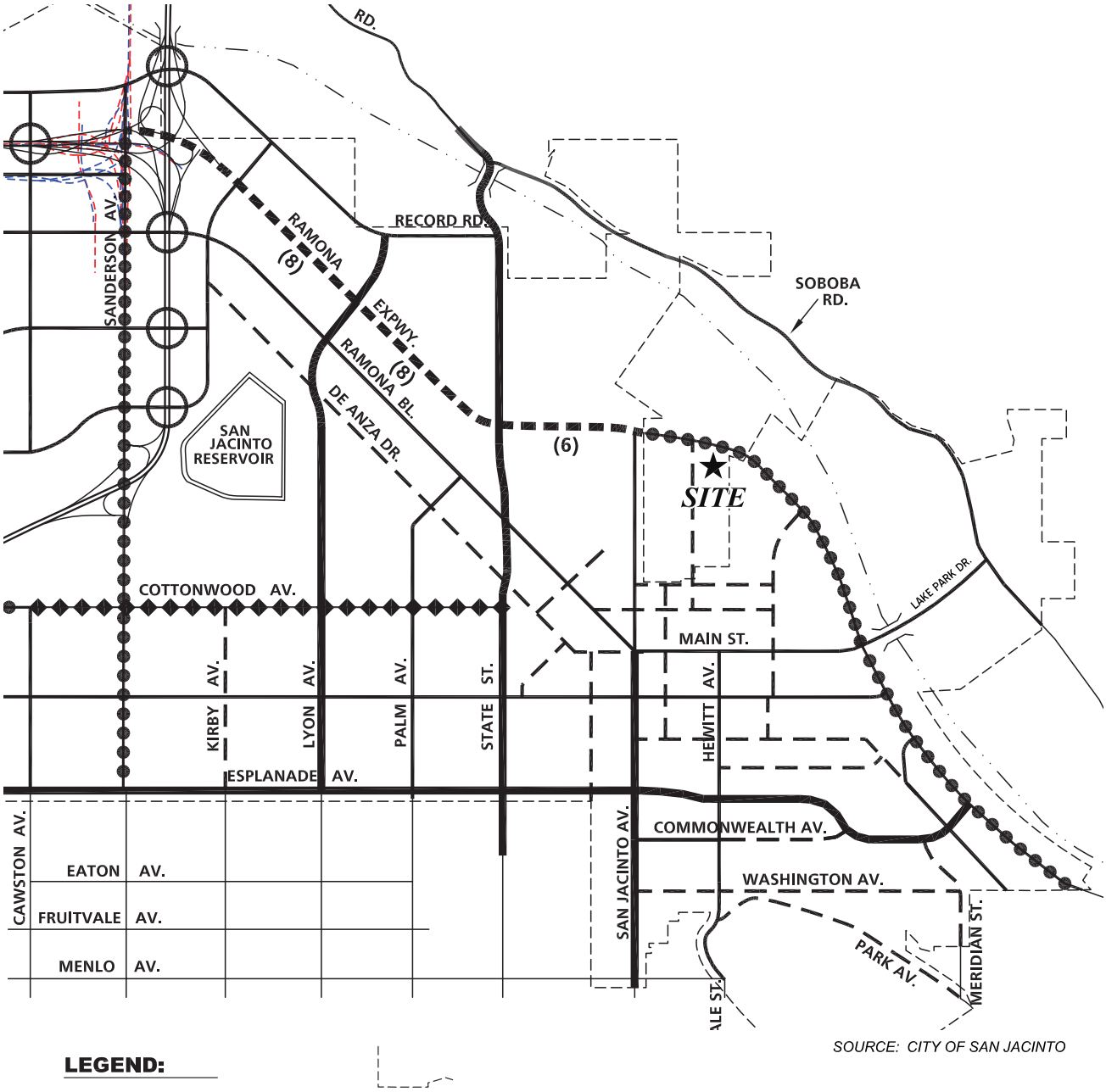


COLLECTOR

* PART WIDTH STREET SECTION FOR ALL COLLECTOR STREET - 34' IMPROVEMENTS ON 48' R/W

SOURCE: CITY OF SAN JACINTO

EXHIBIT 6: CITY OF SAN JACINTO GENERAL PLAN CIRCULATION ELEMENT

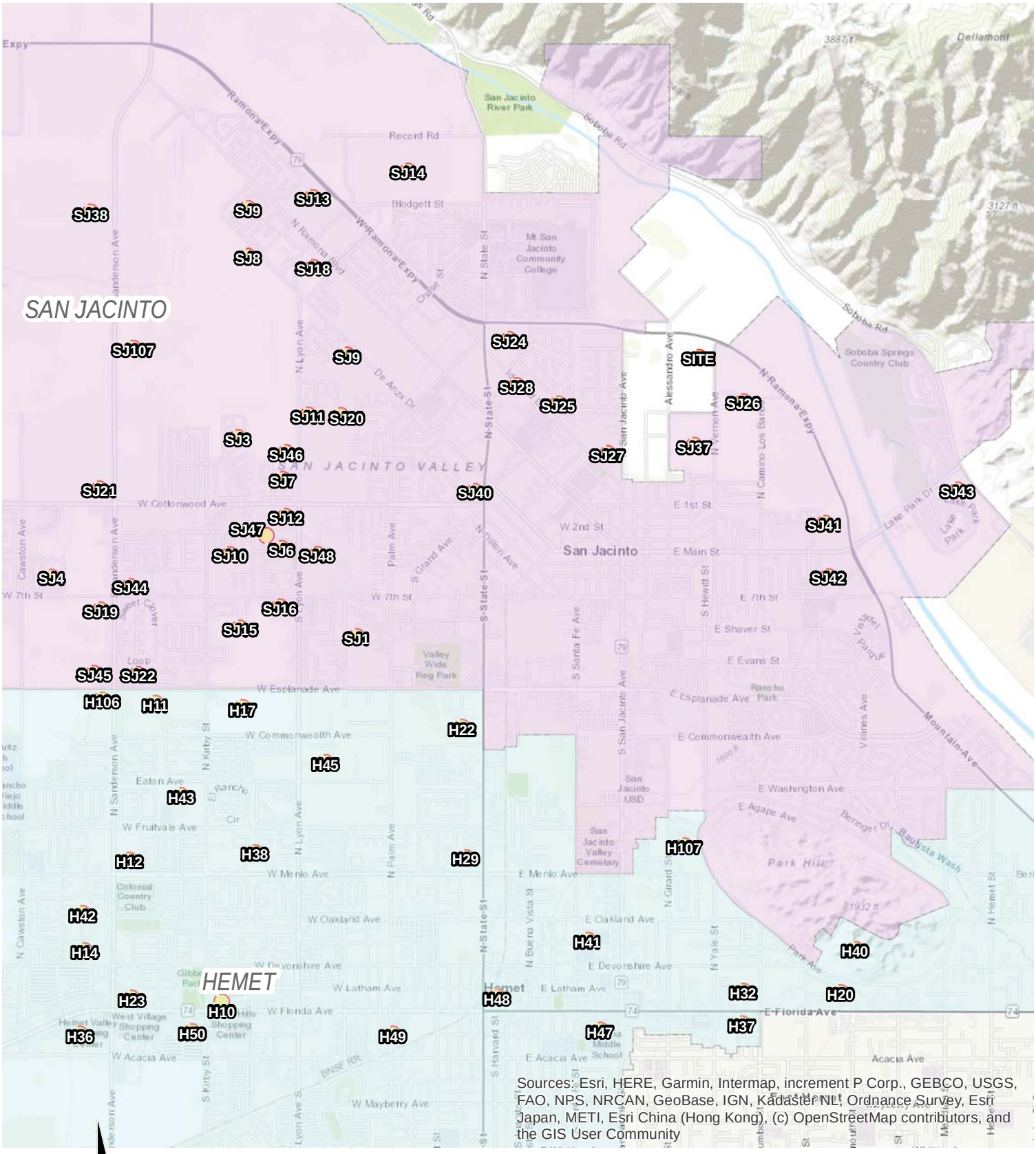


SOURCE: CITY OF SAN JACINTO

LEGEND:

- = CITY BOUNDARY
- = FREEWAY
- = LIMITED ACCESS CONVENTIONAL HIGHWAY (6 OR 8 LANES)
- = URBAN ARTERIAL
- = ARTERIAL
- = MAJOR
- = SECONDARY
- = COLLECTOR
- = ROADWAY OUTSIDE CITY SPHERE
- = OVER/UNDER CROSSING
- = MID COUNTY PARKWAY ALTERNATIVE 1
- = MID COUNTY PARKWAY ALTERNATIVE 2

EXHIBIT 7: CUMULATIVE DEVELOPMENT MAP



14573-CD Map.mxd

TABLE 2: CUMULATIVE DEVELOPMENT LAND USE SUMMARY

ID	Project Name	Land Use[1]	Quantity	Units[2]
City of San Jacinto				
SJ1	TR22665 (50% Occupied)	Single Family Residential	75	DU
SJ3	TR30481	Single Family Residential	30	DU
SJ4	TR30597	Single Family Residential	83	DU
SJ5	TR30659	Single Family Residential	64	DU
SJ6	TR30878	Single Family Residential	15	DU
SJ7	TR30944	Single Family Residential	14	DU
SJ8	TR31037	Single Family Residential	263	DU
SJ9	TR31154	Single Family Residential	88	DU
SJ10	TR31294	Single Family Residential	37	DU
SJ11	VTR31384	Single Family Residential	91	DU
SJ12	TR33546	Single Family Residential	5	DU
SJ13	TR31886 - Under Construction	Single Family Residential	321	DU
SJ14	TR30598 (SP 1-03)	Single Family Residential	580	DU
SJ15	TR31929	Single Family Residential	78	DU
SJ16	TR32247	Single Family Residential	150	DU
SJ18	TR32555	Single Family Residential	12	DU
SJ19	TR33420A1	Single Family Residential	108	DU
SJ20	Future Schools (Middle / Elementary)	School	1200	STU
SJ21	PM35626	Shopping Center	195.740	TSF
		Apartments	150	DU
SJ22	PM33196 San Jacinto Retail Center	Drive-In Bank	4.700	TSF
		Fast-Food w/ Drive Thru	3.450	TSF
SJ23	TR32352	Single Family Residential	47	DU
SJ24	CUP 6-07 99c Only Shopping Center	Shopping Ctr.	120	TSF
SJ25	TR32153	Single Family Residential	44	DU
SJ26	TR33862A1	Single Family Residential	98	DU
SJ27	TR34665	Single Family Residential	20	DU
SJ28	CUP 8-10	Multi-Family Residential	34	DU
SJ37	TR30379	Single Family Residential	126	DU
SJ38	TR36188	Single Family Residential	1323	DU
S40	San Jacinto Retail	Retail	8.54	TSF
		Conv. Market w/ Gas Station	2.95	TSF
		Fast-Food Restaurant	2.89	TSF
SJ41	KPC Promenade	Gas Station/Conv. Market	15	VFP
		Fast-Food w/ DT	6.3	TSF
		Quality Restaurant	5	TSF
		Retail	6.3	TSF
		Medical Office	9.6	TSF
		Hotel	120	RM
		Attached Senior Housing	114	DU
SJ42	Luiseno Village Retail Center	Specialty Retail Ctr.	23.94	TSF
		Fast-Food w/ DT	6.35	TSF
		Serv. Station w/ CarWash	24	VFP

TABLE 2: CUMULATIVE DEVELOPMENT LAND USE SUMMARY

ID	Project Name	Land Use[1]	Quantity	Units[2]
City of San Jacinto (Continued)				
SJ43	Soboba Service Center	Drive-Thru Retail	1	TSF
		Super Conv. Market/Gas Station	23	VFP
		Retail	8.5	TSF
		Car Wash	3.59	TSF
SJ44	NEC Sanderson Av./7th St.	Fast-Food w/ DT	5.4	TSF
		Gas Station/Conv. Market	12	VFP
		Retail	45.7	
SJ45	NWC Sanderson at Esplanade Av	Free-Standing Discount Store	10.266	TSF
		Fast-Food w/ DT	2.9	TSF
SJ46	TR33716	Single Family Residential	49	DU
SJ47	TR30603	Single Family Residential	10	DU
SJ48	TR22665	Single Family Residential	79	DU
City of Hemet				
H10	The Boardwalk (CUP 06-4)	Commercial	94.00 (20.00 Built)	TSF
H11	TTM 29581 (Covenant)	Single Family Residential	71	DU
H12	Zanderson Plaza (CUP 16-006 + TPM 37196)	Commercial	68.000	TSF
H14	TTM 33707 (Devonshire Partners) CUP 03-16A	Single Family Residential	98 (25 Built)	DU
H17	Page Ranch Elementary School	Elementary School	750	STU
H20	St. Deminia Center (CUP 07-16)	Commercial	33.480	TSF
H22	Nelson (SDR 06-28)	Industrial	16.200	TSF
H23	CUP 17-002 Crossroads	Commercial	1.000	TSF
H29	Santa Fe Pointe SDR 15-001	Multi-Family Residential	241	DU
H32	Scripps West (CUP 08-14)	Commercial	5.300	TSF
H36	Les Schwab Tire Store	Automotive Retail	11.970	TSF
H37	Taco Bell (CUP 16-004)	Fast-Food Restaurant	2.090	TSF
H38	TTM 33858	Single Family Residential	37	DU
H39	TTM 34712	Multi-Family Residential	40	DU
H40	7 Days Market (CUP 13-005)	Service Station	6	VFP
H41	Downtown Hemet Specific Plan	Various	Various	
H42	TM 25225 (Copenhagen)	Multi-Family Residential	40	DU
H43	TTM 36929	Single Family Residential	21	DU
H45	TTM 37087	Single Family Residential	20	DU
H46	Circle K (CUP 16-005)	Gas Station w/ Convenience Store & Car Wash	20	VFP
H47	Clinca de Salud (SDR 16-003)	Medical Office	13.000	TSF
H48	Al For Show (CUP 16-002)	Retail	3.020	TSF
H49	Gas Mart Remodel	Gas Station w/ Convenience Store	6	VFP
H106	TR 33420A1	Single Family Residential	161	DU
H107	800 N. Girard St. (APN 439-230-005)	Single Family Residential	51	DU

[1] DU = Dwelling Units; STU = Students; TSF = Thousand Square Feet; VFP = Vehicle Fueling Position

F:\UXRjobs_14100-14500\14573\LOS\Excel\[14573-02 - Scope.xlsx]14573-Cumulative

APPENDIX 3.1:

EXISTING TRAFFIC COUNTS – (2022)

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Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878
(951)268-6268

City of San Jacinto
N/S: N State Street
E/W: Ramona Expressway
Weather: Clear

File Name : 01_SJC_State_Ramona AM
Site Code : 05122054
Start Date : 1/26/2022
Page No : 1

Groups Printed- Total Volume

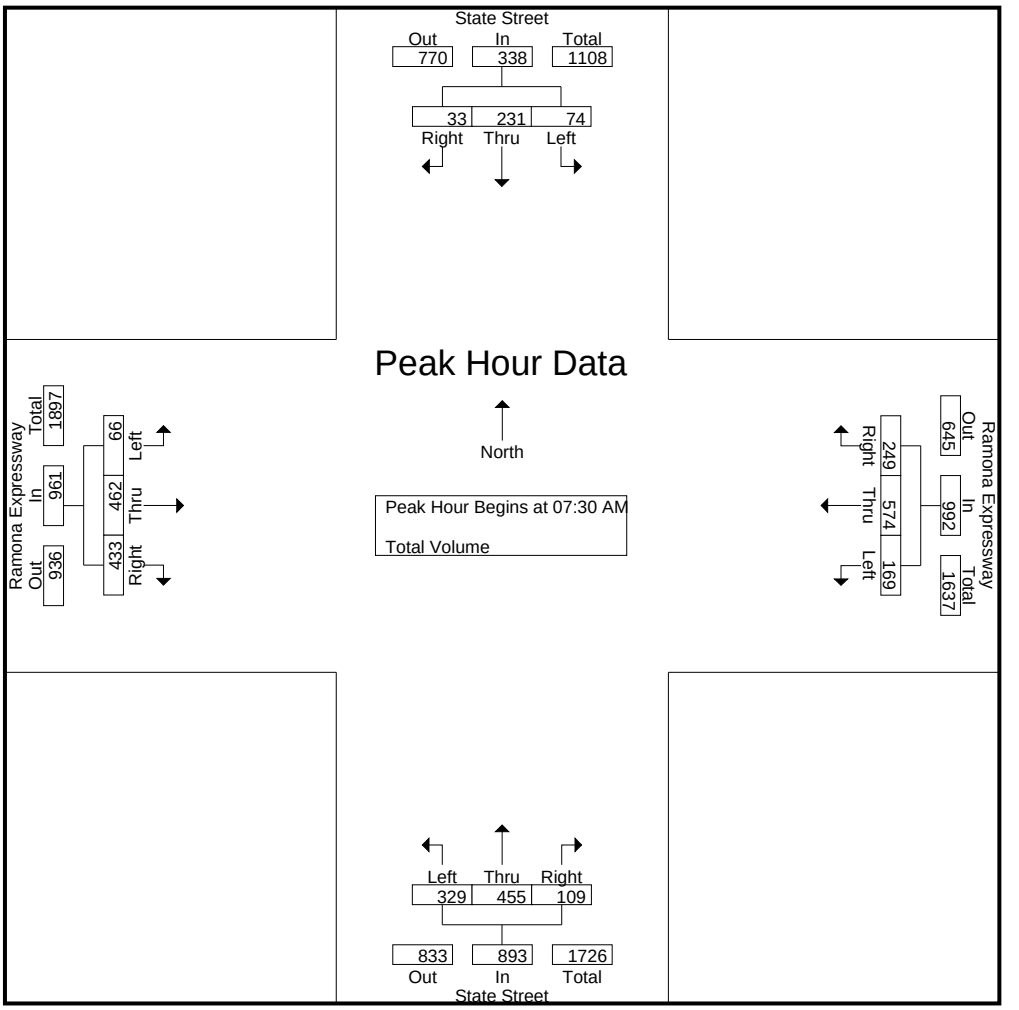
	State Street Southbound				Ramona Expressway Westbound				State Street Northbound				Ramona Expressway Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	12	23	11	46	19	166	70	255	64	78	11	153	18	79	78	175	629
07:15 AM	6	52	10	68	27	169	52	248	104	114	12	230	10	103	86	199	745
07:30 AM	21	57	5	83	47	136	69	252	84	98	23	205	13	100	98	211	751
07:45 AM	16	78	9	103	38	132	62	232	74	124	37	235	27	131	141	299	869
Total	55	210	35	300	131	603	253	987	326	414	83	823	68	413	403	884	2994
08:00 AM	16	51	10	77	45	164	56	265	85	114	30	229	15	122	93	230	801
08:15 AM	21	45	9	75	39	142	62	243	86	119	19	224	11	109	101	221	763
08:30 AM	22	64	6	92	29	146	58	233	78	94	18	190	13	113	92	218	733
08:45 AM	26	72	6	104	26	104	45	175	47	76	17	140	24	76	84	184	603
Total	85	232	31	348	139	556	221	916	296	403	84	783	63	420	370	853	2900
Grand Total	140	442	66	648	270	1159	474	1903	622	817	167	1606	131	833	773	1737	5894
Apprch %	21.6	68.2	10.2		14.2	60.9	24.9		38.7	50.9	10.4		7.5	48	44.5		
Total %	2.4	7.5	1.1	11	4.6	19.7	8	32.3	10.6	13.9	2.8	27.2	2.2	14.1	13.1	29.5	

	State Street Southbound				Ramona Expressway Westbound				State Street Northbound				Ramona Expressway Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	**21**	57	5	83	**47**	136	**69**	252	84	98	23	205	13	100	98	211	751
07:45 AM	16	**78**	9	**103**	38	132	62	232	74	**124**	**37**	**235**	**27**	**131**	**141**	**299**	**869**
08:00 AM	16	51	**10**	77	45	**164**	56	**265**	85	114	30	229	15	122	93	230	801
08:15 AM	21	45	9	75	39	142	62	243	**86**	119	19	224	11	109	101	221	763
Total Volume	74	231	33	338	169	574	249	992	329	455	109	893	66	462	433	961	3184
% App. Total	21.9	68.3	9.8		17	57.9	25.1		36.8	51	12.2		6.9	48.1	45.1		
PHF	.881	.740	.825	.820	.899	.875	.902	.936	.956	.917	.736	.950	.611	.882	.768	.804	.916

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City of San Jacinto
N/S: N State Street
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Weather: Clear

File Name : 01_SJC_State_Ramona AM
Site Code : 05122054
Start Date : 1/26/2022
Page No : 2



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	08:00 AM				07:15 AM				07:15 AM				07:45 AM			
+0 mins.	16	51	**10**	77	27	**169**	52	248	**104**	114	12	230	**27**	**131**	**141**	**299**
+15 mins.	21	45	9	75	**47**	136	**69**	252	84	98	23	205	15	122	93	230
+30 mins.	22	64	6	92	38	132	62	232	74	**124**	**37**	**235**	11	109	101	221
+45 mins.	**26**	**72**	6	**104**	45	164	56	**265**	85	114	30	229	13	113	92	218
Total Volume	85	232	31	348	157	601	239	997	347	450	102	899	66	475	427	968
% App. Total	24.4	66.7	8.9		15.7	60.3	24		38.6	50.1	11.3		6.8	49.1	44.1	
PHF	.817	.806	.775	.837	.835	.889	.866	.941	.834	.907	.689	.956	.611	.906	.757	.809

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Groups Printed- Total Volume

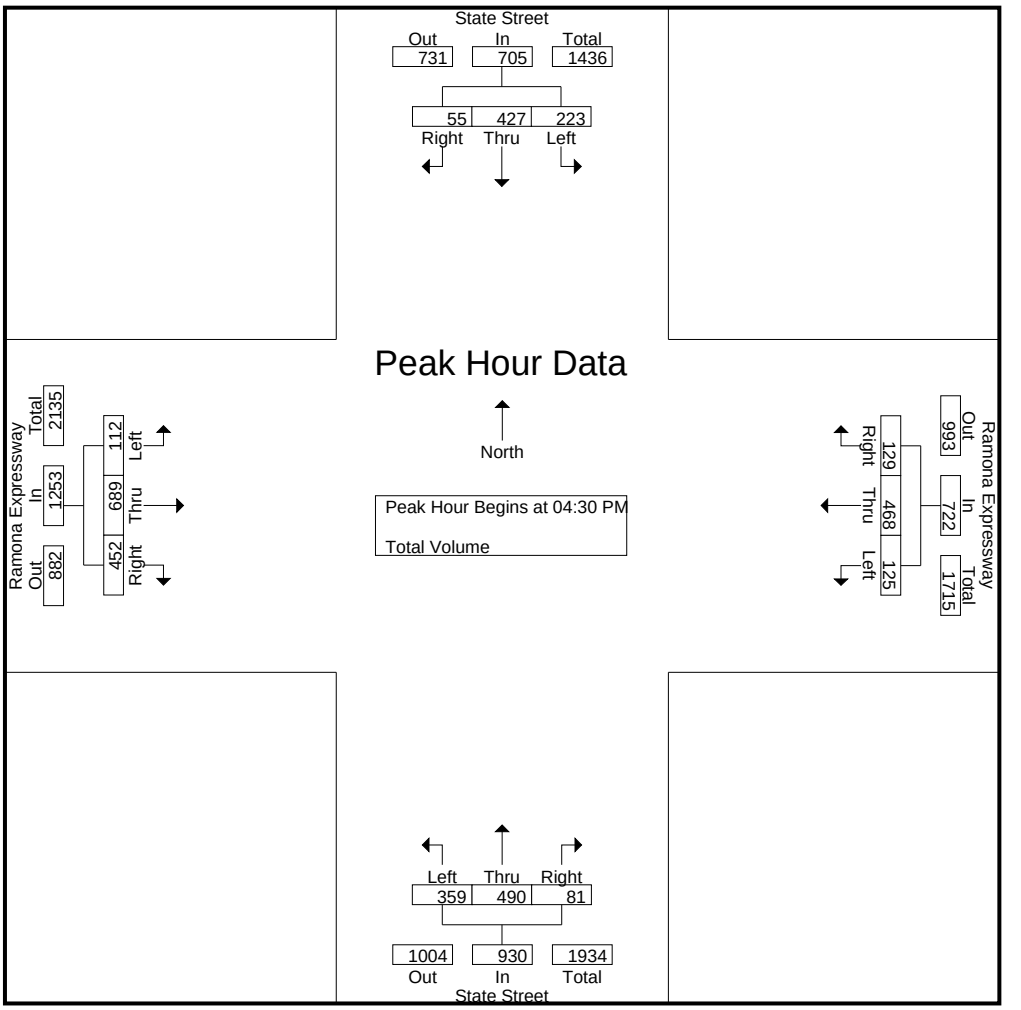
	State Street Southbound				Ramona Expressway Westbound				State Street Northbound				Ramona Expressway Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	41	86	10	137	44	120	37	201	87	106	18	211	25	152	110	287	836
04:15 PM	63	110	22	195	23	120	42	185	78	113	20	211	26	175	118	319	910
04:30 PM	39	121	13	173	32	99	32	163	84	112	19	215	29	164	112	305	856
04:45 PM	60	101	16	177	32	130	35	197	85	123	18	226	21	188	105	314	914
Total	203	418	61	682	131	469	146	746	334	454	75	863	101	679	445	1225	3516
05:00 PM	58	115	14	187	34	96	32	162	93	124	26	243	32	156	107	295	887
05:15 PM	66	90	12	168	27	143	30	200	97	131	18	246	30	181	128	339	953
05:30 PM	44	94	17	155	27	105	33	165	87	122	22	231	27	150	104	281	832
05:45 PM	64	103	16	183	21	80	33	134	78	84	20	182	24	142	89	255	754
Total	232	402	59	693	109	424	128	661	355	461	86	902	113	629	428	1170	3426
Grand Total	435	820	120	1375	240	893	274	1407	689	915	161	1765	214	1308	873	2395	6942
Apprch %	31.6	59.6	8.7		17.1	63.5	19.5		39	51.8	9.1		8.9	54.6	36.5		
Total %	6.3	11.8	1.7	19.8	3.5	12.9	3.9	20.3	9.9	13.2	2.3	25.4	3.1	18.8	12.6	34.5	

	State Street Southbound				Ramona Expressway Westbound				State Street Northbound				Ramona Expressway Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	39	**121**	13	173	32	99	32	163	84	112	19	215	29	164	112	305	856
04:45 PM	60	101	**16**	177	32	130	**35**	197	85	123	18	226	21	**188**	105	314	914
05:00 PM	58	115	14	**187**	**34**	96	32	162	93	124	**26**	243	**32**	156	107	295	887
05:15 PM	**66**	90	12	168	27	**143**	30	**200**	**97**	**131**	18	**246**	30	181	**128**	**339**	**953**
Total Volume	223	427	55	705	125	468	129	722	359	490	81	930	112	689	452	1253	3610
% App. Total	31.6	60.6	7.8		17.3	64.8	17.9		38.6	52.7	8.7		8.9	55	36.1		
PHF	.845	.882	.859	.943	.919	.818	.921	.903	.925	.935	.779	.945	.875	.916	.883	.924	.947

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File Name : 01_SJC_State_Ramona PM
Site Code : 05122054
Start Date : 1/26/2022
Page No : 2



Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:15 PM				04:00 PM				04:45 PM				04:30 PM			
+0 mins.	**63**	110	**22**	**195**	**44**	120	37	**201**	85	123	18	226	29	164	112	305
+15 mins.	39	**121**	13	173	23	120	**42**	185	93	124	**26**	243	21	**188**	105	314
+30 mins.	60	101	16	177	32	99	32	163	**97**	**131**	18	**246**	**32**	156	107	295
+45 mins.	58	115	14	187	32	**130**	35	197	87	122	22	231	30	181	**128**	**339**
Total Volume	220	447	65	732	131	469	146	746	362	500	84	946	112	689	452	1253
% App. Total	30.1	61.1	8.9		17.6	62.9	19.6		38.3	52.9	8.9		8.9	55	36.1	
PHF	.873	.924	.739	.938	.744	.902	.869	.928	.933	.954	.808	.961	.875	.916	.883	.924

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City of San Jacinto
N/S: Alessandro Avenue
E/W: Ramona Expressway
Weather: Clear

File Name : 02_SJC_Aless_Ramona AM
Site Code : 05122054
Start Date : 1/26/2022

Groups Printed- Total Volume

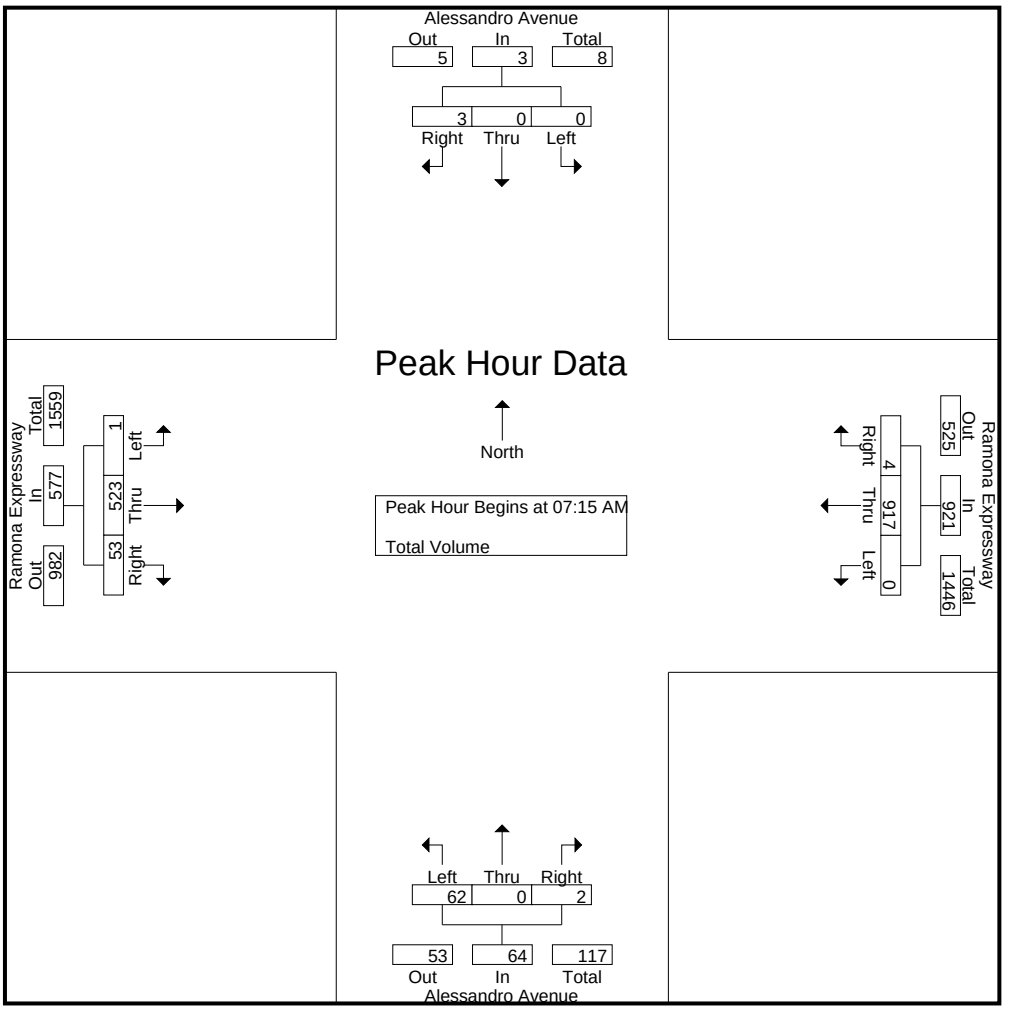
	Alessandro Avenue Southbound				Ramona Expressway Westbound				Alessandro Avenue Northbound				Ramona Expressway Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	0	0	0	0	1	231	1	233	12	0	0	12	0	84	3	87	332
07:15 AM	0	0	0	0	0	243	1	244	16	0	2	18	1	118	2	121	383
07:30 AM	0	0	1	1	0	261	1	262	16	0	0	16	0	100	14	114	393
07:45 AM	0	0	0	0	0	207	0	207	17	0	0	17	0	177	29	206	430
Total	0	0	1	1	1	942	3	946	61	0	2	63	1	479	48	528	1538
08:00 AM	0	0	2	2	0	206	2	208	13	0	0	13	0	128	8	136	359
08:15 AM	0	0	2	2	0	204	1	205	8	1	1	10	2	130	19	151	368
08:30 AM	0	0	1	1	0	145	0	145	10	1	1	12	0	125	4	129	287
08:45 AM	0	0	3	3	0	131	0	131	4	0	1	5	1	95	7	103	242
Total	0	0	8	8	0	686	3	689	35	2	3	40	3	478	38	519	1256
Grand Total	0	0	9	9	1	1628	6	1635	96	2	5	103	4	957	86	1047	2794
Apprch %	0	0	100		0.1	99.6	0.4		93.2	1.9	4.9		0.4	91.4	8.2		
Total %	0	0	0.3	0.3	0	58.3	0.2	58.5	3.4	0.1	0.2	3.7	0.1	34.3	3.1	37.5	

	Alessandro Avenue Southbound				Ramona Expressway Westbound				Alessandro Avenue Northbound				Ramona Expressway Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:15 AM																	
07:15 AM	0	0	0	0	0	243	1	244	16	0	**2**	**18**	**1**	118	2	121	383
07:30 AM	0	0	1	1	0	**261**	1	**262**	16	0	0	16	0	100	14	114	393
07:45 AM	0	0	0	0	0	207	0	207	**17**	0	0	17	0	**177**	**29**	**206**	**430**
08:00 AM	0	0	**2**	**2**	0	206	**2**	208	13	0	0	13	0	128	8	136	359
Total Volume	0	0	3	3	0	917	4	921	62	0	2	64	1	523	53	577	1565
% App. Total	0	0	100		0	99.6	0.4		96.9	0	3.1		0.2	90.6	9.2		
PHF	.000	.000	.375	.375	.000	.878	.500	.879	.912	.000	.250	.889	.250	.739	.457	.700	.910

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City of San Jacinto
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Weather: Clear

File Name : 02_SJC_Aless_Ramona AM
Site Code : 05122054
Start Date : 1/26/2022
Page No : 2



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	08:00 AM				07:00 AM				07:15 AM				07:45 AM			
+0 mins.	0	0	2	2	**1**	231	**1**	233	16	0	**2**	**18**	0	**177**	**29**	**206**
+15 mins.	0	0	2	2	0	243	1	244	16	0	0	16	0	128	8	136
+30 mins.	0	0	1	1	0	**261**	1	**262**	**17**	0	0	17	**2**	130	19	151
+45 mins.	0	0	**3**	**3**	0	207	0	207	13	0	0	13	0	125	4	129
Total Volume	0	0	8	8	1	942	3	946	62	0	2	64	2	560	60	622
% App. Total	0	0	100		0.1	99.6	0.3		96.9	0	3.1		0.3	90	9.6	
PHF	.000	.000	.667	.667	.250	.902	.750	.903	.912	.000	.250	.889	.250	.791	.517	.755

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Page No : 1

Groups Printed- Total Volume

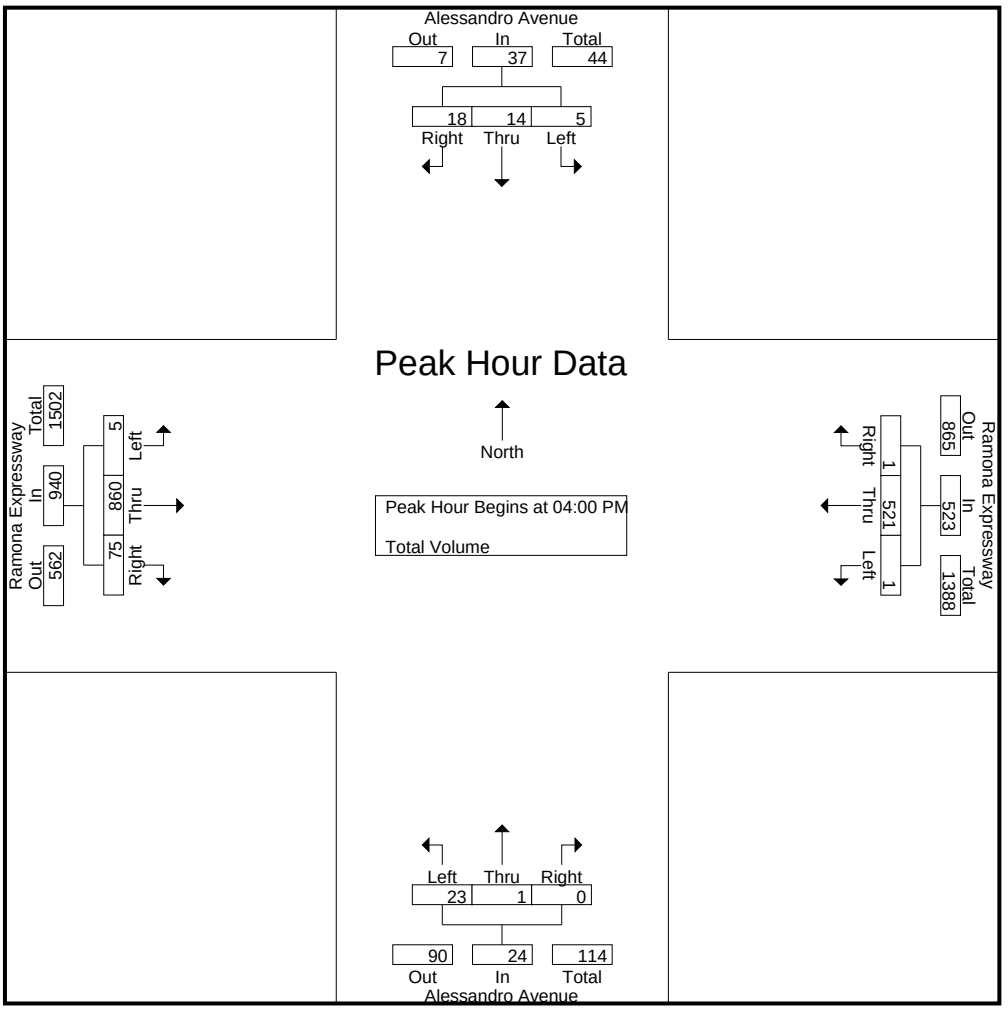
	Alessandro Avenue Southbound				Ramona Expressway Westbound				Alessandro Avenue Northbound				Ramona Expressway Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	3	14	16	33	0	133	1	134	7	1	0	8	0	198	18	216	391
04:15 PM	2	0	1	3	0	128	0	128	5	0	0	5	3	226	23	252	388
04:30 PM	0	0	1	1	1	137	0	138	4	0	0	4	0	211	15	226	369
04:45 PM	0	0	0	0	0	123	0	123	7	0	0	7	2	225	19	246	376
Total	5	14	18	37	1	521	1	523	23	1	0	24	5	860	75	940	1524
05:00 PM	1	0	0	1	0	112	0	112	10	1	1	12	1	209	13	223	348
05:15 PM	0	0	1	1	0	140	0	140	11	0	1	12	1	177	17	195	348
05:30 PM	0	0	1	1	0	117	0	117	9	0	1	10	0	215	16	231	359
05:45 PM	0	0	1	1	0	113	0	113	9	0	1	10	0	217	13	230	354
Total	1	0	3	4	0	482	0	482	39	1	4	44	2	818	59	879	1409
Grand Total	6	14	21	41	1	1003	1	1005	62	2	4	68	7	1678	134	1819	2933
Apprch %	14.6	34.1	51.2		0.1	99.8	0.1		91.2	2.9	5.9		0.4	92.2	7.4		
Total %	0.2	0.5	0.7	1.4	0	34.2	0	34.3	2.1	0.1	0.1	2.3	0.2	57.2	4.6	62	

	Alessandro Avenue Southbound				Ramona Expressway Westbound				Alessandro Avenue Northbound				Ramona Expressway Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:00 PM																	
04:00 PM	**3**	**14**	**16**	**33**	0	133	**1**	134	**7**	**1**	0	**8**	0	198	18	216	**391**
04:15 PM	2	0	1	3	0	128	0	128	5	0	0	5	**3**	**226**	**23**	**252**	388
04:30 PM	0	0	1	1	**1**	**137**	0	**138**	4	0	0	4	0	211	15	226	369
04:45 PM	0	0	0	0	0	123	0	123	7	0	0	7	2	225	19	246	376
Total Volume	5	14	18	37	1	521	1	523	23	1	0	24	5	860	75	940	1524
% App. Total	13.5	37.8	48.6		0.2	99.6	0.2		95.8	4.2	0		0.5	91.5	8		
PHF	.417	.250	.281	.280	.250	.951	.250	.947	.821	.250	.000	.750	.417	.951	.815	.933	.974

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City of San Jacinto
N/S: Alessandro Avenue
E/W: Ramona Expressway
Weather: Clear

File Name : 02_SJC_Aless_Ramona PM
Site Code : 05122054
Start Date : 1/26/2022



Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:00 PM				04:00 PM				05:00 PM				04:15 PM			
+0 mins.	**3**	**14**	**16**	**33**	0	133	**1**	134	10	**1**	**1**	**12**	**3**	**226**	**23**	**252**
+15 mins.	2	0	1	3	0	128	0	128	**11**	0	1	12	0	211	15	226
+30 mins.	0	0	1	1	**1**	**137**	0	**138**	9	0	1	10	2	225	19	246
+45 mins.	0	0	0	0	0	123	0	123	9	0	1	10	1	209	13	223
Total Volume	5	14	18	37	1	521	1	523	39	1	4	44	6	871	70	947
% App. Total	13.5	37.8	48.6		0.2	99.6	0.2		88.6	2.3	9.1		0.6	92	7.4	
PHF	.417	.250	.281	.280	.250	.951	.250	.947	.886	.250	1.000	.917	.500	.963	.761	.939

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City of San Jacinto
N/S: Vernon Avenue
E/W: Ramona Expressway
Weather: Clear

File Name : 03_SJC_Vernon_Ramona AM
Site Code : 05122054
Start Date : 1/26/2022

Groups Printed- Total Volume

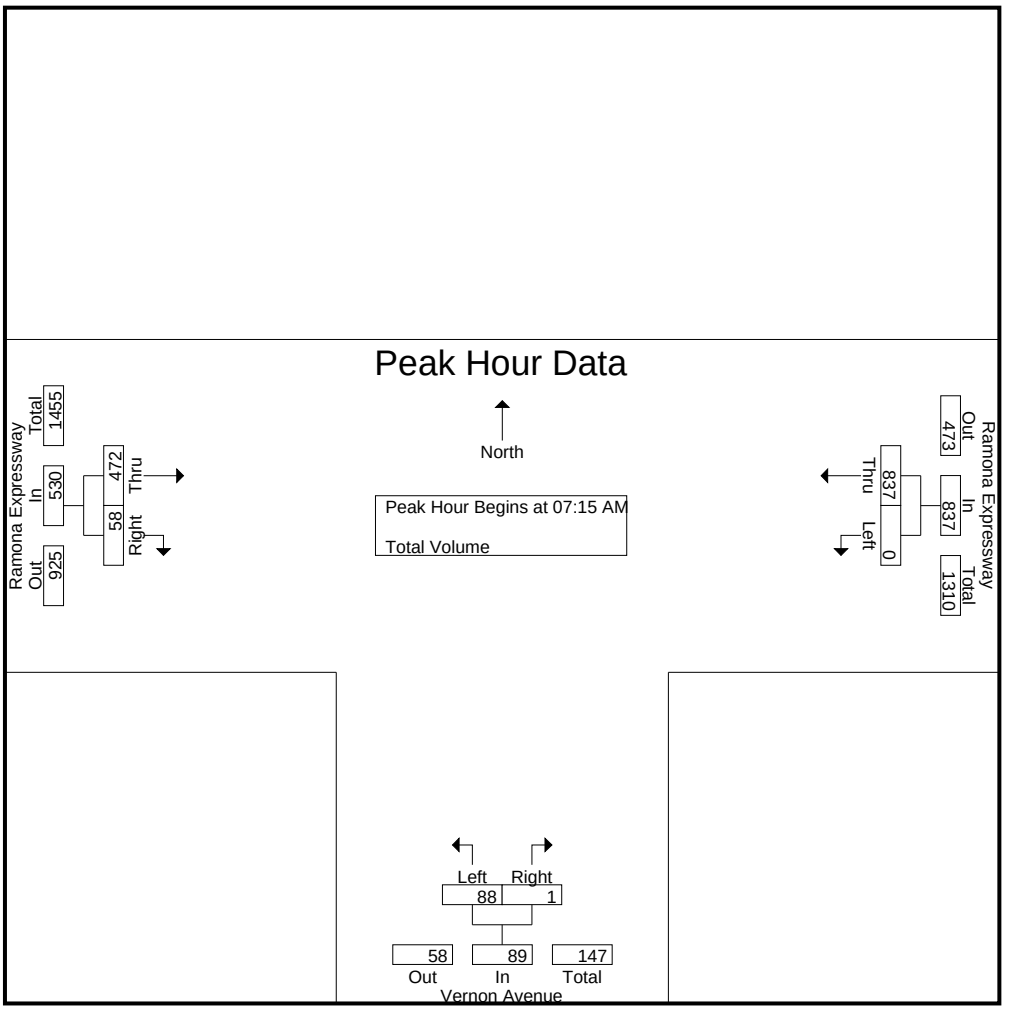
	Ramona Expressway Westbound			Vernon Avenue Northbound			Ramona Expressway Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
07:00 AM	0	213	213	18	0	18	70	15	85	316
07:15 AM	0	228	228	20	0	20	104	12	116	364
07:30 AM	0	237	237	18	0	18	95	11	106	361
07:45 AM	0	180	180	30	1	31	159	19	178	389
Total	0	858	858	86	1	87	428	57	485	1430
08:00 AM	0	192	192	20	0	20	114	16	130	342
08:15 AM	0	179	179	25	0	25	112	20	132	336
08:30 AM	0	139	139	17	0	17	118	9	127	283
08:45 AM	0	103	103	18	0	18	88	14	102	223
Total	0	613	613	80	0	80	432	59	491	1184
Grand Total	0	1471	1471	166	1	167	860	116	976	2614
Apprch %	0	100		99.4	0.6		88.1	11.9		
Total %	0	56.3	56.3	6.4	0	6.4	32.9	4.4	37.3	

	Ramona Expressway Westbound			Vernon Avenue Northbound			Ramona Expressway Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:15 AM										
07:15 AM	0	228	228	20	0	20	104	12	116	364
07:30 AM	0	**237**	**237**	18	0	18	95	11	106	361
07:45 AM	0	180	180	**30**	**1**	**31**	**159**	**19**	**178**	**389**
08:00 AM	0	192	192	20	0	20	114	16	130	342
Total Volume	0	837	837	88	1	89	472	58	530	1456
% App. Total	0	100		98.9	1.1		89.1	10.9		
PHF	.000	.883	.883	.733	.250	.718	.742	.763	.744	.936

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City of San Jacinto
N/S: Vernon Avenue
E/W: Ramona Expressway
Weather: Clear

File Name : 03_SJC_Vernon_Ramona AM
Site Code : 05122054
Start Date : 1/26/2022



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:00 AM			07:30 AM			07:45 AM		
+0 mins.	0	213	213	18	0	18	**159**	19	**178**
+15 mins.	0	228	228	**30**	**1**	**31**	114	16	130
+30 mins.	0	**237**	**237**	20	0	20	112	**20**	132
+45 mins.	0	180	180	25	0	25	118	9	127
Total Volume	0	858	858	93	1	94	503	64	567
% App. Total	0	100		98.9	1.1		88.7	11.3	
PHF	.000	.905	.905	.775	.250	.758	.791	.800	.796

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City of San Jacinto
N/S: Vernon Avenue
E/W: Ramona Expressway
Weather: Clear

File Name : 03_SJC_Vernon_Ramona PM
Site Code : 05122054
Start Date : 1/26/2022

Groups Printed- Total Volume

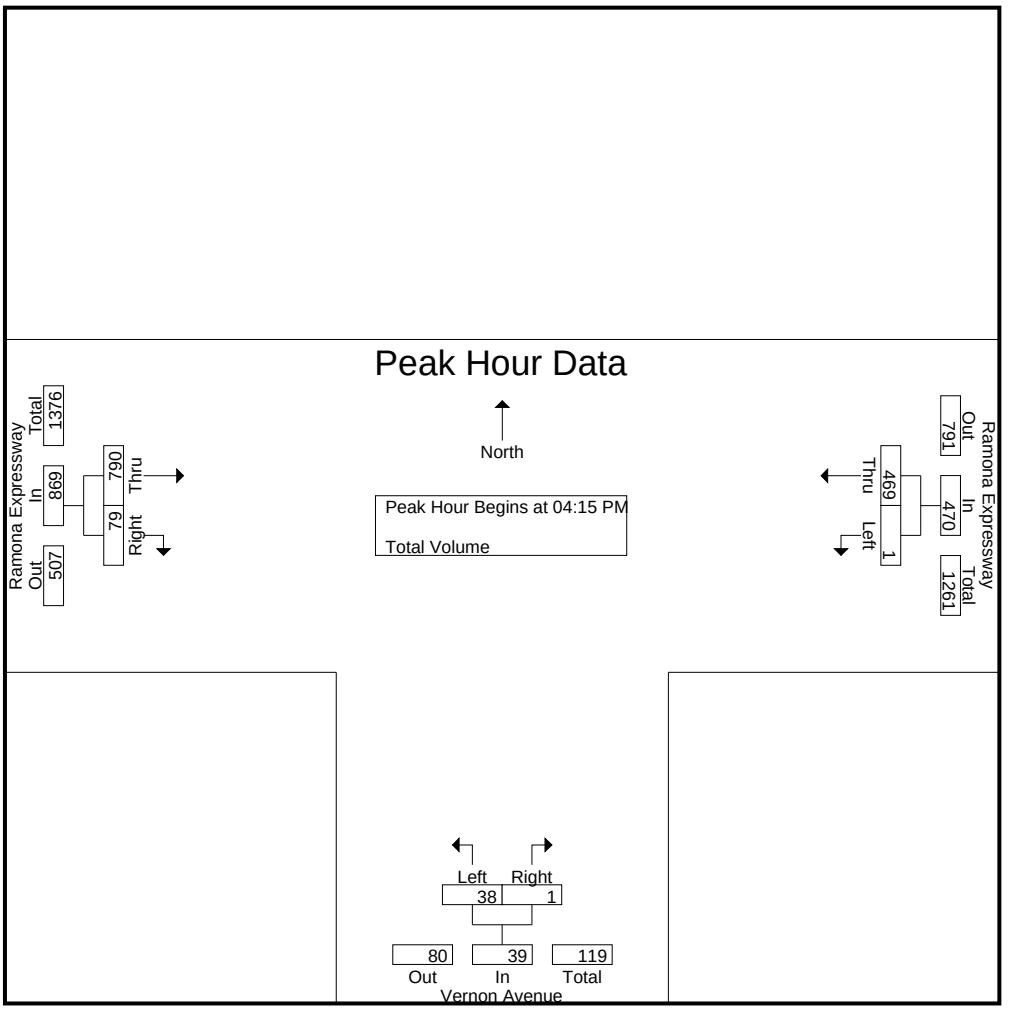
	Ramona Expressway Westbound			Vernon Avenue Northbound			Ramona Expressway Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
04:00 PM	0	121	121	9	0	9	180	20	200	330
04:15 PM	0	127	127	8	0	8	203	20	223	358
04:30 PM	1	124	125	10	0	10	199	21	220	355
04:45 PM	0	104	104	12	0	12	200	18	218	334
Total	1	476	477	39	0	39	782	79	861	1377
05:00 PM	0	114	114	8	1	9	188	20	208	331
05:15 PM	0	122	122	12	0	12	162	16	178	312
05:30 PM	0	103	103	12	0	12	202	17	219	334
05:45 PM	1	108	109	6	0	6	198	16	214	329
Total	1	447	448	38	1	39	750	69	819	1306
Grand Total	2	923	925	77	1	78	1532	148	1680	2683
Apprch %	0.2	99.8		98.7	1.3		91.2	8.8		
Total %	0.1	34.4	34.5	2.9	0	2.9	57.1	5.5	62.6	

	Ramona Expressway Westbound			Vernon Avenue Northbound			Ramona Expressway Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:15 PM										
04:15 PM	0	**127**	**127**	8	0	8	**203**	20	**223**	**358**
04:30 PM	**1**	124	125	10	0	10	199	**21**	220	355
04:45 PM	0	104	104	**12**	0	**12**	200	18	218	334
05:00 PM	0	114	114	8	**1**	9	188	20	208	331
Total Volume	1	469	470	38	1	39	790	79	869	1378
% App. Total	0.2	99.8		97.4	2.6		90.9	9.1		
PHF	.250	.923	.925	.792	.250	.813	.973	.940	.974	.962

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City of San Jacinto
N/S: Vernon Avenue
E/W: Ramona Expressway
Weather: Clear

File Name : 03_SJC_Vernon_Ramona PM
Site Code : 05122054
Start Date : 1/26/2022



Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:00 PM			04:45 PM			04:15 PM		
+0 mins.	0	121	121	**12**	0	**12**	**203**	20	**223**
+15 mins.	0	**127**	**127**	8	**1**	9	199	**21**	220
+30 mins.	**1**	124	125	12	0	12	200	18	218
+45 mins.	0	104	104	12	0	12	188	20	208
Total Volume	1	476	477	44	1	45	790	79	869
% App. Total	0.2	99.8		97.8	2.2		90.9	9.1	
PHF	.250	.937	.939	.917	.250	.938	.973	.940	.974

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City of San Jacinto
N/S: Alessandro Avenue
E/W: 1st Street
Weather: Clear

File Name : 04_SJC_Aless_1st AM
Site Code : 05122054
Start Date : 1/26/2022
Page No : 1

Groups Printed- Total Volume

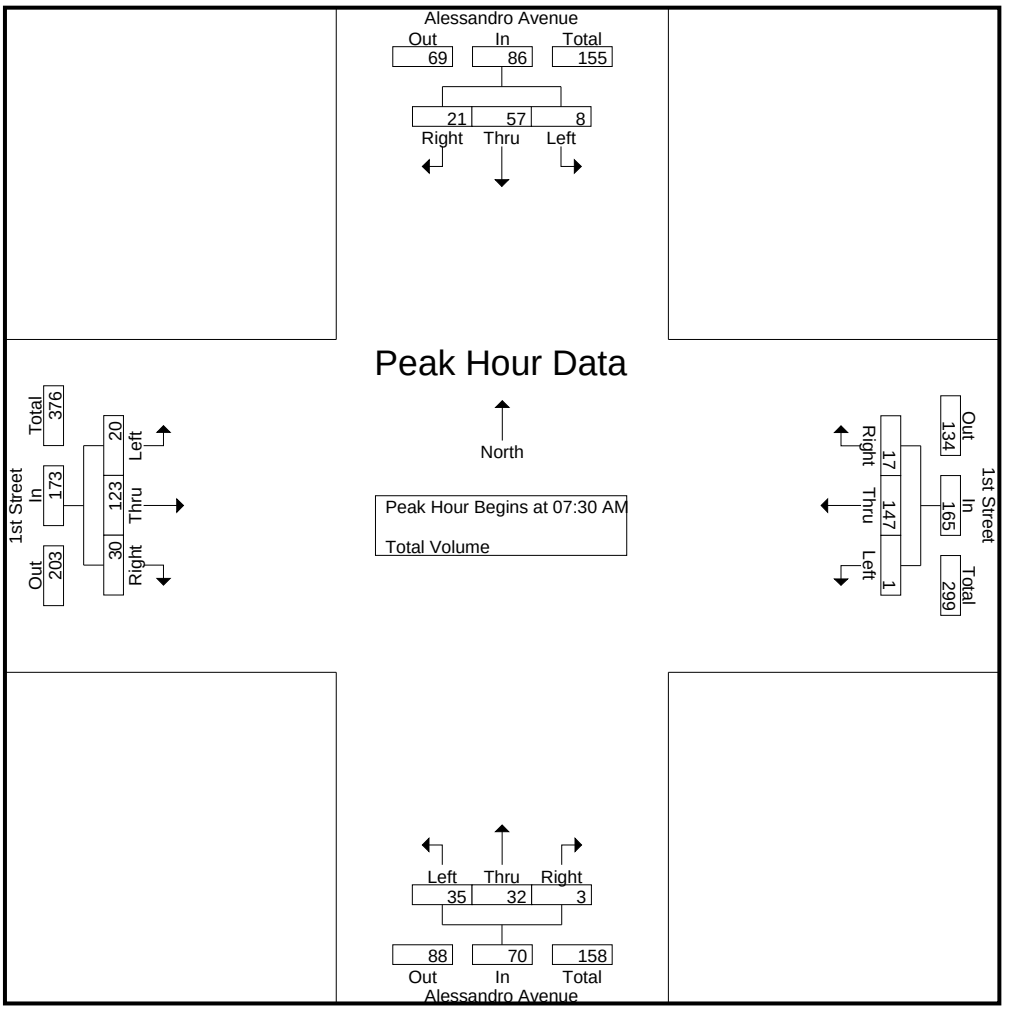
	Alessandro Avenue Southbound				1st Street Westbound				Alessandro Avenue Northbound				1st Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	0	4	3	7	1	27	3	31	1	7	1	9	2	16	1	19	66
07:15 AM	1	4	3	8	0	42	7	49	5	10	0	15	2	20	4	26	98
07:30 AM	1	14	4	19	0	51	4	55	18	10	0	28	1	30	5	36	138
07:45 AM	2	19	9	30	0	47	5	52	9	6	1	16	11	39	5	55	153
Total	4	41	19	64	1	167	19	187	33	33	2	68	16	105	15	136	455
08:00 AM	0	8	5	13	1	22	1	24	5	11	1	17	2	29	11	42	96
08:15 AM	5	16	3	24	0	27	7	34	3	5	1	9	6	25	9	40	107
08:30 AM	1	6	1	8	0	14	1	15	3	6	0	9	3	12	3	18	50
08:45 AM	2	7	0	9	0	9	0	9	1	5	0	6	1	8	0	9	33
Total	8	37	9	54	1	72	9	82	12	27	2	41	12	74	23	109	286
Grand Total	12	78	28	118	2	239	28	269	45	60	4	109	28	179	38	245	741
Apprch %	10.2	66.1	23.7		0.7	88.8	10.4		41.3	55	3.7		11.4	73.1	15.5		
Total %	1.6	10.5	3.8	15.9	0.3	32.3	3.8	36.3	6.1	8.1	0.5	14.7	3.8	24.2	5.1	33.1	

	Alessandro Avenue Southbound				1st Street Westbound				Alessandro Avenue Northbound				1st Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	1	14	4	19	0	**51**	4	**55**	**18**	10	0	**28**	1	30	5	36	138
07:45 AM	2	**19**	**9**	**30**	0	47	5	52	9	6	**1**	16	**11**	**39**	5	**55**	**153**
08:00 AM	0	8	5	13	**1**	22	1	24	5	**11**	1	17	2	29	**11**	42	96
08:15 AM	**5**	16	3	24	0	27	**7**	34	3	5	1	9	6	25	9	40	107
Total Volume	8	57	21	86	1	147	17	165	35	32	3	70	20	123	30	173	494
% App. Total	9.3	66.3	24.4		0.6	89.1	10.3		50	45.7	4.3		11.6	71.1	17.3		
PHF	.400	.750	.583	.717	.250	.721	.607	.750	.486	.727	.750	.625	.455	.788	.682	.786	.807

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City of San Jacinto
N/S: Alessandro Avenue
E/W: 1st Street
Weather: Clear

File Name : 04_SJC_Aless_1st AM
Site Code : 05122054
Start Date : 1/26/2022
Page No : 2



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:30 AM				07:00 AM				07:15 AM				07:30 AM			
+0 mins.	1	14	4	19	**1**	27	3	31	5	10	0	15	1	30	5	36
+15 mins.	2	**19**	**9**	**30**	0	42	**7**	49	**18**	10	0	**28**	**11**	**39**	5	**55**
+30 mins.	0	8	5	13	0	**51**	4	**55**	9	6	**1**	16	2	29	**11**	42
+45 mins.	**5**	16	3	24	0	47	5	52	5	**11**	1	17	6	25	9	40
Total Volume	8	57	21	86	1	167	19	187	37	37	2	76	20	123	30	173
% App. Total	9.3	66.3	24.4		0.5	89.3	10.2		48.7	48.7	2.6		11.6	71.1	17.3	
PHF	.400	.750	.583	.717	.250	.819	.679	.850	.514	.841	.500	.679	.455	.788	.682	.786

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City of San Jacinto
N/S: Alessandro Avenue
E/W: 1st Street
Weather: Clear

File Name : 04_SJC_Aless_1st PM
Site Code : 05122054
Start Date : 1/26/2022

Groups Printed- Total Volume

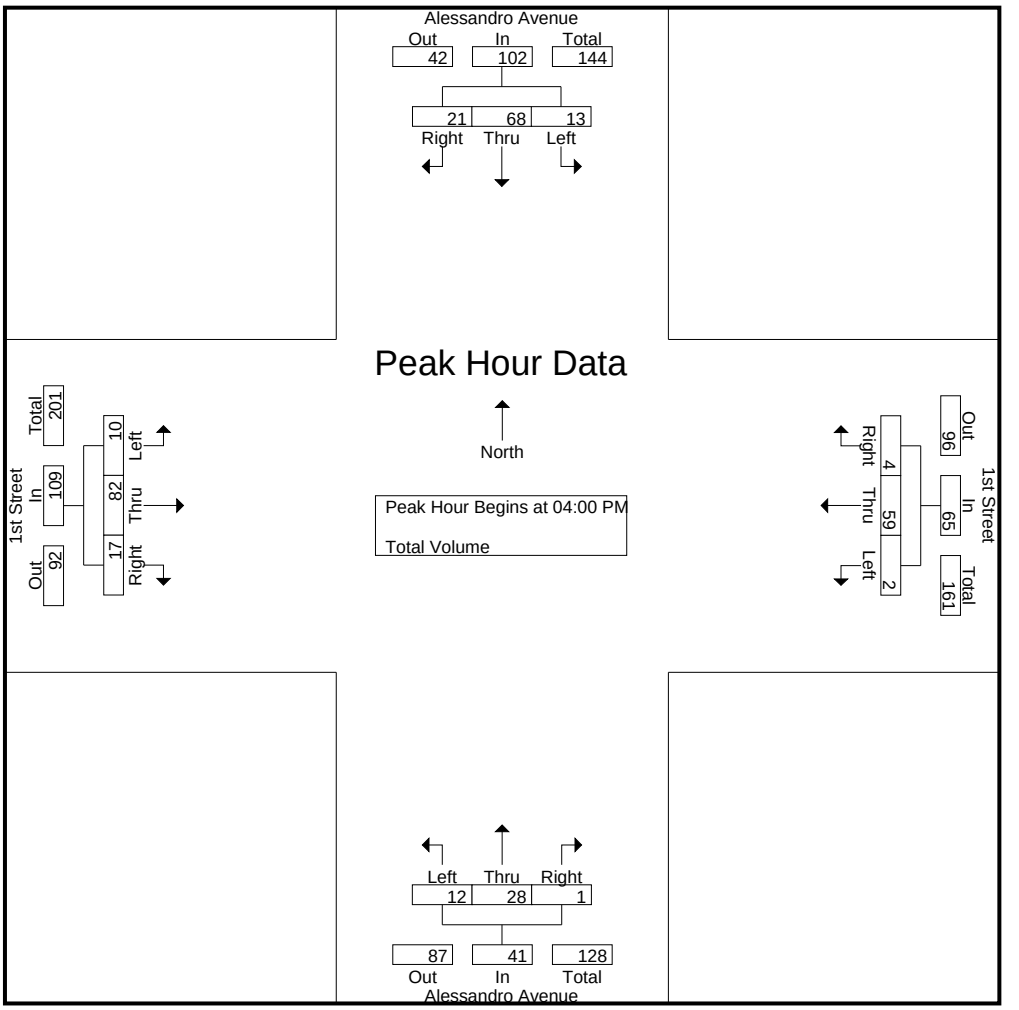
	Alessandro Avenue Southbound				1st Street Westbound				Alessandro Avenue Northbound				1st Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	5	22	6	33	0	16	2	18	6	6	0	12	2	19	5	26	89
04:15 PM	3	19	4	26	1	10	0	11	1	7	0	8	3	16	3	22	67
04:30 PM	2	16	5	23	1	13	1	15	4	7	0	11	2	30	3	35	84
04:45 PM	3	11	6	20	0	20	1	21	1	8	1	10	3	17	6	26	77
Total	13	68	21	102	2	59	4	65	12	28	1	41	10	82	17	109	317
05:00 PM	3	9	5	17	0	13	4	17	2	8	2	12	6	24	5	35	81
05:15 PM	6	9	2	17	0	7	4	11	2	9	1	12	3	21	5	29	69
05:30 PM	4	10	2	16	0	13	0	13	5	6	0	11	3	9	1	13	53
05:45 PM	2	14	2	18	1	11	3	15	5	6	0	11	3	14	4	21	65
Total	15	42	11	68	1	44	11	56	14	29	3	46	15	68	15	98	268
Grand Total	28	110	32	170	3	103	15	121	26	57	4	87	25	150	32	207	585
Apprch %	16.5	64.7	18.8		2.5	85.1	12.4		29.9	65.5	4.6		12.1	72.5	15.5		
Total %	4.8	18.8	5.5	29.1	0.5	17.6	2.6	20.7	4.4	9.7	0.7	14.9	4.3	25.6	5.5	35.4	

	Alessandro Avenue Southbound				1st Street Westbound				Alessandro Avenue Northbound				1st Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:00 PM																	
04:00 PM	**5**	**22**	**6**	**33**	0	16	**2**	18	**6**	6	0	**12**	2	19	5	26	**89**
04:15 PM	3	19	4	26	**1**	10	0	11	1	7	0	8	**3**	16	3	22	67
04:30 PM	2	16	5	23	1	13	1	15	4	7	0	11	2	**30**	3	**35**	84
04:45 PM	3	11	6	20	0	**20**	1	**21**	1	**8**	**1**	10	3	17	**6**	26	77
Total Volume	13	68	21	102	2	59	4	65	12	28	1	41	10	82	17	109	317
% App. Total	12.7	66.7	20.6		3.1	90.8	6.2		29.3	68.3	2.4		9.2	75.2	15.6		
PHF	.650	.773	.875	.773	.500	.738	.500	.774	.500	.875	.250	.854	.833	.683	.708	.779	.890

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City of San Jacinto
N/S: Alessandro Avenue
E/W: 1st Street
Weather: Clear

File Name : 04_SJC_Aless_1st PM
Site Code : 05122054
Start Date : 1/26/2022
Page No : 2



Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:00 PM				04:00 PM				05:00 PM				04:30 PM			
+0 mins.	**5**	**22**	**6**	**33**	0	16	**2**	18	2	8	**2**	**12**	2	**30**	3	**35**
+15 mins.	3	19	4	26	**1**	10	0	11	2	**9**	1	12	3	17	**6**	26
+30 mins.	2	16	5	23	1	13	1	15	**5**	6	0	11	**6**	24	5	35
+45 mins.	3	11	6	20	0	**20**	1	**21**	5	6	0	11	3	21	5	29
Total Volume	13	68	21	102	2	59	4	65	14	29	3	46	14	92	19	125
% App. Total	12.7	66.7	20.6		3.1	90.8	6.2		30.4	63	6.5		11.2	73.6	15.2	
PHF	.650	.773	.875	.773	.500	.738	.500	.774	.700	.806	.375	.958	.583	.767	.792	.893

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(951)268-6268

City of San Jacinto
N/S: Vernon Avenue
E/W: 1st Street
Weather: Clear

File Name : 05_SJC_Vernon_1st AM
Site Code : 05122054
Start Date : 1/26/2022
Page No : 1

Groups Printed- Total Volume

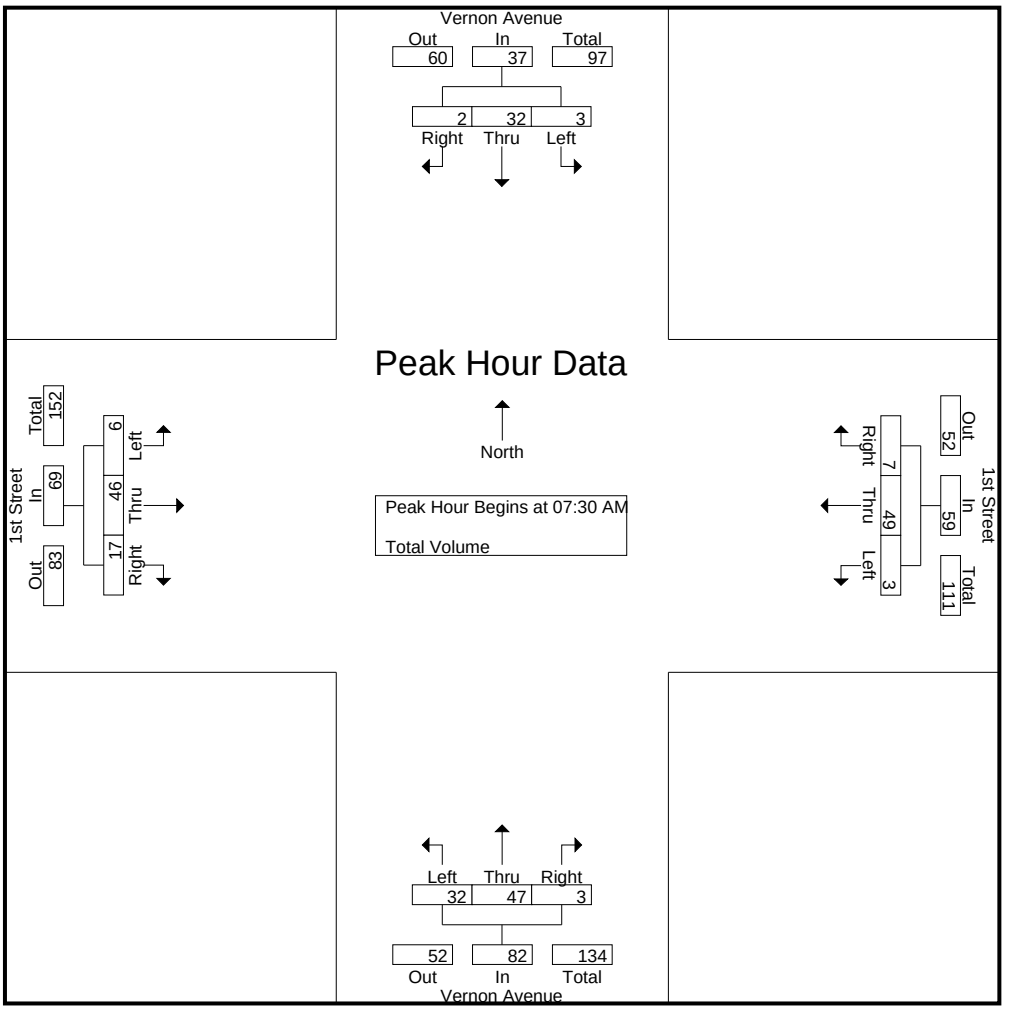
	Vernon Avenue Southbound				1st Street Westbound				Vernon Avenue Northbound				1st Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	1	3	1	5	0	10	4	14	5	7	3	15	1	6	0	7	41
07:15 AM	1	6	0	7	1	5	2	8	11	11	0	22	0	10	0	10	47
07:30 AM	0	6	0	6	0	21	1	22	9	9	0	18	2	10	3	15	61
07:45 AM	2	10	1	13	0	11	2	13	13	15	0	28	2	14	5	21	75
Total	4	25	2	31	1	47	9	57	38	42	3	83	5	40	8	53	224
08:00 AM	0	7	1	8	1	7	2	10	4	8	1	13	1	11	4	16	47
08:15 AM	1	9	0	10	2	10	2	14	6	15	2	23	1	11	5	17	64
08:30 AM	0	8	0	8	1	5	1	7	3	11	0	14	2	5	2	9	38
08:45 AM	0	5	0	5	2	3	1	6	1	6	1	8	0	4	0	4	23
Total	1	29	1	31	6	25	6	37	14	40	4	58	4	31	11	46	172
Grand Total	5	54	3	62	7	72	15	94	52	82	7	141	9	71	19	99	396
Apprch %	8.1	87.1	4.8		7.4	76.6	16		36.9	58.2	5		9.1	71.7	19.2		
Total %	1.3	13.6	0.8	15.7	1.8	18.2	3.8	23.7	13.1	20.7	1.8	35.6	2.3	17.9	4.8	25	

	Vernon Avenue Southbound				1st Street Westbound				Vernon Avenue Northbound				1st Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	0	6	0	6	0	**21**	1	**22**	9	9	0	18	**2**	10	3	15	61
07:45 AM	**2**	**10**	**1**	**13**	0	11	**2**	13	**13**	**15**	0	**28**	2	**14**	**5**	**21**	**75**
08:00 AM	0	7	1	8	1	7	2	10	4	8	1	13	1	11	4	16	47
08:15 AM	1	9	0	10	**2**	10	2	14	6	15	**2**	23	1	11	5	17	64
Total Volume	3	32	2	37	3	49	7	59	32	47	3	82	6	46	17	69	247
% App. Total	8.1	86.5	5.4		5.1	83.1	11.9		39	57.3	3.7		8.7	66.7	24.6		
PHF	.375	.800	.500	.712	.375	.583	.875	.670	.615	.783	.375	.732	.750	.821	.850	.821	.823

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Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:45 AM				07:30 AM				07:00 AM				07:30 AM			
+0 mins.	**2**	**10**	**1**	**13**	0	**21**	1	**22**	5	7	**3**	15	**2**	10	3	15
+15 mins.	0	7	1	8	0	11	**2**	13	11	11	0	22	2	**14**	**5**	**21**
+30 mins.	1	9	0	10	1	7	2	10	9	9	0	18	1	11	4	16
+45 mins.	0	8	0	8	**2**	10	2	14	**13**	**15**	0	**28**	1	11	5	17
Total Volume	3	34	2	39	3	49	7	59	38	42	3	83	6	46	17	69
% App. Total	7.7	87.2	5.1		5.1	83.1	11.9		45.8	50.6	3.6		8.7	66.7	24.6	
PHF	.375	.850	.500	.750	.375	.583	.875	.670	.731	.700	.250	.741	.750	.821	.850	.821

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Groups Printed- Total Volume

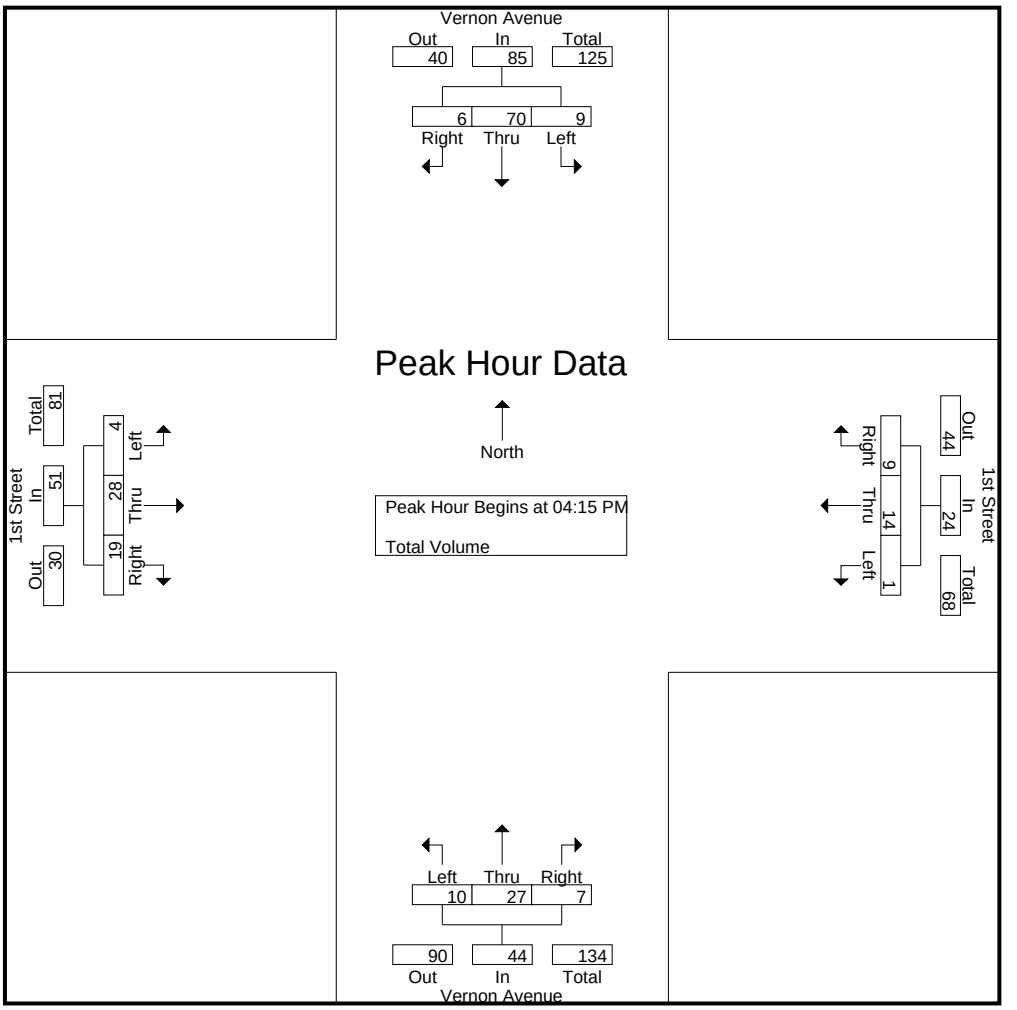
	Vernon Avenue Southbound				1st Street Westbound				Vernon Avenue Northbound				1st Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	5	12	2	19	1	9	1	11	1	7	2	10	0	10	2	12	52
04:15 PM	2	24	0	26	0	0	1	1	2	2	0	4	0	6	5	11	42
04:30 PM	1	18	3	22	0	7	2	9	3	10	3	16	3	8	2	13	60
04:45 PM	2	13	3	18	1	3	4	8	3	7	2	12	0	5	3	8	46
Total	10	67	8	85	2	19	8	29	9	26	7	42	3	29	12	44	200
05:00 PM	4	15	0	19	0	4	2	6	2	8	2	12	1	9	9	19	56
05:15 PM	1	12	0	13	0	1	1	2	4	11	3	18	1	6	2	9	42
05:30 PM	5	12	1	18	2	4	0	6	3	9	0	12	2	3	3	8	44
05:45 PM	1	14	0	15	0	2	2	4	2	6	1	9	0	8	2	10	38
Total	11	53	1	65	2	11	5	18	11	34	6	51	4	26	16	46	180
Grand Total	21	120	9	150	4	30	13	47	20	60	13	93	7	55	28	90	380
Apprch %	14	80	6		8.5	63.8	27.7		21.5	64.5	14		7.8	61.1	31.1		
Total %	5.5	31.6	2.4	39.5	1.1	7.9	3.4	12.4	5.3	15.8	3.4	24.5	1.8	14.5	7.4	23.7	

	Vernon Avenue Southbound				1st Street Westbound				Vernon Avenue Northbound				1st Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:15 PM																	
04:15 PM	2	**24**	0	**26**	0	0	1	1	2	2	0	4	0	6	5	11	42
04:30 PM	1	18	**3**	22	0	**7**	2	**9**	**3**	**10**	**3**	**16**	**3**	8	2	13	**60**
04:45 PM	2	13	3	18	**1**	3	**4**	8	3	7	2	12	0	5	3	8	46
05:00 PM	**4**	15	0	19	0	4	2	6	2	8	2	12	1	**9**	**9**	**19**	56
Total Volume	9	70	6	85	1	14	9	24	10	27	7	44	4	28	19	51	204
% App. Total	10.6	82.4	7.1		4.2	58.3	37.5		22.7	61.4	15.9		7.8	54.9	37.3		
PHF	.563	.729	.500	.817	.250	.500	.563	.667	.833	.675	.583	.688	.333	.778	.528	.671	.850

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Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:00 PM				04:00 PM				04:30 PM				04:15 PM			
+0 mins.	**5**	12	2	19	**1**	**9**	1	**11**	3	10	**3**	16	0	6	5	11
+15 mins.	2	**24**	0	**26**	0	0	1	1	3	7	2	12	**3**	8	2	13
+30 mins.	1	18	**3**	22	0	7	2	9	2	8	2	12	0	5	3	8
+45 mins.	2	13	3	18	1	3	**4**	8	**4**	**11**	3	**18**	1	**9**	**9**	**19**
Total Volume	10	67	8	85	2	19	8	29	12	36	10	58	4	28	19	51
% App. Total	11.8	78.8	9.4		6.9	65.5	27.6		20.7	62.1	17.2		7.8	54.9	37.3	
PHF	.500	.698	.667	.817	.500	.528	.500	.659	.750	.818	.833	.806	.333	.778	.528	.671

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City of San Jacinto
N/S: Alessandro Avenue
E/W: Main Street
Weather: Clear

File Name : 06_SJC_Aless_Main AM
Site Code : 05122054
Start Date : 1/26/2022
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Groups Printed- Total Volume

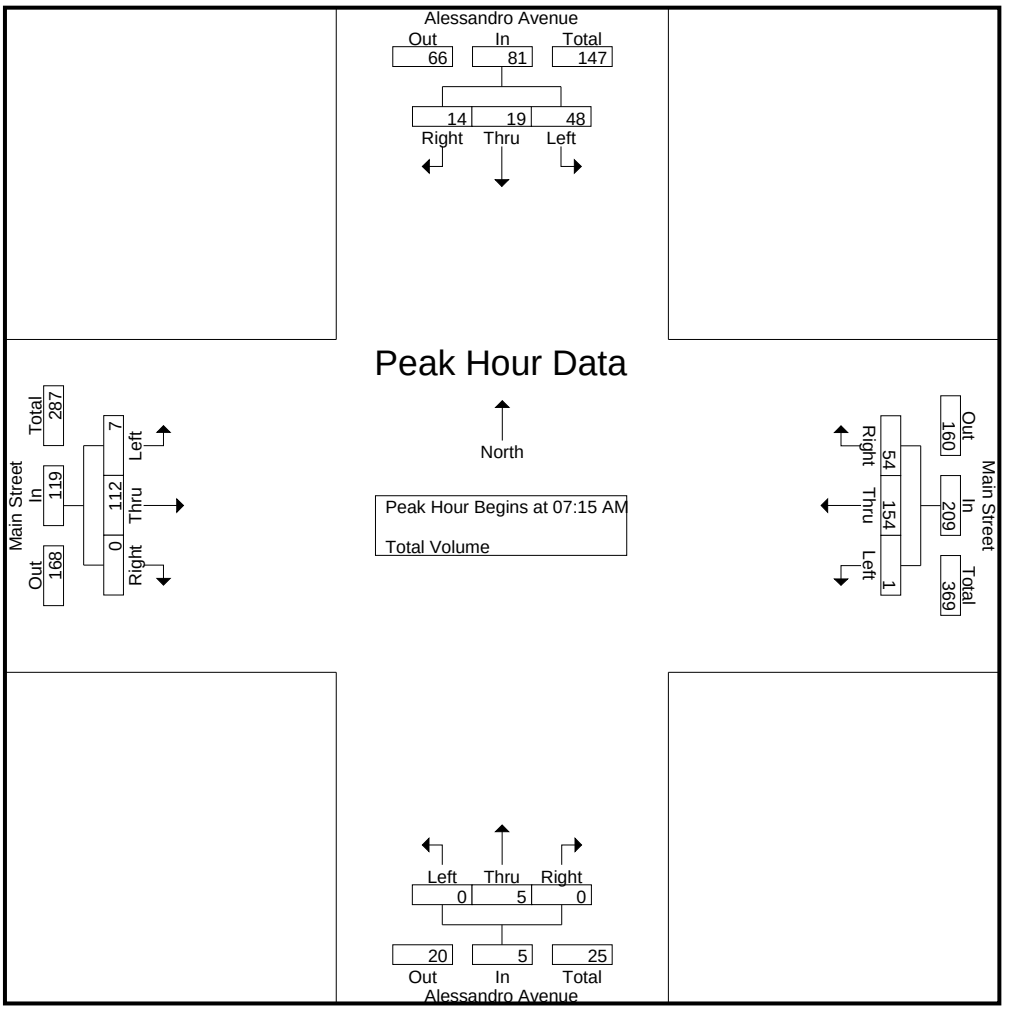
	Alessandro Avenue Southbound				Main Street Westbound				Alessandro Avenue Northbound				Main Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	3	1	1	5	0	32	4	36	0	2	0	2	3	12	0	15	58
07:15 AM	5	1	4	10	1	36	9	46	0	1	0	1	1	28	0	29	86
07:30 AM	15	7	1	23	0	55	22	77	0	2	0	2	2	25	0	27	129
07:45 AM	13	6	7	26	0	34	14	48	0	0	0	0	1	25	0	26	100
Total	36	15	13	64	1	157	49	207	0	5	0	5	7	90	0	97	373
08:00 AM	15	5	2	22	0	29	9	38	0	2	0	2	3	34	0	37	99
08:15 AM	16	5	1	22	0	28	4	32	0	3	1	4	1	26	0	27	85
08:30 AM	12	1	1	14	1	26	4	31	0	2	1	3	1	21	0	22	70
08:45 AM	4	1	3	8	0	25	2	27	0	2	0	2	1	24	0	25	62
Total	47	12	7	66	1	108	19	128	0	9	2	11	6	105	0	111	316
Grand Total	83	27	20	130	2	265	68	335	0	14	2	16	13	195	0	208	689
Apprch %	63.8	20.8	15.4		0.6	79.1	20.3		0	87.5	12.5		6.2	93.8	0		
Total %	12	3.9	2.9	18.9	0.3	38.5	9.9	48.6	0	2	0.3	2.3	1.9	28.3	0	30.2	

	Alessandro Avenue Southbound				Main Street Westbound				Alessandro Avenue Northbound				Main Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:15 AM																	
07:15 AM	5	1	4	10	**1**	36	9	46	0	1	0	1	1	28	0	29	86
07:30 AM	**15**	**7**	1	23	0	**55**	**22**	**77**	0	**2**	0	**2**	2	25	0	27	**129**
07:45 AM	13	6	**7**	**26**	0	34	14	48	0	0	0	0	1	25	0	26	100
08:00 AM	15	5	2	22	0	29	9	38	0	2	0	2	**3**	**34**	0	**37**	99
Total Volume	48	19	14	81	1	154	54	209	0	5	0	5	7	112	0	119	414
% App. Total	59.3	23.5	17.3		0.5	73.7	25.8		0	100	0		5.9	94.1	0		
PHF	.800	.679	.500	.779	.250	.700	.614	.679	.000	.625	.000	.625	.583	.824	.000	.804	.802

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File Name : 06_SJC_Aless_Main AM
Site Code : 05122054
Start Date : 1/26/2022
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Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:30 AM				07:15 AM				08:00 AM				07:15 AM			
+0 mins.	15	**7**	1	23	**1**	36	9	46	0	2	0	2	1	28	0	29
+15 mins.	13	6	**7**	**26**	0	**55**	**22**	**77**	0	**3**	**1**	**4**	2	25	0	27
+30 mins.	15	5	2	22	0	34	14	48	0	2	1	3	1	25	0	26
+45 mins.	**16**	5	1	22	0	29	9	38	0	2	0	2	**3**	**34**	0	**37**
Total Volume	59	23	11	93	1	154	54	209	0	9	2	11	7	112	0	119
% App. Total	63.4	24.7	11.8		0.5	73.7	25.8		0	81.8	18.2		5.9	94.1	0	
PHF	.922	.821	.393	.894	.250	.700	.614	.679	.000	.750	.500	.688	.583	.824	.000	.804

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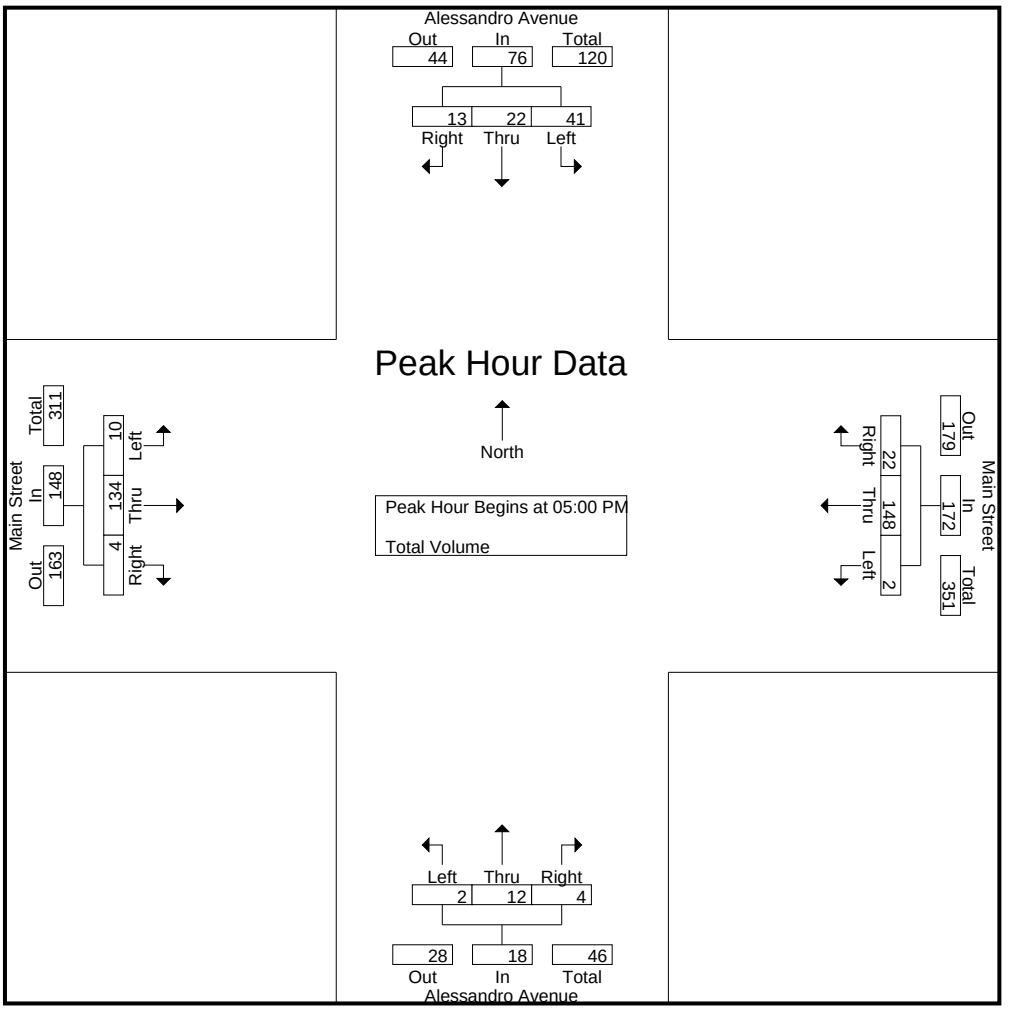
	Alessandro Avenue Southbound				Main Street Westbound				Alessandro Avenue Northbound				Main Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	13	5	5	23	0	35	8	43	0	4	1	5	3	39	1	43	114
04:15 PM	20	4	4	28	1	34	7	42	1	2	1	4	5	32	1	38	112
04:30 PM	8	2	2	12	0	35	9	44	0	0	0	0	2	19	0	21	77
04:45 PM	9	7	2	18	0	34	2	36	0	2	0	2	5	27	1	33	89
Total	50	18	13	81	1	138	26	165	1	8	2	11	15	117	3	135	392
05:00 PM	9	12	1	22	1	46	6	53	0	2	1	3	2	27	2	31	109
05:15 PM	13	3	1	17	1	42	6	49	1	5	0	6	3	33	1	37	109
05:30 PM	9	5	4	18	0	34	3	37	0	4	3	7	3	35	1	39	101
05:45 PM	10	2	7	19	0	26	7	33	1	1	0	2	2	39	0	41	95
Total	41	22	13	76	2	148	22	172	2	12	4	18	10	134	4	148	414
Grand Total	91	40	26	157	3	286	48	337	3	20	6	29	25	251	7	283	806
Apprch %	58	25.5	16.6		0.9	84.9	14.2		10.3	69	20.7		8.8	88.7	2.5		
Total %	11.3	5	3.2	19.5	0.4	35.5	6	41.8	0.4	2.5	0.7	3.6	3.1	31.1	0.9	35.1	

	Alessandro Avenue Southbound				Main Street Westbound				Alessandro Avenue Northbound				Main Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	9	**12**	1	**22**	**1**	**46**	6	**53**	0	2	1	3	2	27	**2**	31	**109**
05:15 PM	**13**	3	1	17	1	42	6	49	**1**	**5**	0	6	**3**	33	1	37	109
05:30 PM	9	5	4	18	0	34	3	37	0	4	**3**	**7**	3	35	1	39	101
05:45 PM	10	2	**7**	19	0	26	**7**	33	1	1	0	2	2	**39**	0	**41**	95
Total Volume	41	22	13	76	2	148	22	172	2	12	4	18	10	134	4	148	414
% App. Total	53.9	28.9	17.1		1.2	86	12.8		11.1	66.7	22.2		6.8	90.5	2.7		
PHF	.788	.458	.464	.864	.500	.804	.786	.811	.500	.600	.333	.643	.833	.859	.500	.902	.950

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Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:00 PM				04:30 PM				04:45 PM				05:00 PM			
+0 mins.	13	5	**5**	23	0	35	**9**	44	0	2	0	2	2	27	**2**	31
+15 mins.	**20**	4	4	**28**	0	34	2	36	0	2	1	3	**3**	33	1	37
+30 mins.	8	2	2	12	**1**	**46**	6	**53**	**1**	**5**	0	6	3	35	1	39
+45 mins.	9	**7**	2	18	1	42	6	49	0	4	**3**	**7**	2	**39**	0	**41**
Total Volume	50	18	13	81	2	157	23	182	1	13	4	18	10	134	4	148
% App. Total	61.7	22.2	16		1.1	86.3	12.6		5.6	72.2	22.2		6.8	90.5	2.7	
PHF	.625	.643	.650	.723	.500	.853	.639	.858	.250	.650	.333	.643	.833	.859	.500	.902

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Groups Printed- Total Volume

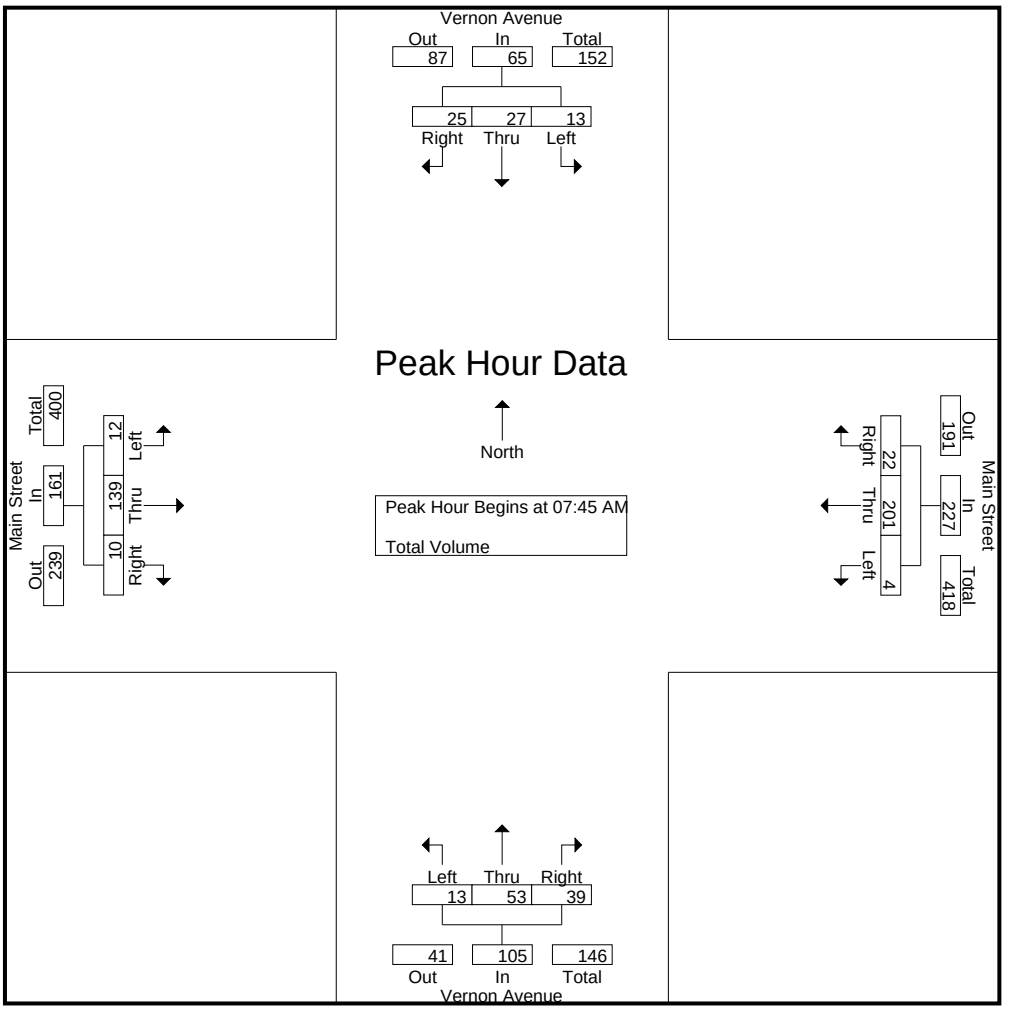
	Vernon Avenue Southbound				Main Street Westbound				Vernon Avenue Northbound				Main Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	2	2	5	9	1	31	2	34	0	11	0	11	4	16	1	21	75
07:15 AM	1	4	4	9	1	45	5	51	3	9	0	12	8	41	1	50	122
07:30 AM	2	3	9	14	0	42	2	44	2	9	1	12	8	34	2	44	114
07:45 AM	2	7	7	16	0	50	3	53	4	15	2	21	10	38	2	50	140
Total	7	16	25	48	2	168	12	182	9	44	3	56	30	129	6	165	451
08:00 AM	2	4	6	12	1	51	5	57	3	12	9	24	0	34	5	39	132
08:15 AM	5	10	5	20	1	58	9	68	3	16	10	29	1	38	3	42	159
08:30 AM	4	6	7	17	2	42	5	49	3	10	18	31	1	29	0	30	127
08:45 AM	0	2	6	8	3	55	0	58	2	9	13	24	3	22	0	25	115
Total	11	22	24	57	7	206	19	232	11	47	50	108	5	123	8	136	533
Grand Total	18	38	49	105	9	374	31	414	20	91	53	164	35	252	14	301	984
Apprch %	17.1	36.2	46.7		2.2	90.3	7.5		12.2	55.5	32.3		11.6	83.7	4.7		
Total %	1.8	3.9	5	10.7	0.9	38	3.2	42.1	2	9.2	5.4	16.7	3.6	25.6	1.4	30.6	

	Vernon Avenue Southbound				Main Street Westbound				Vernon Avenue Northbound				Main Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:45 AM																	
07:45 AM	2	7	**7**	16	0	50	3	53	**4**	15	2	21	**10**	**38**	2	**50**	140
08:00 AM	2	4	6	12	1	51	5	57	3	12	9	24	0	34	**5**	39	132
08:15 AM	**5**	**10**	5	**20**	1	**58**	**9**	**68**	3	**16**	10	29	1	38	3	42	**159**
08:30 AM	4	6	7	17	**2**	42	5	49	3	10	**18**	**31**	1	29	0	30	127
Total Volume	13	27	25	65	4	201	22	227	13	53	39	105	12	139	10	161	558
% App. Total	20	41.5	38.5		1.8	88.5	9.7		12.4	50.5	37.1		7.5	86.3	6.2		
PHF	.650	.675	.893	.813	.500	.866	.611	.835	.813	.828	.542	.847	.300	.914	.500	.805	.877

Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878
(951)268-6268

City of San Jacinto
N/S: Vernon Avenue
E/W: Main Street
Weather: Clear

File Name : 07_SJC_Vernon_Main AM
Site Code : 05122054
Start Date : 1/26/2022
Page No : 2



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:45 AM				08:00 AM				08:00 AM				07:15 AM			
+0 mins.	2	7	**7**	16	1	51	5	57	**3**	12	9	24	8	**41**	1	**50**
+15 mins.	2	4	6	12	1	**58**	**9**	**68**	3	**16**	10	29	8	34	2	44
+30 mins.	**5**	**10**	5	**20**	2	42	5	49	3	10	**18**	**31**	**10**	38	2	50
+45 mins.	4	6	7	17	**3**	55	0	58	2	9	13	24	0	34	**5**	39
Total Volume	13	27	25	65	7	206	19	232	11	47	50	108	26	147	10	183
% App. Total	20	41.5	38.5		3	88.8	8.2		10.2	43.5	46.3		14.2	80.3	5.5	
PHF	.650	.675	.893	.813	.583	.888	.528	.853	.917	.734	.694	.871	.650	.896	.500	.915

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City of San Jacinto
N/S: Vernon Avenue
E/W: Main Street
Weather: Clear

File Name : 07_SJC_Vernon_Main PM
Site Code : 05122054
Start Date : 1/26/2022
Page No : 1

Groups Printed- Total Volume

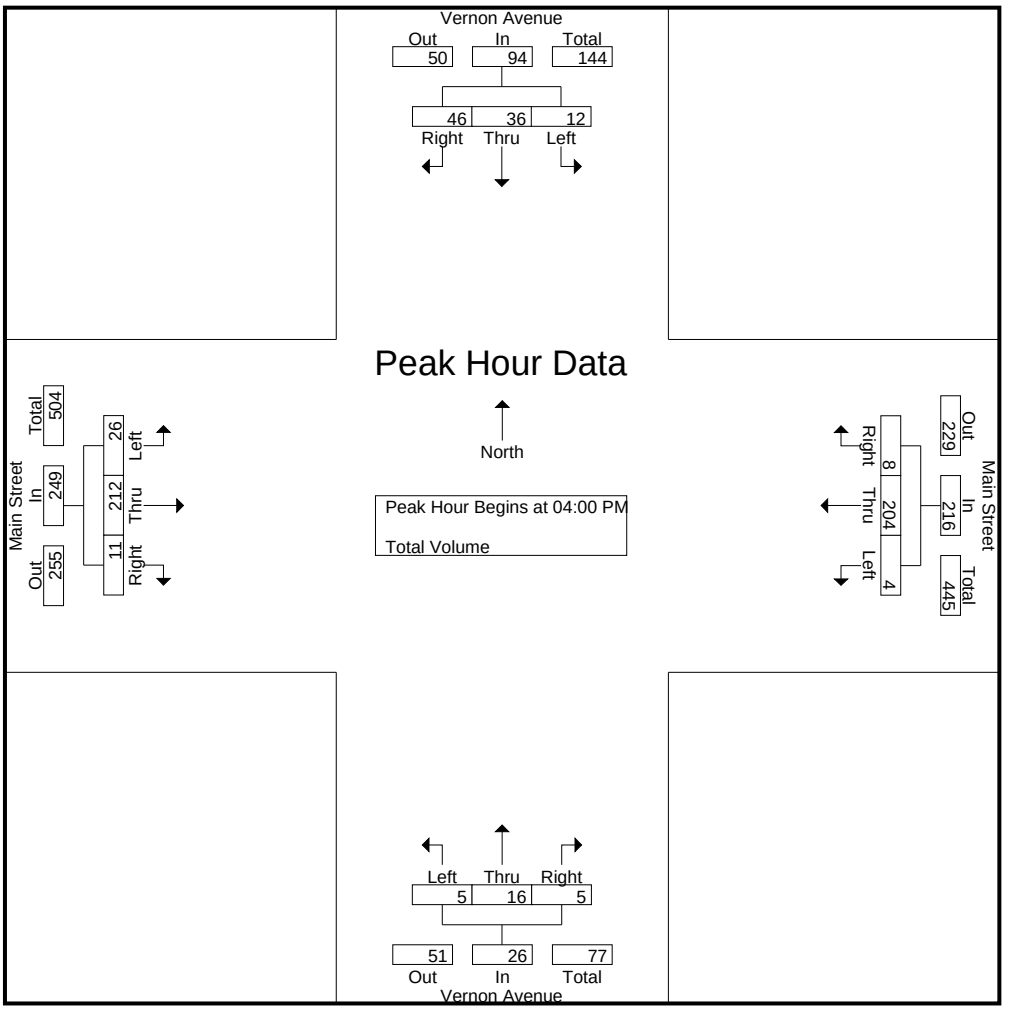
	Vernon Avenue Southbound				Main Street Westbound				Vernon Avenue Northbound				Main Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	2	5	11	18	3	61	3	67	1	2	2	5	5	64	5	74	164
04:15 PM	5	10	13	28	0	47	2	49	2	0	1	3	5	58	1	64	144
04:30 PM	2	14	13	29	0	57	2	59	2	8	1	11	12	47	3	62	161
04:45 PM	3	7	9	19	1	39	1	41	0	6	1	7	4	43	2	49	116
Total	12	36	46	94	4	204	8	216	5	16	5	26	26	212	11	249	585
05:00 PM	2	8	8	18	0	57	1	58	1	5	4	10	12	50	1	63	149
05:15 PM	6	6	4	16	0	49	4	53	1	9	0	10	9	40	2	51	130
05:30 PM	2	5	13	20	2	61	2	65	3	3	0	6	8	55	3	66	157
05:45 PM	5	4	6	15	3	41	0	44	0	4	0	4	7	47	2	56	119
Total	15	23	31	69	5	208	7	220	5	21	4	30	36	192	8	236	555
Grand Total	27	59	77	163	9	412	15	436	10	37	9	56	62	404	19	485	1140
Apprch %	16.6	36.2	47.2		2.1	94.5	3.4		17.9	66.1	16.1		12.8	83.3	3.9		
Total %	2.4	5.2	6.8	14.3	0.8	36.1	1.3	38.2	0.9	3.2	0.8	4.9	5.4	35.4	1.7	42.5	

	Vernon Avenue Southbound				Main Street Westbound				Vernon Avenue Northbound				Main Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:00 PM																	
04:00 PM	2	5	11	18	**3**	**61**	**3**	**67**	1	2	**2**	5	5	**64**	**5**	**74**	**164**
04:15 PM	**5**	10	**13**	28	0	47	2	49	**2**	0	1	3	5	58	1	64	144
04:30 PM	2	**14**	13	**29**	0	57	2	59	2	**8**	1	**11**	**12**	47	3	62	161
04:45 PM	3	7	9	19	1	39	1	41	0	6	1	7	4	43	2	49	116
Total Volume	12	36	46	94	4	204	8	216	5	16	5	26	26	212	11	249	585
% App. Total	12.8	38.3	48.9		1.9	94.4	3.7		19.2	61.5	19.2		10.4	85.1	4.4		
PHF	.600	.643	.885	.810	.333	.836	.667	.806	.625	.500	.625	.591	.542	.828	.550	.841	.892

Counts Unlimited, Inc.
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Corona, CA 92878
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City of San Jacinto
N/S: Vernon Avenue
E/W: Main Street
Weather: Clear

File Name : 07_SJC_Vernon_Main PM
Site Code : 05122054
Start Date : 1/26/2022
Page No : 2



Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:00 PM				05:00 PM				04:30 PM				04:00 PM			
+0 mins.	2	5	11	18	0	57	1	58	**2**	8	1	**11**	5	**64**	**5**	**74**
+15 mins.	**5**	10	**13**	28	0	49	**4**	53	0	6	1	7	5	58	1	64
+30 mins.	2	**14**	13	**29**	2	**61**	2	**65**	1	5	**4**	10	**12**	47	3	62
+45 mins.	3	7	9	19	**3**	41	0	44	1	**9**	0	10	4	43	2	49
Total Volume	12	36	46	94	5	208	7	220	4	28	6	38	26	212	11	249
% App. Total	12.8	38.3	48.9		2.3	94.5	3.2		10.5	73.7	15.8		10.4	85.1	4.4	
PHF	.600	.643	.885	.810	.417	.852	.438	.846	.500	.778	.375	.864	.542	.828	.550	.841

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City of San Jacinto
Ramona Expressway
W/ Alessandro Avenue
24 Hour Directional Volume Count

SJC001
Site Code: 051-22054

Start Time	26-Jan-22 Wed	Eastbound Morning	Eastbound Afternoon	Hour Totals Morning	Hour Totals Afternoon	Westbound Morning	Westbound Afternoon	Hour Totals Morning	Hour Totals Afternoon	Combined Totals Morning	Combined Totals Afternoon
12:00		59	126			11	126				
12:15		31	126			25	154				
12:30		35	135			16	107				
12:45		37	135	162	522	24	130	76	517	238	1039
01:00		24	144			16	131				
01:15		19	133			16	132				
01:30		25	137			28	146				
01:45		27	154	95	568	16	140	76	549	171	1117
02:00		15	185			25	148				
02:15		24	170			46	127				
02:30		27	190			19	**164**				
02:45		51	**257**	117	802	38	**179**	128	618	245	1420
03:00		29	**275**			51	**170**				
03:15		24	**284**			66	**188**				
03:30		25	**263**			83	157				
03:45		17	246	95	1068	84	153	284	668	379	1736
04:00		22	216			127	156				
04:15		25	252			163	134				
04:30		13	226			142	142				
04:45		26	246	86	940	141	130	573	562	659	1502
05:00		39	223			177	122				
05:15		34	195			215	152				
05:30		46	231			187	127				
05:45		45	230	164	879	156	123	735	524	899	1403
06:00		34	215			190	83				
06:15		63	147			216	101				
06:30		67	160			189	93				
06:45		100	167	264	689	207	74	802	351	1066	1040
07:00		87	133			**243**	65				
07:15		121	167			**259**	66				
07:30		114	123			**278**	53				
07:45		**206**	119	528	542	**224**	65	1004	249	1532	791
08:00		**136**	112			221	60				
08:15		**151**	104			214	60				
08:30		**129**	88			156	55				
08:45		103	76	519	380	138	50	729	225	1248	605
09:00		93	83			115	47				
09:15		86	90			137	60				
09:30		68	87			106	52				
09:45		88	66	335	326	107	39	465	198	800	524
10:00		107	86			109	43				
10:15		93	81			95	36				
10:30		94	60			107	29				
10:45		99	66	393	293	103	39	414	147	807	440
11:00		102	60			111	34				
11:15		110	41			108	33				
11:30		119	71			133	38				
11:45		121	39	452	211	110	25	462	130	914	341
Total		3210	7220	3210	7220	5748	4738	5748	4738	8958	11958
Combined Total		10430		10430		10486		10486		20916	
AM Peak	-	07:45	-	-	-	07:00	-	-	-	-	-
Vol.	-	622	-	-	-	1004	-	-	-	-	-
P.H.F.		0.755				0.903					
PM Peak	-	-	02:45	-	-	-	02:30	-	-	-	-
Vol.	-	-	1079	-	-	-	701	-	-	-	-
P.H.F.			0.950				0.932				
Percentage		30.8%	69.2%			54.8%	45.2%				
ADT/AADT		ADT 20,916		AADT 20,916							

Counts Unlimited, Inc.

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City of San Jacinto
Alessandro Avenue
S/ Ramona Expressway
24 Hour Directional Volume Count

SJC002
Site Code: 051-22054

Start Time	26-Jan-22 Wed	Northbound Morning	Northbound Afternoon	Hour Totals Morning	Hour Totals Afternoon	Southbound Morning	Southbound Afternoon	Hour Totals Morning	Hour Totals Afternoon	Combined Totals Morning	Combined Totals Afternoon
12:00		1	8			4	12				
12:15		2	14			0	5				
12:30		0	11			1	9				
12:45		1	10	4	43	2	10	7	36	11	79
01:00		0	6			6	12				
01:15		0	8			0	12				
01:30		3	12			2	16				
01:45		1	10	4	36	2	18	10	58	14	94
02:00		2	6			3	17				
02:15		4	10			2	14				
02:30		0	6			1	20				
02:45		3	11	9	33	3	**31**	9	82	18	115
03:00		3	14			3	**32**				
03:15		4	11			0	**34**				
03:30		4	7			2	**28**				
03:45		7	6	18	38	1	24	6	118	24	156
04:00		7	8			4	32				
04:15		12	5			5	23				
04:30		4	4			3	16				
04:45		11	7	34	24	4	19	16	90	50	114
05:00		10	**12**			4	13				
05:15		14	**12**			4	17				
05:30		12	**10**			2	16				
05:45		8	**10**	44	44	0	13	10	59	54	103
06:00		11	6			3	10				
06:15		**19**	10			3	11				
06:30		**19**	4			5	14				
06:45		**21**	3	70	23	1	13	12	48	82	71
07:00		**12**	2			4	10				
07:15		18	4			2	16				
07:30		16	7			**14**	7				
07:45		17	6	63	19	**29**	7	49	40	112	59
08:00		13	2			**8**	6				
08:15		10	4			**19**	7				
08:30		12	3			4	9				
08:45		5	2	40	11	7	5	38	27	78	38
09:00		8	2			6	2				
09:15		12	4			5	4				
09:30		2	2			4	12				
09:45		6	1	28	9	4	0	19	18	47	27
10:00		7	0			9	6				
10:15		5	2			4	7				
10:30		2	1			5	6				
10:45		5	6	19	9	9	3	27	22	46	31
11:00		2	0			4	6				
11:15		6	1			4	1				
11:30		5	1			12	3				
11:45		12	1	25	3	12	5	32	15	57	18
Total		358	292	358	292	235	613	235	613	593	905
Combined Total		650		650		848		848		1498	
AM Peak	-	06:15	-	-	-	07:30	-	-	-	-	-
Vol.	-	71	-	-	-	70	-	-	-	-	-
P.H.F.		0.845				0.603					
PM Peak	-	-	05:00	-	-	-	02:45	-	-	-	-
Vol.	-	-	44	-	-	-	125	-	-	-	-
P.H.F.			0.786				0.919				
Percentage		55.1%	44.9%			27.7%	72.3%				
ADT/AADT		ADT 1,498		AADT 1,498							

Counts Unlimited, Inc.

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City of San Jacinto
Vernon Avenue
N/ Main Street
24 Hour Directional Volume Count

SJC004
Site Code: 051-22054

Start Time	26-Jan-22 Wed	Northbound Morning	Northbound Afternoon	Hour Totals Morning	Hour Totals Afternoon	Southbound Morning	Southbound Afternoon	Hour Totals Morning	Hour Totals Afternoon	Combined Totals Morning	Combined Totals Afternoon
12:00		3	8			5	12				
12:15		2	13			3	11				
12:30		3	9			2	8				
12:45		2	10	10	40	2	10	12	41	22	81
01:00		1	13			0	10				
01:15		0	6			0	8				
01:30		1	7			1	9				
01:45		2	9	4	35	0	19	1	46	5	81
02:00		2	19			1	8				
02:15		1	18			3	17				
02:30		0	**17**			0	10				
02:45		1	**21**	4	75	1	**27**	5	62	9	137
03:00		2	**24**			3	**26**				
03:15		0	**25**			0	**21**				
03:30		1	11			2	**30**				
03:45		7	14	10	74	1	21	6	98	16	172
04:00		7	10			2	18				
04:15		6	7			1	28				
04:30		4	22			4	29				
04:45		7	11	24	50	3	19	10	94	34	144
05:00		7	18			4	18				
05:15		2	22			6	16				
05:30		8	13			5	20				
05:45		9	11	26	64	6	15	21	69	47	133
06:00		5	11			2	14				
06:15		12	7			4	12				
06:30		8	12			1	6				
06:45		17	11	42	41	10	12	17	44	59	85
07:00		17	14			9	20				
07:15		22	8			9	10				
07:30		**19**	5			14	7				
07:45		**28**	5	86	32	**16**	11	48	48	134	80
08:00		**17**	3			**12**	6				
08:15		**26**	8			**20**	16				
08:30		16	5			**17**	9				
08:45		12	7	71	23	8	10	57	41	128	64
09:00		11	7			11	5				
09:15		7	4			7	4				
09:30		7	4			7	5				
09:45		12	2	37	17	10	4	35	18	72	35
10:00		6	6			6	6				
10:15		6	5			7	7				
10:30		4	6			5	4				
10:45		8	3	24	20	11	2	29	19	53	39
11:00		13	2			5	5				
11:15		7	4			9	2				
11:30		12	3			6	6				
11:45		11	1	43	10	9	3	29	16	72	26
Total		381	481	381	481	270	596	270	596	651	1077
Combined Total		862		862		866		866		1728	
AM Peak	-	07:30	-	-	-	07:45	-	-	-	-	-
Vol.	-	90	-	-	-	65	-	-	-	-	-
P.H.F.		0.804				0.813					
PM Peak	-	-	02:30	-	-	-	02:45	-	-	-	-
Vol.	-	-	87	-	-	-	104	-	-	-	-
P.H.F.			0.870				0.867				
Percentage		44.2%	55.8%			31.2%	68.8%				
ADT/AADT		ADT 1,728		AADT 1,728							

Counts Unlimited, Inc.

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City of San Jacinto
Vernon Avenue
S/ Ramona Expressway
24 Hour Directional Volume Count

SJC003
Site Code: 051-22054

Start Time	26-Jan-22 Wed	Northbound Morning	Northbound Afternoon	Hour Totals Morning	Hour Totals Afternoon	Southbound Morning	Southbound Afternoon	Hour Totals Morning	Hour Totals Afternoon	Combined Totals Morning	Combined Totals Afternoon
12:00		2	13			5	12				
12:15		3	18			0	21				
12:30		0	13			5	13				
12:45		2	16	7	60	1	20	11	66	18	126
01:00		1	15			0	20				
01:15		1	14			1	17				
01:30		0	18			3	15				
01:45		1	17	3	64	0	18	4	70	7	134
02:00		3	19			0	19				
02:15		3	15			2	23				
02:30		0	**16**			1	13				
02:45		0	**16**	6	66	2	**27**	5	82	11	148
03:00		4	**18**			0	**29**				
03:15		2	**20**			0	**16**				
03:30		2	14			0	**24**				
03:45		6	10	14	62	2	20	2	89	16	151
04:00		12	9			1	20				
04:15		11	8			2	20				
04:30		8	10			0	22				
04:45		7	12	38	39	3	18	6	80	44	119
05:00		13	9			2	20				
05:15		5	12			3	16				
05:30		13	12			4	17				
05:45		14	6	45	39	5	17	14	70	59	109
06:00		10	7			5	16				
06:15		16	7			2	8				
06:30		11	6			4	10				
06:45		17	7	54	27	10	19	21	53	75	80
07:00		18	4			15	15				
07:15		20	4			12	9				
07:30		**18**	7			**11**	8				
07:45		**31**	4	87	19	**19**	11	57	43	144	62
08:00		**20**	3			**16**	10				
08:15		**25**	2			**20**	13				
08:30		17	2			9	13				
08:45		18	3	80	10	14	7	59	43	139	53
09:00		16	2			17	3				
09:15		15	4			11	6				
09:30		12	2			12	5				
09:45		16	0	59	8	15	5	55	19	114	27
10:00		9	0			10	8				
10:15		14	3			10	6				
10:30		11	3			13	3				
10:45		12	2	46	8	14	6	47	23	93	31
11:00		13	1			15	5				
11:15		10	4			11	4				
11:30		19	3			13	8				
11:45		13	1	55	9	14	2	53	19	108	28
Total		494	411	494	411	334	657	334	657	828	1068
Combined Total		905		905		991		991		1896	
AM Peak	-	07:30	-	-	-	07:30	-	-	-	-	-
Vol.	-	94	-	-	-	66	-	-	-	-	-
P.H.F.		0.758				0.825					
PM Peak	-	-	02:30	-	-	-	02:45	-	-	-	-
Vol.	-	-	70	-	-	-	96	-	-	-	-
P.H.F.			0.875				0.828				
Percentage		54.6%	45.4%			33.7%	66.3%				
ADT/AADT		ADT 1,896		AADT 1,896							

Counts Unlimited, Inc.

PO Box 1178
Corona, CA 92878
Phone: (951) 268-6268
email: counts@countsunlimited.com

City of San Jacinto
Main Street
W/ Alessandro Avenue
24 Hour Directional Volume Count

SJC005
Site Code: 051-22054

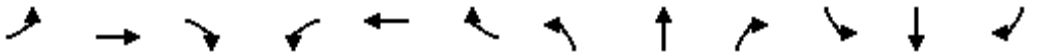
Start Time	26-Jan-22 Wed	Eastbound Morning	Eastbound Afternoon	Hour Totals Morning	Hour Totals Afternoon	Westbound Morning	Westbound Afternoon	Hour Totals Morning	Hour Totals Afternoon	Combined Totals Morning	Combined Totals Afternoon
12:00		4	23			8	39				
12:15		5	27			2	40				
12:30		2	27			6	33				
12:45		4	22	15	99	9	31	25	143	40	242
01:00		9	24			6	39				
01:15		1	25			7	37				
01:30		3	21			1	39				
01:45		3	29	16	99	5	35	19	150	35	249
02:00		4	34			4	45				
02:15		2	**50**			5	51				
02:30		5	**43**			2	47				
02:45		5	**36**	16	163	1	**70**	12	213	28	376
03:00		1	**36**			3	**53**				
03:15		4	45			4	**58**				
03:30		3	39			5	**55**				
03:45		1	31	9	151	9	38	21	204	30	355
04:00		4	43			6	40				
04:15		3	38			2	39				
04:30		3	21			4	37				
04:45		0	33	10	135	7	36	19	152	29	287
05:00		2	31			6	47				
05:15		6	37			5	44				
05:30		4	39			7	38				
05:45		2	41	14	148	10	34	28	163	42	311
06:00		6	34			15	31				
06:15		11	29			13	41				
06:30		11	31			14	27				
06:45		9	24	37	118	18	14	60	113	97	231
07:00		15	26			**33**	23				
07:15		**29**	21			**40**	18				
07:30		**27**	27			**56**	21				
07:45		**26**	22	97	96	**41**	15	170	77	267	173
08:00		**37**	20			31	17				
08:15		27	12			29	20				
08:30		22	18			27	19				
08:45		25	15	111	65	28	18	115	74	226	139
09:00		12	16			22	21				
09:15		13	12			24	14				
09:30		12	15			21	20				
09:45		12	9	49	52	20	16	87	71	136	123
10:00		14	12			17	23				
10:15		22	10			31	18				
10:30		31	8			20	14				
10:45		26	7	93	37	28	12	96	67	189	104
11:00		24	6			25	11				
11:15		25	2			20	14				
11:30		30	3			31	6				
11:45		35	8	114	19	21	8	97	39	211	58
Total		581	1182	581	1182	749	1466	749	1466	1330	2648
Combined Total		1763		1763		2215		2215		3978	
AM Peak	-	07:15	-	-	-	07:00	-	-	-	-	-
Vol.	-	119	-	-	-	170	-	-	-	-	-
P.H.F.		0.804				0.759					
PM Peak	-	-	02:15	-	-	-	02:45	-	-	-	-
Vol.	-	-	165	-	-	-	236	-	-	-	-
P.H.F.			0.825				0.843				
Percentage		33.0%	67.0%			33.8%	66.2%				
ADT/AADT		ADT 3,978		AADT 3,978							

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APPENDIX 3.2:

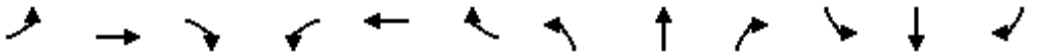
EXISTING (2022) CONDITIONS INTERSECTION OPERATIONS ANALYSIS WORKSHEETS

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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	66	462	433	169	574	249	329	455	109	74	231	33
Future Volume (vph)	66	462	433	169	574	249	329	455	109	74	231	33
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	210		170	275		200	170		105	140		50
Storage Lanes	2		1	2		1	1		1	1		1
Taper Length (ft)	90			90			90			90		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		55			55			45			45	
Link Distance (ft)		596			1310			710			927	
Travel Time (s)		7.4			16.2			10.8			14.0	
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
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
Shared Lane Traffic (%)												

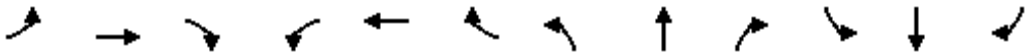
Intersection Summary	
Area Type:	Other



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	66	462	433	169	574	249	329	455	109	74	231	33
Future Volume (veh/h)	66	462	433	169	574	249	329	455	109	74	231	33
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		0.99
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	72	502	471	184	624	271	358	495	118	80	251	36
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	149	1613	498	250	1762	545	396	1329	590	103	744	329
Arrive On Green	0.04	0.32	0.32	0.07	0.35	0.35	0.22	0.37	0.37	0.06	0.21	0.21
Sat Flow, veh/h	3456	5106	1578	3456	5106	1578	1781	3554	1579	1781	3554	1574
Grp Volume(v), veh/h	72	502	471	184	624	271	358	495	118	80	251	36
Grp Sat Flow(s),veh/h/ln	1728	1702	1578	1728	1702	1578	1781	1777	1579	1781	1777	1574
Q Serve(g_s), s	2.0	7.5	29.1	5.2	9.1	13.6	19.6	10.1	5.1	4.4	6.0	1.9
Cycle Q Clear(g_c), s	2.0	7.5	29.1	5.2	9.1	13.6	19.6	10.1	5.1	4.4	6.0	1.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	149	1613	498	250	1762	545	396	1329	590	103	744	329
V/C Ratio(X)	0.48	0.31	0.95	0.74	0.35	0.50	0.90	0.37	0.20	0.78	0.34	0.11
Avail Cap(c_a), veh/h	190	1613	498	294	1762	545	525	1329	590	180	744	329
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	46.7	26.0	33.4	45.4	24.4	25.9	37.8	22.8	21.2	46.5	33.6	32.0
Incr Delay (d2), s/veh	2.4	0.5	28.8	7.8	0.6	3.2	15.7	0.8	0.8	11.9	1.2	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	2.9	14.3	2.4	3.5	5.3	9.8	4.1	1.9	2.2	2.6	0.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	49.1	26.5	62.1	53.2	25.0	29.1	53.5	23.6	21.9	58.3	34.9	32.7
LnGrp LOS	D	C	E	D	C	C	D	C	C	E	C	C
Approach Vol, veh/h		1045			1079			971			367	
Approach Delay, s/veh		44.1			30.8			34.4			39.8	
Approach LOS		D			C			C			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.7	36.1	26.7	25.4	8.8	39.0	10.3	41.9
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	8.5	26.0	29.5	18.0	5.5	29.0	10.1	37.4
Max Q Clear Time (g_c+I1), s	7.2	31.1	21.6	8.0	4.0	15.6	6.4	12.1
Green Ext Time (p_c), s	0.1	0.0	0.7	1.0	0.0	3.9	0.0	3.4

Intersection Summary	
HCM 6th Ctrl Delay	36.8
HCM 6th LOS	D



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1	528	53	1	921	4	62	1	2	1	1	3
Future Volume (vph)	1	528	53	1	921	4	62	1	2	1	1	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	300		100	300		0	35		0	35		0
Storage Lanes	1		1	1		0	1		0	1		0
Taper Length (ft)	90			90			60			60		
Link Speed (mph)		55			55			45			30	
Link Distance (ft)		2281			1381			545			687	
Travel Time (s)		28.3			17.1			8.3			15.6	
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Shared Lane Traffic (%)												

Intersection Summary	
Area Type:	Other

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	1	528	53	1	921	4	62	1	2	1	1	3
Future Vol, veh/h	1	528	53	1	921	4	62	1	2	1	1	3
Conflicting Peds, #/hr	5	0	5	5	0	5	5	0	5	5	0	5
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	300	-	100	300	-	-	35	-	-	35	-	-
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	1	580	58	1	1012	4	68	1	2	1	1	3

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1021	0	0	643	0	0	1101	1610	300	1319	1666	518
Stage 1	-	-	-	-	-	-	587	587	-	1021	1021	-
Stage 2	-	-	-	-	-	-	514	1023	-	298	645	-
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	675	-	-	938	-	-	166	104	696	115	96	502
Stage 1	-	-	-	-	-	-	463	495	-	253	312	-
Stage 2	-	-	-	-	-	-	511	311	-	686	466	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	672	-	-	934	-	-	162	103	689	112	95	497
Mov Cap-2 Maneuver	-	-	-	-	-	-	162	103	-	112	95	-
Stage 1	-	-	-	-	-	-	460	492	-	251	310	-
Stage 2	-	-	-	-	-	-	503	309	-	678	463	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0	41.5	23.7
HCM LOS			E	C

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	162	238	672	-	-	934	-	-	112	242
HCM Lane V/C Ratio	0.421	0.014	0.002	-	-	0.001	-	-	0.01	0.018
HCM Control Delay (s)	42.5	20.3	10.4	-	-	8.9	-	-	37.5	20.2
HCM Lane LOS	E	C	B	-	-	A	-	-	E	C
HCM 95th %tile Q(veh)	1.9	0	0	-	-	0	-	-	0	0.1



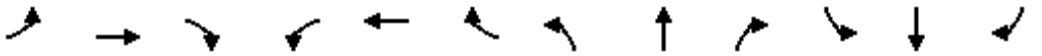
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	472	58	0	837	88	1
Future Volume (vph)	472	58	0	837	88	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		300	200		175	0
Storage Lanes		1	1		1	1
Taper Length (ft)			90		90	
Right Turn on Red		Yes				Yes
Link Speed (mph)	55			55	30	
Link Distance (ft)	1381			386	451	
Travel Time (s)	17.1			4.8	10.3	
Confl. Peds. (#/hr)		5	5		5	5
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Shared Lane Traffic (%)						

Intersection Summary	
Area Type:	Other

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	472	58	0	837	88	1
Future Volume (veh/h)	472	58	0	837	88	1
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	502	62	0	890	94	1
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	1866	828	3	1866	579	515
Arrive On Green	0.53	0.53	0.00	0.53	0.32	0.32
Sat Flow, veh/h	3647	1578	1781	3647	1781	1585
Grp Volume(v), veh/h	502	62	0	890	94	1
Grp Sat Flow(s),veh/h/ln	1777	1578	1781	1777	1781	1585
Q Serve(g_s), s	4.7	1.2	0.0	9.5	2.3	0.0
Cycle Q Clear(g_c), s	4.7	1.2	0.0	9.5	2.3	0.0
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	1866	828	3	1866	579	515
V/C Ratio(X)	0.27	0.07	0.00	0.48	0.16	0.00
Avail Cap(c_a), veh/h	1866	828	148	1866	579	515
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	7.9	7.0	0.0	9.0	14.4	13.7
Incr Delay (d2), s/veh	0.4	0.2	0.0	0.9	0.6	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	0.3	0.0	2.5	0.9	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	8.2	7.2	0.0	9.9	15.0	13.7
LnGrp LOS	A	A	A	A	B	B
Approach Vol, veh/h	564			890	95	
Approach Delay, s/veh	8.1			9.9	15.0	
Approach LOS	A			A	B	

Timer - Assigned Phs	1	2				6	8
Phs Duration (G+Y+Rc), s	0.0	36.0				36.0	24.0
Change Period (Y+Rc), s	4.5	4.5				4.5	4.5
Max Green Setting (Gmax), s	5.0	22.0				31.5	19.5
Max Q Clear Time (g_c+I1), s	0.0	6.7				11.5	4.3
Green Ext Time (p_c), s	0.0	2.7				5.3	0.2

Intersection Summary	
HCM 6th Ctrl Delay	9.6
HCM 6th LOS	A



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	20	123	30	1	147	17	35	32	3	8	57	21
Future Volume (vph)	20	123	30	1	147	17	35	32	3	8	57	21
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	50		50	0		50	0		50	0		50
Storage Lanes	0		1	0		1	0		1	0		1
Taper Length (ft)	90			90			90			90		
Link Speed (mph)		30			30			45			45	
Link Distance (ft)		799			1333			1318			3757	
Travel Time (s)		18.2			30.3			20.0			56.9	
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81
Shared Lane Traffic (%)												

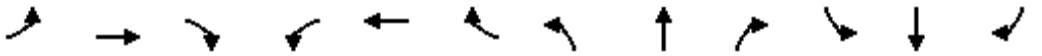
Intersection Summary	
Area Type:	Other

Intersection	
Intersection Delay, s/veh	9.5
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	20	123	30	1	147	17	35	32	3	8	57	21
Future Vol, veh/h	20	123	30	1	147	17	35	32	3	8	57	21
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	25	152	37	1	181	21	43	40	4	10	70	26
Number of Lanes	0	1	1	0	1	1	0	1	1	0	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	2	2
HCM Control Delay	9.6	9.7	9.6	9
HCM LOS	A	A	A	A

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	52%	0%	14%	0%	1%	0%	12%	0%
Vol Thru, %	48%	0%	86%	0%	99%	0%	88%	0%
Vol Right, %	0%	100%	0%	100%	0%	100%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	67	3	143	30	148	17	65	21
LT Vol	35	0	20	0	1	0	8	0
Through Vol	32	0	123	0	147	0	57	0
RT Vol	0	3	0	30	0	17	0	21
Lane Flow Rate	83	4	177	37	183	21	80	26
Geometry Grp	7	7	7	7	7	7	7	7
Degree of Util (X)	0.137	0.005	0.262	0.047	0.268	0.027	0.128	0.036
Departure Headway (Hd)	5.97	5	5.343	4.568	5.287	4.579	5.751	4.983
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	597	710	669	779	676	777	620	713
Service Time	3.742	2.772	3.098	2.323	3.042	2.334	3.52	2.751
HCM Lane V/C Ratio	0.139	0.006	0.265	0.047	0.271	0.027	0.129	0.036
HCM Control Delay	9.7	7.8	10	7.6	10	7.5	9.4	7.9
HCM Lane LOS	A	A	A	A	A	A	A	A
HCM 95th-tile Q	0.5	0	1	0.1	1.1	0.1	0.4	0.1



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	6	46	17	3	49	7	32	47	3	3	32	2
Future Volume (vph)	6	46	17	3	49	7	32	47	3	3	32	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		50	0		50	0		50	0		50
Storage Lanes	0		1	0		1	0		1	0		1
Taper Length (ft)	90			90			90			90		
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1333			785			1313			4316	
Travel Time (s)		30.3			17.8			29.8			98.1	
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
Shared Lane Traffic (%)												

Intersection Summary	
Area Type:	Other

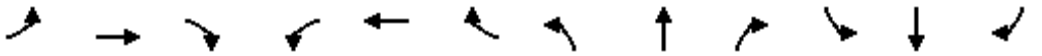
Intersection	
Int Delay, s/veh	5.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑	↱		↑	↱		↑	↱		↑	↱
Traffic Vol, veh/h	6	46	17	3	49	7	32	47	3	3	32	2
Future Vol, veh/h	6	46	17	3	49	7	32	47	3	3	32	2
Conflicting Peds, #/hr	5	0	5	5	0	5	5	0	5	5	0	5
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	50	-	-	50	-	-	50	-	-	50
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	82	82	82	82	82	82	82	82	82	82	82	82
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	7	56	21	4	60	9	39	57	4	4	39	2

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	74	0	0	82	0	0	173	157	66	189	169	70
Stage 1	-	-	-	-	-	-	75	75	-	73	73	-
Stage 2	-	-	-	-	-	-	98	82	-	116	96	-
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	1526	-	-	1515	-	-	790	735	998	771	724	993
Stage 1	-	-	-	-	-	-	934	833	-	937	834	-
Stage 2	-	-	-	-	-	-	908	827	-	889	815	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1519	-	-	1508	-	-	743	722	989	710	711	984
Mov Cap-2 Maneuver	-	-	-	-	-	-	743	722	-	710	711	-
Stage 1	-	-	-	-	-	-	925	825	-	928	827	-
Stage 2	-	-	-	-	-	-	856	820	-	816	807	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.6	0.4	10.6	10.3
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	730	989	1519	-	-	1508	-	-	711	984
HCM Lane V/C Ratio	0.132	0.004	0.005	-	-	0.002	-	-	0.06	0.002
HCM Control Delay (s)	10.7	8.7	7.4	0	-	7.4	0	-	10.4	8.7
HCM Lane LOS	B	A	A	A	-	A	A	-	B	A
HCM 95th %tile Q(veh)	0.5	0	0	-	-	0	-	-	0.2	0



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	7	112	1	1	154	54	1	5	1	48	19	14
Future Volume (vph)	7	112	1	1	154	54	1	5	1	48	19	14
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		0	100		0	0		50	0		50
Storage Lanes	1		0	1		0	0		1	0		1
Taper Length (ft)	60			60			90			90		
Link Speed (mph)		30			30			45			45	
Link Distance (ft)		721			1329			455			1318	
Travel Time (s)		16.4			30.2			6.9			20.0	
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Shared Lane Traffic (%)												

Intersection Summary	
Area Type:	Other

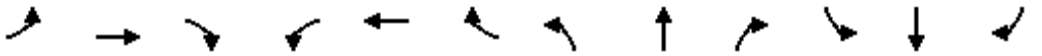
Intersection	
Int Delay, s/veh	2.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	7	112	1	1	154	54	1	5	1	48	19	14
Future Vol, veh/h	7	112	1	1	154	54	1	5	1	48	19	14
Conflicting Peds, #/hr	5	0	5	5	0	5	5	0	5	5	0	5
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	100	-	-	-	-	50	-	-	50
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	8	124	1	1	171	60	1	6	1	53	21	16

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	236	0	0	130	0	0	373	384	135	357	354	211
Stage 1	-	-	-	-	-	-	146	146	-	208	208	-
Stage 2	-	-	-	-	-	-	227	238	-	149	146	-
Critical Hdwy	4.12	-	-	4.12	-	-	7	6.52	6.22	7	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	1331	-	-	1455	-	-	591	550	914	605	571	829
Stage 1	-	-	-	-	-	-	857	776	-	794	730	-
Stage 2	-	-	-	-	-	-	776	708	-	854	776	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1325	-	-	1448	-	-	555	541	905	591	561	821
Mov Cap-2 Maneuver	-	-	-	-	-	-	555	541	-	591	561	-
Stage 1	-	-	-	-	-	-	848	767	-	785	726	-
Stage 2	-	-	-	-	-	-	735	704	-	838	767	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.5	0	11.3	11.7
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	543	905	1325	-	-	1448	-	-	582	821
HCM Lane V/C Ratio	0.012	0.001	0.006	-	-	0.001	-	-	0.128	0.019
HCM Control Delay (s)	11.7	9	7.7	-	-	7.5	-	-	12.1	9.5
HCM Lane LOS	B	A	A	-	-	A	-	-	B	A
HCM 95th %tile Q(veh)	0	0	0	-	-	0	-	-	0.4	0.1



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	12	139	10	4	201	22	13	53	39	13	27	25
Future Volume (vph)	12	139	10	4	201	22	13	53	39	13	27	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		0	100		0	0		50	0		50
Storage Lanes	1		0	1		0	0		1	0		1
Taper Length (ft)	60			60			90			90		
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1329			729			417			1313	
Travel Time (s)		30.2			16.6			9.5			29.8	
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Shared Lane Traffic (%)												

Intersection Summary	
Area Type:	Other

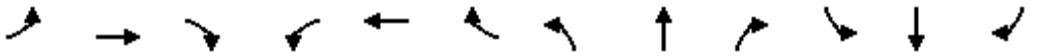
Intersection	
Int Delay, s/veh	3.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	12	139	10	4	201	22	13	53	39	13	27	25
Future Vol, veh/h	12	139	10	4	201	22	13	53	39	13	27	25
Conflicting Peds, #/hr	5	0	5	5	0	5	5	0	5	5	0	5
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	100	-	-	-	-	50	-	-	50
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	13	154	11	4	223	24	14	59	43	14	30	28

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	252	0	0	170	0	0	468	451	170	490	444	245
Stage 1	-	-	-	-	-	-	191	191	-	248	248	-
Stage 2	-	-	-	-	-	-	277	260	-	242	196	-
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	1313	-	-	1407	-	-	505	504	874	489	508	794
Stage 1	-	-	-	-	-	-	811	742	-	756	701	-
Stage 2	-	-	-	-	-	-	729	693	-	762	739	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1307	-	-	1400	-	-	456	492	866	414	496	786
Mov Cap-2 Maneuver	-	-	-	-	-	-	456	492	-	414	496	-
Stage 1	-	-	-	-	-	-	799	731	-	745	695	-
Stage 2	-	-	-	-	-	-	668	687	-	656	728	-

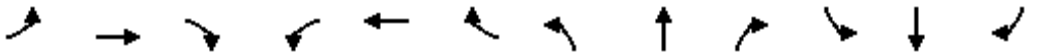
Approach	EB	WB	NB	SB
HCM Control Delay, s	0.6	0.1	12.2	12
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	484	866	1307	-	-	1400	-	-	466	786
HCM Lane V/C Ratio	0.152	0.05	0.01	-	-	0.003	-	-	0.095	0.035
HCM Control Delay (s)	13.8	9.4	7.8	-	-	7.6	-	-	13.5	9.7
HCM Lane LOS	B	A	A	-	-	A	-	-	B	A
HCM 95th %tile Q(veh)	0.5	0.2	0	-	-	0	-	-	0.3	0.1



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	112	689	452	125	468	129	359	490	81	223	427	55
Future Volume (vph)	112	689	452	125	468	129	359	490	81	223	427	55
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	210		170	275		200	170		105	140		50
Storage Lanes	2		1	2		1	1		1	1		1
Taper Length (ft)	90			90			90			90		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		55			55			45			45	
Link Distance (ft)		596			1310			710			927	
Travel Time (s)		7.4			16.2			10.8			14.0	
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
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
Shared Lane Traffic (%)												

Intersection Summary	
Area Type:	Other



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	112	689	452	125	468	129	359	490	81	223	427	55
Future Volume (veh/h)	112	689	452	125	468	129	359	490	81	223	427	55
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		0.99	1.00		0.99
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	118	725	476	132	493	136	378	516	85	235	449	58
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	180	1760	544	195	1784	551	416	946	420	272	657	291
Arrive On Green	0.05	0.34	0.34	0.06	0.35	0.35	0.23	0.27	0.27	0.15	0.19	0.19
Sat Flow, veh/h	3456	5106	1578	3456	5106	1578	1781	3554	1576	1781	3554	1572
Grp Volume(v), veh/h	118	725	476	132	493	136	378	516	85	235	449	58
Grp Sat Flow(s),veh/h/ln	1728	1702	1578	1728	1702	1578	1781	1777	1576	1781	1777	1572
Q Serve(g_s), s	3.4	10.8	28.3	3.7	7.0	6.1	20.6	12.5	4.2	12.9	11.8	3.1
Cycle Q Clear(g_c), s	3.4	10.8	28.3	3.7	7.0	6.1	20.6	12.5	4.2	12.9	11.8	3.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	180	1760	544	195	1784	551	416	946	420	272	657	291
V/C Ratio(X)	0.66	0.41	0.87	0.68	0.28	0.25	0.91	0.55	0.20	0.87	0.68	0.20
Avail Cap(c_a), veh/h	252	1760	544	259	1784	551	543	946	420	406	657	291
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	46.5	25.0	30.7	46.3	23.4	23.2	37.3	31.5	28.5	41.4	38.0	34.5
Incr Delay (d2), s/veh	4.0	0.7	17.6	4.3	0.4	1.1	16.1	2.3	1.1	12.1	5.7	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	1.5	4.1	12.6	1.6	2.6	2.3	10.4	5.4	1.6	6.3	5.4	1.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	50.6	25.7	48.3	50.6	23.8	24.2	53.4	33.8	29.5	53.4	43.7	36.0
LnGrp LOS	D	C	D	D	C	C	D	C	C	D	D	D
Approach Vol, veh/h		1319			761			979			742	
Approach Delay, s/veh		36.1			28.5			41.0			46.2	
Approach LOS		D			C			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.2	39.0	27.9	23.0	9.7	39.4	19.7	31.1
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	7.5	25.5	30.5	18.5	7.3	25.7	22.8	26.2
Max Q Clear Time (g_c+I1), s	5.7	30.3	22.6	13.8	5.4	9.0	14.9	14.5
Green Ext Time (p_c), s	0.1	0.0	0.7	1.2	0.1	3.0	0.4	2.6

Intersection Summary	
HCM 6th Ctrl Delay	37.8
HCM 6th LOS	D

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	864	75	1	521	1	23	1	1	5	14	18
Future Volume (vph)	5	864	75	1	521	1	23	1	1	5	14	18
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	300		100	300		0	35		0	35		0
Storage Lanes	1		1	1		0	1		0	1		0
Taper Length (ft)	90			90			60			60		
Link Speed (mph)		55			55			45			30	
Link Distance (ft)		2281			1381			545			687	
Travel Time (s)		28.3			17.1			8.3			15.6	
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
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
Shared Lane Traffic (%)												

Intersection Summary	
Area Type:	Other

Intersection	
Int Delay, s/veh	1.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	5	864	75	1	521	1	23	1	1	5	14	18
Future Vol, veh/h	5	864	75	1	521	1	23	1	1	5	14	18
Conflicting Peds, #/hr	5	0	5	5	0	5	5	0	5	5	0	5
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	300	-	100	300	-	-	35	-	-	35	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	97	97	97	97	97	97	97	97	97	97	97	97
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	5	891	77	1	537	1	24	1	1	5	14	19

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	543	0	0	973	0	0	1189	1451	456	1006	1528	279
Stage 1	-	-	-	-	-	-	906	906	-	545	545	-
Stage 2	-	-	-	-	-	-	283	545	-	461	983	-
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	1022	-	-	704	-	-	143	130	551	195	116	718
Stage 1	-	-	-	-	-	-	297	353	-	490	517	-
Stage 2	-	-	-	-	-	-	700	517	-	550	325	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1017	-	-	701	-	-	124	128	546	191	114	711
Mov Cap-2 Maneuver	-	-	-	-	-	-	124	128	-	191	114	-
Stage 1	-	-	-	-	-	-	294	349	-	485	514	-
Stage 2	-	-	-	-	-	-	658	514	-	542	322	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0	39.3	24.6
HCM LOS			E	C

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	124	207	1017	-	-	701	-	-	191	216
HCM Lane V/C Ratio	0.191	0.01	0.005	-	-	0.001	-	-	0.027	0.153
HCM Control Delay (s)	40.8	22.6	8.6	-	-	10.1	-	-	24.4	24.6
HCM Lane LOS	E	C	A	-	-	B	-	-	C	C
HCM 95th %tile Q(veh)	0.7	0	0	-	-	0	-	-	0.1	0.5



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	790	79	1	485	38	1
Future Volume (vph)	790	79	1	485	38	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		300	200		175	0
Storage Lanes		1	1		1	1
Taper Length (ft)			90		90	
Right Turn on Red		Yes				Yes
Link Speed (mph)	55			55	30	
Link Distance (ft)	1381			386	451	
Travel Time (s)	17.1			4.8	10.3	
Confl. Peds. (#/hr)		5	5		5	5
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Shared Lane Traffic (%)						

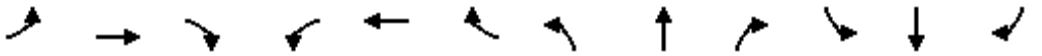
Intersection Summary	
Area Type:	Other



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	790	79	1	485	38	1
Future Volume (veh/h)	790	79	1	485	38	1
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		0.99	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	823	82	1	505	40	1
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	1683	747	3	1955	534	476
Arrive On Green	0.47	0.47	0.00	0.55	0.30	0.30
Sat Flow, veh/h	3647	1577	1781	3647	1781	1585
Grp Volume(v), veh/h	823	82	1	505	40	1
Grp Sat Flow(s),veh/h/ln	1777	1577	1781	1777	1781	1585
Q Serve(g_s), s	9.5	1.7	0.0	4.5	1.0	0.0
Cycle Q Clear(g_c), s	9.5	1.7	0.0	4.5	1.0	0.0
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	1683	747	3	1955	534	476
V/C Ratio(X)	0.49	0.11	0.34	0.26	0.07	0.00
Avail Cap(c_a), veh/h	1683	747	148	1955	534	476
HCM Platoon Ratio	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
Uniform Delay (d), s/veh	10.8	8.8	29.9	7.1	15.0	14.7
Incr Delay (d2), s/veh	1.0	0.3	56.0	0.3	0.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.8	0.5	0.1	1.1	0.4	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	11.8	9.1	85.9	7.4	15.3	14.7
LnGrp LOS	B	A	F	A	B	B
Approach Vol, veh/h	905			506	41	
Approach Delay, s/veh	11.6			7.6	15.3	
Approach LOS	B			A	B	

Timer - Assigned Phs	1	2				6	8
Phs Duration (G+Y+Rc), s	4.6	32.9				37.5	22.5
Change Period (Y+Rc), s	4.5	4.5				4.5	4.5
Max Green Setting (Gmax), s	5.0	23.5				33.0	18.0
Max Q Clear Time (g_c+I1), s	2.0	11.5				6.5	3.0
Green Ext Time (p_c), s	0.0	4.1				2.9	0.1

Intersection Summary			
HCM 6th Ctrl Delay		10.3	
HCM 6th LOS		B	



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	10	82	17	2	59	4	12	28	1	13	68	21
Future Volume (vph)	10	82	17	2	59	4	12	28	1	13	68	21
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	50		50	0		50	0		50	0		50
Storage Lanes	0		1	0		1	0		1	0		1
Taper Length (ft)	90			90			90			90		
Link Speed (mph)		30			30			45			45	
Link Distance (ft)		799			1333			1318			3757	
Travel Time (s)		18.2			30.3			20.0			56.9	
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
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
Shared Lane Traffic (%)												

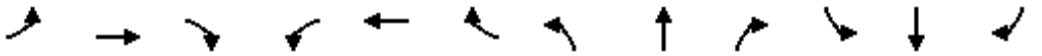
Intersection Summary	
Area Type:	Other

Intersection	
Intersection Delay, s/veh	8.3
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	10	82	17	2	59	4	12	28	1	13	68	21
Future Vol, veh/h	10	82	17	2	59	4	12	28	1	13	68	21
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
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	11	92	19	2	66	4	13	31	1	15	76	24
Number of Lanes	0	1	1	0	1	1	0	1	1	0	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	2	2
HCM Control Delay	8.4	8.2	8.4	8.3
HCM LOS	A	A	A	A

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	30%	0%	11%	0%	3%	0%	16%	0%
Vol Thru, %	70%	0%	89%	0%	97%	0%	84%	0%
Vol Right, %	0%	100%	0%	100%	0%	100%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	40	1	92	17	61	4	81	21
LT Vol	12	0	10	0	2	0	13	0
Through Vol	28	0	82	0	59	0	68	0
RT Vol	0	1	0	17	0	4	0	21
Lane Flow Rate	45	1	103	19	69	4	91	24
Geometry Grp	7	7	7	7	7	7	7	7
Degree of Util (X)	0.066	0.001	0.145	0.023	0.097	0.005	0.13	0.029
Departure Headway (Hd)	5.285	4.431	5.064	4.307	5.072	4.352	5.15	4.367
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	679	808	710	832	708	823	698	821
Service Time	3.007	2.153	2.784	2.027	2.793	2.073	2.869	2.086
HCM Lane V/C Ratio	0.066	0.001	0.145	0.023	0.097	0.005	0.13	0.029
HCM Control Delay	8.4	7.2	8.6	7.1	8.3	7.1	8.6	7.2
HCM Lane LOS	A	A	A	A	A	A	A	A
HCM 95th-tile Q	0.2	0	0.5	0.1	0.3	0	0.4	0.1



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	4	28	19	1	14	9	10	27	7	9	70	6
Future Volume (vph)	4	28	19	1	14	9	10	27	7	9	70	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		50	0		50	0		50	0		50
Storage Lanes	0		1	0		1	0		1	0		1
Taper Length (ft)	90			90			90			90		
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1333			785			1313			4316	
Travel Time (s)		30.3			17.8			29.8			98.1	
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Shared Lane Traffic (%)												

Intersection Summary	
Area Type:	Other

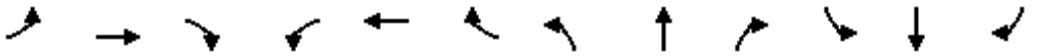
Intersection	
Int Delay, s/veh	6.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑	↱		↑	↱		↑	↱		↑	↱
Traffic Vol, veh/h	4	28	19	1	14	9	10	27	7	9	70	6
Future Vol, veh/h	4	28	19	1	14	9	10	27	7	9	70	6
Conflicting Peds, #/hr	5	0	5	5	0	5	5	0	5	5	0	5
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	50	-	-	50	-	-	50	-	-	50
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	85	85	85	85	85	85	85	85	85	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	5	33	22	1	16	11	12	32	8	11	82	7

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	32	0	0	60	0	0	121	82	43	102	93	26
Stage 1	-	-	-	-	-	-	48	48	-	23	23	-
Stage 2	-	-	-	-	-	-	73	34	-	79	70	-
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	1580	-	-	1544	-	-	854	808	1027	879	797	1050
Stage 1	-	-	-	-	-	-	965	855	-	995	876	-
Stage 2	-	-	-	-	-	-	937	867	-	930	837	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1572	-	-	1537	-	-	770	797	1017	835	786	1040
Mov Cap-2 Maneuver	-	-	-	-	-	-	770	797	-	835	786	-
Stage 1	-	-	-	-	-	-	957	848	-	987	871	-
Stage 2	-	-	-	-	-	-	838	862	-	881	830	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.6	0.3	9.6	10.1
HCM LOS			A	B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	790	1017	1572	-	-	1537	-	-	791	1040
HCM Lane V/C Ratio	0.055	0.008	0.003	-	-	0.001	-	-	0.117	0.007
HCM Control Delay (s)	9.8	8.6	7.3	0	-	7.3	0	-	10.2	8.5
HCM Lane LOS	A	A	A	A	-	A	A	-	B	A
HCM 95th %tile Q(veh)	0.2	0	0	-	-	0	-	-	0.4	0



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	10	134	4	2	148	22	2	12	4	41	22	13
Future Volume (vph)	10	134	4	2	148	22	2	12	4	41	22	13
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		0	100		0	0		50	0		50
Storage Lanes	1		0	1		0	0		1	0		1
Taper Length (ft)	60			60			90			90		
Link Speed (mph)		30			30			45			45	
Link Distance (ft)		721			1329			455			1318	
Travel Time (s)		16.4			30.2			6.9			20.0	
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
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
Shared Lane Traffic (%)												

Intersection Summary	
Area Type:	Other

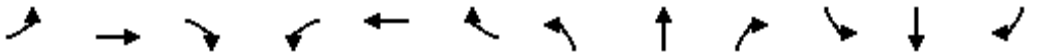
Intersection	
Int Delay, s/veh	2.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	10	134	4	2	148	22	2	12	4	41	22	13
Future Vol, veh/h	10	134	4	2	148	22	2	12	4	41	22	13
Conflicting Peds, #/hr	5	0	5	5	0	5	5	0	5	5	0	5
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	100	-	-	-	-	50	-	-	50
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	11	141	4	2	156	23	2	13	4	43	23	14

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	184	0	0	150	0	0	365	358	153	356	349	178
Stage 1	-	-	-	-	-	-	170	170	-	177	177	-
Stage 2	-	-	-	-	-	-	195	188	-	179	172	-
Critical Hdwy	4.12	-	-	4.12	-	-	6.8	6.52	6.22	6.8	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	1391	-	-	1431	-	-	611	568	893	618	575	865
Stage 1	-	-	-	-	-	-	832	758	-	825	753	-
Stage 2	-	-	-	-	-	-	807	745	-	823	756	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1384	-	-	1424	-	-	573	557	885	595	564	857
Mov Cap-2 Maneuver	-	-	-	-	-	-	573	557	-	595	564	-
Stage 1	-	-	-	-	-	-	821	748	-	814	748	-
Stage 2	-	-	-	-	-	-	765	741	-	795	746	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.5	0.1	11	11.5
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	559	885	1384	-	-	1424	-	-	584	857
HCM Lane V/C Ratio	0.026	0.005	0.008	-	-	0.001	-	-	0.114	0.016
HCM Control Delay (s)	11.6	9.1	7.6	-	-	7.5	-	-	12	9.3
HCM Lane LOS	B	A	A	-	-	A	-	-	B	A
HCM 95th %tile Q(veh)	0.1	0	0	-	-	0	-	-	0.4	0



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	26	212	11	4	204	8	5	16	5	12	36	46
Future Volume (vph)	26	212	11	4	204	8	5	16	5	12	36	46
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		0	100		0	0		50	0		50
Storage Lanes	1		0	1		0	0		1	0		1
Taper Length (ft)	60			60			90			90		
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1329			729			417			1313	
Travel Time (s)		30.2			16.6			9.5			29.8	
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
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
Shared Lane Traffic (%)												

Intersection Summary	
Area Type:	Other

Intersection	
Int Delay, s/veh	3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	26	212	11	4	204	8	5	16	5	12	36	46
Future Vol, veh/h	26	212	11	4	204	8	5	16	5	12	36	46
Conflicting Peds, #/hr	5	0	5	5	0	5	5	0	5	5	0	5
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	100	-	-	-	-	50	-	-	50
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	89	89	89	89	89	89	89	89	89	89	89	89
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	29	238	12	4	229	9	6	18	6	13	40	52

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	243	0	0	255	0	0	600	558	254	566	560	244
Stage 1	-	-	-	-	-	-	307	307	-	247	247	-
Stage 2	-	-	-	-	-	-	293	251	-	319	313	-
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	1323	-	-	1310	-	-	413	438	785	435	437	795
Stage 1	-	-	-	-	-	-	703	661	-	757	702	-
Stage 2	-	-	-	-	-	-	715	699	-	693	657	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1317	-	-	1304	-	-	347	423	778	406	422	787
Mov Cap-2 Maneuver	-	-	-	-	-	-	347	423	-	406	422	-
Stage 1	-	-	-	-	-	-	684	643	-	737	696	-
Stage 2	-	-	-	-	-	-	624	693	-	651	639	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.8	0.1	13.6	12.5
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	402	778	1317	-	-	1304	-	-	418	787
HCM Lane V/C Ratio	0.059	0.007	0.022	-	-	0.003	-	-	0.129	0.066
HCM Control Delay (s)	14.5	9.7	7.8	-	-	7.8	-	-	14.9	9.9
HCM Lane LOS	B	A	A	-	-	A	-	-	B	A
HCM 95th %tile Q(veh)	0.2	0	0.1	-	-	0	-	-	0.4	0.2

APPENDIX 3.3:

TRAFFIC SIGNAL WARRANT ANALYSIS WORKSHEETS

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California MUTCD 2014 Edition
(FHWA's MUTCD 2009, as amended for use in California)

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)

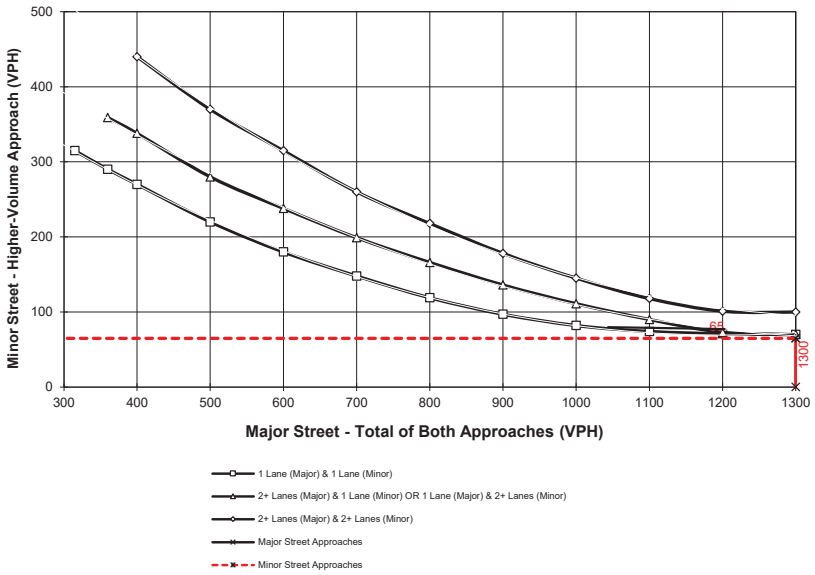
(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 64 km/h OR ABOVE 40 mph ON MAJOR STREET)

Traffic Conditions = **EXISTING (2022) AM PEAK HOUR WARRANTS**

Major Street Name = **Ramona Exwy.** Total of Both Approaches (VPH) = **1,508**
Number of Approach Lanes Major Street = **2**

Minor Street Name = **Alessandro Av.** High Volume Approach (VPH) = **65**
Number of Approach Lanes Minor Street = **1**

SIGNAL WARRANT NOT SATISFIED



*Note: 100 vph applies as the lower threshold for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold for a minor-street approach with one lane

Intersection ID: #2

F:\UXRjobs_14100-14500\14573\LOS\Signal Warrants\01 - Existing\02R_AM\Fig 4C-4 (Rural Peak)

California MUTCD 2014 Edition
(FHWA's MUTCD 2009, as amended for use in California)

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)

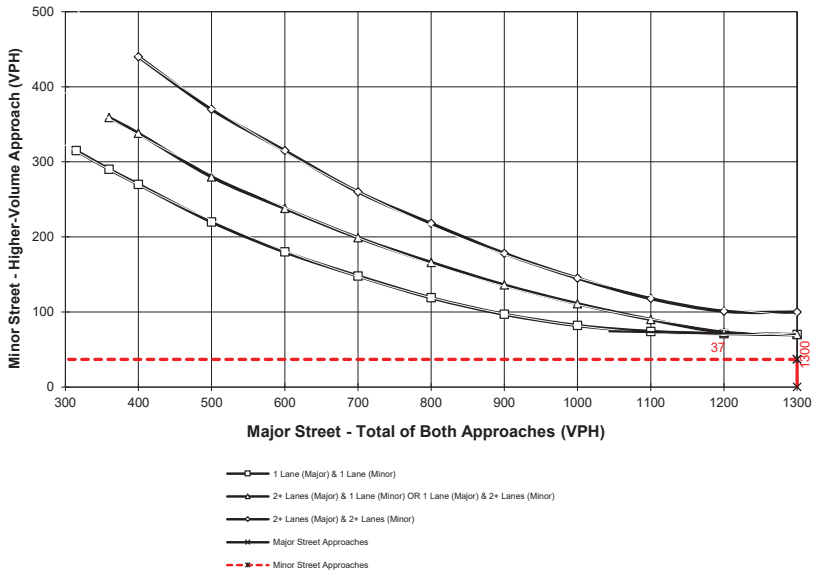
(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 64 km/h OR ABOVE 40 mph ON MAJOR STREET)

Traffic Conditions = **EXISTING (2022) PM PEAK HOUR WARRANTS**

Major Street Name = **Ramona Exwy.** Total of Both Approaches (VPH) = **1,467**
Number of Approach Lanes Major Street = **2**

Minor Street Name = **Alessandro Av.** High Volume Approach (VPH) = **37**
Number of Approach Lanes Minor Street = **1**

SIGNAL WARRANT NOT SATISFIED



*Note: 100 vph applies as the lower threshold for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold for a minor-street approach with one lane

Intersection ID: #2

F:\UXRjobs_14100-14500\14573\LOS\Signal Warrants\01 - Existing\02R_PM\Fig 4C-4 (Rural Peak)

California MUTCD 2014 Edition
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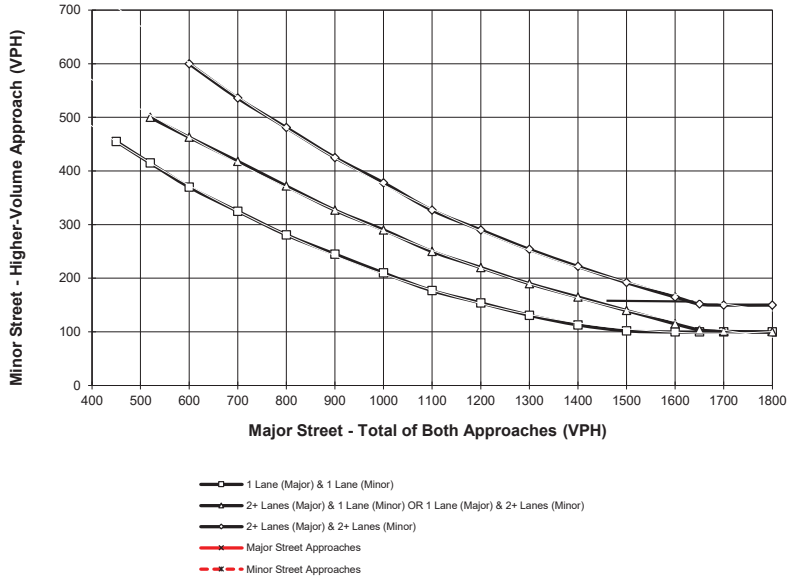
Figure 4C-3. Warrant 3, Peak Hour

Traffic Conditions = **EXISTING (2022) AM PEAK HOUR WARRANTS**

Major Street Name = **1st St.** Total of Both Approaches (VPH) = **338**
Number of Approach Lanes on Major Street = **1**

Minor Street Name = **Alessandro Av.** High Volume Approach (VPH) = **86**
Number of Approach Lanes On Minor Street = **1**

SIGNAL WARRANT NOT SATISFIED



*Note: 150 vph applies as the lower threshold for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold for a minor-street approach with one lane

Intersection ID: #4

F:\UXRjobs_14100-14500\14573\LOS\Signal Warrants\01 - Existing\04U_AM\Fig 4C-3 (Urban Peak)

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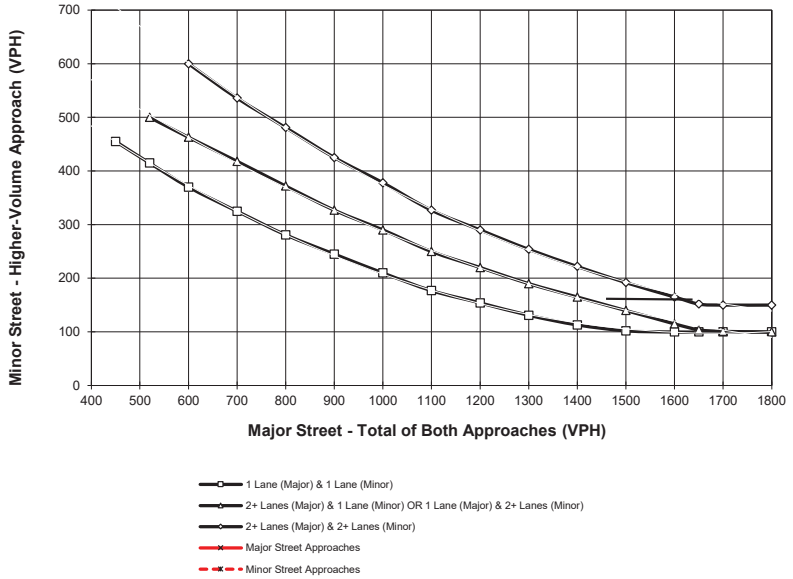
Figure 4C-3. Warrant 3, Peak Hour

Traffic Conditions = **EXISTING (2022) PM PEAK HOUR WARRANTS**

Major Street Name = **1st St.** Total of Both Approaches (VPH) = **174**
Number of Approach Lanes on Major Street = **1**

Minor Street Name = **Alessandro Av.** High Volume Approach (VPH) = **102**
Number of Approach Lanes On Minor Street = **1**

SIGNAL WARRANT NOT SATISFIED



*Note: 150 vph applies as the lower threshold for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold for a minor-street approach with one lane

Intersection ID: #4

F:\UXRjobs_14100-14500\14573\LOS\Signal Warrants\01 - Existing\04U_PM\Fig 4C-3 (Urban Peak)

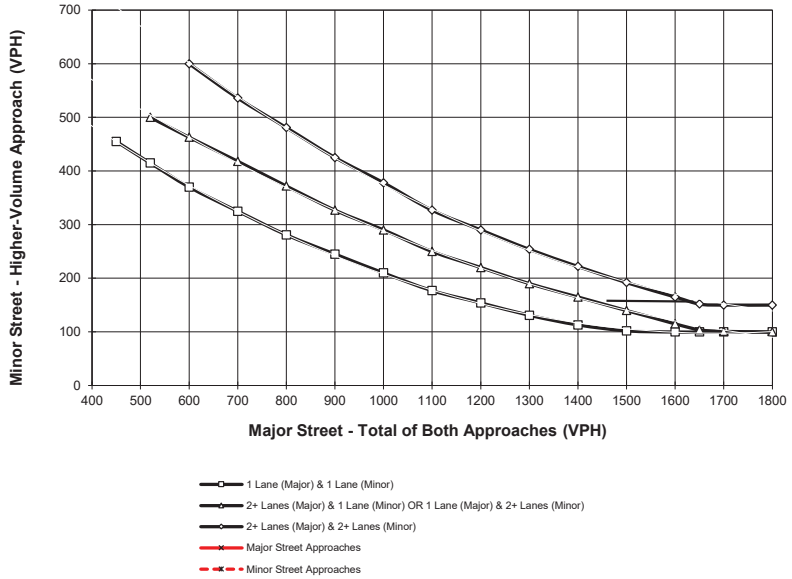
Figure 4C-3. Warrant 3, Peak Hour

Traffic Conditions = **EXISTING (2022) AM PEAK HOUR WARRANTS**

Major Street Name = **1st St.**
Total of Both Approaches (VPH) = **128**
Number of Approach Lanes on Major Street = **1**

Minor Street Name = **Vernon Av.**
High Volume Approach (VPH) = **82**
Number of Approach Lanes On Minor Street = **1**

SIGNAL WARRANT NOT SATISFIED



*Note: 150 vph applies as the lower threshold for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold for a minor-street approach with one lane

Intersection ID: #5

F:\UXRjobs_14100-14500\14573\LOS\Signal Warrants\01 - Existing\05U_AM\Fig 4C-3 (Urban Peak)

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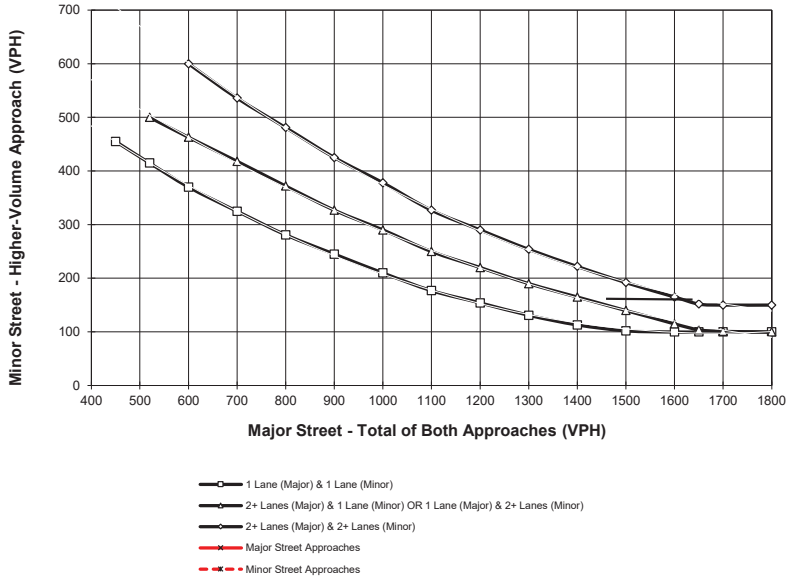
Figure 4C-3. Warrant 3, Peak Hour

Traffic Conditions = **EXISTING (2022) PM PEAK HOUR WARRANTS**

Major Street Name = **Vernon Av.**
Total of Both Approaches (VPH) = **129**
Number of Approach Lanes on Major Street = **1**

Minor Street Name = **1st St.**
High Volume Approach (VPH) = **51**
Number of Approach Lanes On Minor Street = **1**

SIGNAL WARRANT NOT SATISFIED



*Note: 150 vph applies as the lower threshold for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold for a minor-street approach with one lane

Intersection ID: #5

F:\UXRjobs_14100-14500\14573\LOS\Signal Warrants\01 - Existing\05U_PM\Fig 4C-3 (Urban Peak)

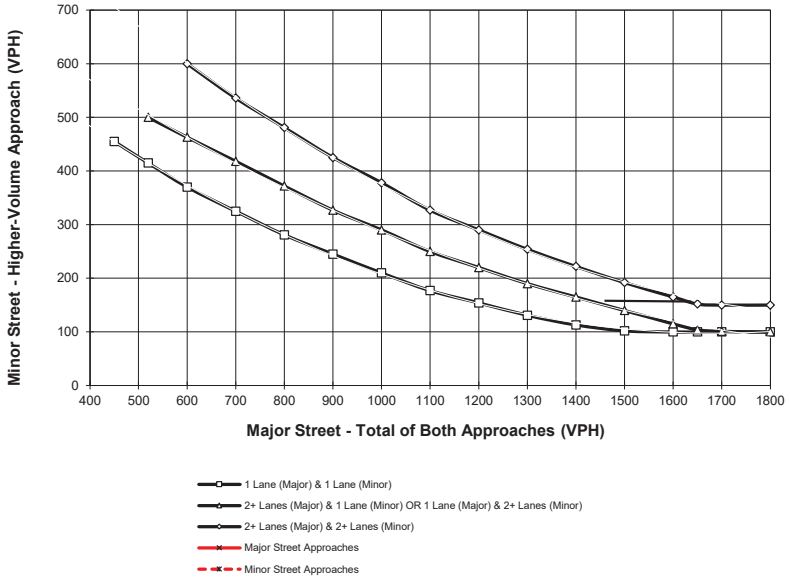
Figure 4C-3. Warrant 3, Peak Hour

Traffic Conditions = **EXISTING (2022) AM PEAK HOUR WARRANTS**

Major Street Name = **Main St.**
Total of Both Approaches (VPH) = **329**
Number of Approach Lanes on Major Street = **1**

Minor Street Name = **Alessandro Av.**
High Volume Approach (VPH) = **81**
Number of Approach Lanes On Minor Street = **1**

SIGNAL WARRANT NOT SATISFIED



*Note: 150 vph applies as the lower threshold for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold for a minor-street approach with one lane

Intersection ID: #6

F:\UXRjobs_14100-14500\14573\LOS\Signal Warrants\01 - Existing\06U_AM\Fig 4C-3 (Urban Peak)

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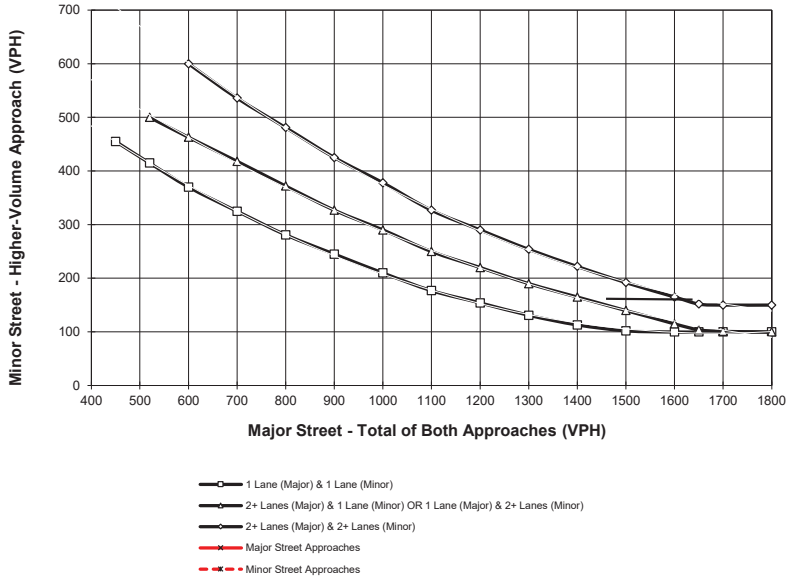
Figure 4C-3. Warrant 3, Peak Hour

Traffic Conditions = **EXISTING (2022) PM PEAK HOUR WARRANTS**

Major Street Name = **Main St.**
Total of Both Approaches (VPH) = **320**
Number of Approach Lanes on Major Street = **1**

Minor Street Name = **Alessandro Av.**
High Volume Approach (VPH) = **76**
Number of Approach Lanes On Minor Street = **1**

SIGNAL WARRANT NOT SATISFIED



*Note: 150 vph applies as the lower threshold for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold for a minor-street approach with one lane

Intersection ID: #6

F:\UXRjobs_14100-14500\14573\LOS\Signal Warrants\01 - Existing\06U_PM\Fig 4C-3 (Urban Peak)

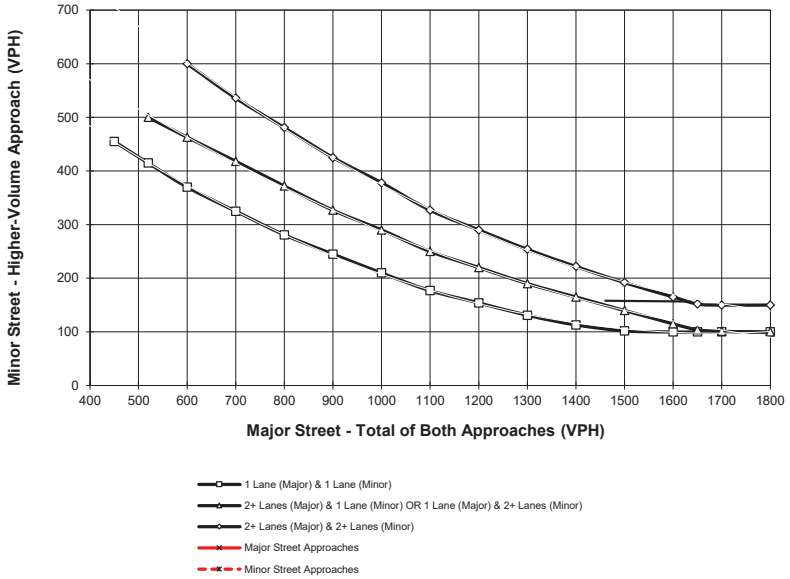
Figure 4C-3. Warrant 3, Peak Hour

Traffic Conditions = **EXISTING (2022) AM PEAK HOUR WARRANTS**

Major Street Name = **Main St.**
Total of Both Approaches (VPH) = **388**
Number of Approach Lanes on Major Street = **1**

Minor Street Name = **Vernon Av.**
High Volume Approach (VPH) = **105**
Number of Approach Lanes On Minor Street = **1**

SIGNAL WARRANT NOT SATISFIED



*Note: 150 vph applies as the lower threshold for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold for a minor-street approach with one lane

Intersection ID: #7

F:\UXRjobs_14100-14500\14573\LOS\Signal Warrants\01 - Existing\07U_AM\Fig 4C-3 (Urban Peak)

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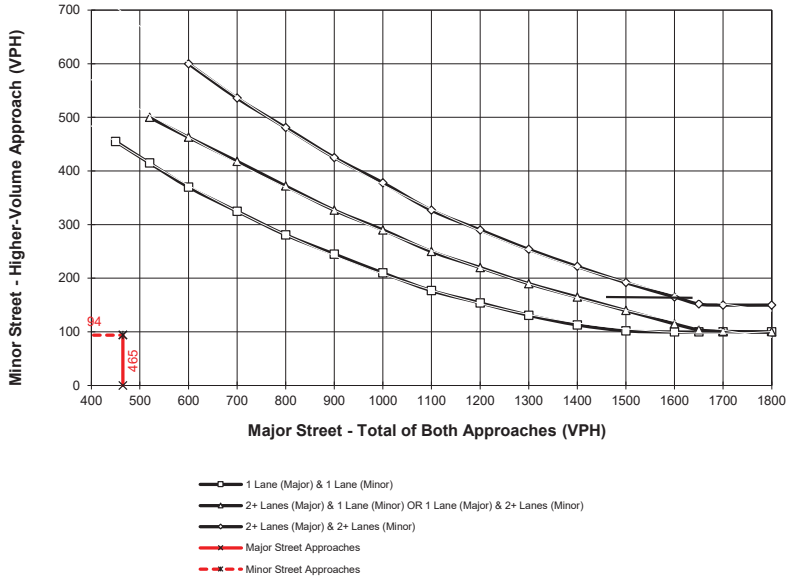
Figure 4C-3. Warrant 3, Peak Hour

Traffic Conditions = **EXISTING (2022) PM PEAK HOUR WARRANTS**

Major Street Name = **Main St.**
Total of Both Approaches (VPH) = **465**
Number of Approach Lanes on Major Street = **1**

Minor Street Name = **Vernon Av.**
High Volume Approach (VPH) = **94**
Number of Approach Lanes On Minor Street = **1**

SIGNAL WARRANT NOT SATISFIED



*Note: 150 vph applies as the lower threshold for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold for a minor-street approach with one lane

Intersection ID: #7

F:\UXRjobs_14100-14500\14573\LOS\Signal Warrants\01 - Existing\07U_PM\Fig 4C-3 (Urban Peak)

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Figure 4C-4. Warrant 3, Peak Hour (70% Factor)

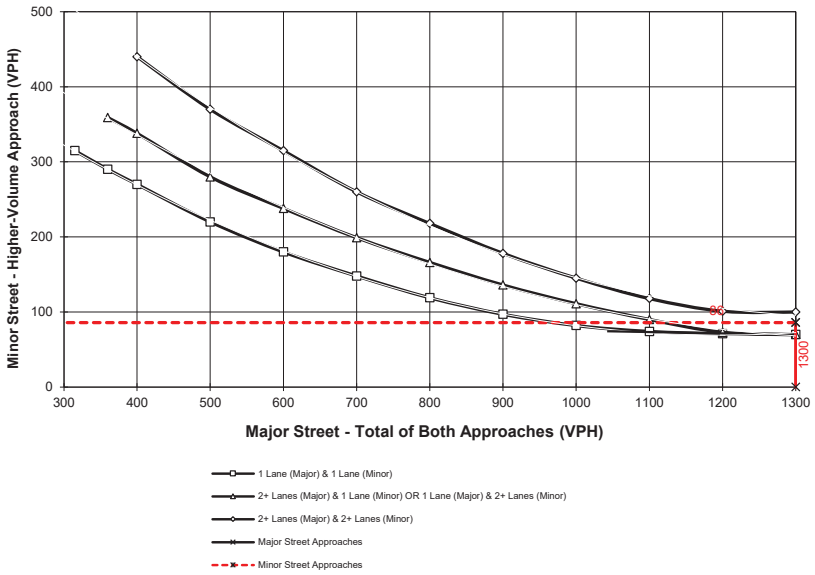
(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 64 km/h OR ABOVE 40 mph ON MAJOR STREET)

Traffic Conditions = **EAC (2024) AM PEAK HOUR WARRANTS**

Major Street Name = **Ramona Exwy.** Total of Both Approaches (VPH) = **2,075**
Number of Approach Lanes Major Street = **2**

Minor Street Name = **Alessandro Av.** High Volume Approach (VPH) = **86**
Number of Approach Lanes Minor Street = **1**

WARRANTED FOR A SIGNAL



*Note: 100 vph applies as the lower threshold for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold for a minor-street approach with one lane

Intersection ID: #2

F:\UXRjobs_14100-14500\14573\LOS\Signal Warrants\02 - EAC\02R_AM\Fig 4C-4 (Rural Peak)

California MUTCD 2014 Edition
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Figure 4C-4. Warrant 3, Peak Hour (70% Factor)

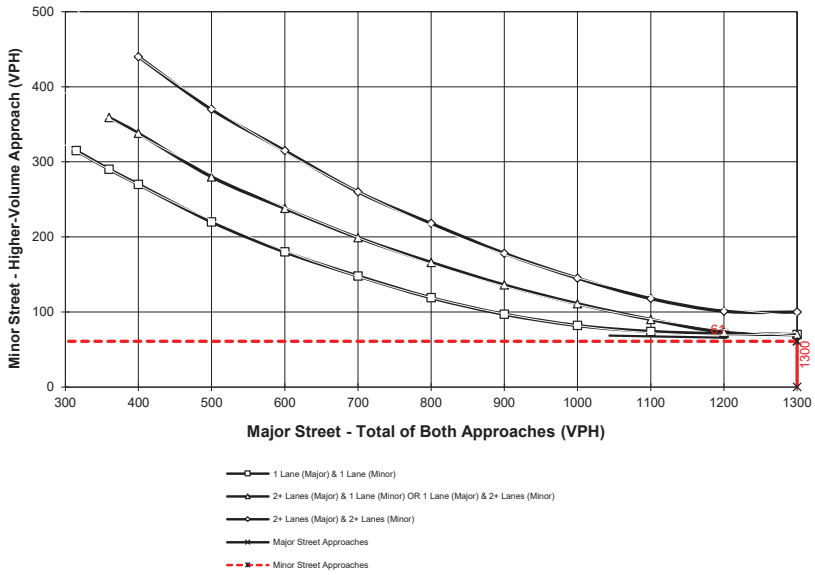
(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 64 km/h OR ABOVE 40 mph ON MAJOR STREET)

Traffic Conditions = **EAC (2024) PM PEAK HOUR WARRANTS**

Major Street Name = **Ramona Exwy.** Total of Both Approaches (VPH) = **2,192**
Number of Approach Lanes Major Street = **2**

Minor Street Name = **Alessandro Av.** High Volume Approach (VPH) = **61**
Number of Approach Lanes Minor Street = **1**

SIGNAL WARRANT NOT SATISFIED



*Note: 100 vph applies as the lower threshold for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold for a minor-street approach with one lane

Intersection ID: #2

F:\UXRjobs_14100-14500\14573\LOS\Signal Warrants\02 - EAC\02R_PM\Fig 4C-4 (Rural Peak)

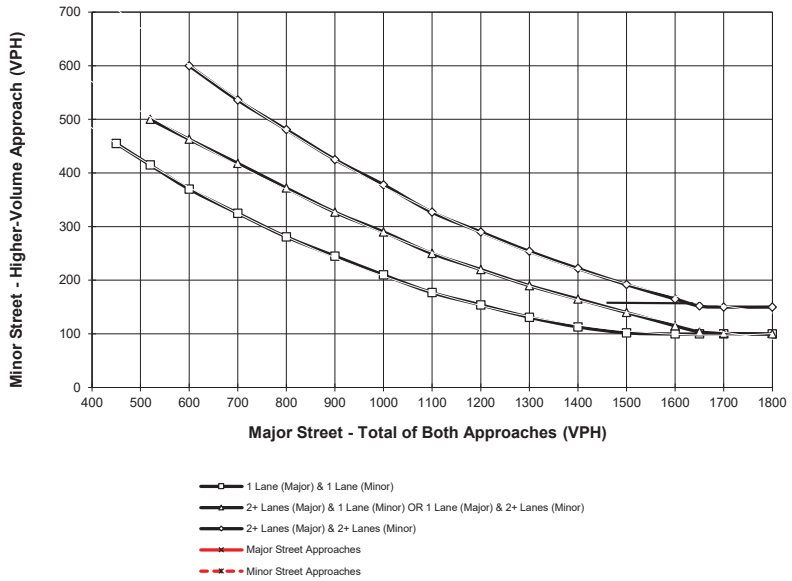
Figure 4C-3. Warrant 3, Peak Hour

Traffic Conditions = **EAC (2024) AM PEAK HOUR WARRANTS**

Major Street Name = **1st St.**
Total of Both Approaches (VPH) = **363**
Number of Approach Lanes on Major Street = **1**

Minor Street Name = **Alessandro Av.**
High Volume Approach (VPH) = **106**
Number of Approach Lanes On Minor Street = **1**

SIGNAL WARRANT NOT SATISFIED



*Note: 150 vph applies as the lower threshold for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold for a minor-street approach with one lane

Intersection ID: #4

F:\UXRjobs_14100-14500\14573\LOS\Signal Warrants\02 - EAC\04U_AM\Fig 4C-3 (Urban Peak)

California MUTCD 2014 Edition
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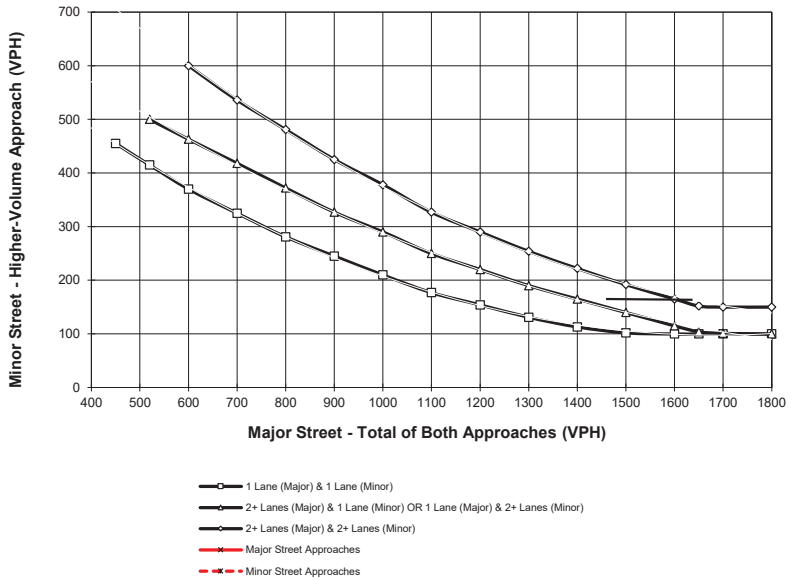
Figure 4C-3. Warrant 3, Peak Hour

Traffic Conditions = **EAC (2024) PM PEAK HOUR WARRANTS**

Major Street Name = **Alessandro Av.**
Total of Both Approaches (VPH) = **225**
Number of Approach Lanes on Major Street = **1**

Minor Street Name = **1st St.**
High Volume Approach (VPH) = **122**
Number of Approach Lanes On Minor Street = **1**

SIGNAL WARRANT NOT SATISFIED



*Note: 150 vph applies as the lower threshold for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold for a minor-street approach with one lane

Intersection ID: #4

F:\UXRjobs_14100-14500\14573\LOS\Signal Warrants\02 - EAC\04U_PM\Fig 4C-3 (Urban Peak)

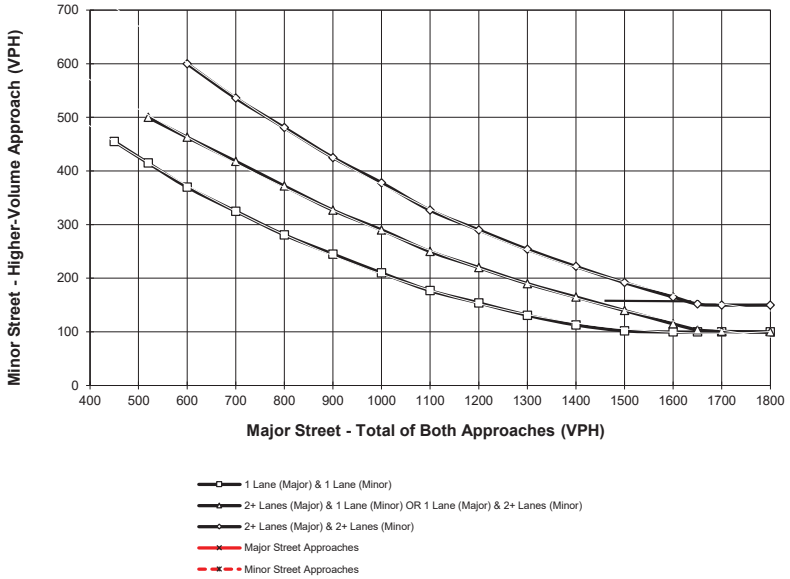
Figure 4C-3. Warrant 3, Peak Hour

Traffic Conditions = **EAC (2024) AM PEAK HOUR WARRANTS**

Major Street Name = **Vernon Av.**
Total of Both Approaches (VPH) = **330**
Number of Approach Lanes on Major Street = **1**

Minor Street Name = **1st St.**
High Volume Approach (VPH) = **75**
Number of Approach Lanes On Minor Street = **1**

SIGNAL WARRANT NOT SATISFIED



*Note: 150 vph applies as the lower threshold for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold for a minor-street approach with one lane

Intersection ID: #5

F:\UXRjobs_14100-14500\14573\LOS\Signal Warrants\02 - EAC\05U_AM\Fig 4C-3 (Urban Peak)

California MUTCD 2014 Edition
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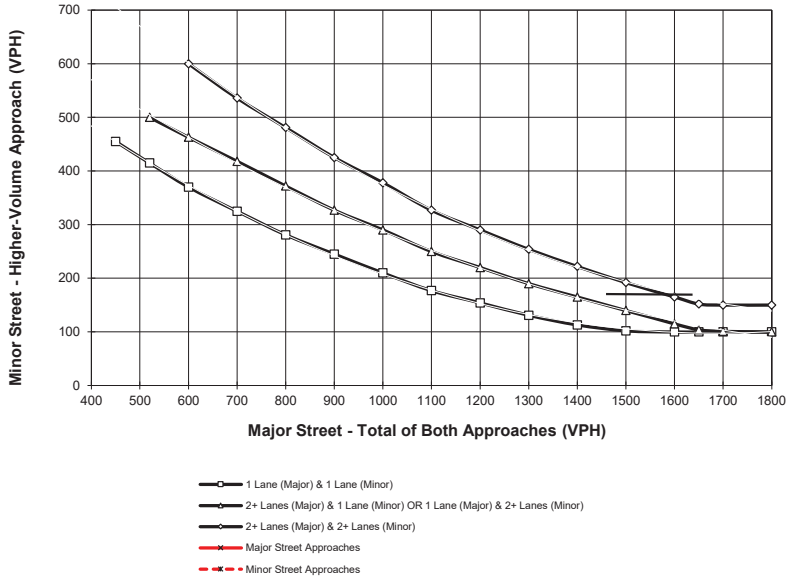
Figure 4C-3. Warrant 3, Peak Hour

Traffic Conditions = **EAC (2024) PM PEAK HOUR WARRANTS**

Major Street Name = **Vernon Av.**
Total of Both Approaches (VPH) = **354**
Number of Approach Lanes on Major Street = **1**

Minor Street Name = **1st St.**
High Volume Approach (VPH) = **62**
Number of Approach Lanes On Minor Street = **1**

SIGNAL WARRANT NOT SATISFIED



*Note: 150 vph applies as the lower threshold for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold for a minor-street approach with one lane

Intersection ID: #5

F:\UXRjobs_14100-14500\14573\LOS\Signal Warrants\02 - EAC\05U_PM\Fig 4C-3 (Urban Peak)

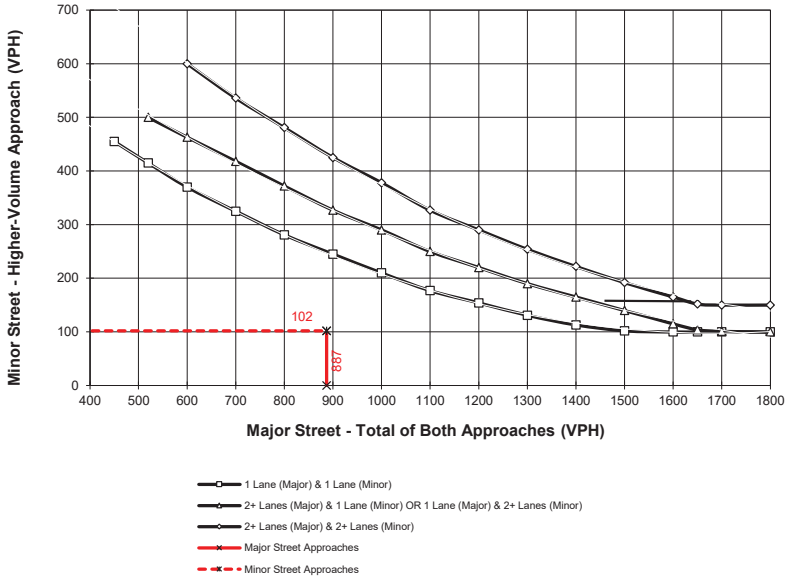
Figure 4C-3. Warrant 3, Peak Hour

Traffic Conditions = **EAC (2024) AM PEAK HOUR WARRANTS**

Major Street Name = **Main St.**
Total of Both Approaches (VPH) = **887**
Number of Approach Lanes on Major Street = **1**

Minor Street Name = **Alessandro Av.**
High Volume Approach (VPH) = **102**
Number of Approach Lanes On Minor Street = **1**

SIGNAL WARRANT NOT SATISFIED



*Note: 150 vph applies as the lower threshold for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold for a minor-street approach with one lane

Intersection ID: #6

F:\UXRjobs_14100-14500\14573\LOS\Signal Warrants\02 - EAC\06U_AM\Fig 4C-3 (Urban Peak)

California MUTCD 2014 Edition
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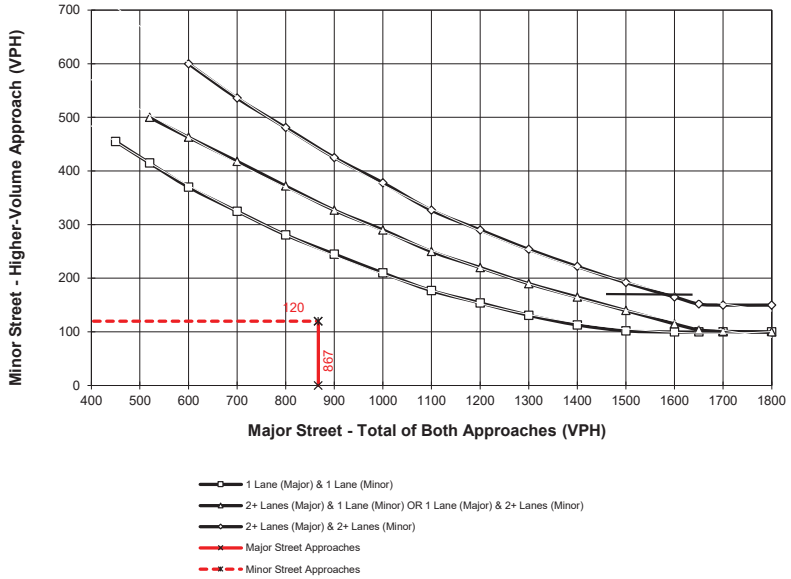
Figure 4C-3. Warrant 3, Peak Hour

Traffic Conditions = **EAC (2024) PM PEAK HOUR WARRANTS**

Major Street Name = **Main St.**
Total of Both Approaches (VPH) = **867**
Number of Approach Lanes on Major Street = **1**

Minor Street Name = **Alessandro Av.**
High Volume Approach (VPH) = **120**
Number of Approach Lanes On Minor Street = **1**

SIGNAL WARRANT NOT SATISFIED



*Note: 150 vph applies as the lower threshold for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold for a minor-street approach with one lane

Intersection ID: #6

F:\UXRjobs_14100-14500\14573\LOS\Signal Warrants\02 - EAC\06U_PM\Fig 4C-3 (Urban Peak)

California MUTCD 2014 Edition
(FHWA's MUTCD 2009, as amended for use in California)

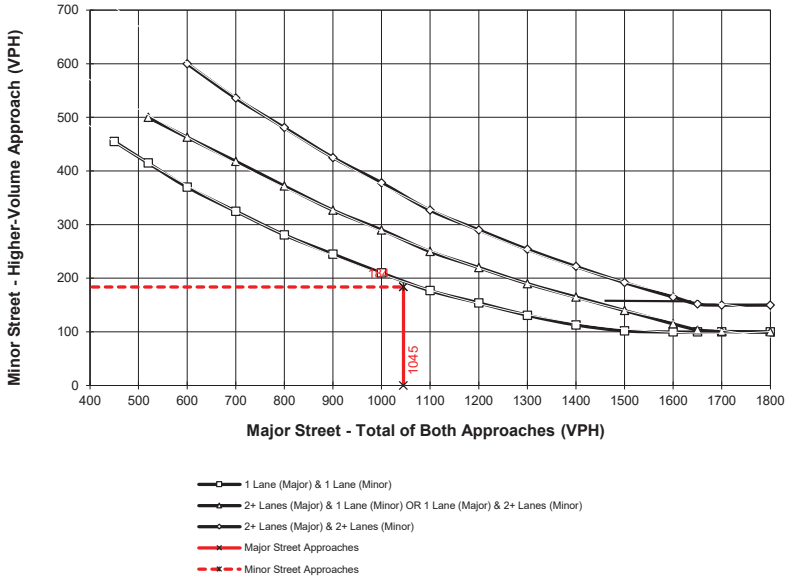
Figure 4C-3. Warrant 3, Peak Hour

Traffic Conditions = **EAC (2024) AM PEAK HOUR WARRANTS**

Major Street Name = **Main St.**
Total of Both Approaches (VPH) = **1,045**
Number of Approach Lanes on Major Street = **1**

Minor Street Name = **Vernon Av.**
High Volume Approach (VPH) = **184**
Number of Approach Lanes On Minor Street = **1**

SIGNAL WARRANT NOT SATISFIED



*Note: 150 vph applies as the lower threshold for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold for a minor-street approach with one lane

Intersection ID: #7

F:\UXRjobs_14100-14500\14573\LOS\Signal Warrants\02 - EAC\07U_AM\Fig 4C-3 (Urban Peak)

California MUTCD 2014 Edition
(FHWA's MUTCD 2009, as amended for use in California)

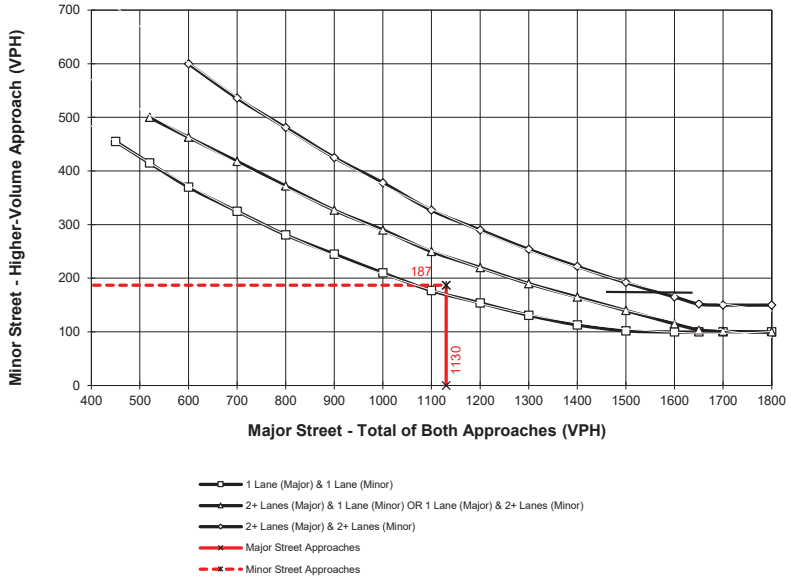
Figure 4C-3. Warrant 3, Peak Hour

Traffic Conditions = **EAC (2024) PM PEAK HOUR WARRANTS**

Major Street Name = **Main St.**
Total of Both Approaches (VPH) = **1,130**
Number of Approach Lanes on Major Street = **1**

Minor Street Name = **Vernon Av.**
High Volume Approach (VPH) = **187**
Number of Approach Lanes On Minor Street = **1**

WARRANTED FOR A SIGNAL



*Note: 150 vph applies as the lower threshold for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold for a minor-street approach with one lane

Intersection ID: #7

F:\UXRjobs_14100-14500\14573\LOS\Signal Warrants\02 - EAC\07U_PM\Fig 4C-3 (Urban Peak)

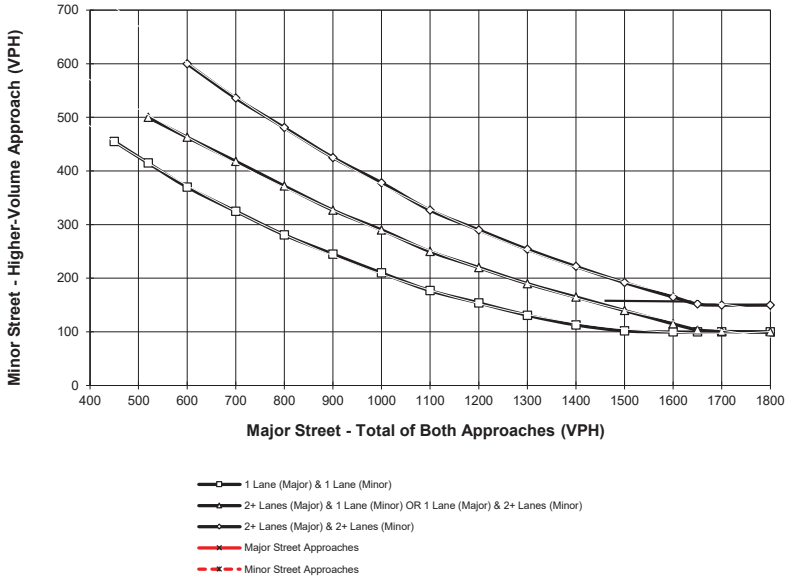
Figure 4C-3. Warrant 3, Peak Hour

Traffic Conditions = **EAPC AM PEAK HOUR WARRANTS**

Major Street Name = **1st St.**
Total of Both Approaches (VPH) = **367**
Number of Approach Lanes on Major Street = **1**

Minor Street Name = **Alessandro Av.**
High Volume Approach (VPH) = **126**
Number of Approach Lanes On Minor Street = **1**

SIGNAL WARRANT NOT SATISFIED



*Note: 150 vph applies as the lower threshold for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold for a minor-street approach with one lane

Intersection ID: #4

F:\UXRjobs_14100-14500\14573\LOS\Signal Warrants\03 - EAPC\04U_AM\Fig 4C-3 (Urban Peak)

California MUTCD 2014 Edition
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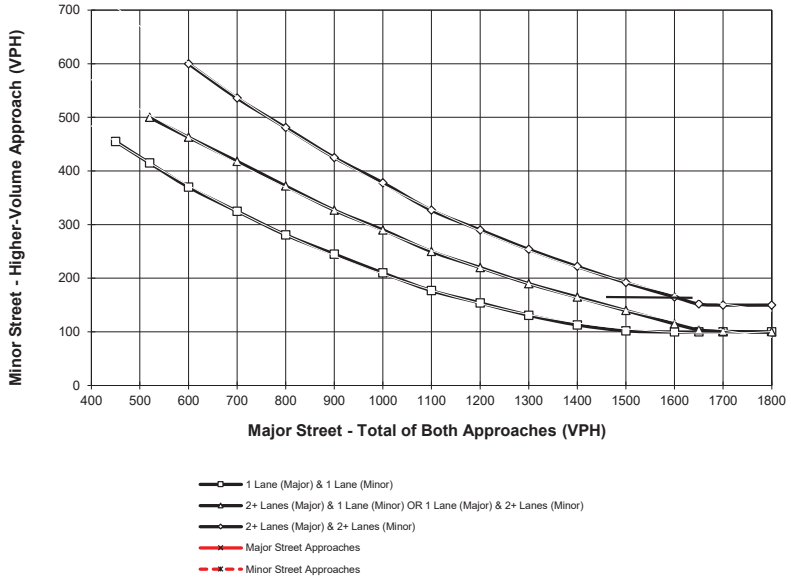
Figure 4C-3. Warrant 3, Peak Hour

Traffic Conditions = **EAPC PM PEAK HOUR WARRANTS**

Major Street Name = **Alessandro Av.**
Total of Both Approaches (VPH) = **256**
Number of Approach Lanes on Major Street = **1**

Minor Street Name = **1st St.**
High Volume Approach (VPH) = **128**
Number of Approach Lanes On Minor Street = **1**

SIGNAL WARRANT NOT SATISFIED



*Note: 150 vph applies as the lower threshold for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold for a minor-street approach with one lane

Intersection ID: #4

F:\UXRjobs_14100-14500\14573\LOS\Signal Warrants\03 - EAPC\04U_PM\Fig 4C-3 (Urban Peak)

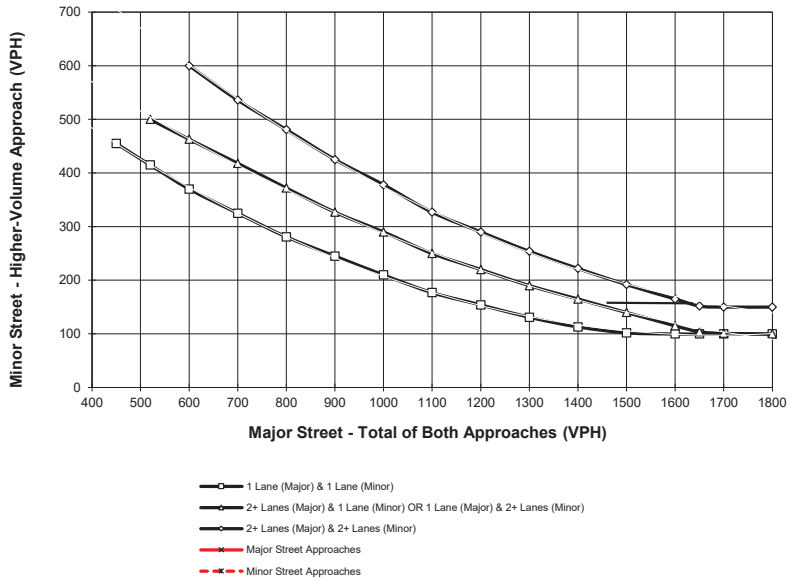
Figure 4C-3. Warrant 3, Peak Hour

Traffic Conditions = **EAPC AM PEAK HOUR WARRANTS**

Major Street Name = **Vernon Av.**
Total of Both Approaches (VPH) = **362**
Number of Approach Lanes on Major Street = **1**

Minor Street Name = **1st St.**
High Volume Approach (VPH) = **76**
Number of Approach Lanes On Minor Street = **1**

SIGNAL WARRANT NOT SATISFIED



*Note: 150 vph applies as the lower threshold for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold for a minor-street approach with one lane

Intersection ID: #5

F:\UXRjobs_14100-14500\14573\LOS\Signal Warrants\03 - EAPC\05U_AM\Fig 4C-3 (Urban Peak)

California MUTCD 2014 Edition
(FHWA's MUTCD 2009, as amended for use in California)

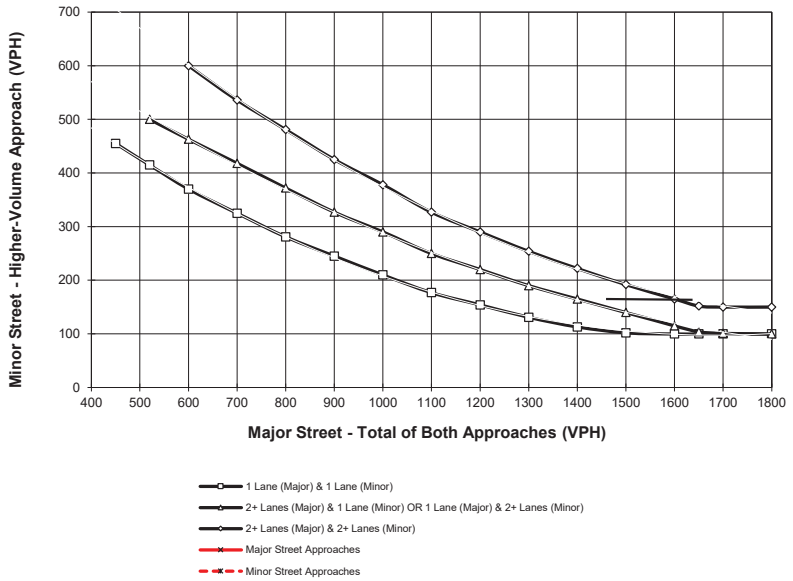
Figure 4C-3. Warrant 3, Peak Hour

Traffic Conditions = **EAPC PM PEAK HOUR WARRANTS**

Major Street Name = **Vernon Av.**
Total of Both Approaches (VPH) = **394**
Number of Approach Lanes on Major Street = **1**

Minor Street Name = **1st St.**
High Volume Approach (VPH) = **64**
Number of Approach Lanes On Minor Street = **1**

SIGNAL WARRANT NOT SATISFIED



*Note: 150 vph applies as the lower threshold for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold for a minor-street approach with one lane

Intersection ID: #5

F:\UXRjobs_14100-14500\14573\LOS\Signal Warrants\03 - EAPC\05U_PM\Fig 4C-3 (Urban Peak)

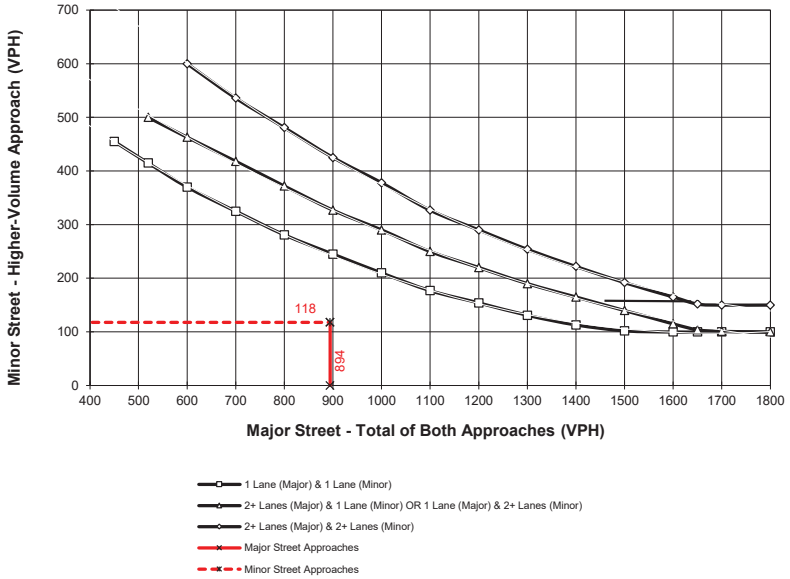
Figure 4C-3. Warrant 3, Peak Hour

Traffic Conditions = **EAPC AM PEAK HOUR WARRANTS**

Major Street Name = **Main St.**
Total of Both Approaches (VPH) = **894**
Number of Approach Lanes on Major Street = **1**

Minor Street Name = **Alessandro Av.**
High Volume Approach (VPH) = **118**
Number of Approach Lanes On Minor Street = **1**

SIGNAL WARRANT NOT SATISFIED



*Note: 150 vph applies as the lower threshold for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold for a minor-street approach with one lane

Intersection ID: #6

F:\UXRjobs_14100-14500\14573\LOS\Signal Warrants\03 - EAPC\06U_AM\Fig 4C-3 (Urban Peak)

California MUTCD 2014 Edition
(FHWA's MUTCD 2009, as amended for use in California)

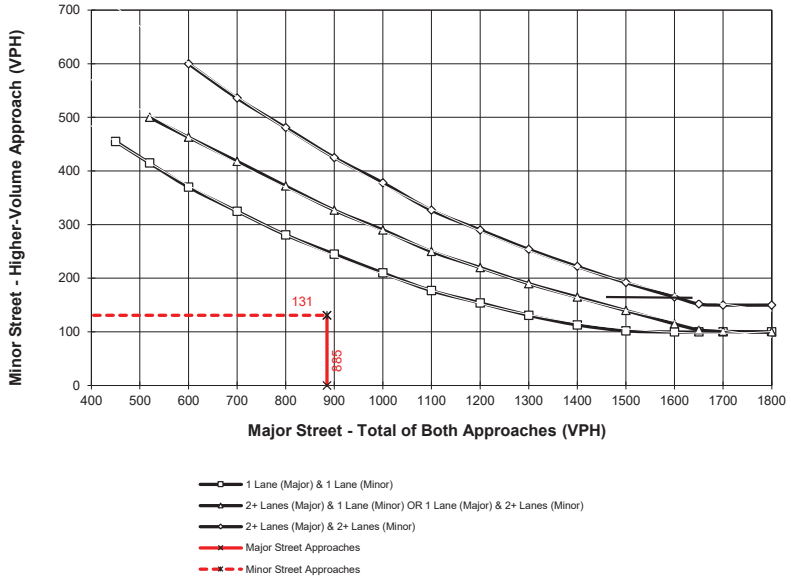
Figure 4C-3. Warrant 3, Peak Hour

Traffic Conditions = **EAPC PM PEAK HOUR WARRANTS**

Major Street Name = **Main St.**
Total of Both Approaches (VPH) = **885**
Number of Approach Lanes on Major Street = **1**

Minor Street Name = **Alessandro Av.**
High Volume Approach (VPH) = **131**
Number of Approach Lanes On Minor Street = **1**

SIGNAL WARRANT NOT SATISFIED



*Note: 150 vph applies as the lower threshold for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold for a minor-street approach with one lane

Intersection ID: #6

F:\UXRjobs_14100-14500\14573\LOS\Signal Warrants\03 - EAPC\06U_PM\Fig 4C-3 (Urban Peak)

Figure 4C-103 (CA). Traffic Signal Warrants Worksheet
(Average Traffic Estimate Form)

___ DIST	___ CO	___ RTE	___ PM	TRAFFIC CONDITIONS		EAPC
				CALC JC	DATE	02/18/22
Jurisdiction: **City of San Jacinto**				CHK	DATE	
Major Street: **Alessandro Av.**				Critical Approach Speed (Major)		35 mph
Minor Street: **St. 'A'**				Critical Approach Speed (Minor)		30 mph

Major Street Approach Lanes = **1** lane Minor Street Approach Lanes **1** lane

Major Street Future ADT = **2,850** vpd Minor Street Future ADT = **213** vpd

Speed limit or critical speed on major street traffic > 64 km/h (40 mph); …….. [ ]

or **URBAN (U)**

In built up area of isolated community of < 10,000 population …….. [ ]

(Based on Estimated Average Daily Traffic - See Note)

URBAN / RURAL	Minimum Requirements ADT: Vehicles Per Day on Major Street (Total of Both Approaches)		Minimum Requirements ADT: Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
XX	Urban	Rural	Urban	Rural
CONDITION A - Minimum Vehicular Volume				
Satisfied / Not Satisfied **XX**				
Number of lanes for moving traffic on each approach				
Major Street / Minor Street				
1 **2,850** / *1* **213**	8,000	5,600	2,400	1,680
2 + / *1*	9,600	6,720	2,400	1,680
2 + / *2* +	9,600	6,720	3,200	2,240
1 / *2* +	8,000	5,600	3,200	2,240
CONDITION B - Interruption of Continuous Traffic				
Satisfied / Not Satisfied **XX**				
Number of lanes for moving traffic on each approach				
Major Street / Minor Street				
1 **2,850** / *1* **213**	12,000	8,400	1,200	850
2 + / *1*	14,400	10,080	1,200	850
2 + / *2* +	14,400	10,080	1,600	1,120
1 / *2* +	12,000	8,400	1,600	1,120
Combination of CONDITIONS A + B				
Satisfied / Not Satisfied **XX**				
No one condition satisfied, but following conditions fulfilled 80% of more ….. **A** **9%** **B** **18%**	2 CONDITIONS 80%		2 CONDITIONS 80%	

Note: To be used only for NEW INTERSECTIONS or other locations where it is not reasonable to count actual traffic volumes.

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

Figure 4C-103 (CA). Traffic Signal Warrants Worksheet (Average Traffic Estimate Form)

DIST	CO	RTE	PM	TRAFFIC CONDITIONS	EAPC
				CALC JC	DATE 02/18/22
				CHK	DATE

Jurisdiction: **City of San Jacinto**
Major Street: **Alessandro Av.**
Minor Street: **St. 'G'**

Critical Approach Speed (Major) 35 mph
Critical Approach Speed (Minor) 30 mph

Major Street Approach Lanes = **1** lane
Minor Street Approach Lanes **1** lane

Major Street Future ADT = **2,814** vpd
Minor Street Future ADT = **177** vpd

Speed limit or critical speed on major street traffic > 64 km/h (40 mph); ……..
or
In built up area of isolated community of < 10,000 population ……..

URBAN (U)

(Based on Estimated Average Daily Traffic - See Note)

URBAN XX | RURAL

CONDITION A - Minimum Vehicular Volume

Satisfied | Not Satisfied XX

Number of lanes for moving traffic on each approach

Major Street	Minor Street	Minimum Requirements ADT: Vehicles Per Day on Major Street (Total of Both Approaches) Urban	Rural	Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only) Urban	Rural
1 **2,814**	1 **177**	8,000	5,600	2,400	1,680
2 +	1	9,600	6,720	2,400	1,680
2 +	2 +	9,600	6,720	3,200	2,240
1	2 +	8,000	5,600	3,200	2,240

CONDITION B - Interruption of Continuous Traffic

Satisfied | Not Satisfied XX

Number of lanes for moving traffic on each approach

Major Street	Minor Street	Vehicles Per Day on Major Street (Total of Both Approaches) Urban	Rural	Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only) Urban	Rural
1 **2,814**	1 **177**	12,000	8,400	1,200	850
2 +	1	14,400	10,080	1,200	850
2 +	2 +	14,400	10,080	1,600	1,120
1	2 +	12,000	8,400	1,600	1,120

Combination of CONDITIONS A + B

Satisfied | Not Satisfied XX

No one condition satisfied, but following conditions fulfilled 80% of more ….. A 7% B 15%

2 CONDITIONS 80%

2 CONDITIONS 80%

Note: To be used only for NEW INTERSECTIONS or other locations where it is not reasonable to count actual traffic volumes.

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

Figure 4C-103 (CA). Traffic Signal Warrants Worksheet
(Average Traffic Estimate Form)

___ DIST	___ CO	___ RTE	___ PM	TRAFFIC CONDITIONS		EAPC
				CALC JC	DATE	02/18/22
Jurisdiction: **City of San Jacinto**				CHK	DATE	
Major Street: **Vernon St.**				Critical Approach Speed (Major)		35 mph
Minor Street: **St. 'E'**				Critical Approach Speed (Minor)		30 mph

Major Street Approach Lanes = **1** lane Minor Street Approach Lanes = **1** lane

Major Street Future ADT = **3,268** vpd Minor Street Future ADT = **322** vpd

Speed limit or critical speed on major street traffic > 64 km/h (40 mph); …….. [ ]

or **URBAN (U)**

In built up area of isolated community of < 10,000 population …….. [ ]

(Based on Estimated Average Daily Traffic - See Note)

URBAN / RURAL	Minimum Requirements ADT			
	Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
CONDITION A - Minimum Vehicular Volume				
Satisfied: XX / Not Satisfied: XX				
Number of lanes for moving traffic on each approach				
Major Street / Minor Street	Urban	Rural	Urban	Rural
1 **3,268** / 1 **322**	8,000	5,600	2,400	1,680
2 + / 1	9,600	6,720	2,400	1,680
2 + / 2 +	9,600	6,720	3,200	2,240
1 / 2 +	8,000	5,600	3,200	2,240
CONDITION B - Interruption of Continuous Traffic	Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
Satisfied / Not Satisfied: XX				
Number of lanes for moving traffic on each approach				
Major Street / Minor Street	Urban	Rural	Urban	Rural
1 **3,268** / 1 **322**	12,000	8,400	1,200	850
2 + / 1	14,400	10,080	1,200	850
2 + / 2 +	14,400	10,080	1,600	1,120
1 / 2 +	12,000	8,400	1,600	1,120
Combination of CONDITIONS A + B				
Satisfied / Not Satisfied: XX	2 CONDITIONS 80%		2 CONDITIONS 80%	
No one condition satisfied, but following conditions fulfilled 80% of more ….. A: 13% B: 27%				

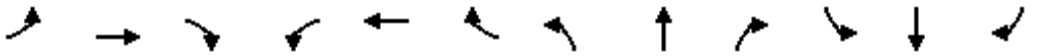
Note: To be used only for NEW INTERSECTIONS or other locations where it is not reasonable to count actual traffic volumes.

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

APPENDIX 5.1:

EAC (2024) CONDITIONS INTERSECTION OPERATIONS ANALYSIS WORKSHEETS

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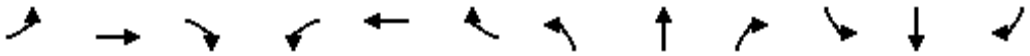
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	117	675	507	199	743	292	377	478	142	110	244	51
Future Volume (vph)	117	675	507	199	743	292	377	478	142	110	244	51
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	210		170	275		200	170		105	140		50
Storage Lanes	2		1	2		1	1		1	1		1
Taper Length (ft)	90			90			90			90		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		55			55			45			45	
Link Distance (ft)		596			1310			710			927	
Travel Time (s)		7.4			16.2			10.8			14.0	
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
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
Shared Lane Traffic (%)												

Intersection Summary	
Area Type:	Other

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	117	675	507	199	743	292	377	478	142	110	244	51
Future Volume (veh/h)	117	675	507	199	743	292	377	478	142	110	244	51
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		0.99
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	127	734	551	216	808	317	410	520	154	120	265	55
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	190	1572	485	283	1709	528	446	1230	546	150	640	283
Arrive On Green	0.06	0.31	0.31	0.08	0.33	0.33	0.25	0.35	0.35	0.08	0.18	0.18
Sat Flow, veh/h	3456	5106	1577	3456	5106	1578	1781	3554	1578	1781	3554	1572
Grp Volume(v), veh/h	127	734	551	216	808	317	410	520	154	120	265	55
Grp Sat Flow(s),veh/h/ln	1728	1702	1577	1728	1702	1578	1781	1777	1578	1781	1777	1572
Q Serve(g_s), s	3.6	11.6	30.8	6.1	12.5	16.7	22.4	11.2	7.1	6.6	6.6	3.0
Cycle Q Clear(g_c), s	3.6	11.6	30.8	6.1	12.5	16.7	22.4	11.2	7.1	6.6	6.6	3.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	190	1572	485	283	1709	528	446	1230	546	150	640	283
V/C Ratio(X)	0.67	0.47	1.13	0.76	0.47	0.60	0.92	0.42	0.28	0.80	0.41	0.19
Avail Cap(c_a), veh/h	276	1572	485	328	1709	528	525	1230	546	237	640	283
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	46.3	28.0	34.6	45.0	26.3	27.7	36.5	25.0	23.7	45.0	36.3	34.8
Incr Delay (d2), s/veh	4.0	1.0	83.4	8.8	0.9	5.0	19.6	1.1	1.3	9.9	2.0	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	1.6	4.5	22.2	2.8	4.8	6.7	11.6	4.6	2.7	3.2	2.9	1.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	50.3	29.0	118.0	53.7	27.2	32.7	56.1	26.1	25.0	54.9	38.3	36.4
LnGrp LOS	D	C	F	D	C	C	E	C	C	D	D	D
Approach Vol, veh/h		1412			1341			1084			440	
Approach Delay, s/veh		65.7			32.8			37.3			42.6	
Approach LOS		E			C			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.7	35.3	29.5	22.5	10.0	38.0	12.9	39.1
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	9.5	25.0	29.5	18.0	8.0	26.5	13.3	34.2
Max Q Clear Time (g_c+I1), s	8.1	32.8	24.4	8.6	5.6	18.7	8.6	13.2
Green Ext Time (p_c), s	0.1	0.0	0.6	1.1	0.1	3.6	0.1	3.6

Intersection Summary	
HCM 6th Ctrl Delay	45.8
HCM 6th LOS	D



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1	807	64	1	1198	4	83	1	2	1	1	3
Future Volume (vph)	1	807	64	1	1198	4	83	1	2	1	1	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	300		100	300		0	35		0	35		0
Storage Lanes	1		1	1		0	1		0	1		0
Taper Length (ft)	90			90			60			60		
Link Speed (mph)		55			55			45			30	
Link Distance (ft)		2281			1381			545			687	
Travel Time (s)		28.3			17.1			8.3			15.6	
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Shared Lane Traffic (%)												

Intersection Summary	
Area Type:	Other

Intersection	
Int Delay, s/veh	11.1

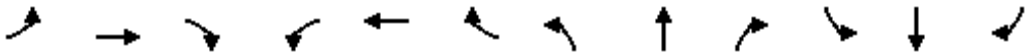
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	1	807	64	1	1198	4	83	1	2	1	1	3
Future Vol, veh/h	1	807	64	1	1198	4	83	1	2	1	1	3
Conflicting Peds, #/hr	5	0	5	5	0	5	5	0	5	5	0	5
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	300	-	100	300	-	-	35	-	-	35	-	-
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	1	887	70	1	1316	4	91	1	2	1	1	3

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1325	0	0	962	0	0	1560	2221	454	1776	2289	670
Stage 1	-	-	-	-	-	-	894	894	-	1325	1325	-
Stage 2	-	-	-	-	-	-	666	1327	-	451	964	-
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	517	-	-	711	-	-	~ 76	43	553	52	39	399
Stage 1	-	-	-	-	-	-	302	358	-	164	223	-
Stage 2	-	-	-	-	-	-	415	223	-	557	332	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	515	-	-	708	-	-	~ 73	42	548	50	38	395
Mov Cap-2 Maneuver	-	-	-	-	-	-	~ 73	42	-	50	38	-
Stage 1	-	-	-	-	-	-	300	355	-	163	222	-
Stage 2	-	-	-	-	-	-	407	222	-	549	330	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0	277.6	45.1
HCM LOS			F	E

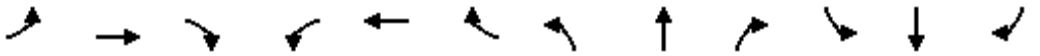
Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	73	109	515	-	-	708	-	-	50	118
HCM Lane V/C Ratio	1.249	0.03	0.002	-	-	0.002	-	-	0.022	0.037
HCM Control Delay (s)	286.2	39.1	12	-	-	10.1	-	-	78.6	36.7
HCM Lane LOS	F	E	B	-	-	B	-	-	F	E
HCM 95th %tile Q(veh)	7.1	0.1	0	-	-	0	-	-	0.1	0.1

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1	807	64	1	1198	4	83	1	2	1	1	3
Future Volume (vph)	1	807	64	1	1198	4	83	1	2	1	1	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	300		100	300		0	35		0	35		0
Storage Lanes	1		1	1		0	1		0	1		0
Taper Length (ft)	90			90			60			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		55			55			45			30	
Link Distance (ft)		2281			1381			545			687	
Travel Time (s)		28.3			17.1			8.3			15.6	
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Shared Lane Traffic (%)												

Intersection Summary	
Area Type:	Other



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1	807	64	1	1198	4	83	1	2	1	1	3
Future Volume (veh/h)	1	807	64	1	1198	4	83	1	2	1	1	3
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	1	887	70	1	1316	4	91	1	2	1	1	3
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	3	1683	747	3	1721	5	539	166	333	540	123	369
Arrive On Green	0.00	0.47	0.47	0.00	0.16	0.16	0.30	0.30	0.30	0.30	0.30	0.30
Sat Flow, veh/h	1781	3554	1577	1781	3634	11	1405	555	1109	1407	410	1231
Grp Volume(v), veh/h	1	887	70	1	643	677	91	0	3	1	0	4
Grp Sat Flow(s),veh/h/ln	1781	1777	1577	1781	1777	1868	1405	0	1664	1407	0	1641
Q Serve(g_s), s	0.0	10.5	1.5	0.0	20.8	20.8	2.9	0.0	0.1	0.0	0.0	0.1
Cycle Q Clear(g_c), s	0.0	10.5	1.5	0.0	20.8	20.8	3.0	0.0	0.1	0.1	0.0	0.1
Prop In Lane	1.00		1.00	1.00		0.01	1.00		0.67	1.00		0.75
Lane Grp Cap(c), veh/h	3	1683	747	3	842	885	539	0	499	540	0	492
V/C Ratio(X)	0.34	0.53	0.09	0.34	0.76	0.76	0.17	0.00	0.01	0.00	0.00	0.01
Avail Cap(c_a), veh/h	148	1683	747	148	842	885	539	0	499	540	0	492
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.81	0.81	0.81	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	29.9	11.1	8.7	30.0	22.1	22.1	15.8	0.0	14.7	14.8	0.0	14.7
Incr Delay (d2), s/veh	56.0	1.2	0.2	46.6	5.4	5.1	0.7	0.0	0.0	0.0	0.0	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	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	3.1	0.4	0.1	10.6	11.0	0.9	0.0	0.0	0.0	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	85.9	12.3	8.9	76.6	27.5	27.2	16.5	0.0	14.8	14.8	0.0	14.8
LnGrp LOS	F	B	A	E	C	C	B	A	B	B	A	B
Approach Vol, veh/h		958			1321			94			5	
Approach Delay, s/veh		12.1			27.4			16.4			14.8	
Approach LOS		B			C			B			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	4.6	32.9		22.5	4.6	32.9		22.5				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	5.0	23.5		18.0	5.0	23.5		18.0				
Max Q Clear Time (g_c+I1), s	2.0	12.5		2.1	2.0	22.8		5.0				
Green Ext Time (p_c), s	0.0	4.2		0.0	0.0	0.5		0.1				

Intersection Summary												
HCM 6th Ctrl Delay			20.8									
HCM 6th LOS			C									



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	732	77	2	1064	138	7
Future Volume (vph)	732	77	2	1064	138	7
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		300	200		175	0
Storage Lanes		1	1		1	1
Taper Length (ft)			90		90	
Right Turn on Red		Yes				Yes
Link Speed (mph)	55			55	30	
Link Distance (ft)	1381			386	451	
Travel Time (s)	17.1			4.8	10.3	
Confl. Peds. (#/hr)		5	5		5	5
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Shared Lane Traffic (%)						

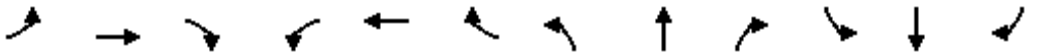
Intersection Summary	
Area Type:	Other



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	732	77	2	1064	138	7
Future Volume (veh/h)	732	77	2	1064	138	7
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		0.99	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	779	82	2	1132	147	7
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	1649	731	5	1925	549	489
Arrive On Green	0.46	0.46	0.00	0.54	0.31	0.31
Sat Flow, veh/h	3647	1577	1781	3647	1781	1585
Grp Volume(v), veh/h	779	82	2	1132	147	7
Grp Sat Flow(s),veh/h/ln	1777	1577	1781	1777	1781	1585
Q Serve(g_s), s	9.0	1.8	0.1	12.9	3.7	0.2
Cycle Q Clear(g_c), s	9.0	1.8	0.1	12.9	3.7	0.2
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	1649	731	5	1925	549	489
V/C Ratio(X)	0.47	0.11	0.41	0.59	0.27	0.01
Avail Cap(c_a), veh/h	1649	731	163	1925	549	489
HCM Platoon Ratio	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
Uniform Delay (d), s/veh	11.0	9.1	29.9	9.2	15.6	14.4
Incr Delay (d2), s/veh	1.0	0.3	47.3	1.3	1.2	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.7	0.5	0.1	3.4	1.6	0.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	12.0	9.4	77.2	10.6	16.8	14.5
LnGrp LOS	B	A	E	B	B	B
Approach Vol, veh/h	861			1134	154	
Approach Delay, s/veh	11.8			10.7	16.7	
Approach LOS	B			B	B	

Timer - Assigned Phs	1	2				6	8
Phs Duration (G+Y+Rc), s	4.7	32.3				37.0	23.0
Change Period (Y+Rc), s	4.5	4.5				4.5	4.5
Max Green Setting (Gmax), s	5.5	22.5				32.5	18.5
Max Q Clear Time (g_c+I1), s	2.1	11.0				14.9	5.7
Green Ext Time (p_c), s	0.0	3.8				6.7	0.3

Intersection Summary			
HCM 6th Ctrl Delay		11.6	
HCM 6th LOS		B	



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	21	131	31	1	161	18	36	55	3	8	76	22
Future Volume (vph)	21	131	31	1	161	18	36	55	3	8	76	22
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	50		50	0		50	0		50	0		50
Storage Lanes	0		1	0		1	0		1	0		1
Taper Length (ft)	90			90			90			90		
Link Speed (mph)		30			30			45			45	
Link Distance (ft)		799			1333			1318			3757	
Travel Time (s)		18.2			30.3			20.0			56.9	
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81
Shared Lane Traffic (%)												

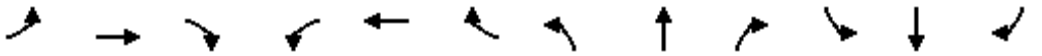
Intersection Summary	
Area Type:	Other

Intersection	
Intersection Delay, s/veh	10.1
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	21	131	31	1	161	18	36	55	3	8	76	22
Future Vol, veh/h	21	131	31	1	161	18	36	55	3	8	76	22
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	26	162	38	1	199	22	44	68	4	10	94	27
Number of Lanes	0	1	1	0	1	1	0	1	1	0	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	2	2
HCM Control Delay	10.1	10.4	10.2	9.5
HCM LOS	B	B	B	A

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	40%	0%	14%	0%	1%	0%	10%	0%
Vol Thru, %	60%	0%	86%	0%	99%	0%	90%	0%
Vol Right, %	0%	100%	0%	100%	0%	100%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	91	3	152	31	162	18	84	22
LT Vol	36	0	21	0	1	0	8	0
Through Vol	55	0	131	0	161	0	76	0
RT Vol	0	3	0	31	0	18	0	22
Lane Flow Rate	112	4	188	38	200	22	104	27
Geometry Grp	7	7	7	7	7	7	7	7
Degree of Util (X)	0.192	0.005	0.289	0.051	0.304	0.029	0.172	0.039
Departure Headway (Hd)	6.146	5.238	5.538	4.763	5.477	4.769	5.984	5.229
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	588	687	642	742	648	741	604	689
Service Time	3.849	2.941	3.333	2.558	3.273	2.563	3.684	2.929
HCM Lane V/C Ratio	0.19	0.006	0.293	0.051	0.309	0.03	0.172	0.039
HCM Control Delay	10.3	8	10.6	7.8	10.7	7.7	9.9	8.1
HCM Lane LOS	B	A	B	A	B	A	A	A
HCM 95th-tile Q	0.7	0	1.2	0.2	1.3	0.1	0.6	0.1



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	9	48	18	3	51	12	33	129	3	6	149	10
Future Volume (vph)	9	48	18	3	51	12	33	129	3	6	149	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		50	0		50	0		50	0		50
Storage Lanes	0		1	0		1	0		1	0		1
Taper Length (ft)	90			90			90			90		
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1333			785			1313			4316	
Travel Time (s)		30.3			17.8			29.8			98.1	
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
Shared Lane Traffic (%)												

Intersection Summary	
Area Type:	Other

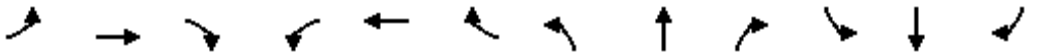
Intersection	
Int Delay, s/veh	8.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑	↱		↑	↱		↑	↱		↑	↱
Traffic Vol, veh/h	9	48	18	3	51	12	33	129	3	6	149	10
Future Vol, veh/h	9	48	18	3	51	12	33	129	3	6	149	10
Conflicting Peds, #/hr	5	0	5	5	0	5	5	0	5	5	0	5
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	50	-	-	50	-	-	50	-	-	50
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	82	82	82	82	82	82	82	82	82	82	82	82
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	11	59	22	4	62	15	40	157	4	7	182	12

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	82	0	0	86	0	0	266	176	69	253	183	72
Stage 1	-	-	-	-	-	-	86	86	-	75	75	-
Stage 2	-	-	-	-	-	-	180	90	-	178	108	-
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	1515	-	-	1510	-	-	687	717	994	700	711	990
Stage 1	-	-	-	-	-	-	922	824	-	934	833	-
Stage 2	-	-	-	-	-	-	822	820	-	824	806	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1508	-	-	1503	-	-	532	702	985	567	696	981
Mov Cap-2 Maneuver	-	-	-	-	-	-	532	702	-	567	696	-
Stage 1	-	-	-	-	-	-	910	813	-	922	826	-
Stage 2	-	-	-	-	-	-	628	813	-	654	796	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.9	0.3	12.7	12
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	659	985	1508	-	-	1503	-	-	690	981
HCM Lane V/C Ratio	0.3	0.004	0.007	-	-	0.002	-	-	0.274	0.012
HCM Control Delay (s)	12.8	8.7	7.4	0	-	7.4	0	-	12.2	8.7
HCM Lane LOS	B	A	A	A	-	A	A	-	B	A
HCM 95th %tile Q(veh)	1.3	0	0	-	-	0	-	-	1.1	0



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	14	394	3	3	414	59	1	17	2	53	26	23
Future Volume (vph)	14	394	3	3	414	59	1	17	2	53	26	23
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		0	100		0	0		50	0		50
Storage Lanes	1		0	1		0	0		1	0		1
Taper Length (ft)	60			60			90			90		
Link Speed (mph)		30			30			45			45	
Link Distance (ft)		721			1329			455			1318	
Travel Time (s)		16.4			30.2			6.9			20.0	
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Shared Lane Traffic (%)												

Intersection Summary	
Area Type:	Other

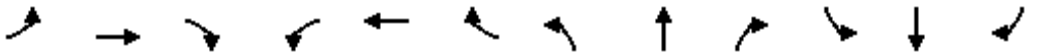
Intersection	
Int Delay, s/veh	3.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	14	394	3	3	414	59	1	17	2	53	26	23
Future Vol, veh/h	14	394	3	3	414	59	1	17	2	53	26	23
Conflicting Peds, #/hr	5	0	5	5	0	5	5	0	5	5	0	5
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	100	-	-	-	-	50	-	-	50
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	16	438	3	3	460	66	1	19	2	59	29	26

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	531	0	0	446	0	0	1009	1014	450	991	982	503
Stage 1	-	-	-	-	-	-	477	477	-	504	504	-
Stage 2	-	-	-	-	-	-	532	537	-	487	478	-
Critical Hdwy	4.12	-	-	4.12	-	-	7	6.52	6.22	7	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	1036	-	-	1114	-	-	226	239	609	233	249	569
Stage 1	-	-	-	-	-	-	569	556	-	550	541	-
Stage 2	-	-	-	-	-	-	531	523	-	562	556	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1031	-	-	1109	-	-	191	232	603	213	242	564
Mov Cap-2 Maneuver	-	-	-	-	-	-	191	232	-	213	242	-
Stage 1	-	-	-	-	-	-	558	544	-	539	537	-
Stage 2	-	-	-	-	-	-	476	519	-	530	544	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.3	0.1	21.1	27
HCM LOS			C	D

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	229	603	1031	-	-	1109	-	-	222	564
HCM Lane V/C Ratio	0.087	0.004	0.015	-	-	0.003	-	-	0.395	0.045
HCM Control Delay (s)	22.2	11	8.5	-	-	8.3	-	-	31.4	11.7
HCM Lane LOS	C	B	A	-	-	A	-	-	D	B
HCM 95th %tile Q(veh)	0.3	0	0	-	-	0	-	-	1.8	0.1



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	75	428	10	51	453	28	14	68	91	27	57	100
Future Volume (vph)	75	428	10	51	453	28	14	68	91	27	57	100
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		0	100		0	0		50	0		50
Storage Lanes	1		0	1		0	0		1	0		1
Taper Length (ft)	60			60			90			90		
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1329			729			417			1313	
Travel Time (s)		30.2			16.6			9.5			29.8	
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Shared Lane Traffic (%)												

Intersection Summary	
Area Type:	Other

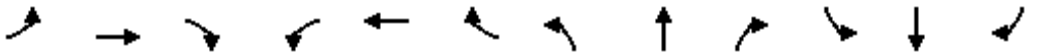
Intersection	
Int Delay, s/veh	20.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	75	428	10	51	453	28	14	68	91	27	57	100
Future Vol, veh/h	75	428	10	51	453	28	14	68	91	27	57	100
Conflicting Peds, #/hr	5	0	5	5	0	5	5	0	5	5	0	5
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	100	-	-	-	-	50	-	-	50
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	83	476	11	57	503	31	16	76	101	30	63	111

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	539	0	0	492	0	0	1378	1306	492	1379	1296	529
Stage 1	-	-	-	-	-	-	653	653	-	638	638	-
Stage 2	-	-	-	-	-	-	725	653	-	741	658	-
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	1029	-	-	1071	-	-	122	160	577	122	162	550
Stage 1	-	-	-	-	-	-	456	464	-	465	471	-
Stage 2	-	-	-	-	-	-	416	464	-	408	461	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1024	-	-	1066	-	-	56	138	572	51	140	545
Mov Cap-2 Maneuver	-	-	-	-	-	-	56	138	-	51	140	-
Stage 1	-	-	-	-	-	-	417	424	-	425	444	-
Stage 2	-	-	-	-	-	-	267	437	-	252	421	-

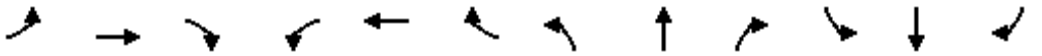
Approach	EB	WB	NB	SB
HCM Control Delay, s	1.3	0.8	61.7	94.1
HCM LOS			F	F

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	110	572	1024	-	-	1066	-	-	90	545
HCM Lane V/C Ratio	0.828	0.177	0.081	-	-	0.053	-	-	1.037	0.204
HCM Control Delay (s)	116.1	12.6	8.8	-	-	8.6	-	-	190.2	13.3
HCM Lane LOS	F	B	A	-	-	A	-	-	F	B
HCM 95th %tile Q(veh)	4.8	0.6	0.3	-	-	0.2	-	-	6.1	0.8



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	75	428	10	51	453	28	14	68	91	27	57	100
Future Volume (vph)	75	428	10	51	453	28	14	68	91	27	57	100
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		0	100		0	0		50	0		50
Storage Lanes	1		0	1		0	0		1	0		1
Taper Length (ft)	60			60			90			90		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1329			729			417			1313	
Travel Time (s)		30.2			16.6			9.5			29.8	
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Shared Lane Traffic (%)												

Intersection Summary	
Area Type:	Other



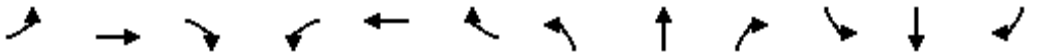
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	75	428	10	51	453	28	14	68	91	27	57	100
Future Volume (veh/h)	75	428	10	51	453	28	14	68	91	27	57	100
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	0.99		0.99	0.99		0.99
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	83	476	11	57	503	31	16	76	101	30	63	111
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	111	769	18	91	716	44	121	485	474	199	378	474
Arrive On Green	0.06	0.42	0.42	0.05	0.41	0.41	0.30	0.30	0.30	0.30	0.30	0.30
Sat Flow, veh/h	1781	1820	42	1781	1743	107	169	1608	1572	396	1253	1572
Grp Volume(v), veh/h	83	0	487	57	0	534	92	0	101	93	0	111
Grp Sat Flow(s),veh/h/ln	1781	0	1862	1781	0	1850	1777	0	1572	1649	0	1572
Q Serve(g_s), s	2.7	0.0	12.3	1.9	0.0	14.3	0.0	0.0	2.9	0.0	0.0	3.2
Cycle Q Clear(g_c), s	2.7	0.0	12.3	1.9	0.0	14.3	2.2	0.0	2.9	2.2	0.0	3.2
Prop In Lane	1.00		0.02	1.00		0.06	0.17		1.00	0.32		1.00
Lane Grp Cap(c), veh/h	111	0	786	91	0	760	606	0	474	577	0	474
V/C Ratio(X)	0.75	0.00	0.62	0.63	0.00	0.70	0.15	0.00	0.21	0.16	0.00	0.23
Avail Cap(c_a), veh/h	163	0	786	151	0	760	606	0	474	577	0	474
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	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	27.7	0.0	13.6	27.9	0.0	14.6	15.4	0.0	15.6	15.4	0.0	15.7
Incr Delay (d2), s/veh	10.0	0.0	3.6	6.9	0.0	5.4	0.5	0.0	1.0	0.6	0.0	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	1.4	0.0	5.2	0.9	0.0	6.3	0.9	0.0	1.1	1.0	0.0	1.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	37.7	0.0	17.2	34.8	0.0	20.0	15.9	0.0	16.7	16.0	0.0	16.9
LnGrp LOS	D	A	B	C	A	C	B	A	B	B	A	B
Approach Vol, veh/h		570			591			193			204	
Approach Delay, s/veh		20.2			21.4			16.3			16.5	
Approach LOS		C			C			B			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	7.6	29.8		22.6	8.2	29.2		22.6				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	5.1	23.3		18.1	5.5	22.9		18.1				
Max Q Clear Time (g_c+I1), s	3.9	14.3		5.2	4.7	16.3		4.9				
Green Ext Time (p_c), s	0.0	2.1		0.7	0.0	1.9		0.6				

Intersection Summary												
HCM 6th Ctrl Delay			19.7									
HCM 6th LOS			B									

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	148	925	521	188	720	173	442	514	142	273	449	111
Future Volume (vph)	148	925	521	188	720	173	442	514	142	273	449	111
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	210		170	275		200	170		105	140		50
Storage Lanes	2		1	2		1	1		1	1		1
Taper Length (ft)	90			90			90			90		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		55			55			45			45	
Link Distance (ft)		596			1310			710			927	
Travel Time (s)		7.4			16.2			10.8			14.0	
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
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
Shared Lane Traffic (%)												

Intersection Summary	
Area Type:	Other



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	148	925	521	188	720	173	442	514	142	273	449	111
Future Volume (veh/h)	148	925	521	188	720	173	442	514	142	273	449	111
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		0.99	1.00		0.99
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	156	974	548	198	758	182	465	541	149	287	473	117
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	222	1445	446	264	1507	465	500	989	439	325	640	283
Arrive On Green	0.06	0.28	0.28	0.08	0.30	0.30	0.28	0.28	0.28	0.18	0.18	0.18
Sat Flow, veh/h	3456	5106	1577	3456	5106	1577	1781	3554	1577	1781	3554	1572
Grp Volume(v), veh/h	156	974	548	198	758	182	465	541	149	287	473	117
Grp Sat Flow(s),veh/h/ln	1728	1702	1577	1728	1702	1577	1781	1777	1577	1781	1777	1572
Q Serve(g_s), s	4.4	16.9	28.3	5.6	12.3	9.2	25.4	13.0	7.5	15.7	12.6	6.6
Cycle Q Clear(g_c), s	4.4	16.9	28.3	5.6	12.3	9.2	25.4	13.0	7.5	15.7	12.6	6.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	222	1445	446	264	1507	465	500	989	439	325	640	283
V/C Ratio(X)	0.70	0.67	1.23	0.75	0.50	0.39	0.93	0.55	0.34	0.88	0.74	0.41
Avail Cap(c_a), veh/h	308	1445	446	294	1507	465	565	989	439	468	640	283
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	45.8	31.8	35.8	45.2	29.2	28.1	35.0	30.7	28.8	39.9	38.8	36.3
Incr Delay (d2), s/veh	4.2	2.5	121.0	9.3	1.2	2.5	20.9	2.2	2.1	13.2	7.5	4.4
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	1.9	6.7	25.2	2.6	4.8	3.6	13.2	5.6	3.0	7.7	5.9	2.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	50.0	34.3	156.8	54.5	30.4	30.5	55.9	32.9	30.9	53.1	46.3	40.7
LnGrp LOS	D	C	F	D	C	C	E	C	C	D	D	D
Approach Vol, veh/h		1678			1138			1155			877	
Approach Delay, s/veh		75.8			34.6			41.9			47.8	
Approach LOS		E			C			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.1	32.8	32.6	22.5	10.9	34.0	22.7	32.3
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	8.5	23.8	31.7	18.0	8.9	23.4	26.3	23.4
Max Q Clear Time (g_c+I1), s	7.6	30.3	27.4	14.6	6.4	14.3	17.7	15.0
Green Ext Time (p_c), s	0.1	0.0	0.6	1.1	0.1	3.4	0.5	2.5

Intersection Summary	
HCM 6th Ctrl Delay	53.0
HCM 6th LOS	D

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	1206	116	1	863	1	59	1	1	5	15	19
Future Volume (vph)	5	1206	116	1	863	1	59	1	1	5	15	19
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	300		100	300		0	35		0	35		0
Storage Lanes	1		1	1		0	1		0	1		0
Taper Length (ft)	90			90			60			60		
Link Speed (mph)		55			55			45			30	
Link Distance (ft)		2281			1381			545			687	
Travel Time (s)		28.3			17.1			8.3			15.6	
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
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
Shared Lane Traffic (%)												

Intersection Summary	
Area Type:	Other

Intersection	
Int Delay, s/veh	15

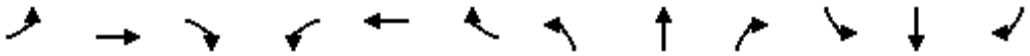
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	5	1206	116	1	863	1	59	1	1	5	15	19
Future Vol, veh/h	5	1206	116	1	863	1	59	1	1	5	15	19
Conflicting Peds, #/hr	5	0	5	5	0	5	5	0	5	5	0	5
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	300	-	100	300	-	-	35	-	-	35	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	97	97	97	97	97	97	97	97	97	97	97	97
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	5	1243	120	1	890	1	61	1	1	5	15	20

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	896	0	0	1368	0	0	1718	2156	632	1535	2276	456
Stage 1	-	-	-	-	-	-	1258	1258	-	898	898	-
Stage 2	-	-	-	-	-	-	460	898	-	637	1378	-
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	753	-	-	498	-	-	~ 58	47	423	79	40	551
Stage 1	-	-	-	-	-	-	181	241	-	301	356	-
Stage 2	-	-	-	-	-	-	551	356	-	432	210	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	749	-	-	496	-	-	~ 38	46	419	76	39	546
Mov Cap-2 Maneuver	-	-	-	-	-	-	~ 38	46	-	76	39	-
Stage 1	-	-	-	-	-	-	179	238	-	298	354	-
Stage 2	-	-	-	-	-	-	505	354	-	424	207	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0	$ 513.3	76.7
HCM LOS			F	F

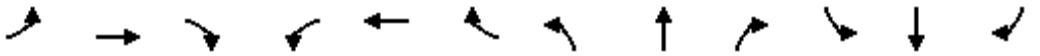
Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	38	83	749	-	-	496	-	-	76	81
HCM Lane V/C Ratio	1.601	0.025	0.007	-	-	0.002	-	-	0.068	0.433
HCM Control Delay (s)	$ 529	49.5	9.8	-	-	12.3	-	-	55.8	79.8
HCM Lane LOS	F	E	A	-	-	B	-	-	F	F
HCM 95th %tile Q(veh)	6.4	0.1	0	-	-	0	-	-	0.2	1.8

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	1206	116	1	863	1	59	1	1	5	15	19
Future Volume (vph)	5	1206	116	1	863	1	59	1	1	5	15	19
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	300		100	300		0	35		0	35		0
Storage Lanes	1		1	1		0	1		0	1		0
Taper Length (ft)	90			90			60			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		55			55			45			30	
Link Distance (ft)		2281			1381			545			687	
Travel Time (s)		28.3			17.1			8.3			15.6	
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
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
Shared Lane Traffic (%)												

Intersection Summary	
Area Type:	Other



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	5	1206	116	1	863	1	59	1	1	5	15	19
Future Volume (veh/h)	5	1206	116	1	863	1	59	1	1	5	15	19
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	5	1243	120	1	890	1	61	1	1	5	15	20
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	12	1683	747	3	1706	2	510	257	257	541	217	290
Arrive On Green	0.01	0.47	0.47	0.00	0.94	0.94	0.30	0.30	0.30	0.30	0.30	0.30
Sat Flow, veh/h	1781	3554	1577	1781	3642	4	1367	856	856	1408	725	966
Grp Volume(v), veh/h	5	1243	120	1	434	457	61	0	2	5	0	35
Grp Sat Flow(s),veh/h/ln	1781	1777	1577	1781	1777	1870	1367	0	1711	1408	0	1691
Q Serve(g_s), s	0.2	17.0	2.6	0.0	1.8	1.8	2.0	0.0	0.0	0.1	0.0	0.9
Cycle Q Clear(g_c), s	0.2	17.0	2.6	0.0	1.8	1.8	2.9	0.0	0.0	0.2	0.0	0.9
Prop In Lane	1.00		1.00	1.00		0.00	1.00		0.50	1.00		0.57
Lane Grp Cap(c), veh/h	12	1683	747	3	832	876	510	0	513	541	0	507
V/C Ratio(X)	0.42	0.74	0.16	0.34	0.52	0.52	0.12	0.00	0.00	0.01	0.00	0.07
Avail Cap(c_a), veh/h	148	1683	747	148	832	876	510	0	513	541	0	507
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.92	0.92	0.92	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	29.7	12.8	9.0	29.9	1.1	1.1	16.0	0.0	14.7	14.8	0.0	15.0
Incr Delay (d2), s/veh	22.0	2.9	0.5	52.1	2.1	2.0	0.5	0.0	0.0	0.0	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	0.1	5.2	0.7	0.1	0.8	0.8	0.6	0.0	0.0	0.0	0.0	0.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	51.7	15.7	9.5	82.0	3.2	3.1	16.5	0.0	14.7	14.8	0.0	15.3
LnGrp LOS	D	B	A	F	A	A	B	A	B	B	A	B
Approach Vol, veh/h		1368			892			63			40	
Approach Delay, s/veh		15.3			3.3			16.5			15.2	
Approach LOS		B			A			B			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	4.6	32.9		22.5	4.9	32.6		22.5				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	5.0	23.5		18.0	5.0	23.5		18.0				
Max Q Clear Time (g_c+I1), s	2.0	19.0		2.9	2.2	3.8		4.9				
Green Ext Time (p_c), s	0.0	3.0		0.1	0.0	4.7		0.1				

Intersection Summary												
HCM 6th Ctrl Delay			10.8									
HCM 6th LOS			B									



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	1071	140	8	787	78	5
Future Volume (vph)	1071	140	8	787	78	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		300	200		175	0
Storage Lanes		1	1		1	1
Taper Length (ft)			90		90	
Right Turn on Red		Yes				Yes
Link Speed (mph)	55			55	30	
Link Distance (ft)	1381			386	451	
Travel Time (s)	17.1			4.8	10.3	
Confl. Peds. (#/hr)		5	5		5	5
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Shared Lane Traffic (%)						

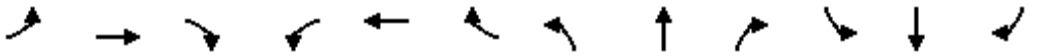
Intersection Summary	
Area Type:	Other



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	1071	140	8	787	78	5
Future Volume (veh/h)	1071	140	8	787	78	5
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		0.99	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	1116	146	8	820	81	5
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	1651	732	19	1955	534	476
Arrive On Green	0.46	0.46	0.01	0.55	0.30	0.30
Sat Flow, veh/h	3647	1577	1781	3647	1781	1585
Grp Volume(v), veh/h	1116	146	8	820	81	5
Grp Sat Flow(s),veh/h/ln	1777	1577	1781	1777	1781	1585
Q Serve(g_s), s	14.7	3.3	0.3	8.1	2.0	0.1
Cycle Q Clear(g_c), s	14.7	3.3	0.3	8.1	2.0	0.1
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	1651	732	19	1955	534	476
V/C Ratio(X)	0.68	0.20	0.43	0.42	0.15	0.01
Avail Cap(c_a), veh/h	1651	732	148	1955	534	476
HCM Platoon Ratio	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
Uniform Delay (d), s/veh	12.5	9.5	29.5	7.9	15.4	14.7
Incr Delay (d2), s/veh	2.2	0.6	15.1	0.7	0.6	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.5	0.9	0.2	2.0	0.8	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	14.8	10.1	44.6	8.6	16.0	14.8
LnGrp LOS	B	B	D	A	B	B
Approach Vol, veh/h	1262			828	86	
Approach Delay, s/veh	14.2			8.9	15.9	
Approach LOS	B			A	B	

Timer - Assigned Phs	1	2				6	8
Phs Duration (G+Y+Rc), s	5.1	32.4				37.5	22.5
Change Period (Y+Rc), s	4.5	4.5				4.5	4.5
Max Green Setting (Gmax), s	5.0	23.5				33.0	18.0
Max Q Clear Time (g_c+I1), s	2.3	16.7				10.1	4.0
Green Ext Time (p_c), s	0.0	3.9				5.0	0.1

Intersection Summary	
HCM 6th Ctrl Delay	12.3
HCM 6th LOS	B



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	10	94	18	2	66	4	12	66	1	14	110	22
Future Volume (vph)	10	94	18	2	66	4	12	66	1	14	110	22
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	50		50	0		50	0		50	0		50
Storage Lanes	0		1	0		1	0		1	0		1
Taper Length (ft)	90			90			90			90		
Link Speed (mph)		30			30			45			45	
Link Distance (ft)		799			1333			1318			3757	
Travel Time (s)		18.2			30.3			20.0			56.9	
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
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
Shared Lane Traffic (%)												

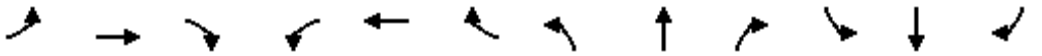
Intersection Summary	
Area Type:	Other

Intersection	
Intersection Delay, s/veh	8.9
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	10	94	18	2	66	4	12	66	1	14	110	22
Future Vol, veh/h	10	94	18	2	66	4	12	66	1	14	110	22
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
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	11	106	20	2	74	4	13	74	1	16	124	25
Number of Lanes	0	1	1	0	1	1	0	1	1	0	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	2	2
HCM Control Delay	8.9	8.7	8.9	9
HCM LOS	A	A	A	A

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	15%	0%	10%	0%	3%	0%	11%	0%
Vol Thru, %	85%	0%	90%	0%	97%	0%	89%	0%
Vol Right, %	0%	100%	0%	100%	0%	100%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	78	1	104	18	68	4	124	22
LT Vol	12	0	10	0	2	0	14	0
Through Vol	66	0	94	0	66	0	110	0
RT Vol	0	1	0	18	0	4	0	22
Lane Flow Rate	88	1	117	20	76	4	139	25
Geometry Grp	7	7	7	7	7	7	7	7
Degree of Util (X)	0.13	0.001	0.173	0.026	0.113	0.006	0.203	0.031
Departure Headway (Hd)	5.34	4.559	5.317	4.565	5.344	4.625	5.245	4.485
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	670	782	674	782	669	772	684	796
Service Time	3.084	2.302	3.055	2.302	3.086	2.366	2.983	2.223
HCM Lane V/C Ratio	0.131	0.001	0.174	0.026	0.114	0.005	0.203	0.031
HCM Control Delay	8.9	7.3	9.2	7.4	8.8	7.4	9.3	7.4
HCM Lane LOS	A	A	A	A	A	A	A	A
HCM 95th-tile Q	0.4	0	0.6	0.1	0.4	0	0.8	0.1



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	13	29	20	1	15	20	10	142	7	21	163	11
Future Volume (vph)	13	29	20	1	15	20	10	142	7	21	163	11
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		50	0		50	0		50	0		50
Storage Lanes	0		1	0		1	0		1	0		1
Taper Length (ft)	90			90			90			90		
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1333			785			1313			4316	
Travel Time (s)		30.3			17.8			29.8			98.1	
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Shared Lane Traffic (%)												

Intersection Summary	
Area Type:	Other

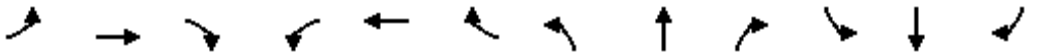
Intersection	
Int Delay, s/veh	9.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↓	↱		↑↓	↱		↑↓	↱		↑↓	↱
Traffic Vol, veh/h	13	29	20	1	15	20	10	142	7	21	163	11
Future Vol, veh/h	13	29	20	1	15	20	10	142	7	21	163	11
Conflicting Peds, #/hr	5	0	5	5	0	5	5	0	5	5	0	5
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	50	-	-	50	-	-	50	-	-	50
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	85	85	85	85	85	85	85	85	85	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	15	34	24	1	18	24	12	167	8	25	192	13

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	47	0	0	63	0	0	209	118	44	194	118	28
Stage 1	-	-	-	-	-	-	69	69	-	25	25	-
Stage 2	-	-	-	-	-	-	140	49	-	169	93	-
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	1560	-	-	1540	-	-	748	772	1026	765	772	1047
Stage 1	-	-	-	-	-	-	941	837	-	993	874	-
Stage 2	-	-	-	-	-	-	863	854	-	833	818	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1553	-	-	1533	-	-	583	756	1016	619	756	1037
Mov Cap-2 Maneuver	-	-	-	-	-	-	583	756	-	619	756	-
Stage 1	-	-	-	-	-	-	927	824	-	978	869	-
Stage 2	-	-	-	-	-	-	660	849	-	649	806	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.5	0.2	11.3	11.7
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	742	1016	1553	-	-	1533	-	-	737	1037
HCM Lane V/C Ratio	0.241	0.008	0.01	-	-	0.001	-	-	0.294	0.012
HCM Control Delay (s)	11.4	8.6	7.3	0	-	7.3	0	-	11.9	8.5
HCM Lane LOS	B	A	A	A	-	A	A	-	B	A
HCM 95th %tile Q(veh)	0.9	0	0	-	-	0	-	-	1.2	0



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	20	385	7	4	425	26	2	36	7	46	49	25
Future Volume (vph)	20	385	7	4	425	26	2	36	7	46	49	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		0	100		0	0		50	0		50
Storage Lanes	1		0	1		0	0		1	0		1
Taper Length (ft)	60			60			90			90		
Link Speed (mph)		30			30			45			45	
Link Distance (ft)		721			1329			455			1318	
Travel Time (s)		16.4			30.2			6.9			20.0	
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
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
Shared Lane Traffic (%)												

Intersection Summary	
Area Type:	Other

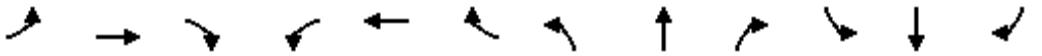
Intersection	
Int Delay, s/veh	4.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	20	385	7	4	425	26	2	36	7	46	49	25
Future Vol, veh/h	20	385	7	4	425	26	2	36	7	46	49	25
Conflicting Peds, #/hr	5	0	5	5	0	5	5	0	5	5	0	5
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	100	-	-	-	-	50	-	-	50
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	21	405	7	4	447	27	2	38	7	48	52	26

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	479	0	0	417	0	0	969	943	419	952	933	471
Stage 1	-	-	-	-	-	-	456	456	-	474	474	-
Stage 2	-	-	-	-	-	-	513	487	-	478	459	-
Critical Hdwy	4.12	-	-	4.12	-	-	6.8	6.52	6.22	6.8	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	1083	-	-	1142	-	-	254	263	634	260	266	593
Stage 1	-	-	-	-	-	-	584	568	-	571	558	-
Stage 2	-	-	-	-	-	-	544	550	-	568	566	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1078	-	-	1137	-	-	200	254	628	222	257	587
Mov Cap-2 Maneuver	-	-	-	-	-	-	200	254	-	222	257	-
Stage 1	-	-	-	-	-	-	570	554	-	557	553	-
Stage 2	-	-	-	-	-	-	467	545	-	510	552	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.4	0.1	20.3	26.5
HCM LOS			C	D

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	250	628	1078	-	-	1137	-	-	239	587
HCM Lane V/C Ratio	0.16	0.012	0.02	-	-	0.004	-	-	0.418	0.045
HCM Control Delay (s)	22.1	10.8	8.4	-	-	8.2	-	-	30.5	11.4
HCM Lane LOS	C	B	A	-	-	A	-	-	D	B
HCM 95th %tile Q(veh)	0.6	0	0.1	-	-	0	-	-	1.9	0.1



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	93	466	11	53	484	23	5	50	54	20	56	111
Future Volume (vph)	93	466	11	53	484	23	5	50	54	20	56	111
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		0	100		0	0		50	0		50
Storage Lanes	1		0	1		0	0		1	0		1
Taper Length (ft)	60			60			90			90		
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1329			729			417			1313	
Travel Time (s)		30.2			16.6			9.5			29.8	
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
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
Shared Lane Traffic (%)												

Intersection Summary	
Area Type:	Other

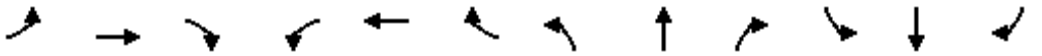
Intersection	
Int Delay, s/veh	16.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	93	466	11	53	484	23	5	50	54	20	56	111
Future Vol, veh/h	93	466	11	53	484	23	5	50	54	20	56	111
Conflicting Peds, #/hr	5	0	5	5	0	5	5	0	5	5	0	5
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	100	-	-	-	-	50	-	-	50
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	89	89	89	89	89	89	89	89	89	89	89	89
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	104	524	12	60	544	26	6	56	61	22	63	125

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	575	0	0	541	0	0	1519	1438	540	1484	1431	567
Stage 1	-	-	-	-	-	-	743	743	-	682	682	-
Stage 2	-	-	-	-	-	-	776	695	-	802	749	-
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	998	-	-	1028	-	-	97	133	542	103	134	523
Stage 1	-	-	-	-	-	-	407	422	-	440	450	-
Stage 2	-	-	-	-	-	-	390	444	-	378	419	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	993	-	-	1023	-	-	36	111	537	49	112	518
Mov Cap-2 Maneuver	-	-	-	-	-	-	36	111	-	49	112	-
Stage 1	-	-	-	-	-	-	363	376	-	392	421	-
Stage 2	-	-	-	-	-	-	236	416	-	254	373	-

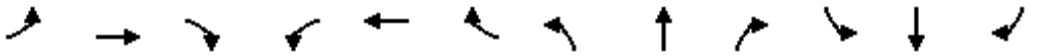
Approach	EB	WB	NB	SB
HCM Control Delay, s	1.5	0.8	56.5	86.3
HCM LOS			F	F

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	93	537	993	-	-	1023	-	-	84	518
HCM Lane V/C Ratio	0.664	0.113	0.105	-	-	0.058	-	-	1.017	0.241
HCM Control Delay (s)	99.7	12.6	9.1	-	-	8.7	-	-	191.7	14.1
HCM Lane LOS	F	B	A	-	-	A	-	-	F	B
HCM 95th %tile Q(veh)	3.2	0.4	0.4	-	-	0.2	-	-	5.7	0.9



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	93	466	11	53	484	23	5	50	54	20	56	111
Future Volume (vph)	93	466	11	53	484	23	5	50	54	20	56	111
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		0	100		0	0		50	0		50
Storage Lanes	1		0	1		0	0		1	0		1
Taper Length (ft)	60			60			90			90		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1329			729			417			1313	
Travel Time (s)		30.2			16.6			9.5			29.8	
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
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
Shared Lane Traffic (%)												

Intersection Summary	
Area Type:	Other



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	93	466	11	53	484	23	5	50	54	20	56	111
Future Volume (veh/h)	93	466	11	53	484	23	5	50	54	20	56	111
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	0.99		0.99	0.99		0.99
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	104	524	12	60	544	26	6	56	61	22	63	125
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	133	769	18	94	709	34	85	531	472	166	427	472
Arrive On Green	0.07	0.42	0.42	0.05	0.40	0.40	0.30	0.30	0.30	0.30	0.30	0.30
Sat Flow, veh/h	1781	1821	42	1781	1770	85	65	1768	1572	303	1423	1572
Grp Volume(v), veh/h	104	0	536	60	0	570	62	0	61	85	0	125
Grp Sat Flow(s),veh/h/ln	1781	0	1863	1781	0	1855	1833	0	1572	1726	0	1572
Q Serve(g_s), s	3.4	0.0	14.0	2.0	0.0	16.0	0.0	0.0	1.7	0.0	0.0	3.6
Cycle Q Clear(g_c), s	3.4	0.0	14.0	2.0	0.0	16.0	1.4	0.0	1.7	2.0	0.0	3.6
Prop In Lane	1.00		0.02	1.00		0.05	0.10		1.00	0.26		1.00
Lane Grp Cap(c), veh/h	133	0	787	94	0	742	616	0	472	593	0	472
V/C Ratio(X)	0.78	0.00	0.68	0.64	0.00	0.77	0.10	0.00	0.13	0.14	0.00	0.27
Avail Cap(c_a), veh/h	163	0	787	151	0	742	616	0	472	593	0	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	0.00	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	27.3	0.0	14.1	27.9	0.0	15.6	15.2	0.0	15.3	15.4	0.0	16.0
Incr Delay (d2), s/veh	17.7	0.0	4.7	7.0	0.0	7.5	0.3	0.0	0.6	0.5	0.0	1.4
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	2.0	0.0	6.1	1.0	0.0	7.4	0.6	0.0	0.6	0.9	0.0	1.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	45.0	0.0	18.8	34.9	0.0	23.1	15.5	0.0	15.9	15.9	0.0	17.3
LnGrp LOS	D	A	B	C	A	C	B	A	B	B	A	B
Approach Vol, veh/h		640			630			123			210	
Approach Delay, s/veh		23.0			24.2			15.7			16.8	
Approach LOS		C			C			B			B	

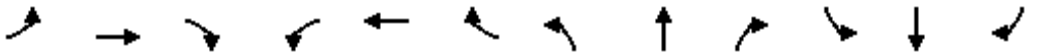
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	7.7	29.8		22.5	9.0	28.5		22.5				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	5.1	23.4		18.0	5.5	23.0		18.0				
Max Q Clear Time (g_c+I1), s	4.0	16.0		5.6	5.4	18.0		3.7				
Green Ext Time (p_c), s	0.0	2.0		0.6	0.0	1.7		0.4				

Intersection Summary			
HCM 6th Ctrl Delay		22.1	
HCM 6th LOS		C	

APPENDIX 6.1:

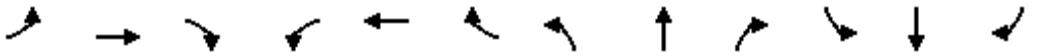
EAPC (2024) CONDITIONS INTERSECTION OPERATIONS ANALYSIS WORKSHEETS

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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	117	682	507	203	763	296	377	478	143	111	244	51
Future Volume (vph)	117	682	507	203	763	296	377	478	143	111	244	51
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	210		170	275		200	170		105	140		50
Storage Lanes	2		1	2		1	1		1	1		1
Taper Length (ft)	90			90			90			90		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		55			55			45			45	
Link Distance (ft)		596			1310			710			927	
Travel Time (s)		7.4			16.2			10.8			14.0	
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
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
Shared Lane Traffic (%)												

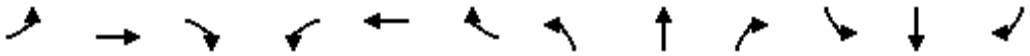
Intersection Summary	
Area Type:	Other



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	117	682	507	203	763	296	377	478	143	111	244	51
Future Volume (veh/h)	117	682	507	203	763	296	377	478	143	111	244	51
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		0.99
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	127	741	551	221	829	322	410	520	155	121	265	55
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	190	1565	483	288	1709	528	446	1228	545	151	640	283
Arrive On Green	0.06	0.31	0.31	0.08	0.33	0.33	0.25	0.35	0.35	0.08	0.18	0.18
Sat Flow, veh/h	3456	5106	1577	3456	5106	1578	1781	3554	1578	1781	3554	1572
Grp Volume(v), veh/h	127	741	551	221	829	322	410	520	155	121	265	55
Grp Sat Flow(s),veh/h/ln	1728	1702	1577	1728	1702	1578	1781	1777	1578	1781	1777	1572
Q Serve(g_s), s	3.6	11.8	30.6	6.3	12.9	17.1	22.4	11.2	7.1	6.7	6.6	3.0
Cycle Q Clear(g_c), s	3.6	11.8	30.6	6.3	12.9	17.1	22.4	11.2	7.1	6.7	6.6	3.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	190	1565	483	288	1709	528	446	1228	545	151	640	283
V/C Ratio(X)	0.67	0.47	1.14	0.77	0.49	0.61	0.92	0.42	0.28	0.80	0.41	0.19
Avail Cap(c_a), veh/h	276	1565	483	328	1709	528	525	1228	545	239	640	283
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	46.3	28.1	34.7	44.9	26.4	27.8	36.5	25.1	23.7	44.9	36.3	34.8
Incr Delay (d2), s/veh	4.0	1.0	85.4	9.3	1.0	5.2	19.6	1.1	1.3	9.9	2.0	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	1.6	4.6	22.4	2.9	4.9	6.8	11.6	4.6	2.7	3.3	2.9	1.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	50.3	29.2	120.1	54.1	27.4	33.0	56.1	26.2	25.0	54.8	38.3	36.4
LnGrp LOS	D	C	F	D	C	C	E	C	C	D	D	D
Approach Vol, veh/h		1419			1372			1085			441	
Approach Delay, s/veh		66.4			33.0			37.3			42.6	
Approach LOS		E			C			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.8	35.1	29.5	22.5	10.0	38.0	13.0	39.1
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	9.5	25.0	29.5	18.0	8.0	26.5	13.4	34.1
Max Q Clear Time (g_c+I1), s	8.3	32.6	24.4	8.6	5.6	19.1	8.7	13.2
Green Ext Time (p_c), s	0.1	0.0	0.6	1.1	0.1	3.5	0.1	3.6

Intersection Summary	
HCM 6th Ctrl Delay	46.0
HCM 6th LOS	D



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1	810	71	2	1206	4	103	1	6	1	1	3
Future Volume (vph)	1	810	71	2	1206	4	103	1	6	1	1	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	300		100	300		0	35		0	35		0
Storage Lanes	1		1	1		0	1		0	1		0
Taper Length (ft)	90			90			60			60		
Link Speed (mph)		55			55			45			30	
Link Distance (ft)		2281			1381			545			687	
Travel Time (s)		28.3			17.1			8.3			15.6	
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Shared Lane Traffic (%)												

Intersection Summary	
Area Type:	Other

Intersection	
Int Delay, s/veh	19.4

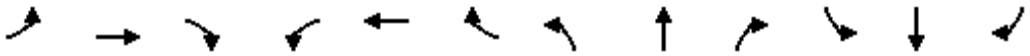
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	1	810	71	2	1206	4	103	1	6	1	1	3
Future Vol, veh/h	1	810	71	2	1206	4	103	1	6	1	1	3
Conflicting Peds, #/hr	5	0	5	5	0	5	5	0	5	5	0	5
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	300	-	100	300	-	-	35	-	-	35	-	-
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	1	890	78	2	1325	4	113	1	7	1	1	3

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1334	0	0	973	0	0	1569	2235	455	1789	2311	675
Stage 1	-	-	-	-	-	-	897	897	-	1336	1336	-
Stage 2	-	-	-	-	-	-	672	1338	-	453	975	-
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	513	-	-	704	-	-	~ 75	42	552	51	38	396
Stage 1	-	-	-	-	-	-	301	357	-	162	221	-
Stage 2	-	-	-	-	-	-	412	220	-	556	328	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	511	-	-	701	-	-	~ 72	41	547	49	37	392
Mov Cap-2 Maneuver	-	-	-	-	-	-	~ 72	41	-	49	37	-
Stage 1	-	-	-	-	-	-	299	355	-	161	219	-
Stage 2	-	-	-	-	-	-	403	218	-	544	326	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0	$ 386.9	46
HCM LOS			F	E

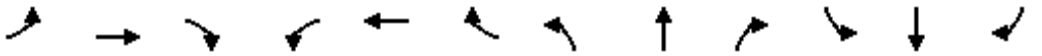
Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	72	198	511	-	-	701	-	-	49	115
HCM Lane V/C Ratio	1.572	0.039	0.002	-	-	0.003	-	-	0.022	0.038
HCM Control Delay (s)	$ 411.6	23.9	12.1	-	-	10.2	-	-	80.1	37.5
HCM Lane LOS	F	C	B	-	-	B	-	-	F	E
HCM 95th %tile Q(veh)	9.6	0.1	0	-	-	0	-	-	0.1	0.1

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1	810	71	2	1206	4	103	1	6	1	1	3
Future Volume (vph)	1	810	71	2	1206	4	103	1	6	1	1	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	300		100	300		0	35		0	35		0
Storage Lanes	1		1	1		0	1		0	1		0
Taper Length (ft)	90			90			60			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		55			55			45			30	
Link Distance (ft)		2281			1381			545			687	
Travel Time (s)		28.3			17.1			8.3			15.6	
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Shared Lane Traffic (%)												

Intersection Summary	
Area Type:	Other



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1	810	71	2	1206	4	103	1	6	1	1	3
Future Volume (veh/h)	1	810	71	2	1206	4	103	1	6	1	1	3
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	1	890	78	2	1325	4	113	1	7	1	1	3
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	3	1678	745	5	1721	5	539	60	422	535	123	369
Arrive On Green	0.00	0.47	0.47	0.00	0.16	0.16	0.30	0.30	0.30	0.30	0.30	0.30
Sat Flow, veh/h	1781	3554	1577	1781	3634	11	1405	201	1408	1400	410	1231
Grp Volume(v), veh/h	1	890	78	2	648	681	113	0	8	1	0	4
Grp Sat Flow(s),veh/h/ln	1781	1777	1577	1781	1777	1868	1405	0	1609	1400	0	1641
Q Serve(g_s), s	0.0	10.6	1.6	0.1	21.0	21.0	3.7	0.0	0.2	0.0	0.0	0.1
Cycle Q Clear(g_c), s	0.0	10.6	1.6	0.1	21.0	21.0	3.8	0.0	0.2	0.2	0.0	0.1
Prop In Lane	1.00		1.00	1.00		0.01	1.00		0.88	1.00		0.75
Lane Grp Cap(c), veh/h	3	1678	745	5	842	885	539	0	483	535	0	492
V/C Ratio(X)	0.34	0.53	0.10	0.41	0.77	0.77	0.21	0.00	0.02	0.00	0.00	0.01
Avail Cap(c_a), veh/h	148	1678	745	148	842	885	539	0	483	535	0	492
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.81	0.81	0.81	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	29.9	11.1	8.8	29.9	22.2	22.2	16.1	0.0	14.8	14.9	0.0	14.7
Incr Delay (d2), s/veh	56.0	1.2	0.3	39.3	5.5	5.2	0.9	0.0	0.1	0.0	0.0	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	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	3.1	0.5	0.1	10.7	11.2	1.1	0.0	0.1	0.0	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	85.9	12.4	9.1	69.3	27.7	27.4	16.9	0.0	14.8	14.9	0.0	14.8
LnGrp LOS	F	B	A	E	C	C	B	A	B	B	A	B
Approach Vol, veh/h		969			1331			121			5	
Approach Delay, s/veh		12.2			27.6			16.8			14.8	
Approach LOS		B			C			B			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	4.7	32.8		22.5	4.6	32.9		22.5				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	5.0	23.5		18.0	5.0	23.5		18.0				
Max Q Clear Time (g_c+I1), s	2.1	12.6		2.2	2.0	23.0		5.8				
Green Ext Time (p_c), s	0.0	4.2		0.0	0.0	0.4		0.2				

Intersection Summary												
HCM 6th Ctrl Delay			20.9									
HCM 6th LOS			C									



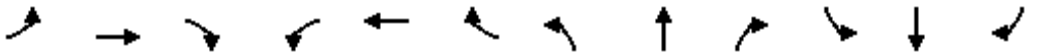
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	736	80	3	1065	146	11
Future Volume (vph)	736	80	3	1065	146	11
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		300	200		175	0
Storage Lanes		1	1		1	1
Taper Length (ft)			90		90	
Right Turn on Red		Yes				Yes
Link Speed (mph)	55			55	30	
Link Distance (ft)	1381			386	451	
Travel Time (s)	17.1			4.8	10.3	
Confl. Peds. (#/hr)		5	5		5	5
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Shared Lane Traffic (%)						

Intersection Summary	
Area Type:	Other

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	736	80	3	1065	146	11
Future Volume (veh/h)	736	80	3	1065	146	11
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		0.99	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	783	85	3	1133	155	12
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	1644	729	7	1925	549	489
Arrive On Green	0.46	0.46	0.00	0.54	0.31	0.31
Sat Flow, veh/h	3647	1576	1781	3647	1781	1585
Grp Volume(v), veh/h	783	85	3	1133	155	12
Grp Sat Flow(s),veh/h/ln	1777	1576	1781	1777	1781	1585
Q Serve(g_s), s	9.1	1.8	0.1	12.9	4.0	0.3
Cycle Q Clear(g_c), s	9.1	1.8	0.1	12.9	4.0	0.3
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	1644	729	7	1925	549	489
V/C Ratio(X)	0.48	0.12	0.41	0.59	0.28	0.02
Avail Cap(c_a), veh/h	1644	729	148	1925	549	489
HCM Platoon Ratio	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
Uniform Delay (d), s/veh	11.1	9.2	29.8	9.3	15.7	14.5
Incr Delay (d2), s/veh	1.0	0.3	33.7	1.3	1.3	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.7	0.5	0.1	3.4	1.7	0.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	12.1	9.5	63.5	10.6	17.0	14.6
LnGrp LOS	B	A	E	B	B	B
Approach Vol, veh/h	868			1136	167	
Approach Delay, s/veh	11.8			10.7	16.8	
Approach LOS	B			B	B	

Timer - Assigned Phs	1	2				6	8
Phs Duration (G+Y+Rc), s	4.7	32.3				37.0	23.0
Change Period (Y+Rc), s	4.5	4.5				4.5	4.5
Max Green Setting (Gmax), s	5.0	23.0				32.5	18.5
Max Q Clear Time (g_c+I1), s	2.1	11.1				14.9	6.0
Green Ext Time (p_c), s	0.0	3.9				6.7	0.3

Intersection Summary			
HCM 6th Ctrl Delay		11.6	
HCM 6th LOS		B	



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	22	132	31	1	163	18	36	60	3	8	92	26
Future Volume (vph)	22	132	31	1	163	18	36	60	3	8	92	26
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	50		50	0		50	0		50	0		50
Storage Lanes	0		1	0		1	0		1	0		1
Taper Length (ft)	90			90			90			90		
Link Speed (mph)		30			30			45			45	
Link Distance (ft)		799			1333			1318			3757	
Travel Time (s)		18.2			30.3			20.0			56.9	
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81
Shared Lane Traffic (%)												

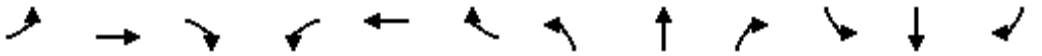
Intersection Summary	
Area Type:	Other

Intersection	
Intersection Delay, s/veh	10.4
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	22	132	31	1	163	18	36	60	3	8	92	26
Future Vol, veh/h	22	132	31	1	163	18	36	60	3	8	92	26
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	27	163	38	1	201	22	44	74	4	10	114	32
Number of Lanes	0	1	1	0	1	1	0	1	1	0	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	2	2
HCM Control Delay	10.4	10.7	10.4	9.9
HCM LOS	B	B	B	A

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	38%	0%	14%	0%	1%	0%	8%	0%
Vol Thru, %	62%	0%	86%	0%	99%	0%	92%	0%
Vol Right, %	0%	100%	0%	100%	0%	100%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	96	3	154	31	164	18	100	26
LT Vol	36	0	22	0	1	0	8	0
Through Vol	60	0	132	0	163	0	92	0
RT Vol	0	3	0	31	0	18	0	26
Lane Flow Rate	119	4	190	38	202	22	123	32
Geometry Grp	7	7	7	7	7	7	7	7
Degree of Util (X)	0.205	0.005	0.303	0.053	0.319	0.031	0.207	0.047
Departure Headway (Hd)	6.213	5.315	5.737	4.958	5.673	4.964	6.022	5.273
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	578	674	627	723	636	722	598	680
Service Time	3.941	3.043	3.46	2.682	3.396	2.686	3.749	3
HCM Lane V/C Ratio	0.206	0.006	0.303	0.053	0.318	0.03	0.206	0.047
HCM Control Delay	10.5	8.1	10.9	8	11	7.8	10.3	8.3
HCM Lane LOS	B	A	B	A	B	A	B	A
HCM 95th-tile Q	0.8	0	1.3	0.2	1.4	0.1	0.8	0.1



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	10	48	18	3	51	12	33	137	3	6	171	12
Future Volume (vph)	10	48	18	3	51	12	33	137	3	6	171	12
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		50	0		50	0		50	0		50
Storage Lanes	0		1	0		1	0		1	0		1
Taper Length (ft)	90			90			90			90		
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1333			785			1313			4316	
Travel Time (s)		30.3			17.8			29.8			98.1	
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
Shared Lane Traffic (%)												

Intersection Summary	
Area Type:	Other

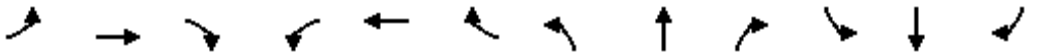
Intersection	
Int Delay, s/veh	9.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↓	↱		↑↓	↱		↑↓	↱		↑↓	↱
Traffic Vol, veh/h	10	48	18	3	51	12	33	137	3	6	171	12
Future Vol, veh/h	10	48	18	3	51	12	33	137	3	6	171	12
Conflicting Peds, #/hr	5	0	5	5	0	5	5	0	5	5	0	5
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	50	-	-	50	-	-	50	-	-	50
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	82	82	82	82	82	82	82	82	82	82	82	82
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	12	59	22	4	62	15	40	167	4	7	209	15

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	82	0	0	86	0	0	283	178	69	260	185	72
Stage 1	-	-	-	-	-	-	88	88	-	75	75	-
Stage 2	-	-	-	-	-	-	195	90	-	185	110	-
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	1515	-	-	1510	-	-	669	716	994	693	709	990
Stage 1	-	-	-	-	-	-	920	822	-	934	833	-
Stage 2	-	-	-	-	-	-	807	820	-	817	804	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1508	-	-	1503	-	-	497	701	985	554	694	981
Mov Cap-2 Maneuver	-	-	-	-	-	-	497	701	-	554	694	-
Stage 1	-	-	-	-	-	-	908	811	-	922	826	-
Stage 2	-	-	-	-	-	-	590	813	-	638	794	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1	0.3	13	12.4
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	649	985	1508	-	-	1503	-	-	688	981
HCM Lane V/C Ratio	0.319	0.004	0.008	-	-	0.002	-	-	0.314	0.015
HCM Control Delay (s)	13.1	8.7	7.4	0	-	7.4	0	-	12.6	8.7
HCM Lane LOS	B	A	A	A	-	A	A	-	B	A
HCM 95th %tile Q(veh)	1.4	0	0	-	-	0	-	-	1.3	0



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	17	395	3	3	416	60	1	18	2	57	28	33
Future Volume (vph)	17	395	3	3	416	60	1	18	2	57	28	33
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		0	100		0	0		50	0		50
Storage Lanes	1		0	1		0	0		1	0		1
Taper Length (ft)	60			60			90			90		
Link Speed (mph)		30			30			45			45	
Link Distance (ft)		721			1329			455			1318	
Travel Time (s)		16.4			30.2			6.9			20.0	
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Shared Lane Traffic (%)												

Intersection Summary	
Area Type:	Other

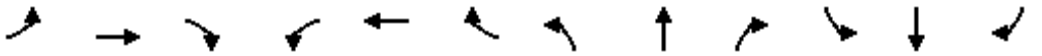
Intersection	
Int Delay, s/veh	3.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	17	395	3	3	416	60	1	18	2	57	28	33
Future Vol, veh/h	17	395	3	3	416	60	1	18	2	57	28	33
Conflicting Peds, #/hr	5	0	5	5	0	5	5	0	5	5	0	5
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	100	-	-	-	-	50	-	-	50
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	19	439	3	3	462	67	1	20	2	63	31	37

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	534	0	0	447	0	0	1025	1024	451	1002	992	506
Stage 1	-	-	-	-	-	-	484	484	-	507	507	-
Stage 2	-	-	-	-	-	-	541	540	-	495	485	-
Critical Hdwy	4.12	-	-	4.12	-	-	7	6.52	6.22	7	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	1034	-	-	1113	-	-	221	235	608	229	246	566
Stage 1	-	-	-	-	-	-	564	552	-	548	539	-
Stage 2	-	-	-	-	-	-	525	521	-	556	552	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1029	-	-	1108	-	-	181	228	602	207	238	561
Mov Cap-2 Maneuver	-	-	-	-	-	-	181	228	-	207	238	-
Stage 1	-	-	-	-	-	-	551	539	-	535	535	-
Stage 2	-	-	-	-	-	-	459	517	-	521	539	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.4	0.1	21.6	27.8
HCM LOS			C	D

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	225	602	1029	-	-	1108	-	-	216	561
HCM Lane V/C Ratio	0.094	0.004	0.018	-	-	0.003	-	-	0.437	0.065
HCM Control Delay (s)	22.7	11	8.6	-	-	8.3	-	-	34	11.9
HCM Lane LOS	C	B	A	-	-	A	-	-	D	B
HCM 95th %tile Q(veh)	0.3	0	0.1	-	-	0	-	-	2.1	0.2



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	76	432	10	51	454	30	14	73	91	32	73	102
Future Volume (vph)	76	432	10	51	454	30	14	73	91	32	73	102
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		0	100		0	0		50	0		50
Storage Lanes	1		0	1		0	0		1	0		1
Taper Length (ft)	60			60			90			90		
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1329			729			417			1313	
Travel Time (s)		30.2			16.6			9.5			29.8	
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Shared Lane Traffic (%)												

Intersection Summary	
Area Type:	Other

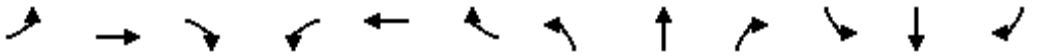
Intersection	
Int Delay, s/veh	33.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	76	432	10	51	454	30	14	73	91	32	73	102
Future Vol, veh/h	76	432	10	51	454	30	14	73	91	32	73	102
Conflicting Peds, #/hr	5	0	5	5	0	5	5	0	5	5	0	5
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	100	-	-	-	-	50	-	-	50
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	84	480	11	57	504	33	16	81	101	36	81	113

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	542	0	0	496	0	0	1396	1315	496	1390	1304	531
Stage 1	-	-	-	-	-	-	659	659	-	640	640	-
Stage 2	-	-	-	-	-	-	737	656	-	750	664	-
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	1027	-	-	1068	-	-	119	158	574	120	160	548
Stage 1	-	-	-	-	-	-	453	461	-	464	470	-
Stage 2	-	-	-	-	-	-	410	462	-	403	458	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1022	-	-	1063	-	-	45	136	569	47	138	543
Mov Cap-2 Maneuver	-	-	-	-	-	-	45	136	-	47	138	-
Stage 1	-	-	-	-	-	-	414	421	-	424	442	-
Stage 2	-	-	-	-	-	-	249	435	-	244	418	-

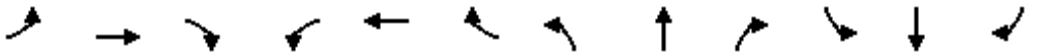
Approach	EB	WB	NB	SB
HCM Control Delay, s	1.3	0.8	79	158.2
HCM LOS			F	F

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	103	569	1022	-	-	1063	-	-	87	543
HCM Lane V/C Ratio	0.939	0.178	0.083	-	-	0.053	-	-	1.341	0.209
HCM Control Delay (s)	148.4	12.7	8.8	-	-	8.6	-	-	298.8	13.4
HCM Lane LOS	F	B	A	-	-	A	-	-	F	B
HCM 95th %tile Q(veh)	5.6	0.6	0.3	-	-	0.2	-	-	8.7	0.8



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	76	432	10	51	454	30	14	73	91	32	73	102
Future Volume (vph)	76	432	10	51	454	30	14	73	91	32	73	102
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		0	100		0	0		50	0		50
Storage Lanes	1		0	1		0	0		1	0		1
Taper Length (ft)	60			60			90			90		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1329			729			417			1313	
Travel Time (s)		30.2			16.6			9.5			29.8	
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Shared Lane Traffic (%)												

Intersection Summary	
Area Type:	Other



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	76	432	10	51	454	30	14	73	91	32	73	102
Future Volume (veh/h)	76	432	10	51	454	30	14	73	91	32	73	102
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	0.99		0.99	0.99		0.99
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	84	480	11	57	504	33	16	81	101	36	81	113
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	112	769	18	91	712	47	117	490	474	191	388	474
Arrive On Green	0.06	0.42	0.42	0.05	0.41	0.41	0.30	0.30	0.30	0.30	0.30	0.30
Sat Flow, veh/h	1781	1821	42	1781	1735	114	155	1625	1572	373	1287	1572
Grp Volume(v), veh/h	84	0	491	57	0	537	97	0	101	117	0	113
Grp Sat Flow(s),veh/h/ln	1781	0	1863	1781	0	1849	1780	0	1572	1660	0	1572
Q Serve(g_s), s	2.8	0.0	12.4	1.9	0.0	14.5	0.0	0.0	2.9	0.0	0.0	3.2
Cycle Q Clear(g_c), s	2.8	0.0	12.4	1.9	0.0	14.5	2.3	0.0	2.9	2.8	0.0	3.2
Prop In Lane	1.00		0.02	1.00		0.06	0.16		1.00	0.31		1.00
Lane Grp Cap(c), veh/h	112	0	786	91	0	759	607	0	474	579	0	474
V/C Ratio(X)	0.75	0.00	0.62	0.63	0.00	0.71	0.16	0.00	0.21	0.20	0.00	0.24
Avail Cap(c_a), veh/h	157	0	786	151	0	759	607	0	474	579	0	474
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	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	27.7	0.0	13.6	27.9	0.0	14.7	15.4	0.0	15.6	15.6	0.0	15.8
Incr Delay (d2), s/veh	11.8	0.0	3.7	6.9	0.0	5.5	0.6	0.0	1.0	0.8	0.0	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	1.5	0.0	5.3	0.9	0.0	6.4	1.0	0.0	1.1	1.2	0.0	1.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	39.5	0.0	17.3	34.8	0.0	20.2	16.0	0.0	16.7	16.4	0.0	16.9
LnGrp LOS	D	A	B	C	A	C	B	A	B	B	A	B
Approach Vol, veh/h		575			594			198			230	
Approach Delay, s/veh		20.6			21.6			16.3			16.7	
Approach LOS		C			C			B			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	7.6	29.8		22.6	8.3	29.1		22.6				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	5.1	23.3		18.1	5.3	23.1		18.1				
Max Q Clear Time (g_c+I1), s	3.9	14.4		5.2	4.8	16.5		4.9				
Green Ext Time (p_c), s	0.0	2.1		0.8	0.0	1.9		0.6				

Intersection Summary			
HCM 6th Ctrl Delay		19.9	
HCM 6th LOS		B	



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	8	16	94	3	5	69
Future Volume (vph)	8	16	94	3	5	69
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Link Speed (mph)	30		45			45
Link Distance (ft)	331		673			545
Travel Time (s)	7.5		10.2			8.3
Confl. Peds. (#/hr)	5	5		5	5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)						

Intersection Summary	
Area Type:	Other

Intersection	
Int Delay, s/veh	1.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	8	16	94	3	5	69
Future Vol, veh/h	8	16	94	3	5	69
Conflicting Peds, #/hr	5	5	0	5	5	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	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	9	17	102	3	5	75

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	199	114	0	0	110	0
Stage 1	109	-	-	-	-	-
Stage 2	90	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	790	939	-	-	1480	-
Stage 1	916	-	-	-	-	-
Stage 2	934	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	779	930	-	-	1473	-
Mov Cap-2 Maneuver	779	-	-	-	-	-
Stage 1	911	-	-	-	-	-
Stage 2	926	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.2	0	0.5
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	874	1473	-
HCM Lane V/C Ratio	-	-	0.03	0.004	-
HCM Control Delay (s)	-	-	9.2	7.5	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0.1	0	-



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	12	8	89	4	3	74
Future Volume (vph)	12	8	89	4	3	74
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Link Speed (mph)	30		45			45
Link Distance (ft)	321		3757			673
Travel Time (s)	7.3		56.9			10.2
Confl. Peds. (#/hr)	5	5		5	5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)						

Intersection Summary	
Area Type:	Other

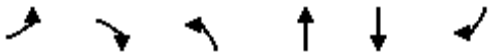
Intersection	
Int Delay, s/veh	1.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	12	8	89	4	3	74
Future Vol, veh/h	12	8	89	4	3	74
Conflicting Peds, #/hr	5	5	0	5	5	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	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	13	9	97	4	3	80

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	195	109	0	0	106	0
Stage 1	104	-	-	-	-	-
Stage 2	91	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	794	945	-	-	1485	-
Stage 1	920	-	-	-	-	-
Stage 2	933	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	784	936	-	-	1478	-
Mov Cap-2 Maneuver	784	-	-	-	-	-
Stage 1	915	-	-	-	-	-
Stage 2	926	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.4	0	0.3
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	838	1478	-
HCM Lane V/C Ratio	-	-	0.026	0.002	-
HCM Control Delay (s)	-	-	9.4	7.4	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0.1	0	-



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	12	24	8	145	79	4
Future Volume (vph)	12	24	8	145	79	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Link Speed (mph)	30			30	30	
Link Distance (ft)	248			4316	451	
Travel Time (s)	5.6			98.1	10.3	
Confl. Peds. (#/hr)	5	5	5			5
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)						

Intersection Summary	
Area Type:	Other

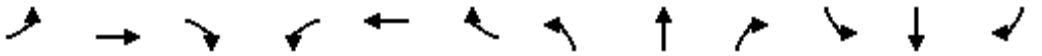
Intersection	
Int Delay, s/veh	1.5

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	12	24	8	145	79	4
Future Vol, veh/h	12	24	8	145	79	4
Conflicting Peds, #/hr	5	5	5	0	0	5
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	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	13	26	9	158	86	4

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	274	98	95	0	-	0
Stage 1	93	-	-	-	-	-
Stage 2	181	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	716	958	1499	-	-	-
Stage 1	931	-	-	-	-	-
Stage 2	850	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	704	949	1492	-	-	-
Mov Cap-2 Maneuver	704	-	-	-	-	-
Stage 1	920	-	-	-	-	-
Stage 2	846	-	-	-	-	-

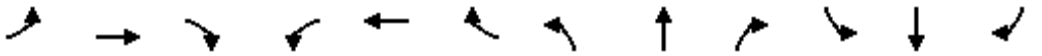
Approach	EB	NB	SB
HCM Control Delay, s	9.4	0.4	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1492	-	850	-	-
HCM Lane V/C Ratio	0.006	-	0.046	-	-
HCM Control Delay (s)	7.4	0	9.4	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	148	947	521	191	733	176	442	514	146	277	449	111
Future Volume (vph)	148	947	521	191	733	176	442	514	146	277	449	111
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	210		170	275		200	170		105	140		50
Storage Lanes	2		1	2		1	1		1	1		1
Taper Length (ft)	90			90			90			90		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		55			55			45			45	
Link Distance (ft)		596			1310			710			927	
Travel Time (s)		7.4			16.2			10.8			14.0	
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
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
Shared Lane Traffic (%)												

Intersection Summary	
Area Type:	Other



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	148	947	521	191	733	176	442	514	146	277	449	111
Future Volume (veh/h)	148	947	521	191	733	176	442	514	146	277	449	111
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		0.99	1.00		0.99
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	156	997	548	201	772	185	465	541	154	292	473	117
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	222	1441	445	267	1507	465	500	979	434	330	640	283
Arrive On Green	0.06	0.28	0.28	0.08	0.30	0.30	0.28	0.28	0.28	0.19	0.18	0.18
Sat Flow, veh/h	3456	5106	1577	3456	5106	1577	1781	3554	1576	1781	3554	1572
Grp Volume(v), veh/h	156	997	548	201	772	185	465	541	154	292	473	117
Grp Sat Flow(s),veh/h/ln	1728	1702	1577	1728	1702	1577	1781	1777	1576	1781	1777	1572
Q Serve(g_s), s	4.4	17.4	28.2	5.7	12.6	9.4	25.4	13.0	7.8	16.0	12.6	6.6
Cycle Q Clear(g_c), s	4.4	17.4	28.2	5.7	12.6	9.4	25.4	13.0	7.8	16.0	12.6	6.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	222	1441	445	267	1507	465	500	979	434	330	640	283
V/C Ratio(X)	0.70	0.69	1.23	0.75	0.51	0.40	0.93	0.55	0.35	0.89	0.74	0.41
Avail Cap(c_a), veh/h	308	1441	445	294	1507	465	565	979	434	474	640	283
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	45.8	32.0	35.9	45.2	29.3	28.1	35.0	31.0	29.1	39.7	38.8	36.3
Incr Delay (d2), s/veh	4.2	2.7	122.5	9.6	1.2	2.5	20.9	2.2	2.3	13.3	7.5	4.4
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	1.9	6.9	25.3	2.7	4.9	3.7	13.2	5.6	0.3	7.9	5.9	2.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	50.0	34.8	158.4	54.8	30.5	30.7	55.9	33.2	31.4	53.0	46.3	40.7
LnGrp LOS	D	C	F	D	C	C	E	C	C	D	D	D
Approach Vol, veh/h		1701			1158			1160			882	
Approach Delay, s/veh		76.0			34.8			42.1			47.8	
Approach LOS		E			C			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.2	32.7	32.6	22.5	10.9	34.0	23.0	32.0
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	8.5	23.8	31.7	18.0	8.9	23.4	26.6	23.1
Max Q Clear Time (g_c+I1), s	7.7	30.2	27.4	14.6	6.4	14.6	18.0	15.0
Green Ext Time (p_c), s	0.0	0.0	0.6	1.1	0.1	3.4	0.5	2.4

Intersection Summary	
HCM 6th Ctrl Delay	53.1
HCM 6th LOS	D

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	1215	138	5	868	1	72	1	4	5	15	19
Future Volume (vph)	5	1215	138	5	868	1	72	1	4	5	15	19
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	300		100	300		0	35		0	35		0
Storage Lanes	1		1	1		0	1		0	1		0
Taper Length (ft)	90			90			60			60		
Link Speed (mph)		55			55			45			30	
Link Distance (ft)		2281			1381			545			687	
Travel Time (s)		28.3			17.1			8.3			15.6	
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
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
Shared Lane Traffic (%)												

Intersection Summary	
Area Type:	Other

Intersection	
Int Delay, s/veh	24.9

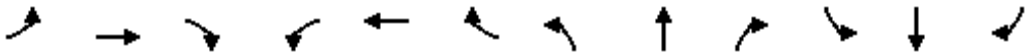
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	5	1215	138	5	868	1	72	1	4	5	15	19
Future Vol, veh/h	5	1215	138	5	868	1	72	1	4	5	15	19
Conflicting Peds, #/hr	5	0	5	5	0	5	5	0	5	5	0	5
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	300	-	100	300	-	-	35	-	-	35	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	97	97	97	97	97	97	97	97	97	97	97	97
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	5	1253	142	5	895	1	74	1	4	5	15	20

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	901	0	0	1400	0	0	1738	2179	637	1553	2321	458
Stage 1	-	-	-	-	-	-	1268	1268	-	911	911	-
Stage 2	-	-	-	-	-	-	470	911	-	642	1410	-
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	750	-	-	484	-	-	~ 56	46	420	77	37	550
Stage 1	-	-	-	-	-	-	178	238	-	295	351	-
Stage 2	-	-	-	-	-	-	543	351	-	429	203	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	746	-	-	482	-	-	~ 35	45	416	73	36	545
Mov Cap-2 Maneuver	-	-	-	-	-	-	~ 35	45	-	73	36	-
Stage 1	-	-	-	-	-	-	176	235	-	292	346	-
Stage 2	-	-	-	-	-	-	493	346	-	418	201	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0.1	$ 714.6	85.5
HCM LOS			F	F

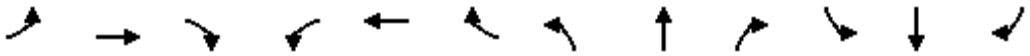
Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	35	157	746	-	-	482	-	-	73	75
HCM Lane V/C Ratio	2.121	0.033	0.007	-	-	0.011	-	-	0.071	0.467
HCM Control Delay (s)	$ 762.2	28.7	9.9	-	-	12.6	-	-	58	89.5
HCM Lane LOS	F	D	A	-	-	B	-	-	F	F
HCM 95th %tile Q(veh)	8.3	0.1	0	-	-	0	-	-	0.2	1.9

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	1215	138	5	868	1	72	1	4	5	15	19
Future Volume (vph)	5	1215	138	5	868	1	72	1	4	5	15	19
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	300		100	300		0	35		0	35		0
Storage Lanes	1		1	1		0	1		0	1		0
Taper Length (ft)	90			90			60			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		55			55			45			30	
Link Distance (ft)		2281			1381			545			687	
Travel Time (s)		28.3			17.1			8.3			15.6	
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
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
Shared Lane Traffic (%)												

Intersection Summary	
Area Type:	Other



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	5	1215	138	5	868	1	72	1	4	5	15	19
Future Volume (veh/h)	5	1215	138	5	868	1	72	1	4	5	15	19
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	5	1253	142	5	895	1	74	1	4	5	15	20
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	12	1664	738	12	1706	2	510	98	391	538	217	290
Arrive On Green	0.01	0.47	0.47	0.01	0.94	0.94	0.30	0.30	0.30	0.30	0.30	0.30
Sat Flow, veh/h	1781	3554	1577	1781	3642	4	1367	326	1303	1404	725	966
Grp Volume(v), veh/h	5	1253	142	5	437	459	74	0	5	5	0	35
Grp Sat Flow(s),veh/h/ln	1781	1777	1577	1781	1777	1870	1367	0	1628	1404	0	1691
Q Serve(g_s), s	0.2	17.4	3.2	0.2	1.8	1.8	2.5	0.0	0.1	0.2	0.0	0.9
Cycle Q Clear(g_c), s	0.2	17.4	3.2	0.2	1.8	1.8	3.3	0.0	0.1	0.3	0.0	0.9
Prop In Lane	1.00		1.00	1.00		0.00	1.00		0.80	1.00		0.57
Lane Grp Cap(c), veh/h	12	1664	738	12	832	876	510	0	488	538	0	507
V/C Ratio(X)	0.42	0.75	0.19	0.42	0.52	0.52	0.15	0.00	0.01	0.01	0.00	0.07
Avail Cap(c_a), veh/h	148	1664	738	148	832	876	510	0	488	538	0	507
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.92	0.92	0.92	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	29.7	13.1	9.3	29.5	1.1	1.1	16.2	0.0	14.7	14.8	0.0	15.0
Incr Delay (d2), s/veh	22.0	3.2	0.6	20.4	2.2	2.1	0.6	0.0	0.0	0.0	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	0.1	5.4	0.9	0.1	0.8	0.8	0.7	0.0	0.0	0.0	0.0	0.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	51.7	16.3	9.9	49.8	3.2	3.1	16.8	0.0	14.8	14.9	0.0	15.3
LnGrp LOS	D	B	A	D	A	A	B	A	B	B	A	B
Approach Vol, veh/h		1400			901			79			40	
Approach Delay, s/veh		15.8			3.4			16.7			15.2	
Approach LOS		B			A			B			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	4.9	32.6		22.5	4.9	32.6		22.5				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	5.0	23.5		18.0	5.0	23.5		18.0				
Max Q Clear Time (g_c+I1), s	2.2	19.4		2.9	2.2	3.8		5.3				
Green Ext Time (p_c), s	0.0	2.8		0.1	0.0	4.7		0.1				

Intersection Summary			
HCM 6th Ctrl Delay		11.2	
HCM 6th LOS		B	



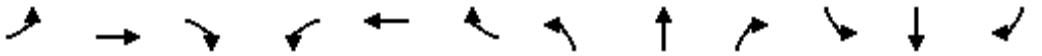
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	1074	149	12	791	83	8
Future Volume (vph)	1074	149	12	791	83	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		300	200		175	0
Storage Lanes		1	1		1	1
Taper Length (ft)			90		90	
Right Turn on Red		Yes				Yes
Link Speed (mph)	55			55	30	
Link Distance (ft)	1381			386	451	
Travel Time (s)	17.1			4.8	10.3	
Confl. Peds. (#/hr)		5	5		5	5
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Shared Lane Traffic (%)						

Intersection Summary	
Area Type:	Other

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	1074	149	12	791	83	8
Future Volume (veh/h)	1074	149	12	791	83	8
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		0.99	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	1119	155	12	824	86	8
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	1634	725	27	1955	534	476
Arrive On Green	0.46	0.46	0.02	0.55	0.30	0.30
Sat Flow, veh/h	3647	1576	1781	3647	1781	1585
Grp Volume(v), veh/h	1119	155	12	824	86	8
Grp Sat Flow(s),veh/h/ln	1777	1576	1781	1777	1781	1585
Q Serve(g_s), s	14.9	3.5	0.4	8.2	2.1	0.2
Cycle Q Clear(g_c), s	14.9	3.5	0.4	8.2	2.1	0.2
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	1634	725	27	1955	534	476
V/C Ratio(X)	0.68	0.21	0.45	0.42	0.16	0.02
Avail Cap(c_a), veh/h	1634	725	148	1955	534	476
HCM Platoon Ratio	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
Uniform Delay (d), s/veh	12.8	9.7	29.3	7.9	15.4	14.8
Incr Delay (d2), s/veh	2.4	0.7	11.1	0.7	0.6	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.6	1.0	0.2	2.1	0.9	0.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	15.1	10.4	40.4	8.6	16.1	14.8
LnGrp LOS	B	B	D	A	B	B
Approach Vol, veh/h	1274			836	94	
Approach Delay, s/veh	14.5			9.0	16.0	
Approach LOS	B			A	B	

Timer - Assigned Phs	1	2				6	8
Phs Duration (G+Y+Rc), s	5.4	32.1				37.5	22.5
Change Period (Y+Rc), s	4.5	4.5				4.5	4.5
Max Green Setting (Gmax), s	5.0	23.5				33.0	18.0
Max Q Clear Time (g_c+I1), s	2.4	16.9				10.2	4.1
Green Ext Time (p_c), s	0.0	3.8				5.0	0.2

Intersection Summary		
HCM 6th Ctrl Delay	12.5	
HCM 6th LOS	B	



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	14	96	18	2	67	4	12	84	1	14	120	25
Future Volume (vph)	14	96	18	2	67	4	12	84	1	14	120	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	50		50	0		50	0		50	0		50
Storage Lanes	0		1	0		1	0		1	0		1
Taper Length (ft)	90			90			90			90		
Link Speed (mph)		30			30			45			45	
Link Distance (ft)		799			1333			1318			3757	
Travel Time (s)		18.2			30.3			20.0			56.9	
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
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
Shared Lane Traffic (%)												

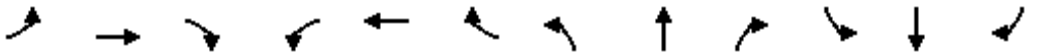
Intersection Summary	
Area Type:	Other

Intersection	
Intersection Delay, s/veh	9.1
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	14	96	18	2	67	4	12	84	1	14	120	25
Future Vol, veh/h	14	96	18	2	67	4	12	84	1	14	120	25
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
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	16	108	20	2	75	4	13	94	1	16	135	28
Number of Lanes	0	1	1	0	1	1	0	1	1	0	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	2	2
HCM Control Delay	9.1	8.8	9.2	9.2
HCM LOS	A	A	A	A

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	12%	0%	13%	0%	3%	0%	10%	0%
Vol Thru, %	88%	0%	87%	0%	97%	0%	90%	0%
Vol Right, %	0%	100%	0%	100%	0%	100%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	96	1	110	18	69	4	134	25
LT Vol	12	0	14	0	2	0	14	0
Through Vol	84	0	96	0	67	0	120	0
RT Vol	0	1	0	18	0	4	0	25
Lane Flow Rate	108	1	124	20	78	4	151	28
Geometry Grp	7	7	7	7	7	7	7	7
Degree of Util (X)	0.161	0.001	0.186	0.026	0.117	0.006	0.221	0.035
Departure Headway (Hd)	5.373	4.605	5.425	4.657	5.446	4.727	5.292	4.536
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	666	774	660	766	656	754	678	787
Service Time	3.12	2.353	3.172	2.404	3.198	2.478	3.036	2.279
HCM Lane V/C Ratio	0.162	0.001	0.188	0.026	0.119	0.005	0.223	0.036
HCM Control Delay	9.2	7.4	9.4	7.5	8.9	7.5	9.5	7.4
HCM Lane LOS	A	A	A	A	A	A	A	A
HCM 95th-tile Q	0.6	0	0.7	0.1	0.4	0	0.8	0.1



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	15	29	20	1	15	20	10	167	7	21	177	12
Future Volume (vph)	15	29	20	1	15	20	10	167	7	21	177	12
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		50	0		50	0		50	0		50
Storage Lanes	0		1	0		1	0		1	0		1
Taper Length (ft)	90			90			90			90		
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1333			785			1313			4316	
Travel Time (s)		30.3			17.8			29.8			98.1	
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Shared Lane Traffic (%)												

Intersection Summary	
Area Type:	Other

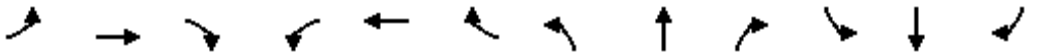
Intersection	
Int Delay, s/veh	9.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑	↱		↑	↱		↑	↱		↑	↱
Traffic Vol, veh/h	15	29	20	1	15	20	10	167	7	21	177	12
Future Vol, veh/h	15	29	20	1	15	20	10	167	7	21	177	12
Conflicting Peds, #/hr	5	0	5	5	0	5	5	0	5	5	0	5
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	50	-	-	50	-	-	50	-	-	50
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	85	85	85	85	85	85	85	85	85	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	18	34	24	1	18	24	12	196	8	25	208	14

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	47	0	0	63	0	0	223	124	44	214	124	28
Stage 1	-	-	-	-	-	-	75	75	-	25	25	-
Stage 2	-	-	-	-	-	-	148	49	-	189	99	-
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	1560	-	-	1540	-	-	733	766	1026	743	766	1047
Stage 1	-	-	-	-	-	-	934	833	-	993	874	-
Stage 2	-	-	-	-	-	-	855	854	-	813	813	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1553	-	-	1533	-	-	557	748	1016	577	748	1037
Mov Cap-2 Maneuver	-	-	-	-	-	-	557	748	-	577	748	-
Stage 1	-	-	-	-	-	-	918	819	-	976	869	-
Stage 2	-	-	-	-	-	-	638	849	-	603	799	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.7	0.2	11.7	12.1
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	734	1016	1553	-	-	1533	-	-	725	1037
HCM Lane V/C Ratio	0.284	0.008	0.011	-	-	0.001	-	-	0.321	0.014
HCM Control Delay (s)	11.8	8.6	7.3	0	-	7.3	0	-	12.3	8.5
HCM Lane LOS	B	A	A	A	-	A	A	-	B	A
HCM 95th %tile Q(veh)	1.2	0	0	-	-	0	-	-	1.4	0



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	31	387	7	4	426	30	2	38	7	49	50	32
Future Volume (vph)	31	387	7	4	426	30	2	38	7	49	50	32
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		0	100		0	0		50	0		50
Storage Lanes	1		0	1		0	0		1	0		1
Taper Length (ft)	60			60			90			90		
Link Speed (mph)		30			30			45			45	
Link Distance (ft)		721			1329			455			1318	
Travel Time (s)		16.4			30.2			6.9			20.0	
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
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
Shared Lane Traffic (%)												

Intersection Summary	
Area Type:	Other

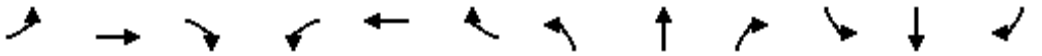
Intersection	
Int Delay, s/veh	4.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	31	387	7	4	426	30	2	38	7	49	50	32
Future Vol, veh/h	31	387	7	4	426	30	2	38	7	49	50	32
Conflicting Peds, #/hr	5	0	5	5	0	5	5	0	5	5	0	5
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	100	-	-	-	-	50	-	-	50
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	33	407	7	4	448	32	2	40	7	52	53	34

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	485	0	0	419	0	0	1003	975	421	982	962	474
Stage 1	-	-	-	-	-	-	482	482	-	477	477	-
Stage 2	-	-	-	-	-	-	521	493	-	505	485	-
Critical Hdwy	4.12	-	-	4.12	-	-	6.8	6.52	6.22	6.8	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	1078	-	-	1140	-	-	241	251	632	249	256	590
Stage 1	-	-	-	-	-	-	565	553	-	569	556	-
Stage 2	-	-	-	-	-	-	539	547	-	549	552	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1073	-	-	1135	-	-	183	240	626	207	244	584
Mov Cap-2 Maneuver	-	-	-	-	-	-	183	240	-	207	244	-
Stage 1	-	-	-	-	-	-	545	533	-	549	551	-
Stage 2	-	-	-	-	-	-	456	542	-	484	532	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.6	0.1	21.6	28.7
HCM LOS			C	D

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	236	626	1073	-	-	1135	-	-	224	584
HCM Lane V/C Ratio	0.178	0.012	0.03	-	-	0.004	-	-	0.465	0.058
HCM Control Delay (s)	23.5	10.8	8.5	-	-	8.2	-	-	34.3	11.5
HCM Lane LOS	C	B	A	-	-	A	-	-	D	B
HCM 95th %tile Q(veh)	0.6	0	0.1	-	-	0	-	-	2.3	0.2



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	95	469	11	53	488	28	5	68	54	23	66	112
Future Volume (vph)	95	469	11	53	488	28	5	68	54	23	66	112
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		0	100		0	0		50	0		50
Storage Lanes	1		0	1		0	0		1	0		1
Taper Length (ft)	60			60			90			90		
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1329			729			417			1313	
Travel Time (s)		30.2			16.6			9.5			29.8	
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
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
Shared Lane Traffic (%)												

Intersection Summary	
Area Type:	Other

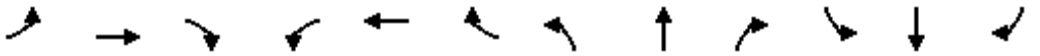
Intersection	
Int Delay, s/veh	33

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	95	469	11	53	488	28	5	68	54	23	66	112
Future Vol, veh/h	95	469	11	53	488	28	5	68	54	23	66	112
Conflicting Peds, #/hr	5	0	5	5	0	5	5	0	5	5	0	5
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	100	-	-	-	-	50	-	-	50
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	89	89	89	89	89	89	89	89	89	89	89	89
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	107	527	12	60	548	31	6	76	61	26	74	126

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	584	0	0	544	0	0	1541	1456	543	1510	1447	574
Stage 1	-	-	-	-	-	-	752	752	-	689	689	-
Stage 2	-	-	-	-	-	-	789	704	-	821	758	-
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	991	-	-	1025	-	-	94	130	540	99	131	518
Stage 1	-	-	-	-	-	-	402	418	-	436	446	-
Stage 2	-	-	-	-	-	-	384	440	-	369	415	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	986	-	-	1020	-	-	28	108	535	33	109	513
Mov Cap-2 Maneuver	-	-	-	-	-	-	28	108	-	33	109	-
Stage 1	-	-	-	-	-	-	357	371	-	387	417	-
Stage 2	-	-	-	-	-	-	223	412	-	230	368	-

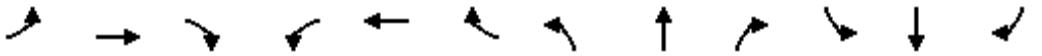
Approach	EB	WB	NB	SB
HCM Control Delay, s	1.5	0.8	94.3	175.7
HCM LOS			F	F

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	90	535	986	-	-	1020	-	-	68	513
HCM Lane V/C Ratio	0.911	0.113	0.108	-	-	0.058	-	-	1.471	0.245
HCM Control Delay (s)	154.7	12.6	9.1	-	-	8.7	-	-	$ 378.9	14.3
HCM Lane LOS	F	B	A	-	-	A	-	-	F	B
HCM 95th %tile Q(veh)	5.1	0.4	0.4	-	-	0.2	-	-	8.4	1



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	95	469	11	53	488	28	5	68	54	23	66	112
Future Volume (vph)	95	469	11	53	488	28	5	68	54	23	66	112
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		0	100		0	0		50	0		50
Storage Lanes	1		0	1		0	0		1	0		1
Taper Length (ft)	60			60			90			90		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1329			729			417			1313	
Travel Time (s)		30.2			16.6			9.5			29.8	
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
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
Shared Lane Traffic (%)												

Intersection Summary	
Area Type:	Other



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	95	469	11	53	488	28	5	68	54	23	66	112
Future Volume (veh/h)	95	469	11	53	488	28	5	68	54	23	66	112
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	0.99		0.99	0.99		0.99
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	107	527	12	60	548	31	6	76	61	26	74	126
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	137	769	18	94	698	39	76	542	472	167	424	472
Arrive On Green	0.08	0.42	0.42	0.05	0.40	0.40	0.30	0.30	0.30	0.30	0.30	0.30
Sat Flow, veh/h	1781	1821	41	1781	1753	99	40	1807	1572	303	1415	1572
Grp Volume(v), veh/h	107	0	539	60	0	579	82	0	61	100	0	126
Grp Sat Flow(s),veh/h/ln	1781	0	1863	1781	0	1852	1847	0	1572	1718	0	1572
Q Serve(g_s), s	3.5	0.0	14.1	2.0	0.0	16.4	0.0	0.0	1.7	0.0	0.0	3.7
Cycle Q Clear(g_c), s	3.5	0.0	14.1	2.0	0.0	16.4	1.9	0.0	1.7	2.4	0.0	3.7
Prop In Lane	1.00		0.02	1.00		0.05	0.07		1.00	0.26		1.00
Lane Grp Cap(c), veh/h	137	0	787	94	0	737	618	0	472	591	0	472
V/C Ratio(X)	0.78	0.00	0.69	0.64	0.00	0.79	0.13	0.00	0.13	0.17	0.00	0.27
Avail Cap(c_a), veh/h	163	0	787	151	0	737	618	0	472	591	0	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	0.00	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	27.2	0.0	14.1	27.9	0.0	15.8	15.4	0.0	15.3	15.5	0.0	16.0
Incr Delay (d2), s/veh	18.3	0.0	4.8	7.0	0.0	8.2	0.4	0.0	0.6	0.6	0.0	1.4
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	0.0	6.2	1.0	0.0	7.7	0.8	0.0	0.6	1.0	0.0	1.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	45.5	0.0	18.9	34.9	0.0	24.0	15.8	0.0	15.9	16.1	0.0	17.4
LnGrp LOS	D	A	B	C	A	C	B	A	B	B	A	B
Approach Vol, veh/h		646			639			143			226	
Approach Delay, s/veh		23.3			25.1			15.8			16.8	
Approach LOS		C			C			B			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	7.7	29.8		22.5	9.1	28.4		22.5				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	5.1	23.4		18.0	5.5	23.0		18.0				
Max Q Clear Time (g_c+I1), s	4.0	16.1		5.7	5.5	18.4		3.9				
Green Ext Time (p_c), s	0.0	2.0		0.7	0.0	1.6		0.5				

Intersection Summary			
HCM 6th Ctrl Delay		22.5	
HCM 6th LOS		C	



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	5	10	66	9	18	141
Future Volume (vph)	5	10	66	9	18	141
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Link Speed (mph)	30		45			45
Link Distance (ft)	331		673			545
Travel Time (s)	7.5		10.2			8.3
Confl. Peds. (#/hr)	5	5		5	5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)						

Intersection Summary	
Area Type:	Other

Intersection	
Int Delay, s/veh	1.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	5	10	66	9	18	141
Future Vol, veh/h	5	10	66	9	18	141
Conflicting Peds, #/hr	5	5	0	5	5	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	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	5	11	72	10	20	153

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	280	87	0	0	87	0
Stage 1	82	-	-	-	-	-
Stage 2	198	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	710	971	-	-	1509	-
Stage 1	941	-	-	-	-	-
Stage 2	835	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	692	962	-	-	1502	-
Mov Cap-2 Maneuver	692	-	-	-	-	-
Stage 1	936	-	-	-	-	-
Stage 2	818	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.3	0	0.8
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	851	1502	-
HCM Lane V/C Ratio	-	-	0.019	0.013	-
HCM Control Delay (s)	-	-	9.3	7.4	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0.1	0	-



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	8	5	70	13	9	137
Future Volume (vph)	8	5	70	13	9	137
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Link Speed (mph)	30		45			45
Link Distance (ft)	321		3757			673
Travel Time (s)	7.3		56.9			10.2
Confl. Peds. (#/hr)	5	5		5	5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)						

Intersection Summary	
Area Type:	Other

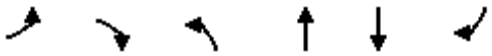
Intersection	
Int Delay, s/veh	0.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	8	5	70	13	9	137
Future Vol, veh/h	8	5	70	13	9	137
Conflicting Peds, #/hr	5	5	0	5	5	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	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	9	5	76	14	10	149

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	262	93	0	0	95	0
Stage 1	88	-	-	-	-	-
Stage 2	174	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	727	964	-	-	1499	-
Stage 1	935	-	-	-	-	-
Stage 2	856	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	715	955	-	-	1492	-
Mov Cap-2 Maneuver	715	-	-	-	-	-
Stage 1	930	-	-	-	-	-
Stage 2	846	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.6	0	0.5
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	792	1492	-
HCM Lane V/C Ratio	-	-	0.018	0.007	-
HCM Control Delay (s)	-	-	9.6	7.4	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0.1	0	-



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	8	15	27	83	148	13
Future Volume (vph)	8	15	27	83	148	13
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Link Speed (mph)	30			30	30	
Link Distance (ft)	248			4316	451	
Travel Time (s)	5.6			98.1	10.3	
Confl. Peds. (#/hr)	5	5	5			5
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)						

Intersection Summary	
Area Type:	Other

Intersection	
Int Delay, s/veh	1.5

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	8	15	27	83	148	13
Future Vol, veh/h	8	15	27	83	148	13
Conflicting Peds, #/hr	5	5	5	0	0	5
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	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	9	16	29	90	161	14

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	326	178	180	0	-	0
Stage 1	173	-	-	-	-	-
Stage 2	153	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	668	865	1396	-	-	-
Stage 1	857	-	-	-	-	-
Stage 2	875	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	647	857	1389	-	-	-
Mov Cap-2 Maneuver	647	-	-	-	-	-
Stage 1	834	-	-	-	-	-
Stage 2	871	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.8	1.9	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1389	-	770	-	-
HCM Lane V/C Ratio	0.021	-	0.032	-	-
HCM Control Delay (s)	7.6	0	9.8	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0.1	-	0.1	-	-

Intersection: 2: Alessandro Av. & Ramona Exwy.

Movement	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	T	T	R	L	T	TR	L	TR	L	TR
Maximum Queue (ft)	101	151	41	6	99	125	61	19	6	11
Average Queue (ft)	69	102	21	1	72	93	36	7	1	2
95th Queue (ft)	114	163	49	11	103	127	68	33	11	14
Link Distance (ft)	2218	2218			1313	1313		463		641
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)			100	300			35		35	
Storage Blk Time (%)		5					10	0	1	0
Queuing Penalty (veh)		4					1	0	0	0

Intersection: 3: Vernon Av. & Ramona Exwy.

Movement	EB	EB	EB	WB	WB	WB	NB	NB
Directions Served	T	T	R	L	T	T	L	R
Maximum Queue (ft)	22	37	26	19	194	153	105	17
Average Queue (ft)	7	11	9	7	133	88	75	6
95th Queue (ft)	29	40	38	28	193	162	115	24
Link Distance (ft)	1313	1313			346	346		354
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)			300	200			175	
Storage Blk Time (%)					1			
Queuing Penalty (veh)					0			

Intersection: 2: Alessandro Av. & Ramona Exwy.

Movement	EB	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	T	R	L	T	TR	L	TR	L	TR
Maximum Queue (ft)	23	158	175	49	23	158	127	51	22	12	39
Average Queue (ft)	6	108	130	31	6	101	79	30	4	3	20
95th Queue (ft)	24	173	196	59	26	166	143	60	29	18	45
Link Distance (ft)		2218	2218			1313	1313		463		641
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (ft)	300			100	300			35		35	
Storage Blk Time (%)			10					10		2	6
Queuing Penalty (veh)			14					0		1	0

EAPC PM Peak Hour

Intersection: 3: Vernon Av. & Ramona Exwy.

Movement	EB	EB	EB	WB	WB	WB	NB	NB
Directions Served	T	T	R	L	T	T	L	R
Maximum Queue (ft)	166	180	53	18	144	59	75	29
Average Queue (ft)	128	138	37	8	98	46	45	7
95th Queue (ft)	184	201	59	29	142	69	87	27
Link Distance (ft)	1313	1313			346	346		354
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)			300	200			175	
Storage Blk Time (%)								
Queuing Penalty (veh)								

URBAN CROSSROADS

urbanxroads.com

February 23, 2022

Mr. Cornell Kasbergen

c/o Bryan Menne
Bryan Menne & Associates
31988 10th Avenue
South Laguna, CA 92651

SUBJECT: KASBERGEN/HAFLIGER TT34271 VEHICLE MILES TRAVELED (VMT) ANALYSIS

Dear Mr. Cornell Kasbergen:

The following vehicle miles traveled (VMT) analysis has been prepared for the proposed Kasbergen/Hafliger TT34271 development (**Project**) in the City of San Jacinto. For VMT analysis purposes, the Project consists of 151 new single family residential dwelling units. The Project is located east of Alessandro Avenue, south of Ramona Expressway, and west of Vernon Avenue.

Project phasing and long range future traffic conditions with Project land use changes are evaluated in the Kasbergen/Hafliger TT34271 Traffic Analysis (February 23, 2022).

BACKGROUND

Changes to California Environmental Quality Act (CEQA) Guidelines were adopted in December 2018, which require all lead agencies to adopt VMT as a replacement for automobile delay-based level of service (LOS) as the new measure for identifying transportation impacts for land use projects. This statewide mandate was implemented on July 1, 2020. To aid in this transition, the Governor's Office of Planning and Research (OPR) released a Technical Advisory on Evaluating Transportation Impacts in CEQA (December of 2018) (**Technical Advisory**). (1)

Based on OPR's Technical Advisory, the City of San Jacinto has prepared their Traffic Impact Analysis Guidelines for Vehicle Miles Traveled and Level of Service Assessment (**City Guidelines**). (2) This analysis has been prepared based on the adopted City Guidelines.

VMT ANALYSIS METHODOLOGY

The CEQA Assessment – VMT Analysis of the Traffic Impact Analysis Guidelines for Vehicle Miles Traveled and Level of Service Assessment (June 2020) (**San Jacinto Guidelines**) is consistent with the VMT analysis methodology recommended by OPR. As outlined in the San Jacinto Guidelines, a residential Project is analyzed, applying the following significance threshold:

- The project-generated VMT per service population exceeds the WRCOG Subregional VMT per service population; or

- The cumulative project-generated VMT per service population exceeds WRCOG Subregional VMT per service population.

Per the City Guidelines, the VMT baseline for the City of San Jacinto is 14.5 daily Residential Home Based VMT per Capita based upon RIVTAM. But the WRCOG screening tool indicates 19.04 daily Residential Home Based VMT per Capita as the jurisdictional average (the Project TAZ daily Residential Home Based VMT per Capita based on the WRCOG screening tool is 19.67).

PROJECT SCREENING

The San Jacinto Guidelines provide details on appropriate "screening thresholds" that can be used to identify when a proposed land use project is anticipated to result in a less-than-significant impact without conducting a more detailed analysis. Screening thresholds are broken into three types:

- Transit Priority Area (TPA) Screening
- Low VMT Area Screening
- Project Type Screening

A land use project need only to meet one of the above screening thresholds to result in a less-than-significant impact.

For the purposes of this analysis, the initial VMT screening process has been conducted using the Riverside County Transportation Analysis Model (RIVTAM).

TPA SCREENING

Consistent with guidance identified in the Technical Advisory, projects located within a Transit Priority Area (TPA) may be presumed to have a less than significant impact. A TPA is defined as within ½ mile of:

1) an existing "major transit stop" (containing a rail transit station served by either bus services or rail transit service, or the intersection of two or more major bus routes with a frequency of service interval of 15 minutes or less during the morning and afternoon peak commute periods) or

2) an existing stop along a "high-quality transit corridor" (a corridor with fixed route bus service with service intervals no longer than 15 minutes during peak commute hours)

The Project site is not located within ½ mile of an existing major transit stop, or along a high-quality transit corridor.

The TPA screening threshold is not met.

LOW VMT AREA SCREENING

The San Jacinto Guidelines also states that, "residential and office projects located within a low VMT-generating area may be presumed to have a less than significant impact absent substantial evidence to

the contrary. In addition, other employment-related and mixed-use land use projects may qualify for the use of screening if the project can reasonably be expected to generate VMT per resident, per worker, or per service population that is similar to the existing land uses in the low VMT area." The sub-regional Riverside County Transportation Analysis Model (RIVTAM) is used to measure VMT performance within individual traffic analysis zones (TAZs). An estimate of the VMT in the Project's physical location was calculated to determine the relevant TAZ's VMT as compared to the jurisdictional average. The WRCOG screening tool has been reviewed and the Project is not in a low VMT area.

The Low VMT Area screening threshold is not met.

PROJECT TYPE SCREENING

The San Jacinto Guidelines allow residential projects of 53 or fewer single family housing units to be screened out. Because there are more than 53 residential units in the Project, the Project is not considered small enough to not warrant assessment. Therefore, the Project would not be eligible to screen out based on project type screening.

The Project Type screening threshold is not met.

Since none of the project level screening criteria were met, a project level VMT analysis has been prepared.

PROJECT VMT ASSESSMENT

The VMT projections are based upon the Riverside County Model (RIVCOM) version 3.0 which became available in 2021. RIVCOM is a useful tool to estimate VMT as it considers interaction between different land uses based on socio-economic data such as population, households, and employment. The San Jacinto Guidelines identify RIVCOM as the appropriate tool for conducting VMT analysis for land use projects in San Jacinto.

CITYWIDE BASELINE RESIDENTIAL VMT CALCULATION

In order to provide an appropriate baseline for VMT comparison, the RIVCOM VMT was extracted for the City of San Jacinto. Table 2 shows the total population and VMT data for the City of San Jacinto for 2018 and 2045 conditions. VMT data for 2022 conditions has bene interpolated to provide a baseline for the Project comparisons. The Citywide Baseline daily Residential Home Based VMT per Capita based on RIVCOM is 14.12 VMT / Capita, which is less than the RIVTAM VMT / Capita presented earlier.

TABLE 2: CITYWIDE HOME-BASED VMT

Category	2018	2045	2022 (Interpolated)
Population	46,149	70,941	49,822
VMT	639,424	1,070,626	703,306
VMT / Capita	13.86	15.09	14.12

Project VMT has been calculated using the most current version of RIVCOM. Adjustments in socio-economic data (SED) (i.e., employment) have been made to within the RIVCOM model to reflect the Project's proposed residential land use and population.

Table 1 summarizes the household / population estimates for the Project. The population estimates have been developed from household land use to population factors from the City Guidelines.

TABLE 1: SOCIO-ECONOMIC VARIABLE ESTIMATES

Socio-Economic Variable	Estimated Quantity
Single Family Households	151 Households
Population	560 Residents

Adjustments to household and population data for the Project TAZ were made to the RIVCOM base year model (2018) and the cumulative year model (2045). Each model was then run with the updated SED factors included for the Project TAZ.

PROJECT RESIDENTIAL VMT CALCULATION

Consistent with recommendations contained in the San Jacinto Guidelines, the residential calculation of VMT is based upon the home-based project-generated VMT per population and also upon the project effect on VMT. Table 2 shows the home-based VMT associated with the Project for both baseline and cumulative conditions. VMT estimates are provided for both the base year model (2018) and cumulative year model (2045), and linear interpolation was used to determine the Project's home-based baseline (2022) VMT.

TABLE 2: BASELINE AND CUMULATIVE PROJECT RESIDENTIAL HOME-BASED VMT

Category	Project 2018	Project 2045	Project 2022 (interpolated)
Residents	560	560	560
VMT	7,673	10,155	8,041
VMT / Resident	13.70	18.13	14.36

For baseline (2022) conditions, the Project generates 8,041 Home-Based VMT. There are an estimated 560 Project residents. The result is approximately 14.36 home-based VMT / Capita for the 2022 Baseline with Project conditions.

The Project effect on VMT is based upon the Citywide home-based VMT estimates, which have been developed from the "Without Project" and "With Project" RIVCOM model runs. Once total home-based VMT for the area is calculated, total area VMT is then normalized by dividing by the population as shown on Table 3.

TABLE 3: CITYWIDE HOME-BASED VMT

Category	2018	2045	2022 (Interpolated)
Without Project Population	46,149	70,941	49,822
Without Project VMT	639,424	1,070,626	703,306
Without Project VMT / Capita	13.86	15.09	14.12
With Project Population	46,709	70,941	50,299
With Project VMT	646,063	1,071,033	709,022
With Project VMT / Capita	13.83	15.10	14.10

The estimates of baseline residential home-based Project VMT / Capita are compared to the City of San Jacinto VMT of 14.12 home-based VMT / Capita. The Project home-based VMT / Capita of 14.36 is greater than the City VMT / Capita threshold based on RIVCOM procedures.

PROJECT DESIGN FEATURES FOR VMT REDUCTION

Transportation demand management (TDM) strategies have been evaluated for the purpose of reducing VMT impacts determined to be potentially significant. Quantifying Greenhouse Gas Mitigation Measures (CAPCOA, 2010) provides information on individual measures for potential reduction in VMT . Of the 50 transportation measures presented by CAPCOA, approximately 41 are applicable at a building and site level. The remaining 9 measures are functions of, or depend on, site location and/or actions by local and regional agencies or funders.

On page 58 of the CAPCOA 2010 document, ten percent is referenced as the maximum reduction when combining multiple mitigation strategies for the *suburban* place type (characterized by dispersed, low-density, single-use, automobile dependent land use patterns) and requires a project to contain a diverse land use mix, workforce housing, and project-specific transit. The maximum percent reductions were derived from a limited comparison of aggregate citywide VMT performance rather than based on data comparing the actual performance of VMT reduction strategies in the place type.

Even under the most favorable circumstances, projects located within a suburban context, such as the proposed Project evaluated here, can realize a maximum 10 percent reduction in VMT through implementation of feasible TDM measures. The Project incorporates design features and attributes promoting trip reduction. Because these features/attributes are integral to the Project, and/or are regulatory requirements, they are not considered to be mitigation measures. However, the RIVCOM does not incorporate modeling of these features, so they are considered after the VMT data is extracted from the traffic model.

Project vehicle miles traveled (VMT) are reduced by including design elements that enhance walkability and connectivity. Exhibit A shows these Project design features for pedestrians and bicyclists. In addition to sidewalks on all interior streets, the Project proposes sidewalks adjacent to the development on Vernon Street and Alessandro Avenue. A sidewalk is also proposed to be constructed along the existing residential parcel on the southwest corner of the Project.

Two 10' shared-use path paseos are proposed: 1) connecting Street "D" with Alessandro Avenue and 2) connecting Street "J" with Vernon Street. With the non-motorized access connections, the Project will provide opportunities for residents to have more direct walk /bike access to adjacent collector streets as well as the regional trail/off-road Class I Bikeway parallel to Ramona Expressway. The Project's implementation of these features could provide for a potential reduction in Project residential VMT of 2%, resulting in 14.07, which is less than the City of San Jacinto VMT / SP threshold.

In summary, VMT for the Project based upon City of San Jacinto guidelines and accounting for the enhanced pedestrian design features indicates that the Project VMT / SP is lower than the threshold.

If you have any questions, please contact us at (949) 375-2435 for John or (714) 585-0574 for Marlie.

Respectfully submitted,

URBAN CROSSROADS, INC.

John Kain

Marlie Whiteman

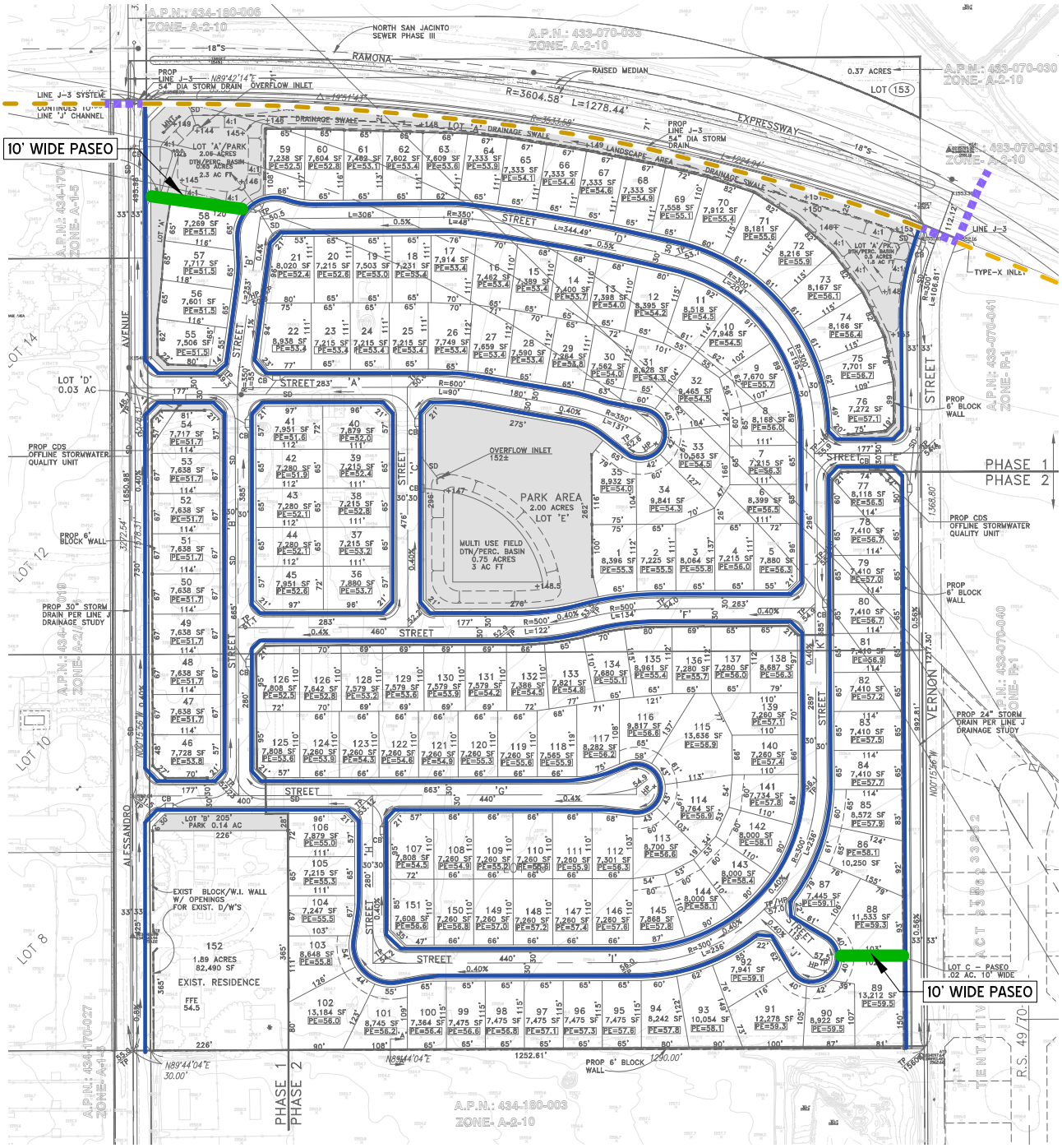
John Kain, AICP
Principal

Marlie Whiteman, PE
Senior Associate

REFERENCES

1. **Office of Planning and Research.** *Technical Advisory on Evaluating Transportation Impacts in CEQA.* State of California : s.n., December 2018.
2. **City of San Jacinto.** *Traffic Impact Analysis Guidelines for Vehicle Miles Traveled and Level of Service Assessment.* June 16, 2020.
3. **County of Riverside.** *Appendix E: Socioeconomic Build-Out Assumptions and Methodology.* County of Riverside : s.n., April 2017.

EXHIBIT 1: PEDESTRIAN DESIGN FEATURES



LEGEND:

- = SIDEWALK
- = PASEO
- = EXISTING CROSSWALK
- = EXISTING BIKE PATH

N

14573 - 01 - study area.dwg

URBAN CROSSROADS

Department of Toxic Substances Control

Yana Garcia
Secretary for
Environmental Protection

Katherine M. Butler, MPH, Director
8800 Cal Center Drive
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Gavin Newsom
Governor

SENT VIA ELECTRONIC MAIL

May 27, 2026

Kevin White
Planning Manager
City of San Jacinto
595 South San Jacinto Avenue
San Jacinto, CA 92583
kwhite@sanjacintoca.gov

RE: MITIGATED NEGATIVE DECLARATION FOR THE KASBERGEN SINGLE FAMILY SUBDIVISION DATED MAY 21, 2026, STATE CLEARINGHOUSE NUMBER 2026050849

Dear Kevin White,

The Department of Toxic Substances Control (DTSC) reviewed the Mitigated Negative Declaration (MND) for the Kasbergen Single Family Subdivision (Project). The Applicant is initiating the annexation of three parcels totaling approximately 43.68 acres. Additionally, the Applicant is requesting approval to subdivide the 43.68-acre site into 152 residential lots and seven letter lots. DTSC recommends and requests consideration of the following comments:

1. When agricultural crops and/or land uses are proposed or rezoned for residential use, several contaminants of concern (COCs) can be present. The Lead Agency shall identify the amounts of Pesticides and Organochlorine Pesticides (OCPs) historically used on the property. If present, OCPs requiring further analysis are dichloro-diphenyl-trichloroethane, toxaphene, and dieldrin. Additionally, any level of arsenic present would require further analysis and sampling and must meet approved local area baselines or

thresholds. If they do not, remedial action must take place to mitigate them below those thresholds. Additional COCs may be found in mixing/loading/storage areas, drainage ditches, farmhouses, or any other outbuildings and should be sampled and analyzed. If smudge pots had been routinely utilized, additional sampling for Polycyclic Aromatic Hydrocarbons and/or Total Petroleum Hydrocarbons may be required. These recommendations should be adhered to and become part of the environmental document. Please refer to the DTSC's Human and Ecological Risk Office (HERO) webpage for the most recent guidance and screening levels.

2. DTSC recommends all imported soil/fill material be tested to ensure all COCs meet screening levels as outlined in DTSC's Preliminary Endangerment Assessment (PEA) Guidance Manual. Furthermore, DTSC advises referencing the DTSC Information Advisory Clean Imported Fill Material Fact Sheet if importing soil/fill is necessary. To minimize the possibility of introducing contaminated soil/fill material, there should be documentation of the origins of the soil/fill material and, if applicable, sampling be conducted to ensure that the imported soil/fill material is suitable for the intended land use. The sampling should include analysis based on the source of the soil/fill and knowledge of prior land use.

3. The City of San Jacinto should consider soil testing as mentioned in comment #1. If, in the event any COC results are above DTSC residential screening levels, DTSC recommends the City of San Jacinto address the contaminations within the Project area through an Environmental Site Assessment and/or receive oversight from a self-certified local agency, DTSC or Regional Water Quality Control Board. If entering into one of DTSC's voluntary agreements, please note that DTSC uses a single standard Request for Lead Agency Oversight Application for all agreement types. Please apply for DTSC oversight using this link: Request for Agency Oversight Application. Submittal of the online application includes an

agreement to pay costs incurred during agreement preparation. If you have any questions about the application portal, please contact the relevant Regional Brownfield Coordinator for your Project.

4. If buildings or other structures are to be demolished on any Project sites included in the proposed Project, surveys should be conducted for the presence of lead-based paints or products, mercury, asbestos containing materials, and polychlorinated biphenyl caulk. Removal, demolition, and disposal of any of the above-mentioned chemicals should be conducted in compliance with California environmental regulations and policies. In addition, sampling near current and/or former buildings should be conducted in accordance with DTSC's PEA Guidance Manual.

DTSC would like to thank you for the opportunity to comment on the MND for the Kasbergen Single Family Subdivision. Thank you for your assistance in protecting California's people and environment from the harmful effects of toxic substances. If you have any questions or would like clarification on DTSC's comments, please respond to this letter or via our CEQA Review email for additional guidance.

Sincerely,

Dave Kereazis

Dave Kereazis
Associate Environmental Planner
HWMP - Permitting Division – CEQA Unit
Department of Toxic Substances Control
Dave.Kereazis@dtsc.ca.gov

cc: (via email)

Governor's Office of Land Use and Climate Innovation
State Clearinghouse
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January 20, 2026

TO: City Council

REQUESTED BY: Travis Randel, Deputy City Manager, Development Services

APPROVED BY: Robert A. Johnson, City Manager

SUBJECT: Prezoning of Parcels Within the City Sphere of Influence (Unincorporated Riverside County)

RECOMMENDATION:

The Planning Commission **recommends** that the City Council:

1. **DETERMINE** that pursuant to the California Code of Regulations the project is exempt from CEQA as the project is (1) covered by the common-sense exemption, CEQA Guidelines Section 15061(b)(3), (2) the project is a Feasibility and Planning Study, CEQA Guidelines Section 15262, and (3) the project is consistent with the General Plan polices for which an EIR was certified, CEQA Guidelines Section 15183.

2. **INTRODUCE Ordinance No. 26-01**, for first reading to approve the Pre-Zoning (P22-084) of 94 parcels on 190 acres for the future annexation of land generally located south of Ramona Expressway and north of Artesia Street between San Jacinto Avenue and Vernon Avenue.

   AN ORDINANCE OF THE CITY COUNCIL OF THE CITY OF SAN JACINTO, CALIFORNIA APPROVING PRE-ZONING FOR 94 PARCELS ON 190 ACRES WITHIN THE CITY'S SPHERE OF INFLUENCE RELATED TO PROPOSED ANNEXATION P22-084 (ANNEXATION "A") AND THE ADJACENT ANNEXATION AREA (ANNEXATION "B").

DISCUSSION:

On December 9, 2025, the Planning Commission held a Public Hearing and unanimously (3-0, 2 absent) recommended that the City Council approve Prezoning for 94 parcels within unincorporated Riverside County that comprises approximately 190 acres. This property is generally located south of Ramona Expressway, between Alessandro Avenue and Vernon Avenue.

Background

In 2022, the City of San Jacinto ("City") received applications on behalf of Cornell Kasbergen ("Kasbergen Project") to annex approximately 44 acres of property located in the unincorporated portion of Riverside County into the City and to subdivide the property into 152 single-family residential lots ("Annexation A"). Subsequently, the City Council adopted Resolution No. 3927 to initiate a second annexation ("Annexation B") encompassing approximately 146 acres generally located south and east of the Kasbergen Project (east of San Jacinto Avenue, south of Bergin Street, north of Artesia Street, and west of Vernon Avenue). Prior to consideration of either annexation,

the annexation areas must be pre-zoned. Pre-zoning establishes future zoning designations that would take effect upon annexation approval.

ANALYSIS:

A portion of the site lies within a Disadvantaged Unincorporated Community ("DUC"), identified by the Riverside County Local Agency Formation Commission ("LAFCO") as "DUC 2, Soboba Hot Springs." Under State law (Cortese-Knox-Hertzberg Local Government Reorganization Act of 2000) and LAFCO policy, Annexation A will not be accepted by LAFCO for review without Annexation B. Conversely Annexation B will not be accepted by LAFCO without Annexation A. Even though they must be submitted together, formal action on the annexations will be separate actions: Therefore, the City or LAFCO could approve one and deny the other. It is also possible that both decisions are approved or denied.

Proposed Pre-zone

The City's Development Code (§17.200.040 and §17.720.070) requires pre-zoning consistent with the City's General Plan. The General Plan designates properties within the annexation area as Low Density Residential (LDR), Medium Density Residential (MDR), Mixed Use (MU), Public/Institutional (PI), and Commercial (C).

The General Plan lists the Zones that are consistent with the General Plan Land Use Designation as shown in the following table:

City General Plan Land Use Designation	City Zones Implementing the General Plan
Low Density Residential (LDR)	Residential, Low Density (RL)
Medium Density Residential (MDR)	Residential, Medium Density (RM)
Mixed Use (MU)	Mixed Use (MU) Mixed Use Entertainment (MU-E)
Public/Institutional (PI)	Public Institutional (PI)
Commercial (C)	Commercial General (CG)/ Commercial Neighborhood (CN) Regional Commercial (CR)

The LDR, MDR, and PI land use designations each correspond to a single zone in the City's Development Code. As a result, the RL, RM, and PI zones are proposed for those properties to maintain direct consistency with the General Plan.

The Commercial land use designation may be implemented through multiple zoning districts, including Commercial Neighborhood (CN), Commercial General (CG), and Commercial Regional (CR). Staff evaluated the Commercial-designated parcels within the annexation area based on parcel size, configuration, roadway access, surrounding land uses, and the intended function of these sites. Based on this review, the Commercial General (CG) zone is the most appropriate classification. The CG zone provides sufficient flexibility and intensity to accommodate a range of neighborhood- and

community-serving retail, service, and office uses without requiring the larger parcel sizes and regional access typically associated with Regional Commercial development. At the same time, the CG zone allows a broader mix of uses than the more limited Commercial Neighborhood zone. Applying the CG zone maintains consistency with the Commercial General Plan designation and supports orderly, compatible development along major transportation corridors as these areas transition into the City.

The Mixed Use land use designation may be implemented through either the Mixed Use (MU) or Mixed Use Entertainment (MU-E) zoning districts. Staff reviewed the Mixed Use-designated parcels considering their location, surrounding zoning pattern, access, and proximity to major activity centers. Adjacent parcels within the Mixed Use General Plan designation are currently zoned MU-E, and the subject parcels are located along Ramona Expressway near regional destinations such as Soboba Casino and Resort and Mt. San Jacinto College. The MU-E zone is therefore the most appropriate classification, as it is intended to support higher-intensity mixed-use development with an emphasis on entertainment, retail, residential, and public gathering spaces. The MU-E zone allows for greater functional integration of uses and a higher nonresidential floor area ratio than the MU zone, consistent with the role of this corridor and the surrounding land use context. Applying the MU-E zone aligns with the Mixed Use General Plan designation and supports the creation of experience-oriented development that integrates living, employment, entertainment, and community-serving uses.

Effect of Pre-Zoning

Pre-zoning does not change any existing regulations for properties within the annexation areas and has no direct effect on current homeowners or businesses. The areas remain under Riverside County jurisdiction until an annexation is formally approved. Pre-zoning simply identifies the zoning designations the City would apply if annexation is approved at a later date. Establishing these designations in advance is a required step before the Riverside Local Agency Formation Commission will accept annexation applications for review.

When the City submits the annexation applications to LAFCO, the process would involve multiple stages of review, public notices, and hearings. LAFCO would conduct its own analysis under State law and its adopted policies, hold public hearings, and provide a formal protest period for affected property owners and registered voters. Separate public hearings before the Planning Commission and City Council would also be required. Approval of pre-zoning does not commit the City to pursue, support, or approve either annexation.

ENVIRONMENTAL DETERMINATION

The proposed pre-zoning is exempt from the California Environmental Quality Act (CEQA) pursuant to several provisions of the CEQA Guidelines. First, the action is covered by the common-sense exemption under Section 15061(b)(3), as the project establishes zoning designations for potential future annexation areas and does not authorize or approve any physical development. There is no possibility that the pre-zoning, in itself, may result in a significant effect on the environment. Second, the project qualifies as a feasibility and planning study under Section 15262 because the pre-zoning serves as part of the preliminary planning and boundary evaluation process required by the Riverside Local Agency Formation Commission prior to consideration of annexation. This action does not bind the City to a specific project or physical outcome. Finally, the

pre-zoning implements existing General Plan land use designations analyzed in the certified General Plan Environmental Impact Report, and therefore qualifies for the exemption under Section 15183, which applies to projects consistent with a General Plan for which an EIR has already been certified. For these reasons, no further environmental review is required.

ATTACHMENTS:

Ordinance No. 26-01
Planning Commission Staff Report
PC Resolution No. 25-02

STATE OF CALIFORNIA)
COUNTY OF RIVERSIDE)ss
CITY OF SAN JACINTO)

ORDINANCE NO. 26-01

AN ORDINANCE OF THE CITY COUNCIL OF THE CITY OF SAN JACINTO, CALIFORNIA APPROVING PRE-ZONING FOR 94 PARCELS ON 190 ACRES WITHIN THE CITY'S SPHERE OF INFLUENCE RELATED TO PROPOSED ANNEXATION P22-084 (ANNEXATION "A") AND THE ADJACENT ANNEXATION AREA (ANNEXATION "B")

WHEREAS, the City of San Jacinto ("City") received an application (Annexation "A", P22-084) proposing annexation of approximately 44 acres located south of Ramona Expressway, between Alessandro Avenue and Vernon Avenue, along with a related subdivision request for 152 single-family residential lots; and

WHEREAS, the City Council subsequently adopted Resolution No. 3927 initiating Annexation "B", encompassing approximately 146 acres generally located east of San Jacinto Avenue, south of Bergin Street, north of Artesia Street, and west of Vernon Avenue, immediately adjacent to Annexation "A"; and

WHEREAS, Annexation "A" and Annexation "B" are collectively referred to as the "Annexation Areas," and together comprise approximately 190 acres of unincorporated land within the City's Sphere of Influence (SOI); and

WHEREAS, under the Cortese-Knox-Hertzberg Local Government Reorganization Act of 2000 and Riverside Local Agency Formation Commission ("LAFCO") policies, Annexation "A" cannot be processed without Annexation "B", and Annexation "B" cannot be processed without Annexation "A", requiring the City to consider pre-zoning for both areas concurrently; and

WHEREAS, a portion of Annexation Areas lie within a designated Disadvantaged Unincorporated Community (DUC 2 – Soboba Hot Springs), and State law and LAFCO policy encourage annexation of DUCs to improve access to reliable public services, infrastructure, and governance; and

WHEREAS, pre-zoning is required pursuant to San Jacinto Development Code Sections 17.200.040 and 17.720.070 before the City may submit annexation applications to LAFCO, and such pre-zoning must be consistent with the General Plan land use designations assigned to the Annexation Areas; and

WHEREAS, the General Plan designates the Annexation Areas for Low Density Residential, Medium Density Residential, Mixed Use, Public/Institutional, and Commercial uses, each of which corresponds to an implementing zoning district identified in the Development Code; and

Attachment: Ordinance No. 26-01 (Prezoning of Parcels Within the City Sphere of Influence (Unincorporated Riverside County))

WHEREAS, the Commercial-designated parcels and certain Mixed Use properties front Ramona Expressway, a major arterial roadway designed to carry up to 55,300 daily vehicle trips, making these parcels most appropriate for the Commercial General (CG) and Mixed Use (MU) zoning districts rather than the more limited CN zone or the large-format CR zone; and

WHEREAS, after reviewing parcel size, configuration, roadway access, surrounding uses, and the purpose statements of each zone, the Planning Commission finds that the proposed RL, RM, MU, PI, and CG zoning classifications maintain consistency with the General Plan and support orderly, compatible future development should annexation occur; and

WHEREAS, pre-zoning does not approve annexation, authorize development, or alter existing County regulations, but instead establishes the zoning framework required for potential future annexation and provides clarity for residents, property owners, and LAFCO; and

WHEREAS, on December 9, 2025 the Planning Commission of the City of San Jacinto ("Commission") conducted a duly noticed public hearing on the Project at which time all persons wishing to testify in connection with the Project were heard, and the Project was comprehensively reviewed, and the Project was recommended for approval by the City Council; and

WHEREAS, on January 20, 2026 the City Council of the City of San Jacinto conducted duly noticed public hearings on the Application at which time all persons wishing to testify in connection with the Application were heard and the Application was comprehensively reviewed by the City Council.

NOW THEREFORE, THE CITY COUNCIL OF THE CITY OF SAN JACINTO DOES HEREBY ORDAIN AS FOLLOWS:

Section 1. Incorporation of Recitals. The Recitals set forth above are incorporated herein and made an operative part of this Ordinance as though fully set forth herein.

Section 2. Based on the entire record before the City Council, all written and oral evidence presented, the recommendation and the findings made in this Ordinance, the City Council hereby approves Prezoning for the Annexation Areas, subject to the Findings of Fact.

Section 3. Findings of Fact. The City Council of the City of San Jacinto hereby finds and determines:

1. The San Jacinto General Plan establishes land use designations for all parcels within the pre-zoning area, including Commercial, Mixed Use, Low Density Residential, Medium Density Residential, and Public Institutional. Each designation includes specific purpose statements and development expectations outlined in the General Plan Land Use

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Element. The Development Code identifies the zoning districts that implement these land use designations, ensuring consistency between long-range planning policy and zoning regulations.

Several General Plan designations within the annexation areas correspond to a single implementing zone. Low Density Residential (2–7 du/ac) and Medium Density Residential (5–14 du/ac) are implemented through the RL and RM zones, which provide development standards consistent with the intended density ranges. The Mixed Use designation, which supports vertically or horizontally integrated residential and commercial uses up to 36 du/ac and a 1.0 FAR, is implemented through the MU zone. The Public Institutional designation, which accommodates public facilities such as schools, utilities, and government buildings at a maximum FAR of 0.50, is implemented through the PI zone. Applying RL, RM, MU, and PI zoning to parcels with corresponding General Plan designations maintains the internal consistency required by State law and the Development Code.

The Commercial designation permits a variety of retail, service, entertainment, and employment-generating uses with a maximum FAR of 0.50. Under the Development Code, this designation may be implemented through three zoning districts: Commercial Neighborhood (CN), Commercial General (CG), and Commercial Regional (CR). Section 17.220.020 describes each zone's purpose and scale:

- The CN zone is intended for small-scale retail and personal service uses serving adjacent neighborhoods, with a maximum FAR of 0.40.
- The CG zone accommodates general commercial and daily shopping needs of a broader market area, allowing a wide range of retail, service, and office uses accessible from major corridors, with a maximum FAR of 0.50.
- The CR zone supports large-scale regional commercial development, including big-box retail, auto sales, hotels, and entertainment uses.

Both the MU and Commercial-designated parcels within the annexation areas front onto Ramona Expressway, one of the largest and highest-volume corridors in the City. This segment of Ramona Expressway is designated as an Arterial Roadway, designed to accommodate up to 55,300 vehicle trips per day. The roadway's classification, traffic capacity, and regional connectivity make it unsuitable for the small-scale, neighborhood-oriented commercial uses intended for the CN zone, while the parcel sizes lack the depth and acreage required for the large-format development characteristic of the CR zone. In contrast, the CG zone provides the appropriate balance of flexibility and intensity needed to support community-serving commercial uses along a major

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arterial, consistent with the Commercial General Plan designation and the Development Code's purpose statements.

The proposed pre-zoning also advances several General Plan goals and policies, including maintaining a balanced land use pattern (Goal LU-1), directing growth to areas where infrastructure can be extended efficiently (Goal LU-2), ensuring land use compatibility (Goal LU-3), and implementing the land use map through zoning that reflects intended intensity and function (Action LU-1a). Policy LU-2.6 further supports the orderly transition of lands within the City's Sphere of Influence through coordinated annexation and consistent pre-zoning.

The project site is not located within a Specific Plan area. Adoption of the proposed zoning classifications ensures consistency between the General Plan and the Zoning Map and supports the City's long-term land use objectives should annexation occur in the future.

2. The proposed pre-zoning will not result in physical development or regulatory changes affecting existing properties, as the annexation areas will remain under Riverside County jurisdiction until such time as an annexation is approved. Pre-zoning merely establishes the zoning classifications that would apply if annexation occurs in the future and is required before the Riverside Local Agency Formation Commission will accept annexation applications. As such, the action does not alter existing land use entitlements, building regulations, or service responsibilities within the annexation areas.

   The zoning districts proposed through this amendment implement the General Plan land use designations for the area and promote orderly, well-coordinated growth consistent with long-term planning objectives. The assigned zones establish appropriate standards for residential, commercial, mixed-use, and public institutional development that reflect the intended intensity and function of these areas. This ensures that any future development following annexation will occur in a compatible and predictable manner, supporting public health, safety, and welfare.

   Public services and infrastructure, including fire and police protection, potable water, wastewater collection and treatment, storm drainage, solid waste services, and roadway access, can be extended or enhanced as needed to serve the area if annexation occurs. The proposed zoning classifications align with service capacity planning assumptions in the General Plan and do not introduce uses or intensities that would exceed the City's ability to provide adequate municipal services.

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Because the amendment does not authorize development, modify existing uses, or impose new regulatory restrictions on County-governed parcels, it will not adversely affect public convenience, health, safety, or the general welfare. Instead, it facilitates an orderly framework for future decision-making and ensures that any subsequent development within potential annexation areas will be reviewed under zoning standards that are internally consistent with the City's adopted General Plan.

3. The annexation areas proposed for pre-zoning consist of parcels that are physically suitable for the land uses anticipated under the General Plan and the implementing zoning districts. The General Plan land use designations applied to these parcels assume development patterns consistent with the physical characteristics of the area, including parcel size, roadway access, topography, and adjacency to existing urban uses. The proposed zoning classifications mirror those assumptions and do not introduce land use intensities beyond what the General Plan envisioned for these properties.

   The areas designated for Low Density Residential, Medium Density Residential, Mixed Use, and Public Institutional uses are located on sites that can accommodate these uses without creating hazards or incompatibilities with surrounding development. Parcels designated for Commercial and Mixed Use development are located along Ramona Expressway, a major arterial roadway designed to accommodate substantial daily traffic volumes and to serve as a key commercial and mobility corridor for the City. This roadway classification, combined with the parcels' depth, visibility, and access characteristics, supports the suitability of the CG and MU zones for future development in these locations.

   Adequate public services and utilities can be provided to serve these areas if annexation occurs, including fire and police protection, potable water, wastewater collection and treatment, storm drainage, solid waste services, and school facilities. These assumptions are consistent with the General Plan, which identifies the City's Sphere of Influence as an area appropriate for long-term urban expansion where municipal services can be extended in an orderly and efficient manner. The pre-zoning does not authorize development but ensures that any future proposals will be reviewed under zoning classifications that align with the City's land use, infrastructure, and service provision policies.

   A portion of the area proposed for pre-zoning is located within Disadvantaged Unincorporated Community (DUC) #2 – Soboba Hot Springs, as identified by the Riverside Local Agency Formation Commission. State law and LAFCO policy encourage the annexation of DUCs to ensure the equitable provision of municipal services, improve long-term service reliability, and support public health and

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safety. While pre-zoning does not itself extend City services, it is a required procedural step that allows the City and LAFCO to evaluate annexation in a manner consistent with these policies. Establishing appropriate zoning classifications in advance supports orderly service planning and ensures that, if annexation is pursued, development would occur under zoning standards aligned with the City's land use and infrastructure objectives.

Because the proposed zoning districts reflect the physical constraints and opportunities of the annexation areas and do not alter existing County-governed land use rights, the amendment will not endanger or jeopardize property or improvements in the vicinity. Instead, it establishes a framework for compatible, well-planned development should annexation and future entitlements be pursued.

Section 4. That this Ordinance shall become effective on the 31st day following its adoption.

Section 5. That an environmental analysis has been conducted which evaluated information and impacts based on the specifics of this proposed project. This analysis 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 revisions in the project have been made by or agreed to by the project proponent and other effects will be mitigated to a level of less than significant impact. Therefore, a Mitigated Negative Declaration and its associated Mitigation Monitoring Plan is recommended.

Section 6. The City Clerk shall certify the adoption of this ordinance and cause the same to be published in a newspaper of general circulation printed and published in the County of Riverside, State of California.

Introduced at a regular meeting of the City Council on the 20th day of January 20, 2026.

Attachment: Ordinance No. 26-01 (Prezoning of Parcels Within the City Sphere of Influence (Unincorporated Riverside County))

PASSED, APPROVED, AND ADOPTED at a regular meeting of the City Council on the 4th Day of February 2026 by the following vote.

AYES:
NAYS:
ABSENT:
ABSTAIN:

CITY OF SAN JACINTO:

_____
Crystal Ruiz, Mayor

ATTEST:

_____
Julia Espinoza, City Clerk

APPROVED AS TO FORM:
BEST BEST & KRIEGER LLP

_____
Craig M. Hayes, City Attorney

Attachment: Ordinance No. 26-01 (Prezoning of Parcels Within the City Sphere of Influence (Unincorporated Riverside County))

CERTIFICATION

State of California)
County of Riverside) ss
City of San Jacinto)

I, Julia Espinoza, duly appointed City Clerk of the City of San Jacinto, do hereby certify that the foregoing Ordinance No. 26-01 was introduced at a regular meeting of the City Council of the City of San Jacinto on the 20th day of January 2026. Ordinance No. 26-01 was passed, approved, and adopted by the City Council of the City of San Jacinto, California, at a regular meeting of the City Council held on the 4th day of February 2026:

AYES:
NAYS:
ABSENT:
ABSTAIN:

WITNESS MY HAND AND SEAL the 4th day of February 2026.

_____
Julia Espinoza, City Clerk
City of San Jacinto

Attachment: Ordinance No. 26-01 (Prezoning of Parcels Within the City Sphere of Influence (Unincorporated Riverside County))

ATTACHMENT "A"

PROPERTY DESCRIPTION

The land referred to is situated in the unincorporated portion of the County of Riverside and includes the following parcels:

Assessors Parcel Number	Property Address	Pre-Zoning (Proposed)	City Zoning Description	City General Plan	City General Plan Description
433-070-024		MU &RM	Mixed Use/Residential, Medium Density	MU & MDR	Mixed Use/Medium Density Residential
433-070-030		MU	Mixed Use	MU	Mixed Use
433-070-034		RL	Residential, Low Density	LDR	Low Density Residential
433-070-050		RL	Residential, Low Density	LDR	Low Density Residential
434-170-007	22200 SAN JACINTO AVE SAN JACINTO 92583	RL	Residential, Low Density	LDR	Low Density Residential
434-170-012	22414 SAN JACINTO AVE SAN JACINTO 92583	RL	Residential, Low Density	LDR	Low Density Residential
434-170-013		RL	Residential, Low Density	LDR	Low Density Residential
434-170-016		RL	Residential, Low Density	LDR	Low Density Residential
434-170-017	22528 SAN JACINTO AVE SAN JACINTO 92583	RL	Residential, Low Density	LDR	Low Density Residential
434-170-019	22323 ALESSANDRO AVE SAN JACINTO 92583	PI	Public Institutional	PI	Public Institutional
434-170-023	22090 SAN JACINTO AVE SAN JACINTO 92583	RL	Residential, Low Density	LDR	Low Density Residential
434-170-024	22440 SAN JACINTO AVE SAN JACINTO 92583	RL	Residential, Low Density	LDR	Low Density Residential
434-170-027	22415 ALESSANDRO AVE SAN JACINTO 92583	PI	Public Institutional	PI	Public Institutional
434-170-028		RM	Residential, Medium Density	ROW	Row
434-170-029	22210 SAN JACINTO AVE SAN JACINTO 92583	RL	Residential, Low Density	LDR	Low Density Residential
434-170-030		RL	Residential, Low Density	LDR	Low Density Residential
434-170-033		RL	Residential, Low Density	LDR	Low Density Residential
434-170-034	22530 SAN JACINTO AVE SAN JACINTO 92583	RL	Residential, Low Density	LDR	Low Density Residential
434-170-035	22464 SAN JACINTO AVE SAN JACINTO 92583	RL	Residential, Low Density	LDR	Low Density Residential
434-170-036	22445 ALESSANDRO AVE SAN JACINTO 92583	RL	Residential, Low Density	LDR	Low Density Residential
434-170-037	22485 ALESSANDRO AVE SAN JACINTO 92583	RL	Residential, Low Density	LDR	Low Density Residential
434-170-047	22090 SAN JACINTO AVE SAN JACINTO 92583	RL	Residential, Low Density	LDR	Low Density Residential
434-170-048	22019 ALESSANDRO AVE SAN JACINTO 92583	RM	Residential, Medium Density	MDR	Medium Density Residential
434-170-049		RM	Residential, Medium Density	MDR	Medium Density Residential
434-170-050	40393 BERGIN ST SAN JACINTO 92583	RL	Residential, Low Density	LDR	Low Density Residential

Attachment: Ordinance No. 26-01 (Prezoning of Parcels Within the City Sphere of Influence (Unincorporated Riverside County))

434-170-051	40260 MARTINEZ RD SAN JACINTO 92583	RL	Residential, Low Density	LDR	Low Density Residential
434-170-052	40270 MARTINEZ RD SAN JACINTO 92583	RL	Residential, Low Density	LDR	Low Density Residential
434-170-053	40280 MARTINEZ RD SAN JACINTO 92583	RL	Residential, Low Density	LDR	Low Density Residential
434-170-054	40300 MARTINEZ RD SAN JACINTO 92583	RL	Residential, Low Density	LDR	Low Density Residential
434-170-055		RL	Residential, Low Density	LDR	Low Density Residential
434-170-057		RL	Residential, Low Density	LDR	Low Density Residential
434-170-059	22212 SAN JACINTO AVE SAN JACINTO 92583	RL	Residential, Low Density	LDR	Low Density Residential
434-170-060		RL	Residential, Low Density	LDR	Low Density Residential
434-180-006		RL	Residential, Low Density	LDR	Low Density Residential
434-180-007	22384 ALESSANDRO AVE SAN JACINTO 92583	MU	Mixed Use	MU	Mixed Use
434-180-008	22500 ALESSANDRO AVE SAN JACINTO 92583	MU	Mixed Use	MU	Mixed Use
434-221-001	22534 N SAN JACINTO AVE SAN JACINTO 92583	RL	Residential, Low Density	LDR	Low Density Residential
434-221-002	22558 SAN JACINTO AVE SAN JACINTO 92583	RL	Residential, Low Density	LDR	Low Density Residential
434-221-003		RL	Residential, Low Density	LDR	Low Density Residential
434-221-004		RL	Residential, Low Density	LDR	Low Density Residential
434-221-006		RL	Residential, Low Density	LDR	Low Density Residential
434-221-007	22610 SAN JACINTO AVE SAN JACINTO 92583	RL	Residential, Low Density	LDR	Low Density Residential
434-221-008	22618 SAN JACINTO AVE SAN JACINTO 92583	RL	Residential, Low Density	LDR	Low Density Residential
434-221-009	22570 SAN JACINTO AVE SAN JACINTO 92583	RL	Residential, Low Density	LDR	Low Density Residential
434-221-010	22572 SAN JACINTO AVE SAN JACINTO 92583	RL	Residential, Low Density	LDR	Low Density Residential
434-222-002	22607 ALESSANDRO AVE SAN JACINTO 92583	RL	Residential, Low Density	LDR	Low Density Residential
434-222-003	22585 ALESSANDRO AVE SAN JACINTO 92583	RM	Residential, Medium Density	MDR	Medium Density Residential
434-222-004	22545 ALESSANDRO AVE SAN JACINTO 92583	RL	Residential, Low Density	LDR	Low Density Residential
434-240-001	22670 N SAN JACINTO AVE SAN JACINTO 92583	RL	Residential, Low Density	LDR	Low Density Residential
434-240-002	22710 SAN JACINTO ST SAN JACINTO 92583	RL	Residential, Low Density	LDR	Low Density Residential
434-240-004	22731 ALESSANDRO AVE SAN JACINTO 92583	RL	Residential, Low Density	LDR	Low Density Residential
434-240-009		RL	Residential, Low Density	LDR	Low Density Residential
434-240-010	22621 ALESSANDRO ST SAN JACINTO 92583	RL	Residential, Low Density	LDR	Low Density Residential
434-240-011	22681 ALESSANDRO AVE SAN JACINTO 92583	RL	Residential, Low Density	LDR	Low Density Residential
434-240-012	22701 ALESSANDRO AVE SAN JACINTO 92583	RL	Residential, Low Density	LDR	Low Density Residential

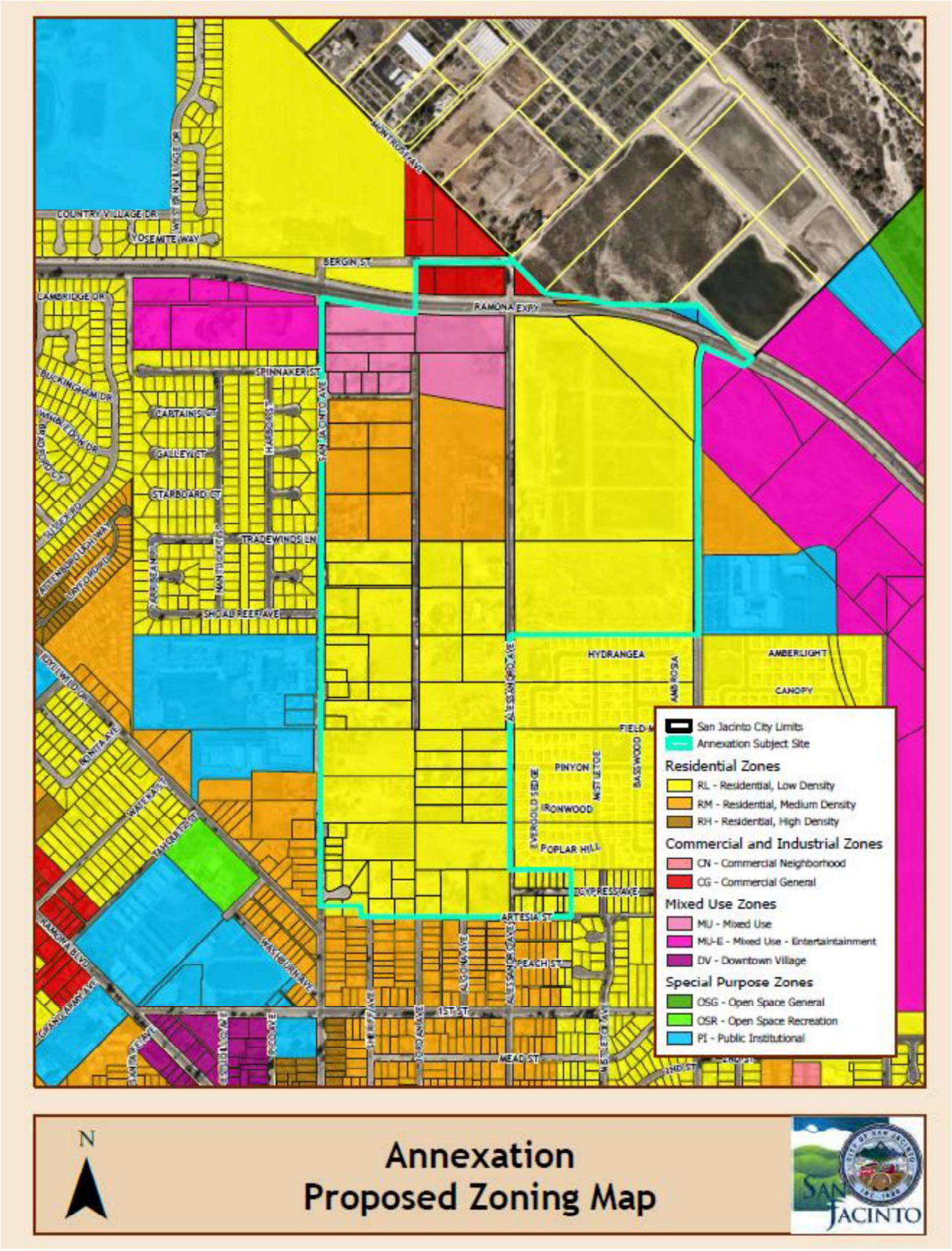
434-240-013	22652 JORDAN AVE SAN JACINTO 92583	RL	Residential, Low Density	LDR	Low Density Residential
434-240-014	22641 ALESSANDRO RD SAN JACINTO 92583	RL	Residential, Low Density	LDR	Low Density Residential
434-240-016	22741 ALESSANDRO AVE SAN JACINTO 92583	RL	Residential, Low Density	LDR	Low Density Residential
434-240-017	22690 JORDAN AVE SAN JACINTO 92583	RL	Residential, Low Density	LDR	Low Density Residential
434-240-018		RL	Residential, Low Density	LDR	Low Density Residential
434-260-001	22760 SAN JACINTO AVE SAN JACINTO 92583	RL	Residential, Low Density	LDR	Low Density Residential
434-260-002	22774 SAN JACINTO AVE SAN JACINTO 92583	RL	Residential, Low Density	LDR	Low Density Residential
434-260-003	22786 SAN JACINTO AVE SAN JACINTO 92583	RL	Residential, Low Density	LDR	Low Density Residential
434-260-004	22790 SAN JACINTO AVE SAN JACINTO 92583	RL	Residential, Low Density	LDR	Low Density Residential
434-260-005	22808 SAN JACINTO AVE SAN JACINTO 92583	RM	Residential, Medium Density	MDR	Medium Density Residential
434-260-006	22740 SAN JACINTO AVE SAN JACINTO 92583	RL	Residential, Low Density	LDR	Low Density Residential
434-260-011		RM	Residential, Medium Density	MDR	Medium Density Residential
434-260-012		RM	Residential, Medium Density	MDR	Medium Density Residential
434-260-013		RM	Residential, Medium Density	MDR	Medium Density Residential
434-260-015	22865 JORDAN AVE SAN JACINTO 92583	CG	Commercial General	C	Commercial
434-260-016	22761 ALESSANDRO AVE SAN JACINTO 92583	RL	Residential, Low Density	LDR	Low Density Residential
434-260-018	40430 ARTESIA AVE SAN JACINTO 92583	RL	Residential, Low Density	LDR	Low Density Residential
434-260-019		RL	Residential, Low Density	LDR	Low Density Residential
434-260-020		RL	Residential, Low Density	LDR	Low Density Residential
434-260-021	40390 ARTESIA ST SAN JACINTO 92583	RL	Residential, Low Density	LDR	Low Density Residential
434-260-024	22870 SHERIFF AVE SAN JACINTO 92583	RL	Residential, Low Density	LDR	Low Density Residential
434-260-025	22850 SAN JACINTO AVE SAN JACINTO 92583	RL	Residential, Low Density	LDR	Low Density Residential
434-260-026	40254 CAHUILLA CIR SAN JACINTO 92583	RL	Residential, Low Density	LDR	Low Density Residential
434-260-027	40278 CAHUILLA CIR SAN JACINTO 92583	RL	Residential, Low Density	LDR	Low Density Residential
434-260-028	40290 CAHUILLA CIR SAN JACINTO 92583	RL	Residential, Low Density	LDR	Low Density Residential
434-260-029	40283 CAHUILLA CIR SAN JACINTO 92583	RL	Residential, Low Density	LDR	Low Density Residential
434-272-001	22842 ALESSANDRO AVE SAN JACINTO 92583	RL	Residential, Low Density	LDR	Low Density Residential
434-272-002	40520 ARTESIA AVE SAN JACINTO 92583	RL	Residential, Low Density	LDR	Low Density Residential
434-272-003	40540 ARTESIA ST SAN JACINTO 92583	RL	Residential, Low Density	LDR	Low Density Residential
434-272-004		RL	Residential, Low Density	LDR	Low Density Residential

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434-272-005	40560 ARTESIA ST SAN JACINTO 92583	RL	Residential, Low Density	LDR	Low Density Residential
434-272-006		MU	Mixed Use	MU	Mixed Use
434-276-013	22814 ALESSANDRO AVE SAN JACINTO 92583	CG	Commercial General	C	Commercial
434-276-014	40528 CYPRESS AVE SAN JACINTO 92583	MU	Mixed Use	MU	Mixed Use
434-276-015	40538 CYPRESS AVE SAN JACINTO 92583	CG	Commercial General	C	Commercial
434-276-016	40546 CYPRESS AVE SAN JACINTO 92583	MU	Mixed Use	MU	Mixed Use
434-276-017	40554 CYPRESS AVE SAN JACINTO 92583	MU	Mixed Use	MU	Mixed Use
434-276-018	40562 CYPRESS AVE SAN JACINTO 92583	MU	Mixed Use	MU	Mixed Use
434-276-019	40570 CYPRESS AVE SAN JACINTO 92583	MU	Mixed Use	MU	Mixed Use

Attachment: Ordinance No. 26-01 (Prezoning of Parcels Within the City Sphere of Influence (Unincorporated Riverside County))

ZONING MAP



Attachment: Ordinance No. 26-01 (Prezoning of Parcels Within the City Sphere of Influence (Unincorporated Riverside County))

December 9, 2025

TO: Planning Commission

REQUESTED BY: Travis Randel, Deputy City Manager, Development Services

APPROVED BY: Robert A. Johnson, City Manager

SUBJECT: Prezoning of Parcels Within the City Sphere of Influence (Unincorporated Riverside County)

RECOMMENDATION:

Staff recommends that the Planning Commission **ADOPT PC Resolution No. 25-02**, thereby recommending that City Council:

1. **DETERMINE** that pursuant to the California Code of Regulations the project is exempt from CEQA as the project is (1) covered by the common-sense exemption, CEQA Guidelines Section 15061(b)(3), (2) the project is a Feasibility and Planning Study, CEQA Guidelines Section 15262, and (3) the project is consistent with the General Plan polices for which an EIR was certified, CEQA Guidelines Section 15183.

2. **APPROVE** the Pre-Zoning of 94 parcels on 190 acres for the future annexation of land generally located south of Bergin Street and north of Artesia Street between San Jacinto Avenue and Vernon Avenue.

BACKGROUND:

In 2022, the City of San Jacinto ("City") received applications on behalf of Cornell Kasbergen ("Kasbergen Project") to annex approximately 44 acres of property located in the unincorporated portion of Riverside County into the City and to subdivide the property into 152 single-family residential lots ("Annexation A"). This property is generally located south of Ramona Expressway, between Alessandro Avenue and Vernon Avenue. Subsequently, the City Council adopted Resolution No. 3927 to initiate a second annexation ("Annexation B") encompassing approximately 146 acres generally located south and east of the Kasbergen Project (east of San Jacinto Avenue, south of Bergin Street, north of Artesia Street, and west of Vernon Avenue).

Prior to consideration of either annexation, the annexation areas must be pre-zoned. Pre-zoning establishes future zoning designations that would take effect upon annexation approval. Because the two annexation areas are adjacent, staff is presenting the pre-zoning of both areas as a single item for Planning Commission review.

The annexation areas are located within the City's Sphere of Influence (SOI), which is a planning boundary outside of the City's legal limits. The SOI is intended to ensure the efficient provision of services, discourage urban sprawl, and prevent premature conversion of agricultural and open space lands. Properties within the SOI carry a City General Plan designation but remain subject to the County of Riverside's General Plan and Zoning Ordinance until annexed.

Attachment: Planning Commission Staff Report (Prezoning of Parcels Within the City Sphere of Influence (Unincorporated Riverside County))

DISCUSSION AND ANALYSIS:

Annexation of unincorporated areas into the City will have the following benefits:

1. Eliminate pockets of unincorporated County areas adjacent to or within the City;
2. Incorporate the annexation area into the City and provide municipal services;
3. Creates opportunity for better and more consistent development patterns; and,
4. Provides local representation through the City Council.

A portion of the site lies within a Disadvantaged Unincorporated Community ("DUC"), identified by the Riverside County Local Agency Formation Commission ("LAFCO") as "DUC 2, Soboba Hot Springs." Under State law (Cortese-Knox-Hertzberg Local Government Reorganization Act of 2000) and LAFCO policy, Annexation A will not be accepted by LAFCO for review without Annexation B. Conversely Annexation B will not be accepted by LAFCO without Annexation A. Even though they must be submitted together, formal action on the annexations will be separate actions: There the City or LAFCO could approve one and deny the other. It is also possible that both decisions are approved or denied.

LAFCOs are state-mandated regulatory agencies established to encourage orderly growth and development through regulation of local agency boundaries. Annexation of properties within Riverside County must be coordinated with the Riverside County LAFCO, and applications to LAFCO require pre-zoning by the City.

Proposed Pre-zone

The City's Development Code (§17.200.040 and §17.720.070) requires pre-zoning consistent with the City's General Plan. The General Plan designates properties within the annexation area as Low Density Residential (LDR), Medium Density Residential (MDR), Mixed Use (MU), Public/Institutional (PI), and Commercial (C).

The General Plan lists the Zones that are consistent with the General Plan Land Use Designation as shown in the following table:

City General Plan Land Use Designation	City Zones Implementing the General Plan
Low Density Residential (LDR)	Residential, Low Density (RL)
Medium Density Residential (MDR)	Residential, Medium Density (RM)
Mixed Use (MU)	Mixed Use (MU)
Public/Institutional (PI)	Public Institutional (PI)
Commercial (C)	Commercial General (CG)/ Commercial Neighborhood (CN) Regional Commercial (CR)

Attachment: Planning Commission Staff Report (Prezoning of Parcels Within the City Sphere of Influence (Unincorporated Riverside County))

The LDR, MDR, MU, and PI land use designations each correspond to a single implementing zone in the City's Development Code. As a result, the RL, RM, MU, and PI zones are proposed for those properties to maintain direct consistency with the General Plan.

The Commercial land use designation is different because it can be implemented through three zoning districts, CG, CN, or CR. Staff reviewed the commercial parcels in the annexation area, considering their size, location, access, and surrounding uses. Based on that review, the CG zone is the most appropriate fit. It provides the right level of flexibility and intensity to support neighborhood and community-serving commercial uses without requiring the larger site area typically needed for Regional Commercial development. At the same time, it allows a broader range of uses than the more limited Commercial Neighborhood zone. Applying the CG designation maintains consistency with the General Plan and supports orderly, compatible development as these areas transition into the City.

Riverside County General Plan and Zoning Designations

The County of Riverside has 4 General Plan designations within the annexation area which includes, Rural Residential, Rural Community – Low Density Residential, Agriculture, and Medium Density Residential. Zoning within the annexation area includes 6 zones: Agriculture-1-5 (A-1-5), Agriculture-2 (A-2), Agriculture-2-10 (A-2-10), Residential- Agriculture (R-A), Residential 3 (R-3) Residential-1 (R-1). The Riverside County General Plan and the County's Zoning Ordinance are not always fully consistent with one another. As an example, certain parcels carry General Plan designations such as Medium Density Residential, however the parcels are zoned for Agriculture (A-1-5). A complete list of parcels are included in the Staff Report, which details the County General Plan, Zoning, as well as the City's General Plan and the proposed pre-zone.

Effect of Pre-Zoning

Pre-zoning does not change any existing regulations for properties within the annexation areas and has no direct effect on current homeowners or businesses. The areas remain under Riverside County jurisdiction until an annexation is formally approved. Pre-zoning simply identifies the zoning designations the City would apply if annexation is approved at a later date. Establishing these designations in advance is a required step before the Riverside Local Agency Formation Commission will accept annexation applications for review.

When the City submits the annexation applications to LAFCO, the process would involve multiple stages of review, public notices, and hearings. LAFCO would conduct its own analysis under State law and its adopted policies, hold public hearings, and provide a formal protest period for affected property owners and registered voters. Separate public hearings before the Planning Commission and City Council would also be required before any annexation applications are filed. Approval of pre-zoning does not commit the City to pursue, support, or approve either annexation.

If an annexation is eventually approved by LAFCO and the City Council, the City's pre-zoning designations would take effect at that time and replace the existing County zoning. Some properties may contain lawful County-approved uses that do not fully conform to City zoning standards. Those uses would be treated as legal nonconforming uses under the City's Development Code. They may continue operating in their current form, subject to the nonconforming use provisions. Any future

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expansion, intensification, modification, or redevelopment would need to comply with the applicable City zoning in place after annexation.

This process maintains consistency with the City's General Plan, provides clarity for long-term planning, and ensures that existing property rights are respected while allowing an orderly transition if annexation occurs in the future.

ENVIRONMENTAL DETERMINATION

The proposed pre-zoning is exempt from the California Environmental Quality Act (CEQA) pursuant to several provisions of the CEQA Guidelines. First, the action is covered by the common-sense exemption under Section 15061(b)(3), as the project establishes zoning designations for potential future annexation areas and does not authorize or approve any physical development. There is no possibility that the pre-zoning, in itself, may result in a significant effect on the environment. Second, the project qualifies as a feasibility and planning study under Section 15262 because the pre-zoning serves as part of the preliminary planning and boundary evaluation process required by the Riverside Local Agency Formation Commission prior to consideration of annexation. This action does not bind the City to a specific project or physical outcome. Finally, the pre-zoning implements existing General Plan land use designations analyzed in the certified General Plan Environmental Impact Report, and therefore qualifies for the exemption under Section 15183, which applies to projects consistent with a General Plan for which an EIR has already been certified. For these reasons, no further environmental review is required.

ATTACHMENTS:

PC Resolution 25-02
Findings
General Plan Map
Proposed Zoning Map
Property List and City-County General Plan and Zoning Matrix
LAFCO Exhibit: San Jacinto DUC 2, Soboba Hot Springs
Resolution No. 3927 with Map Exhibit

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STATE OF CALIFORNIA)
COUNTY OF RIVERSIDE)
CITY OF SAN JACINTO)

PC RESOLUTION NO. 25-02

A RESOLUTION OF THE PLANNING COMMISSION OF THE CITY OF SAN JACINTO, CALIFORNIA, RECOMMENDING CITY COUNCIL APPROVAL OF PRE-ZONING FOR PARCELS WITHIN THE CITY'S SPHERE OF INFLUENCE RELATED TO PROPOSED ANNEXATION P22-084 (ANNEXATION "A") AND THE ADJACENT ANNEXATION AREA (ANNEXATION "B")

WHEREAS, the City of San Jacinto ("City") received an application (Annexation "A", P22-084) proposing annexation of approximately 44 acres located south of Ramona Expressway, between Alessandro Avenue and Vernon Avenue, along with a related subdivision request for 152 single-family residential lots; and

WHEREAS, the City Council subsequently adopted Resolution No. 3927 initiating Annexation "B", encompassing approximately 146 acres generally located east of San Jacinto Avenue, south of Bergin Street, north of Artesia Street, and west of Vernon Avenue, immediately adjacent to Annexation "A"; and

WHEREAS, Annexation "A" and Annexation "B" are collectively referred to as the "Annexation Areas," and together comprise approximately 190 acres of unincorporated land within the City's Sphere of Influence (SOI); and

WHEREAS, under the Cortese-Knox-Hertzberg Local Government Reorganization Act of 2000 and Riverside Local Agency Formation Commission ("LAFCO") policies, Annexation "A" cannot be processed without Annexation "B", and Annexation "B" cannot be processed without Annexation "A", requiring the City to consider pre-zoning for both areas concurrently; and

WHEREAS, a portion of Annexation Areas lie within a designated Disadvantaged Unincorporated Community (DUC 2 – Soboba Hot Springs), and State law and LAFCO policy encourage annexation of DUCs to improve access to reliable public services, infrastructure, and governance; and

WHEREAS, pre-zoning is required pursuant to San Jacinto Development Code Sections 17.200.040 and 17.720.070 before the City may submit annexation applications to LAFCO, and such pre-zoning must be consistent with the General Plan land use designations assigned to the Annexation Areas; and

WHEREAS, the General Plan designates the Annexation Areas for Low Density Residential, Medium Density Residential, Mixed Use, Public/Institutional, and Commercial uses, each of which corresponds to an implementing zoning district identified in the Development Code; and

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WHEREAS, the Commercial-designated parcels and certain Mixed Use properties front Ramona Expressway, a major arterial roadway designed to carry up to 55,300 daily vehicle trips, making these parcels most appropriate for the Commercial General (CG) and Mixed Use (MU) zoning districts rather than the more limited CN zone or the large-format CR zone; and

WHEREAS, after reviewing parcel size, configuration, roadway access, surrounding uses, and the purpose statements of each zone, the Planning Commission finds that the proposed RL, RM, MU, PI, and CG zoning classifications maintain consistency with the General Plan and support orderly, compatible future development should annexation occur; and

WHEREAS, pre-zoning does not approve annexation, authorize development, or alter existing County regulations, but instead establishes the zoning framework required for potential future annexation and provides clarity for residents, property owners, and LAFCO; and

WHEREAS, the Planning Commission has reviewed the staff report, Findings of Fact, proposed Zoning Map amendments, and supporting documentation and desires to recommend approval of the proposed pre-zoning to the City Council; and

WHEREAS, the pre-zoning is exempt from the California Environmental Quality Act pursuant to CEQA Guidelines Sections 15061(b)(3) (common-sense exemption), 15262 (feasibility and planning studies), and 15183 (projects consistent with a certified General Plan EIR).

WHEREAS, notice of the public hearing was provided in accordance with Government Code Section 65090, including a mailed notice to property owners within 300 feet of the project area and publication in a newspaper of general circulation, and the matter was duly noticed for consideration by the Planning Commission on December 9, 2025; and

WHEREAS, on December 9th, 2025, this resolution was fully considered by the Planning Commission; and

WHEREAS, all other legal prerequisites to the adoption of this Resolution have occurred.

NOW, THEREFORE, BE IT RESOLVED, BY THE PLANNING COMMISSION OF THE CITY OF SAN JACINTO:

SECTION 1. Based on the entire record before the Commission, all written and oral evidence presented to the Commission, and the findings set forth in the Resolution, the Commission recommends that the City Council of the City of San Jacinto approve the pre-zoning for the Subject Site.

SECTION 2. Based on the entire record before the Commission, the Planning Commission finds the proposed pre-zoning consistent with the City's General Plan and Development Code.

SECTION 3. The Planning Commission hereby finds that pursuant to the California Code of Regulations the project is exempt from CEQA as the project is (1) covered by the common-sense exemption, CEQA Guidelines Section 15061(b)(3). (2) The project is a Feasibility and Planning Study, CEQA Guidelines Section 15262. (3) The project is consistent with the General Plan polices for which an EIR was certified, CEQA Guidelines Section 15183.

The action involves only the establishment of zoning designations consistent with the General Plan, does not authorize construction, and will not result in new or significant environmental effects beyond those previously evaluated in the certified General Plan EIR.

PASSED, APPROVED, AND ADOPTED at a regular meeting of the Planning Commission of the City of San Jacinto on the 9th day of December 2025, by the following vote:

AYES:
NAYS:
ABSENT:
ABSTAIN:

CITY OF SAN JACINTO:

_____
Planning Commission Chair
City of San Jacinto

ATTEST:

_____
Planning Commission Secretary
City of San Jacinto

Attachment: Planning Commission Staff Report (Prezoning of Parcels Within the City Sphere of Influence (Unincorporated Riverside County))

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FINDINGS OF FACT
Pre-Zoning

1. The proposed Zoning Map amendment is consistent with the General Plan and applicable specific plan;

The San Jacinto General Plan establishes land use designations for all parcels within the pre-zoning area, including Commercial, Mixed Use, Low Density Residential, Medium Density Residential, and Public Institutional. Each designation includes specific purpose statements and development expectations outlined in the General Plan Land Use Element. The Development Code identifies the zoning districts that implement these land use designations, ensuring consistency between long-range planning policy and zoning regulations.

Several General Plan designations within the annexation areas correspond to a single implementing zone. Low Density Residential (2–7 du/ac) and Medium Density Residential (5–14 du/ac) are implemented through the RL and RM zones, which provide development standards consistent with the intended density ranges. The Mixed Use designation, which supports vertically or horizontally integrated residential and commercial uses up to 36 du/ac and a 1.0 FAR, is implemented through the MU zone. The Public Institutional designation, which accommodates public facilities such as schools, utilities, and government buildings at a maximum FAR of 0.50, is implemented through the PI zone. Applying RL, RM, MU, and PI zoning to parcels with corresponding General Plan designations maintains the internal consistency required by State law and the Development Code.

The Commercial designation permits a variety of retail, service, entertainment, and employment-generating uses with a maximum FAR of 0.50. Under the Development Code, this designation may be implemented through three zoning districts: Commercial Neighborhood (CN), Commercial General (CG), and Commercial Regional (CR). Section 17.220.020 describes each zone's purpose and scale:

- The CN zone is intended for small-scale retail and personal service uses serving adjacent neighborhoods, with a maximum FAR of 0.40.
- The CG zone accommodates general commercial and daily shopping needs of a broader market area, allowing a wide range of retail, service, and office uses accessible from major corridors, with a maximum FAR of 0.50.
- The CR zone supports large-scale regional commercial development, including big-box retail, auto sales, hotels, and entertainment uses.

Both the MU and Commercial-designated parcels within the annexation areas front onto Ramona Expressway, one of the largest and highest-volume corridors in the City. This segment of Ramona Expressway is designated as an Arterial Roadway, designed to accommodate up to 55,300 vehicle trips per day. The roadway's

classification, traffic capacity, and regional connectivity make it unsuitable for the small-scale, neighborhood-oriented commercial uses intended for the CN zone, while the parcel sizes lack the depth and acreage required for the large-format development characteristic of the CR zone. In contrast, the CG zone provides the appropriate balance of flexibility and intensity needed to support community-serving commercial uses along a major arterial, consistent with the Commercial General Plan designation and the Development Code's purpose statements.

The proposed pre-zoning also advances several General Plan goals and policies, including maintaining a balanced land use pattern (Goal LU-1), directing growth to areas where infrastructure can be extended efficiently (Goal LU-2), ensuring land use compatibility (Goal LU-3), and implementing the land use map through zoning that reflects intended intensity and function (Action LU-1a). Policy LU-2.6 further supports the orderly transition of lands within the City's Sphere of Influence through coordinated annexation and consistent pre-zoning.

The project site is not located within a Specific Plan area. Adoption of the proposed zoning classifications ensures consistency between the General Plan and the Zoning Map and supports the City's long-term land use objectives should annexation occur in the future.

2. The proposed amendment will not be detrimental to the public interest, health, safety, convenience, or welfare of the City;

The proposed pre-zoning will not result in physical development or regulatory changes affecting existing properties, as the annexation areas will remain under Riverside County jurisdiction until such time as an annexation is approved. Pre-zoning merely establishes the zoning classifications that would apply if annexation occurs in the future and is required before the Riverside Local Agency Formation Commission will accept annexation applications. As such, the action does not alter existing land use entitlements, building regulations, or service responsibilities within the annexation areas.

The zoning districts proposed through this amendment implement the General Plan land use designations for the area and promote orderly, well-coordinated growth consistent with long-term planning objectives. The assigned zones establish appropriate standards for residential, commercial, mixed-use, and public institutional development that reflect the intended intensity and function of these areas. This ensures that any future development following annexation will occur in a compatible and predictable manner, supporting public health, safety, and welfare.

Public services and infrastructure, including fire and police protection, potable water, wastewater collection and treatment, storm drainage, solid waste services, and roadway access, can be extended or enhanced as needed to serve the area if annexation occurs. The proposed zoning classifications align with service

capacity planning assumptions in the General Plan and do not introduce uses or intensities that would exceed the City's ability to provide adequate municipal services.

Because the amendment does not authorize development, modify existing uses, or impose new regulatory restrictions on County-governed parcels, it will not adversely affect public convenience, health, safety, or the general welfare. Instead, it facilitates an orderly framework for future decision-making and ensures that any subsequent development within potential annexation areas will be reviewed under zoning standards that are internally consistent with the City's adopted General Plan.

3. **The affected site is physically suitable in terms of design, location, shape, size, operation characteristics, and the provision of public services and utilities (e.g., fire protection, police protection, potable water, schools, solid waste collection and disposal, storm drainage, wastewater collection, treatment, and disposal, etc.), to ensure that the requested zoning designation and the proposed or anticipated uses and/or development will not endanger, jeopardize, or otherwise constitute a hazard to the property or improvements in the vicinity in which the property is located;**

The annexation areas proposed for pre-zoning consist of parcels that are physically suitable for the land uses anticipated under the General Plan and the implementing zoning districts. The General Plan land use designations applied to these parcels assume development patterns consistent with the physical characteristics of the area, including parcel size, roadway access, topography, and adjacency to existing urban uses. The proposed zoning classifications mirror those assumptions and do not introduce land use intensities beyond what the General Plan envisioned for these properties.

The areas designated for Low Density Residential, Medium Density Residential, Mixed Use, and Public Institutional uses are located on sites that can accommodate these uses without creating hazards or incompatibilities with surrounding development. Parcels designated for Commercial and Mixed Use development are located along Ramona Expressway, a major arterial roadway designed to accommodate substantial daily traffic volumes and to serve as a key commercial and mobility corridor for the City. This roadway classification, combined with the parcels' depth, visibility, and access characteristics, supports the suitability of the CG and MU zones for future development in these locations.

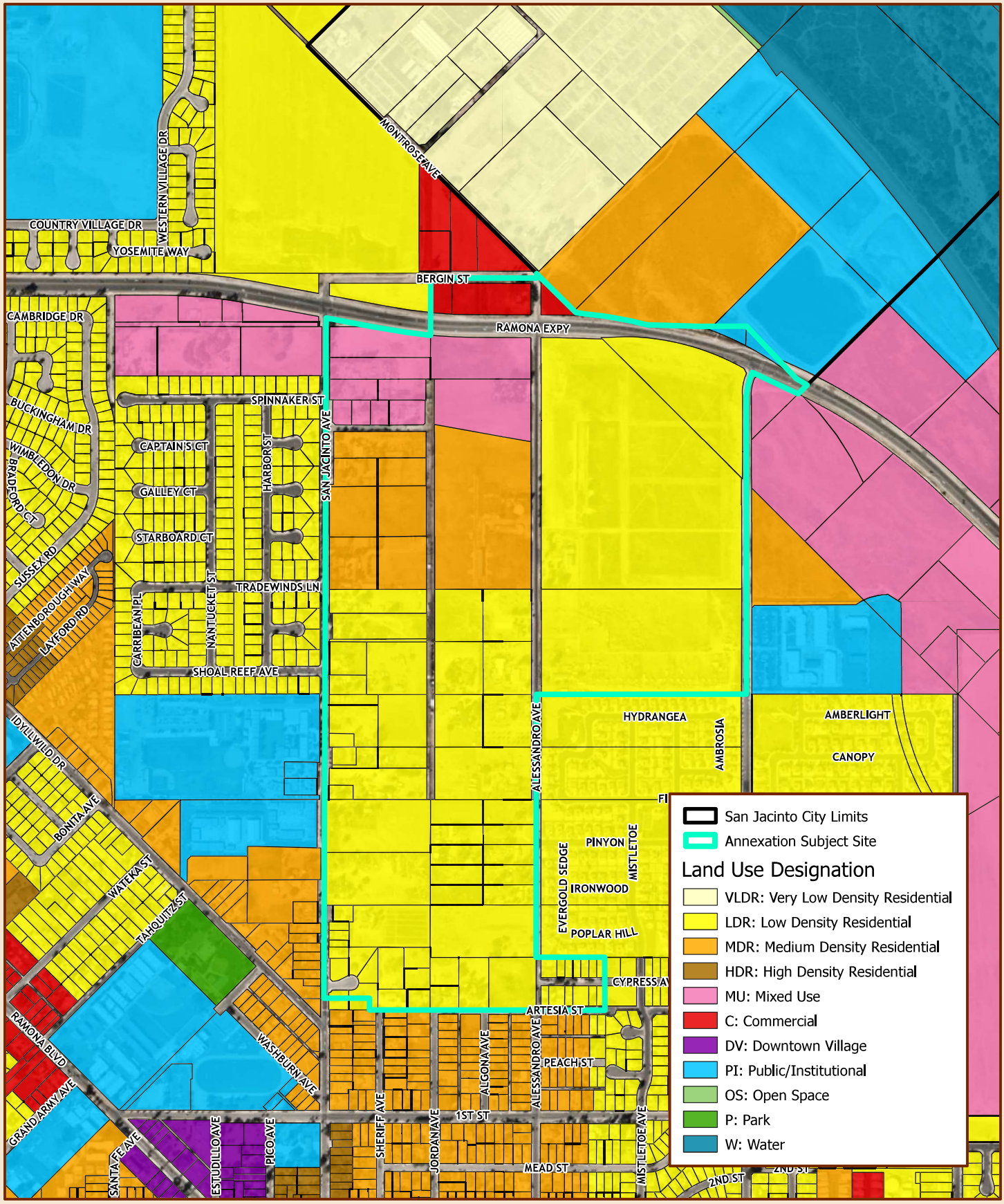
Adequate public services and utilities can be provided to serve these areas if annexation occurs, including fire and police protection, potable water, wastewater collection and treatment, storm drainage, solid waste services, and school facilities. These assumptions are consistent with the General Plan, which identifies the City's Sphere of Influence as an area appropriate for long-term urban expansion where municipal services can be extended in an orderly and efficient

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manner. The pre-zoning does not authorize development but ensures that any future proposals will be reviewed under zoning classifications that align with the City's land use, infrastructure, and service provision policies.

A portion of the area proposed for pre-zoning is located within Disadvantaged Unincorporated Community (DUC) #2 – Soboba Hot Springs, as identified by the Riverside Local Agency Formation Commission. State law and LAFCO policy encourage the annexation of DUCs to ensure the equitable provision of municipal services, improve long-term service reliability, and support public health and safety. While pre-zoning does not itself extend City services, it is a required procedural step that allows the City and LAFCO to evaluate annexation in a manner consistent with these policies. Establishing appropriate zoning classifications in advance supports orderly service planning and ensures that, if annexation is pursued, development would occur under zoning standards aligned with the City's land use and infrastructure objectives.

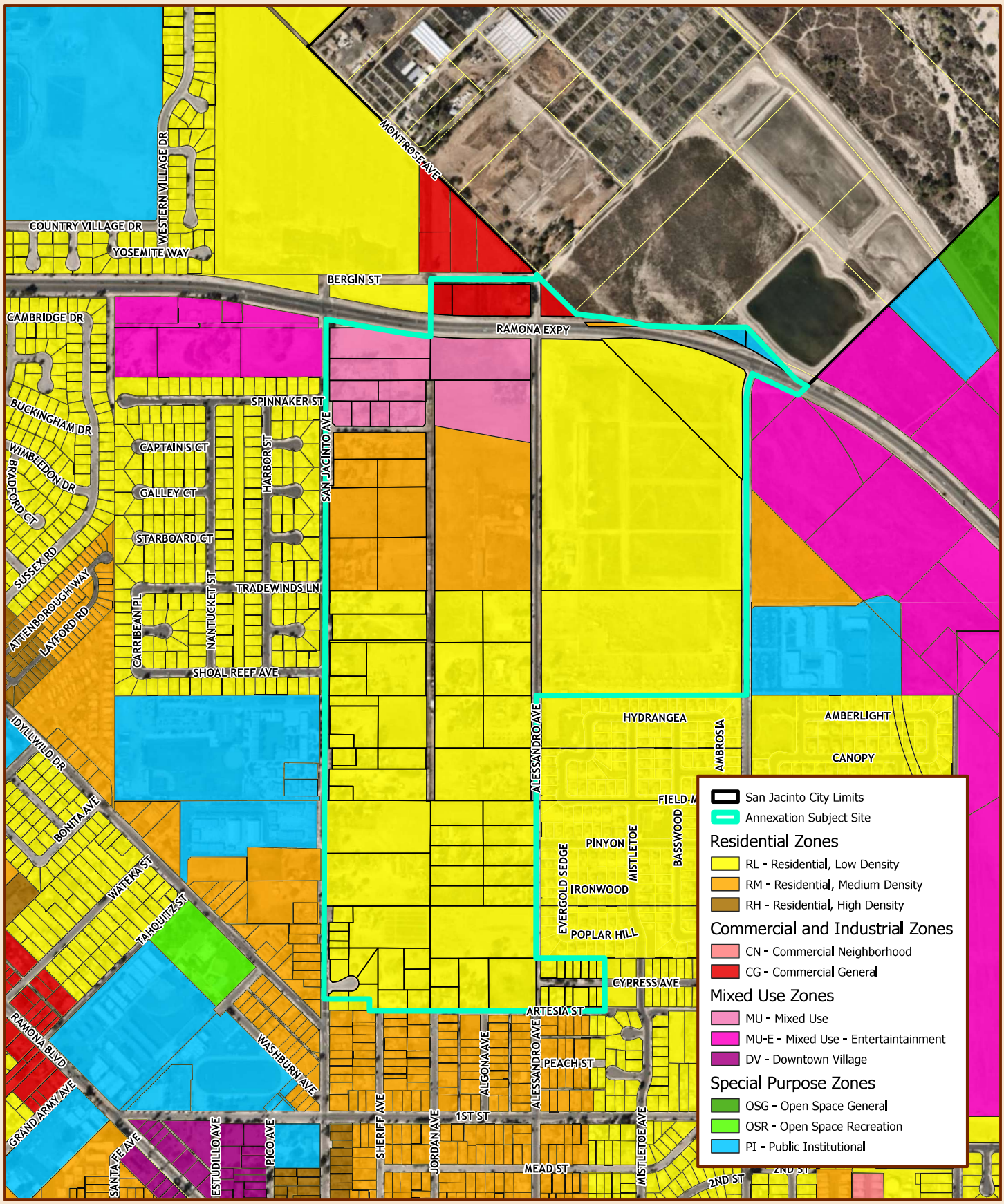
Because the proposed zoning districts reflect the physical constraints and opportunities of the annexation areas and do not alter existing County-governed land use rights, the amendment will not endanger or jeopardize property or improvements in the vicinity. Instead, it establishes a framework for compatible, well-planned development should annexation and future entitlements be pursued.



N

Annexation
General Plan Land Use Map

Attachment: Planning Commission Staff Report (Prezoning of Parcels Within the City Sphere of Influence (Unincorporated Riverside County))



N

Annexation
Proposed Zoning Map

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Property List and City/County General Plan and Zoning Matrix

Assessors Parcel Number	Property Address	County Zoning	County Zoning Description	County General Plan Designation	County General Plan Description	Pre-Zoning (Proposed)	City Zoning Description	City General	City General Plan Description
433-070-024		A-2-10	Heavy Agriculture (minimum 10 acres)	AG	Agriculture	MU &RM	Mixed Use/Residential, Medium Density	MU & MDR	Mixed Use/Medium Density Residential
433-070-030		A-2-10	Heavy Agriculture (minimum 10 acres)	AG	Agriculture	MU	Mixed Use	MU	Mixed Use
433-070-034		A-2-10	Heavy Agriculture (minimum 10 acres)	AG	Agriculture	RL	Residential, Low Density	LDR	Low Density Residential
433-070-050		A-2-10	Heavy Agriculture (minimum 10 acres)	MDR	Medium Density Residential	RL	Residential, Low Density	LDR	Low Density Residential
434-170-007	22200 SAN JACINTO AVE SAN JACINTO 92583	R-A	Residential Agricultural	MDR	Medium Density Residential	RL	Residential, Low Density	LDR	Low Density Residential
434-170-012	22414 SAN JACINTO AVE SAN JACINTO 92583	A-2	Heavy Agriculture	AG	Agriculture	RL	Residential, Low Density	LDR	Low Density Residential
434-170-013		A-2	Heavy Agriculture	AG	Agriculture	RL	Residential, Low Density	LDR	Low Density Residential
434-170-016		R-A	Residential Agricultural	MDR	Medium Density Residential	RL	Residential, Low Density	LDR	Low Density Residential
434-170-017	22528 SAN JACINTO AVE SAN JACINTO 92583	R-A	Residential Agricultural	MDR	Medium Density Residential	RL	Residential, Low Density	LDR	Low Density Residential
434-170-019	22323 ALESSANDRO AVE SAN JACINTO 92583	A-1-5	Light Agriculture (minimum 5 acres)	AG	Agriculture	PI	Public Institutional	PI	Public Institutional

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434-170-023	22090 SAN JACINTO AVE SAN JACINTO 92583	R-A	Residential Agricultural	MDR	Medium Density Residential	RL	Residential, Low Density	LDR	Low Density Residential
434-170-024	22440 SAN JACINTO AVE SAN JACINTO 92583	R-A	Residential Agricultural	MDR	Medium Density Residential	RL	Residential, Low Density	LDR	Low Density Residential
434-170-027	22415 ALESSANDRO AVE SAN JACINTO 92583	A-1-5	Light Agriculture (minimum 5 acres)	AG	Agriculture	PI	Public Institutional	PI	Public Institutional
434-170-028		A-1-5	Light Agriculture (minimum 5 acres)	AG	Agriculture	RM	Residential, Medium Density	ROW	Row
434-170-029	22210 SAN JACINTO AVE SAN JACINTO 92583	R-A	Residential Agricultural	MDR	Medium Density Residential	RL	Residential, Low Density	LDR	Low Density Residential
434-170-030		R-A	Residential Agricultural	MDR	Medium Density Residential	RL	Residential, Low Density	LDR	Low Density Residential
434-170-033		R-A	Residential Agricultural	MDR	Medium Density Residential	RL	Residential, Low Density	LDR	Low Density Residential
434-170-034	22530 SAN JACINTO AVE SAN JACINTO 92583	R-A	Residential Agricultural	MDR	Medium Density Residential	RL	Residential, Low Density	LDR	Low Density Residential
434-170-035	22464 SAN JACINTO AVE SAN JACINTO 92583	R-A	Residential Agricultural	MDR	Medium Density Residential	RL	Residential, Low Density	LDR	Low Density Residential

Attachment: Property List and City-County General Plan and Zoning Matrix (Prezoning of Parcels Within

434-170-036	22445 ALESSANDRO AVE SAN JACINTO 92583	A-1-5	Light Agriculture (minimum 5 acres)	AG	Agriculture	RL	Residential, Low Density	LDR	Low Density Residential
434-170-037	22485 ALESSANDRO AVE SAN JACINTO 92583	A-1-5	Light Agriculture (minimum 5 acres)	RC-LDR	Low Density Residential	RL	Residential, Low Density	LDR	Low Density Residential
434-170-047	22090 SAN JACINTO AVE SAN JACINTO 92583	R-A	Residential Agricultural	MDR	Medium Density Residential	RL	Residential, Low Density	LDR	Low Density Residential
434-170-048	22019 ALESSANDRO AVE SAN JACINTO 92583	A-1-5	Light Agriculture (minimum 5 acres)	AG	Agriculture	RM	Residential, Medium Density	MDR	Medium Density Residential
434-170-049		A-1-5	Light Agriculture (minimum 5 acres)	AG	Agriculture	RM	Residential, Medium Density	MDR	Medium Density Residential
434-170-050	40393 BERGIN ST SAN JACINTO 92583	A-1-5	Light Agriculture (minimum 5 acres)	RC-LDR	Low Density Residential	RL	Residential, Low Density	LDR	Low Density Residential
434-170-051	40260 MARTINEZ RD SAN JACINTO 92583	R-A	Residential Agricultural	MDR	Medium Density Residential	RL	Residential, Low Density	LDR	Low Density Residential
434-170-052	40270 MARTINEZ RD SAN JACINTO 92583	R-A	Residential Agricultural	MDR	Medium Density Residential	RL	Residential, Low Density	LDR	Low Density Residential

Attachment: Property List and City-County General Plan and Zoning Matrix (Prezoning of Parcels Within

434-170-053	40280 MARTINEZ RD SAN JACINTO 92583	R-A	Residential Agricultural	MDR	Medium Density Residential	RL	Residential, Low Density	LDR	Low Density Residential
434-170-054	40300 MARTINEZ RD SAN JACINTO 92583	R-A	Residential Agricultural	MDR	Medium Density Residential	RL	Residential, Low Density	LDR	Low Density Residential
434-170-055		A-2	Heavy Agriculture	RC-LDR	Low Density Residential	RL	Residential, Low Density	LDR	Low Density Residential
434-170-057		A-2	Heavy Agriculture	RC-LDR	Low Density Residential	RL	Residential, Low Density	LDR	Low Density Residential
434-170-059	22212 SAN JACINTO AVE SAN JACINTO 92583	R-A	Residential Agricultural	MDR	Medium Density Residential	RL	Residential, Low Density	LDR	Low Density Residential
434-170-060		R-A	Residential Agricultural	MDR	Medium Density Residential	RL	Residential, Low Density	LDR	Low Density Residential
434-180-006		A-2-10	Heavy Agriculture (minimum 10 acres)	MDR	Medium Density Residential	RL	Residential, Low Density	LDR	Low Density Residential
434-180-007	22384 ALESSANDRO AVE SAN JACINTO 92583	A-2-10	Heavy Agriculture (minimum 10 acres)	MDR	Medium Density Residential	MU	Mixed Use	MU	Mixed Use
434-180-008	22500 ALESSANDRO AVE SAN JACINTO 92583	A-2-10	Heavy Agriculture (minimum 10 acres)	MDR	Medium Density Residential	MU	Mixed Use	MU	Mixed Use
434-221-001	22534 N SAN JACINTO AVE SAN JACINTO 92583	R-A	Residential Agricultural	MDR	Medium Density Residential	RL	Residential, Low Density	LDR	Low Density Residential

434-221-002	22558 SAN JACINTO AVE SAN JACINTO 92583	R-A	Residential Agricultural	MDR	Medium Density Residential	RL	Residential, Low Density	LDR	Low Density Residential
434-221-003		R-A	Residential Agricultural	MDR	Medium Density Residential	RL	Residential, Low Density	LDR	Low Density Residential
434-221-004		R-A	Residential Agricultural	MDR	Medium Density Residential	RL	Residential, Low Density	LDR	Low Density Residential
434-221-006		R-A	Residential Agricultural	MDR	Medium Density Residential	RL	Residential, Low Density	LDR	Low Density Residential
434-221-007	22610 SAN JACINTO AVE SAN JACINTO 92583	R-A	Residential Agricultural	MDR	Medium Density Residential	RL	Residential, Low Density	LDR	Low Density Residential
434-221-008	22618 SAN JACINTO AVE SAN JACINTO 92583	R-A	Residential Agricultural	MDR	Medium Density Residential	RL	Residential, Low Density	LDR	Low Density Residential
434-221-009	22570 SAN JACINTO AVE SAN JACINTO 92583	R-A	Residential Agricultural	MDR	Medium Density Residential	RL	Residential, Low Density	LDR	Low Density Residential
434-221-010	22572 SAN JACINTO AVE SAN JACINTO 92583	R-A	Residential Agricultural	MDR	Medium Density Residential	RL	Residential, Low Density	LDR	Low Density Residential
434-222-002	22607 ALESSANDRO AVE SAN JACINTO 92583	A-1-5	Light Agriculture (minimum 5 acres)	RC-LDR	Low Density Residential	RL	Residential, Low Density	LDR	Low Density Residential

Attachment: Property List and City-County General Plan and Zoning Matrix (Prezoning of Parcels Within

434-222-003	22585 ALESSANDRO AVE SAN JACINTO 92583	A-1-5	Light Agriculture (minimum 5 acres)	AG	Agriculture	RM	Residential, Medium Density	MDR	Medium Density Residential
434-222-004	22545 ALESSANDRO AVE SAN JACINTO 92583	A-1-5	Light Agriculture (minimum 5 acres)	RC-LDR	Low Density Residential	RL	Residential, Low Density	LDR	Low Density Residential
434-240-001	22670 N SAN JACINTO AVE SAN JACINTO 92583	A-1-5	Light Agriculture (minimum 5 acres)	RC-LDR	Low Density Residential	RL	Residential, Low Density	LDR	Low Density Residential
434-240-002	22710 SAN JACINTO ST SAN JACINTO 92583	A-1-5	Light Agriculture (minimum 5 acres)	RR	Rural Residential	RL	Residential, Low Density	LDR	Low Density Residential
434-240-004	22731 ALESSANDRO AVE SAN JACINTO 92583	A-1-5	Light Agriculture (minimum 5 acres)	RR	Rural Residential	RL	Residential, Low Density	LDR	Low Density Residential
434-240-009		A-1-5	Light Agriculture (minimum 5 acres)	RC-LDR	Low Density Residential	RL	Residential, Low Density	LDR	Low Density Residential
434-240-010	22621 ALESSANDRO ST SAN JACINTO 92583	A-1-5	Light Agriculture (minimum 5 acres)	RC-LDR	Low Density Residential	RL	Residential, Low Density	LDR	Low Density Residential
434-240-011	22681 ALESSANDRO AVE SAN JACINTO 92583	A-1-5	Light Agriculture (minimum 5 acres)	RC-LDR	Low Density Residential	RL	Residential, Low Density	LDR	Low Density Residential

Attachment: Property List and City-County General Plan and Zoning Matrix (Prezoning of Parcels Within

434-240-012	22701 ALESSANDRO AVE SAN JACINTO 92583	A-1-5	Light Agriculture (minimum 5 acres)	RC-LDR	Low Density Residential	RL	Residential, Low Density	LDR	Low Density Residential
434-240-013	22652 JORDAN AVE SAN JACINTO 92583	A-1-5	Light Agriculture (minimum 5 acres)	RC-LDR	Low Density Residential	RL	Residential, Low Density	LDR	Low Density Residential
434-240-014	22641 ALESSANDRO RD SAN JACINTO 92583	A-1-5	Light Agriculture (minimum 5 acres)	RR	Rural Residential	RL	Residential, Low Density	LDR	Low Density Residential
434-240-016	22741 ALESSANDRO AVE SAN JACINTO 92583	A-1-5	Light Agriculture (minimum 5 acres)	RR	Rural Residential	RL	Residential, Low Density	LDR	Low Density Residential
434-240-017	22690 JORDAN AVE SAN JACINTO 92583	A-1-5	Light Agriculture (minimum 5 acres)	RC-LDR	Low Density Residential	RL	Residential, Low Density	LDR	Low Density Residential
434-240-018		A-1-5	Light Agriculture (minimum 5 acres)	RR	Rural Residential	RL	Residential, Low Density	LDR	Low Density Residential
434-260-001	22760 SAN JACINTO AVE SAN JACINTO 92583	A-1-5	Light Agriculture (minimum 5 acres)	RR	Rural Residential	RL	Residential, Low Density	LDR	Low Density Residential
434-260-002	22774 SAN JACINTO AVE SAN JACINTO 92583	A-1-5	Light Agriculture (minimum 5 acres)	RR	Rural Residential	RL	Residential, Low Density	LDR	Low Density Residential

434-260-003	22786 SAN JACINTO AVE SAN JACINTO 92583	A-1-5	Light Agriculture (minimum 5 acres)	RC-LDR	Low Density Residential	RL	Residential, Low Density	LDR	Low Density Residential
434-260-004	22790 SAN JACINTO AVE SAN JACINTO 92583	A-1-5	Light Agriculture (minimum 5 acres)	RC-LDR	Low Density Residential	RL	Residential, Low Density	LDR	Low Density Residential
434-260-005	22808 SAN JACINTO AVE SAN JACINTO 92583	R-3	General Residential	MDR	Medium Density Residential	RM	Residential, Medium Density	MDR	Medium Density Residential
434-260-006	22740 SAN JACINTO AVE SAN JACINTO 92583	A-1-5	Light Agriculture (minimum 5 acres)	RC-LDR	Low Density Residential	RL	Residential, Low Density	LDR	Low Density Residential
434-260-011		R-3	General Residential	MDR	Medium Density Residential	RM	Residential, Medium Density	MDR	Medium Density Residential
434-260-012		R-3	General Residential	MDR	Medium Density Residential	RM	Residential, Medium Density	MDR	Medium Density Residential
434-260-013		R-3	General Residential	MDR	Medium Density Residential	RM	Residential, Medium Density	MDR	Medium Density Residential
434-260-015	22865 JORDAN AVE SAN JACINTO 92583	R-3	General Residential	MDR	Medium Density Residential	CG	Commercial General	C	Commercial
434-260-016	22761 ALESSANDRO AVE SAN JACINTO 92583	A-1-5	Light Agriculture (minimum 5 acres)	RC-LDR	Low Density Residential	RL	Residential, Low Density	LDR	Low Density Residential
434-260-018	40430 ARTESIA AVE SAN JACINTO 92583	R-3	General Residential	MDR	Medium Density Residential	RL	Residential, Low Density	LDR	Low Density Residential

Attachment: Property List and City-County General Plan and Zoning Matrix (Prezoning of Parcels Within

434-260-019		R-3	General Residential	MDR	Medium Density Residential	RL	Residential, Low Density	LDR	Low Density Residential
434-260-020		R-3	General Residential	MDR	Medium Density Residential	RL	Residential, Low Density	LDR	Low Density Residential
434-260-021	40390 ARTESIA ST SAN JACINTO 92583	R-3	General Residential	MDR	Medium Density Residential	RL	Residential, Low Density	LDR	Low Density Residential
434-260-024	22870 SHERIFF AVE SAN JACINTO 92583	R-3	General Residential	MDR	Medium Density Residential	RL	Residential, Low Density	LDR	Low Density Residential
434-260-025	22850 SAN JACINTO AVE SAN JACINTO 92583	R-3	General Residential	MDR	Medium Density Residential	RL	Residential, Low Density	LDR	Low Density Residential
434-260-026	40254 CAHUILLA CIR SAN JACINTO 92583	R-3	General Residential	MDR	Medium Density Residential	RL	Residential, Low Density	LDR	Low Density Residential
434-260-027	40278 CAHUILLA CIR SAN JACINTO 92583	R-3	General Residential	MDR	Medium Density Residential	RL	Residential, Low Density	LDR	Low Density Residential
434-260-028	40290 CAHUILLA CIR SAN JACINTO 92583	R-3	General Residential	MDR	Medium Density Residential	RL	Residential, Low Density	LDR	Low Density Residential
434-260-029	40283 CAHUILLA CIR SAN JACINTO 92583	R-3	General Residential	MDR	Medium Density Residential	RL	Residential, Low Density	LDR	Low Density Residential

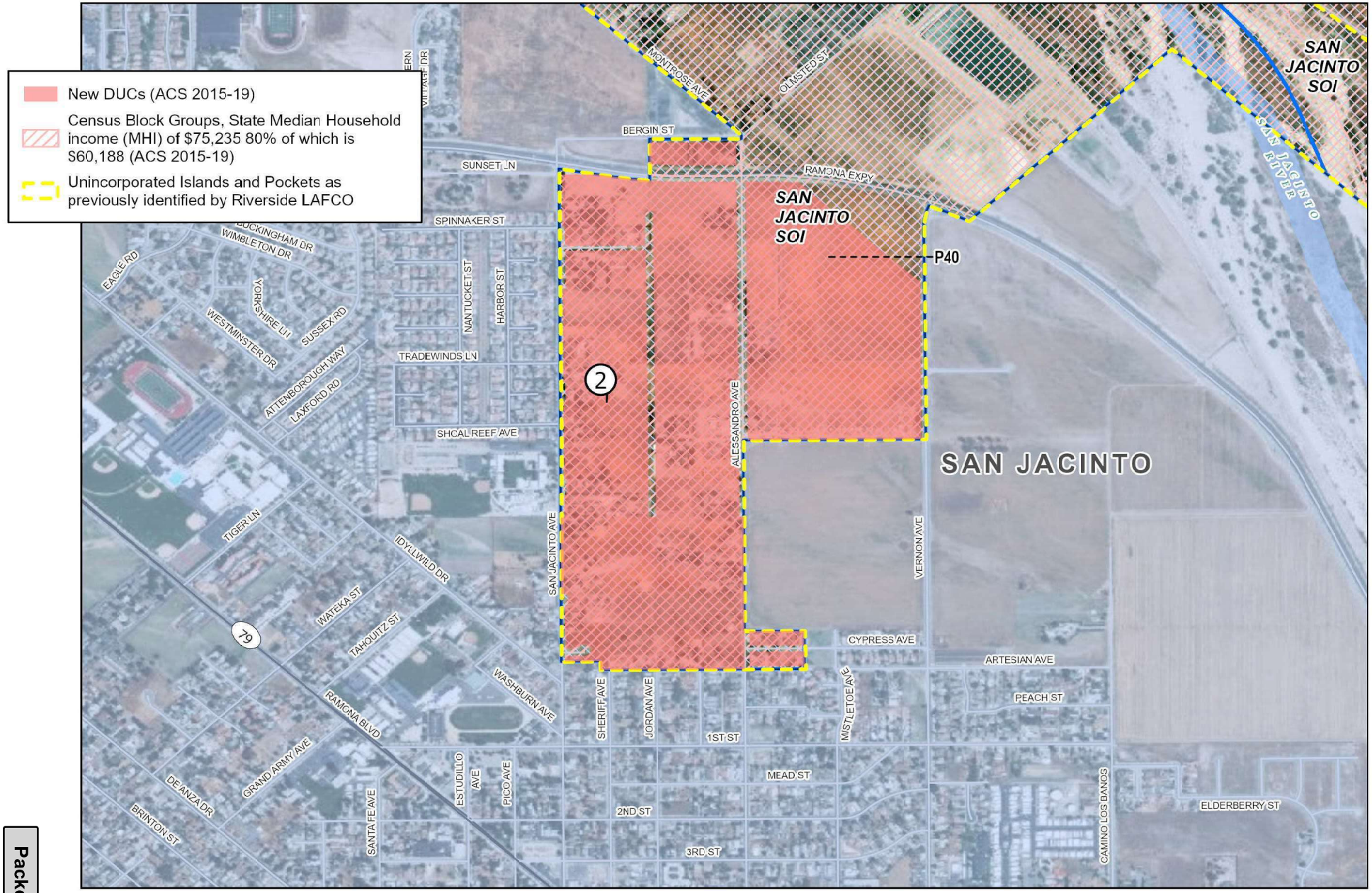
Attachment: Property List and City-County General Plan and Zoning Matrix (Prezoning of Parcels Within

434-272-001	22842 ALESSANDRO AVE SAN JACINTO 92583	R-1	One-Family Dwellings	MDR	Medium Density Residential	RL	Residential, Low Density	LDR	Low Density Residential
434-272-002	40520 ARTESIA AVE SAN JACINTO 92583	R-1	One-Family Dwellings	MDR	Medium Density Residential	RL	Residential, Low Density	LDR	Low Density Residential
434-272-003	40540 ARTESIA ST SAN JACINTO 92583	R-1	One-Family Dwellings	MDR	Medium Density Residential	RL	Residential, Low Density	LDR	Low Density Residential
434-272-004		R-1	One-Family Dwellings	MDR	Medium Density Residential	RL	Residential, Low Density	LDR	Low Density Residential
434-272-005	40560 ARTESIA ST SAN JACINTO 92583	R-1	One-Family Dwellings	MDR	Medium Density Residential	RL	Residential, Low Density	LDR	Low Density Residential
434-272-006		R-1	One-Family Dwellings	MDR	Medium Density Residential	MU	Mixed Use	MU	Mixed Use
434-276-013	22814 ALESSANDRO AVE SAN JACINTO 92583	R-1	One-Family Dwellings	MDR	Medium Density Residential	CG	Commercial General	C	Commercial
434-276-014	40528 CYPRESS AVE SAN JACINTO 92583	R-1	One-Family Dwellings	MDR	Medium Density Residential	MU	Mixed Use	MU	Mixed Use
434-276-015	40538 CYPRESS AVE SAN JACINTO 92583	R-1	One-Family Dwellings	MDR	Medium Density Residential	CG	Commercial General	C	Commercial

Attachment: Property List and City-County General Plan and Zoning Matrix (Prezoning of Parcels Within

434-276-016	40546 CYPRESS AVE SAN JACINTO 92583	R-1	One-Family Dwellings	MDR	Medium Density Residential	MU	Mixed Use	MU	Mixed Use
434-276-017	40554 CYPRESS AVE SAN JACINTO 92583	R-1	One-Family Dwellings	MDR	Medium Density Residential	MU	Mixed Use	MU	Mixed Use
434-276-018	40562 CYPRESS AVE SAN JACINTO 92583	R-1	One-Family Dwellings	MDR	Medium Density Residential	MU	Mixed Use	MU	Mixed Use
434-276-019	40570 CYPRESS AVE SAN JACINTO 92583	R-1	One-Family Dwellings	MDR	Medium Density Residential	MU	Mixed Use	MU	Mixed Use

San Jacinto DUC 2
Soboba Hot Springs



Source: RSG Inc, Riverside LAFCO, Riverside County IT

RIVERSIDE LAFCO

Attachment: LAFCO Exhibit: San Jacinto DUC 2, Soboba Hot Springs (Prezoning of Parcels Within the

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STATE OF CALIFORNIA)
COUNTY OF RIVERSIDE)
CITY OF SAN JACINTO)

RESOLUTION NO. 3927

A RESOLUTION OF APPLICATION BY THE THE CITY COUNCIL OF THE CITY OF SAN JACINTO REQUESTING THE RIVERSIDE COUNTY LOCAL AGENCY FORMATION COMMISSION TO TAKE PROCEEDINGS FOR THE CHANGE OF ORGANIZATION

WHEREAS, the City of San Jacinto (the "City") desires to initiate a proposal for annexation, pursuant to the Cortese-knox-Hertzberg Local Government Reorganization Act of 2000, being Division 3 of Title 5 of the Government Code of the State of California, commencing with Section 5600; and,

WHEREAS, the territory proposed to be annexed ("annexation area") is inhabited and generally located south of Ramona Expressway and north of Artesia Street, between N. San Jacinto Avenue and N. Vernon Avenue; as shown in in Exhibit A, attached hereto and incorporated herein by reference; and,

WHEREAS, this annexation area is within the sphere of influence of the City of San Jacinto; and,

WHEREAS, it is desired to provide that the annexation are be subject to the following terms and conditions:

1. The annexation area will adapt the existing land use designation shown in current San Jacinto General Plan ("GP") and consistent zoning designations will be applied through the prezoning process; and,
2. Existing uses within the annexation area must comply with Municipal Code, especially Title 17 ("Development Code"); and,
3. Future uses or development or redevelopment within the annexation area must comply with the San Jacinto General Plan ("GP") and Development Code, or any updates or amendments adopted by the City Council ("Council") thereafter;
4. The annexation area is subject, after such annexation, to levying and collection of charge, fee, assessment or tax of the City of San Jacinto; and,
5. The annexation area shall be subject, after such annexation, to taxation equally with the property within the City of San Jacinto; and,
6. The annexation area will be taxed for existing general bonded indebtness, if any.

COPY

Attachment: Planning Commission Staff Report (Prezoning of Parcels Within the City Sphere of Influence (Unincorporated Riverside County))

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WHEREAS, the reasons for the proposed annexation are as follows:

1. Eliminate pockets of unicorporated County areas adjacent to or within the City; and,
2. Incorporate the annexation area into the City and provide municipal services; and,
3. Create opportunity for better and more consistent development patterns; and,
4. Provides local representation through the City Council.

WHEREAS, adoption this resolution may be exempt from the California Environmental Quality Act ("CEQA") pursuant to Class 19 (Section 15319, Annexations of Existing Facitlities and Lots for Exempt Facilities) of the CEQA Guidelines (Chapter 3, Division 6, Title 14 of the California Code of Regulations).

NOW, THEREFORE, BE IT RESOLVED, determined and ordered by the City Council of the City of San Jacinto as follows:

SECTION 1. this Resolution of Application is hereby adopted and approved.

SECTION 2. the Riverside County Local Agency Formation Commission is hereby requrested to take proceeding for the annexation of territory as shown on the map in Exhibit A, according to the terms and conditions stated above and in a manner provided by the Cortese-Knox-Hertzberg Local Government Reorganization Act of 2000.

SECTION 3. This Resolution shall take effect upon its adoption.

COPY

Attachment: Planning Commission Staff Report (Prezoning of Parcels Within the City Sphere of Influence (Unincorporated Riverside County))

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PASSED, APPROVED, and **ADOPTED** this 5th day of July 2022 by the following vote:

AYES:	**Heath, Ayala, Ruiz, Hawkins**
NAYS:	**None**
ABSENT:	**None**
ABSTAIN:	**None**

CITY OF SAN JACINTO:

Crystal Ruiz

Crystal Ruiz, Mayor

ATTEST:

Julia Espinoza

Julia Espinoza, City Clerk

APPROVED AS TO FORM:
BEST, BEST & KRIEGER LLP

Michael J. Maurer, City Attorney

COPY

Attachment: Planning Commission Staff Report (Prezoning of Parcels Within the City Sphere of Influence (Unincorporated Riverside County))

DocuSign Envelope ID: 4955C3B5-CAF4-4408-8B93-6FEBC81CC8C6

CERTIFICATION

STATE OF CALIFORNIA)
COUNTY OF RIVERSIDE)
CITY OF SAN JACINTO)

I, Julia Espinoza, City Clerk of the City of San Jacinto, DO HEREBY CERTIFY that the foregoing Resolution No. 3927 was passed, approved, and adopted at the Regular Meeting of the San Jacinto City Council held on July 5, 2022.

AYES:	**Heath, Ayala, Ruiz, Hawkins**
NAYS:	**None**
ABSENT:	**None**
ABSTAIN:	**None**

WITNESS MY HAND AND OFFICIAL SEAL this 5th day of July 2022.

Julia Espinoza

Julia Espinoza, City Clerk
City of San Jacinto

COPY

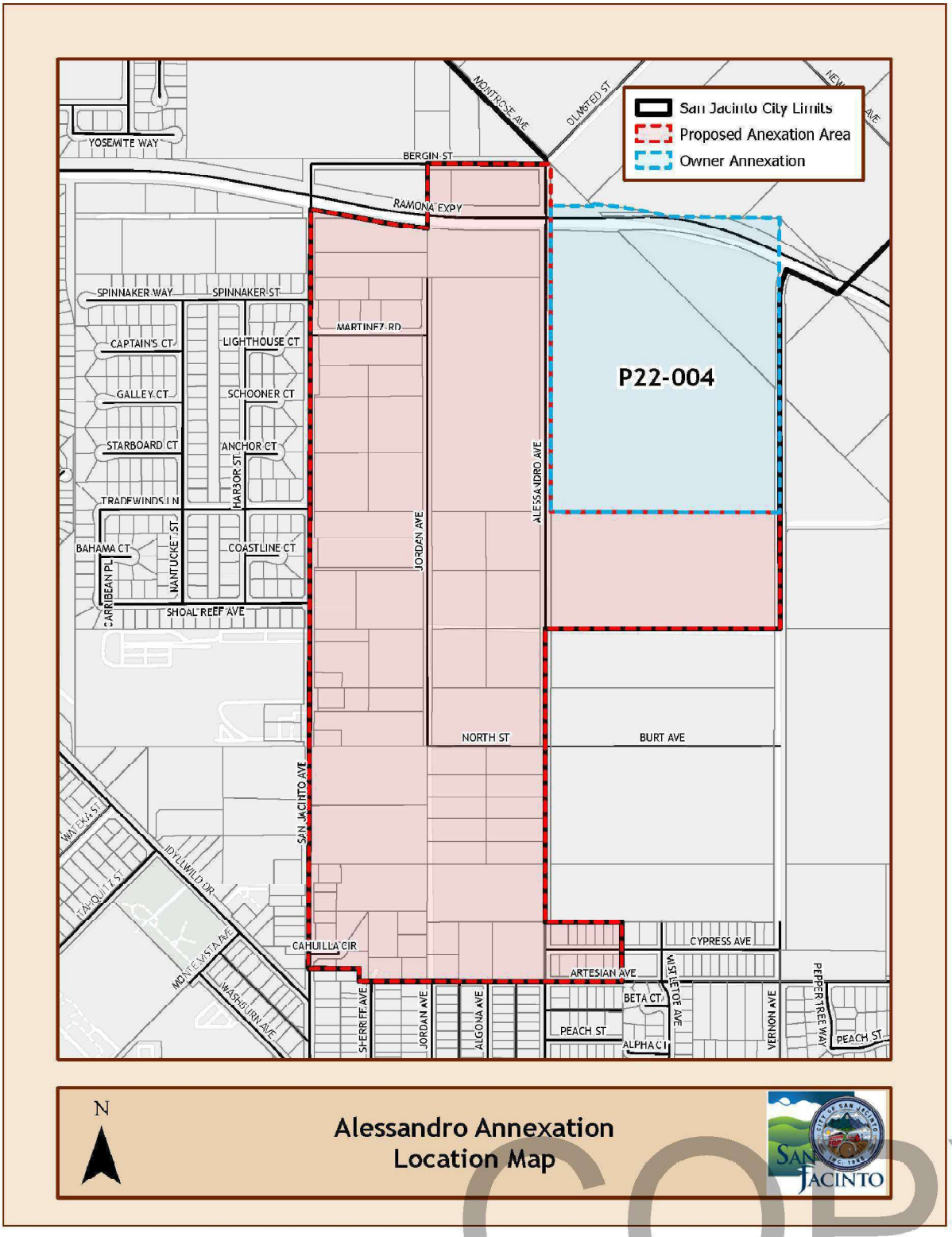
Attachment: Planning Commission Staff Report (Prezoning of Parcels Within the City Sphere of Influence (Unincorporated Riverside County))

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Resolution No. 3927

EXHIBIT A

MAP OF THE ANNEXATION AREA



COPY

Attachment: Planning Commission Staff Report (Prezoning of Parcels Within the City Sphere of Influence (Unincorporated Riverside County))

STATE OF CALIFORNIA)
COUNTY OF RIVERSIDE)
CITY OF SAN JACINTO)

PC RESOLUTION NO. 25-02

A RESOLUTION OF THE PLANNING COMMISSION OF THE CITY OF SAN JACINTO, CALIFORNIA, RECOMMENDING CITY COUNCIL APPROVAL OF PRE-ZONING FOR PARCELS WITHIN THE CITY'S SPHERE OF INFLUENCE RELATED TO PROPOSED ANNEXATION P22-084 (ANNEXATION "A") AND THE ADJACENT ANNEXATION AREA (ANNEXATION "B")

WHEREAS, the City of San Jacinto ("City") received an application (Annexation "A", P22-084) proposing annexation of approximately 44 acres located south of Ramona Expressway, between Alessandro Avenue and Vernon Avenue, along with a related subdivision request for 152 single-family residential lots; and

WHEREAS, the City Council subsequently adopted Resolution No. 3927 initiating Annexation "B", encompassing approximately 146 acres generally located east of San Jacinto Avenue, south of Bergin Street, north of Artesia Street, and west of Vernon Avenue, immediately adjacent to Annexation "A"; and

WHEREAS, Annexation "A" and Annexation "B" are collectively referred to as the "Annexation Areas," and together comprise approximately 190 acres of unincorporated land within the City's Sphere of Influence (SOI); and

WHEREAS, under the Cortese-Knox-Hertzberg Local Government Reorganization Act of 2000 and Riverside Local Agency Formation Commission ("LAFCO") policies, Annexation "A" cannot be processed without Annexation "B", and Annexation "B" cannot be processed without Annexation "A", requiring the City to consider pre-zoning for both areas concurrently; and

WHEREAS, a portion of Annexation Areas lie within a designated Disadvantaged Unincorporated Community (DUC 2 – Soboba Hot Springs), and State law and LAFCO policy encourage annexation of DUCs to improve access to reliable public services, infrastructure, and governance; and

WHEREAS, pre-zoning is required pursuant to San Jacinto Development Code Sections 17.200.040 and 17.720.070 before the City may submit annexation applications to LAFCO, and such pre-zoning must be consistent with the General Plan land use designations assigned to the Annexation Areas; and

WHEREAS, the General Plan designates the Annexation Areas for Low Density Residential, Medium Density Residential, Mixed Use, Public/Institutional, and Commercial uses, each of which corresponds to an implementing zoning district identified in the Development Code; and

Attachment: PC Resolution No. 25-02 (Prezoning of Parcels Within the City Sphere of Influence (Unincorporated Riverside County))

WHEREAS, the Commercial-designated parcels and certain Mixed Use properties front Ramona Expressway, a major arterial roadway designed to carry up to 55,300 daily vehicle trips, making these parcels most appropriate for the Commercial General (CG) and Mixed Use (MU) zoning districts rather than the more limited CN zone or the large-format CR zone; and

WHEREAS, after reviewing parcel size, configuration, roadway access, surrounding uses, and the purpose statements of each zone, the Planning Commission finds that the proposed RL, RM, MU, PI, and CG zoning classifications maintain consistency with the General Plan and support orderly, compatible future development should annexation occur; and

WHEREAS, pre-zoning does not approve annexation, authorize development, or alter existing County regulations, but instead establishes the zoning framework required for potential future annexation and provides clarity for residents, property owners, and LAFCO; and

WHEREAS, the Planning Commission has reviewed the staff report, Findings of Fact, proposed Zoning Map amendments, and supporting documentation and desires to recommend approval of the proposed pre-zoning to the City Council; and

WHEREAS, the pre-zoning is exempt from the California Environmental Quality Act pursuant to CEQA Guidelines Sections 15061(b)(3) (common-sense exemption), 15262 (feasibility and planning studies), and 15183 (projects consistent with a certified General Plan EIR).

WHEREAS, notice of the public hearing was provided in accordance with Government Code Section 65090, including a mailed notice to property owners within 300 feet of the project area and publication in a newspaper of general circulation, and the matter was duly noticed for consideration by the Planning Commission on December 9, 2025; and

WHEREAS, on December 9th, 2025, this resolution was fully considered by the Planning Commission; and

WHEREAS, all other legal prerequisites to the adoption of this Resolution have occurred.

NOW, THEREFORE, BE IT RESOLVED, BY THE PLANNING COMMISSION OF THE CITY OF SAN JACINTO:

SECTION 1. Based on the entire record before the Commission, all written and oral evidence presented to the Commission, and the findings set forth in the Resolution, the Commission recommends that the City Council of the City of San Jacinto approve the pre-zoning for the Subject Site.

SECTION 2. Based on the entire record before the Commission, the Planning Commission finds the proposed pre-zoning consistent with the City's General Plan and Development Code.

SECTION 3. The Planning Commission hereby finds that pursuant to the California Code of Regulations the project is exempt from CEQA as the project is (1) covered by the common-sense exemption, CEQA Guidelines Section 15061(b)(3). (2) The project is a Feasibility and Planning Study, CEQA Guidelines Section 15262. (3) The project is consistent with the General Plan polices for which an EIR was certified, CEQA Guidelines Section 15183.

The action involves only the establishment of zoning designations consistent with the General Plan, does not authorize construction, and will not result in new or significant environmental effects beyond those previously evaluated in the certified General Plan EIR.

PASSED, APPROVED, AND ADOPTED at a regular meeting of the Planning Commission of the City of San Jacinto on the 9th day of December 2025, by the following vote:

AYES:	Jones, Peterson, Scott
NAYS:	None
ABSENT:	Awad, Gagnepain
ABSTAIN:	None

CITY OF SAN JACINTO:

Patricia Scott

Planning Commission Chair
City of San Jacinto

ATTEST:

Lori Matley

Planning Commission Secretary
City of San Jacinto

Attachment: PC Resolution No. 25-02 (Prezoning of Parcels Within the City Sphere of Influence (Unincorporated Riverside County))

September 22, 2026

TO:	Planning Commission
REQUESTED BY:	Matthew Kramer, Assistant Planner
APPROVED BY:	Kevin White, Community Development Director
SUBJECT:	Annexation of 143.62 Acres in the City of San Jacinto (Annexation B) (P22-084)

RECOMMENDATION:

That the Planning Commission **ADOPT PC Resolution No. 26-04**, thereby recommending that the City Council:

1. **DETERMINE** pursuant to the California Code of Regulations the project is exempt from CEQA as the project is consistent with the General Plan policies for which an EIR was certified, CEQA Guidelines Section 15183; and
2. **AUTHORIZE** the Annexation of 92 parcels on 143.62 acres within the City's Sphere of Influence. (P22-084)

BACKGROUND:

In 2022 the City of San Jacinto received a proposal by Cornell Kasbergen to Annex two parcels totaling 43.68 acres into the City of San Jacinto (Annexation A). The two parcels are located south of Ramona Expressway between Alessandro Avenue to the west and Vernon Avenue to the east . The proposal also included an application to subdivide a portion of the area into 151 lots for the development of single family homes. Annexation A is located within the San Jacinto Disadvantaged Unincorporated Community (DUC) #2. A DUC is defined by the State of California as an area of inhabited territory located within an unincorporated area of a County in which the annual median household income is less than 80 percent of the statewide median income. In accordance with State annexation law, including the Cortese-Knox-Hertzberg Local Government Reorganization Act of 2000, annexation proposals must include the entire DUC area. Accordingly, the proposed project would initiate the annexation of 92 parcels on 143.62 acres (Annexation B), which constitutes the remainder of the San Jacinto DUC 2.

Annexation B is generally located south of Bergin Street, north of Artesia Street, east of San Jacinto Avenue, and west of Alessandro Avenue. The project site is currently occupied by single family residences, agricultural businesses, outdoor storage operations, vacant land and a number of accessory structures. Both Annexation A and B are located within the City's Sphere of Influence (SOI). The SOI is a planning boundary outside of the City's legal limits that may reasonably be expected to annexed into a City. Furthermore, a SOI is intended to ensure the efficient provision of services, discourage urban sprawl, and prevent premature conversion of agricultural and open space lands. Properties within the City of San Jacinto's SOI carry a City General Plan designation but remain subject to the County of Riverside's General Plan and Zoning Ordinance until annexed in the City.

The County of Riverside has 4 General Plan designations within the annexation area which includes, Rural Residential, Rural Community – Low Density Residential, Agriculture, and Medium Density Residential. Zoning within the annexation area includes 6 zones: Agriculture-1-5 (A-1-5), Agriculture-2 (A-2), Agriculture-2-10 (A-2-10), Residential- Agriculture (R-A), Residential 3 (R-3) Residential-1 (R-1). The Riverside County General Plan and the County's Zoning Ordinance are not always fully consistent with one another. As an example, certain parcels carry General Plan designations such as Medium Density Residential, however the parcels are zoned for Agriculture (A-1-5).

The City of San Jacinto General Plan designates properties within the annexation area as Low Density Residential (LDR), Medium Density Residential (MDR), Mixed Use (MU), Public/Institutional (PI), and Commercial (C) and earlier this year the City Council adopted the following Pre Zones for the Annexation Area. They include: Residential, Low Density (RL); Residential, Medium Density (RM); Mixed Use (MU); and Public Institutional (PI). Each of the zones are consistent with the corresponding General Plan Land Use Designations.

Annexation of property into the City requires authorization by the City Council. If authorized, the proposed annexation is submitted to the Riverside Local Agency Formation Commission (LAFCO) for review and consideration. LAFCO is an independent governmental agency established under State law to oversee changes to the boundaries and organization of cities, counties, and other local governmental agencies. LAFCO has the authority to approve, modify, or deny proposals for annexations and other changes to local agency boundaries. Therefore, while City Council authorization is required for the City to pursue an annexation, the annexation cannot be completed unless and until it is approved by LAFCO and all applicable statutory requirements and procedures have been satisfied.

The LAFCO process includes public notice and a hearing before the Commission, at which affected property owners and other members of the public have an opportunity to provide testimony regarding the proposed annexation. Property owners within the affected territory are also provided an opportunity to submit written objections and, where applicable, initiate or participate in a protest proceeding pursuant to State law. Depending on the level of protest received, the annexation may be subject to additional procedures or an election before it can be completed. Accordingly, City Council approval does not guarantee that a proposed annexation will ultimately be approved or completed, as the proposal remains subject to LAFCO review, public participation, and any applicable protest proceedings.

ANALYSIS:

The project is consistent with the General Plan, pre-zoning, SOI, and the City's long-term planning objectives. Annexation of this unincorporated area into the City of San Jacinto would provide several benefits to the affected properties, surrounding community, and the City as a whole. Annexation would eliminate pockets of unincorporated County territory that are surrounded by, or located immediately adjacent to, incorporated areas of the City. Establishing more logical and contiguous City boundaries would facilitate more coordinated planning and administration of land uses and public services and allow the annexation areas to be considered as part of the broader San Jacinto community.

Annexation would also incorporate the affected properties into the City and allow municipal services to be provided through the City, consistent with applicable service agreements, financing mechanisms, and the City's service capabilities. Incorporating the area into the City would allow future infrastructure and public improvements to be considered as part of the City's broader capital improvement, circulation, utility, and community planning efforts. It would also allow future development and land use changes to be evaluated in conjunction with existing and planned development and infrastructure in surrounding areas.

The annexation would provide a more consistent and coordinated land use planning framework for the area. Properties currently located within the County are subject to the County's General Plan and Zoning Ordinance, which, as discussed above, are not always consistent with one another. Following annexation, the City's General Plan, zoning regulations, development standards, and other applicable municipal requirements would govern the properties. The City's proposed pre-zoning classifications are directly consistent with the City's General Plan land use designations, providing greater clarity regarding the intended future use and development of the properties. This framework would create an opportunity for more coordinated and consistent development patterns across the City and reduce potential differences in land use regulations between adjacent properties within the City and County.

Annexation would also support the City's long-term planning efforts by incorporating an area already located within the City's Sphere of Influence into the City's jurisdiction. This would allow the area to be planned and evaluated as part of the City's overall land use, housing, circulation, infrastructure, public facilities, and economic development objectives. Rather than continuing to function as an unincorporated area surrounded by or adjacent to the City, the annexation areas could be addressed through the City's established planning and development framework.

Finally, annexation would provide local governmental representation to residents and property owners within the annexed area. Following annexation, residents would become part of the incorporated City of San Jacinto and would be represented by the San Jacinto City Council on municipal matters affecting their community. Overall, annexation would provide an opportunity to establish more logical municipal boundaries, coordinate land use and infrastructure planning, provide municipal services, establish a consistent regulatory framework, and incorporate the affected properties and residents into the City's local governmental structure.

Public Services Discussion

The proposed annexation would result in the transition of certain local governmental and municipal services from the County of Riverside to the City of San Jacinto. The following summarizes the services currently provided within the annexation area and identifies the anticipated service providers and responsibilities following annexation. While certain services would continue to be provided by existing agencies or service providers, the City would assume responsibility for local governmental and municipal services within the annexation area, including planning and community development, local street maintenance, and other applicable City services. All applicable City services would be available to the annexation area upon completion of the annexation.

- **General Governmental & Administrative Services**

Before Annexation

The County provides certain services on a Countywide basis to both cities and the unincorporated County. These services include criminal justice services related to jails and courts, which include district attorney, public defender and probation services, as well as health and welfare services, and other Countywide functions. Currently general governmental services for County residents are located in the City of Riverside and other satellite locations.

The County also provides general local government and administrative services to the annexation area. These include certain services that the County only provides in the unincorporated County, such as planning and community development services, economic development, arterial, collector and other local road operation and maintenance (O&M), local parks O&M and human resources, among other services.

After Annexation

The County would continue to provide services for criminal justice services related to jails and courts, which include district attorney, public defender and probation services, as well as health and welfare services, and other Countywide functions.

The City of San Jacinto will assume responsibility for all of the local administrative and general government services that had been provided by the County, exclusively for unincorporated areas. These services would include planning and community development services, economic development, local road and streetlight O&M, etc. within the Project. City of San Jacinto General Administrative Services and Development Services are located in City Hall at 595 S. San Jacinto Avenue; All services would be available to the annexation area immediately upon completion of the annexation.

Administrative services include the City Council, City Management, Museum, Community Center, and other services not otherwise classified (Non-Departmental), These functions and services would immediately service the annexation area in their responsibilities and application. The project, at the time of development, would be required to pay Development Impact Fees in accordance with the City of San Jacinto Development Fee Schedule. Government Services have Development Impact Fees totaling $608.00 per unit (Government Services DIF, Current Planning DIF, Advance Planning DIF).

- **Fire Protection & Emergency Response Services**

Before Annexation

Fire protection for this area is currently provided by the Riverside County Fire Department. County Fire stations that would respond to this location would be San Jacinto #25 located at 125 S. San Jacinto Avenue (one mile from the site) and San Jacinto Station # 78 at 2450 Cottonwood Avenue.

After Annexation

No change would occur to fire services because of the annexation. At the time of development, new projects would be subject to Development Impact Fees for Public Safety structures and equipment at $212 per unit. In addition, new projects would be annexed into Community Services District No 2003-1 for fire and police to offset the cost of services.

- **Sheriff/Police & Public Safety Services**

Before Annexation

Police protection and law enforcement services are provided by the County of Riverside Sheriff's Department. The San Jacinto Sheriff's station located at 160 W. Sixth Street is approximately 1.0 mile south of the annexation area. There are currently 42 officers at this station. Services provided include police patrol, traffic enforcement, investigation, bicycle patrol, a canine team, Allied Riverside Cities Narcotics Enforcement Team (ARCNET), Police Explorers, citizen volunteers, and neighborhood watch.

After Annexation

No Change would occur to police services because of annexation. Police protection and law enforcement services would continue to be provided under the contract with the County of Riverside Sheriff's Department. New development would be subject to Development Impact Fees for Public Safety structures and equipment at $198 per unit. In addition, new projects are required to be annexed into Community Services District No. 2003-1 for fire and police to offset the cost of service.

- **Library**

Before Annexation

Library service is currently provided by the Riverside County Library System. The nearest branch is located at 595 S. San Jacinto Ave, Suite B. San Jacinto, CA 92583.

After Annexation

No change would occur to Library services as a result of annexation. The Riverside County Library System would continue to serve the project area.

- **Parks & Recreation**

Before Annexation

Regional Parks are provided by the County of Riverside and the Valley-wide Recreation Park District. There are currently no local parks within the annexation area.

After Annexation

No change. Residents would have access to the Regional Parks and City Parks.

- **Animal Control**

Before Annexation

The Riverside County Department of Animal Service currently operated shelters with the County with the closest shelter located in the City of San Jacinto at 581 Grand Avenue.

After Annexation

The City contracts with the Riverside County Animal Services division for animal control, thus there would be no change in providers as a result of annexation. .

- **Street Lighting**

Before Annexation

Streetlights within Riverside County are maintained by the power provider which in the project area is Southern California Edison. However, no streetlights exist in the project area.

After Annexation

Streetlights would be installed by the developer to City Standard as a condition of the development. The project would be required to annex into Community Facilities District No. 2020-1 to offset the cost of operation and maintenance. Once constructed the Developer, they would be maintained by the Community Facility District No.2020-1.

- **Landscape Maintenance**

Before Annexation

The County of Riverside would be responsible for landscaping maintenance, however the site is primarily vacant with the exception of an existing house and related accessory structures and therefore no formal landscaping maintenance is provided.

After Annexation

Individual homeowners would be responsible for landscaping within their lots. New projects would be annexed into Community Facility District No. 2020-1 to offset the cost of landscape maintenance for public areas including landscape improvements.

- **Water**

Before Annexation

The proposed annexation area is within the City service area for domestic water service and the City currently provides service to the existing house on the project site.

After Annexation

The annexation will not result in any changes to water service. The City currently has sufficient water capacity to support future development and has already issued a "will serve" letter for the project. The City will continue to provide water service to the annexation area. New projects would be required to pay a $2,930 per unit Development Impact Fee for Water Capital Improvements in accordance with the City of San Jacinto Development Fee Schedule.

- **Wastewater**

Before Annexation

The annexation area is within the service area of Eastern Municipal Water District (EMWD). However, none of the existing structures are currently connected to EMWD’s sewer system.

After Annexation

New projects would be required to pay a $200.00 per unit Development Impact Fee for City Sewer in accordance with the City of San Jacinto Development Fee Schedule.

- **Transportation**

Before Annexation

Freeway and Interchanges are the responsibility of the Riverside County Transportation Commission (RCTC), however there are no Freeways or Infrastructure in the Annexation Area. Local streets are maintained by the County of Riverside and Transit Services are operated by the Riverside Transit Authority (RTA)

After Annexation

RCTC would maintain responsibility for freeway and interchanges as these are regional facilities.

Local street maintenance would be provided for by the City, which includes paving and asphalt repairs, signage, painting, striping, and stenciling, shoulder maintenance, weed abatement and street sweeping. New projects would be subject to Development Impact Fee for Traffic Signalization (Road Construction Bikeways, Traffic Signal). In addition, the project would be annexed into CFD 2020-1, a Community Facilities District for maintenance of public facilities, including road maintenance.

Transit service would continue to be operated by the Riverside Transit Authority.

- **Flood Control & Drainage**

Before Annexation

Regional and Local Flood facilities are provided by the Riverside County Flood Control and Water Conservation District. This area is currently within County Flood Control District Zone 4.

After Annexation

Regional Flood facilities would continue to be provided by the Riverside County Flood Control and Water Conservation District. The project would be subject to the $9,990.00 per acre Flood Control Improvement Development Impact Fee.

Additional drainage features for the development of the property includes water quality infiltration / percolation basins, outfall basins, and swales that are incorporated within the Parks and open space areas. The local flood control facilities would be constructed by the developer of the site. New projects would be required to be annexed into Community Facility District No. 2020-1 to offset the cost of maintenance of new drainage facilities.

- **Utilities: Gas, Electricity, Telephone**

Before Annexation

The service providers currently serving the project include Southern California Gas Co., Southern California Edison Co., Verizon telephone, and Frontier Cable service.

After Annexation

Service providers would not change as a result of the annexation. All utilities would be provided and/or extended to the area as needed by the builder for the new homes.

- **Schools**

Before Annexation

The San Jacinto Unified School District provides K-12 school service (instruction) to this area. Mt. San Jacinto College District also provides college-level school service to this area.

After Annexation

No change would occur to school services as a result of annexation. The site would continue to be served by the San Jacinto Unified School District and Mt. San Jacinto College District.

- **Solid Waste Management**

Before Annexation

Solid waste disposal services are provided by CR&R, a City franchisee, currently servicing 22384 Alessandro Ave.(existing Kasbergen/Hafliger Residence within annexation area). Trash collection is mandatory and is paid by the property owner.

After Annexation

No change would occur to these services as a result of annexation. The site would continue to be served by CC&R Incorporated. Upon annexation, any new accounts are immediately subject to the City franchise agreement.

ENVIRONMENTAL ASSESSMENT:

The project has been reviewed in accordance with the California Environmental Quality Act ("CEQA") and the State CEQA Guidelines. The City of San Jacinto, as the lead agency, evaluated the proposed annexation, including the City's adopted General Plan land use designations and pre-zoning for the annexation area.

The proposed annexation is consistent with the City's General Plan and the pre-zoning classifications adopted for the annexation area. The City's General Plan land use designations for the area include Low Density Residential (LDR), Medium Density Residential (MDR), Mixed Use (MU), Public/Institutional (PI), and Commercial (C). The corresponding pre-zoning classifications adopted by the City are Residential, Low Density (RL); Residential, Medium Density (RM); Mixed Use (MU); and Public Institutional (PI). The proposed pre-zoning classifications are consistent with the City's General Plan land use designations.

The City's General Plan and associated environmental impact report previously evaluated the potential environmental effects associated with the City's planned growth, land use patterns, development capacity, infrastructure, public services, transportation, and other environmental considerations. The proposed annexation would place the affected properties within the City's jurisdiction and implement the land use framework established by the City's General Plan and pre-zoning.

Based on the City's review, Annexation B is consistent with the General Plan for which an environmental impact report was previously certified. Therefore, the project qualifies for the exemption provided under Section 15183 of the CEQA Guidelines, which applies to projects that are consistent with a general plan for which an environmental impact report has previously been certified. Section 15183 allows additional environmental review to be limited to potentially significant effects that are peculiar to the project or site, or other effects not adequately addressed in the prior environmental document.

The City determined that the proposed annexation does not result in new or substantially more severe environmental effects than those previously analyzed in the certified General Plan Environmental Impact Report. The annexation would not establish a new land use framework beyond the General Plan designations and pre-zoning adopted for the area. Accordingly, no additional environmental review beyond the applicable Section 15183 exemption is required for the proposed annexation. Following City action, the proposed annexation would be submitted to the Riverside Local Agency Formation Commission (LAFCO) for consideration.

Notice of Public Hearing

The public hearing for this Project was advertised on or before September 12, 2026. Additionally, notices were directly mailed to property owners within 300 feet of the project site. As of the writing of this report, no other correspondence or comments have been received.

CONCLUSION:

The proposed Annexation B, consisting of 92 parcels totaling approximately 143.62 acres, is consistent with the City's General Plan, adopted pre-zoning, Sphere of Influence, and long-term planning objectives. The proposed annexation would establish a more logical and contiguous municipal boundary, provide a consistent land use planning framework, and allow the affected area to be incorporated into the City's local governmental structure. As discussed in this report, certain local governmental and municipal services would transition to the City upon completion of the annexation, while other services would continue to be provided by existing regional agencies and service providers.

The proposed annexation is also consistent with the City's General Plan land use designations and adopted pre-zoning classifications. Based on the City's environmental review, the proposed annexation qualifies for the exemption provided by CEQA Guidelines Section 15183 because it is consistent with the City's General Plan for which an Environmental Impact Report was previously certified, and the annexation would not result in new or substantially more severe environmental effects requiring additional environmental review.

Accordingly, staff recommends that the Planning Commission adopt PC Resolution No. 26-04, recommending that the City Council authorize the initiation of proceedings with the Riverside Local Agency Formation Commission (LAFCO) for the annexation of 92 parcels totaling approximately 143.62 acres (Annexation B). The Planning Commission's determination may be appealed in accordance with Chapter 17.715 (Appeals) of the Development Code.

Attachments

Planning_Commission_Resolution_26-04.pdf
Location_Map.pdf
General_Plan_Land_Use_Map_-_City-Inititated.pdf
Zoning_Map.pdf
Annexation_B_Map.pdf
Prezoning_Staff_Report_City_Council_1-20-2026.pdf

STATE OF CALIFORNIA)
COUNTY OF RIVERSIDE)
CITY OF SAN JACINTO)

PC RESOLUTION NO. 26-04

A RESOLUTION OF THE PLANNING COMMISSION OF THE CITY OF SAN JACINTO, CALIFORNIA, RECOMMENDING CITY COUNCIL AUTHORIZE THE RIVERSIDE LOCAL AGENCY FORMATION COMMISSION TO TAKE THE PROCEEDINGS FOR THE ANNEXATION OF 146.32 ACRES KNOWN AS ANNEXATION "B"

WHEREAS, the City of San Jacinto ("City") received an application (Annexation "A", P22-084) proposing annexation of approximately 43.68 acres located south of Ramona Expressway; and

WHEREAS, the City received a Tentative Tract Map application to subdivide a portion of the project site into 151 single-family residential lots; and

WHEREAS, the City Council subsequently adopted Resolution No. 3927 initiating Annexation "B", encompassing approximately 146.32 acres generally located east of San Jacinto Avenue, south of Bergin Street, north of Artesia Street, and west of Vernon Avenue, immediately adjacent to Annexation "A"; and

WHEREAS, the City of San Jacinto desires to initiate a proposal pursuant to the Cortese-Knox-Hertzberg Local Government Reorganization Act of 2000, commencing with Section 56000 of the California Government Code, for the annexation of 146 acres generally located east of San Jacinto Avenue, south of Bergin Street, north of Artesia Street, and west of Vernon Avenue; and

WHEREAS, the General Plan designates the Annexation Areas for Low Density Residential, Medium Density Residential, Mixed Use, Public/Institutional, and Commercial uses, each of which corresponds to an implementing zoning district identified in the Development Code; and

WHEREAS, after reviewing parcel size, configuration, roadway access, surrounding uses, and the purpose statements of each zone, the Planning Commission finds that the project is consistent with the General Plan and supports orderly, compatible future development should annexation occur; and

WHEREAS, the Planning Commission has reviewed the staff report, Findings of Fact, proposed Zoning Map amendments, and supporting documentation and desires to recommend the City Council initiate an annexation application with the Riverside Local Agency Formation Commission (LAFCO); and

WHEREAS, notice of the public hearing was provided in accordance with Government Code Section 65090, including a mailed notice to property owners within 300 feet of the project area and publication in a newspaper of general circulation, and the

matter was duly noticed for consideration by the Planning Commission on September 12, 2026; and

WHEREAS, on September 22, 2026, this resolution was fully considered by the Planning Commission; and

WHEREAS, all other legal prerequisites to the adoption of this Resolution have occurred.

NOW, THEREFORE, BE IT RESOLVED, BY THE PLANNING COMMISSION OF THE CITY OF SAN JACINTO:

SECTION 1. Recitals. The foregoing recitals are true and correct and are incorporated herein by reference.

SECTION 2. Environmental Determination. Based upon the whole of the record before it, including the Initial Study and all supporting information, the Planning Commission finds that pursuant to the California Code of Regulations the project is exempt from CEQA as the project is consistent with the General Plan policies for which an EIR was certified, CEQA Guidelines Section 15183.

The City's General Plan and associated environmental impact report previously evaluated the potential environmental effects associated with the City's planned growth, land use patterns, development capacity, infrastructure, public services, transportation, and other environmental considerations. The proposed annexation would place the affected properties within the City's jurisdiction and implement the land use framework established by the City's General Plan and pre-zoning.

Based on the City's review, Annexation B is consistent with the General Plan for which an environmental impact report was previously certified. Therefore, the project qualifies for the exemption provided under Section 15183 of the CEQA Guidelines, which applies to projects that are consistent with a general plan for which an environmental impact report has previously been certified. Section 15183 allows additional environmental review to be limited to potentially significant effects that are peculiar to the project or site, or other effects not adequately addressed in the prior environmental document.

SECTION 3. Findings. Based upon the entire record, including all written and oral evidence presented, and the findings set forth in the staff report and incorporated herein by reference, the Planning Commission finds that:

A. The Project is consistent with the General Plan and all applicable provisions of the Municipal Code;

B. The Project will not be detrimental to the public interest, health, safety, convenience, or welfare of the City.

SECTION 4. Recommendation of Approval.

A. Initiate the Annexation encompassing approximately 146.32 acres generally located east of San Jacinto Avenue, south of Bergin Street, north of Artesia Street, and west of Vernon Avenue;

B. Direct staff to file a Notice of Exemption in accordance with the California Environmental Quality Act.

SECTION 5. Record of proceedings. The documents and materials that constitute the record of proceedings upon which this Resolution is based are located at the City of San Jacinto, 595 South San Jacinto Avenue, San Jacinto, California 92583. The custodian of the record is the Community Development Department. This information is provided pursuant to Public Resources Code Section 21081.6.

SECTION 6. Recommendation to City Council. As the Project includes an Annexation, final action on the Project rests with the City Council and LAFCO. The Planning Commission's action on this item constitutes a recommendation to the City Council.

PASSED, APPROVED, AND ADOPTED at a regular meeting of the Planning Commission of the City of San Jacinto on the 22nd day of September 2026, by the following vote:

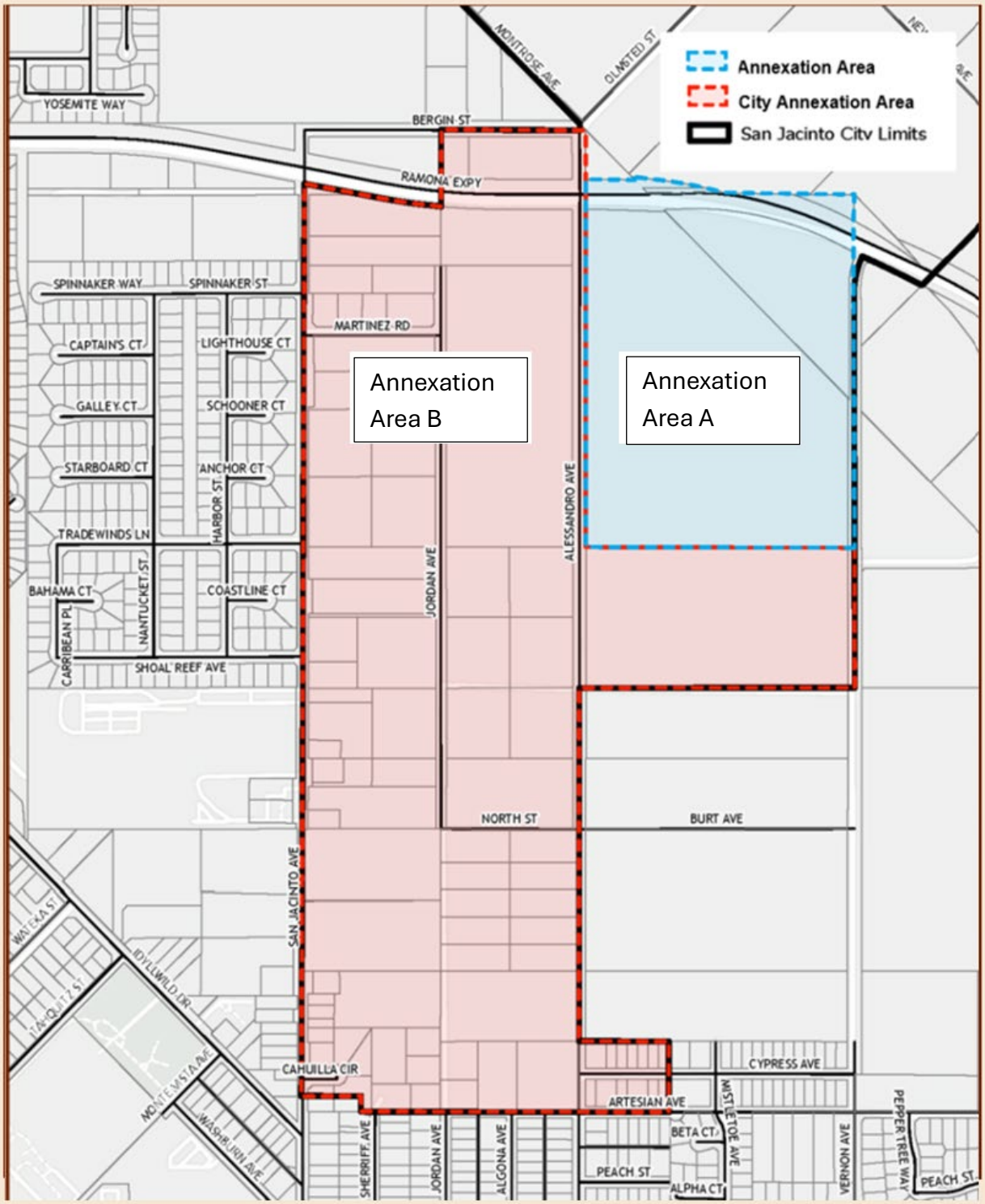
AYES:
NAYS:
ABSENT:
ABSTAIN:

CITY OF SAN JACINTO:

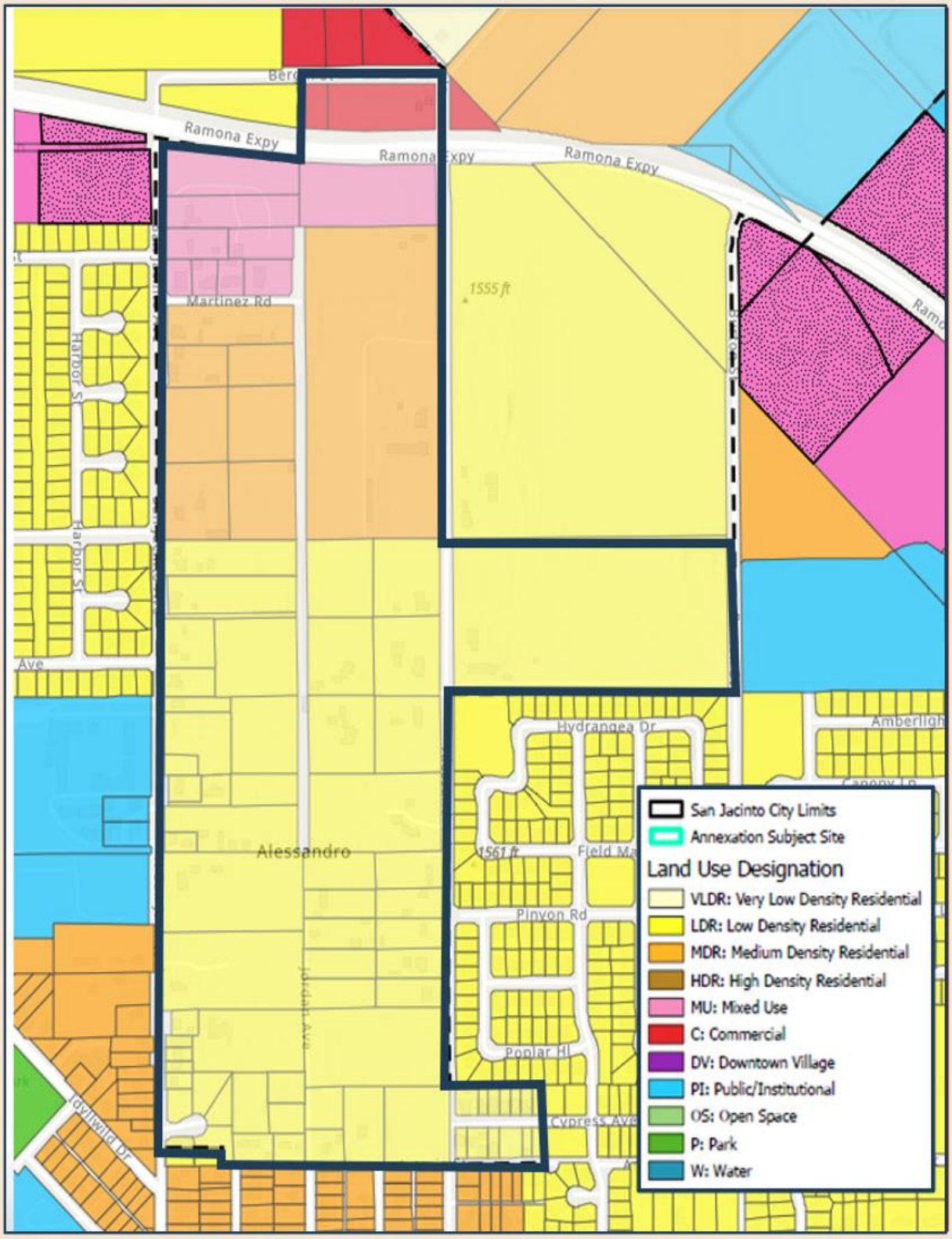
_____
Planning Commission Chair
City of San Jacinto

ATTEST:

_____
Planning Commission Secretary
City of San Jacinto

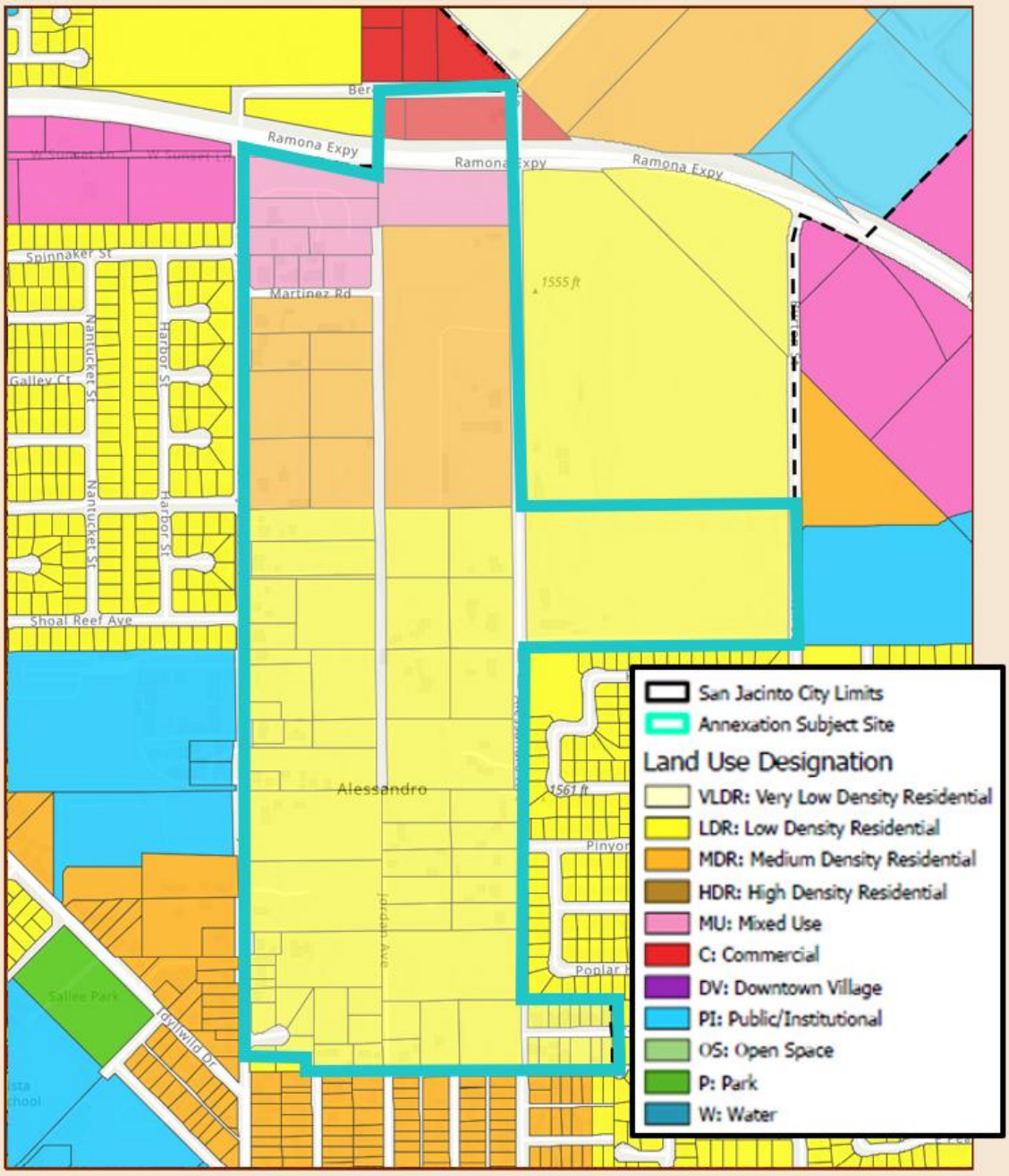


Location Map



N

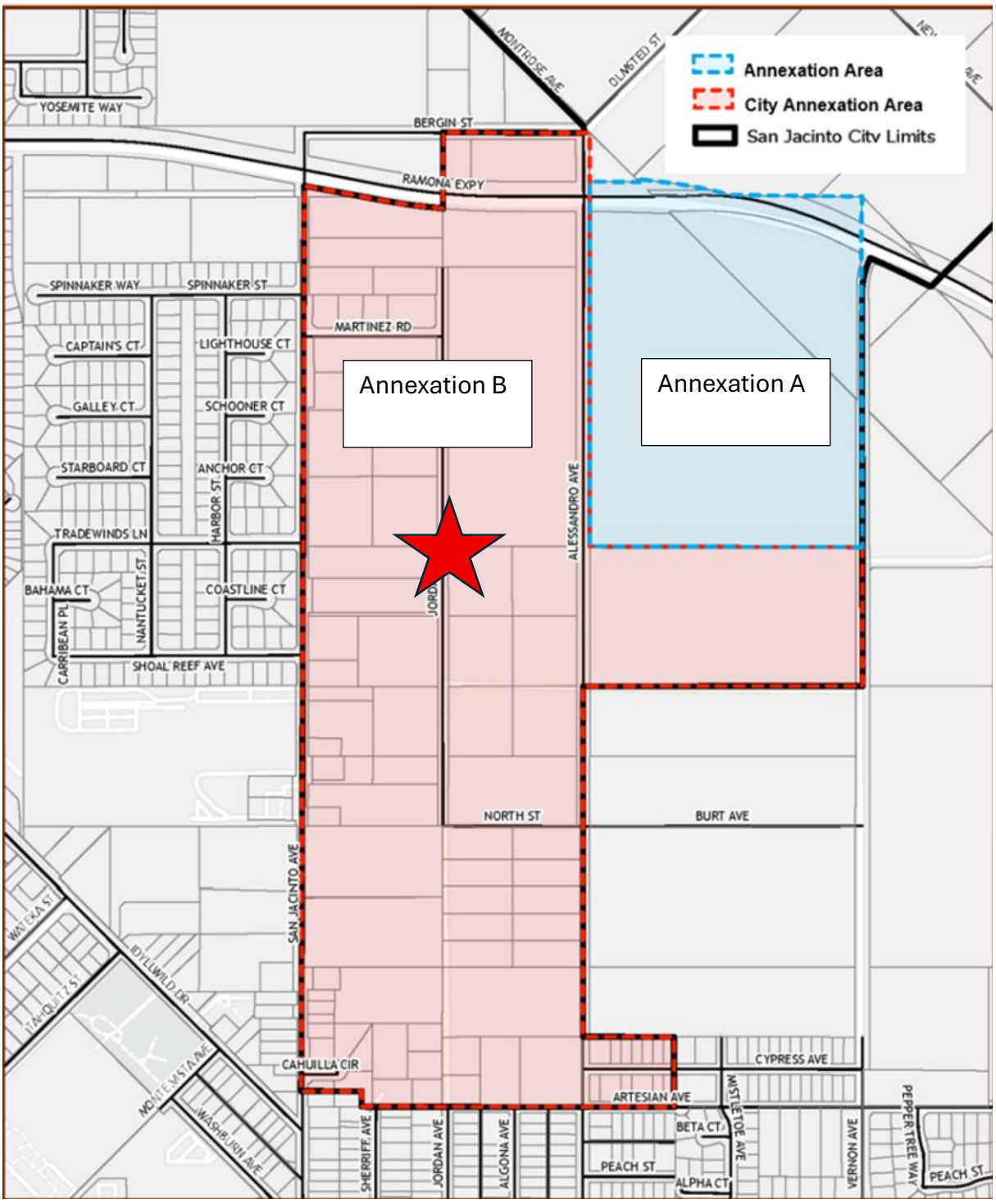
Annexation
General Plan Land Use Map


Ramona Expy
Ramona Expy
Ramona Expy
Spinnaker St
Martinez Rd
1555 ft
Galley Ct
Nantucket St
Harbor St
Nantucket St
Harbor St
Shoal Reef Ave
Alessandro
1561 ft
Pinyon
Poplar
Indian Ave
Sallee Park
Lyntwild Dr
San Jacinto City Limits
Annexation Subject Site
Land Use Designation
VLDR: Very Low Density Residential
LDR: Low Density Residential
MDR: Medium Density Residential
HDR: High Density Residential
MU: Mixed Use
C: Commercial
DV: Downtown Village
PI: Public/Institutional
OS: Open Space
P: Park
W: Water

N

ZONING MAP

Annexation B Map - P22-084



January 20, 2026

TO: City Council

REQUESTED BY: Travis Randel, Deputy City Manager, Development Services

APPROVED BY: Robert A. Johnson, City Manager

SUBJECT: Prezoning of Parcels Within the City Sphere of Influence (Unincorporated Riverside County)

RECOMMENDATION:

The Planning Commission **recommends** that the City Council:

1. **DETERMINE** that pursuant to the California Code of Regulations the project is exempt from CEQA as the project is (1) covered by the common-sense exemption, CEQA Guidelines Section 15061(b)(3), (2) the project is a Feasibility and Planning Study, CEQA Guidelines Section 15262, and (3) the project is consistent with the General Plan polices for which an EIR was certified, CEQA Guidelines Section 15183.

2. **INTRODUCE Ordinance No. 26-01**, for first reading to approve the Pre-Zoning (P22-084) of 94 parcels on 190 acres for the future annexation of land generally located south of Ramona Expressway and north of Artesia Street between San Jacinto Avenue and Vernon Avenue.

   AN ORDINANCE OF THE CITY COUNCIL OF THE CITY OF SAN JACINTO, CALIFORNIA APPROVING PRE-ZONING FOR 94 PARCELS ON 190 ACRES WITHIN THE CITY'S SPHERE OF INFLUENCE RELATED TO PROPOSED ANNEXATION P22-084 (ANNEXATION "A") AND THE ADJACENT ANNEXATION AREA (ANNEXATION "B").

DISCUSSION:

On December 9, 2025, the Planning Commission held a Public Hearing and unanimously (3-0, 2 absent) recommended that the City Council approve Prezoning for 94 parcels within unincorporated Riverside County that comprises approximately 190 acres. This property is generally located south of Ramona Expressway, between Alessandro Avenue and Vernon Avenue.

Background

In 2022, the City of San Jacinto ("City") received applications on behalf of Cornell Kasbergen ("Kasbergen Project") to annex approximately 44 acres of property located in the unincorporated portion of Riverside County into the City and to subdivide the property into 152 single-family residential lots ("Annexation A"). Subsequently, the City Council adopted Resolution No. 3927 to initiate a second annexation ("Annexation B") encompassing approximately 146 acres generally located south and east of the Kasbergen Project (east of San Jacinto Avenue, south of Bergin Street, north of Artesia Street, and west of Vernon Avenue). Prior to consideration of either annexation,

the annexation areas must be pre-zoned. Pre-zoning establishes future zoning designations that would take effect upon annexation approval.

ANALYSIS:

A portion of the site lies within a Disadvantaged Unincorporated Community ("DUC"), identified by the Riverside County Local Agency Formation Commission ("LAFCO") as "DUC 2, Soboba Hot Springs." Under State law (Cortese-Knox-Hertzberg Local Government Reorganization Act of 2000) and LAFCO policy, Annexation A will not be accepted by LAFCO for review without Annexation B. Conversely Annexation B will not be accepted by LAFCO without Annexation A. Even though they must be submitted together, formal action on the annexations will be separate actions: Therefore, the City or LAFCO could approve one and deny the other. It is also possible that both decisions are approved or denied.

Proposed Pre-zone

The City's Development Code (§17.200.040 and §17.720.070) requires pre-zoning consistent with the City's General Plan. The General Plan designates properties within the annexation area as Low Density Residential (LDR), Medium Density Residential (MDR), Mixed Use (MU), Public/Institutional (PI), and Commercial (C).

The General Plan lists the Zones that are consistent with the General Plan Land Use Designation as shown in the following table:

City General Plan Land Use Designation	City Zones Implementing the General Plan
Low Density Residential (LDR)	Residential, Low Density (RL)
Medium Density Residential (MDR)	Residential, Medium Density (RM)
Mixed Use (MU)	Mixed Use (MU) Mixed Use Entertainment (MU-E)
Public/Institutional (PI)	Public Institutional (PI)
Commercial (C)	Commercial General (CG)/ Commercial Neighborhood (CN) Regional Commercial (CR)

The LDR, MDR, and PI land use designations each correspond to a single zone in the City's Development Code. As a result, the RL, RM, and PI zones are proposed for those properties to maintain direct consistency with the General Plan.

The Commercial land use designation may be implemented through multiple zoning districts, including Commercial Neighborhood (CN), Commercial General (CG), and Commercial Regional (CR). Staff evaluated the Commercial-designated parcels within the annexation area based on parcel size, configuration, roadway access, surrounding land uses, and the intended function of these sites. Based on this review, the Commercial General (CG) zone is the most appropriate classification. The CG zone provides sufficient flexibility and intensity to accommodate a range of neighborhood- and

community-serving retail, service, and office uses without requiring the larger parcel sizes and regional access typically associated with Regional Commercial development. At the same time, the CG zone allows a broader mix of uses than the more limited Commercial Neighborhood zone. Applying the CG zone maintains consistency with the Commercial General Plan designation and supports orderly, compatible development along major transportation corridors as these areas transition into the City.

The Mixed Use land use designation may be implemented through either the Mixed Use (MU) or Mixed Use Entertainment (MU-E) zoning districts. Staff reviewed the Mixed Use-designated parcels considering their location, surrounding zoning pattern, access, and proximity to major activity centers. Adjacent parcels within the Mixed Use General Plan designation are currently zoned MU-E, and the subject parcels are located along Ramona Expressway near regional destinations such as Soboba Casino and Resort and Mt. San Jacinto College. The MU-E zone is therefore the most appropriate classification, as it is intended to support higher-intensity mixed-use development with an emphasis on entertainment, retail, residential, and public gathering spaces. The MU-E zone allows for greater functional integration of uses and a higher nonresidential floor area ratio than the MU zone, consistent with the role of this corridor and the surrounding land use context. Applying the MU-E zone aligns with the Mixed Use General Plan designation and supports the creation of experience-oriented development that integrates living, employment, entertainment, and community-serving uses.

Effect of Pre-Zoning

Pre-zoning does not change any existing regulations for properties within the annexation areas and has no direct effect on current homeowners or businesses. The areas remain under Riverside County jurisdiction until an annexation is formally approved. Pre-zoning simply identifies the zoning designations the City would apply if annexation is approved at a later date. Establishing these designations in advance is a required step before the Riverside Local Agency Formation Commission will accept annexation applications for review.

When the City submits the annexation applications to LAFCO, the process would involve multiple stages of review, public notices, and hearings. LAFCO would conduct its own analysis under State law and its adopted policies, hold public hearings, and provide a formal protest period for affected property owners and registered voters. Separate public hearings before the Planning Commission and City Council would also be required. Approval of pre-zoning does not commit the City to pursue, support, or approve either annexation.

ENVIRONMENTAL DETERMINATION

The proposed pre-zoning is exempt from the California Environmental Quality Act (CEQA) pursuant to several provisions of the CEQA Guidelines. First, the action is covered by the common-sense exemption under Section 15061(b)(3), as the project establishes zoning designations for potential future annexation areas and does not authorize or approve any physical development. There is no possibility that the pre-zoning, in itself, may result in a significant effect on the environment. Second, the project qualifies as a feasibility and planning study under Section 15262 because the pre-zoning serves as part of the preliminary planning and boundary evaluation process required by the Riverside Local Agency Formation Commission prior to consideration of annexation. This action does not bind the City to a specific project or physical outcome. Finally, the

pre-zoning implements existing General Plan land use designations analyzed in the certified General Plan Environmental Impact Report, and therefore qualifies for the exemption under Section 15183, which applies to projects consistent with a General Plan for which an EIR has already been certified. For these reasons, no further environmental review is required.

ATTACHMENTS:

Ordinance No. 26-01
Planning Commission Staff Report
PC Resolution No. 25-02

STATE OF CALIFORNIA)
COUNTY OF RIVERSIDE)ss
CITY OF SAN JACINTO)

ORDINANCE NO. 26-01

AN ORDINANCE OF THE CITY COUNCIL OF THE CITY OF SAN JACINTO, CALIFORNIA APPROVING PRE-ZONING FOR 94 PARCELS ON 190 ACRES WITHIN THE CITY'S SPHERE OF INFLUENCE RELATED TO PROPOSED ANNEXATION P22-084 (ANNEXATION "A") AND THE ADJACENT ANNEXATION AREA (ANNEXATION "B")

WHEREAS, the City of San Jacinto ("City") received an application (Annexation "A", P22-084) proposing annexation of approximately 44 acres located south of Ramona Expressway, between Alessandro Avenue and Vernon Avenue, along with a related subdivision request for 152 single-family residential lots; and

WHEREAS, the City Council subsequently adopted Resolution No. 3927 initiating Annexation "B", encompassing approximately 146 acres generally located east of San Jacinto Avenue, south of Bergin Street, north of Artesia Street, and west of Vernon Avenue, immediately adjacent to Annexation "A"; and

WHEREAS, Annexation "A" and Annexation "B" are collectively referred to as the "Annexation Areas," and together comprise approximately 190 acres of unincorporated land within the City's Sphere of Influence (SOI); and

WHEREAS, under the Cortese-Knox-Hertzberg Local Government Reorganization Act of 2000 and Riverside Local Agency Formation Commission ("LAFCO") policies, Annexation "A" cannot be processed without Annexation "B", and Annexation "B" cannot be processed without Annexation "A", requiring the City to consider pre-zoning for both areas concurrently; and

WHEREAS, a portion of Annexation Areas lie within a designated Disadvantaged Unincorporated Community (DUC 2 – Soboba Hot Springs), and State law and LAFCO policy encourage annexation of DUCs to improve access to reliable public services, infrastructure, and governance; and

WHEREAS, pre-zoning is required pursuant to San Jacinto Development Code Sections 17.200.040 and 17.720.070 before the City may submit annexation applications to LAFCO, and such pre-zoning must be consistent with the General Plan land use designations assigned to the Annexation Areas; and

WHEREAS, the General Plan designates the Annexation Areas for Low Density Residential, Medium Density Residential, Mixed Use, Public/Institutional, and Commercial uses, each of which corresponds to an implementing zoning district identified in the Development Code; and

Attachment: Ordinance No. 26-01 (Prezoning of Parcels Within the City Sphere of Influence (Unincorporated Riverside County))

WHEREAS, the Commercial-designated parcels and certain Mixed Use properties front Ramona Expressway, a major arterial roadway designed to carry up to 55,300 daily vehicle trips, making these parcels most appropriate for the Commercial General (CG) and Mixed Use (MU) zoning districts rather than the more limited CN zone or the large-format CR zone; and

WHEREAS, after reviewing parcel size, configuration, roadway access, surrounding uses, and the purpose statements of each zone, the Planning Commission finds that the proposed RL, RM, MU, PI, and CG zoning classifications maintain consistency with the General Plan and support orderly, compatible future development should annexation occur; and

WHEREAS, pre-zoning does not approve annexation, authorize development, or alter existing County regulations, but instead establishes the zoning framework required for potential future annexation and provides clarity for residents, property owners, and LAFCO; and

WHEREAS, on December 9, 2025 the Planning Commission of the City of San Jacinto ("Commission") conducted a duly noticed public hearing on the Project at which time all persons wishing to testify in connection with the Project were heard, and the Project was comprehensively reviewed, and the Project was recommended for approval by the City Council; and

WHEREAS, on January 20, 2026 the City Council of the City of San Jacinto conducted duly noticed public hearings on the Application at which time all persons wishing to testify in connection with the Application were heard and the Application was comprehensively reviewed by the City Council.

NOW THEREFORE, THE CITY COUNCIL OF THE CITY OF SAN JACINTO DOES HEREBY ORDAIN AS FOLLOWS:

Section 1. Incorporation of Recitals. The Recitals set forth above are incorporated herein and made an operative part of this Ordinance as though fully set forth herein.

Section 2. Based on the entire record before the City Council, all written and oral evidence presented, the recommendation and the findings made in this Ordinance, the City Council hereby approves Prezoning for the Annexation Areas, subject to the Findings of Fact.

Section 3. Findings of Fact. The City Council of the City of San Jacinto hereby finds and determines:

1. The San Jacinto General Plan establishes land use designations for all parcels within the pre-zoning area, including Commercial, Mixed Use, Low Density Residential, Medium Density Residential, and Public Institutional. Each designation includes specific purpose statements and development expectations outlined in the General Plan Land Use

Attachment: Ordinance No. 26-01 (Prezoning of Parcels Within the City Sphere of Influence (Unincorporated Riverside County))

Element. The Development Code identifies the zoning districts that implement these land use designations, ensuring consistency between long-range planning policy and zoning regulations.

Several General Plan designations within the annexation areas correspond to a single implementing zone. Low Density Residential (2–7 du/ac) and Medium Density Residential (5–14 du/ac) are implemented through the RL and RM zones, which provide development standards consistent with the intended density ranges. The Mixed Use designation, which supports vertically or horizontally integrated residential and commercial uses up to 36 du/ac and a 1.0 FAR, is implemented through the MU zone. The Public Institutional designation, which accommodates public facilities such as schools, utilities, and government buildings at a maximum FAR of 0.50, is implemented through the PI zone. Applying RL, RM, MU, and PI zoning to parcels with corresponding General Plan designations maintains the internal consistency required by State law and the Development Code.

The Commercial designation permits a variety of retail, service, entertainment, and employment-generating uses with a maximum FAR of 0.50. Under the Development Code, this designation may be implemented through three zoning districts: Commercial Neighborhood (CN), Commercial General (CG), and Commercial Regional (CR). Section 17.220.020 describes each zone's purpose and scale:

- The CN zone is intended for small-scale retail and personal service uses serving adjacent neighborhoods, with a maximum FAR of 0.40.
- The CG zone accommodates general commercial and daily shopping needs of a broader market area, allowing a wide range of retail, service, and office uses accessible from major corridors, with a maximum FAR of 0.50.
- The CR zone supports large-scale regional commercial development, including big-box retail, auto sales, hotels, and entertainment uses.

Both the MU and Commercial-designated parcels within the annexation areas front onto Ramona Expressway, one of the largest and highest-volume corridors in the City. This segment of Ramona Expressway is designated as an Arterial Roadway, designed to accommodate up to 55,300 vehicle trips per day. The roadway's classification, traffic capacity, and regional connectivity make it unsuitable for the small-scale, neighborhood-oriented commercial uses intended for the CN zone, while the parcel sizes lack the depth and acreage required for the large-format development characteristic of the CR zone. In contrast, the CG zone provides the appropriate balance of flexibility and intensity needed to support community-serving commercial uses along a major

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arterial, consistent with the Commercial General Plan designation and the Development Code's purpose statements.

The proposed pre-zoning also advances several General Plan goals and policies, including maintaining a balanced land use pattern (Goal LU-1), directing growth to areas where infrastructure can be extended efficiently (Goal LU-2), ensuring land use compatibility (Goal LU-3), and implementing the land use map through zoning that reflects intended intensity and function (Action LU-1a). Policy LU-2.6 further supports the orderly transition of lands within the City's Sphere of Influence through coordinated annexation and consistent pre-zoning.

The project site is not located within a Specific Plan area. Adoption of the proposed zoning classifications ensures consistency between the General Plan and the Zoning Map and supports the City's long-term land use objectives should annexation occur in the future.

2. The proposed pre-zoning will not result in physical development or regulatory changes affecting existing properties, as the annexation areas will remain under Riverside County jurisdiction until such time as an annexation is approved. Pre-zoning merely establishes the zoning classifications that would apply if annexation occurs in the future and is required before the Riverside Local Agency Formation Commission will accept annexation applications. As such, the action does not alter existing land use entitlements, building regulations, or service responsibilities within the annexation areas.

   The zoning districts proposed through this amendment implement the General Plan land use designations for the area and promote orderly, well-coordinated growth consistent with long-term planning objectives. The assigned zones establish appropriate standards for residential, commercial, mixed-use, and public institutional development that reflect the intended intensity and function of these areas. This ensures that any future development following annexation will occur in a compatible and predictable manner, supporting public health, safety, and welfare.

   Public services and infrastructure, including fire and police protection, potable water, wastewater collection and treatment, storm drainage, solid waste services, and roadway access, can be extended or enhanced as needed to serve the area if annexation occurs. The proposed zoning classifications align with service capacity planning assumptions in the General Plan and do not introduce uses or intensities that would exceed the City's ability to provide adequate municipal services.

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Because the amendment does not authorize development, modify existing uses, or impose new regulatory restrictions on County-governed parcels, it will not adversely affect public convenience, health, safety, or the general welfare. Instead, it facilitates an orderly framework for future decision-making and ensures that any subsequent development within potential annexation areas will be reviewed under zoning standards that are internally consistent with the City's adopted General Plan.

3. The annexation areas proposed for pre-zoning consist of parcels that are physically suitable for the land uses anticipated under the General Plan and the implementing zoning districts. The General Plan land use designations applied to these parcels assume development patterns consistent with the physical characteristics of the area, including parcel size, roadway access, topography, and adjacency to existing urban uses. The proposed zoning classifications mirror those assumptions and do not introduce land use intensities beyond what the General Plan envisioned for these properties.

   The areas designated for Low Density Residential, Medium Density Residential, Mixed Use, and Public Institutional uses are located on sites that can accommodate these uses without creating hazards or incompatibilities with surrounding development. Parcels designated for Commercial and Mixed Use development are located along Ramona Expressway, a major arterial roadway designed to accommodate substantial daily traffic volumes and to serve as a key commercial and mobility corridor for the City. This roadway classification, combined with the parcels' depth, visibility, and access characteristics, supports the suitability of the CG and MU zones for future development in these locations.

   Adequate public services and utilities can be provided to serve these areas if annexation occurs, including fire and police protection, potable water, wastewater collection and treatment, storm drainage, solid waste services, and school facilities. These assumptions are consistent with the General Plan, which identifies the City's Sphere of Influence as an area appropriate for long-term urban expansion where municipal services can be extended in an orderly and efficient manner. The pre-zoning does not authorize development but ensures that any future proposals will be reviewed under zoning classifications that align with the City's land use, infrastructure, and service provision policies.

   A portion of the area proposed for pre-zoning is located within Disadvantaged Unincorporated Community (DUC) #2 – Soboba Hot Springs, as identified by the Riverside Local Agency Formation Commission. State law and LAFCO policy encourage the annexation of DUCs to ensure the equitable provision of municipal services, improve long-term service reliability, and support public health and

Attachment: Ordinance No. 26-01 (Prezoning of Parcels Within the City Sphere of Influence (Unincorporated Riverside County))

safety. While pre-zoning does not itself extend City services, it is a required procedural step that allows the City and LAFCO to evaluate annexation in a manner consistent with these policies. Establishing appropriate zoning classifications in advance supports orderly service planning and ensures that, if annexation is pursued, development would occur under zoning standards aligned with the City's land use and infrastructure objectives.

Because the proposed zoning districts reflect the physical constraints and opportunities of the annexation areas and do not alter existing County-governed land use rights, the amendment will not endanger or jeopardize property or improvements in the vicinity. Instead, it establishes a framework for compatible, well-planned development should annexation and future entitlements be pursued.

Section 4. That this Ordinance shall become effective on the 31st day following its adoption.

Section 5. That an environmental analysis has been conducted which evaluated information and impacts based on the specifics of this proposed project. This analysis 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 revisions in the project have been made by or agreed to by the project proponent and other effects will be mitigated to a level of less than significant impact. Therefore, a Mitigated Negative Declaration and its associated Mitigation Monitoring Plan is recommended.

Section 6. The City Clerk shall certify the adoption of this ordinance and cause the same to be published in a newspaper of general circulation printed and published in the County of Riverside, State of California.

Introduced at a regular meeting of the City Council on the 20th day of January 20, 2026.

Attachment: Ordinance No. 26-01 (Prezoning of Parcels Within the City Sphere of Influence (Unincorporated Riverside County))

PASSED, APPROVED, AND ADOPTED at a regular meeting of the City Council on the 4th Day of February 2026 by the following vote.

AYES:
NAYS:
ABSENT:
ABSTAIN:

CITY OF SAN JACINTO:

_____
Crystal Ruiz, Mayor

ATTEST:

_____
Julia Espinoza, City Clerk

APPROVED AS TO FORM:
BEST BEST & KRIEGER LLP

_____
Craig M. Hayes, City Attorney

Attachment: Ordinance No. 26-01 (Prezoning of Parcels Within the City Sphere of Influence (Unincorporated Riverside County))

CERTIFICATION

State of California)
County of Riverside) ss
City of San Jacinto)

I, Julia Espinoza, duly appointed City Clerk of the City of San Jacinto, do hereby certify that the foregoing Ordinance No. 26-01 was introduced at a regular meeting of the City Council of the City of San Jacinto on the 20th day of January 2026. Ordinance No. 26-01 was passed, approved, and adopted by the City Council of the City of San Jacinto, California, at a regular meeting of the City Council held on the 4th day of February 2026:

AYES:
NAYS:
ABSENT:
ABSTAIN:

WITNESS MY HAND AND SEAL the 4th day of February 2026.

_____
Julia Espinoza, City Clerk
City of San Jacinto

Attachment: Ordinance No. 26-01 (Prezoning of Parcels Within the City Sphere of Influence (Unincorporated Riverside County))

ATTACHMENT "A"

PROPERTY DESCRIPTION

The land referred to is situated in the unincorporated portion of the County of Riverside and includes the following parcels:

Assessors Parcel Number	Property Address	Pre-Zoning (Proposed)	City Zoning Description	City General Plan	City General Plan Description
433-070-024		MU &RM	Mixed Use/Residential, Medium Density	MU & MDR	Mixed Use/Medium Density Residential
433-070-030		MU	Mixed Use	MU	Mixed Use
433-070-034		RL	Residential, Low Density	LDR	Low Density Residential
433-070-050		RL	Residential, Low Density	LDR	Low Density Residential
434-170-007	22200 SAN JACINTO AVE SAN JACINTO 92583	RL	Residential, Low Density	LDR	Low Density Residential
434-170-012	22414 SAN JACINTO AVE SAN JACINTO 92583	RL	Residential, Low Density	LDR	Low Density Residential
434-170-013		RL	Residential, Low Density	LDR	Low Density Residential
434-170-016		RL	Residential, Low Density	LDR	Low Density Residential
434-170-017	22528 SAN JACINTO AVE SAN JACINTO 92583	RL	Residential, Low Density	LDR	Low Density Residential
434-170-019	22323 ALESSANDRO AVE SAN JACINTO 92583	PI	Public Institutional	PI	Public Institutional
434-170-023	22090 SAN JACINTO AVE SAN JACINTO 92583	RL	Residential, Low Density	LDR	Low Density Residential
434-170-024	22440 SAN JACINTO AVE SAN JACINTO 92583	RL	Residential, Low Density	LDR	Low Density Residential
434-170-027	22415 ALESSANDRO AVE SAN JACINTO 92583	PI	Public Institutional	PI	Public Institutional
434-170-028		RM	Residential, Medium Density	ROW	Row
434-170-029	22210 SAN JACINTO AVE SAN JACINTO 92583	RL	Residential, Low Density	LDR	Low Density Residential
434-170-030		RL	Residential, Low Density	LDR	Low Density Residential
434-170-033		RL	Residential, Low Density	LDR	Low Density Residential
434-170-034	22530 SAN JACINTO AVE SAN JACINTO 92583	RL	Residential, Low Density	LDR	Low Density Residential
434-170-035	22464 SAN JACINTO AVE SAN JACINTO 92583	RL	Residential, Low Density	LDR	Low Density Residential
434-170-036	22445 ALESSANDRO AVE SAN JACINTO 92583	RL	Residential, Low Density	LDR	Low Density Residential
434-170-037	22485 ALESSANDRO AVE SAN JACINTO 92583	RL	Residential, Low Density	LDR	Low Density Residential
434-170-047	22090 SAN JACINTO AVE SAN JACINTO 92583	RL	Residential, Low Density	LDR	Low Density Residential
434-170-048	22019 ALESSANDRO AVE SAN JACINTO 92583	RM	Residential, Medium Density	MDR	Medium Density Residential
434-170-049		RM	Residential, Medium Density	MDR	Medium Density Residential
434-170-050	40393 BERGIN ST SAN JACINTO 92583	RL	Residential, Low Density	LDR	Low Density Residential

Attachment: Ordinance No. 26-01 (Prezoning of Parcels Within the City Sphere of Influence (Unincorporated Riverside County))

434-170-051	40260 MARTINEZ RD SAN JACINTO 92583	RL	Residential, Low Density	LDR	Low Density Residential
434-170-052	40270 MARTINEZ RD SAN JACINTO 92583	RL	Residential, Low Density	LDR	Low Density Residential
434-170-053	40280 MARTINEZ RD SAN JACINTO 92583	RL	Residential, Low Density	LDR	Low Density Residential
434-170-054	40300 MARTINEZ RD SAN JACINTO 92583	RL	Residential, Low Density	LDR	Low Density Residential
434-170-055		RL	Residential, Low Density	LDR	Low Density Residential
434-170-057		RL	Residential, Low Density	LDR	Low Density Residential
434-170-059	22212 SAN JACINTO AVE SAN JACINTO 92583	RL	Residential, Low Density	LDR	Low Density Residential
434-170-060		RL	Residential, Low Density	LDR	Low Density Residential
434-180-006		RL	Residential, Low Density	LDR	Low Density Residential
434-180-007	22384 ALESSANDRO AVE SAN JACINTO 92583	MU	Mixed Use	MU	Mixed Use
434-180-008	22500 ALESSANDRO AVE SAN JACINTO 92583	MU	Mixed Use	MU	Mixed Use
434-221-001	22534 N SAN JACINTO AVE SAN JACINTO 92583	RL	Residential, Low Density	LDR	Low Density Residential
434-221-002	22558 SAN JACINTO AVE SAN JACINTO 92583	RL	Residential, Low Density	LDR	Low Density Residential
434-221-003		RL	Residential, Low Density	LDR	Low Density Residential
434-221-004		RL	Residential, Low Density	LDR	Low Density Residential
434-221-006		RL	Residential, Low Density	LDR	Low Density Residential
434-221-007	22610 SAN JACINTO AVE SAN JACINTO 92583	RL	Residential, Low Density	LDR	Low Density Residential
434-221-008	22618 SAN JACINTO AVE SAN JACINTO 92583	RL	Residential, Low Density	LDR	Low Density Residential
434-221-009	22570 SAN JACINTO AVE SAN JACINTO 92583	RL	Residential, Low Density	LDR	Low Density Residential
434-221-010	22572 SAN JACINTO AVE SAN JACINTO 92583	RL	Residential, Low Density	LDR	Low Density Residential
434-222-002	22607 ALESSANDRO AVE SAN JACINTO 92583	RL	Residential, Low Density	LDR	Low Density Residential
434-222-003	22585 ALESSANDRO AVE SAN JACINTO 92583	RM	Residential, Medium Density	MDR	Medium Density Residential
434-222-004	22545 ALESSANDRO AVE SAN JACINTO 92583	RL	Residential, Low Density	LDR	Low Density Residential
434-240-001	22670 N SAN JACINTO AVE SAN JACINTO 92583	RL	Residential, Low Density	LDR	Low Density Residential
434-240-002	22710 SAN JACINTO ST SAN JACINTO 92583	RL	Residential, Low Density	LDR	Low Density Residential
434-240-004	22731 ALESSANDRO AVE SAN JACINTO 92583	RL	Residential, Low Density	LDR	Low Density Residential
434-240-009		RL	Residential, Low Density	LDR	Low Density Residential
434-240-010	22621 ALESSANDRO ST SAN JACINTO 92583	RL	Residential, Low Density	LDR	Low Density Residential
434-240-011	22681 ALESSANDRO AVE SAN JACINTO 92583	RL	Residential, Low Density	LDR	Low Density Residential
434-240-012	22701 ALESSANDRO AVE SAN JACINTO 92583	RL	Residential, Low Density	LDR	Low Density Residential

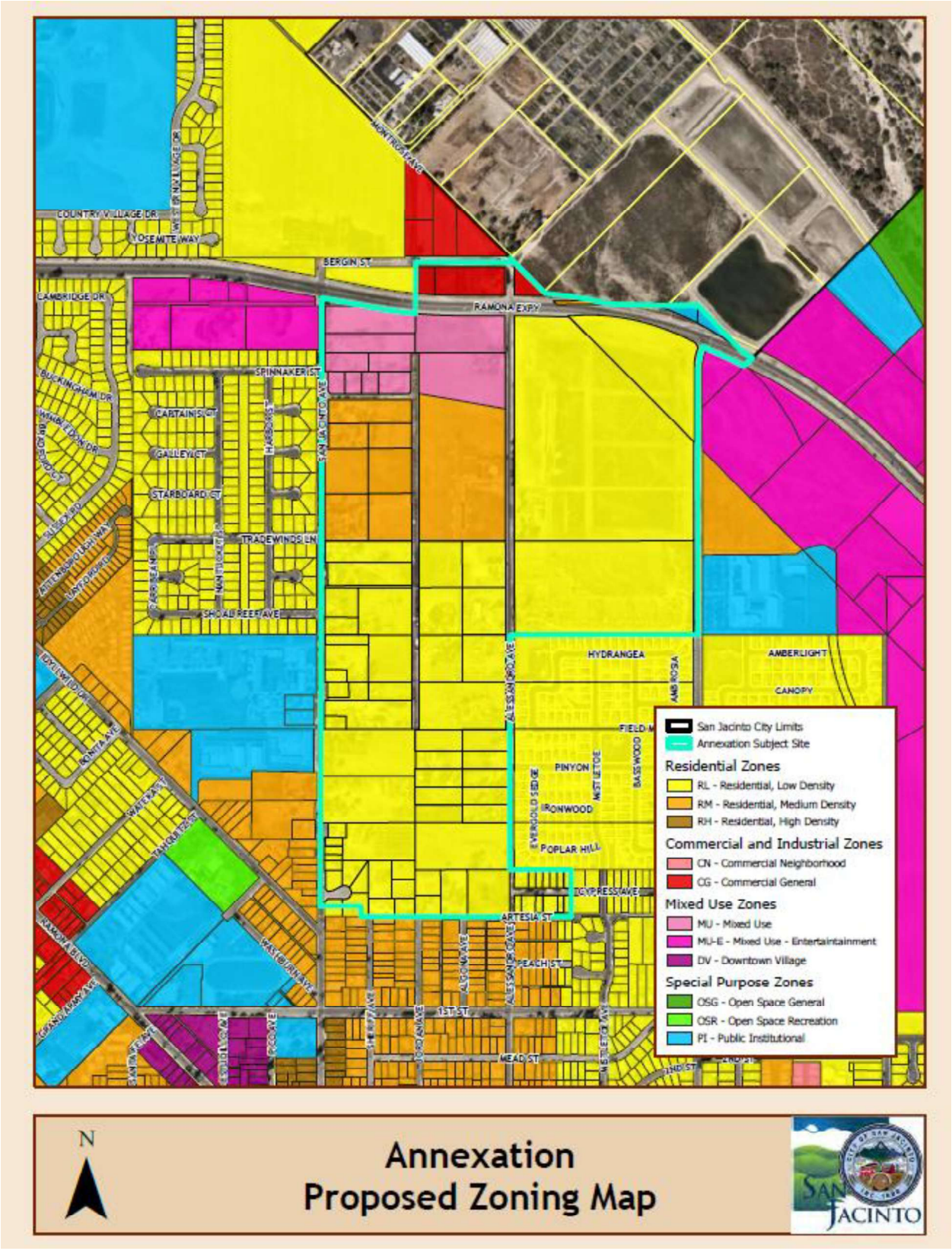
434-240-013	22652 JORDAN AVE SAN JACINTO 92583	RL	Residential, Low Density	LDR	Low Density Residential
434-240-014	22641 ALESSANDRO RD SAN JACINTO 92583	RL	Residential, Low Density	LDR	Low Density Residential
434-240-016	22741 ALESSANDRO AVE SAN JACINTO 92583	RL	Residential, Low Density	LDR	Low Density Residential
434-240-017	22690 JORDAN AVE SAN JACINTO 92583	RL	Residential, Low Density	LDR	Low Density Residential
434-240-018		RL	Residential, Low Density	LDR	Low Density Residential
434-260-001	22760 SAN JACINTO AVE SAN JACINTO 92583	RL	Residential, Low Density	LDR	Low Density Residential
434-260-002	22774 SAN JACINTO AVE SAN JACINTO 92583	RL	Residential, Low Density	LDR	Low Density Residential
434-260-003	22786 SAN JACINTO AVE SAN JACINTO 92583	RL	Residential, Low Density	LDR	Low Density Residential
434-260-004	22790 SAN JACINTO AVE SAN JACINTO 92583	RL	Residential, Low Density	LDR	Low Density Residential
434-260-005	22808 SAN JACINTO AVE SAN JACINTO 92583	RM	Residential, Medium Density	MDR	Medium Density Residential
434-260-006	22740 SAN JACINTO AVE SAN JACINTO 92583	RL	Residential, Low Density	LDR	Low Density Residential
434-260-011		RM	Residential, Medium Density	MDR	Medium Density Residential
434-260-012		RM	Residential, Medium Density	MDR	Medium Density Residential
434-260-013		RM	Residential, Medium Density	MDR	Medium Density Residential
434-260-015	22865 JORDAN AVE SAN JACINTO 92583	CG	Commercial General	C	Commercial
434-260-016	22761 ALESSANDRO AVE SAN JACINTO 92583	RL	Residential, Low Density	LDR	Low Density Residential
434-260-018	40430 ARTESIA AVE SAN JACINTO 92583	RL	Residential, Low Density	LDR	Low Density Residential
434-260-019		RL	Residential, Low Density	LDR	Low Density Residential
434-260-020		RL	Residential, Low Density	LDR	Low Density Residential
434-260-021	40390 ARTESIA ST SAN JACINTO 92583	RL	Residential, Low Density	LDR	Low Density Residential
434-260-024	22870 SHERIFF AVE SAN JACINTO 92583	RL	Residential, Low Density	LDR	Low Density Residential
434-260-025	22850 SAN JACINTO AVE SAN JACINTO 92583	RL	Residential, Low Density	LDR	Low Density Residential
434-260-026	40254 CAHUILLA CIR SAN JACINTO 92583	RL	Residential, Low Density	LDR	Low Density Residential
434-260-027	40278 CAHUILLA CIR SAN JACINTO 92583	RL	Residential, Low Density	LDR	Low Density Residential
434-260-028	40290 CAHUILLA CIR SAN JACINTO 92583	RL	Residential, Low Density	LDR	Low Density Residential
434-260-029	40283 CAHUILLA CIR SAN JACINTO 92583	RL	Residential, Low Density	LDR	Low Density Residential
434-272-001	22842 ALESSANDRO AVE SAN JACINTO 92583	RL	Residential, Low Density	LDR	Low Density Residential
434-272-002	40520 ARTESIA AVE SAN JACINTO 92583	RL	Residential, Low Density	LDR	Low Density Residential
434-272-003	40540 ARTESIA ST SAN JACINTO 92583	RL	Residential, Low Density	LDR	Low Density Residential
434-272-004		RL	Residential, Low Density	LDR	Low Density Residential

Attachment: Ordinance No. 26-01 (Prezoning of Parcels Within the City Sphere of Influence (Unincorporated Riverside County))

434-272-005	40560 ARTESIA ST SAN JACINTO 92583	RL	Residential, Low Density	LDR	Low Density Residential
434-272-006		MU	Mixed Use	MU	Mixed Use
434-276-013	22814 ALESSANDRO AVE SAN JACINTO 92583	CG	Commercial General	C	Commercial
434-276-014	40528 CYPRESS AVE SAN JACINTO 92583	MU	Mixed Use	MU	Mixed Use
434-276-015	40538 CYPRESS AVE SAN JACINTO 92583	CG	Commercial General	C	Commercial
434-276-016	40546 CYPRESS AVE SAN JACINTO 92583	MU	Mixed Use	MU	Mixed Use
434-276-017	40554 CYPRESS AVE SAN JACINTO 92583	MU	Mixed Use	MU	Mixed Use
434-276-018	40562 CYPRESS AVE SAN JACINTO 92583	MU	Mixed Use	MU	Mixed Use
434-276-019	40570 CYPRESS AVE SAN JACINTO 92583	MU	Mixed Use	MU	Mixed Use

Attachment: Ordinance No. 26-01 (Prezoning of Parcels Within the City Sphere of Influence (Unincorporated Riverside County))

ZONING MAP



Attachment: Ordinance No. 26-01 (Prezoning of Parcels Within the City Sphere of Influence (Unincorporated Riverside County))

December 9, 2025

TO: Planning Commission

REQUESTED BY: Travis Randel, Deputy City Manager, Development Services

APPROVED BY: Robert A. Johnson, City Manager

SUBJECT: Prezoning of Parcels Within the City Sphere of Influence (Unincorporated Riverside County)

RECOMMENDATION:

Staff recommends that the Planning Commission **ADOPT PC Resolution No. 25-02**, thereby recommending that City Council:

1. **DETERMINE** that pursuant to the California Code of Regulations the project is exempt from CEQA as the project is (1) covered by the common-sense exemption, CEQA Guidelines Section 15061(b)(3), (2) the project is a Feasibility and Planning Study, CEQA Guidelines Section 15262, and (3) the project is consistent with the General Plan polices for which an EIR was certified, CEQA Guidelines Section 15183.

2. **APPROVE** the Pre-Zoning of 94 parcels on 190 acres for the future annexation of land generally located south of Bergin Street and north of Artesia Street between San Jacinto Avenue and Vernon Avenue.

BACKGROUND:

In 2022, the City of San Jacinto ("City") received applications on behalf of Cornell Kasbergen ("Kasbergen Project") to annex approximately 44 acres of property located in the unincorporated portion of Riverside County into the City and to subdivide the property into 152 single-family residential lots ("Annexation A"). This property is generally located south of Ramona Expressway, between Alessandro Avenue and Vernon Avenue. Subsequently, the City Council adopted Resolution No. 3927 to initiate a second annexation ("Annexation B") encompassing approximately 146 acres generally located south and east of the Kasbergen Project (east of San Jacinto Avenue, south of Bergin Street, north of Artesia Street, and west of Vernon Avenue).

Prior to consideration of either annexation, the annexation areas must be pre-zoned. Pre-zoning establishes future zoning designations that would take effect upon annexation approval. Because the two annexation areas are adjacent, staff is presenting the pre-zoning of both areas as a single item for Planning Commission review.

The annexation areas are located within the City's Sphere of Influence (SOI), which is a planning boundary outside of the City's legal limits. The SOI is intended to ensure the efficient provision of services, discourage urban sprawl, and prevent premature conversion of agricultural and open space lands. Properties within the SOI carry a City General Plan designation but remain subject to the County of Riverside's General Plan and Zoning Ordinance until annexed.

Attachment: Planning Commission Staff Report (Prezoning of Parcels Within the City Sphere of Influence (Unincorporated Riverside County))

DISCUSSION AND ANALYSIS:

Annexation of unincorporated areas into the City will have the following benefits:

1. Eliminate pockets of unincorporated County areas adjacent to or within the City;
2. Incorporate the annexation area into the City and provide municipal services;
3. Creates opportunity for better and more consistent development patterns; and,
4. Provides local representation through the City Council.

A portion of the site lies within a Disadvantaged Unincorporated Community ("DUC"), identified by the Riverside County Local Agency Formation Commission ("LAFCO") as "DUC 2, Soboba Hot Springs." Under State law (Cortese-Knox-Hertzberg Local Government Reorganization Act of 2000) and LAFCO policy, Annexation A will not be accepted by LAFCO for review without Annexation B. Conversely Annexation B will not be accepted by LAFCO without Annexation A. Even though they must be submitted together, formal action on the annexations will be separate actions: There the City or LAFCO could approve one and deny the other. It is also possible that both decisions are approved or denied.

LAFCOs are state-mandated regulatory agencies established to encourage orderly growth and development through regulation of local agency boundaries. Annexation of properties within Riverside County must be coordinated with the Riverside County LAFCO, and applications to LAFCO require pre-zoning by the City.

Proposed Pre-zone

The City's Development Code (§17.200.040 and §17.720.070) requires pre-zoning consistent with the City's General Plan. The General Plan designates properties within the annexation area as Low Density Residential (LDR), Medium Density Residential (MDR), Mixed Use (MU), Public/Institutional (PI), and Commercial (C).

The General Plan lists the Zones that are consistent with the General Plan Land Use Designation as shown in the following table:

City General Plan Land Use Designation	City Zones Implementing the General Plan
Low Density Residential (LDR)	Residential, Low Density (RL)
Medium Density Residential (MDR)	Residential, Medium Density (RM)
Mixed Use (MU)	Mixed Use (MU)
Public/Institutional (PI)	Public Institutional (PI)
Commercial (C)	Commercial General (CG)/ Commercial Neighborhood (CN) Regional Commercial (CR)

Attachment: Planning Commission Staff Report (Prezoning of Parcels Within the City Sphere of Influence (Unincorporated Riverside County))

The LDR, MDR, MU, and PI land use designations each correspond to a single implementing zone in the City's Development Code. As a result, the RL, RM, MU, and PI zones are proposed for those properties to maintain direct consistency with the General Plan.

The Commercial land use designation is different because it can be implemented through three zoning districts, CG, CN, or CR. Staff reviewed the commercial parcels in the annexation area, considering their size, location, access, and surrounding uses. Based on that review, the CG zone is the most appropriate fit. It provides the right level of flexibility and intensity to support neighborhood and community-serving commercial uses without requiring the larger site area typically needed for Regional Commercial development. At the same time, it allows a broader range of uses than the more limited Commercial Neighborhood zone. Applying the CG designation maintains consistency with the General Plan and supports orderly, compatible development as these areas transition into the City.

Riverside County General Plan and Zoning Designations

The County of Riverside has 4 General Plan designations within the annexation area which includes, Rural Residential, Rural Community – Low Density Residential, Agriculture, and Medium Density Residential. Zoning within the annexation area includes 6 zones: Agriculture-1-5 (A-1-5), Agriculture-2 (A-2), Agriculture-2-10 (A-2-10), Residential- Agriculture (R-A), Residential 3 (R-3) Residential-1 (R-1). The Riverside County General Plan and the County's Zoning Ordinance are not always fully consistent with one another. As an example, certain parcels carry General Plan designations such as Medium Density Residential, however the parcels are zoned for Agriculture (A-1-5). A complete list of parcels are included in the Staff Report, which details the County General Plan, Zoning, as well as the City's General Plan and the proposed pre-zone.

Effect of Pre-Zoning

Pre-zoning does not change any existing regulations for properties within the annexation areas and has no direct effect on current homeowners or businesses. The areas remain under Riverside County jurisdiction until an annexation is formally approved. Pre-zoning simply identifies the zoning designations the City would apply if annexation is approved at a later date. Establishing these designations in advance is a required step before the Riverside Local Agency Formation Commission will accept annexation applications for review.

When the City submits the annexation applications to LAFCO, the process would involve multiple stages of review, public notices, and hearings. LAFCO would conduct its own analysis under State law and its adopted policies, hold public hearings, and provide a formal protest period for affected property owners and registered voters. Separate public hearings before the Planning Commission and City Council would also be required before any annexation applications are filed. Approval of pre-zoning does not commit the City to pursue, support, or approve either annexation.

If an annexation is eventually approved by LAFCO and the City Council, the City's pre-zoning designations would take effect at that time and replace the existing County zoning. Some properties may contain lawful County-approved uses that do not fully conform to City zoning standards. Those uses would be treated as legal nonconforming uses under the City's Development Code. They may continue operating in their current form, subject to the nonconforming use provisions. Any future

Attachment: Planning Commission Staff Report (Prezoning of Parcels Within the City Sphere of Influence (Unincorporated Riverside County))

expansion, intensification, modification, or redevelopment would need to comply with the applicable City zoning in place after annexation.

This process maintains consistency with the City's General Plan, provides clarity for long-term planning, and ensures that existing property rights are respected while allowing an orderly transition if annexation occurs in the future.

ENVIRONMENTAL DETERMINATION

The proposed pre-zoning is exempt from the California Environmental Quality Act (CEQA) pursuant to several provisions of the CEQA Guidelines. First, the action is covered by the common-sense exemption under Section 15061(b)(3), as the project establishes zoning designations for potential future annexation areas and does not authorize or approve any physical development. There is no possibility that the pre-zoning, in itself, may result in a significant effect on the environment. Second, the project qualifies as a feasibility and planning study under Section 15262 because the pre-zoning serves as part of the preliminary planning and boundary evaluation process required by the Riverside Local Agency Formation Commission prior to consideration of annexation. This action does not bind the City to a specific project or physical outcome. Finally, the pre-zoning implements existing General Plan land use designations analyzed in the certified General Plan Environmental Impact Report, and therefore qualifies for the exemption under Section 15183, which applies to projects consistent with a General Plan for which an EIR has already been certified. For these reasons, no further environmental review is required.

ATTACHMENTS:

PC Resolution 25-02
Findings
General Plan Map
Proposed Zoning Map
Property List and City-County General Plan and Zoning Matrix
LAFCO Exhibit: San Jacinto DUC 2, Soboba Hot Springs
Resolution No. 3927 with Map Exhibit

Attachment: Planning Commission Staff Report (Prezoning of Parcels Within the City Sphere of Influence (Unincorporated Riverside County))

STATE OF CALIFORNIA)
COUNTY OF RIVERSIDE)
CITY OF SAN JACINTO)

PC RESOLUTION NO. 25-02

A RESOLUTION OF THE PLANNING COMMISSION OF THE CITY OF SAN JACINTO, CALIFORNIA, RECOMMENDING CITY COUNCIL APPROVAL OF PRE-ZONING FOR PARCELS WITHIN THE CITY'S SPHERE OF INFLUENCE RELATED TO PROPOSED ANNEXATION P22-084 (ANNEXATION "A") AND THE ADJACENT ANNEXATION AREA (ANNEXATION "B")

WHEREAS, the City of San Jacinto ("City") received an application (Annexation "A", P22-084) proposing annexation of approximately 44 acres located south of Ramona Expressway, between Alessandro Avenue and Vernon Avenue, along with a related subdivision request for 152 single-family residential lots; and

WHEREAS, the City Council subsequently adopted Resolution No. 3927 initiating Annexation "B", encompassing approximately 146 acres generally located east of San Jacinto Avenue, south of Bergin Street, north of Artesia Street, and west of Vernon Avenue, immediately adjacent to Annexation "A"; and

WHEREAS, Annexation "A" and Annexation "B" are collectively referred to as the "Annexation Areas," and together comprise approximately 190 acres of unincorporated land within the City's Sphere of Influence (SOI); and

WHEREAS, under the Cortese-Knox-Hertzberg Local Government Reorganization Act of 2000 and Riverside Local Agency Formation Commission ("LAFCO") policies, Annexation "A" cannot be processed without Annexation "B", and Annexation "B" cannot be processed without Annexation "A", requiring the City to consider pre-zoning for both areas concurrently; and

WHEREAS, a portion of Annexation Areas lie within a designated Disadvantaged Unincorporated Community (DUC 2 – Soboba Hot Springs), and State law and LAFCO policy encourage annexation of DUCs to improve access to reliable public services, infrastructure, and governance; and

WHEREAS, pre-zoning is required pursuant to San Jacinto Development Code Sections 17.200.040 and 17.720.070 before the City may submit annexation applications to LAFCO, and such pre-zoning must be consistent with the General Plan land use designations assigned to the Annexation Areas; and

WHEREAS, the General Plan designates the Annexation Areas for Low Density Residential, Medium Density Residential, Mixed Use, Public/Institutional, and Commercial uses, each of which corresponds to an implementing zoning district identified in the Development Code; and

Attachment: Planning Commission Staff Report (Prezoning of Parcels Within the City Sphere of Influence (Unincorporated Riverside County))

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WHEREAS, the Commercial-designated parcels and certain Mixed Use properties front Ramona Expressway, a major arterial roadway designed to carry up to 55,300 daily vehicle trips, making these parcels most appropriate for the Commercial General (CG) and Mixed Use (MU) zoning districts rather than the more limited CN zone or the large-format CR zone; and

WHEREAS, after reviewing parcel size, configuration, roadway access, surrounding uses, and the purpose statements of each zone, the Planning Commission finds that the proposed RL, RM, MU, PI, and CG zoning classifications maintain consistency with the General Plan and support orderly, compatible future development should annexation occur; and

WHEREAS, pre-zoning does not approve annexation, authorize development, or alter existing County regulations, but instead establishes the zoning framework required for potential future annexation and provides clarity for residents, property owners, and LAFCO; and

WHEREAS, the Planning Commission has reviewed the staff report, Findings of Fact, proposed Zoning Map amendments, and supporting documentation and desires to recommend approval of the proposed pre-zoning to the City Council; and

WHEREAS, the pre-zoning is exempt from the California Environmental Quality Act pursuant to CEQA Guidelines Sections 15061(b)(3) (common-sense exemption), 15262 (feasibility and planning studies), and 15183 (projects consistent with a certified General Plan EIR).

WHEREAS, notice of the public hearing was provided in accordance with Government Code Section 65090, including a mailed notice to property owners within 300 feet of the project area and publication in a newspaper of general circulation, and the matter was duly noticed for consideration by the Planning Commission on December 9, 2025; and

WHEREAS, on December 9th, 2025, this resolution was fully considered by the Planning Commission; and

WHEREAS, all other legal prerequisites to the adoption of this Resolution have occurred.

NOW, THEREFORE, BE IT RESOLVED, BY THE PLANNING COMMISSION OF THE CITY OF SAN JACINTO:

SECTION 1. Based on the entire record before the Commission, all written and oral evidence presented to the Commission, and the findings set forth in the Resolution, the Commission recommends that the City Council of the City of San Jacinto approve the pre-zoning for the Subject Site.

SECTION 2. Based on the entire record before the Commission, the Planning Commission finds the proposed pre-zoning consistent with the City's General Plan and Development Code.

SECTION 3. The Planning Commission hereby finds that pursuant to the California Code of Regulations the project is exempt from CEQA as the project is (1) covered by the common-sense exemption, CEQA Guidelines Section 15061(b)(3). (2) The project is a Feasibility and Planning Study, CEQA Guidelines Section 15262. (3) The project is consistent with the General Plan polices for which an EIR was certified, CEQA Guidelines Section 15183.

The action involves only the establishment of zoning designations consistent with the General Plan, does not authorize construction, and will not result in new or significant environmental effects beyond those previously evaluated in the certified General Plan EIR.

PASSED, APPROVED, AND ADOPTED at a regular meeting of the Planning Commission of the City of San Jacinto on the 9th day of December 2025, by the following vote:

AYES:
NAYS:
ABSENT:
ABSTAIN:

CITY OF SAN JACINTO:

_____
Planning Commission Chair
City of San Jacinto

ATTEST:

_____
Planning Commission Secretary
City of San Jacinto

Attachment: Planning Commission Staff Report (Prezoning of Parcels Within the City Sphere of Influence (Unincorporated Riverside County))

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FINDINGS OF FACT
Pre-Zoning

1. The proposed Zoning Map amendment is consistent with the General Plan and applicable specific plan;

The San Jacinto General Plan establishes land use designations for all parcels within the pre-zoning area, including Commercial, Mixed Use, Low Density Residential, Medium Density Residential, and Public Institutional. Each designation includes specific purpose statements and development expectations outlined in the General Plan Land Use Element. The Development Code identifies the zoning districts that implement these land use designations, ensuring consistency between long-range planning policy and zoning regulations.

Several General Plan designations within the annexation areas correspond to a single implementing zone. Low Density Residential (2–7 du/ac) and Medium Density Residential (5–14 du/ac) are implemented through the RL and RM zones, which provide development standards consistent with the intended density ranges. The Mixed Use designation, which supports vertically or horizontally integrated residential and commercial uses up to 36 du/ac and a 1.0 FAR, is implemented through the MU zone. The Public Institutional designation, which accommodates public facilities such as schools, utilities, and government buildings at a maximum FAR of 0.50, is implemented through the PI zone. Applying RL, RM, MU, and PI zoning to parcels with corresponding General Plan designations maintains the internal consistency required by State law and the Development Code.

The Commercial designation permits a variety of retail, service, entertainment, and employment-generating uses with a maximum FAR of 0.50. Under the Development Code, this designation may be implemented through three zoning districts: Commercial Neighborhood (CN), Commercial General (CG), and Commercial Regional (CR). Section 17.220.020 describes each zone's purpose and scale:

- The CN zone is intended for small-scale retail and personal service uses serving adjacent neighborhoods, with a maximum FAR of 0.40.
- The CG zone accommodates general commercial and daily shopping needs of a broader market area, allowing a wide range of retail, service, and office uses accessible from major corridors, with a maximum FAR of 0.50.
- The CR zone supports large-scale regional commercial development, including big-box retail, auto sales, hotels, and entertainment uses.

Both the MU and Commercial-designated parcels within the annexation areas front onto Ramona Expressway, one of the largest and highest-volume corridors in the City. This segment of Ramona Expressway is designated as an Arterial Roadway, designed to accommodate up to 55,300 vehicle trips per day. The roadway's

classification, traffic capacity, and regional connectivity make it unsuitable for the small-scale, neighborhood-oriented commercial uses intended for the CN zone, while the parcel sizes lack the depth and acreage required for the large-format development characteristic of the CR zone. In contrast, the CG zone provides the appropriate balance of flexibility and intensity needed to support community-serving commercial uses along a major arterial, consistent with the Commercial General Plan designation and the Development Code's purpose statements.

The proposed pre-zoning also advances several General Plan goals and policies, including maintaining a balanced land use pattern (Goal LU-1), directing growth to areas where infrastructure can be extended efficiently (Goal LU-2), ensuring land use compatibility (Goal LU-3), and implementing the land use map through zoning that reflects intended intensity and function (Action LU-1a). Policy LU-2.6 further supports the orderly transition of lands within the City's Sphere of Influence through coordinated annexation and consistent pre-zoning.

The project site is not located within a Specific Plan area. Adoption of the proposed zoning classifications ensures consistency between the General Plan and the Zoning Map and supports the City's long-term land use objectives should annexation occur in the future.

2. The proposed amendment will not be detrimental to the public interest, health, safety, convenience, or welfare of the City;

The proposed pre-zoning will not result in physical development or regulatory changes affecting existing properties, as the annexation areas will remain under Riverside County jurisdiction until such time as an annexation is approved. Pre-zoning merely establishes the zoning classifications that would apply if annexation occurs in the future and is required before the Riverside Local Agency Formation Commission will accept annexation applications. As such, the action does not alter existing land use entitlements, building regulations, or service responsibilities within the annexation areas.

The zoning districts proposed through this amendment implement the General Plan land use designations for the area and promote orderly, well-coordinated growth consistent with long-term planning objectives. The assigned zones establish appropriate standards for residential, commercial, mixed-use, and public institutional development that reflect the intended intensity and function of these areas. This ensures that any future development following annexation will occur in a compatible and predictable manner, supporting public health, safety, and welfare.

Public services and infrastructure, including fire and police protection, potable water, wastewater collection and treatment, storm drainage, solid waste services, and roadway access, can be extended or enhanced as needed to serve the area if annexation occurs. The proposed zoning classifications align with service

capacity planning assumptions in the General Plan and do not introduce uses or intensities that would exceed the City's ability to provide adequate municipal services.

Because the amendment does not authorize development, modify existing uses, or impose new regulatory restrictions on County-governed parcels, it will not adversely affect public convenience, health, safety, or the general welfare. Instead, it facilitates an orderly framework for future decision-making and ensures that any subsequent development within potential annexation areas will be reviewed under zoning standards that are internally consistent with the City's adopted General Plan.

3. **The affected site is physically suitable in terms of design, location, shape, size, operation characteristics, and the provision of public services and utilities (e.g., fire protection, police protection, potable water, schools, solid waste collection and disposal, storm drainage, wastewater collection, treatment, and disposal, etc.), to ensure that the requested zoning designation and the proposed or anticipated uses and/or development will not endanger, jeopardize, or otherwise constitute a hazard to the property or improvements in the vicinity in which the property is located;**

The annexation areas proposed for pre-zoning consist of parcels that are physically suitable for the land uses anticipated under the General Plan and the implementing zoning districts. The General Plan land use designations applied to these parcels assume development patterns consistent with the physical characteristics of the area, including parcel size, roadway access, topography, and adjacency to existing urban uses. The proposed zoning classifications mirror those assumptions and do not introduce land use intensities beyond what the General Plan envisioned for these properties.

The areas designated for Low Density Residential, Medium Density Residential, Mixed Use, and Public Institutional uses are located on sites that can accommodate these uses without creating hazards or incompatibilities with surrounding development. Parcels designated for Commercial and Mixed Use development are located along Ramona Expressway, a major arterial roadway designed to accommodate substantial daily traffic volumes and to serve as a key commercial and mobility corridor for the City. This roadway classification, combined with the parcels' depth, visibility, and access characteristics, supports the suitability of the CG and MU zones for future development in these locations.

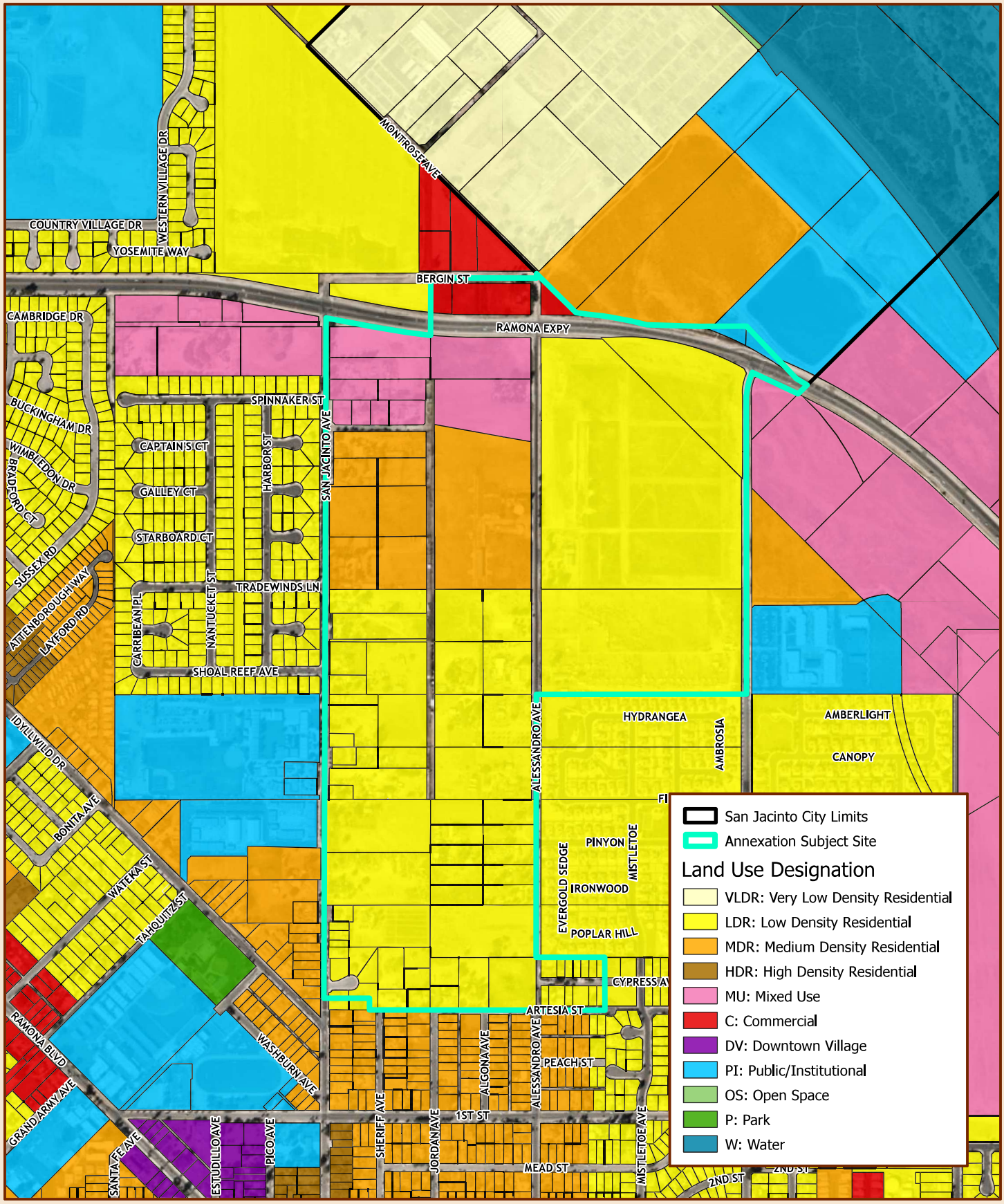
Adequate public services and utilities can be provided to serve these areas if annexation occurs, including fire and police protection, potable water, wastewater collection and treatment, storm drainage, solid waste services, and school facilities. These assumptions are consistent with the General Plan, which identifies the City's Sphere of Influence as an area appropriate for long-term urban expansion where municipal services can be extended in an orderly and efficient

Attachment: Planning Commission Staff Report (Prezoning of Parcels Within the City Sphere of Influence (Unincorporated Riverside County))

manner. The pre-zoning does not authorize development but ensures that any future proposals will be reviewed under zoning classifications that align with the City's land use, infrastructure, and service provision policies.

A portion of the area proposed for pre-zoning is located within Disadvantaged Unincorporated Community (DUC) #2 – Soboba Hot Springs, as identified by the Riverside Local Agency Formation Commission. State law and LAFCO policy encourage the annexation of DUCs to ensure the equitable provision of municipal services, improve long-term service reliability, and support public health and safety. While pre-zoning does not itself extend City services, it is a required procedural step that allows the City and LAFCO to evaluate annexation in a manner consistent with these policies. Establishing appropriate zoning classifications in advance supports orderly service planning and ensures that, if annexation is pursued, development would occur under zoning standards aligned with the City's land use and infrastructure objectives.

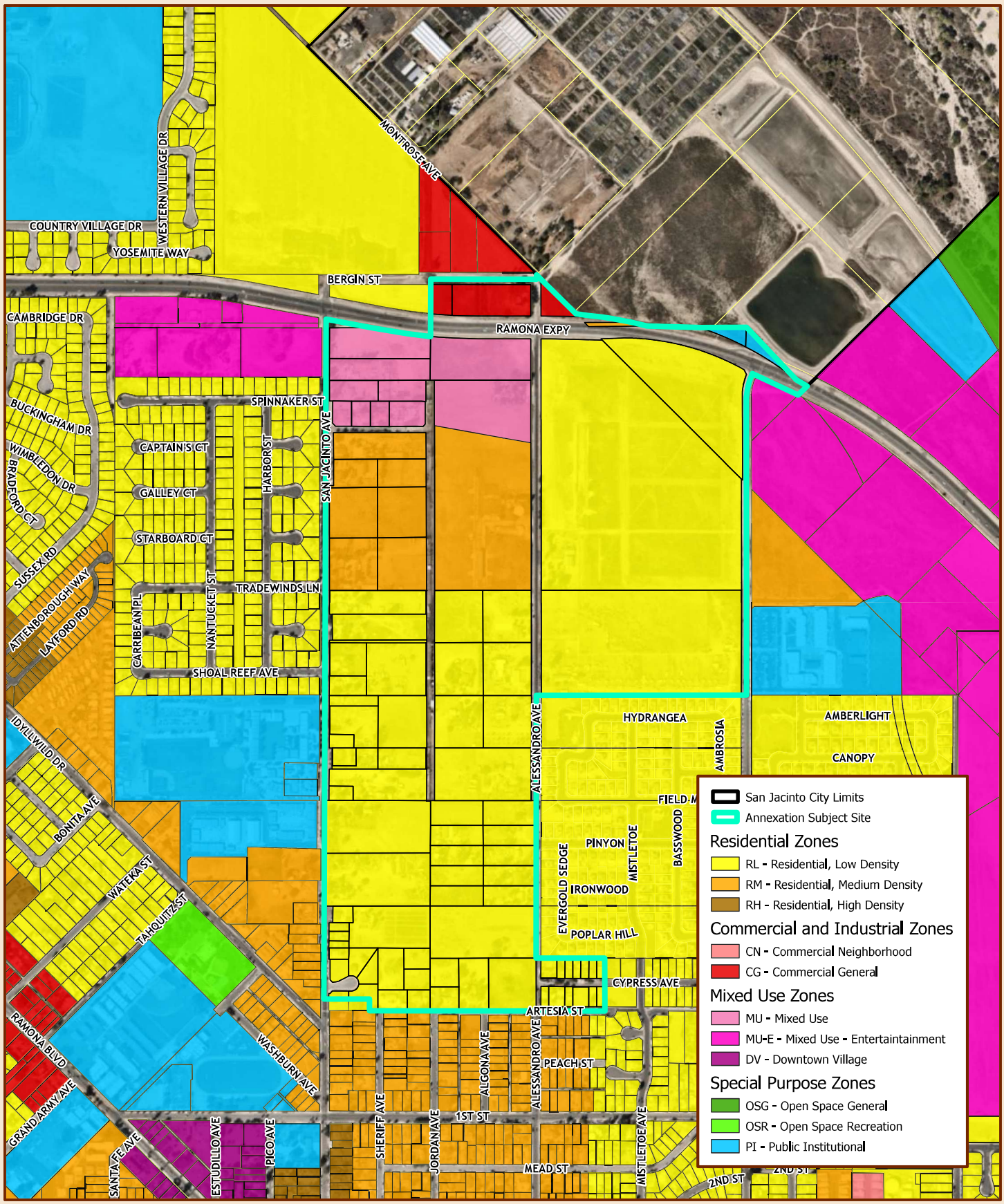
Because the proposed zoning districts reflect the physical constraints and opportunities of the annexation areas and do not alter existing County-governed land use rights, the amendment will not endanger or jeopardize property or improvements in the vicinity. Instead, it establishes a framework for compatible, well-planned development should annexation and future entitlements be pursued.



N

Annexation
General Plan Land Use Map

Attachment: Planning Commission Staff Report (Prezoning of Parcels Within the City Sphere of Influence (Unincorporated Riverside County))



N

Annexation
Proposed Zoning Map

Attachment: Planning Commission Staff Report (Prezoning of Parcels Within the City Sphere of Influence (Unincorporated Riverside County))

Property List and City/County General Plan and Zoning Matrix

Assessors Parcel Number	Property Address	County Zoning	County Zoning Description	County General Plan Designation	County General Plan Description	Pre-Zoning (Proposed)	City Zoning Description	City General	City General Plan Description
433-070-024		A-2-10	Heavy Agriculture (minimum 10 acres)	AG	Agriculture	MU &RM	Mixed Use/Residential, Medium Density	MU & MDR	Mixed Use/Medium Density Residential
433-070-030		A-2-10	Heavy Agriculture (minimum 10 acres)	AG	Agriculture	MU	Mixed Use	MU	Mixed Use
433-070-034		A-2-10	Heavy Agriculture (minimum 10 acres)	AG	Agriculture	RL	Residential, Low Density	LDR	Low Density Residential
433-070-050		A-2-10	Heavy Agriculture (minimum 10 acres)	MDR	Medium Density Residential	RL	Residential, Low Density	LDR	Low Density Residential
434-170-007	22200 SAN JACINTO AVE SAN JACINTO 92583	R-A	Residential Agricultural	MDR	Medium Density Residential	RL	Residential, Low Density	LDR	Low Density Residential
434-170-012	22414 SAN JACINTO AVE SAN JACINTO 92583	A-2	Heavy Agriculture	AG	Agriculture	RL	Residential, Low Density	LDR	Low Density Residential
434-170-013		A-2	Heavy Agriculture	AG	Agriculture	RL	Residential, Low Density	LDR	Low Density Residential
434-170-016		R-A	Residential Agricultural	MDR	Medium Density Residential	RL	Residential, Low Density	LDR	Low Density Residential
434-170-017	22528 SAN JACINTO AVE SAN JACINTO 92583	R-A	Residential Agricultural	MDR	Medium Density Residential	RL	Residential, Low Density	LDR	Low Density Residential
434-170-019	22323 ALESSANDRO AVE SAN JACINTO 92583	A-1-5	Light Agriculture (minimum 5 acres)	AG	Agriculture	PI	Public Institutional	PI	Public Institutional

Attachment: Property List and City-County General Plan and Zoning Matrix (Prezoning of Parcels Within

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434-170-023	22090 SAN JACINTO AVE SAN JACINTO 92583	R-A	Residential Agricultural	MDR	Medium Density Residential	RL	Residential, Low Density	LDR	Low Density Residential
434-170-024	22440 SAN JACINTO AVE SAN JACINTO 92583	R-A	Residential Agricultural	MDR	Medium Density Residential	RL	Residential, Low Density	LDR	Low Density Residential
434-170-027	22415 ALESSANDRO AVE SAN JACINTO 92583	A-1-5	Light Agriculture (minimum 5 acres)	AG	Agriculture	PI	Public Institutional	PI	Public Institutional
434-170-028		A-1-5	Light Agriculture (minimum 5 acres)	AG	Agriculture	RM	Residential, Medium Density	ROW	Row
434-170-029	22210 SAN JACINTO AVE SAN JACINTO 92583	R-A	Residential Agricultural	MDR	Medium Density Residential	RL	Residential, Low Density	LDR	Low Density Residential
434-170-030		R-A	Residential Agricultural	MDR	Medium Density Residential	RL	Residential, Low Density	LDR	Low Density Residential
434-170-033		R-A	Residential Agricultural	MDR	Medium Density Residential	RL	Residential, Low Density	LDR	Low Density Residential
434-170-034	22530 SAN JACINTO AVE SAN JACINTO 92583	R-A	Residential Agricultural	MDR	Medium Density Residential	RL	Residential, Low Density	LDR	Low Density Residential
434-170-035	22464 SAN JACINTO AVE SAN JACINTO 92583	R-A	Residential Agricultural	MDR	Medium Density Residential	RL	Residential, Low Density	LDR	Low Density Residential

Attachment: Property List and City-County General Plan and Zoning Matrix (Prezoning of Parcels Within

434-170-036	22445 ALESSANDRO AVE SAN JACINTO 92583	A-1-5	Light Agriculture (minimum 5 acres)	AG	Agriculture	RL	Residential, Low Density	LDR	Low Density Residential
434-170-037	22485 ALESSANDRO AVE SAN JACINTO 92583	A-1-5	Light Agriculture (minimum 5 acres)	RC-LDR	Low Density Residential	RL	Residential, Low Density	LDR	Low Density Residential
434-170-047	22090 SAN JACINTO AVE SAN JACINTO 92583	R-A	Residential Agricultural	MDR	Medium Density Residential	RL	Residential, Low Density	LDR	Low Density Residential
434-170-048	22019 ALESSANDRO AVE SAN JACINTO 92583	A-1-5	Light Agriculture (minimum 5 acres)	AG	Agriculture	RM	Residential, Medium Density	MDR	Medium Density Residential
434-170-049		A-1-5	Light Agriculture (minimum 5 acres)	AG	Agriculture	RM	Residential, Medium Density	MDR	Medium Density Residential
434-170-050	40393 BERGIN ST SAN JACINTO 92583	A-1-5	Light Agriculture (minimum 5 acres)	RC-LDR	Low Density Residential	RL	Residential, Low Density	LDR	Low Density Residential
434-170-051	40260 MARTINEZ RD SAN JACINTO 92583	R-A	Residential Agricultural	MDR	Medium Density Residential	RL	Residential, Low Density	LDR	Low Density Residential
434-170-052	40270 MARTINEZ RD SAN JACINTO 92583	R-A	Residential Agricultural	MDR	Medium Density Residential	RL	Residential, Low Density	LDR	Low Density Residential

Attachment: Property List and City-County General Plan and Zoning Matrix (Prezoning of Parcels Within

434-170-053	40280 MARTINEZ RD SAN JACINTO 92583	R-A	Residential Agricultural	MDR	Medium Density Residential	RL	Residential, Low Density	LDR	Low Density Residential
434-170-054	40300 MARTINEZ RD SAN JACINTO 92583	R-A	Residential Agricultural	MDR	Medium Density Residential	RL	Residential, Low Density	LDR	Low Density Residential
434-170-055		A-2	Heavy Agriculture	RC-LDR	Low Density Residential	RL	Residential, Low Density	LDR	Low Density Residential
434-170-057		A-2	Heavy Agriculture	RC-LDR	Low Density Residential	RL	Residential, Low Density	LDR	Low Density Residential
434-170-059	22212 SAN JACINTO AVE SAN JACINTO 92583	R-A	Residential Agricultural	MDR	Medium Density Residential	RL	Residential, Low Density	LDR	Low Density Residential
434-170-060		R-A	Residential Agricultural	MDR	Medium Density Residential	RL	Residential, Low Density	LDR	Low Density Residential
434-180-006		A-2-10	Heavy Agriculture (minimum 10 acres)	MDR	Medium Density Residential	RL	Residential, Low Density	LDR	Low Density Residential
434-180-007	22384 ALESSANDRO AVE SAN JACINTO 92583	A-2-10	Heavy Agriculture (minimum 10 acres)	MDR	Medium Density Residential	MU	Mixed Use	MU	Mixed Use
434-180-008	22500 ALESSANDRO AVE SAN JACINTO 92583	A-2-10	Heavy Agriculture (minimum 10 acres)	MDR	Medium Density Residential	MU	Mixed Use	MU	Mixed Use
434-221-001	22534 N SAN JACINTO AVE SAN JACINTO 92583	R-A	Residential Agricultural	MDR	Medium Density Residential	RL	Residential, Low Density	LDR	Low Density Residential

434-221-002	22558 SAN JACINTO AVE SAN JACINTO 92583	R-A	Residential Agricultural	MDR	Medium Density Residential	RL	Residential, Low Density	LDR	Low Density Residential
434-221-003		R-A	Residential Agricultural	MDR	Medium Density Residential	RL	Residential, Low Density	LDR	Low Density Residential
434-221-004		R-A	Residential Agricultural	MDR	Medium Density Residential	RL	Residential, Low Density	LDR	Low Density Residential
434-221-006		R-A	Residential Agricultural	MDR	Medium Density Residential	RL	Residential, Low Density	LDR	Low Density Residential
434-221-007	22610 SAN JACINTO AVE SAN JACINTO 92583	R-A	Residential Agricultural	MDR	Medium Density Residential	RL	Residential, Low Density	LDR	Low Density Residential
434-221-008	22618 SAN JACINTO AVE SAN JACINTO 92583	R-A	Residential Agricultural	MDR	Medium Density Residential	RL	Residential, Low Density	LDR	Low Density Residential
434-221-009	22570 SAN JACINTO AVE SAN JACINTO 92583	R-A	Residential Agricultural	MDR	Medium Density Residential	RL	Residential, Low Density	LDR	Low Density Residential
434-221-010	22572 SAN JACINTO AVE SAN JACINTO 92583	R-A	Residential Agricultural	MDR	Medium Density Residential	RL	Residential, Low Density	LDR	Low Density Residential
434-222-002	22607 ALESSANDRO AVE SAN JACINTO 92583	A-1-5	Light Agriculture (minimum 5 acres)	RC-LDR	Low Density Residential	RL	Residential, Low Density	LDR	Low Density Residential

Attachment: Property List and City-County General Plan and Zoning Matrix (Prezoning of Parcels Within

434-222-003	22585 ALESSANDRO AVE SAN JACINTO 92583	A-1-5	Light Agriculture (minimum 5 acres)	AG	Agriculture	RM	Residential, Medium Density	MDR	Medium Density Residential
434-222-004	22545 ALESSANDRO AVE SAN JACINTO 92583	A-1-5	Light Agriculture (minimum 5 acres)	RC-LDR	Low Density Residential	RL	Residential, Low Density	LDR	Low Density Residential
434-240-001	22670 N SAN JACINTO AVE SAN JACINTO 92583	A-1-5	Light Agriculture (minimum 5 acres)	RC-LDR	Low Density Residential	RL	Residential, Low Density	LDR	Low Density Residential
434-240-002	22710 SAN JACINTO ST SAN JACINTO 92583	A-1-5	Light Agriculture (minimum 5 acres)	RR	Rural Residential	RL	Residential, Low Density	LDR	Low Density Residential
434-240-004	22731 ALESSANDRO AVE SAN JACINTO 92583	A-1-5	Light Agriculture (minimum 5 acres)	RR	Rural Residential	RL	Residential, Low Density	LDR	Low Density Residential
434-240-009		A-1-5	Light Agriculture (minimum 5 acres)	RC-LDR	Low Density Residential	RL	Residential, Low Density	LDR	Low Density Residential
434-240-010	22621 ALESSANDRO ST SAN JACINTO 92583	A-1-5	Light Agriculture (minimum 5 acres)	RC-LDR	Low Density Residential	RL	Residential, Low Density	LDR	Low Density Residential
434-240-011	22681 ALESSANDRO AVE SAN JACINTO 92583	A-1-5	Light Agriculture (minimum 5 acres)	RC-LDR	Low Density Residential	RL	Residential, Low Density	LDR	Low Density Residential

Attachment: Property List and City-County General Plan and Zoning Matrix (Prezoning of Parcels Within

434-240-012	22701 ALESSANDRO AVE SAN JACINTO 92583	A-1-5	Light Agriculture (minimum 5 acres)	RC-LDR	Low Density Residential	RL	Residential, Low Density	LDR	Low Density Residential
434-240-013	22652 JORDAN AVE SAN JACINTO 92583	A-1-5	Light Agriculture (minimum 5 acres)	RC-LDR	Low Density Residential	RL	Residential, Low Density	LDR	Low Density Residential
434-240-014	22641 ALESSANDRO RD SAN JACINTO 92583	A-1-5	Light Agriculture (minimum 5 acres)	RR	Rural Residential	RL	Residential, Low Density	LDR	Low Density Residential
434-240-016	22741 ALESSANDRO AVE SAN JACINTO 92583	A-1-5	Light Agriculture (minimum 5 acres)	RR	Rural Residential	RL	Residential, Low Density	LDR	Low Density Residential
434-240-017	22690 JORDAN AVE SAN JACINTO 92583	A-1-5	Light Agriculture (minimum 5 acres)	RC-LDR	Low Density Residential	RL	Residential, Low Density	LDR	Low Density Residential
434-240-018		A-1-5	Light Agriculture (minimum 5 acres)	RR	Rural Residential	RL	Residential, Low Density	LDR	Low Density Residential
434-260-001	22760 SAN JACINTO AVE SAN JACINTO 92583	A-1-5	Light Agriculture (minimum 5 acres)	RR	Rural Residential	RL	Residential, Low Density	LDR	Low Density Residential
434-260-002	22774 SAN JACINTO AVE SAN JACINTO 92583	A-1-5	Light Agriculture (minimum 5 acres)	RR	Rural Residential	RL	Residential, Low Density	LDR	Low Density Residential

434-260-003	22786 SAN JACINTO AVE SAN JACINTO 92583	A-1-5	Light Agriculture (minimum 5 acres)	RC-LDR	Low Density Residential	RL	Residential, Low Density	LDR	Low Density Residential
434-260-004	22790 SAN JACINTO AVE SAN JACINTO 92583	A-1-5	Light Agriculture (minimum 5 acres)	RC-LDR	Low Density Residential	RL	Residential, Low Density	LDR	Low Density Residential
434-260-005	22808 SAN JACINTO AVE SAN JACINTO 92583	R-3	General Residential	MDR	Medium Density Residential	RM	Residential, Medium Density	MDR	Medium Density Residential
434-260-006	22740 SAN JACINTO AVE SAN JACINTO 92583	A-1-5	Light Agriculture (minimum 5 acres)	RC-LDR	Low Density Residential	RL	Residential, Low Density	LDR	Low Density Residential
434-260-011		R-3	General Residential	MDR	Medium Density Residential	RM	Residential, Medium Density	MDR	Medium Density Residential
434-260-012		R-3	General Residential	MDR	Medium Density Residential	RM	Residential, Medium Density	MDR	Medium Density Residential
434-260-013		R-3	General Residential	MDR	Medium Density Residential	RM	Residential, Medium Density	MDR	Medium Density Residential
434-260-015	22865 JORDAN AVE SAN JACINTO 92583	R-3	General Residential	MDR	Medium Density Residential	CG	Commercial General	C	Commercial
434-260-016	22761 ALESSANDRO AVE SAN JACINTO 92583	A-1-5	Light Agriculture (minimum 5 acres)	RC-LDR	Low Density Residential	RL	Residential, Low Density	LDR	Low Density Residential
434-260-018	40430 ARTESIA AVE SAN JACINTO 92583	R-3	General Residential	MDR	Medium Density Residential	RL	Residential, Low Density	LDR	Low Density Residential

Attachment: Property List and City-County General Plan and Zoning Matrix (Prezoning of Parcels Within

434-260-019		R-3	General Residential	MDR	Medium Density Residential	RL	Residential, Low Density	LDR	Low Density Residential
434-260-020		R-3	General Residential	MDR	Medium Density Residential	RL	Residential, Low Density	LDR	Low Density Residential
434-260-021	40390 ARTESIA ST SAN JACINTO 92583	R-3	General Residential	MDR	Medium Density Residential	RL	Residential, Low Density	LDR	Low Density Residential
434-260-024	22870 SHERIFF AVE SAN JACINTO 92583	R-3	General Residential	MDR	Medium Density Residential	RL	Residential, Low Density	LDR	Low Density Residential
434-260-025	22850 SAN JACINTO AVE SAN JACINTO 92583	R-3	General Residential	MDR	Medium Density Residential	RL	Residential, Low Density	LDR	Low Density Residential
434-260-026	40254 CAHUILLA CIR SAN JACINTO 92583	R-3	General Residential	MDR	Medium Density Residential	RL	Residential, Low Density	LDR	Low Density Residential
434-260-027	40278 CAHUILLA CIR SAN JACINTO 92583	R-3	General Residential	MDR	Medium Density Residential	RL	Residential, Low Density	LDR	Low Density Residential
434-260-028	40290 CAHUILLA CIR SAN JACINTO 92583	R-3	General Residential	MDR	Medium Density Residential	RL	Residential, Low Density	LDR	Low Density Residential
434-260-029	40283 CAHUILLA CIR SAN JACINTO 92583	R-3	General Residential	MDR	Medium Density Residential	RL	Residential, Low Density	LDR	Low Density Residential

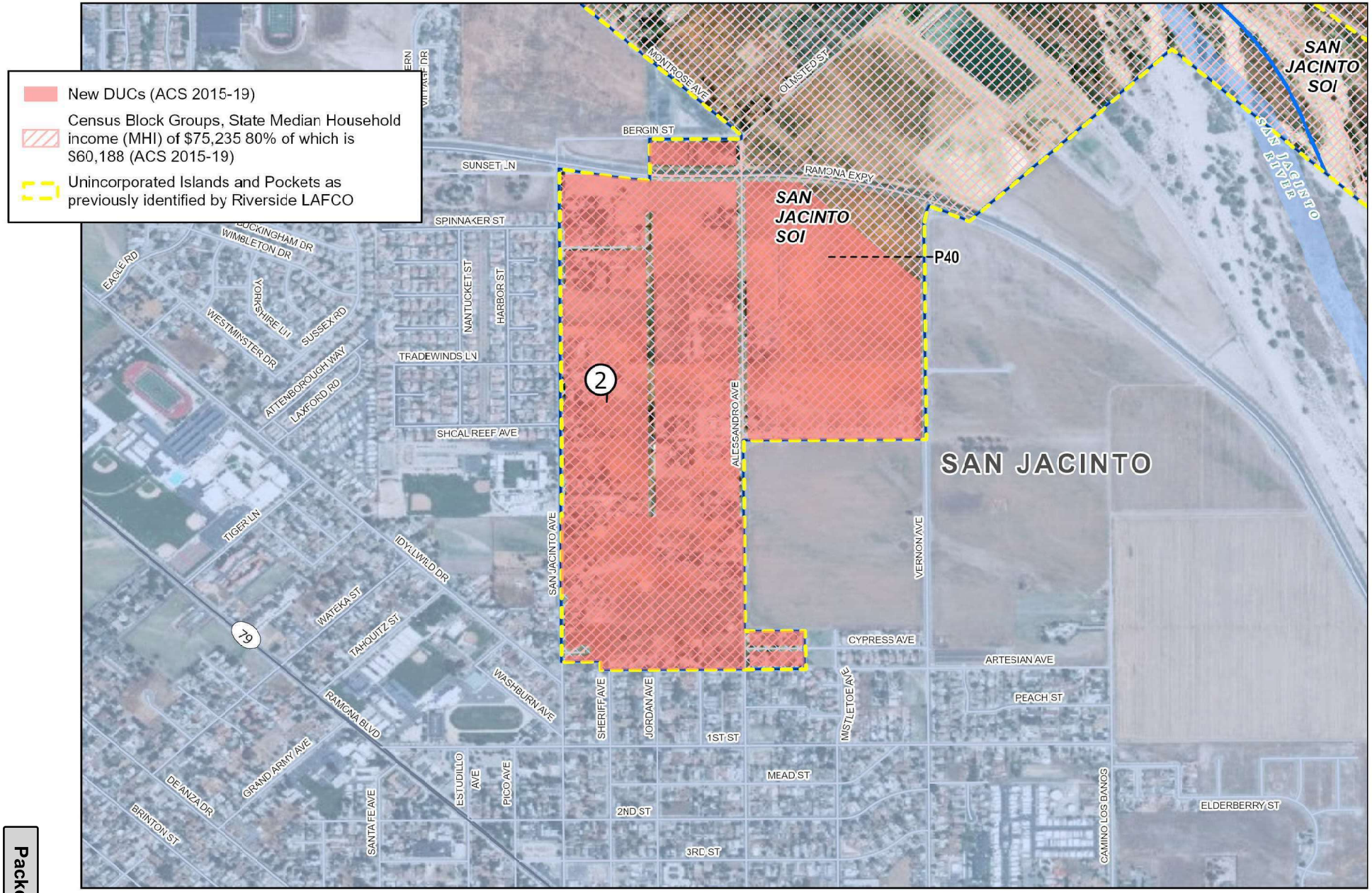
Attachment: Property List and City-County General Plan and Zoning Matrix (Prezoning of Parcels Within

434-272-001	22842 ALESSANDRO AVE SAN JACINTO 92583	R-1	One-Family Dwellings	MDR	Medium Density Residential	RL	Residential, Low Density	LDR	Low Density Residential
434-272-002	40520 ARTESIA AVE SAN JACINTO 92583	R-1	One-Family Dwellings	MDR	Medium Density Residential	RL	Residential, Low Density	LDR	Low Density Residential
434-272-003	40540 ARTESIA ST SAN JACINTO 92583	R-1	One-Family Dwellings	MDR	Medium Density Residential	RL	Residential, Low Density	LDR	Low Density Residential
434-272-004		R-1	One-Family Dwellings	MDR	Medium Density Residential	RL	Residential, Low Density	LDR	Low Density Residential
434-272-005	40560 ARTESIA ST SAN JACINTO 92583	R-1	One-Family Dwellings	MDR	Medium Density Residential	RL	Residential, Low Density	LDR	Low Density Residential
434-272-006		R-1	One-Family Dwellings	MDR	Medium Density Residential	MU	Mixed Use	MU	Mixed Use
434-276-013	22814 ALESSANDRO AVE SAN JACINTO 92583	R-1	One-Family Dwellings	MDR	Medium Density Residential	CG	Commercial General	C	Commercial
434-276-014	40528 CYPRESS AVE SAN JACINTO 92583	R-1	One-Family Dwellings	MDR	Medium Density Residential	MU	Mixed Use	MU	Mixed Use
434-276-015	40538 CYPRESS AVE SAN JACINTO 92583	R-1	One-Family Dwellings	MDR	Medium Density Residential	CG	Commercial General	C	Commercial

Attachment: Property List and City-County General Plan and Zoning Matrix (Prezoning of Parcels Within

434-276-016	40546 CYPRESS AVE SAN JACINTO 92583	R-1	One-Family Dwellings	MDR	Medium Density Residential	MU	Mixed Use	MU	Mixed Use
434-276-017	40554 CYPRESS AVE SAN JACINTO 92583	R-1	One-Family Dwellings	MDR	Medium Density Residential	MU	Mixed Use	MU	Mixed Use
434-276-018	40562 CYPRESS AVE SAN JACINTO 92583	R-1	One-Family Dwellings	MDR	Medium Density Residential	MU	Mixed Use	MU	Mixed Use
434-276-019	40570 CYPRESS AVE SAN JACINTO 92583	R-1	One-Family Dwellings	MDR	Medium Density Residential	MU	Mixed Use	MU	Mixed Use

San Jacinto DUC 2
Soboba Hot Springs



Source: RSG Inc, Riverside LAFCO, Riverside County IT

RIVERSIDE LAFCO

Attachment: LAFCO Exhibit: San Jacinto DUC 2, Soboba Hot Springs (Prezoning of Parcels Within the

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STATE OF CALIFORNIA)
COUNTY OF RIVERSIDE)
CITY OF SAN JACINTO)

RESOLUTION NO. 3927

A RESOLUTION OF APPLICATION BY THE THE CITY COUNCIL OF THE CITY OF SAN JACINTO REQUESTING THE RIVERSIDE COUNTY LOCAL AGENCY FORMATION COMMISSION TO TAKE PROCEEDINGS FOR THE CHANGE OF ORGANIZATION

WHEREAS, the City of San Jacinto (the "City") desires to initiate a proposal for annexation, pursuant to the Cortese-knox-Hertzberg Local Government Reorganization Act of 2000, being Division 3 of Title 5 of the Government Code of the State of California, commencing with Section 5600; and,

WHEREAS, the territory proposed to be annexed ("annexation area") is inhabited and generally located south of Ramona Expressway and north of Artesia Street, between N. San Jacinto Avenue and N. Vernon Avenue; as shown in in Exhibit A, attached hereto and incorporated herein by reference; and,

WHEREAS, this annexation area is within the sphere of influence of the City of San Jacinto; and,

WHEREAS, it is desired to provide that the annexation are be subject to the following terms and conditions:

1. The annexation area will adapt the existing land use designation shown in current San Jacinto General Plan ("GP") and consistent zoning designations will be applied through the prezoning process; and,
2. Existing uses within the annexation area must comply with Municipal Code, especially Title 17 ("Development Code"); and,
3. Future uses or development or redevelopment within the annexation area must comply with the San Jacinto General Plan ("GP") and Development Code, or any updates or amendments adopted by the City Council ("Council") thereafter;
4. The annexation area is subject, after such annexation, to levying and collection of charge, fee, assessment or tax of the City of San Jacinto; and,
5. The annexation area shall be subject, after such annexation, to taxation equally with the property within the City of San Jacinto; and,
6. The annexation area will be taxed for existing general bonded indebtness, if any.

COPY

Attachment: Planning Commission Staff Report (Prezoning of Parcels Within the City Sphere of Influence (Unincorporated Riverside County))

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WHEREAS, the reasons for the proposed annexation are as follows:

1. Eliminate pockets of unicorporated County areas adjacent to or within the City; and,
2. Incorporate the annexation area into the City and provide municipal services; and,
3. Create opportunity for better and more consistent development patterns; and,
4. Provides local representation through the City Council.

WHEREAS, adoption this resolution may be exempt from the California Environmental Quality Act ("CEQA") pursuant to Class 19 (Section 15319, Annexations of Existing Facitlities and Lots for Exempt Facilities) of the CEQA Guidelines (Chapter 3, Division 6, Title 14 of the California Code of Regulations).

NOW, THEREFORE, BE IT RESOLVED, determined and ordered by the City Council of the City of San Jacinto as follows:

SECTION 1. this Resolution of Application is hereby adopted and approved.

SECTION 2. the Riverside County Local Agency Formation Commission is hereby requrested to take proceeding for the annexation of territory as shown on the map in Exhibit A, according to the terms and conditions stated above and in a manner provided by the Cortese-Knox-Hertzberg Local Government Reorganization Act of 2000.

SECTION 3. This Resolution shall take effect upon its adoption.

COPY

Attachment: Planning Commission Staff Report (Prezoning of Parcels Within the City Sphere of Influence (Unincorporated Riverside County))

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PASSED, APPROVED, and **ADOPTED** this 5th day of July 2022 by the following vote:

AYES:	**Heath, Ayala, Ruiz, Hawkins**
NAYS:	**None**
ABSENT:	**None**
ABSTAIN:	**None**

CITY OF SAN JACINTO:

Crystal Ruiz

Crystal Ruiz, Mayor

ATTEST:

Julia Espinoza

Julia Espinoza, City Clerk

APPROVED AS TO FORM:
BEST, BEST & KRIEGER LLP

Michael J. Maurer, City Attorney

COPY

Attachment: Planning Commission Staff Report (Prezoning of Parcels Within the City Sphere of Influence (Unincorporated Riverside County))

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CERTIFICATION

STATE OF CALIFORNIA)
COUNTY OF RIVERSIDE)
CITY OF SAN JACINTO)

I, Julia Espinoza, City Clerk of the City of San Jacinto, DO HEREBY CERTIFY that the foregoing Resolution No. 3927 was passed, approved, and adopted at the Regular Meeting of the San Jacinto City Council held on July 5, 2022.

AYES:	**Heath, Ayala, Ruiz, Hawkins**
NAYS:	**None**
ABSENT:	**None**
ABSTAIN:	**None**

WITNESS MY HAND AND OFFICIAL SEAL this 5th day of July 2022.

Julia Espinoza

Julia Espinoza, City Clerk
City of San Jacinto

COPY

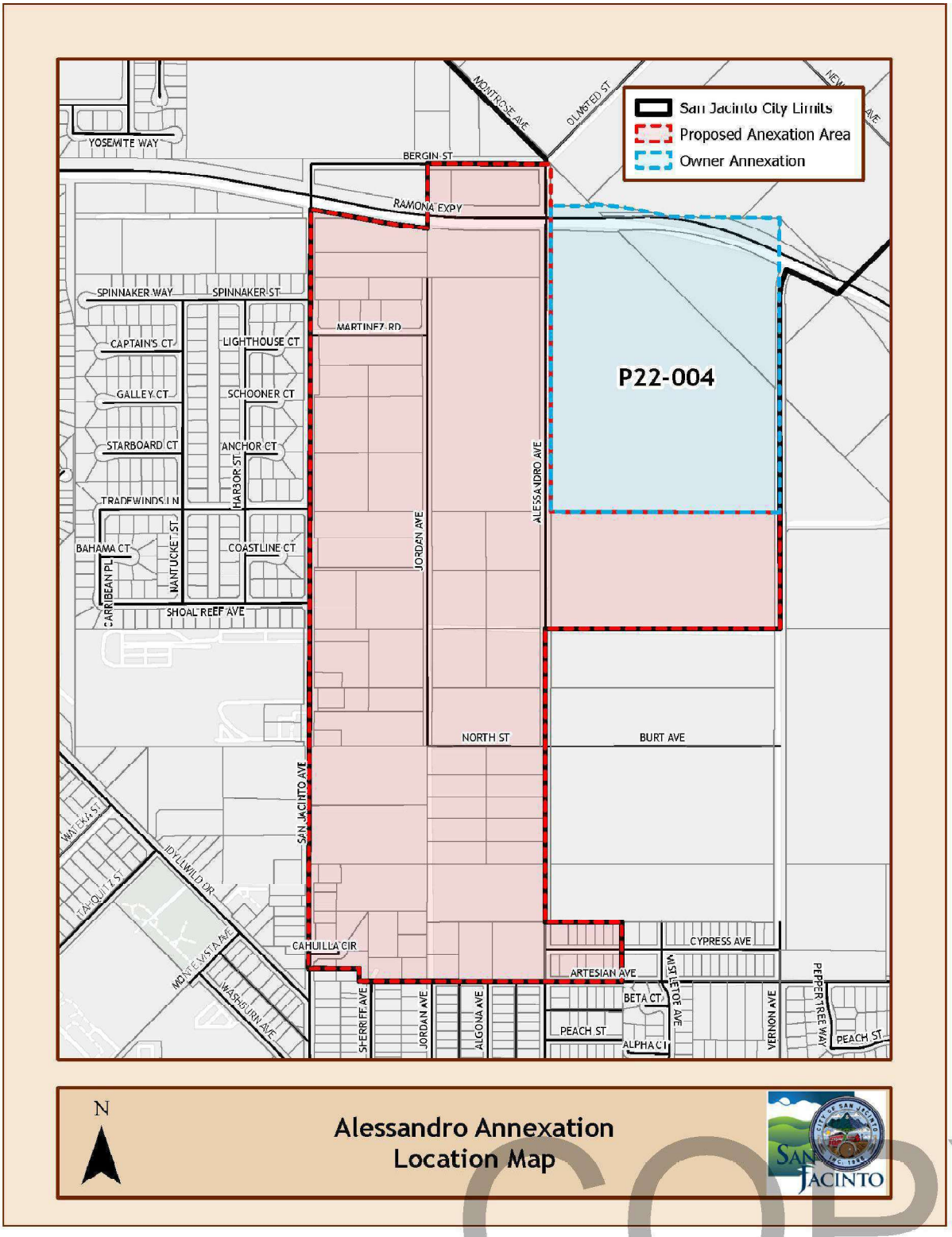
Attachment: Planning Commission Staff Report (Prezoning of Parcels Within the City Sphere of Influence (Unincorporated Riverside County))

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Resolution No. 3927

EXHIBIT A

MAP OF THE ANNEXATION AREA



COPY

Attachment: Planning Commission Staff Report (Prezoning of Parcels Within the City Sphere of Influence (Unincorporated Riverside County))

STATE OF CALIFORNIA)
COUNTY OF RIVERSIDE)
CITY OF SAN JACINTO)

PC RESOLUTION NO. 25-02

A RESOLUTION OF THE PLANNING COMMISSION OF THE CITY OF SAN JACINTO, CALIFORNIA, RECOMMENDING CITY COUNCIL APPROVAL OF PRE-ZONING FOR PARCELS WITHIN THE CITY'S SPHERE OF INFLUENCE RELATED TO PROPOSED ANNEXATION P22-084 (ANNEXATION "A") AND THE ADJACENT ANNEXATION AREA (ANNEXATION "B")

WHEREAS, the City of San Jacinto ("City") received an application (Annexation "A", P22-084) proposing annexation of approximately 44 acres located south of Ramona Expressway, between Alessandro Avenue and Vernon Avenue, along with a related subdivision request for 152 single-family residential lots; and

WHEREAS, the City Council subsequently adopted Resolution No. 3927 initiating Annexation "B", encompassing approximately 146 acres generally located east of San Jacinto Avenue, south of Bergin Street, north of Artesia Street, and west of Vernon Avenue, immediately adjacent to Annexation "A"; and

WHEREAS, Annexation "A" and Annexation "B" are collectively referred to as the "Annexation Areas," and together comprise approximately 190 acres of unincorporated land within the City's Sphere of Influence (SOI); and

WHEREAS, under the Cortese-Knox-Hertzberg Local Government Reorganization Act of 2000 and Riverside Local Agency Formation Commission ("LAFCO") policies, Annexation "A" cannot be processed without Annexation "B", and Annexation "B" cannot be processed without Annexation "A", requiring the City to consider pre-zoning for both areas concurrently; and

WHEREAS, a portion of Annexation Areas lie within a designated Disadvantaged Unincorporated Community (DUC 2 – Soboba Hot Springs), and State law and LAFCO policy encourage annexation of DUCs to improve access to reliable public services, infrastructure, and governance; and

WHEREAS, pre-zoning is required pursuant to San Jacinto Development Code Sections 17.200.040 and 17.720.070 before the City may submit annexation applications to LAFCO, and such pre-zoning must be consistent with the General Plan land use designations assigned to the Annexation Areas; and

WHEREAS, the General Plan designates the Annexation Areas for Low Density Residential, Medium Density Residential, Mixed Use, Public/Institutional, and Commercial uses, each of which corresponds to an implementing zoning district identified in the Development Code; and

Attachment: PC Resolution No. 25-02 (Prezoning of Parcels Within the City Sphere of Influence (Unincorporated Riverside County))

WHEREAS, the Commercial-designated parcels and certain Mixed Use properties front Ramona Expressway, a major arterial roadway designed to carry up to 55,300 daily vehicle trips, making these parcels most appropriate for the Commercial General (CG) and Mixed Use (MU) zoning districts rather than the more limited CN zone or the large-format CR zone; and

WHEREAS, after reviewing parcel size, configuration, roadway access, surrounding uses, and the purpose statements of each zone, the Planning Commission finds that the proposed RL, RM, MU, PI, and CG zoning classifications maintain consistency with the General Plan and support orderly, compatible future development should annexation occur; and

WHEREAS, pre-zoning does not approve annexation, authorize development, or alter existing County regulations, but instead establishes the zoning framework required for potential future annexation and provides clarity for residents, property owners, and LAFCO; and

WHEREAS, the Planning Commission has reviewed the staff report, Findings of Fact, proposed Zoning Map amendments, and supporting documentation and desires to recommend approval of the proposed pre-zoning to the City Council; and

WHEREAS, the pre-zoning is exempt from the California Environmental Quality Act pursuant to CEQA Guidelines Sections 15061(b)(3) (common-sense exemption), 15262 (feasibility and planning studies), and 15183 (projects consistent with a certified General Plan EIR).

WHEREAS, notice of the public hearing was provided in accordance with Government Code Section 65090, including a mailed notice to property owners within 300 feet of the project area and publication in a newspaper of general circulation, and the matter was duly noticed for consideration by the Planning Commission on December 9, 2025; and

WHEREAS, on December 9th, 2025, this resolution was fully considered by the Planning Commission; and

WHEREAS, all other legal prerequisites to the adoption of this Resolution have occurred.

NOW, THEREFORE, BE IT RESOLVED, BY THE PLANNING COMMISSION OF THE CITY OF SAN JACINTO:

SECTION 1. Based on the entire record before the Commission, all written and oral evidence presented to the Commission, and the findings set forth in the Resolution, the Commission recommends that the City Council of the City of San Jacinto approve the pre-zoning for the Subject Site.

SECTION 2. Based on the entire record before the Commission, the Planning Commission finds the proposed pre-zoning consistent with the City's General Plan and Development Code.

SECTION 3. The Planning Commission hereby finds that pursuant to the California Code of Regulations the project is exempt from CEQA as the project is (1) covered by the common-sense exemption, CEQA Guidelines Section 15061(b)(3). (2) The project is a Feasibility and Planning Study, CEQA Guidelines Section 15262. (3) The project is consistent with the General Plan polices for which an EIR was certified, CEQA Guidelines Section 15183.

The action involves only the establishment of zoning designations consistent with the General Plan, does not authorize construction, and will not result in new or significant environmental effects beyond those previously evaluated in the certified General Plan EIR.

PASSED, APPROVED, AND ADOPTED at a regular meeting of the Planning Commission of the City of San Jacinto on the 9th day of December 2025, by the following vote:

AYES:	Jones, Peterson, Scott
NAYS:	None
ABSENT:	Awad, Gagnepain
ABSTAIN:	None

CITY OF SAN JACINTO:

Patricia Scott

Planning Commission Chair
City of San Jacinto

ATTEST:

Lori Matley

Planning Commission Secretary
City of San Jacinto

Attachment: PC Resolution No. 25-02 (Prezoning of Parcels Within the City Sphere of Influence (Unincorporated Riverside County))