City of Rialto

Regular Meeting - Final

Wednesday, September 17, 2025

REGULAR MEETING - 6:00 P.M.

City Council Chambers, 150 S. Palm Ave., Rialto, CA 92376

Planning Commission

Jerry Gutierrez
John Peukert
Artist Gilbert
Dale Estvander
Frank Gonzales
Two (2) Vacancies

Public Participation Procedures

THE PUBLIC WILL HAVE THE OPPORTUNITY TO SPEAK ON ANY ITEM USING THE PODIUM INSIDE THE COUNCIL CHAMBERS.

IF YOU ARE UNABLE TO ATTEND THE MEETING, YOU MAY PROVIDE COMMENTS ON ANY AGENDA ITEM USING ANY OF THE FOLLOWING METHODS:

• IN WRITING VIA MAIL TO: CITY OF RIALTO "ATTN: PLANNING COMMISSION C/O COMMUNITY DEVELOPMENT," 150 S PALM AVE, RIALTO, CA 92376

• IN WRITING VIA EMAIL TO PLANNING@RIALTOCA.GOV AT LEAST TWO (2) HOURS BEFORE THE MEETING.

YOU MAY CALL THE COMMUNITY DEVELOPMENT DEPARTMENT AT (909) 820-2505 DURING REGULAR BUSINESS HOURS OR SEND AN EMAIL TO PLANNING@RIALTOCA.GOV TO FIND OUT WHAT DECISIONS THE PLANNING COMMISSION MADE ON THE AGENDA ITEMS.

Call To Order

Pledge of Allegiance

Roll Call

Chair Jerry Gutierrez, Vice-Chair John Peukert, Artist Gilbert, Dale Estvander, Frank Gonzalez, Two (2) Vacancies

Oral Communications from the Audience on items not on the Agenda

Planning Commission Minutes

PC-25-0642 Minutes from the September 3, 2025 Planning Commission meeting.

Attachments: Planning Commission Meeting Minutes from September 3, 2025

Public Hearings

PC-25-0629 ***Conditional Development Permit No. 2023-0007, Precise Plan of Design No. 2023-0006, & Environmental Assessment Review No. 2023-0010:*** A request to allow the development and operation of a truck terminal facility consisting of a 172,445 square foot cross-dock truck terminal building, a 18,700 square foot fleet maintenance building, and associated paving, landscaping, fencing, lighting, and drainage improvements on approximately 45.7 acres of land (APN: 0258-141-18) located on the south side of Santa Ana Avenue approximately 1,800 feet east of Riverside Avenue within the Heavy Industrial (H-IND) land use district of the Agua Mansa Specific Plan. An Environmental Impact Report has been prepared for consideration in conjunction with Conditional Development Permit No. 2023-0007 and Precise Plan of Design No. 2023-0006, in accordance with the California Environmental Quality Act (CEQA).

Attachments:
Exhibit A - Location Map
Exhibit B - Site Plan
Exhibit C - Truck Terminal Building Floor Plan
Exhibit D - Fleet Maintenance Building Floor Plan
Exhibit E - Exterior Elevations
Exhibit F - Landscape Plans
Exhibit G - Traffic Study
Exhibit H - EDC Minutes (January 30, 2025)
Exhibit I - Draft Environmental Impact Report
Exhibit J - Final Envrionmental Impact Report
Exhibit K - Draft Resolution for EAR No. 2023-0010
Exhibit L - Draft Resolution for CDP No. 2023-0007
Exhibit M - Draft Resolution for PPD No. 2023-0006

Action Items

None.

Acknowledgement of Outgoing Commissioners

New Commissioner Orientation with the City Clerk and City Attorney

Election of Commission Chair and Vice-Chair

Community Development Director Comments

Planning Commissioner Reports/Comments

Adjournment

City of Rialto

Legislation Text

File #: PC-25-0642, **Version:** 1, **Agenda #:**

Minutes from the September 3, 2025 Planning Commission meeting.

CITY OF RIALTO

THE REGULAR MEETING MINUTES OF PLANNING COMMISSION

September 3, 2025 - 6:00 p.m.

The regularly scheduled Planning Commission meeting of the City of Rialto was held in the City of Rialto City Council Chambers located at 150 South Palm Avenue, Rialto, California 92376, on September 3, 2025.

This meeting was called by the presiding officer of the City of Rialto Planning Commission in accordance with the provisions of **Government Code §54956** of the State of California.

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CALL TO ORDER

Chair Jerry Gutierrez called the meeting to order at 6:00 p.m.

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PLEDGE OF ALLEGIANCE

Chair Gutierrez led the pledge of allegiance.

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ROLL CALL

Roll Call was taken by Administrative Assistant Heidy Gonzalez.

Present:
Chair Jerry Gutierrez
Vice-Chair John Peukert
Commissioner Dale Estvander
Commissioner Frank Gonzalez

Absent:
Commissioner Artist Gilbert
There are two vacancies.

Staff Present:
Assistant City Attorney, Robert Khuu
Community Development Director, Christina Taylor
Community Development Manager, Paul Gonzales
Associate Planner, Jason Costa
Administrative Analyst, Kim Dame
Administrative Assistant, Heidy Gonzalez

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ORAL COMMUNICATION

Chair Gutierrez asked if there were any oral communications from the public not on the agenda. Mrs. Gonzalez stated there were none.

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PLANNING COMMISSION MEETING MINUTES

Chair Gutierrez announced that the first item on the agenda is Planning Commission Meeting Minutes.

Motion by Commissioner Frank Gonzalez, seconded by Commissioner Dale Estvander to move to approve August 20, 2025, Planning Commission meeting minutes.

All were in favor, *motion carried*, 4-0.

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Chair Gutierrez stated the next item on the agenda is Conditional Development Permit No. 2024-0020 (File PC-25-0599).

Associate Planner Jason Costa made the presentation.

Conditional Development Permit No. 2024-0020: A request to allow the placement of two recycling bins (clothing donation bins) within an existing commercial shopping center located at 240 W. Baseline Road (APN 0127-261-07) within the Community Shopping Center (C-1A) zone.

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Chair Gutierrez opened the Public Hearing.

Chair Gutierrez inquired whether there are any state laws that require these recycling bins to be installed in parking lots or city regulations; Mr. Costa advised there weren't any state laws but there is verbiage regarding these recycling bins in the municipal code. Chair Gutierrez also wanted to know if there are any limitations in the municipal code in terms of how many bins are allowed within a certain distance from each other.

The applicant Tex Green provided a brief description of the project.

Commissioner Gonzalez questioned if there were any issues the applicant encountered with these bins. The applicant advised that they've experienced minimal problems overall with the two thousand bins they currently have. Commissioner Estvander inquired how often the bins are checked for unnecessary trash; it was confirmed that they will be checked daily. Chair Gutierrez was curious about the business arrangement with the property owner. The applicant summarized that they pay the properties rent, collect the clothes and sell them to major thrift store chains.

Chair Gutierrez requested that staff start tracking how many bins the City of Rialto has and where they are located. Commissioner Gonzalez added that he'd like to see more diversity and not so many bins. .

Commissioner Estvander made a motion to close the Public Hearing. Seconded by Vice-Chair John Peukert.

Chair Gutierrez closed the Public Hearing.

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Commissioner Estvander made a motion to approve the Conditional Development Permit No. 2024-0020. Seconded by Commissioner Gonzalez.

Vote on the motion:
AYES: 4 (Gutierrez, Peukert, Estvander, Gonzalez)
NOES: 0
ABSTENTION: 0
ABSENT: 1 (Gilbert)

Motion passed.

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Chair Gutierrez stated that the next item on the agenda is Community Development Director comments.

Community Development Director Christina Taylor mentioned that the new Commissioners will be sworn in at the next meeting on September 17, 2025. Ms. Taylor requested that all current Commissioners be present to be recognized for their service.

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Chair Gutierrez stated the next item on the agenda is Planning Commissioner comments.

Commissioner Gonzalez suggested once more having more than one item per meeting. Ms. Taylor explained why there are sometimes only one item per meeting.

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Commissioner Estvander made a motion to adjourn the meeting. Seconded by Commissioner Gonzalez.

The Regular Planning Commission meeting on Wednesday, September 3, 2025, adjourned at 6:16 p.m.

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Minutes prepared by Heidy Gonzalez
Administrative Assistant

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Jerry Gutierrez
Chair, Planning Commission

File #: PC-25-0629, **Version:** 1, **Agenda #:**

For the Planning Commission Meeting of September 17, 2025

TO: Honorable Chairman and Planning Commissioners

APPROVAL: Christina Taylor, Community Development Director

REVIEWED BY: Paul Gonzales, Community Development Manager

FROM: Daniel Casey, Principal Planner

Conditional Development Permit No. 2023-0007, Precise Plan of Design No. 2023-0006, & Environmental Assessment Review No. 2023-0010: A request to allow the development and operation of a truck terminal facility consisting of a 172,445 square foot cross-dock truck terminal building, a 18,700 square foot fleet maintenance building, and associated paving, landscaping, fencing, lighting, and drainage improvements on approximately 45.7 acres of land (APN: 0258-141-18) located on the south side of Santa Ana Avenue approximately 1,800 feet east of Riverside Avenue within the Heavy Industrial (H-IND) land use district of the Agua Mansa Specific Plan. An Environmental Impact Report has been prepared for consideration in conjunction with Conditional Development Permit No. 2023-0007 and Precise Plan of Design No. 2023-0006, in accordance with the California Environmental Quality Act (CEQA).

APPLICANT:

Crown Venture Holdings LLC, 12225 Stephens Road, Warren, MI 48089.

LOCATION:

The project site consists of one (1) parcel of land (APN: 0258-141-18) located on the south side of Santa Ana Avenue approximately 1,800 feet east of Riverside Avenue (Refer to the attached Location Map (**Exhibit A**)).

BACKGROUND:

Surrounding General Plan Land Use Designations

Location	***General Plan Designation***
Site	General Plan with a Specific Plan Overlay (Agua Mansa SP)
North	General Plan with a Specific Plan Overlay (Agua Mansa SP)
East	General Plan with a Specific Plan Overlay (Agua Mansa SP)
South	General Plan with a Specific Plan Overlay (Agua Mansa SP)
West	General Plan with a Specific Plan Overlay (Agua Mansa SP)

Surrounding Zoning/Specific Plan Land Use Designations

Location	***Zoning***
Site	Agua Mansa Specific Plan (Heavy Industrial (H-IND))
North	Agua Mansa Specific Plan (Heavy Industrial (H-IND))
East	Agua Mansa Specific Plan (Heavy Industrial (H-IND))
South	Agua Mansa Specific Plan (Heavy Industrial (H-IND))
West	Agua Mansa Specific Plan (Heavy Industrial (H-IND))

Site Characteristics
The project site is an asymmetrical-shaped area of land totaling approximately 45.7 acres in size with approximate dimensions of 2,200 feet (north-south) by 1,060 feet (east-west). The project site is bound on the north by Santa Ana Avenue, which is an established truck route that connects to Riverside Avenue to the west. The property is entirely vacant and sparsely covered by natural grasses and shrubs. Mining operations were historically conducted on the site, though mass grading has since been conducted on site to level the surface.

Surrounding Area
To the north of the project site, across Santa Ana Avenue, is a pallet yard, operated by Select Pallets, and to the east is an 82,000 square foot industrial warehouse building and Rialto Water Service's Wastewater Treatment Plant. To the south is a landfill with a Southern California Edison (SCE) transmission line easement, and to the west are various industrial developments and operations, including Holliday Rock, a concrete mix supplier, and Ecology Auto Parts, auto-salvage and fleet maintenance operations.

ANALYSIS/DISCUSSION:

Project Proposal
Crown Venture Holdings LLC, the applicant, proposes to develop and operate a truck terminal facility on the project site. The truck terminal facility will consist of a 172,445 square foot cross-dock truck terminal building, an 18,700 square foot fleet maintenance building, and associated on-site and off-site paving, landscaping, fencing, lighting, and drainage improvements. The facility would be operated by Central Transport, which is a trucking company with existing locations in the City of Rialto. The existing locations within the City of Rialto will move from their current locations and be consolidated at the project site.

Entitlement Requirements
The following entitlements are required for the applicant's proposal:

- Conditional Development Permit: The development and operation of a truck terminal within the H-IND land use district requires the approval of a Conditional Development Permit.

- Precise Plan of Design: The design of the development and the related site improvements (e.g. building exterior, landscaping, etc.) requires the approval of a Precise Plan of Design.

Site Design
As shown on the site plan (**Exhibit B**), the applicant proposes to construct a 172,445 square foot cross-dock truck terminal building on the east end of the project site and an 18,700 square foot fleet maintenance building approximately 320 feet west of the truck terminal building. The proposed truck terminal building will be setback approximately 70 feet from Santa Ana Avenue and the proposed fleet maintenance building will be setback approximately 960 feet from Santa Ana Avenue. The proposed layout includes truck parking areas on both the east and west sides of the truck terminal building, as well as a large truck court at the southwest corner of the site. The layout also includes a passenger vehicle parking area just north of the fleet maintenance building. The truck parking areas will accommodate the parking of up to 100 trucks and 679 trailers, while the passenger vehicle parking area will provide for the parking of up to 149 passenger vehicles.

Additional on-site improvements include paving, lighting, landscape planters throughout the site, a screen wall along Santa Ana Avenue, and an underground infiltration basin for runoff water quality treatment and retention. Off-site improvements will include new curb, gutter, sidewalk, and street paving along the frontage of Santa Ana Avenue.

Access
Two (2) driveways are proposed to be connected to Santa Ana Avenue for access - a thirty-two (32) foot wide driveway on the west end of the Santa Ana Avenue frontage will provide right-in/left-out access for trucks and passenger vehicles and a twenty-six (26) foot wide driveway on the east end of the Santa Ana Avenue frontage will provide access for emergency vehicles only. Entry into the project site from the west driveway will expand to two (2) lanes and will have a queuing distance of approximately 600 feet. The queuing distance provided will accommodate approximately twelve (12) complete truck/trailer setups to ensure trucks queue on-site and not onto Santa Ana Avenue.

Floor Plan - Truck Terminal Building
The floor plan for the proposed truck terminal building (**Exhibit C**) indicates that the building will consist of 5,890 square feet of office space and 166,555 square feet of storage/loading space. The east and west sides of the truck terminal building will each have 140 loading doors for a total of 280 loading doors on the building exterior. The office area will be located on the west middle of the building facing the passenger vehicle parking area. The applicant will place the main entrance to the building on the west side of the office area and secondary/emergency exits will be distributed amongst all four (4) sides of the building.

Floor Plan - Fleet Maintenance Building
The floor plan for the proposed fleet maintenance building (**Exhibit D**) indicates that the building will consist of 890 square feet of office space and 17,810 square feet of maintenance service space. The interior of the building will accommodate eight (8) service bays, equipment storage, and staff offices. The east side of the building will have seven (7) roll-up doors, and the west side of the building will have eight (8) roll-up doors, all of which will be used for vehicle entry and exit into the building. Additionally, the floor plan indicates that at 960 square foot canopy and three (3) fuel dispensers will be installed on the north side of the building for fueling of fleet vehicles only.

Architectural Design
As shown on the elevations (**Exhibit E**), the exterior of the building will be comprised of metal wall panels painted with various gray tones. The north side of the truck terminal building will feature an

articulated mass with a contrasting color, three (3) foot depth, and a four (4) foot height variation to provide relief and visual interest. The height of the buildings will range from 22 feet to 29 feet from the finished grade level, with the highest point being the articulated mass on the north side of the truck terminal building. Additional architectural features include roofline treatments and glass.

Parking
The truck terminal facility will have 149 passenger vehicle parking spaces, including six (6) ADA accessible parking spaces. This quantity exceeds the minimum parking requirement as shown in the parking calculation chart below and as required by Table 13 (Off-Street Parking Requirements) of the Agua Mansa Specific Plan:

Type of Use	***Floor Area (square feet)***	***Parking Ratio***	***Number of spaces required***
Office Storage/Loading	6,780	1 / 300	23
Floor area up to 10,000 square feet Floor area 10,001 square feet or more Maintenance	10,000 156,555 17,810	1 / 1,000 1 / 2,000 1 / 500	10 79 36
Total Required/Total Provided			**148/149**

Landscaping
The landscape coverage for the project is 23.6 percent. This includes a twenty-five (25) foot landscape setback along Santa Ana Avenue and planters around the perimeter of the project site. All the landscape planters will feature a variety of trees spaced every thirty (30) linear feet and an abundant number of shrubs and groundcover (**Exhibit F**).

Traffic
Kimley-Horn and Associates, Inc. prepared a Traffic Study (TS), dated April 2023, to assess the project's potential impact on local streets and intersections (**Exhibit G**). The TS estimates that the project will generate approximately 951 actual daily vehicle trips (1,922 Passenger Car Equivalent (PCE) daily vehicle trips) with 56 trips in the AM peak hour and 124 trips in the PM peak hour. Trucks will constitute a maximum of 574 of the 951 daily vehicle trips.

The TS analyzed the following five (5) intersections in the project vicinity:

Two (2) of the intersections are anticipated to be impacted when the existing and project generated traffic volumes are combined with cumulative growth and ambient growth without any mitigation. The specific intersections are (1) Riverside Avenue & I-10 Eastbound Ramps and (2) Riverside Avenue & Slover Avenue. The TS recommends various improvements to mitigate potential cumulative traffic impacts to these intersections. The recommended improvements consist of the addition of a northbound right-turn lane at the Riverside Avenue & I-10 Eastbound Ramps intersection and the addition of third northbound and southbound through lanes at the Riverside Avenue and Slover

Avenue intersection.

The City's Traffic Impact Analysis Guidelines and Requirements, the project TS, and the City's Traffic/Transportation Fee Study (April 2019) conclude that the payment of "fair-share" fees constitutes adequate mitigation to address the potential intersection deficiencies. Specifically, the applicant will be responsible for a fair share payment of $375.50 per projected Passenger Car Equivalent (PCE) vehicle trip, which equates to a total of $721,711. The fair-share fee will be required to be paid as part of the project's Development Impact Fee payment, prior to the issuance of any building permits.

Voluntary Contributions
In conjunction with the development of the proposed truck terminal facility, the applicant proposes to voluntarily provide additional benefits to the City and the community at large. The proposed benefits include the following:

1. A voluntary one-time monetary contribution to the City of Rialto in the amount of $1,500,000 towards public facility needs.

2. The applicant will voluntarily repave the full width of Santa Ana Avenue between Riverside Avenue and east property line of the project site.

All voluntary contributions will be paid and completed prior to the issuance of a Certificate of Occupancy.

Economic Development Committee
The Economic Development Committee (EDC) reviewed the project on January 30, 2025. At its meeting, the EDC discussed the project and the voluntary contributions and directed staff and the applicant to proceed forward with the project and the required public hearings. The minutes from the January 30, 2025 EDC meeting are attached as **Exhibit H**.

Land Use Compatibility
The project is consistent with the H-IND land use district, the Agua Mansa Specific Plan, Chapter 18.61 (Design Guidelines) of the Rialto Municipal Code, and the surrounding industrial uses. The nearby area is designated for and completely developed with industrial uses, and as a result, there are no sensitive land uses adjacent to or near the project site. The development and operation of the proposed terminal facility will not significantly impact the surrounding area since measures, such as the installation of solid screen walls, expanded on-site truck queueing, and landscape buffering will reduce visual and traffic impacts to acceptable levels. The project will be a benefit to the community and an improvement to the surrounding area.

GENERAL PLAN CONSISTENCY:

The General Plan land use designation of the site is General Industrial with a Specific Plan Overlay. This designation requires the underlying Specific Plan to establish distinct land use designations within the Specific Plan itself. Figure 20 (Land Use Plan) of the Agua Mansa Specific Plan indicates that the land use designation for the project site is Heavy Industrial (H-IND). According to Table 8

(Permitted Uses) of the Agua Mansa Specific Plan, truck terminal facilities, such as the project, are consistent with the H-IND designation. Furthermore, the project is consistent with the following goals of the Land Use Element and Economic Development Element of the Rialto General Plan:

Goal 2-22: Promote commercial and/or industrial development that is well designed, people-oriented, environmentally sustainable, sensitive to the needs of the visitor or resident, and functionally efficient for its purpose.

Goal 3-1: Strengthen and diversify the economic base and employment opportunities, and maintain a positive business climate.

ENVIRONMENTAL IMPACT:

Air Quality Emissions
According to Table 7 (Operational Emissions) of the Air Quality Assessment prepared by Kimley-Horn and Associates, Inc. for the project, the project will potentially generate up to 77.22 lbs./day of Nitrogen Oxide (NO_x) emissions during operations. The threshold set by South Coast Air Quality Management District (SCAQMD) for operational NO_x emissions is 55 lbs./day. The project NO_x emissions will exceed the threshold established by SCAQMD.

Several mitigation measures within the Air Quality Assessment are designed to reduce the operational NO_x emissions, but these measures will not be sufficient to reduce the NO_x emissions below the SCAQMD threshold, since neither the applicant nor the City have the regulatory authority to control tailpipe emissions. Therefore, the impact of the project's NO_x emissions is considered significant and unavoidable, resulting in the need to prepare an Environmental Impact Report (EIR) for the project.

Greenhouse Gas Emissions
As indicated by Table 3 (Project Greenhouse Gas Emissions) of the Greenhouse Gas Emissions Assessment prepared by Kimley Horn and Associates, Inc. for the project, the project will potentially generate Greenhouse Gas (GHG) emissions up to approximately 13,907.91 $MTCO_2e$/yr (Metric Tons of Carbon Dioxide Equivalent Per Year). The threshold set by SCAQMD for all new development projects is 3,000 $MTCO_2e$/yr. The project GHG emissions will exceed the threshold established by SCAQMD.

More than 91% of the project's GHG emissions will be generated by mobile sources (vehicle traffic). There are no feasible mitigation measures that can substantively or materially reduce the project's mobile source GHG emissions below the SCAQMD established threshold under current industry conditions. As such, the impact of the project's GHG emissions is considered significant and unavoidable, resulting in the need to prepare an EIR for the project.

Vehicle Miles Travelled
In September 2013, the California legislature adopted Senate Bill 743, requiring all lead agencies to adopt Vehicle Miles Traveled (VMT) guidelines and thresholds by July 1, 2020 as the new measure for identifying transportation/traffic impacts for land use projects. Based on an evaluation of VMT in the VMT Analysis prepared by Kimley-Horn and Associates, Inc., the proposed project identified a significant impact as shown below:

Total VMT	
Countywide VMT Threshold (mpe)	17.1
Project VMT (mpe)	21.8
Percentage Exceeding Threshold	21.6%
Potentially Significant?	Yes

*"mpe" stands for "miles per employee". The measurement identifies the average trip length from a point of origin to the project site.

Due to the significant VMT impact, the following mitigation measures were identified to reduce VMT from the project:

- Provide "end-of-trip" facilities (may include showers, locker rooms, etc.) that promote biking to work.
- Provide an information packet to future building occupants that provides information regarding the benefits of trip reduction programs and how such programs could be administered.
- Create a ridesharing incentive program for employees.

The efficacy of the mitigation measures to reduce the VMT impacts below thresholds cannot be assured, therefore the project's VMT impact are considered significant and unavoidable, resulting in the need to prepare an Environmental Impact Report (EIR) for the project.

California Environmental Quality Act
The applicant engaged Kimley-Horn and Associates, Inc. to prepare an EIR (Environmental Assessment Review No. 2023-0010) for the project in accordance with the requirements of the California Environmental Quality Act (CEQA). The City of Rialto subsequently engaged EcoTierra Consulting to conduct a peer review of the Environmental Impact Report and all the related environmental documents. A Notice of Preparation (NOP) was distributed to the State Clearinghouse, as well as agencies, organizations, and persons considered likely to be interested in the project and the potential impacts. The NOP comment period occurred from December 8, 2023 to January 22, 2024. Three (3) comment letters were received during the comment period. The commenters included Mitchell M. Tsai Law Firm on behalf of the Western States Regional Council of Carpenters, the Native American Heritage Commission, and the State of California Department of Justice. Each of the letters received were subsequently addressed in the preparation of the Draft Environmental Impact Report (DEIR). The completed DEIR concluded that the project would create unavoidable significant impacts to air quality, greenhouse gas emissions, and transportation/traffic.

A Notice of Availability (NOA) and the DEIR were distributed and circulated for public review from August 26, 2024 to October 10, 2024. One (1) comment letter was received during the comment period, which was from the Department of Toxic Substances Control (DTSC). Kimley-Horn and Associates, Inc. prepared a response to the letter received. The response to the comment letter and the final Mitigation Monitoring & Reporting Program (MMRP) were input into the Final Environmental Impact Report (FEIR). Planning staff determined that the Environmental Impact Report prepared for the project appropriately satisfies the requirements of CEQA. The DEIR and FEIR are attached to the agenda report (**Exhibits I & J**).

PUBLIC NOTICE:

The City published a public hearing notice for proposed project in the *San Bernardino Sun* newspaper, posted copies of the public hearing notice outside the Council Chambers, and mailed public hearing notices to all property owners within 1,000 feet of the project site, as required by State law.

Southern California Edison Comment Letter
Southern California Edison (SCE) has an "at-large" easement on the project site that provides access to an existing SCE transmission line that runs through the property adjacent to the south of the project site. On September 9, 2025, SCE submitted a letter to the City of Rialto recommending certain conditions of approval be placed on the Project to, as they consider it, protect their easement rights. The letter does not raise any issues related to the California Environmental Quality Act (CEQA) review conducted for the project, and the recommended conditions are not pertinent to CEQA. The issues raised in the letter involve private property matters and the applicant and SCE are actively working together to address the issues. That said, the Draft Resolutions include a condition of approval allowing future modifications to the layout as needed for the applicant to accommodate SCE's needs.

RECOMMENDATION:

The Planning Division recommends the Planning Commission:

1. Adopt the attached Resolution (**Exhibit K**) forwarding to the City Council a recommendation to certify the Final Environmental Impact Report (Environmental Assessment Review No. 2023-0010) prepared for the project; and

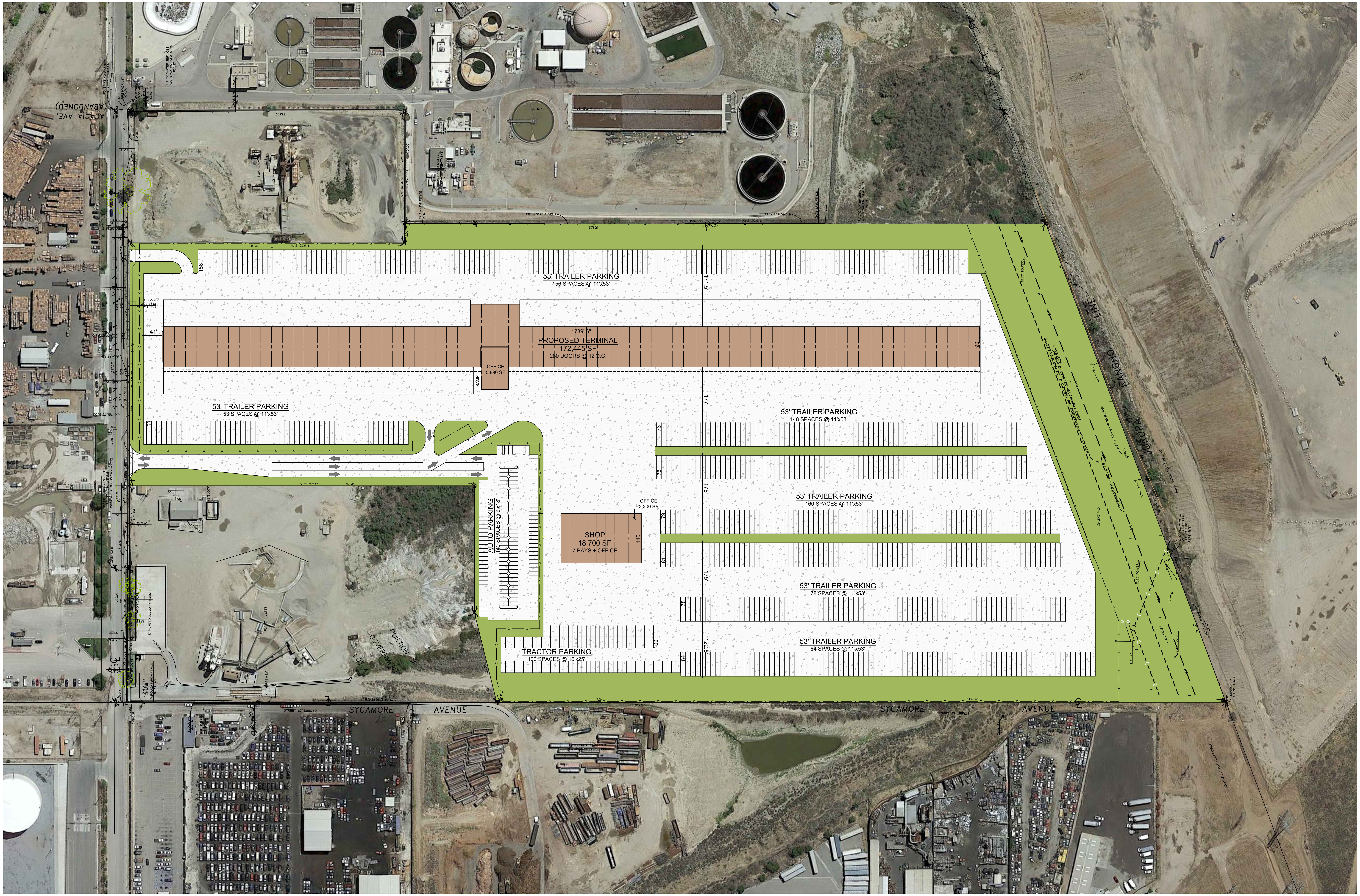
2. Adopt the attached Resolution (**Exhibit L**) forwarding to the City Council a recommendation to approve Conditional Development Permit No. 2023-0007, based upon the findings and subject to the conditions therein; and

3. Adopt the attached Resolution (**Exhibit M**) forwarding to the City Council a recommendation to approve Precise Plan of Design No. 2023-0006, based upon the findings and subject to the conditions therein.

Project Location Map

N

DATE	ISSUED FOR	REV
05-16-2019	CONCEPT	



ACREAGE: 46

DOCK: (280) DOORS AT 12' OC x 90' WIDE
SHOP: 7 DRIVE-THRU BAYS + OFFICE/PARTS BAY
TRAILER PARKING: (679) 53' SPACES
TRACTOR PARKING: (100) SPACES
EMPLOYEE PARKING: (149) SPACES

CONCEPTUAL SITE PLAN

SCALE: N.T.S.

KEY PLAN

DRAWN BY
J. -

DATE
1-31-2023

APPROVAL
D. ONIFER

\\mds-fs1\departments\construction\Misc\Crown Logos\crown logo.JPG

PROJECT
SANTA ANA AVE

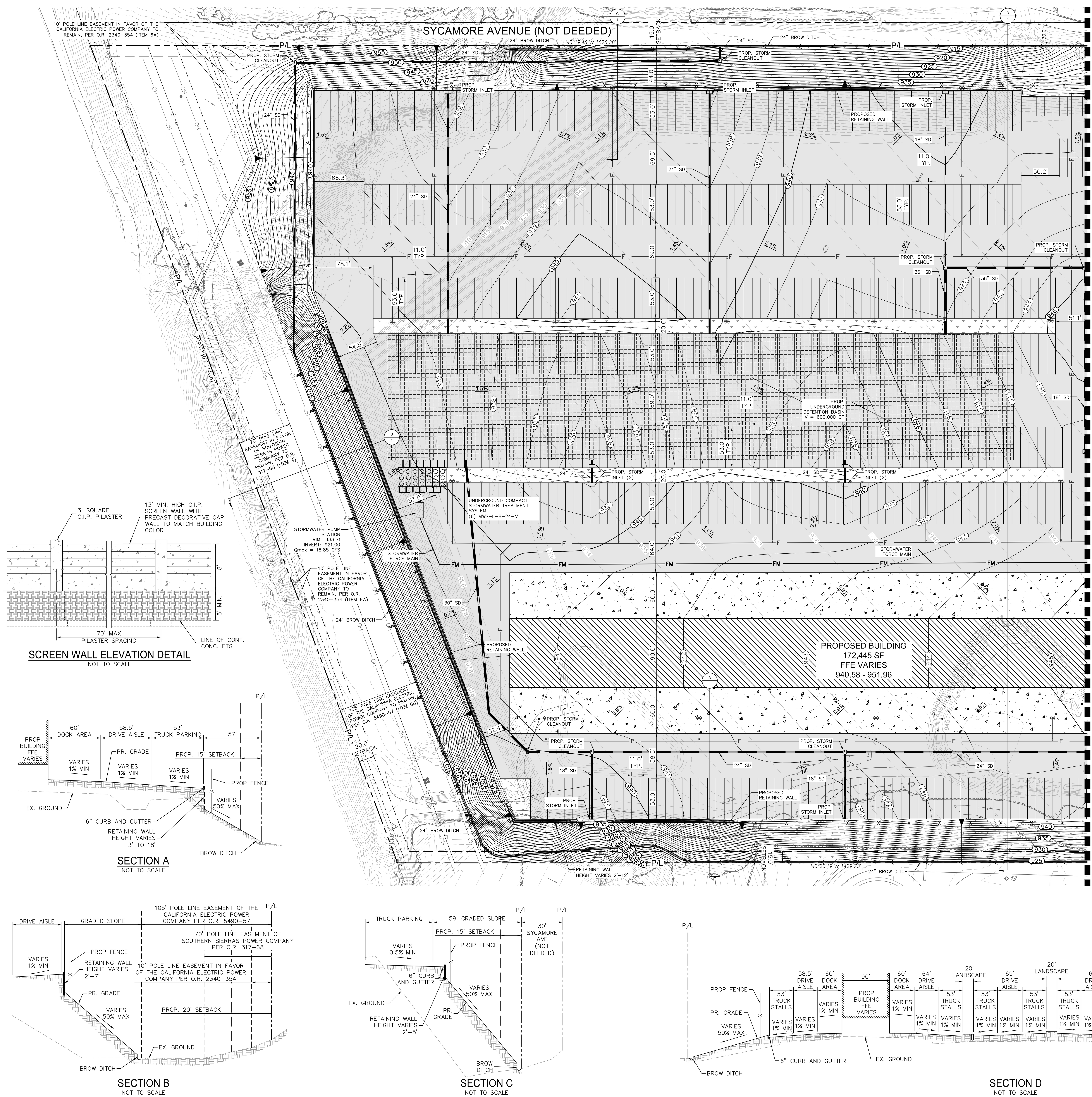
DRAWING TITLE
PROPOSED CT TERMINAL

CHECK SCALE

SCALE

PROJECT NO.
18-000

DRAWING NO.
C1



LEGEND

- PROPOSED ASPHALTIC PAVEMENT
- PROPOSED HEAVY DUTY CONCRETE PAVEMENT
- PROPOSED CONCRETE SIDEWALK
- PROPOSED LANDSCAPE
- PROPERTY BOUNDARY
- PROPOSED FENCE
- PROPOSED SANITARY SEWER LINE
- PROPOSED SANITARY SEWER FORCE MAIN
- PROPOSED DOMESTIC WATER LINE
- PROPOSED FIRE LINE
- PROPOSED FIRE HYDRANT
- POST INDICATOR VALVE (PIV)
- FIRE DEPARTMENT CONNECTION (FDC)
- GATE VALVE
- POINT OF CONNECTION
- PROPOSED STORM DRAIN LINE
- PROPOSED STORM DRAIN FORCE MAIN
- CENTERLINE
- EXISTING CONTOUR
- PROPOSED CONTOUR
- DAYLIGHT LINE
- GRADE BREAK
- SLOPE ARROW
- PROPOSED RETAINING WALL
- PROPOSED LANDSCAPE EASEMENT
- PROPOSED BUILDING SETBACK
- PROPOSED STORM DRAIN MANHOLE
- PROPOSED GRATE INLET
- PROPOSED CURB INLET
- PROPOSED ADA PATH OF TRAVEL
- PROPOSED STREET LIGHT PER RIALTO STD. SL-300 & SL-301
- CONCRETE BROW DITCH

ABBREVIATIONS

AC.	ACRES
APN	ASSESSOR'S PARCEL NUMBER
BLDG	BUILDING
EG	EXISTING GRADE
ESMT.	EASEMENT
EXIST.	EXISTING
FFE	FINISHED FLOOR ELEVATION
FG	FINISHED GRADE
FL	FLOW LINE
FM	FORCE MAIN
FS	FINISHED SURFACE
GB	GRADE BREAK
HP	HIGH POINT
EX.	INVERT
LP	LOW POINT
P/L	PROPERTY LINE
PROP.	PROPOSED
RL	RIDGE LINE
R/W	RIGHT-OF-WAY
SD	STORM DRAIN
SF	SQUARE FEET
TC	TOP OF CURB
TP	TOP OF PIPE
TW	TOP OF WALL
TYP.	TYPICAL

LEGAL DESCRIPTION

PARCEL "B"
BEGINNING AT A POINT IN THE NORTH LINE OF PARCEL MAP NO. 11516 AND THE SOUTH LINE OF SANTA ANA AVENUE (32 FOOT HALF WIDTH), DISTANT EASTERLY THEREON 183.5 FEET FROM THE NORTHWEST CORNER OF PARCEL 1 OF PARCEL MAP NO. 11516 IN THE CITY OF RIALTO, COUNTY OF SAN BERNARDINO, SATE OF CALIFORNIA AS PER MAP FILED IN PARCEL MAP BOOK 128, PAGE 60, RECORDS OF SAID COUNTY;

THENCE SOUTH 0°19'45" EAST, 769.35 FEET TO THE SOUTH LINE OF SAID PARCEL 1; THENCE ALONG SAID SOUTH LINE, SOUTH 89°45'33" WEST, 283.50 FEET TO THE SOUTHWEST CORNER OF SAID PARCEL 1; THENCE ALONG THE NORTHERLY, WESTERLY AND SOUTHERLY LINES OF SAID MAP, SOUTH 75°40'48" WEST, 206.11 FEET; THENCE SOUTH 0°19'45" EAST, 1625.38 FEET TO THE SOUTH WEST CORNER OF SAID MAP; THENCE NORTH 69°03'40" EAST, 1140.61 FEET, TO THE SOUTH EAST CORNER OF PARCEL 3 OF PARCEL MAP NO. 11516; THENCE ALONG THE LINES OF PARCELS 3, 2 AND 1 OF SAID MAP, NORTH 0°20'19" WEST, 1429.73 FEET; THENCE SOUTH 89°45'33" WEST, 42.02 FEET; THENCE NORTH 0°20'19" WEST, 612 FEET TO THE NORTH LINE OF SAID PARCEL 1 AND THE SOUTH LINE OF SANTA ANA AVENUE (32 FOOT HALF WIDTH); THENCE ALONG SAID STREET SOUTH 89°45'33" WEST 541.76 FEET TO THE POINT OF BEGINNING.

APN: 0258-141-18

NORTH

GRAPHIC SCALE IN FEET
0 25 50 100
SCALE: 1" = 50'

EARTHWORK QUANTITIES

SITE ACREAGE: 45.7
CUT: 267,470 CY
FILL: 267,634 CY
NET: 200 CY (FILL)

PASSENGER PARKING TABLE		
USE	PROPOSED SQUARE FOOTAGE	REQUIRED PARKING
OFFICE (1 SPACE/300 SF)	6,780 SF	23 STALLS
MAINTENANCE (1 SPACE/500 SF)	17,890 SF	36 STALLS
TRUCK TERMINAL: <10,000SF: 1 SPACE/1,000 SF >10,000SF: 1 SPACE/2,000 SF	166,553 SF	89 STALLS
TOTAL PARKING REQUIRED:		148 STALLS
TOTAL PARKING PROVIDED:		149 STALLS
TRUCK PARKING TABLE		
TOTAL TRAILER PARKING PROVIDED:		679 STALLS
TOTAL TRACTOR PARKING PROVIDED:		100 STALLS

REVISIONS	BY

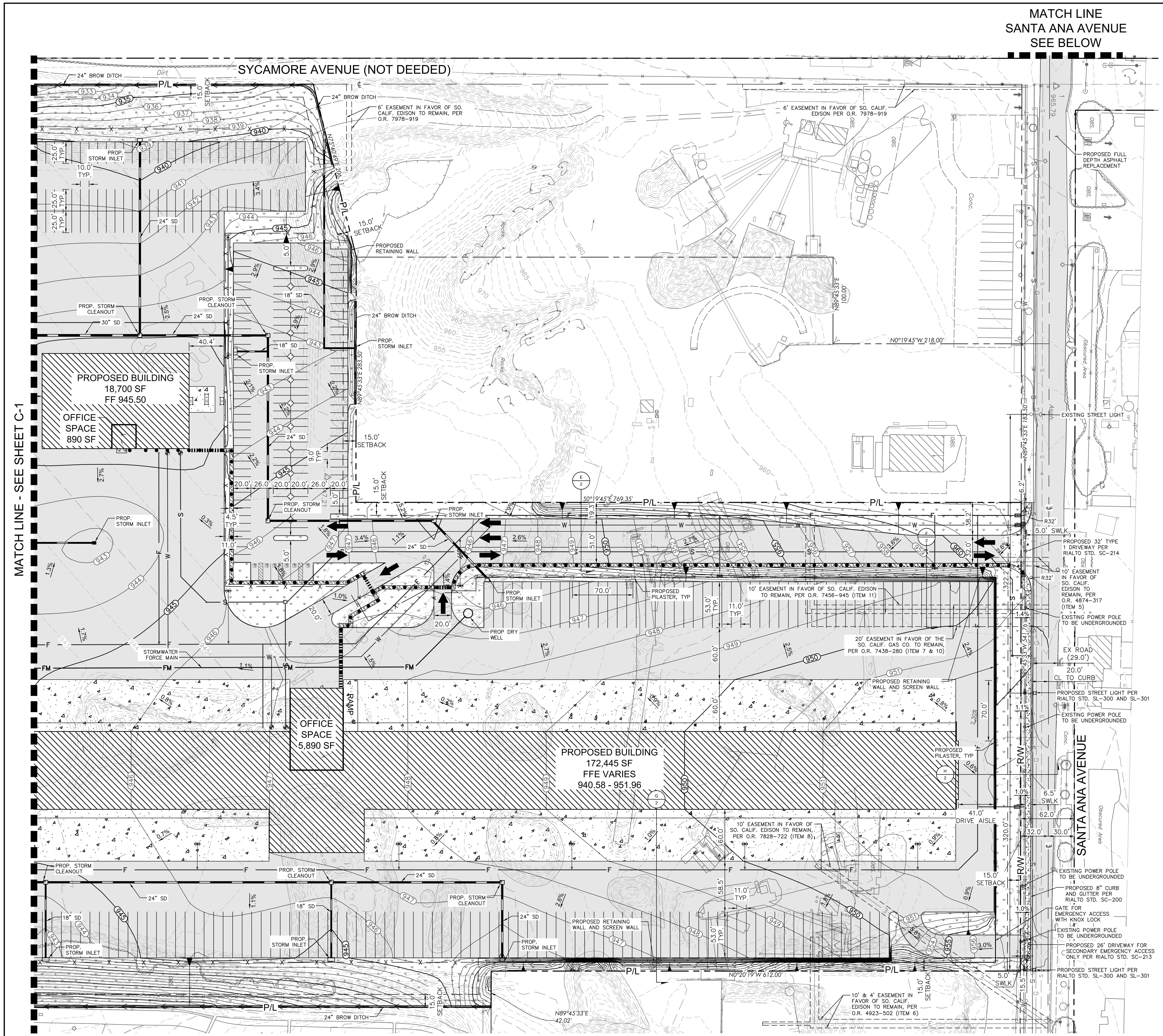
Kimley»Horn
© 2025 KIMLEY-HORN AND ASSOCIATES, INC.
401 B STREET, SUITE 600, SAN DIEGO, CA 92101
WWW.KIMLEY-HORN.COM

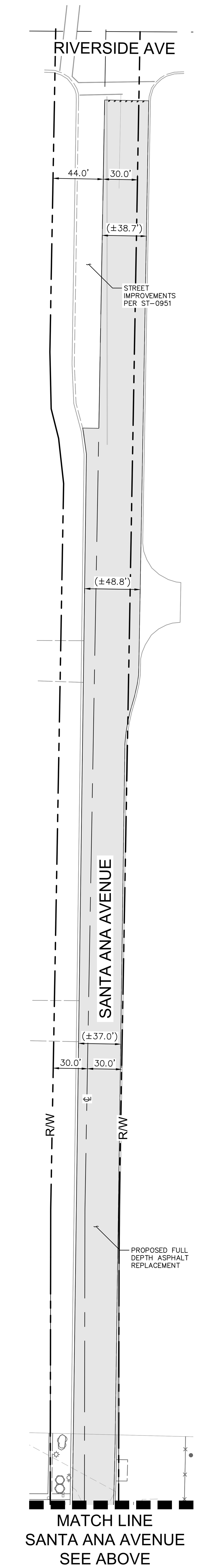
PRELIMINARY NOT FOR CONSTRUCTION

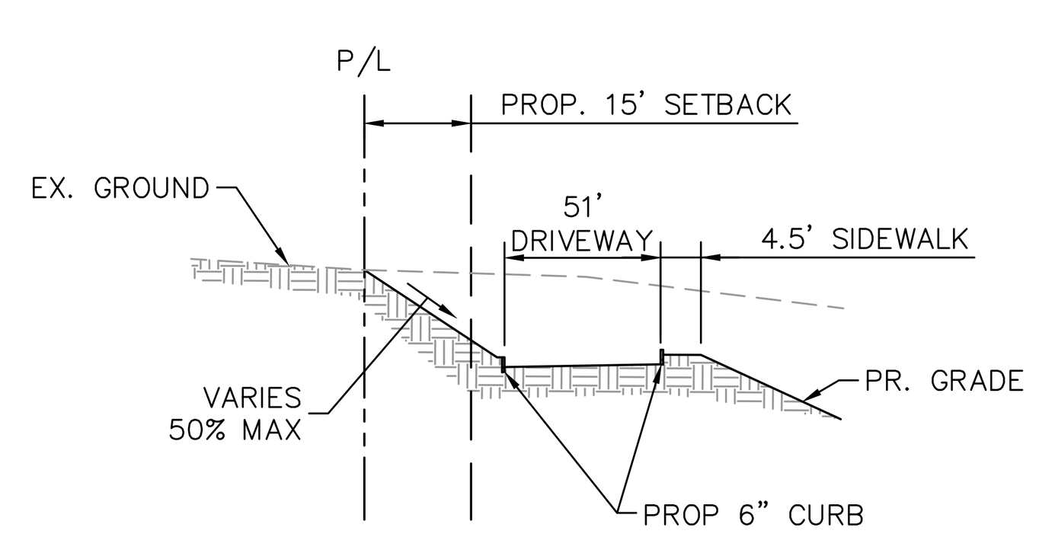
CONCEPTUAL GRADING AND DRAINAGE PLAN

CROWN ENTERPRISES, INC.
249 SANTA ANA AVENUE
CITY OF RIALTO, CALIFORNIA

Date: 9/10/2025
Scale: 1"=50'
Drawn: SAM
Job: 195067004
Sheet C-1
1 of 4 Sheets







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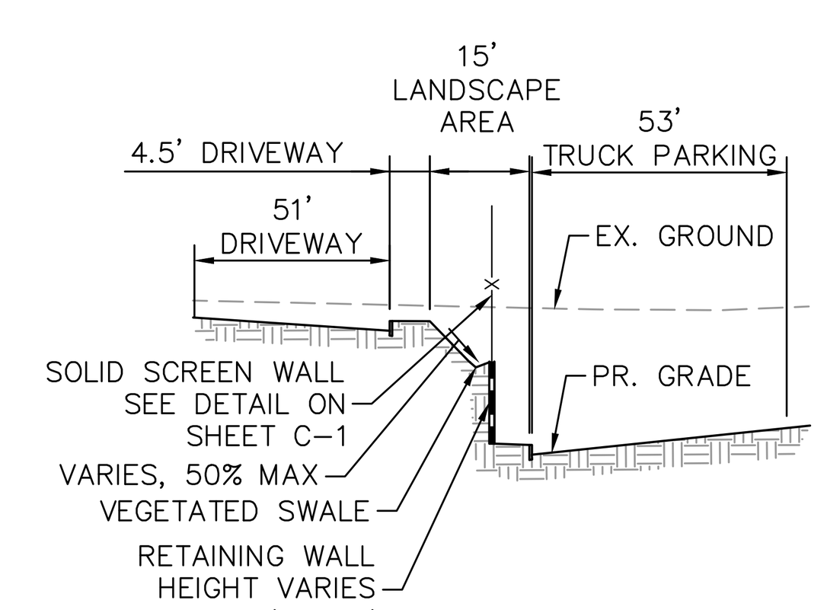

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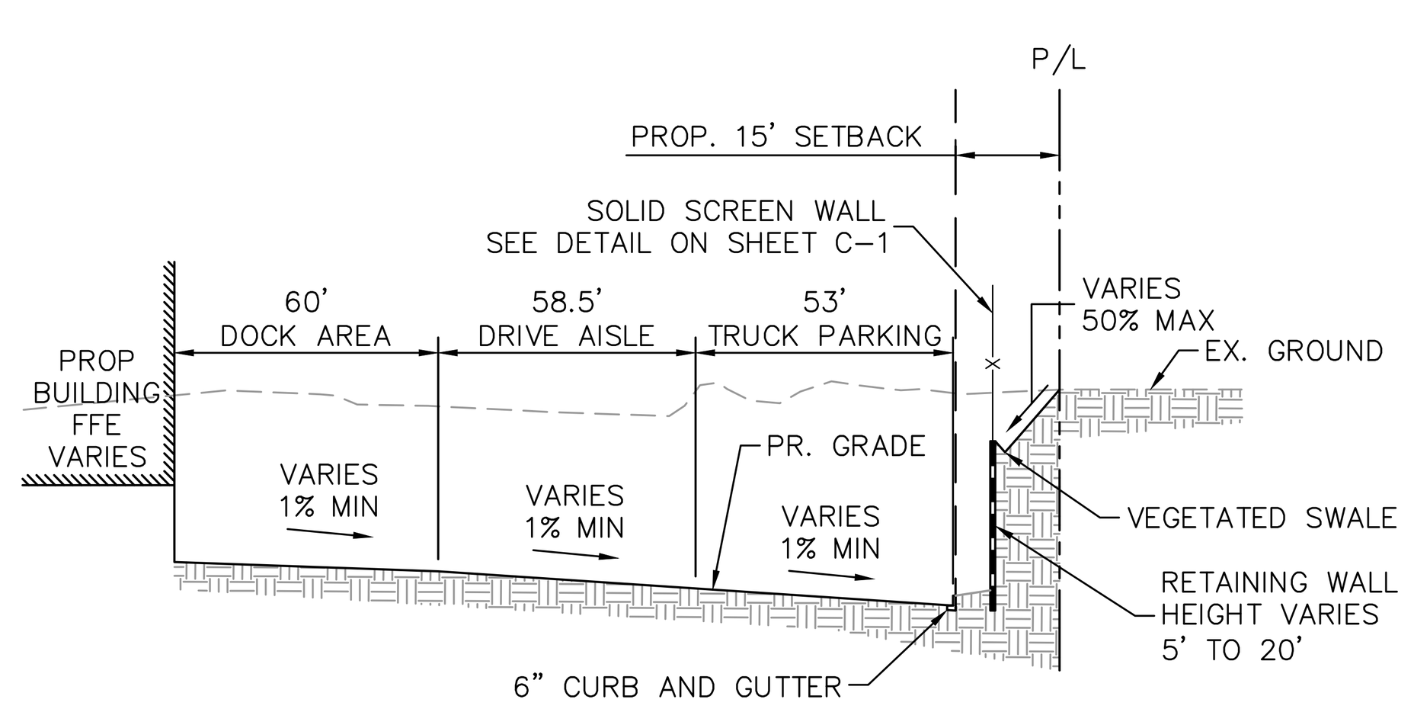

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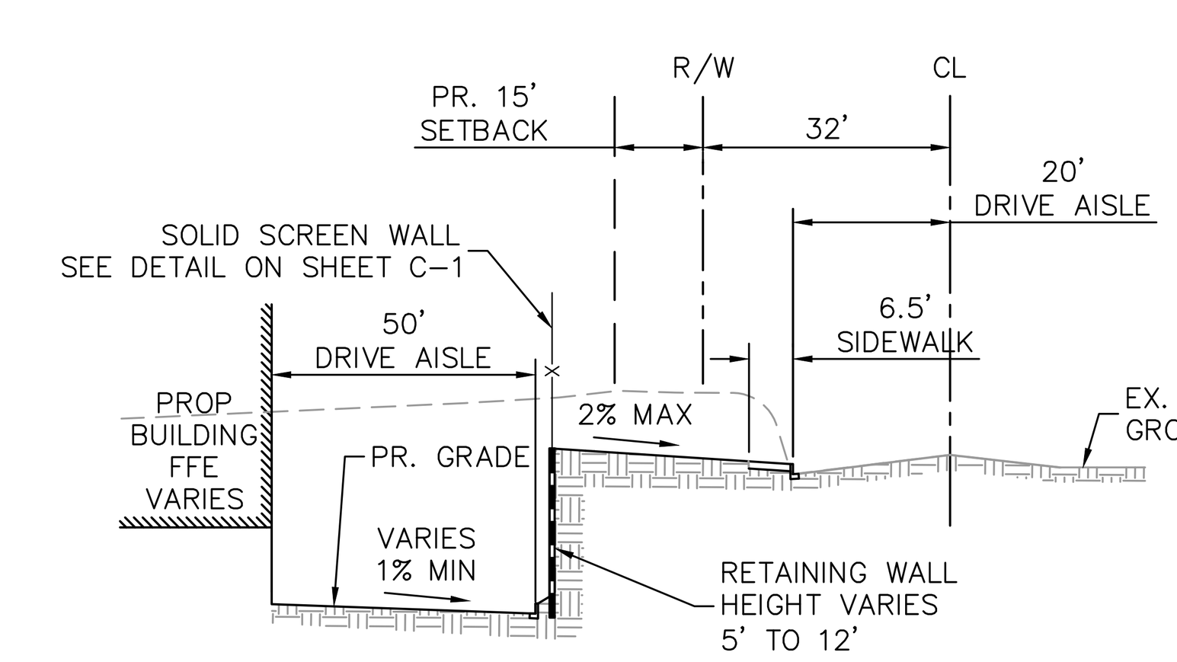

SECTION H

NOT TO SCALE

LEGEND

- PROPOSED ASPHALTIC PAVEMENT
- PROPOSED HEAVY DUTY CONCRETE PAVEMENT
- PROPOSED CONCRETE SIDEWALK
- PROPOSED LANDSCAPE
- PROPERTY BOUNDARY
- PROPOSED FENCE
- PROPOSED SANITARY SEWER LINE
- PROPOSED SANITARY SEWER FORCE MAIN
- PROPOSED DOMESTIC WATER LINE
- PROPOSED FIRE LINE
- PROPOSED FIRE HYDRANT
- POST INDICATOR VALVE (PIV)
- FIRE DEPARTMENT CONNECTION (FDC)
- GATE VALVE
- POINT OF CONNECTION
- PROPOSED STORM DRAIN LINE
- PROPOSED STORM DRAIN FORCE MAIN
- CENTERLINE
- EXISTING CONTOUR
- PROPOSED CONTOUR
- DAYLIGHT LINE
- GRADE BREAK
- SLOPE ARROW
- PROPOSED RETAINING WALL
- PROPOSED LANDSCAPE EASEMENT
- PROPOSED BUILDING SETBACK
- PROPOSED STORM DRAIN MANHOLE
- PROPOSED GRATE INLET
- PROPOSED CURB INLET
- PROPOSED ADA PATH OF TRAVEL
- PROPOSED STREET LIGHT PER RIALTO STD. SL-300 & SL-301
- CONCRETE BROW DITCH
- VEGETATED SWALE

ABBREVIATIONS

AC.	ACRES
APN	ASSESSOR'S PARCEL NUMBER
BLDG	BUILDING
EG	EXISTING GRADE
ESMT.	EASEMENT
EXIST.	EXISTING
FFE	FINISHED FLOOR ELEVATION
FG	FINISHED GRADE
FL	FLOW LINE
FM	FORCE MAIN
FS	FINISHED SURFACE
GB	GRADE BREAK
HP	HIGH POINT
EX.	INVERT
LP	LOW POINT
P/L	PROPERTY LINE
PROP.	PROPOSED
RL	RIDGE LINE
R/W	RIGHT-OF-WAY
SD	STORM DRAIN
SF	SQUARE FEET
TC	TOP OF CURB
TP	TOP OF PIPE
TW	TOP OF WALL
TYP.	TYPICAL

EARTHWORK QUANTITIES

SITE ACREAGE: 45.7
CUT: 267,470 CY
FILL: 267,634 CY
NET: 200 CY (FILL)

LEGAL DESCRIPTION

PARCEL "B"
BEGINNING AT A POINT IN THE NORTH LINE OF PARCEL MAP NO. 11516 AND THE SOUTH LINE OF SANTA ANA AVENUE (32 FOOT HALF WIDTH), DISTANT EASTERLY THEREON 183.5 FEET FROM THE NORTHWEST CORNER OF PARCEL 1 OF PARCEL MAP NO. 11516 IN THE CITY OF RIALTO, COUNTY OF SAN BERNARDINO, SATE OF CALIFORNIA AS PER MAP FILED IN PARCEL MAP BOOK 128, PAGE 60, RECORDS OF SAID COUNTY;

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APN: 0258-141-18

PASSENGER PARKING TABLE		
USE	PROPOSED SQUARE FOOTAGE	REQUIRED PARKING
OFFICE (1 SPACE/300 SF)	6,780 SF	23 STALLS
MAINTENANCE (1 SPACE/500 SF)	17,890 SF	36 STALLS
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TOTAL PARKING REQUIRED:		148 STALLS
TOTAL PARKING PROVIDED:		149 STALLS

TRUCK PARKING TABLE	
TOTAL TRAILER PARKING PROVIDED:	679 STALLS
TOTAL TRACTOR PARKING PROVIDED:	100 STALLS

NORTH

GRAPHIC SCALE IN FEET
0 25 50 100
SCALE: 1" = 50'

REVISIONS	BY

Kimley»Horn
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401 B STREET, SUITE 600, SAN DIEGO, CA 92101
WWW.KIMLEY-HORN.COM

REGISTERED PROFESSIONAL ENGINEER — PRELIMINARY NOT FOR CONSTRUCTION — STATE OF CALIFORNIA

CONCEPTUAL GRADING AND DRAINAGE PLAN

CROWN ENTERPRISES, INC.
249 SANTA ANA AVENUE
CITY OF RIALTO, CALIFORNIA

Date:	9/10/2025
Scale:	1"=50'
Drawn:	SAM
Job:	195067004
Sheet	C-2

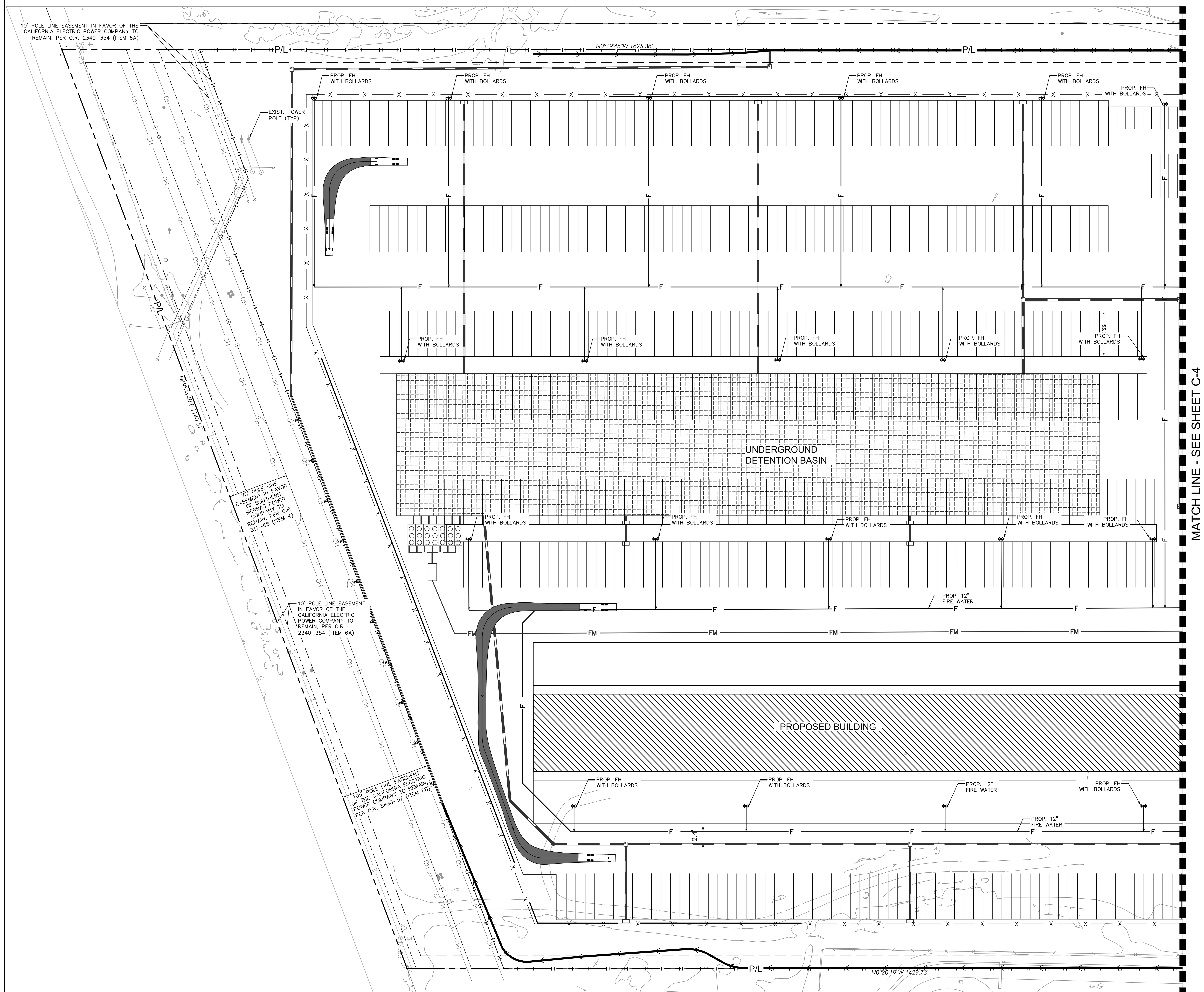
2 of 4 Sheets

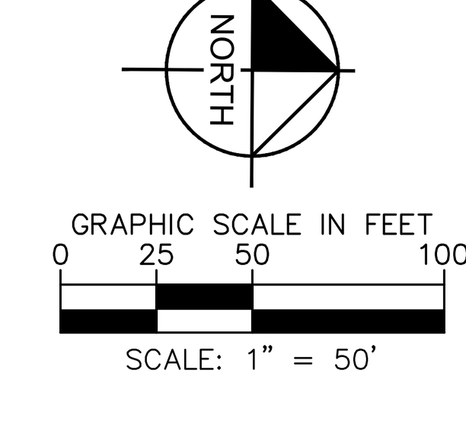
K:\SND_LDEV\195067004 - Santa Ana Truck Terminal\Design\PPD\C1 - GP.067004.dwg Wed, 10 Sep 2025 - 1:04 pm

REVISIONS	BY

NOTES:

1. 3' MIN. SEPARATION BETWEEN PROPOSED FIRE AND DOMESTIC WATER LINES.
2. 12' MIN. SEPARATION BETWEEN PROPOSED FIRE OR DOMESTIC WATER AND SANITARY SEWER LINES.
3. ALL ON-SITE SANITARY SEWER IS 8" (AS NOTED)
4. FIRE LOOP SIZES SHOWN PER PLAN.
5. ALL ON-SITE DOMESTIC WATER IS 3".
6. ON-SITE ELECTRIC AND COMMUNICATION LINES SERVICING THE SITE TO BE PROPOSED BY OTHERS.
7. ON-SITE SEWER IS AT MIN. 1.0% SLOPE.





Kimley»Horn

401 B STREET, SUITE 600, SAN DIEGO, CA 92101
WWW.KIMLEY-HORN.COM

PRELIMINARY NOT FOR CONSTRUCTION

CONCEPTUAL UTILITY AND FIRE ACCESS PLAN

CROWN ENTERPRISES, INC.
249 SANTA ANA AVENUE
CITY OF RIALTO, CALIFORNIA

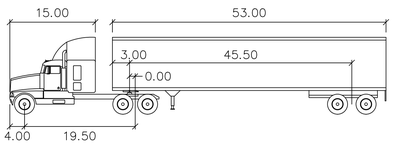
Date:	9/10/2025
Scale:	1"=50'
Drawn:	SAM
Job:	195067004
Sheet	C-3

3 of 4 Sheets

K:\SND_LDEV\195067004 - Santa Ana Truck Terminal\Design\PPD\CONCEPTUAL UTILITY PLAN.dwg Wed, 10 Sep 2025 - 1:04 pm

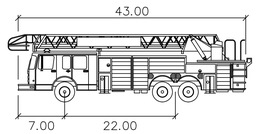
NOTES:

1. 3' MIN. SEPARATION BETWEEN PROPOSED FIRE AND DOMESTIC WATER LINES.
2. 12' MIN. SEPARATION BETWEEN PROPOSED FIRE OR DOMESTIC WATER AND SANITARY SEWER LINES.
3. ALL ON-SITE SANITARY SEWER IS 8" (AS NOTED)
4. FIRE LOOP SIZES SHOWN PER PLAN.
5. ALL ON-SITE DOMESTIC WATER IS 3".
6. ON-SITE ELECTRIC AND COMMUNICATION LINES SERVICING THE SITE TO BE PROPOSED BY OTHERS.
7. ON-SITE SEWER IS AT MIN. 1.0% SLOPE.



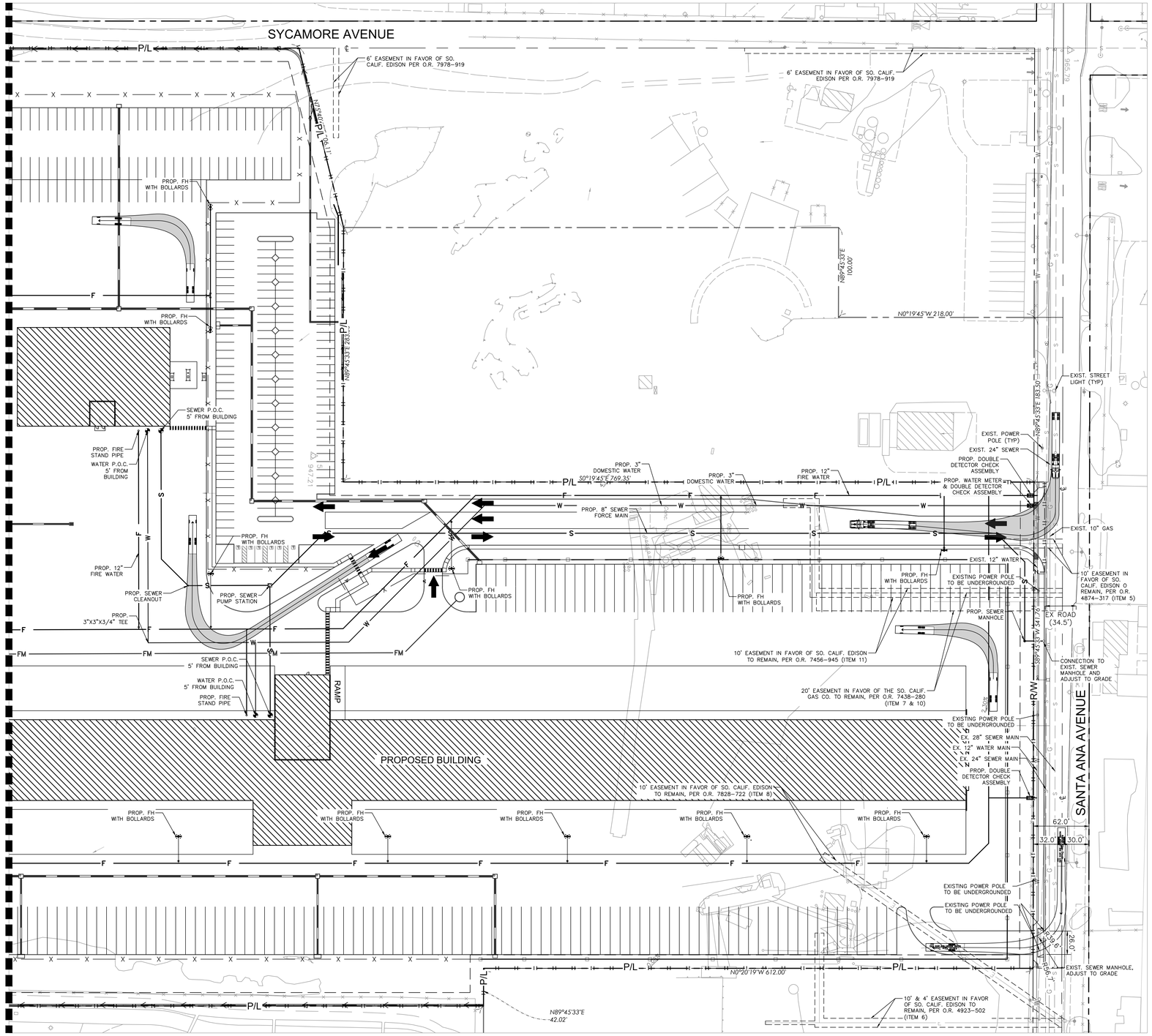
WB-67

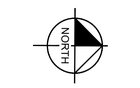
	feet		
Tractor Width	: 8.00	Lock to Lock Time	: 6.0
Trailer Width	: 8.50	Steering Angle	: 28.4
Tractor Track	: 8.00	Articulating Angle	: 75.0
Trailer Track	: 8.50		



Aerial Fire Truck

	feet
Width	: 8.50
Track	: 8.50
Lock to Lock Time	: 6.0
Steering Angle	: 33.3





GRAPHIC SCALE IN FEET
0 25 50 100
SCALE: 1" = 50'

REVISIONS	BY

Kimley»Horn

401 B STREET, SUITE 600, SAN DIEGO, CA 92101
WWW.KIMLEY-HORN.COM

REGISTERED PROFESSIONAL ENGINEER
TIMOTHY C. MAUK
PRELIMINARY NOT FOR CONSTRUCTION
STATE OF CALIFORNIA

CONCEPTUAL UTILITY AND FIRE ACCESS PLAN

CROWN ENTERPRISES, INC.
249 SANTA ANA AVENUE
CITY OF RIALTO, CALIFORNIA

Date:	9/10/2025
Scale:	1"=50'
Drawn:	SAM
Job:	195067004
Sheet	C-4
	4 of 4 Sheets

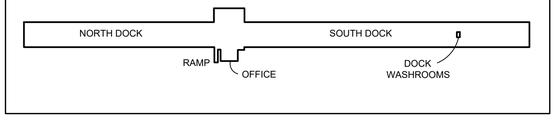
K:\SND_LDEV\195067004 - Santa Ana Truck Terminal\Design\PPD\CONCEPTUAL UTILITY PLAN.dwg Wed, 10 Sep 2025 - 1:04 pm

DOCK: ORDINARY HAZARD GROUP 2 OCCUPANCY
OFFICE: LIGHT HAZARD OCCUPANCY

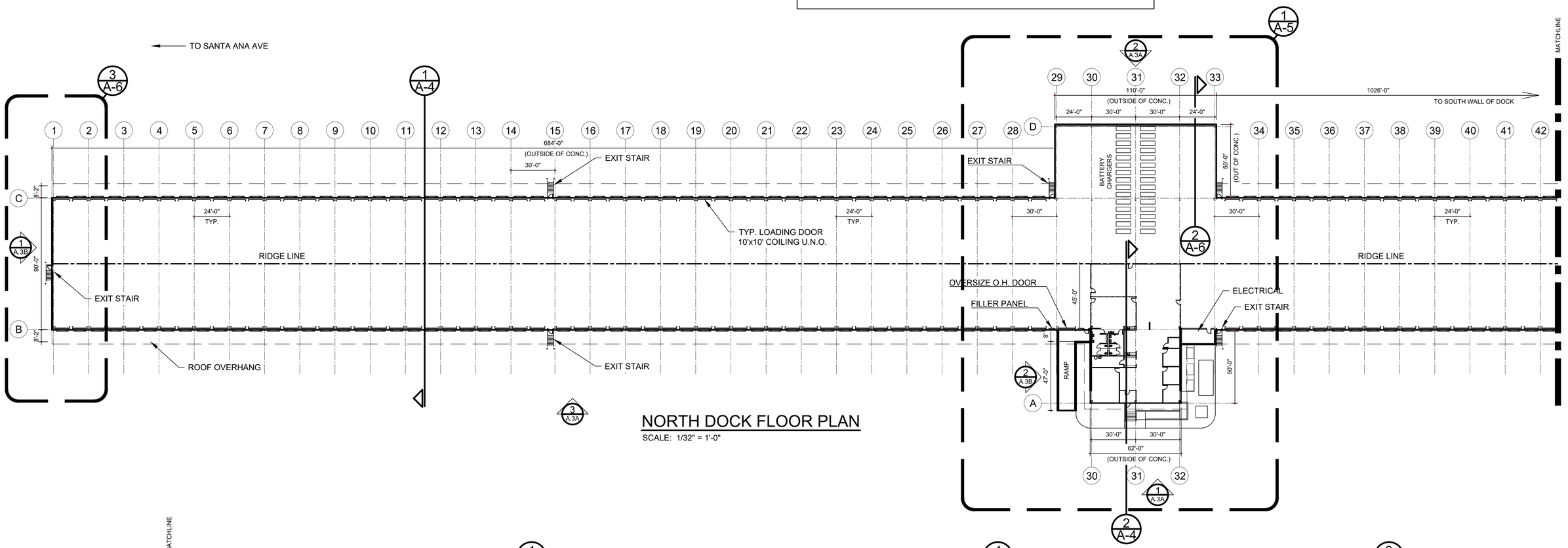
DOOR COUNT

NORTH DOCK	140	
SOUTH DOCK	140	
TOTAL =	280	+1 RAMP

KEY PLAN

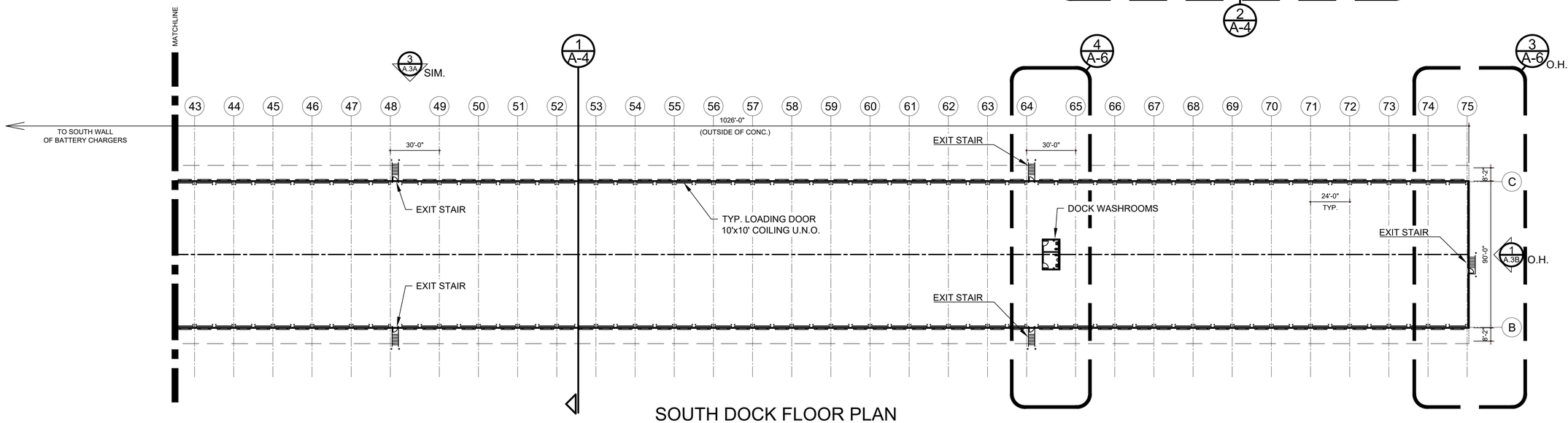


DATE	ISSUED FOR	REV



NORTH DOCK FLOOR PLAN

SCALE: 1/32" = 1'-0"



SOUTH DOCK FLOOR PLAN

SCALE: 1/32" = 1'-0"

DRAWN BY	J. LOMAS
DATE	APPROVAL
1/25/2023	D. ONIFER

CROWN ENTERPRISES LLC

PROJECT

PROPOSED TERMINAL
249 SANTA ANA AVE
RIALTO, CA

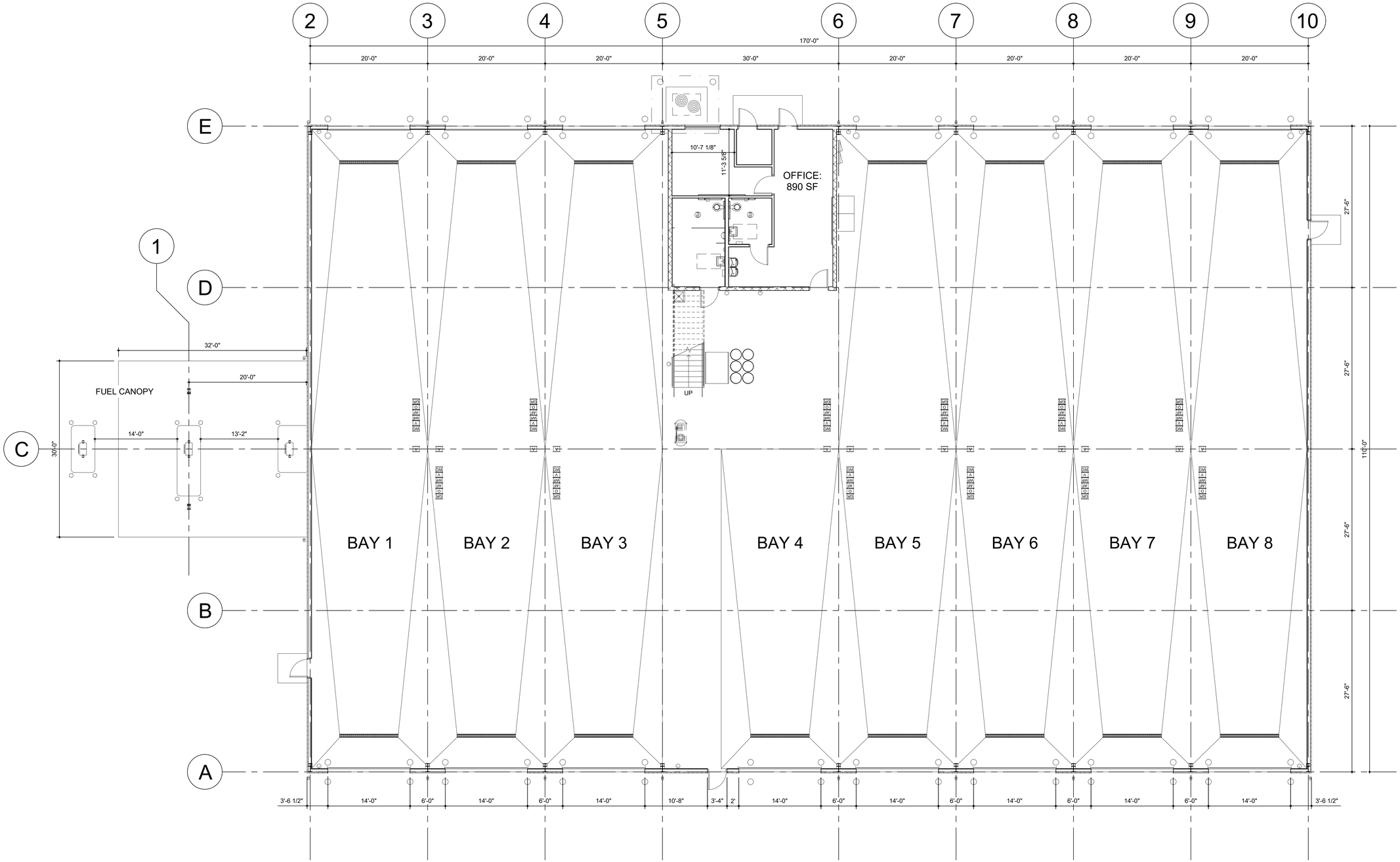
DRAWING TITLE

FLOOR PLAN

CHECK SCALE | SCALE

PROJECT NO. | DRAWING NO.

A.2



SHOP FLOOR PLAN

SCALE: 1/8" = 1'-0"

DATE	ISSUED FOR	REV

KEY PLAN

DRAWN BY
J. LOMAS

DATE 3/3/21
APPROVAL D. ONIFER

CROWN ENTERPRISES LLC

PROJECT

PROPOSED SHOP
SANTA ANA AVE
RIALTO, CA

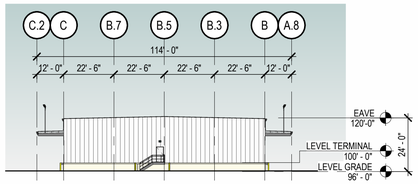
DRAWING TITLE

FLOOR PLAN

CHECK SCALE
SCALE

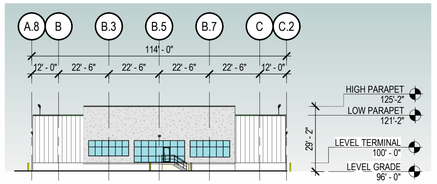
PROJECT NO.
DRAWING NO.
A.1


GENERIC HDL



5 SOUTH ELEVATION

SCALE: 1/32" = 1'-0"



6 NORTH ELEVATION

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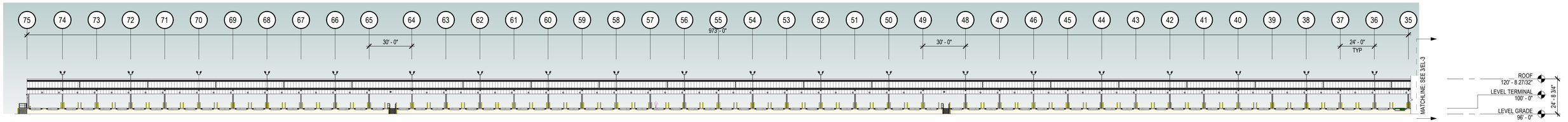
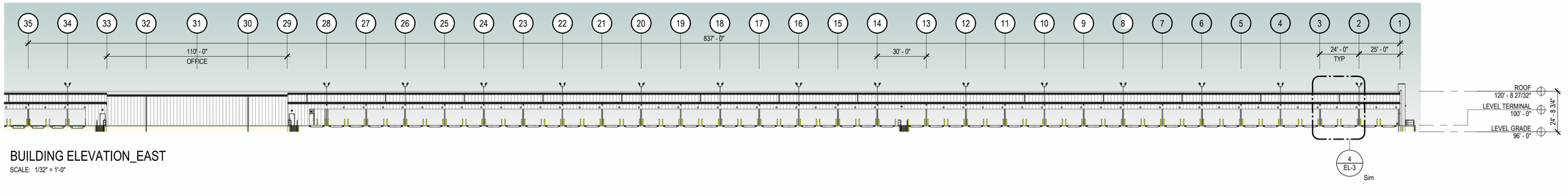


4 BUILDING ELEVATION_EAST Copy 1

SCALE: 1/32" = 1'-0"



3 BUILDING ELEVATION_EAST

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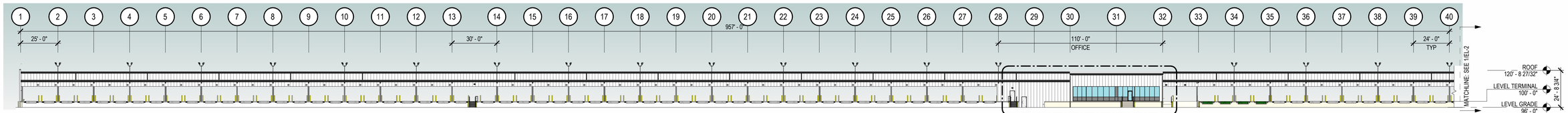
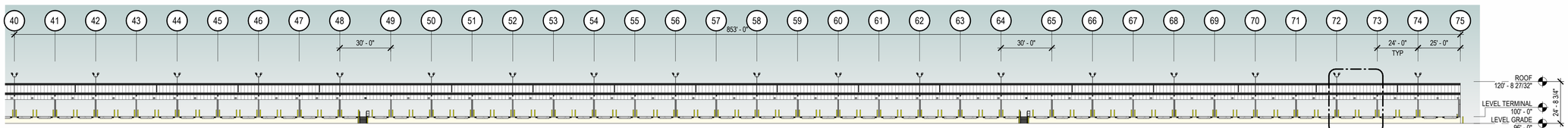


2 WEST ELEVATION

SCALE: 1/32" = 1'-0"



1 WEST ELEVATION - CONTINUED

SCALE: 1/32" = 1'-0"

OKW Architects

OKW ARCHITECTS
600 W. Jackson, Suite 250
Chicago, IL 60661

SCALE: 1/32" = 1' 0"

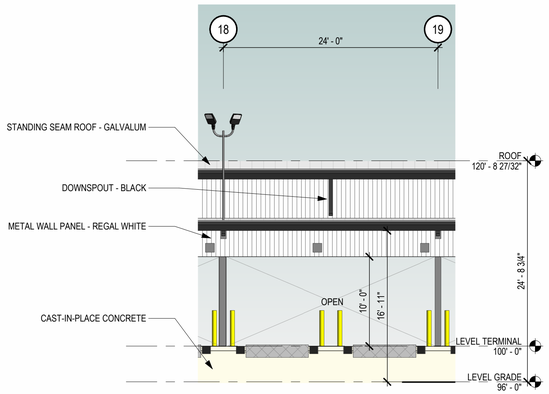
0' 8' 16' 32' 64'

CROWN ENTERPRISES LLC

RIALTO SANTA ANA AVE -LOGISTICS FACILITY

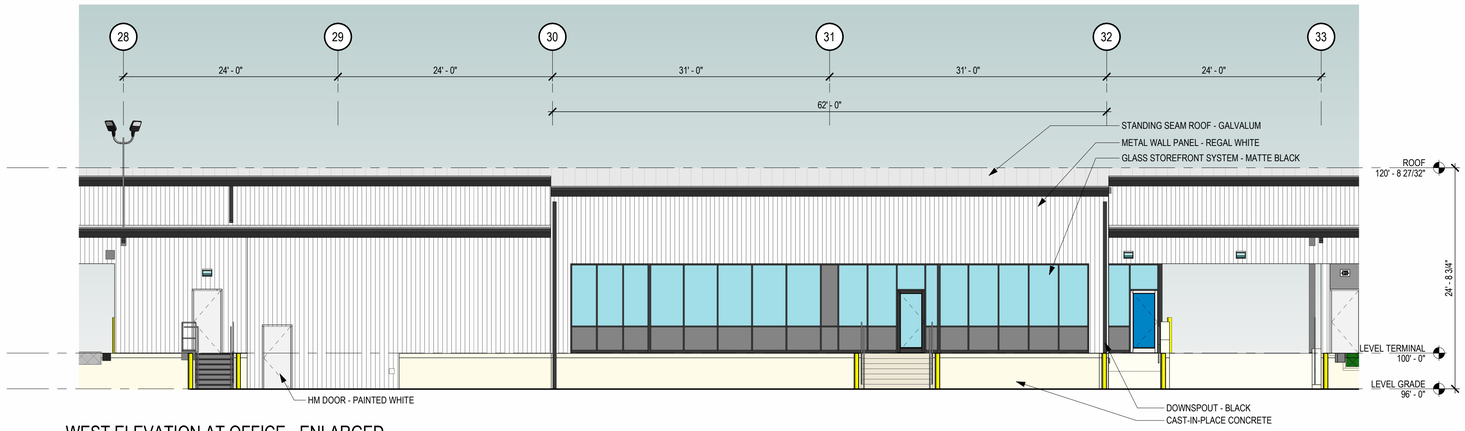
249 E SANTA ANA AVE.
BLOOMINGTON, CA
09/11/25 Project #: 23063

EL-2



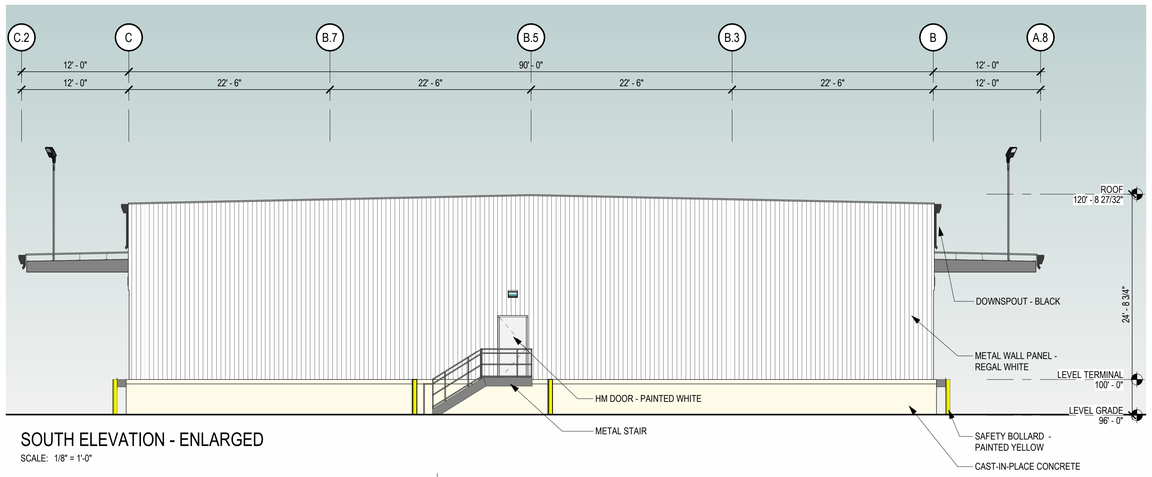
4 ENLARGED TYPICAL DOCK ELEVATION

SCALE: 1/8" = 1'-0"



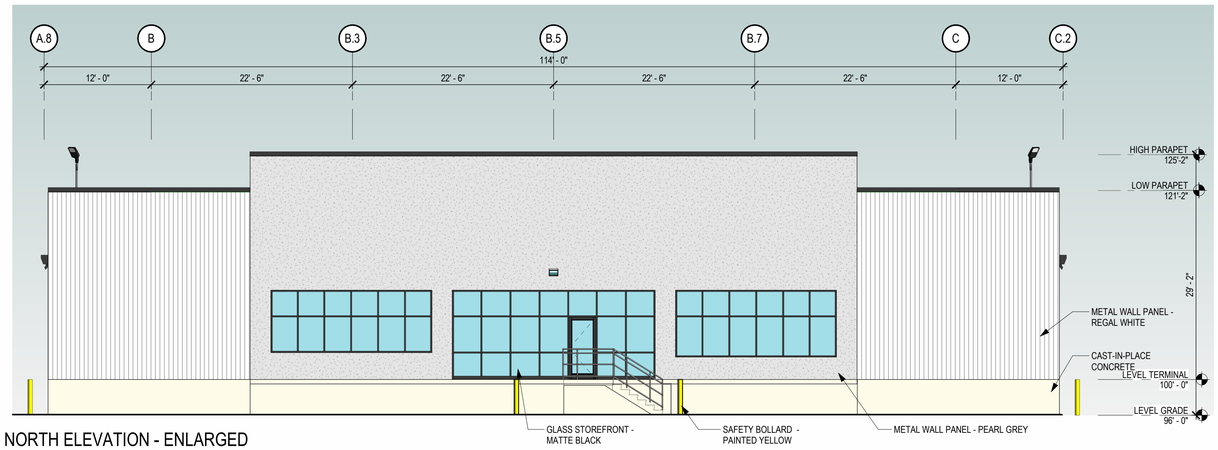
3 WEST ELEVATION AT OFFICE - ENLARGED

SCALE: 1/8" = 1'-0"



2 SOUTH ELEVATION - ENLARGED

SCALE: 1/8" = 1'-0"



1 NORTH ELEVATION - ENLARGED

SCALE: 1/8" = 1'-0"

OKW Architects

OKW ARCHITECTS
600 W. Jackson, Suite 250
Chicago, IL 60661

SCALE: 1/8" = 1' 0"

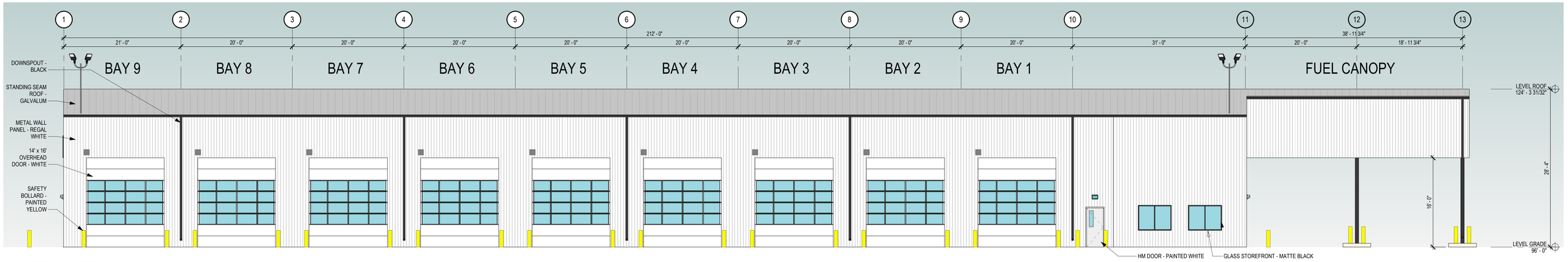
0' 2' 4' 8' 16'

CROWN ENTERPRISES LLC

RIALTO SANTA ANA AVE -LOGISTICS FACILITY

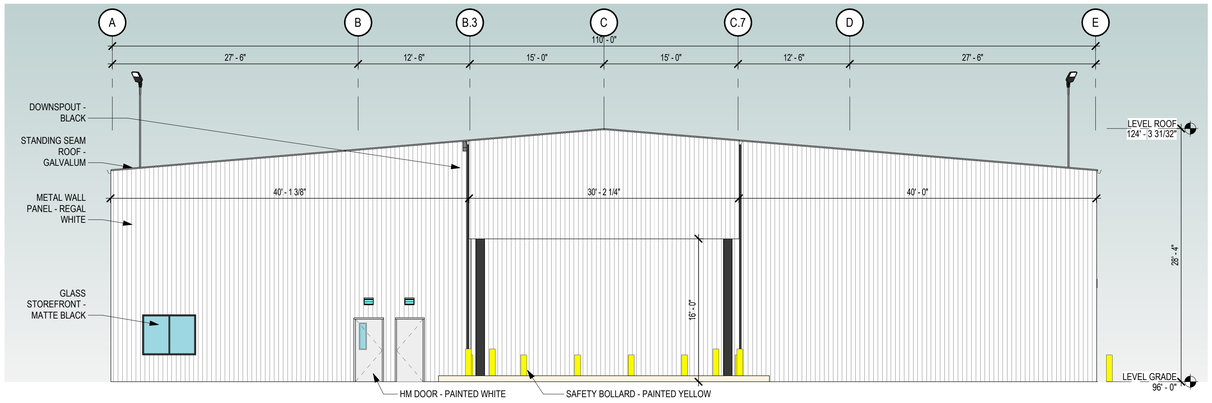
249 E SANTA ANA AVE.
BLOOMINGTON, CA
09/11/25 Project #: 23063

EL-3



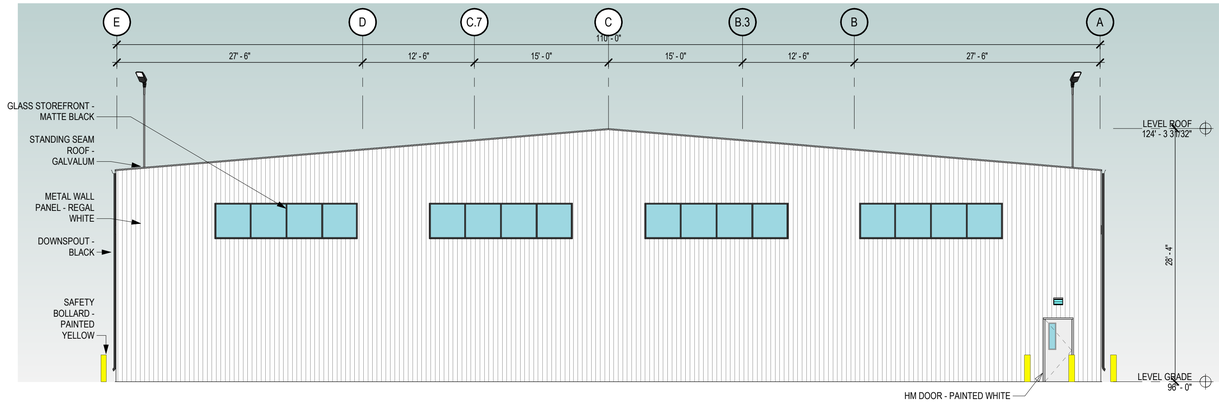
4 WEST ELEVATION

SCALE: 1/8" = 1'-0"



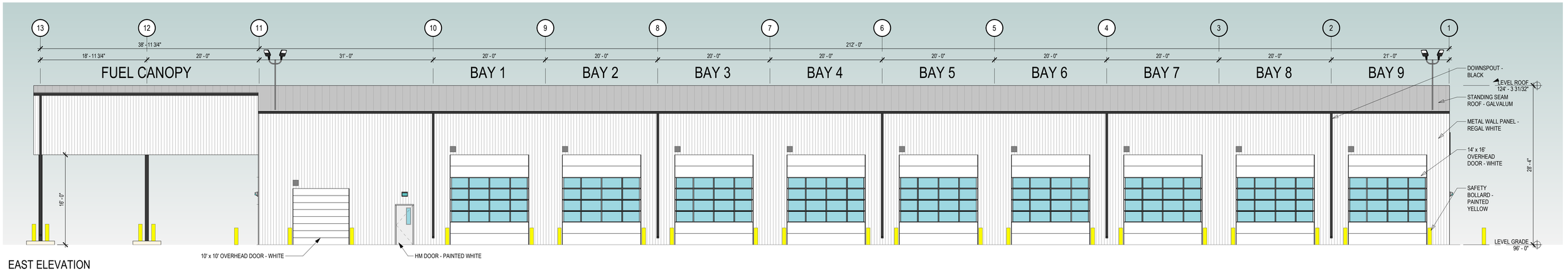
3 SOUTH ELEVATION

SCALE: 1/8" = 1'-0"



2 NORTH ELEVATION

SCALE: 1/8" = 1'-0"



1 EAST ELEVATION

SCALE: 1/8" = 1'-0"

OKW Architects

OKW ARCHITECTS
600 W. Jackson, Suite 250
Chicago, IL 60661

SCALE: 1/8" = 1' 0"

0' 2' 4' 8' 16'

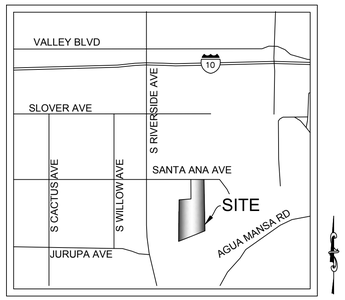
CROWN ENTERPRISES LLC

RIALTO SANTA ANA AVE - MAINTENANCE SHOP

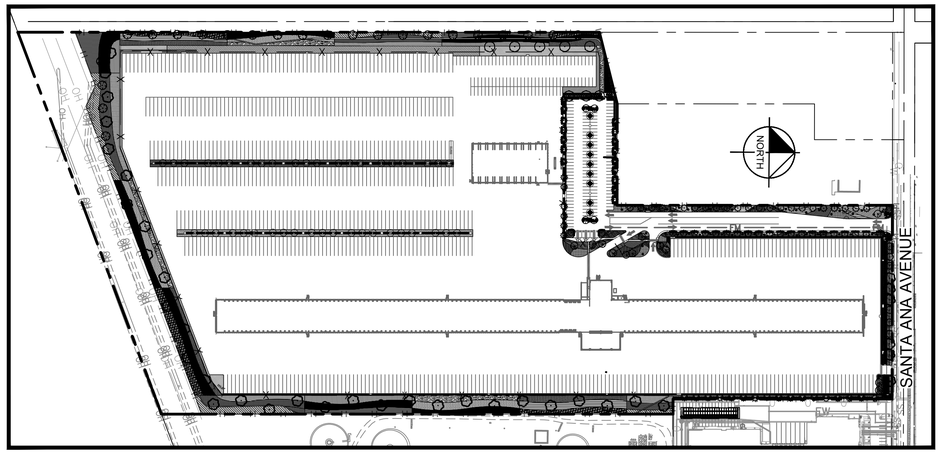
249 E SANTA ANA AVE.
BLOOMINGTON, CA
09/11/25 Project #: 23063

EL-'.

CITY OF RIALTO
LANDSCAPE AND IRRIGATION PLANS
FOR SANTA ANA TRUCK TERMINAL



VICINITY MAP
NOT TO SCALE



SITE MAP
1"=200'

GOVERNING AGENCY:

CITY OF RIALTO
DANIEL CASEY - CITY PLANNER
150 S. PALM AVENUE
RIALTO, CA 92376
PH: (909) 820-2535

CITY OF RIALTO
AARON BROWN
150 S. PALM AVENUE
RIALTO, CA 92376
PH: (909)421-7219

CITY OF RIALTO
JAMES CARO - BUILDING OFFICIAL
150 S. PALM AVENUE
RIALTO, CA 92376
PH: (909) 820-2505

CIVIL ENGINEER:

KIMLEY HORN AND ASSOCIATES, INC.
TAMMIE MORENO
401 B STREET, SUITE 600
SAN DIEGO, CA 92101
PH: 619-744-0115

GEOTECHNICAL ENGINEER:

NORCAL ENGINEERING
KEITH D. TUCKER, G.E.
10641 HUMBOLT STREET
LOS ALAMITOS, CA 90720
PH: (562) 799-9469

OWNER/APPLICANT

ANDREW FALZARANO
CROWN ENTERPRISES, INC.
12225 STEPHENS WARREN,
MICHIGAN 48089

SURVEYOR

ARMANDO D. DUPONT, P.L.S. 7780
CALVADA SURVEYING, INC.
411 JENKS CIRCLE, SUITE 205
CORONA, CA 92878

ARCHITECT:

OKW ARCHITECTS
NICHOLAS SAHM
600 W JACKSON BLVD, SUITE 250
CHICAGO, IL 60661

LANDSCAPE ARCHITECT:

KIMLEY HORN AND ASSOCIATES, INC.
MICHAEL MADSEN
401 B STREET, SUITE 600
SAN DIEGO, CA 92101
PH: 619-744-0115

UTILITY PROVIDERS:

STORM:	SB COUNTY DEPT. OF PUBLIC WORKS	(909) 387-7910
SEWER:	CITY OF RIALTO WATER SERVICES	(909) 820-2456
TELECOMM:	AT&T	(510) 645-2929
WATER:	WEST VALLEY WATER DISTRICT	(909) 875-1804
ELECTRIC:	SOUTHERN CALIFORNIA EDISON	(800) 611-1911
GAS:	SOUTHERN CALIFORNIA GAS	(800) 423-1391

SHEET INDEX

GENERAL LANDSCAPE NOTES

1. THE WORK SHALL BE DONE IN ACCORDANCE WITH THE PLANS AND THE MOST CURRENT EDITION OF THE APPLICABLE CITY AND/OR REGIONAL STANDARDS. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO OBTAIN COPIES OF THESE STANDARDS, SPECIFICATIONS AND DRAWINGS, AS WELL AS ALL OTHER STANDARDS AND SPECIFICATIONS WHICH MAY BE NECESSARY TO COMPLETE AND ACCURATELY INTERPRET THESE PLANS.
2. ALL QUANTITIES LISTED IN THE LANDSCAPE SCHEDULE ARE FOR THE CONVENIENCE OF THE CONTRACTOR. IN THE CASE OF ANY DISCREPANCIES, PLANS SHALL OVERRIDE THE LANDSCAPE AND BID SCHEDULE QUANTITIES. CONTRACTOR SHALL VERIFY QUANTITIES SHOWN ON THE PLANS AND BASE THEIR BID ACCORDINGLY.
3. RESPONSIBILITY FOR ESTABLISHING SUBGRADES IS NOT INCLUDED IN THIS WORK. INSPECT SUBGRADES PRIOR TO COMMENCING WORK TO CONFIRM SUBGRADE DEPTHS AND GRADES. ADVISE LANDSCAPE ARCHITECT OF DISCREPANCIES WITH DRAWINGS OR SPECIFICATIONS. ALL PLANTING AREAS SHALL BE LEFT FREE OF CONSTRUCTION DEBRIS AND/OR TOXIC MATERIAL AND GRADED TO A LEVEL TO PERMIT LANDSCAPE CONSTRUCTION. TRENCHES OR OTHER FILLED EXCAVATIONS SHALL BE COMPACTED PRIOR TO LANDSCAPE INSTALLATION.
4. SITE GRADING NECESSITATED BY THE WORK AS IT PROGRESSES AND NOT SPECIFICALLY CALLED OUT ON THE PLANS WILL BE CONSIDERED INCIDENTAL WORK.
5. ALL LANDSCAPE AREAS SHALL BE UNIFORMLY GRADED SO THAT FINISHED SURFACES CONFORM TO THE TYPICAL SECTIONS AND PROPOSED GRADES SHOWN. FINISHED SURFACES SHALL BE REASONABLY SMOOTH, COMPACTED, AND FREE FROM IRREGULAR SURFACE DRAINAGE. THE LANDSCAPE CONTRACTOR SHALL BE RESPONSIBLE FOR ESTABLISHING THE FINISH GRADE AND SHALL BEAR FINAL RESPONSIBILITY FOR PROPER SURFACE DRAINAGE OF PLANTED AREAS.
6. AFTER ROUGH GRADING HAS OCCURRED, CONTRACTOR SHALL OBTAIN AN AGRONOMIC SOILS REPORT AND SUBMIT TO LANDSCAPE ARCHITECT FOR APPROVAL PRIOR TO AMENDMENTS AND/OR PLANTING. CONTRACTOR SHALL APPLY RECOMMENDATIONS UNLESS OTHERWISE NOTED BY LANDSCAPE ARCHITECT.
7. BACKFILL MIX SHALL BE PLACED IN 6" LIFTS AND TAMPED INTO PLACE AROUND THE PLANT. NO TRANSPLANTING SHALL BE DONE WHEN SOIL IS EXCESSIVELY WET. DO NOT COUNTERSINK AROUND CACTI OR SUCCULENTS. PROVIDE POSITIVE DRAINAGE AWAY FROM PLANT.
8. ALL TREES SHALL BE PLANTED A MINIMUM OF 5 FEET, ALL SHRUBS AND ACCENTS A MINIMUM OF 24", AND ALL GROUNDCOVERS 18" FROM EDGE OF CURBS, WALKS, WALLS, PADS, ETC., UNLESS DIRECTED OTHERWISE BY THE LANDSCAPE ARCHITECT.
9. EXCAVATE PITS, AS SHOWN ON DRAWINGS AND DETAILS. LOOSEN HARD SUBSOIL IN BOTTOM OF PIT. TEST DRAINAGE OF TREE, SHRUB AND PLANT PITS BY FILLING WITH WATER TWICE IN SUCCESSION. THE RETENTION OF WATER IN PLANTING PITS FOR MORE THAN TWENTY-FOUR (24) HOURS SHALL BE BROUGHT TO THE ATTENTION OF THE OWNER'S REPRESENTATIVE. SUBMIT IN WRITING A PROPOSAL FOR THE CORRECTION TO THE OWNER'S REPRESENTATIVE FOR APPROVAL BEFORE PROCEEDING WITH WORK.
10. IF ROCK, UNDERGROUND CONSTRUCTION, ADVERSE DRAINAGE CONDITIONS, OR OTHER OBSTRUCTIONS ARE ENCOUNTERED IN EXCAVATION FOR PLANTING OF ANY PLANT MATERIAL, NOTIFY THE OWNER'S REPRESENTATIVE. NEW LOCATIONS MAY BE SELECTED BY THE OWNER'S REPRESENTATIVE, OR INSTRUCTIONS MAY BE ISSUED TO DIRECT REMOVAL OF OBSTRUCTION. PROCEED WITH WORK ONLY AFTER APPROVAL OF THE OWNER'S REPRESENTATIVE.
11. DO NOT MAKE SUBSTITUTIONS. IF SPECIFIED LANDSCAPE MATERIAL IS NOT OBTAINABLE, SUBMIT PROOF OF NON-AVAILABILITY FROM AT LEAST FIVE SOURCES TO THE OWNER'S REPRESENTATIVE, TOGETHER WITH PROPOSAL FOR USE OF EQUIVALENT MATERIAL FOR FINAL APPROVAL.
12. ALL PLANT MATERIAL AND SPECIFICATIONS TO CONFORM TO THE AMERICAN STANDARD FOR NURSERY STOCK STANDARDS UNLESS OTHERWISE NOTED.
13. LAY OUT INDIVIDUAL TREE AND PLANT LOCATIONS AND AREAS FOR MULTIPLE PLANTINGS, STAKE LOCATIONS AND OUTLINE AREAS AND SECURE THE OWNER'S REPRESENTATIVE'S ACCEPTANCE BEFORE START OF PLANTING WORK. MAKE MINOR ADJUSTMENTS AS DIRECTED.
14. ALL SHRUBS SHALL HAVE A FULL HEAD THAT COVERS THE CAN DIAMETER (CAN FULL) AND A MINIMUM OF THREE STEMS/BRANCHES.
15. FINISH GRADE FOR PLANTED AREAS SHALL BE 1" BELOW ALL CURBS, WALKS AND PAVING WITH SMOOTH EVEN LINES AT EDGES OF STRUCTURES.
16. FINISH LANDSCAPE GRADES SHALL SLOPE AT A 2% GRADE AWAY FROM CURBS, WALKS, AND WALLS.
17. ALL LANDSCAPE AREAS SHALL RECEIVE A 3" DEPTH OF MULCH, UNLESS OTHERWISE NOTED ON THESE PLANS. TREES TO HAVE A 6' DIAMETER RING AROUND TRUNK FREE OF MULCH. MULCH SHALL EXTEND UNDER ALL SHRUBS AND PLANTS. APPLY PRE-EMERGENT HERBICIDE PRIOR TO AND AFTER MULCH INSTALLATION.
18. PROVIDE SAMPLES OF PROPOSED MULCH SHOWING COLOR, GRADATION SIZE RANGE AND TEXTURE INCLUDING PROPOSED SOURCE. PROVIDE 1/2 CUBIC FOOT SAMPLE OF EACH.
19. ANY ROCK MULCH OR DECOMPOSED GRANITE SHALL NOT CONTAIN LUMPS OR BALLS OF CLAY, CALICHE, ORGANIC MATTER OR CALCAREOUS COATING. PROVIDE WEED BARRIER UNDER ALL DG AND/OR ROCK MULCH. THE CONTRACTOR SHALL ENSURE THAT SUFFICIENT QUANTITY IS AVAILABLE FROM A SINGLE SOURCE TO COMPLETE THE PROJECT. THE OWNER'S REPRESENTATIVE SHALL APPROVE SAMPLES PRIOR TO ORDERING.
20. NO JOB WILL BE CONSIDERED COMPLETE UNTIL ALL CURBS, PAVEMENT AND SIDEWALKS HAVE BEEN SWEPT CLEAN OF ALL DIRT AND DEBRIS ACCORDING TO PLANS.
21. IT IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR TO OBTAIN ANY PERMITS REQUIRED. (SEE THE CITY GENERAL CONDITIONS)
22. ALL CONSTRUCTION ROADS AND COMPACTED AREAS DEVELOPED THROUGH CONSTRUCTION THAT ARE WITHIN THE LANDSCAPE AREAS SHALL BE SCARIFIED AND LOOSENED TO A DEPTH OF 12" PRIOR TO LANDSCAPE AND IRRIGATION WORK BEGINNING
23. PLANTINGS WITHIN THE SIGHT VISIBILITY TRIANGLE LINE SHALL BE MAINTAINED SO THAT NO LIMBS HANG LOWER THAN SEVEN (7) FEET AND SHRUBS OR OTHER PLANTS PLANTED WITHIN THE SIGHT VISIBILITY TRIANGLE LINE SHALL BE NO TALLER THAN TWO (2) FEET AT FULL GROWTH.

I HAVE COMPLIED WITH THE CRITERIA OF THE ORDINANCE AB-1881 AND APPLIED THEM FOR THE EFFICIENT USE OF WATER IN THE LANDSCAPE DESIGN PLAN.

MICHAEL P. MADSEN, LLA 5798

NOTES:
1) NO EXISTING OR PROTECTED TREES ARE LOCATED ON PROJECT SITE.
2) CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTENANCE OF THIS LANDSCAPE FOR 90 DAYS FOLLOWING FINAL ACCEPTANCE.
3) THIS PROJECT IS LOCATED IN 'WUCLOS' REGION '4-SOUTH INLAND'

WDID #: XXXXXXX

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1-800
422-4133
TWO WORKING DAYS BEFORE YOU DIG

MARK	REVISIONS	APPR.	DATE

DESIGNED BY: EL DRAWN BY: EH CHECKED BY: TM

SEAL-DESIGN ENGINEER
LICENSED LANDSCAPE ARCHITECT
Michael Madsen License # 5798
Signature
Renewal Date
Date
STATE OF CALIFORNIA
DATE:10/28/2024

PREPARED UNDER THE SUPERVISION OF:
MICHAEL MADSEN, PLA 5798, EXP. 8/31/2025 — 10/28/2024 DATE
RECOMMENDED FOR APPROVAL BY WILLDAN ENGINEERING:
RONALD J. STEIN, RCE 86877 — DATE
APPROVED BY:
MICHAEL ACKERMAN, ACTING CITY ENGINEER, RCE 64663 — DATE

Kimley»Horn

3880 LEMON STREET, SUITE 420, RIVERSIDE, CA 92501
PHONE: 951-543-9868
WWW.KIMLEY-HORN.COM

BENCH MARK: CITY OF RIALTO BENCHMARK NO. "007-88" ELEVATION= 1014.39 FEET
DESCRIPTION: CITY OF RIALTO BRASS DISC IN N/W CORNER PCC CATCH BASIN 4 FT NORTH OF CURB 40 FT NORTH OF CENTERLINE SLOVER 66 FT WEST OF CENTERLINE RIVERSIDE. NGVD29

CITY OF RIALTO
SANTA ANA TRUCK TERMINAL
LANDSCAPE AND IRRIGATION
LANDSCAPE COVER SHEET

1 OF 21 SHEETS

FOR: CROWN ENTERPRISES | PPD# 2023-0006 | PLAN No. _____

LANDSCAPE ARCHITECT NOTES

1. THE TERM "LANDSCAPE ARCHITECT" USED HEREIN SHALL MEAN THE LANDSCAPE ARCHITECT WHO HAS SIGNED AND SEALED THESE PLANS AND IS IN RESPONSIBLE CHARGE OF THE LANDSCAPE ARCHITECTURE DESIGN. THE TERM "CONTRACTOR" USED HEREIN SHALL MEAN ANY GENERAL CONTRACTOR OR SUBCONTRACTOR USING THESE PLANS. ANY AGENCY SIGNATURE OR APPROVAL ON THESE PLANS DOES NOT CONSTITUTE APPROVAL OF ANY OF THESE NOTES.

2. THE LANDSCAPE ARCHITECT WILL NOT PROVIDE, OBSERVE, COMMENT ON NOR ENFORCE ANY SAFETY MEASURES OR REGULATIONS. THE CONTRACTOR SHALL DESIGN, CONSTRUCT, AND MAINTAIN ALL SAFETY MEASURES AND SHALL BE SOLELY RESPONSIBLE FOR SAME AND COMPLYING WITH ALL LOCAL, STATE AND FEDERAL SAFETY AND HEALTH STANDARDS, LAWS, AND REGULATIONS. THE CONTRACTOR AGREES THAT SHE/HE SHALL ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOBSITE CONDITIONS AND SAFETY OF ALL PERSONS AND PROPERTY DURING THE COURSE OF CONSTRUCTION OF THIS PROJECT. THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS.

3. THE LANDSCAPE ARCHITECT SHALL HAVE NO RESPONSIBILITY FOR ANY OF THE CONTRACTOR'S MEANS AND METHODS OF CONSTRUCTION, TECHNIQUES, EQUIPMENT CHOICE AND USAGE, SEQUENCE, SCHEDULE, SAFETY PROGRAMS, OR SAFETY PRACTICES, NOR SHALL THE LANDSCAPE ARCHITECT HAVE ANY AUTHORITY OR RESPONSIBILITY TO STOP OR DIRECT THE WORK OF ANY CONTRACTOR.

4. THE CONTRACTOR SHALL DEFEND, INDEMNIFY, AND HOLD THE LANDSCAPE ARCHITECT AND OWNER, THEIR AGENTS AND EMPLOYEES, HARMLESS FROM ANY AND ALL CLAIMS, DEMANDS, JUDGMENTS, LOSS, DAMAGES, COSTS, EXPENSES, FEES OR LIABILITY WHATSOEVER, REAL OR ALLEGED, IN CONNECTION WITH, IN WHOLE OR IN PART, DIRECTLY OR INDIRECTLY, THE PERFORMANCE OF WORK ON THIS PROJECT, EXCEPTING LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF THE OWNER OR THE LANDSCAPE ARCHITECT.

5. IF THERE ARE ANY QUESTIONS REGARDING THESE PLANS, THE CONTRACTOR SHALL REQUEST IN WRITING FROM THE LANDSCAPE ARCHITECT AND THE OWNER, AN INTERPRETATION BEFORE DOING ANY RELATED OR IMPACTED WORK.

6. THE CONTRACTOR SHALL TAKE THE NECESSARY STEPS TO PROTECT THE PROPERTY FROM ANY EROSION AND SILTATION THAT RESULT FROM CONTRACTOR OPERATIONS BY APPROPRIATE MEANS UNTIL SUCH TIME THAT THE PROJECT IS COMPLETED AND ACCEPTED FOR MAINTENANCE BY WHOMEVER IS TO BE ULTIMATELY RESPONSIBLE FOR MAINTENANCE.

7. THE CONTRACTOR SHALL NOTIFY ALL UTILITY COMPANIES PRIOR TO STARTING WORK NEAR THEIR FACILITIES AND SHALL COORDINATE WORK WITH UTILITY COMPANY REPRESENTATIVES.

8. THE EXISTENCE AND LOCATION OF UNDERGROUND UTILITIES OR STRUCTURES SHOWN ON THESE PLANS WERE OBTAINED FROM A SEARCH OF READILY AVAILABLE RECORDS. NO REPRESENTATION IS MADE AS TO THE ACCURACY OR COMPLETENESS OF SAID UTILITY INFORMATION. THE CONTRACTOR IS REQUIRED TO TAKE PRECAUTIONARY MEASURES TO PROTECT THE UTILITY LINES SHOWN HEREON AND ANY OTHERS NOT OF RECORD OR NOT SHOWN ON THESE PLANS. ALL DAMAGES THERETO CAUSED BY THE CONTRACTOR SHALL BE REPAIRED TO THE APPROPRIATE SPECIFICATIONS AND STANDARDS AT THE SOLE EXPENSE OF THE CONTRACTOR.

9. THE LOCATION, ELEVATIONS, SIZE, TYPE AND CONDITION OF EXISTING IMPROVEMENTS ADJACENT TO THE PROPOSED WORK INDICATED ON THESE PLANS SHALL BE CONFIRMED BY THE CONTRACTOR BY FIELD MEASUREMENTS AND OBSERVATIONS PRIOR TO CONSTRUCTION OF NEW WORK. THE CONTRACTOR WILL IMMEDIATELY INFORM THE LANDSCAPE ARCHITECT IN WRITING IF ANY DISCREPANCIES OR CONFLICTING INFORMATION IS FOUND.

10. THE CONTRACTOR SHALL MAKE EXPLORATORY EXCAVATIONS AND LOCATE EXISTING UNDERGROUND FACILITIES AS NEEDED, SUFFICIENTLY AHEAD OF CONSTRUCTION TO PERMIT REVISIONS TO PLANS IF REVISIONS ARE NECESSARY DUE TO THE ACTUAL LOCATION, SIZE, TYPE, OR CONDITION OF EXISTING FACILITIES DIFFERING FROM WHAT IS SHOWN ON THESE PLANS.

11. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVAL OF ANY DAMAGE TO THE EXISTING IMPROVEMENTS AND REPLACEMENT TO THE SATISFACTION OF THE OWNER.

12. SHOULD CONFLICTING INFORMATION BE FOUND ON THE PLANS THE CONTRACTOR SHALL NOTIFY THE LANDSCAPE ARCHITECT IN WRITING IMMEDIATELY BEFORE PROCEEDING WITH THE WORK IN QUESTION.

13. ANYTHING MENTIONED IN THE SPECIFICATIONS, IF ANY, AND NOT SHOWN ON THE DRAWINGS, OR SHOWN ON THE DRAWINGS AND NOT MENTIONED IN THE SPECIFICATIONS, SHALL BE OF LIKE EFFECT AS IF SHOWN OR MENTIONED IN BOTH.

PLANT SCHEDULE

SYMBOL	QTY	BOTANICAL / COMMON NAME	CONT	HEIGHT/SPREAD	CAL.	WUCOLS
TREES						
	20	ARBUTUS X 'MARINA' / MARINA STRAWBERRY TREE	24" BOX	9`-10- HT. X 2`-3` SPR.	1" CAL.	LOW
	6	KOELREUTERIA BIPINNATA / CHINESE FLAME TREE	24" BOX	9`-10` HT. X 3`-4` SPR.	1" CAL.	MODERATE
	81	PINUS CANARIENSIS / CANARY ISLAND PINE	24" BOX	8`-10` HT. X 3`-4` SPR.	1" CAL.	MODERATE
	23	PLATANUS RACEMOSA / CALIFORNIA SYCAMORE	24" BOX	9`-10` HT. X 3`-4` SPR.	1" CAL.	MODERATE
	53	PODOCARPUS GRACILIOR / FERN PINE	24" BOX	8-10` HT. X 2-4` SPR.	1" CAL.	MODERATE
	37	QUERCUS AGRIFOLIA / COAST LIVE OAK	24" BOX	8-10` HT. X 2-4` SPR.	1" CAL.	LOW
	8	QUERCUS LOBATA / VALLEY OAK	24" BOX	8-10` HT. X 2-4` SPR.	1" CAL.	LOW

SYMBOL	QTY	BOTANICAL / COMMON NAME	CONT.	SPACING	WUCOLS
SHRUBS					
	64	AGAVE ATTENUATA / FOXTAIL AGAVE	5 GAL.	AS SHOWN	LOW
	109	HETEROMELES ARBUTIFOLIA / TOYON	5 GAL.	6` O.C.	LOW
	150	LANTANA X 'NEW GOLD' / NEW GOLD LANTANA	5 GAL.	3` O.C.	LOW
	432	LEUCOPHYLLUM LANGMANIAE 'LYNN'S LEGACY' / LYNN'S LEGACY LANGMAN'S SAGE	5 GAL.	4` O.C.	LOW
	121	MUHLENBERGIA RIGENS / DEER GRASS	5 GAL.	4` O.C.	LOW
	168	RHAMNUS CALIFORNICA `EVE CASE` / EVE CASE COFFEEBERRY	5 GAL.	5` O.C.	LOW
	24	SALVIA LEUCOPHYLLA / PURPLE SAGE	5 GAL.	4` O.C.	LOW

SYMBOL	QTY	BOTANICAL / COMMON NAME	CONT.	SPACING	WUCOLS
GROUND COVERS					
	595	ACACIA REDOLENS 'LOW BOY' / LOW BOY BANK CATCLAW	5 GAL.	6` O.C.	LOW
	271	ADENOSTOMA FASCICULATUM / CHAMISE	5 GAL.	5` O.C.	LOW
	765	ARTEMISIA CALIFORNICA / CALIFORNIA SAGEBRUSH	5 GAL.	5` O.C.	LOW
	688	BACCHARIS PILULARIS `PIGEON POINT` / PIGEON POINT COYOTE BRUSH	5 GAL.	5` O.C.	LOW
	412	CEANOTHUS GRISEUS HORIZONTALIS / CARMEL CREEPER	5 GAL.	4` O.C.	LOW
	1,061	CISTUS SALVIIFOLIUS 'PROSTRATUS' / SAGELEAF ROCKROSE	5 GAL.	4` O.C.	LOW
	983	DALEA GREGGII / TRAILING INDIGO BUSH	1 GAL.	4` O.C.	LOW
	864	LANTANA MONTEVIDENSIS / PURPLE TRAILING LANTANA	5 GAL.	4` O.C.	LOW
	989	LANTANA SELLOWIANA / TRAILING LANTANA	5 GAL.	4` O.C.	LOW
	436	LARREA TRIDENTATA / CREOSOTE BUSH	5 GAL.	6` O.C.	LOW
	821	LEYMUS CONDENSATUS 'CANYON PRINCE' / CANYON PRINCE GIANT WILD RYE	5 GAL.	4` O.C.	LOW
	743	LIPPIA NODIFLORA 'KURAPIA S1' / KURAPIA®	5 GAL.	4` O.C.	LOW
	902	MYOPORUM PARVIFOLIUM `PINK` / PINK TRAILING MYOPORUM	5 GAL.	4` O.C.	LOW
	1,006	MYOPORUM PARVIFOLIUM 'PUTAH CREEK' / PUTAH CREEK TRAILING MYOPORUM	5 GAL.	3` O.C.	LOW
	479	RHAMNUS CALIFORNICA 'MOUND SAN BRUNO' / MOUND SAN BRUNO COFFEEBERRY	5 GAL.	6` O.C.	LOW
	1,011	RHUS AROMATICA `GRO-LOW` / GRO-LOW FRAGRANT SUMAC	5 GAL.	4` O.C.	LOW
	854	RIBES AUREUM / GOLDEN CURRANT	5 GAL.	5` O.C.	LOW
	10,511 SF	ROCK COBBLE 1"-3" DIA. ROCK COBBLE MAUNFACTURER: SOUTHWEST BOULDER AND STONE COLOR: SIERRA COBBLE AT 3" DEPTH MIN.	ROCK	-	-
	927	ROSMARINUS OFFICINALIS 'PROSTRATUS' / DWARF ROSEMARY	5 GAL.	4` O.C.	LOW
	422	SIMMONDSIA CHINENSIS / JOJOBA	5 GAL.	6` O.C.	LOW
	443	TEUCRIUM CHAMAEDRYS `PROSTRATUM` / PROSTRATE GERMANDER	5 GAL.	4` O.C.	LOW
	838	TEUCRIUM COSSONII MAJORICUM / GERMANDER	5 GAL.	4` O.C.	LOW

WDID #: XXXXXXX

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MARK	REVISIONS	APPR.	DATE

DESIGNED BY: EL DRAWN BY: EH CHECKED BY: TM

SEAL-DESIGN ENGINEER
LICENSED LANDSCAPE ARCHITECT
Michael Madsen License No. 5798
Signature
Renewal Date
Date
STATE OF CALIFORNIA
DATE:10/28/2024

PREPARED UNDER THE SUPERVISION OF:
MICHAEL MADSEN, PLA 5798, EXP. 8/31/2025 — 10/28/2024 DATE

RECOMMENDED FOR APPROVAL BY WILLDAN ENGINEERING:
RONALD J. STEIN, RCE 86877 — DATE

APPROVED BY:
MICHAEL ACKERMAN, ACTING CITY ENGINEER, RCE 64663 — DATE

Kimley»Horn

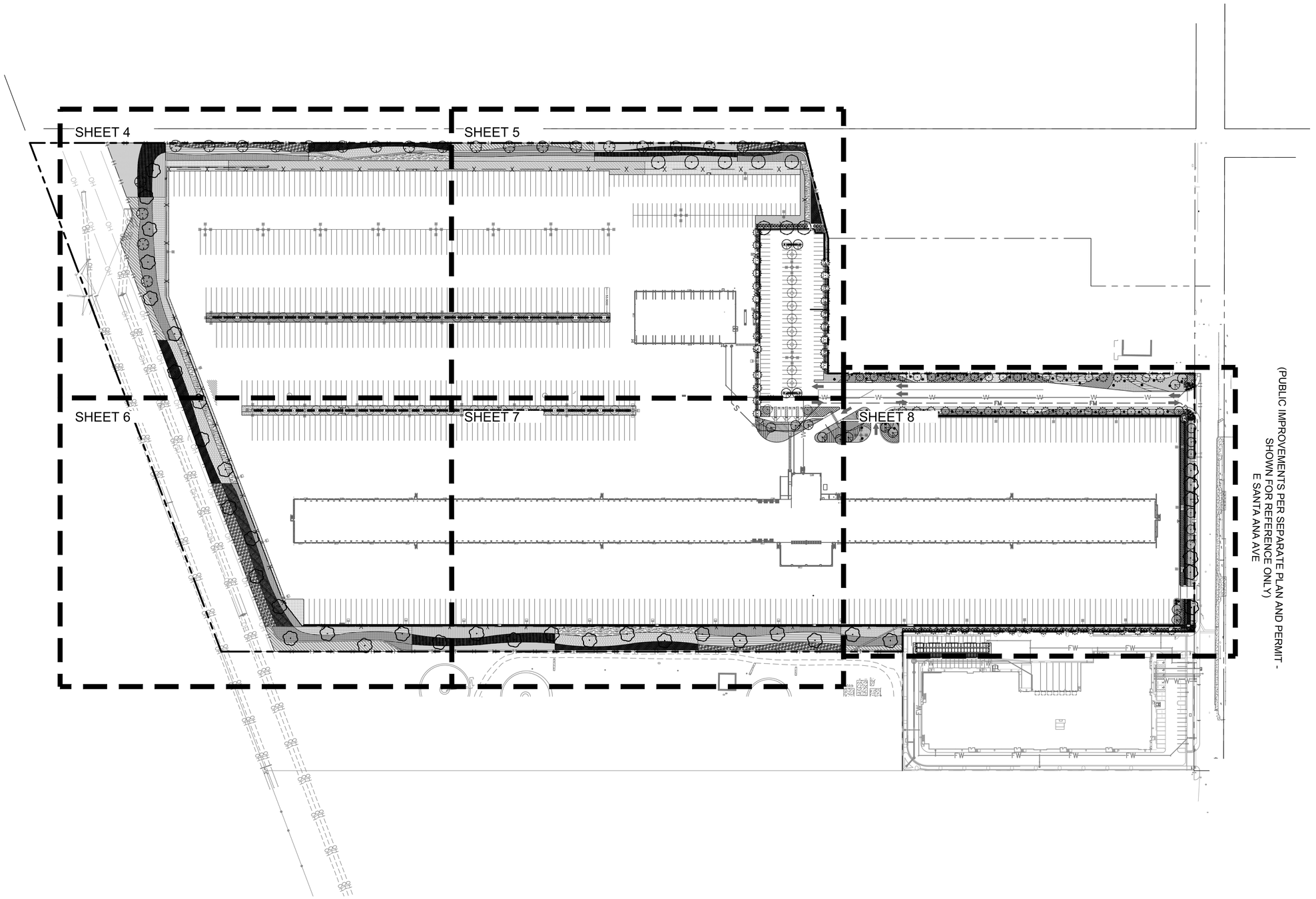
3880 LEMON STREET, SUITE 420, RIVERSIDE, CA 92501
PHONE: 951-543-9868
WWW.KIMLEY-HORN.COM

BENCH MARK: CITY OF RIALTO BENCHMARK NO. "007-88" ELEVATION= 1014.39 FEET
DESCRIPTION: CITY OF RIALTO BRASS DISC IN N/W CORNER PCC CATCH BASIN 4 FT NORTH OF CURB 40 FT NORTH OF CENTERLINE SLOVER 66 FT WEST OF CENTERLINE RIVERSIDE. NGVD29

CITY OF RIALTO
SANTA ANA TRUCK TERMINAL
LANDSCAPE AND IRRIGATION
LANDSCAPE NOTES

2 OF 21 SHEETS

FOR: CROWN ENTERPRISES | PPD# 2023-0006 | PLAN No. _____



NORTH

GRAPHIC SCALE IN FEET
0 50 100 200

WDID #: XXXXXXX

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DESIGNED BY: EL DRAWN BY: EH CHECKED BY: TM

SEAL-DESIGN ENGINEER

LICENSED LANDSCAPE ARCHITECT
MICHAEL MADSEN LP.A. 5798
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CITY OF RIALTO
SANTA ANA TRUCK TERMINAL
LANDSCAPE AND IRRIGATION
LANDSCAPE KEY MAP

3 OF 21 SHEETS

FOR: CROWN ENTERPRISES | PPD# 2023-0006 | PLAN No. _____

PROPERTY LINES (TYP)
CONCRETE SWALE, SEE CIVIL PLANS (TYP)
FENCE, SEE CIVIL PLANS (TYP)
LIGHT POLE, BY OTHERS (TYP)
LIMIT OF GRADING, SEE CIVIL PLANS (TYP)

MATCHLINE. SEE SHEET 6

MATCHLINE. SEE SHEET 5

PLANT LEGEND (FOR FULL SCHEDULE SEE SHEET 2)

SYMBOL | BOTANICAL / COMMON NAME

TREES

- ARBUTUS X 'MARINA' / MARINA STRAWBERRY TREE
- KOELREUTERIA BIPINNATA / CHINESE FLAME TREE
- PINUS CANARIENSIS / CANARY ISLAND PINE
- PLATANUS RACEMOSA / CALIFORNIA SYCAMORE
- PODOCARPUS GRACILIOR / FERN PINE
- QUERCUS AGRIFOLIA / COAST LIVE OAK
- QUERCUS LOBATA / VALLEY OAK

SHRUBS

- AGAVE ATTENUATA / FOXTAIL AGAVE
- HETEROMELES ARBUTIFOLIA / TOYON
- LANTANA X 'NEW GOLD' / NEW GOLD LANTANA
- LEUCOPHYLLUM LANGMANIAE 'LYNN'S LEGACY' / LYNN'S LEGACY LANGMAN'S SAGE
- MUHLENBERGIA RIGENS / DEER GRASS
- RHAMNUS CALIFORNICA `EVE CASE` / EVE CASE COFFEEBERRY
- SALVIA LEUCOPHYLLA / PURPLE SAGE

GROUND COVERS

- ACACIA REDOLENS 'LOW BOY' / LOW BOY BANK CATCLAW
- ADENOSTOMA FASCICULATUM / CHAMISE
- ARTEMISIA CALIFORNICA / CALIFORNIA SAGEBRUSH
- BACCHARIS PILULARIS `PIGEON POINT` / PIGEON POINT COYOTE BRUSH
- CEANOTHUS GRISEUS HORIZONTALIS / CARMEL CREEPER
- CISTUS SALVIIFOLIUS 'PROSTRATUS' / SAGELEAF ROCKROSE
- DALEA GREGGII / TRAILING INDIGO BUSH
- LANTANA MONTEVIDENSIS / PURPLE TRAILING LANTANA
- LANTANA SELLOWIANA / TRAILING LANTANA
- LARREA TRIDENTATA / CREOSOTE BUSH
- LEYMUS CONDENSATUS 'CANYON PRINCE' / CANYON PRINCE GIANT WILD RYE
- LIPPIA NODIFLORA 'KURAPIA S1' / KURAPIA®
- MYOPORUM PARVIFOLIUM `PINK` / PINK TRAILING MYOPORUM
- MYOPORUM PARVIFOLIUM 'PUTAH CREEK' / PUTAH CREEK TRAILING MYOPORUM
- RHAMNUS CALIFORNICA 'MOUND SAN BRUNO' / MOUND SAN BRUNO COFFEEBERRY
- RHUS AROMATICA `GRO-LOW` / GRO-LOW FRAGRANT SUMAC
- RIBES AUREUM / GOLDEN CURRANT
- ROCK COBBLE
  1"-3" DIA. ROCK COBBLE
  MAUNFACTURER: SOUTHWEST BOULDER AND STONE
  COLOR: SIERRA COBBLE
  AT 3" DEPTH MIN.
- ROSMARINUS OFFICINALIS 'PROSTRATUS' / DWARF ROSEMARY
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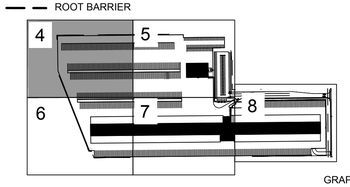
- ROOT BARRIER



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MARK	REVISIONS	APPR.	DATE

DESIGNED BY: EL DRAWN BY: EH CHECKED BY: TM

SEAL-DESIGN ENGINEER
LICENSED LANDSCAPE ARCHITECT
Michael Madsen License # 5798
Signature
Renewal Date
Date
STATE OF CALIFORNIA

DATE: 10/28/2024

PREPARED UNDER THE SUPERVISION OF:
MICHAEL MADSEN, PLA 5798, EXP. 8/31/2025 — 10/28/2024 DATE

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RONALD J. STEIN, RCE 86877 — DATE

APPROVED BY:
MICHAEL ACKERMAN, ACTING CITY ENGINEER, RCE 64663 — DATE

Kimley»Horn

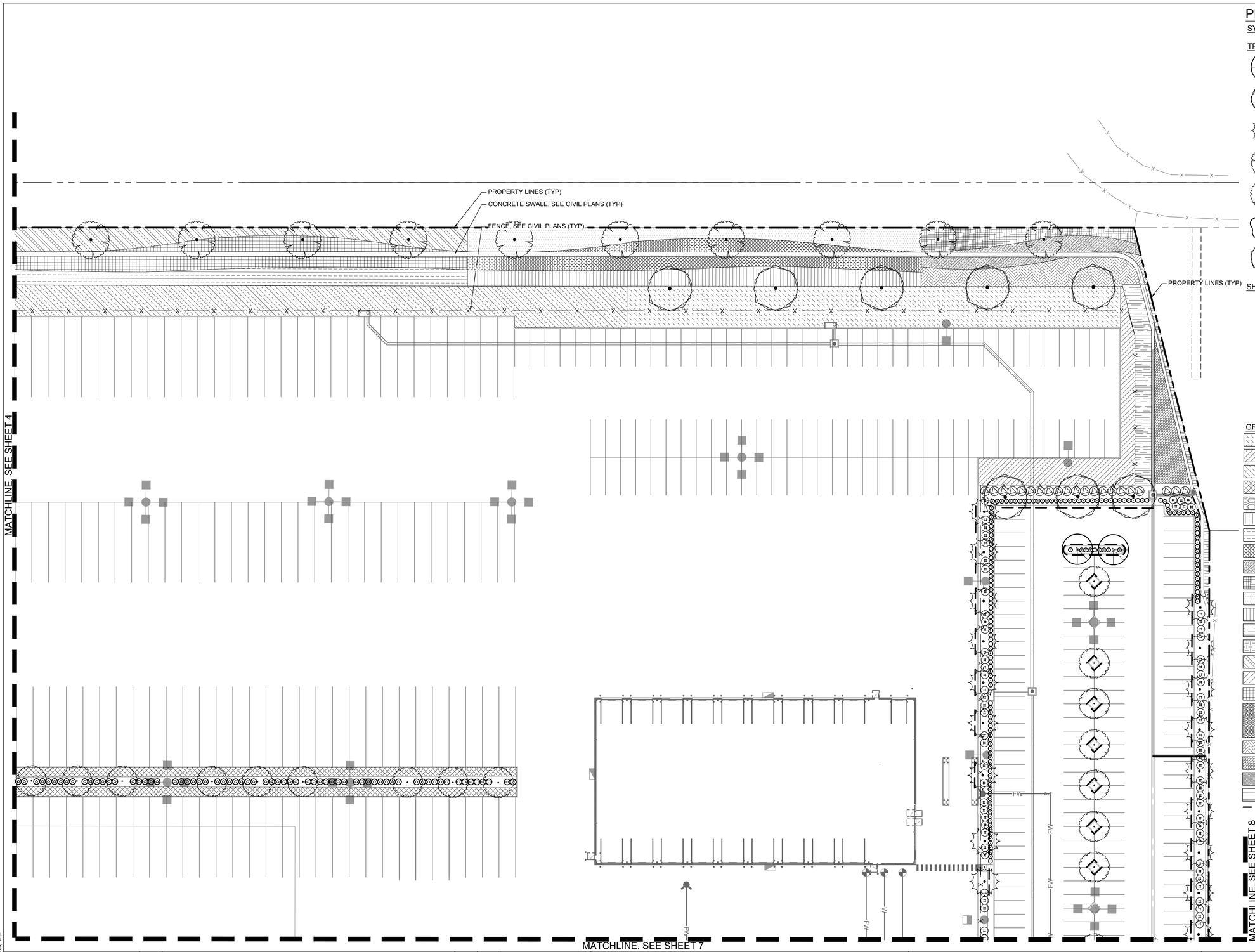
3880 LEMON STREET, SUITE 420; RIVERSIDE, CA 92501
PHONE: 951-543-9868
WWW.KIMLEY-HORN.COM

BENCH MARK: CITY OF RIALTO BENCHMARK NO. "007-88" ELEVATION= 1014.39 FEET
DESCRIPTION: CITY OF RIALTO BRASS DISC IN N/W CORNER PCC CATCH BASIN 4 FT NORTH OF CURB 40 FT NORTH OF CENTERLINE SLOVER 66 FT WEST OF CENTERLINE RIVERSIDE. NGVD29

CITY OF RIALTO
SANTA ANA TRUCK TERMINAL
LANDSCAPE AND IRRIGATION
LANDSCAPE PLAN

4 OF 21 SHEETS

FOR: CROWN ENTERPRISES | PPD# 2023-0006 | PLAN No. _____



PLANT LEGEND (FOR FULL SCHEDULE SEE SHEET 2)

SYMBOL | BOTANICAL / COMMON NAME

TREES

- ARBUTUS X 'MARINA' / MARINA STRAWBERRY TREE
- KOELREUTERIA BIPINNATA / CHINESE FLAME TREE
- PINUS CANARIENSIS / CANARY ISLAND PINE
- PLATANUS RACEMOSA / CALIFORNIA SYCAMORE
- PODOCARPUS GRACILIOR / FERN PINE
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LICENSED LANDSCAPE ARCHITECT
MICHAEL Madsen License # 5798
Signature
Renewal Date
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CITY OF RIALTO
SANTA ANA TRUCK TERMINAL
LANDSCAPE AND IRRIGATION
LANDSCAPE PLAN

5 OF 21 SHEETS

FOR: CROWN ENTERPRISES | PPD# 2023-0006 | PLAN No. _____

MATCHLINE. SEE SHEET 4

MATCHLINE. SEE SHEET 7

LIGHT POLE, BY OTHERS (TYP)

LIMIT OF GRADING, SEE CIVIL PLANS (TYP)

PROPERTY LINES (TYP)

CONCRETE SWALE, SEE CIVIL PLANS (TYP)

RETAINING WALL, SEE CIVIL PLANS (TYP)

PLANT LEGEND (FOR FULL SCHEDULE SEE SHEET 2)

SYMBOL	BOTANICAL / COMMON NAME
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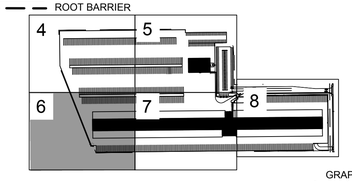

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LICENSED LANDSCAPE ARCHITECT
Michael Madsen License No. 5798
Signature
Renewal Date
Date
STATE OF CALIFORNIA

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CITY OF RIALTO
SANTA ANA TRUCK TERMINAL
LANDSCAPE AND IRRIGATION
LANDSCAPE PLAN

6 OF 21 SHEETS

FOR: CROWN ENTERPRISES | PPD# 2023-0006 | PLAN No. _____

MATCHLINE, SEE SHEET 5

LIGHT POLE, BY OTHERS (TYP)

PROPERTY LINES (TYP)

FENCE, SEE CIVIL PLANS (TYP)

MATCHLINE, SEE SHEET 6

MATCHLINE, SEE SHEET 8

PLANT LEGEND (FOR FULL SCHEDULE SEE SHEET 2)

SYMBOL	BOTANICAL / COMMON NAME
TREES	
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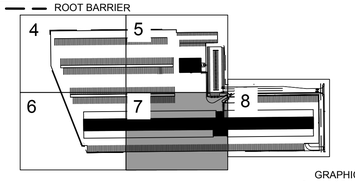

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CITY OF RIALTO
SANTA ANA TRUCK TERMINAL
LANDSCAPE AND IRRIGATION
LANDSCAPE PLAN

7 OF 21 SHEETS

FOR: CROWN ENTERPRISES | PPD# 2023-0006 | PLAN No. _____

MATCHLINE. SEE SHEET 7

CONCRETE SWALE, SEE CIVIL PLANS (TYP)

PROPERTY LINES (TYP)

LIGHT POLE, BY OTHERS (TYP)

RETAINING WALL, SEE CIVIL PLANS (TYP)

FENCE, SEE CIVIL PLANS (TYP)

PROPERTY LINES (TYP)

PLANT LEGEND (FOR FULL SCHEDULE SEE SHEET 2)

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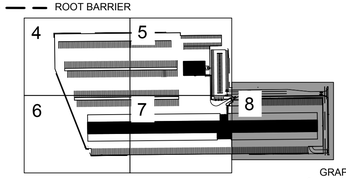

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RONALD WESLEY STEIN
License No. 6877
Signature
Renewal Date
Date
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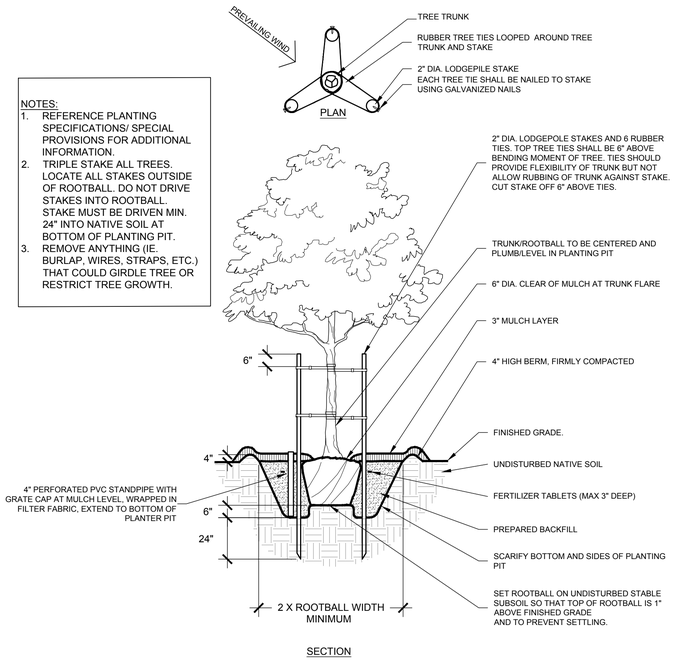
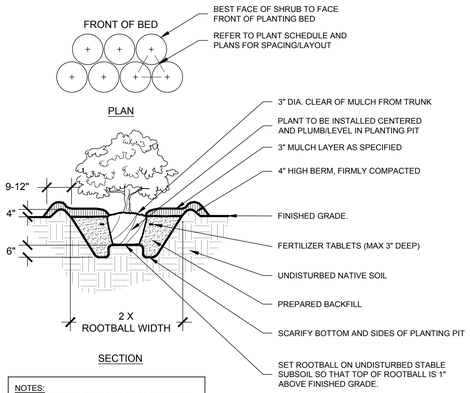
8 OF 21 SHEETS

FOR: CROWN ENTERPRISES | PPD# 2023-0006 | PLAN No. _____



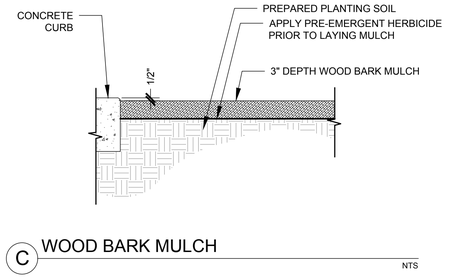
A TYPICAL TREE PLANTING

NTS



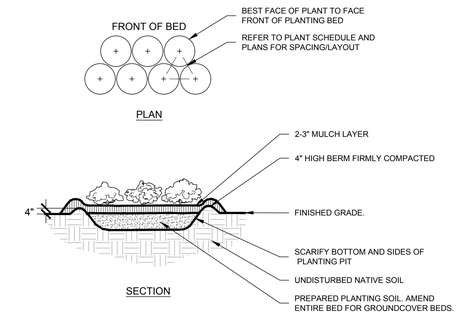
B TYPICAL SHRUB PLANTING

NTS



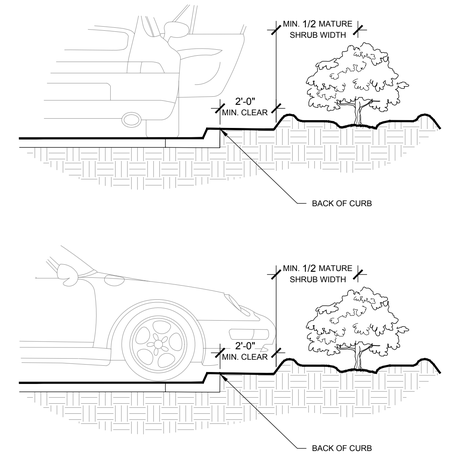
C WOOD BARK MULCH

NTS



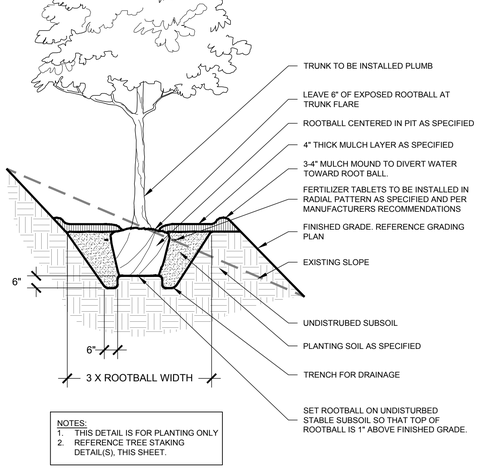
D TYPICAL GROUNDCOVER PLANTING

NTS



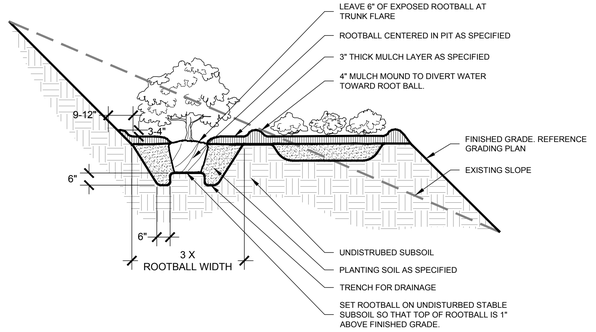
E SHRUB PLANTING AT CURB

NTS



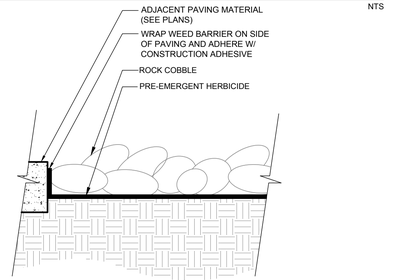
F TREE PLANTING ON SLOPE

NTS



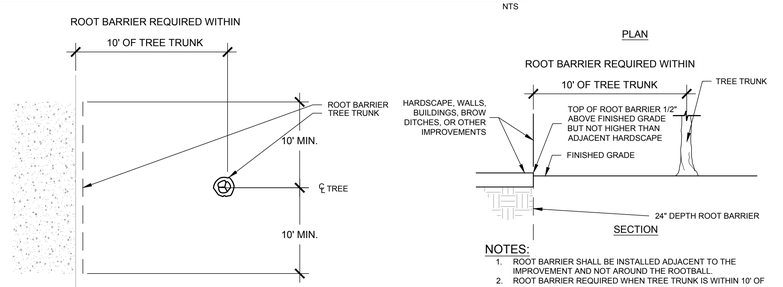
G SHRUB/GROUNDCOVER PLANTING ON SLOPE

NTS



H ROCK COBBLE

NTS



I ROOT CONTROL BARRIER

NTS

WDID #: XXXXXXX

UNDERGROUND SERVICE ALERT
CALL:TOLL FREE 1-800 422-4133
TWO WORKING DAYS BEFORE YOU DIG

MARK	REVISIONS	APPR.	DATE

DESIGNED BY: EL DRAWN BY: EH CHECKED BY: TM

SEAL-DESIGN ENGINEER
LICENSED LANDSCAPE ARCHITECT — Ronald Nielsen License No. 6187 — Signature — Renewal Date — Date — STATE OF CALIFORNIA
DATE: 10/28/2024

PREPARED UNDER THE SUPERVISION OF:
MICHAEL MADSEN, PLA 5798, EXP. 8/31/2025 — 10/28/2024 DATE
RECOMMENDED FOR APPROVAL BY WILLDAN ENGINEERING:
RONALD J. STEIN, RCE 86877 — DATE
APPROVED BY:
MICHAEL ACKERMAN, ACTING CITY ENGINEER, RCE 64663 — DATE

Kimley»Horn

3880 LEMON STREET, SUITE 420; RIVERSIDE, CA 92501
PHONE: 951-543-9868
WWW.KIMLEY-HORN.COM

BENCH MARK: CITY OF RIALTO BENCHMARK NO. "007-88" ELEVATION= 1014.39 FEET
DESCRIPTION: CITY OF RIALTO BRASS DISC IN N/W CORNER PCC CATCH BASIN 4 FT NORTH OF CURB 40 FT NORTH OF CENTERLINE SLOVER 66 FT WEST OF CENTERLINE RIVERSIDE. NGVD29

CITY OF RIALTO
SANTA ANA TRUCK TERMINAL
LANDSCAPE AND IRRIGATION
LANDSCAPE DETAILS

9 OF 21 SHEETS

FOR: CROWN ENTERPRISES | PPD# 2023-0006 | PLAN No. _____

IRRIGATION SCHEDULE

SYMBOL	MANUFACTURER/MODEL/DESCRIPTION	QTY
1000	HUNTER MP1000 PROS-06-PRS30-CV TURF ROTATOR, 6IN. POP-UP WITH CHECK VALVE, PRESSURE REGULATED TO 30 PSI, MP ROTATOR NOZZLE ON PRS30 BODY. M=MAROON ADJ ARC 90 TO 210, L=LIGHT BLUE 210 TO 270 ARC, O=OLIVE 360 ARC.	6
3000	HUNTER MP3000 PROS-06-PRS30-CV TURF ROTATOR, 6IN. POP-UP WITH FACTORY INSTALLED CHECK VALVE, PRESSURE REGULATED TO 30 PSI, MP ROTATOR NOZZLE ON PRS30 BODY. B=BLUE ADJ ARC 90-210, Y=YELLOW ADJ ARC 210-270, A=GRAY 360 ARC.	26
3500	HUNTER MP3500 PROS-06-PRS30-CV TURF ROTATOR, 6IN. POP-UP WITH FACTORY INSTALLED CHECK VALVE, PRESSURE REGULATED TO 30 PSI, MP ROTATOR NOZZLE ON PRS30 BODY. LB=LIGHT BROWN ADJUSTABLE ARC, 90-210.	226
25Q 50Q 50H 10H 10F 20F	HUNTER PROS-PRS30-06-CV-MSBN MULTI-STREAM BUBBLER, 6IN. POP-UP, FACTORY INSTALLED DRAIN CHECK VALVE, 25=.25GPM, 50=0.5GPM, 10=1.0GPM, 20=2.0GPM.	456

SYMBOL	MANUFACTURER/MODEL/DESCRIPTION	QTY
	HUNTER ICZ-101-25 DRIP CONTROL ZONE KIT. 1IN. ICV GLOBE VALVE WITH 1IN. HY100 FILTER SYSTEM. PRESSURE REGULATION: 25PSI. FLOW RANGE: 2 GPM TO 20 GPM. 150 MESH STAINLESS STEEL SCREEN.	55
A	HUNTER PLD-AVR PLD-AVR ALLOWS FOR AIR TO ESCAPE A RESIDENTIAL DRIP IRRIGATION SYSTEM TO PREVENT BLOCKAGE AND WATER HAMMERING. 1/2IN. MPT CONNECTION WITH 80 PSI MAXIMUM RATING.	55
DI	HUNTER ECO-ID-12 ECO-ID: 1/2IN. FPT CONNECTION WITH 15 PSI - 100 PSI OPERATING PRESSURE. SPECIFY WITH HUNTER SJ SWING JOINT.	55
	AREA TO RECEIVE DRIPLINE NETAFIM TLCV-06-18 TECHLINE PRESSURE COMPENSATING LANDSCAPE DRIPLINE WITH CHECK VALVE. 0.6 GPH EMITTERS AT 18" O.C. DRIPLINE LATERALS SPACED AT 18" APART, WITH EMITTERS OFFSET FOR TRIANGULAR PATTERN. 17MM.	129,531 S.I

SYMBOL	MANUFACTURER/MODEL/DESCRIPTION	QTY
	HUNTER ICV-G-DC 1IN., 1-1/2IN., 2IN., AND 3IN. PLASTIC ELECTRIC REMOTE CONTROL VALVES, GLOBE CONFIGURATION, WITH NPT THREADED INLET/OUTLET, FOR COMMERCIAL/MUNICIPAL USE, WITH DC LATCHING SOLENOID FACTORY INSTALLED OPTION.	47
	HUNTER HQ-44LRC QUICK COUPLER VALVE, YELLOW RUBBER LOCKING COVER, RED BRASS AND STAINLESS STEEL, WITH 1IN. NPT INLET, 2-PIECE BODY.	21
	LANDSCAPE PRODUCTS INC. BGV 1/2IN., 3/4IN., 1IN., 1-1/4IN., 1-1/2IN., 2IN., 2-1/2IN., 3IN., 4IN. BRASS GATE VALVE. THREADED BONNET, NON-RISING STEM, PRESSURE RATED TO 200 PSI. SAME SIZE AS MAINLINE.	8
	LANDSCAPE PRODUCTS INC. CWV THREADED 1/2IN., 3/4IN., 1IN., 1-1/4IN., 1-1/2IN.,2IN. THREADED PLASTIC BALL VALVE. QUARTER-TURN SHUTOFF DESIGNED FOR IRRIGATION, SPAS, POOLS AND OTHER GENERAL COLD WATER APPLICATIONS. 125 PSI RATING. SAME SIZE AS MAINLINE.	35
MV	HUNTER IBV 1-1/2" 1IN., 1-1/2IN., 2IN., AND 3IN. BRASS ELECTRIC MASTER VALVE, GLOBE CONFIGURATION, WITH NPT THREADED INLET/OUTLET, FOR COMMERCIAL/MUNICIPAL USE.	1
BF	BACKFLOW 1-1/2" SEE CIVIL PLANS FOR EXACT LOCATION	1
C	HUNTER A2C-150D-P 150 STATION DECODER CONTROLLER WITH (1) AC2-D75 MODULE IN AN OUTDOOR PLASTIC WALL MOUNT ENCLOSURE.	1
WS	HUNTER SOLAR-SYNC SOLAR, RAIN FREEZE SENSOR WITH OUTDOOR INTERFACE, CONNECTS TO HUNTER PCC, PRO-C, AND I-CORE CONTROLLERS, INSTALL AS NOTED. INCLUDES 10 YEAR LITHIUM BATTERY AND RUBBER MODULE COVER, AND GUTTER MOUNT BRACKET. WIRED.	1
FS	HUNTER HFS-150 FLOW SENSOR FOR USE WITH ACC CONTROLLER, 1-1/2IN. SCHEDULE 40 SENSOR BODY, 24 VAC, 2 AMP.	1
D	HUNTER ICD-100 SINGLE STATION DECODER W/ SURGE SUPRESSION AND GROUND WIRE TO BE INSTALLED ON UNIVERSAL DECODER STAKE KIT (DECSTAKE10)	24
D	HUNTER ICD-200 2-STATION DECODER W/ SURGE SUPRESSION AND GROUND WIRE TO BE INSTALLED ON UNIVERSAL DECODER STAKE KIT (DECSTAKE10)	28
D	HUNTER ICD-400 4-STATION DECODER W/ SURGE SUPRESSION AND GROUND WIRE TO BE INSTALLED ON UNIVERSAL DECODER STAKE KIT (DECSTAKE10)	4
D	HUNTER ICD-600 6-STATION DECODER W/ SURGE SUPRESSION AND GROUND WIRE TO BE INSTALLED ON UNIVERSAL DECODER STAKE KIT (DECSTAKE10)	1
M	WATER METER 1-1/2" PROPOSED IRRIGATION METER, SEE CIVIL PLANS FOR EXACT LOCATION	1

VALVE SCHEDULE

NUMBER	MODEL	SIZE	TYPE	GPM	PSI	PSI @ POC
1	HUNTER ICV-G-DC	2"	TURF ROTARY	20.02	36.0	52.5
2	HUNTER ICV-G-DC	2"	BUBBLER	5	33.9	46.3
3	HUNTER ICZ-101-25	1"	AREA FOR DRIPLINE	12.74	26.5	41.1
4	HUNTER ICZ-101-25	1"	AREA FOR DRIPLINE	12.74	26.8	41.4
5	HUNTER ICZ-101-25	1"	AREA FOR DRIPLINE	12.54	26.2	40.3
6	HUNTER ICZ-101-25	1"	AREA FOR DRIPLINE	12.52	26.4	40.5
7	HUNTER ICZ-101-25	1"	AREA FOR DRIPLINE	4.3	21.4	33.8
8	HUNTER ICZ-101-25	1"	AREA FOR DRIPLINE	2.42	18.6	30.9
9	HUNTER ICV-G-DC	2"	TURF ROTARY	35.85	35.8	61.0
10	HUNTER ICV-G-DC	2"	BUBBLER	12	35.8	49.5
11	HUNTER ICV-G-DC	2"	TURF ROTARY	12.6	35.9	49.7
12	HUNTER ICZ-101-25	1"	AREA FOR DRIPLINE	17.48	27.7	43.1
13	HUNTER ICZ-101-25	1"	AREA FOR DRIPLINE	2.31	20.1	32.4
14	HUNTER ICV-G-DC	2"	TURF ROTARY	20.53	36.1	52.6
15	HUNTER ICV-G-DC	2"	TURF ROTARY	25.2	36.3	55
16	HUNTER ICV-G-DC	2"	BUBBLER	18	36.6	52.3
17	HUNTER ICV-G-DC	2"	TURF ROTARY	33.39	36.4	60.4
18	HUNTER ICV-G-DC	2"	TURF ROTARY	31.36	36.7	59.5
19	HUNTER ICZ-101-25	1"	AREA FOR DRIPLINE	16.48	27.4	42.6
20	HUNTER ICZ-101-25	1"	AREA FOR DRIPLINE	17.1	27.7	43.0
21	HUNTER ICV-G-DC	2"	BUBBLER	21	36.1	55.9
22	HUNTER ICZ-101-25	1"	AREA FOR DRIPLINE	12.74	26.4	41.5
23	HUNTER ICZ-101-25	1"	AREA FOR DRIPLINE	7.86	24.1	37.4
24	HUNTER ICV-G-DC	2"	TURF ROTARY	24.64	36.4	55.3
25	HUNTER ICZ-101-25	1"	AREA FOR DRIPLINE	16.98	27.5	42.9
26	HUNTER ICZ-101-25	1"	AREA FOR DRIPLINE	19.7	29.2	45.6
27	HUNTER ICV-G-DC	2"	TURF ROTARY	24.5	35.3	54.0
28	HUNTER ICV-G-DC	2"	BUBBLER	20	36.7	53.3
29	HUNTER ICV-G-DC	2"	TURF ROTARY	30.08	36.6	58.6
30	HUNTER ICV-G-DC	2"	TURF ROTARY	30.24	36.7	58.6
31	HUNTER ICZ-101-25	1"	AREA FOR DRIPLINE	18.06	27.0	42.7
32	HUNTER ICZ-101-25	1"	AREA FOR DRIPLINE	11.5	25.4	39.0
33	HUNTER ICV-G-DC	2"	TURF ROTARY	12.97	33.9	47.9
34	HUNTER ICV-G-DC	2"	BUBBLER	10	36.5	49.7
35	HUNTER ICZ-101-25	1"	AREA FOR DRIPLINE	14.01	27.4	41.7
36	HUNTER ICZ-101-25	1"	AREA FOR DRIPLINE	8.85	23.9	36.9
37	HUNTER ICZ-101-25	1"	AREA FOR DRIPLINE	8.22	22.8	35.7
38	HUNTER ICZ-101-25	1"	AREA FOR DRIPLINE	1.48	18.9	31.1
39	HUNTER ICZ-101-25	1"	AREA FOR DRIPLINE	6.98	23.0	35.6
40	HUNTER ICZ-101-25	1"	AREA FOR DRIPLINE	8.73	25.2	38.1
41	HUNTER ICV-G-DC	1-1/2"	BUBBLER	18	37.0	52.5
42	HUNTER ICV-G-DC	1-1/2"	BUBBLER	18	37.0	52.4
43	HUNTER ICV-G-DC	1-1/2"	BUBBLER	14	37.2	51.4
44	HUNTER ICV-G-DC	1-1/2"	BUBBLER	16	37.3	52.1
45	HUNTER ICZ-101-25	1"	AREA FOR DRIPLINE	7.06	24.0	36.6
46	HUNTER ICV-G-DC	2"	BUBBLER	22	36.5	54.5
47	HUNTER ICZ-101-25	1"	AREA FOR DRIPLINE	12.73	26.2	40.4
48	HUNTER ICZ-101-25	1"	AREA FOR DRIPLINE	12.73	26.4	40.6
49	HUNTER ICZ-101-25	1"	AREA FOR DRIPLINE	3.77	20.9	33.2
50	HUNTER ICV-G-DC	2"	TURF ROTARY	30.41	36.6	58.6
51	HUNTER ICZ-101-25	1"	AREA FOR DRIPLINE	4.1	21.9	34.3
52	HUNTER ICV-G-DC	2"	TURF ROTARY	26.81	36.8	56.8
53	HUNTER ICV-G-DC	1-1/2"	BUBBLER	5	35.0	47.5
54	HUNTER ICV-G-DC	2"	TURF ROTARY	18.05	36.6	52.4
55	HUNTER ICZ-101-25	1"	AREA FOR DRIPLINE	5.56	20.9	33.5
56	HUNTER ICV-G-DC	2"	TURF ROTARY	21.8	36.6	54
57	HUNTER ICV-G-DC	1-1/2"	BUBBLER	7	37.4	50.2
58	HUNTER ICV-G-DC	2"	TURF ROTARY	24.19	36.5	55.0
59	HUNTER ICZ-101-25	1"	AREA FOR DRIPLINE	12.73	26.5	41.1
60	HUNTER ICZ-101-25	1"	AREA FOR DRIPLINE	12.73	26.7	41.3
61	HUNTER ICV-G-DC	2"	BUBBLER	20	36.6	55.7
62	HUNTER ICZ-101-25	1"	AREA FOR DRIPLINE	11.09	24.8	39.2
63	HUNTER ICZ-101-25	1"	AREA FOR DRIPLINE	7.71	23.6	36.9
64	HUNTER ICZ-101-25	1"	AREA FOR DRIPLINE	6.46	23.1	35.8
65	HUNTER ICV-G-DC	1-1/2"	BUBBLER	11	36.1	49.5
66	HUNTER ICZ-101-25	1"	AREA FOR DRIPLINE	7.83	24.6	37.4
67	HUNTER ICZ-101-25	1"	AREA FOR DRIPLINE	14.02	26.3	40.7
68	HUNTER ICV-G-DC	2"	TURF ROTARY	35.65	35.8	61.2
69	HUNTER ICV-G-DC	2"	TURF ROTARY	33.41	36.5	60.4
70	HUNTER ICV-G-DC	2"	TURF ROTARY	24.64	36.0	54.2
71	HUNTER ICV-G-DC	1-1/2"	BUBBLER	10	36.8	49.9
72	HUNTER ICV-G-DC	2"	TURF ROTARY	29.92	36.7	57.6
73	HUNTER ICZ-101-25	1"	AREA FOR DRIPLINE	13.32	26.8	40.8
74	HUNTER ICZ-101-25	1"	AREA FOR DRIPLINE	9.46	24.0	37.1
75	HUNTER ICZ-101-25	1"	AREA FOR DRIPLINE	12.62	25.4	38.7
76	HUNTER ICV-G-DC	1-1/2"	BUBBLER	22	37.3	53.2
77	HUNTER ICZ-101-25	1"	AREA FOR DRIPLINE	12.62	26.6	40.0
78	HUNTER ICZ-101-25	1"	AREA FOR DRIPLINE	11.24	25.1	38.4
79	HUNTER ICZ-101-25	1"	AREA FOR DRIPLINE	8.29	23.0	35.7
80	HUNTER ICV-G-DC	1-1/2"	BUBBLER	20	36.6	52.3
81	HUNTER ICZ-101-25	1"	AREA FOR DRIPLINE	13.53	25.6	38.9
82	HUNTER ICZ-101-25	1"	AREA FOR DRIPLINE	15.9	27.1	40.8
83	HUNTER ICV-G-DC	1-1/2"	BUBBLER	24	37.4	53
84	HUNTER ICZ-101-25	1"	AREA FOR DRIPLINE	8.08	22.6	35.1
85	HUNTER ICV-G-DC	1-1/2"	BUBBLER	18	36.7	50.7
86	HUNTER ICZ-101-25	1"	AREA FOR DRIPLINE	10.86	25.5	38.1
87	HUNTER ICZ-101-25	1"	AREA FOR DRIPLINE	10.5	25.2	37.8
88	HUNTER ICZ-101-25	1"	AREA FOR DRIPLINE	11.19	25.0	37.6
89	HUNTER ICV-G-DC	1"	BUBBLER	11	38.6	51.1
90	HUNTER ICZ-101-25	1"	AREA FOR DRIPLINE	12.66	25.5	38.2
91	HUNTER ICZ-101-25	1"	AREA FOR DRIPLINE	12.46	26.1	38.8
92	HUNTER ICZ-101-25	1"	AREA FOR DRIPLINE	12.66	27.2	39.9
93	HUNTER ICV-G-DC	1-1/2"	BUBBLER	8	34.2	46.5
94	HUNTER ICZ-101-25	1"	AREA FOR DRIPLINE	12.04	26.1	38.7
95	HUNTER ICZ-101-25	1"	AREA FOR DRIPLINE	8.26	23.2	35.5
96	HUNTER ICV-G-DC	1-1/2"	TURF ROTARY	12.26	35.3	48.6
97	HUNTER ICZ-101-25	1"	AREA FOR DRIPLINE	7.49	22.7	35.3
98	HUNTER ICV-G-DC	1-1/2"	BUBBLER	18	37.4	52.3
99	HUNTER ICZ-101-25	1"	AREA FOR DRIPLINE	7.12	23.1	35.5
100	HUNTER ICZ-101-25	1"	AREA FOR DRIPLINE	9.44	23.3	35.9
101	HUNTER ICV-G-DC	1-1/2"	BUBBLER	16	36.8	50.5
102	HUNTER ICV-G-DC	2"	BUBBLER	21	36.8	54.3

PIPE SCHEDULE

(solid line)	IRRIGATION LATERAL LINE: PVC SCHEDULE 40	24,675 L.F.
(dashed line)	IRRIGATION MAINLINE: PVC SCHEDULE 40	9,604 L.F.
(double dashed line)	PIPE SLEEVE: PVC SCHEDULE 40	1,053 L.F.

Valve Callout
- # — Valve Number
- # — Valve Flow
- #" — Valve Size

IRRIGATION MAINTENANCE SCHEDULE:

THE IRRIGATION MAINTENANCE SCHEDULE TASKS LISTED BELOW ARE INTENDED AS MINIMUM STANDARDS AND MORE FREQUENT ATTENTION MAY BE REQUIRED DEPENDING ON THE PARTICULAR SITE CONDITIONS. MAINTENANCE SHALL BE DONE TO ENSURE WATER EFFICIENCY. REPAIR OF IRRIGATION EQUIPMENT SHALL BE DONE WITH THE ORIGINALLY SPECIFIED MATERIALS OR APPROVED EQUIVALENTS.

FREQUENCY - QUARTERLY

TASK - CONTROLLER CABINET : OPEN CABINET AND CLEAN OUT DEBRIS AND REPLACE BATTERY AS NECESSARY.CHECK WIRING AND REPAIR AS NEEDED AND CHECK CLOCK AND RESET IF NECESSARY.

FREQUENCY - MONTHLY

TASK - IRRIGATION SCHEDULE: ADJUST SCHEDULE FOR SEASONAL VARIATIONS AND OTHER CONDITIONS WHICH MAY AFFECT THE AMOUNT OF WATER NEEDED TO MAINTAIN PLANT HEALTH. ADJUST AS NECESSARY.

FREQUENCY - QUARTERLY

TASK - POC: VISUALLY INSPECT COMPONENTS FOR LEAKS, PRESSURE SETTINGS, SETTLEMENT OR OTHER DAMAGE AFFECTING THE OPERATION OF A COMPONENT. REPAIR AS NEEDED.

FREQUENCY - QUARTERLY

TASK - REMOTE CONTROL VALVES : ISOLATION VALVES AND QUICK COUPLER VALVES: VISUALLY INSPECT FOR LEAKS, SETTLEMENTS, WIRE CONNECTIONS AND PRESSURE SETTINGS. REPAIR AS NEEDED.

FREQUENCY - QUARTERLY

TASK - MAINLINE AND LATERALS: VISUALLY INSPECT FOR LEAKS OR SETTLEMENTS OF TRENCH.

FREQUENCY - WEEKLY

TASK - FILTERS AND STRAINERS - VISUALLY CHECK FOR ANY BROKEN MALIGNED OR CLOGGED HEADS, HEADS WITH INCORRECT ARC, INADEQUATE COVERAGE OR OVERSPRAY AND LOW HEAD DRAINAGE. REPAIR AS NEEDED.

FREQUENCY - MONTHLY

TASK - FILTERS AND STRAINERS: VISUALLY CHECK FOR LEAKS, BROKEN FITTINGS. CLEAN AND FLUSH SCREENS.

STATE OF CALIFORNIA ESTIMATED WATER USE

TOTAL WATER USE IS CALCULATED BY SUMMING THE AMOUNT OF WATER ESTIMATED FOR EACH HYDROZONE. WATER USE FOR EACH HYDROZONE IS ESTIMATED WITH THE FOLLOWING FORMULA:

ESTIMATED TOTAL WATER USE (ETWU) = GAL / YEAR PER HYDROZONE

ET ADJUSTMENT FACTOR (ETAF) =
0.55 ETAF FOR RESIDENTIAL LANDSCAPE
0.45 ETAF FOR NON-RESIDENTIAL LANDSCAPE
0.8 ETAF FOR EXISTING NON-REHABILITATED LANDSCAPE
SPECIAL LANDSCAPE SHALL NOT EXCEED 1.0 ETAF

PLANT FACTOR (PF) = WATER USE CLASSIFICATION OF LANDSCAPE SPECIES

HYDROZONE AREA (HA) = (SF OF LANDSCAPE) OR (32 SF / TREE)

CONVERSION FACTOR (CONVERTS ACRE-INCHES PER ACRE PER YEAR TO GALLONS PER SQUARE FOOT PER YEAR = 0.62

IRRIGATION EFFICIENCY (IE) = 0.75 (OVERHEAD SPRAY) 0.81 (DRIP)

SPECIAL LANDSCAPE AREA (SLA) = SF OF EDIBLE PLANTS, RECREATIONAL AREAS, AREAS IRRIGATED WITH RECYCLED WATER, OR WATER FEATURS USING RECYCLED WATER

EVAPOTRANSPIRATION RATE (ETo) = QUANTITY OF WATER EVAPORATED FROM ADJ. SOIL AND TRANSPIRED BY PLANTS OVER A SPECIFIED TIME

ETWU = [(ETo) * (PF) * (HA) * (0.62)] / (IE)

MAWA = (ETo) * (0.62) [ETAF) * (SUM OF SLA & HA)] + [(1-ETAF) * (SLA)]

HYDROZONE "A" (DRIP)

ETO	PF	HA	CONVERSION FACTOR	IE	SLA	ETWU (GAL/YEAR)
56.80	0.20	129,531	0.62	0.81	-	1,126,312.02

HYDROZONE "B" (BUBBLER)

ETO	PF	HA	CONVERSION FACTOR	IE	SLA	ETWU (GAL/YEAR)
56.80	0.30	7,264	0.62	0.75	-	102,323.61

HYDROZONE "C" (ROTORS)

ETO	PF	HA	CONVERSION FACTOR	IE	SLA	ETWU (GAL/YEAR)
56.80	0.40	195,737	0.62	0.75	-	3,676,306.24
					ESTIMATED TOTAL WATER USE (GAL/YEAR)	**4,904,941.87**

MAXIMUM APPLIED WATER ALLOWANCE (MAWA)

ETO	SUM OF HA	CONVERSION FACTOR	ETAF	SUM OF SLA	MAWA(GAL/YEAR)
56.80	332,532.00	0.62	0.45	-	5,269,701.11
				MAXIMUM APPLIED WATER ALLOWANCE (GAL/YEAR)	**5,269,701.11**
				MAXIMUM APPLIED WATER ALLOWANCE PERCENT OF ESTIMATED TOTAL WATER USE	**93.08%**

CRITICAL ANALYSIS

Generated:	2024-07-22 17:08
P.O.C. NUMBER: 01	
Water Source Information: see civil plans for exact location	proposed irrigation meter,
FLOW AVAILABLE	
Water Meter Size:	1-1/2"
Flow Available	75 GPM
PRESSURE AVAILABLE	
Static Pressure at POC:	103 PSI
Elevation Change:	5.00 ft
Service Line Size:	2"
Length of Service Line:	20 ft
Pressure Available:	100 PSI
DESIGN ANALYSIS	
Maximum Station Flow:	37.8 GPM
Flow Available at POC:	75 GPM
Residual Flow Available:	37.2 GPM
Critical Station:	15
Design Pressure:	30 PSI
Friction Loss:	4.93 PSI
Fittings Loss:	0.49 PSI
Elevation Loss:	0 PSI
Loss through Valve:	0.8 PSI
Pressure Req. at Critical Station:	36.2 PSI
Loss for Fittings:	1.01 PSI
Loss for Main Line:	10.1 PSI
Loss for POC to Valve Elevation:	0 PSI
Loss for Backflow:	11.8 PSI
Loss for Master Valve:	0.8 PSI
Loss for Water Meter:	2.99 PSI
Critical Station Pressure at POC:	63.0 PSI
Pressure Available:	100 PSI
Residual Pressure Available:	37.0 PSI

WDID #: XXXXXXX

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422-4133
TWO WORKING DAYS BEFORE YOU DIG

MARK	REVISIONS	APPR.	DATE

DESIGNED BY: EL DRAWN BY: EH CHECKED BY: TM

SEAL-DESIGN ENGINEER
LICENSED LANDSCAPE ARCHITECT
Michael P. Madsen License No. 5798
Signature
Renewal Date
Date
STATE OF CALIFORNIA
DATE:10/28/2024

PREPARED UNDER THE SUPERVISION OF:
MICHAEL MADSEN, PLA 5798, EXP. 8/31/2025 — 10/28/2024 DATE
RECOMMENDED FOR APPROVAL BY WILLDAN ENGINEERING:
RONALD J. STEIN, RCE 86877 — DATE
APPROVED BY:
MICHAEL ACKERMAN, ACTING CITY ENGINEER, RCE 64663 — DATE

Kimley»Horn
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3880 LEMON STREET, SUITE 420; RIVERSIDE, CA 92501
PHONE: 951-543-9868
WWW.KIMLEY-HORN.COM

BENCH MARK: CITY OF RIALTO BENCHMARK NO. "007-88" ELEVATION= 1014.39 FEET
DESCRIPTION: CITY OF RIALTO BRASS DISC IN N/W CORNER PCC CATCH BASIN 4 FT NORTH OF CURB 40 FT NORTH OF CENTERLINE SLOVER 66 FT WEST OF CENTERLINE RIVERSIDE. NGVD29

CITY OF RIALTO
SANTA ANA TRUCK TERMINAL
LANDSCAPE AND IRRIGATION
IRRIGATION NOTES

FOR: CROWN ENTERPRISES
PPD# 2023-0006
PLAN No. ____________

10 OF 21 SHEETS

IRRIGATION NOTES

1. THE SYSTEM HAS BEEN DESIGNED TO PROVIDE 100% COVERAGE. ANY CHANGES MADE IN THE LAYOUT DUE TO FIELD CONDITIONS SHALL BE IN ACCORDANCE WITH THESE STANDARDS. QUANTITIES IN SCHEDULE ARE ESTIMATED. PLAN SHALL TAKE PRECEDENCE.

2. ALL IRRIGATION LINES AND VALVES ARE SHOWN DIAGRAMMATICALLY. ALL LINES AND VALVES TO BE INSTALLED IN PLANTING AREAS WHERE POSSIBLE.

3. CONTRACTOR TO FIELD LOCATE ALL PROPOSED IRRIGATION WATER MAIN LINE LOCATIONS. CONTACT LANDSCAPE ARCHITECT PRIOR TO START OF WORK IF DISCREPANCIES BETWEEN THIS PLAN AND EXISTING CONDITIONS ARE FOUND.

4. LOCATE ALL VALVES INSIDE LANDSCAPE AREAS, ALLOWING ACCESS FOR MAINTENANCE PURPOSES, BUT HIDING THEM FROM PUBLIC VIEW WHENEVER POSSIBLE.

5. ALL PRESSURE MAINLINES UNDER ASPHALT PAVEMENT SHALL BE PLACED WITHIN SLEEVES AS NOTED. WHERE ELECTRIC VALVE CONTROL LINES PASS THROUGH A SLEEVE WITH OTHER MAIN OR LATERAL LINES THEY SHALL BE CONTAINED WITHIN A SEPARATE, SMALLER CONDUIT.

6. CONTRACTOR SHALL PROVIDE "AS-BUILT" DRAWINGS OF THE FINAL INSTALLATION TO OWNER AT SUBSTANTIAL COMPLETION BEFORE RECEIVING FINAL PAYMENT.

7. ALL SLEEVES UTILIZED BY THE IRRIGATION CONTRACTOR, WHETHER INSTALLED BY HIM OR NOT, SHALL BE LOCATED ON THE "AS-BUILT" DRAWINGS. THE DEPTH BELOW FINISH GRADE, TO THE NEAREST FOOT OF EACH END OF EACH SLEEVE SHALL BE NOTED AT EACH SLEEVE LOCATION ON THE "AS-BUILT" DRAWINGS. ALL SLEEVES SHALL BE SIZED TWO PIPE SIZES GREATER THAN PIPE IT CARRIES.

8. ALL DRIP ZONES SHALL BE INSTALLED WITH A SELF-FLUSHING DISC FILTER, OR APPROVED EQUAL

9. IRRIGATION CONTRACTOR SHALL SECURE ANY AND ALL NECESSARY PERMITS FOR THE WORK PRIOR TO COMMENCEMENT OF HIS OPERATIONS ON-SITE. COPIES OF THE PERMITS SHALL BE SENT TO THE OWNER/GENERAL CONTRACTOR. WORK IN THE R.O.W. SHALL CONFORM TO THE STANDARDS AND SPECIFICATIONS OF LOCAL AND/OR STATE HIGHWAY JURISDICTION.

10. VERIFY CONTROLLER AND RAIN SENSOR LOCATION AND MAINLINE POINT OF CONNECTION AT PROJECT SITE WITH OWNER.

11. ELECTRIC SERVICE TO CONTROLLER SHALL BE PROVIDED BY THE GENERAL CONTRACTOR.

12. ALL 24 VAC WIRING SHALL BE OF DIRECT BURIAL COPPER WIRE AS FOLLOWS:
    - CONTROL WIRES - #14
    - COMMON WIRES - #12

13. INSTALLATION OF WORK SHALL BE COORDINATED WITH OTHER CONTRACTORS IN SUCH A MANNER AS TO ALLOW FOR A SPEEDY AND ORDERLY COMPLETION OF ALL WORK ON THE SITE.

14. COORDINATE WITH PLANTING PLAN FOR PLANTER BED LOCATIONS AND TREE LOCATIONS.

15. PRIOR TO THE START OF CONSTRUCTION, CONTRACTOR SHALL COORDINATE WITH DEVELOPER FOR OPERATING PARAMETERS OF MASTER SYSTEM. THIS DESIGN REQUIRES 103 PSI TO OPERATE. IF THE MASTER SYSTEM CANNOT PROVIDE THESE PARAMETERS, CONTRACTOR SHALL MAKE ADJUSTMENTS TO THE DESIGN BY ADDING CONTROL VALVES, A BOOSTER PUMP, PRESSURE REDUCING VALVE, OR OTHER EQUIPMENT, AS NECESSARY. CONTRACTOR SHALL SUBMIT DESIGN REVISIONS TO OWNER'S REPRESENTATIVE FOR APPROVAL PRIOR TO SUBMITTING BID.

16. A FINAL REPORT FOR THE TESTING AND ADJUSTING OF ALL NEW SYSTEMS SHALL BE COMPLETED PRIOR TO FINAL APPROVAL BY THE FIELD INSPECTOR. THIS REPORT SHALL BE SIGNED BY THE INDIVIDUAL RESPONSIBLE FOR PERFORMING THESES SERVICES.

17. A LAMINATED DIAGRAM OF THE IRRIGATION PLAN SHOWING HYDROZONES SHALL BE KEPT WITH THE IRRIGATION CONTROLLER FOR SUBSEQUENT MANAGEMENT PURPOSES.

18. A CERTIFICATE OF COMPLETION SHALL BE FILLED OUT AND CERTIFIED BY EITHER THE SIGNER OF THE LANDSCAPE PLANS, THE SIGNER OF THE IRRIGATION PLANS, OR THE LICENSED LANDSCAPE CONTRACTOR FOR THE PROJECT.

19. AN IRRIGATION AUDIT REPORT SHALL BE COMPLETED AT THE TIME OF FINAL INSPECTION.

I HAVE COMPLIED WITH THE CRITERIA OF THE ORDINANCE AB-1881 AND APPLIED THEM FOR THE EFFICIENT USE OF WATER IN THE LANDSCAPE DESIGN PLAN.

MICHAEL P. MADSEN, LLA 5798

TWO-WIRE NOTES

DECODERS

CONTROLLER SHALL INTERFACE WITH HUNTER ICD DECODERS, EACH CAPABLE OF CONTROLLING 1, 2, 4, OR 6 VALVES (ICD-100, ICD-200, ICD-400, AND ICD-600)

PROVIDE AN ICD-SEN SENSOR DECODER FOR FLOW SENSOR(S) AND/OR CLIK SENSOR(S) ON TWO WIRE PATH

WIRE CONNECTIONS FROM DECODER OUTPUT TO SOLENOID SHALL BE 14 AWG, TYPE PE

WIRE DISTANCE FROM DECODER OUTPUT TO SOLENOID UNDER NORMAL CONDITIONS SHALL NOT EXCEED 150-FT [45-M]

INSTALL IN VALVE BOX ON DECODER STAKE KIT (DECSTAKE-10) WITH BOTTOM OF DECODER FACING UP

CONTRACTOR SHALL INDICATE ASSOCIATED VALVE NUMBER(S) ON MANUFACTURER PROVIDED LABEL ON DECODER WITH PERMANENT MARKER

WIRES

WIRE FOR TWO-WIRE PATH SHALL BE TWISTED AND JACKETED HUNTER IDWIRE, OR APPROVED EQUAL (PAIGE ELECTRIC P7354D); COATED WIRE SHALL NOT BE ACCEPTED AS AN EQUAL: ACCEPTABLE EQUAL PRODUCTS MUST CONSIST OF TWO SEPARATELY PE JACKETED WIRE TWISTED INSIDE OF A PE JACKET

CONTRACTOR SHALL INSTALL IDWIRE1 (14 AWG) FOR WIRE PATH LENGTH UP TO 10,000-FT [3,048-M] AND IDWIRE2 (12 AWG) FOR WIRE PATH LENGTH UP TO 15,000-FT [4,572-M], WIRE PATH LENGHTS DECREASE WITH SUBSTITUTED WIRE

WIRE JACKET COLORS SHALL BE SUCH TO FACILITATE THE IDENTIFICATION OF VARIOUS WIRE PATH ZONES; SEE WIRE JACKET CHART FOR WIRE TYPE, COLOR AND ASSOCIATED VALVES

THE CONTROLLER ALLOWS UP TO THREE (3) TWO-WIRE PATHS PER OUTPUT MODULE, CONTRACTOR SHALL NOT CONNECT ANY TWO-WIRE PATH FROM ONE OUTPUT MODULE TO ANOTHER OUTPUT MODULE

WIRE CONNECTION FROM DECODER OUTPUT TO SOLENOID SHALL BE COLORED TO MATCH THE ASSOCIATED DECODER OUTPUT STATION COLOR; RED AND BLUE COLORED WIRES SHALL NOT BE USED FOR CONNECTION BETWEEN DECODER OUTPUT AND SOLENOID

SPLICES

ALL CONNECTIONS AND SPLICES IN THE RED/BLUE TWO-WIRE PATH MUST BE MADE WITH 3M DBR/Y-6 WATERPROOF CONNECTORS INSTALLED PER MANUFACTURERS INSTRUCTIONS IN VALVE BOX WITH OPEN END OF CONNECTOR FACING DOWN

CONTRACTOR SHALL PROVIDE 36-IN [1-M] LOOP OF SLACK WIRE, MEASURED FROM TOP OF VALVE BOX, NEATLY COILED INSIDE ALL SPLICE BOXES AND VALVE BOXES

ANY SPLICES IN THE TWO-WIRE PATH NOT ASSOCIATED WITH A DECODER SHALL BE HOUSED IN SEPARATE VALVE BOXES WITH 36-IN [1-M] LOOP OF SLACK WIRE

CONTRACTOR SHALL INDICATE TWO-WIRE PATH DIRECTIONS IN PERMANENT MARKER WITHIN 6-IN [2.5-CM] OF TWO-WIRE SPLICE ON WIRE JACKET OR ID TAG ZIP TIED TO WIRE:

INCOMING WIRE SHALL BE MARKED “CONTROLLER” ON WIRE JACKET OR ID TAG AND MUST INCLUDE ZIP-TIE ATTACHED TO WIRE JACKET

EACH OUTGOING TWO-WIRE PATH SHALL BE MARKED WITH CONNECTED VALVES ON WIRE JACKET

CONTRACTOR SHALL ENSURE ALL CONNECTIONS TO BE WATERTIGHT WITH NO ELECTRICAL LEAKAGE TO GROUND OR SHORTING BETWEEN CONDUCTORS

GROUNDING

ALL GROUNDING AND INSTALLATION OF EQUIPMENT SPECIFIED SHALL BE INSTALLED IN STRICT COMPLIANCE WITH THE MANUFACTURER'S RECOMMENDATIONS AND IN ACCORDANCE WITH LOCAL, STATE, AND FEDERAL REQUIREMENTS

BOTH THE CONTROLLER AND THE DECODERS SHALL BE GROUNDED TO GROUND RODS WITH LESS THAN 10 OHMS RESISTANCE

IRRIGATION CONTROLLER AND PAD SHALL NOT FALL WITHIN THE SPHERE OF INFLEUNCE OF A GROUND ROD OR PLATE

AT A MINIMUM, EARTH GROUND SHALL BE CONNECTED AT THE FIRST DECODER OF EACH WIRE PATH LEAVING THE CONTROLLER, AND EVERY 12TH VALVE/DECODER OR 1,000-FT [304-M] OF TWO-WIRE RUN (WHICHEVER IS SHORTER), AND AT THE LAST VALVE/DECODER IN ANY WIRE RUN EXCEEDING 50' FROM MAIN WIRE PATH

FOR USE OF GROUNDING ROD:

GROUND ROD SHALL BE 5/8-IN [15-MM] DIAMETER X 8-FT [1.2-M] LONG COPPER CLAD STEEL GROUND RODS WITH 15-FT [4.5-M] PRE-WELDED #6 AWG INSULATED GREEN-YELLOW WIRE (PAIGE ELECTRIC PART # 182000IC6)

GROUND ROD SHALL BE DRIVEN INTO THE GROUND IN A VERTICAL POSITION OR AN OBLIQUE ANGLE NOT TO EXCEED 45 DEGREES AT A LOCATION 10-FT [3-M] FROM THE ELECTRONIC EQUIPMENT, THE GROUND PLATE, OR THE WIRES AND CABLES CONNECTED TO EQUIPMENT BEING GROUNDED

ADDITIONAL GROUND ROD IN DAISY CHAIN INSTALLATION SHALL BE 5/8-IN [15-MM] DIAMETER X 8-FT [1.2-M] LONG COPPER CLAD STEEL GROUND RODS WITH 25-FT [4.5-M] PRE-WELDED #6 AWG INSULATED GREEN-YELLOW WIRE (PAIGE ELECTRIC PART #182007IC6)

GROUND RODS SHALL BE COVERED BY A VALVE BOX

ALL CIRCUIT COMPONENTS SHALL BE INSTALLED IN STRAIGHT LINES

GROUND ROD LOCATION

CONTRACTOR SHALL LOCATE AND INSTALL GROUND ROD IN AREA OF MOIST SOIL TO MAXIMIZE ELECTRICAL CONDUCTIVITY

SURGE PROTECTION (LIGHTING ARRESTOR)

CONTRACTOR SHALL INSTALL PAIGE ELECTRIC 250090LED LIGHTENING ARRESTOR PER MANUFACTURERS SPECIFICATIONS AS CLOSE TO CONTROLLER POWER SOURCE AS POSSIBLE TO PROTECT THE IRRIGATION CONTROLLER FROM SURGES THROUGH 120 OR 240 VAC WIRES

TURN OVER ITEMS

CONTRACTOR SHALL PROVIDE PROJECT OWNER WITH THE FOLLOWING AT PROJECT COMPLETION AND TURN OVER:

A2C-D SD CARD WITH SAVED STATION AND IRRIGATION PROGRAM INFORMATION

PRODUCT MANUALS

IN ADDITION TO IRRIGATION AS-BUILT REQUIREMENTS, THE CONTRACTOR SHALL INCLUDE IN THE AS-BUILT DRAWINGS OF IRRIGATION SYSTEM GRAPHICALLY DEPICTING LOCATION OF TWO-WIRE PATH(S), GROUNDING LOCATION AND TYPE, DECODERS, NON-DECODER WIRE SPLICES, INDICATION OF TWO-WIRE SPLICE TYPES (1-WAY, 2-WAY, 3-WAY, ETC), AND TERMINATION OF TWO-WIRE PATHS

ICD-HP HANDHELD PROGRAMMER AND DIAGNOSTIC TOOL

ROAM XL HANDHELD REMOTE AND RECEIVER

MANUFACTURER TRAINING

PRIOR TO INSTALLATION THE CONTRACTOR SHALL HAVE COMPLETED AND RECEIVED CERTIFICATION FOR THE FOLLOWING TRAINING MODULES PROVIDED BY HUNTER INDUSTRIES:

DECODER SPECIALIST PROGRAM

MULTIMETER BASICS COURSE

EXPERT PROGRAM

PRE-CONSTRUCTION MEETING

PRIOR TO INSTALLATION OF TWO-WIRE IRRIGATION SYSTEM, A PRE-CONSTRUCTION MEETING SHALL BE CONDUCTED WITH PROJECT OWNER'S REPRESENTATIVE, INSTALLING CONTRACTOR, AND IRRIGATION TWO-WIRE MANUFACTURER AT NO ADDITIONAL COST FROM MANUFACTURER

TECHNICAL SUPPORT

HUNTER INDUSTRIES (800) 733-2823

WDID #: XXXXXXX

UNDERGROUND SERVICE ALERT
CALL: TOLL FREE 1-800 422-4133
TWO WORKING DAYS BEFORE YOU DIG

MARK	REVISIONS	APPR.	DATE

DESIGNED BY: EL DRAWN BY: EH CHECKED BY: TM

SEAL-DESIGN ENGINEER

LICENSED LANDSCAPE ARCHITECT — MICHAEL Madsen License No. 5798 — Signature — Renewal Date — Date — STATE OF CALIFORNIA

DATE: 10/28/2024

PREPARED UNDER THE SUPERVISION OF:
MICHAEL MADSEN, PLA 5798, EXP. 8/31/2025 — 10/28/2024 DATE

RECOMMENDED FOR APPROVAL BY WILLDAN ENGINEERING:
RONALD J. STEIN, RCE 86877 — DATE

APPROVED BY:
MICHAEL ACKERMAN, ACTING CITY ENGINEER, RCE 64663 — DATE

Kimley»Horn

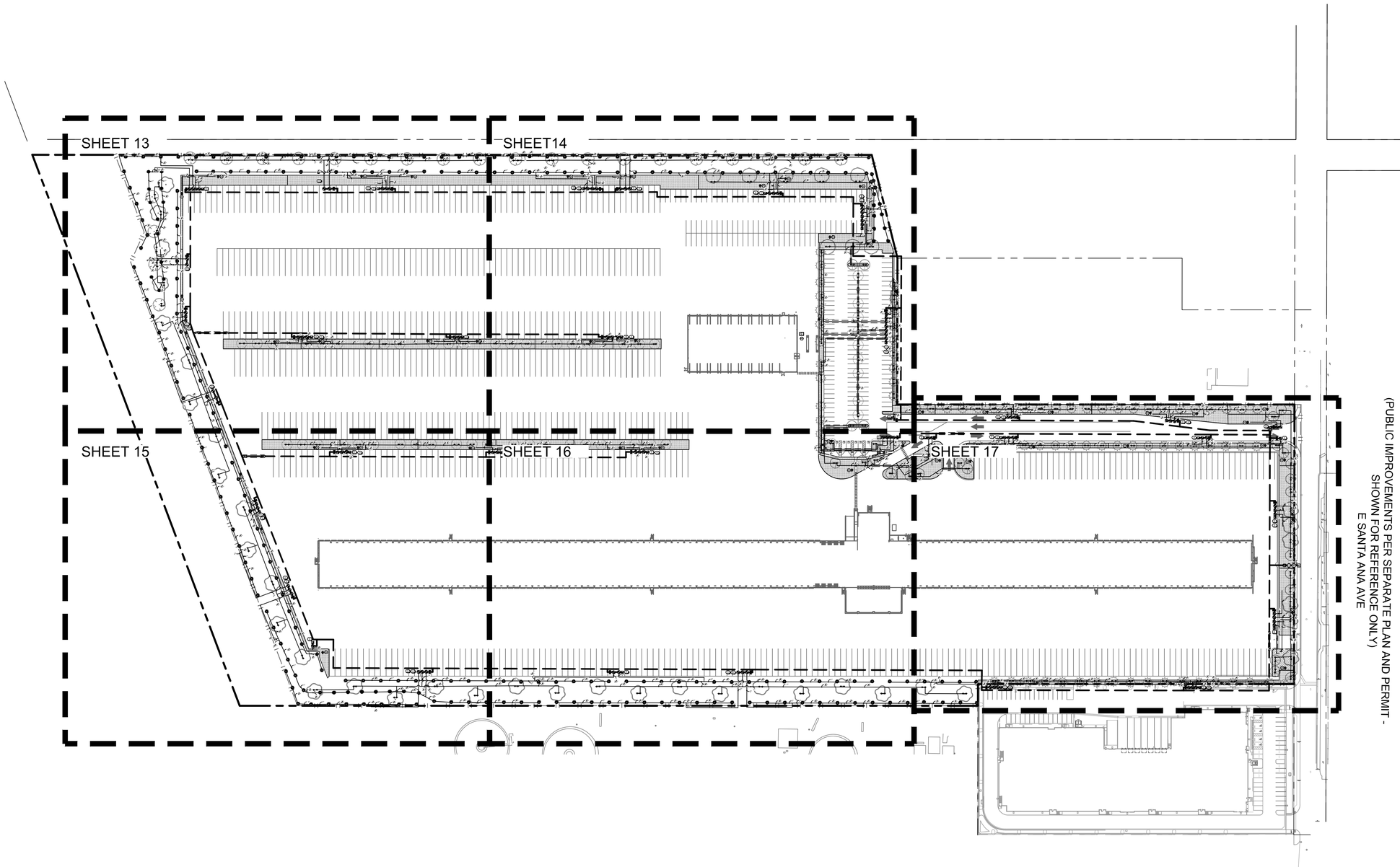
3880 LEMON STREET, SUITE 420; RIVERSIDE, CA 92501
PHONE: 951-543-9868
WWW.KIMLEY-HORN.COM

BENCH MARK: CITY OF RIALTO BENCHMARK NO. "007-88" ELEVATION= 1014.39 FEET
DESCRIPTION: CITY OF RIALTO BRASS DISC IN N/W CORNER PCC CATCH BASIN 4 FT NORTH OF CURB 40 FT NORTH OF CENTERLINE SLOVER 66 FT WEST OF CENTERLINE RIVERSIDE. NGVD29

CITY OF RIALTO
SANTA ANA TRUCK TERMINAL
LANDSCAPE AND IRRIGATION
IRRIGATION NOTES

10 OF 21 SHEETS

FOR: CROWN ENTERPRISES | PPD# 2023-0006 | PLAN No. _____



NORTH

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WDID #: XXXXXXX

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MARK	REVISIONS	APPR.	DATE

DESIGNED BY: EL DRAWN BY: EH CHECKED BY: TM

SEAL-DESIGN ENGINEER

LICENSED LANDSCAPE ARCHITECT
Timothy Wallace Lisenbee, No. 5798
Signature
Renewal Date
Date
STATE OF CALIFORNIA

DATE:10/28/2024

PREPARED UNDER THE SUPERVISION OF:
MICHAEL MADSEN, PLA 5798, EXP. 8/31/2025 — 10/28/2024 DATE

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RONALD J. STEIN, RCE 86877 — DATE

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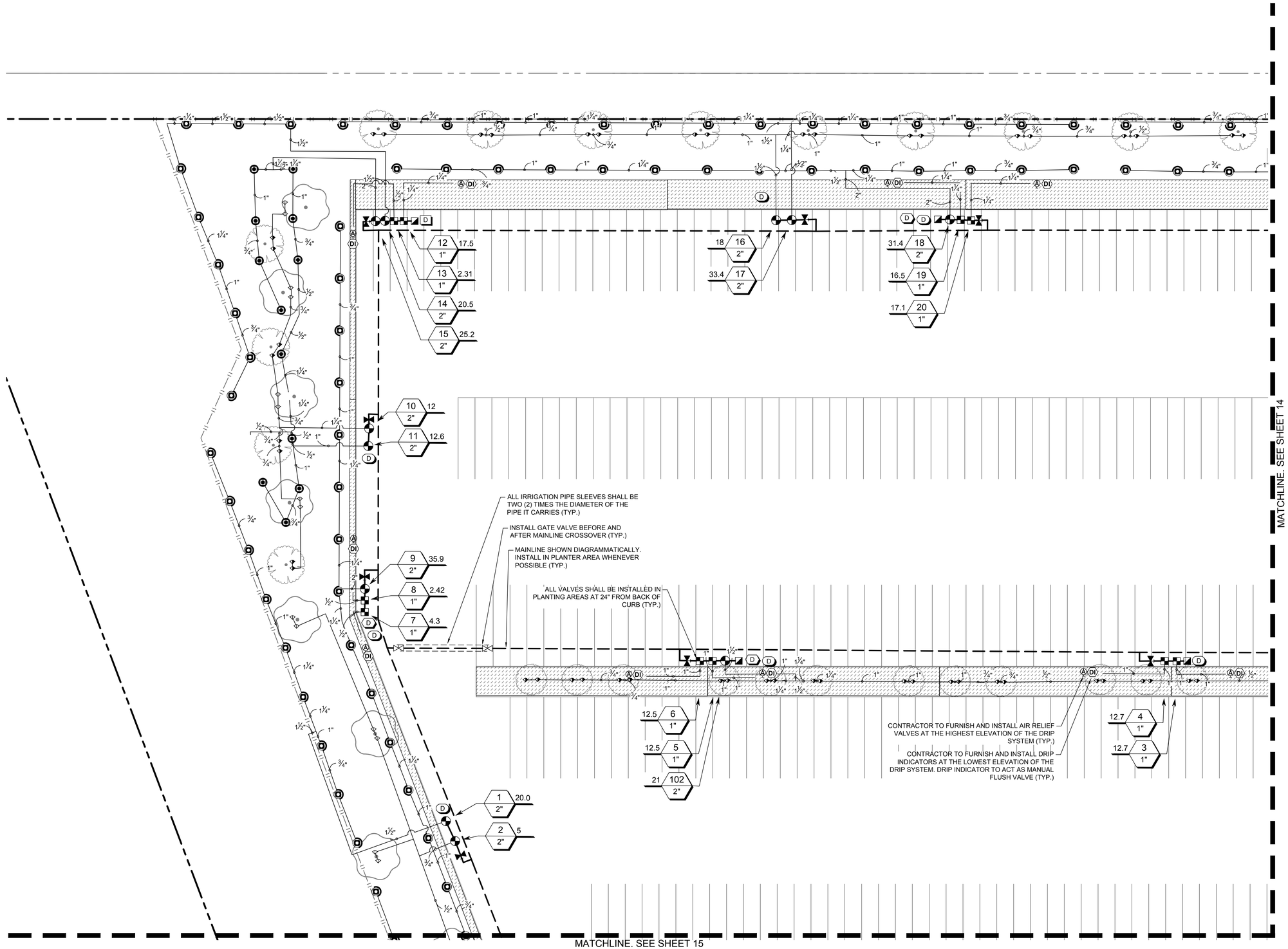
CITY OF RIALTO
SANTA ANA TRUCK TERMINAL
LANDSCAPE AND IRRIGATION
IRRIGATION KEY MAP

12 OF 21 SHEETS

FOR: CROWN ENTERPRISES | PPD# 2023-0006 | PLAN No. _____



IRRIGATION LEGEND (SEE SHEET 10 FOR FULL SCHEDULE)

SYMBOL	MANUFACTURER/MODEL
1000	HUNTER MP1000 PROS-06-PRS30-CV
3000	HUNTER MP3000 PROS-06-PRS30-CV
3500	HUNTER MP3500 PROS-06-PRS30-CV
25Q 50Q 50H 10H 10F 20F	HUNTER PROS-PRS30-06-CV-MSBN

SYMBOL	MANUFACTURER/MODEL
	HUNTER ICZ-101-25
A	HUNTER PLD-AVR
DI	HUNTER ECO-ID-12
	AREA TO RECEIVE DRIPLINE NETAFIM TLCV-06-18

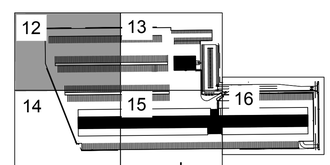
SYMBOL	MANUFACTURER/MODEL
	HUNTER ICV-G-DC
	HUNTER HQ-44LRC
	LANDSCAPE PRODUCTS INC. BGV
	LANDSCAPE PRODUCTS INC. CWV THREADED
MV	HUNTER IBV 1-1/2"
BF	BACKFLOW 1-1/2"
C	HUNTER A2C-150D-P
WS	HUNTER SOLAR-SYNC
FS	HUNTER HFS-150
D	HUNTER ICD-100
D	HUNTER ICD-200
D	HUNTER ICD-400
D	HUNTER ICD-600
M	WATER METER 1-1/2"

IRRIGATION LATERAL LINE: PVC SCHEDULE 40

IRRIGATION MAINLINE: PVC SCHEDULE 40

PIPE SLEEVE: PVC SCHEDULE 40

Valve Callout
#" Valve Number
Valve Flow
#" Valve Size



NORTH

GRAPHIC SCALE IN FEET
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WDID #: XXXXXXX

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MARK	REVISIONS	APPR.	DATE

DESIGNED BY: EL DRAWN BY: EH CHECKED BY: TM

SEAL-DESIGN ENGINEER
LICENSED LANDSCAPE ARCHITECT
Stuart Madsen License #6798
Signature
Renewal Date
Date
STATE OF CALIFORNIA
DATE:10/28/2024

PREPARED UNDER THE SUPERVISION OF:
MICHAEL MADSEN, PLA 5798, EXP. 8/31/2025 — 10/28/2024 DATE

RECOMMENDED FOR APPROVAL BY WILLDAN ENGINEERING:
RONALD J. STEIN, RCE 86877 — DATE

APPROVED BY:
MICHAEL ACKERMAN, ACTING CITY ENGINEER, RCE 64663 — DATE

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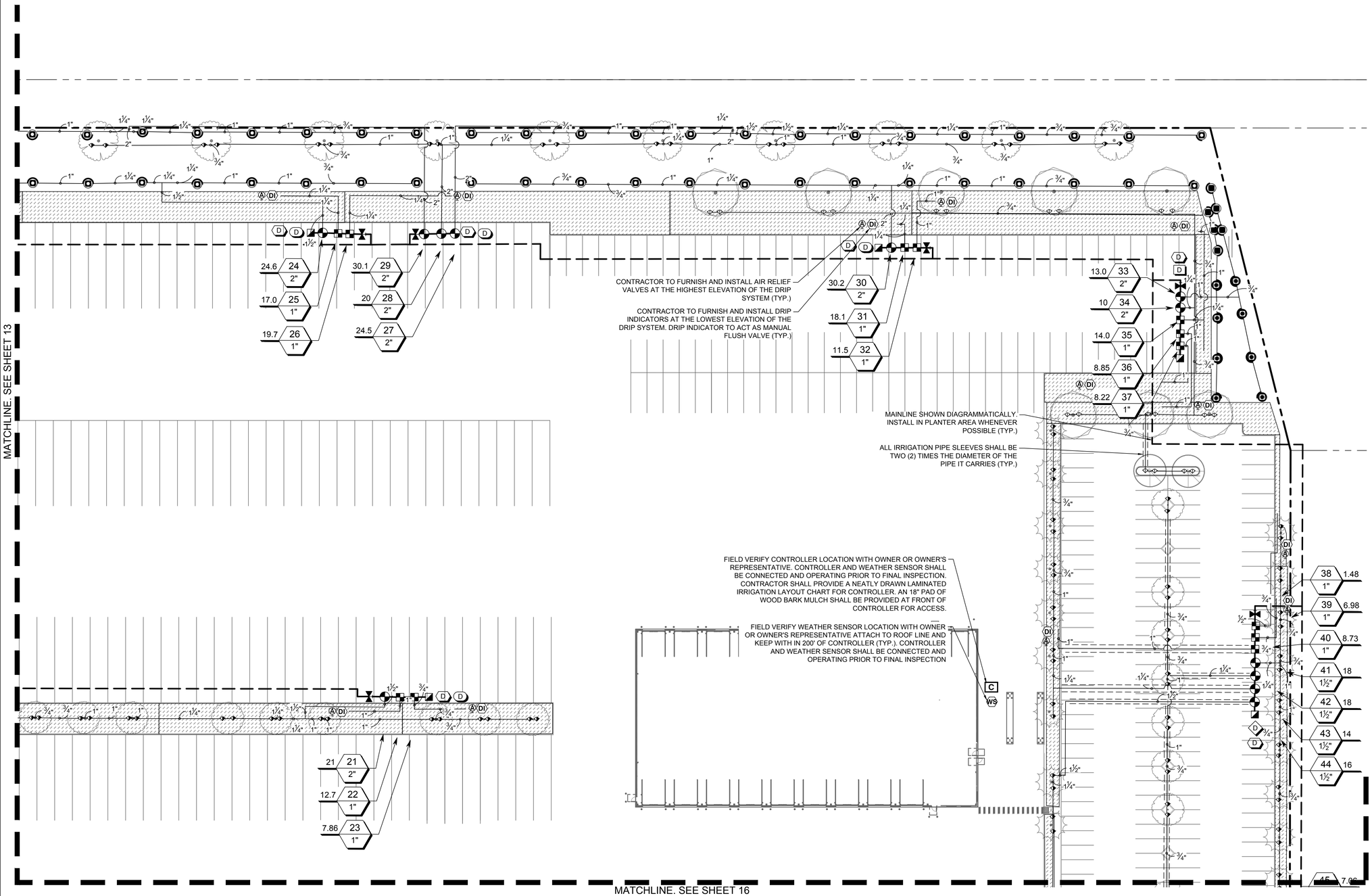
CITY OF RIALTO
SANTA ANA TRUCK TERMINAL
LANDSCAPE AND IRRIGATION
IRRIGATION PLAN

13 OF 21 SHEETS

FOR: CROWN ENTERPRISES
PPD# 2023-0006
PLAN No. _____

MATCHLINE. SEE SHEET 13



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25Q 50Q 50H 10H 10F 20F	HUNTER PROS-PRS30-06-CV-MSBN

SYMBOL	MANUFACTURER/MODEL
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	LANDSCAPE PRODUCTS INC. CWV THREADED
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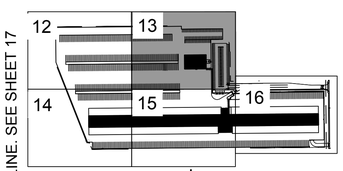
BF	BACKFLOW 1-1/2"
C	HUNTER A2C-150D-P
WS	HUNTER SOLAR-SYNC
FS	HUNTER HFS-150
D	HUNTER ICD-100
D	HUNTER ICD-200
D	HUNTER ICD-400
D	HUNTER ICD-600
M	WATER METER 1-1/2"

IRRIGATION LATERAL LINE: PVC SCHEDULE 40

IRRIGATION MAINLINE: PVC SCHEDULE 40

PIPE SLEEVE: PVC SCHEDULE 40

Valve Callout
#" Valve Number
Valve Flow
#" Valve Size



MATCHLINE. SEE SHEET 17

NORTH

GRAPHIC SCALE IN FEET
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WDID #: XXXXXXX

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DESIGNED BY: EL DRAWN BY: EH CHECKED BY: TM

SEAL-DESIGN ENGINEER

DATE:10/28/2024

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CITY OF RIALTO
SANTA ANA TRUCK TERMINAL
LANDSCAPE AND IRRIGATION
IRRIGATION PLAN

14 OF 21 SHEETS

FOR: CROWN ENTERPRISES
PPD# 2023-0006
PLAN No. _____

MATCHLINE. SEE SHEET 13

MATCHLINE. SEE SHEET 16

ALL IRRIGATION PIPE SLEEVES SHALL BE TWO (2) TIMES THE DIAMETER OF THE PIPE IT CARRIES (TYP.)

INSTALL GATE VALVE BEFORE AND AFTER MAINLINE CROSSOVER (TYP.)

MAINLINE SHOWN DIAGRAMMATICALLY. INSTALL IN PLANTER AREA WHENEVER POSSIBLE (TYP.)

CONTRACTOR TO FURNISH AND INSTALL AIR RELIEF VALVES AT THE HIGHEST ELEVATION OF THE DRIP SYSTEM (TYP.)

CONTRACTOR TO FURNISH AND INSTALL DRIP INDICATORS AT THE LOWEST ELEVATION OF THE DRIP SYSTEM. DRIP INDICATOR TO ACT AS MANUAL FLUSH VALVE (TYP.)

46 22 2"
47 12.7 1"
48 12.7 1"
49 3.77 1"
50 30.4 2"
51 4.1 1"
52 26.8 2"
53 5 1½"
54 18.0 2"
55 5.56 1"
21.8 56 2"
7 57 1½"
24.2 58 2"

IRRIGATION LEGEND (SEE SHEET 10 FOR FULL SCHEDULE)

SYMBOL	MANUFACTURER/MODEL
1000	HUNTER MP1000 PROS-06-PRS30-CV
3000	HUNTER MP3000 PROS-06-PRS30-CV
3500	HUNTER MP3500 PROS-06-PRS30-CV
25Q 50Q 50H 10H 10F 20F	HUNTER PROS-PRS30-06-CV-MSBN

SYMBOL	MANUFACTURER/MODEL
	HUNTER ICZ-101-25
A	HUNTER PLD-AVR
DI	HUNTER ECO-ID-12
	AREA TO RECEIVE DRIPLINE NETAFIM TLCV-06-18

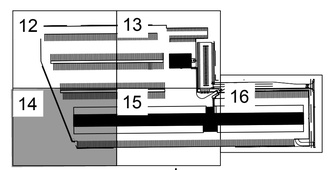
SYMBOL	MANUFACTURER/MODEL
	HUNTER ICV-G-DC
	HUNTER HQ-44LRC
	LANDSCAPE PRODUCTS INC. BGV
	LANDSCAPE PRODUCTS INC. CWV THREADED
MV	HUNTER IBV 1-1/2"
BF	BACKFLOW 1-1/2"
C	HUNTER A2C-150D-P
WS	HUNTER SOLAR-SYNC
FS	HUNTER HFS-150
D	HUNTER ICD-100
D	HUNTER ICD-200
D	HUNTER ICD-400
D	HUNTER ICD-600
M	WATER METER 1-1/2"

IRRIGATION LATERAL LINE: PVC SCHEDULE 40

IRRIGATION MAINLINE: PVC SCHEDULE 40

PIPE SLEEVE: PVC SCHEDULE 40

Valve Callout
- # — Valve Number
- # — Valve Flow
- #" — Valve Size



NORTH

GRAPHIC SCALE IN FEET
0 15 30 60

WDID #: XXXXXXX

UNDERGROUND SERVICE ALERT
CALL:TOLL FREE
1-800
422-4133
TWO WORKING DAYS BEFORE YOU DIG

MARK	REVISIONS	APPR.	DATE

DESIGNED BY: EL DRAWN BY: EH CHECKED BY: TM

SEAL-DESIGN ENGINEER

LICENSED LANDSCAPE ARCHITECT
Robert Nelsen License No. 5798
Signature
Renewal Date
Date
STATE OF CALIFORNIA

DATE: 10/28/2024

PREPARED UNDER THE SUPERVISION OF:
MICHAEL MADSEN, PLA 5798, EXP. 8/31/2025 — 10/28/2024 DATE

RECOMMENDED FOR APPROVAL BY WILLDAN ENGINEERING:
RONALD J. STEIN, RCE 86877 — DATE

APPROVED BY:
MICHAEL ACKERMAN, ACTING CITY ENGINEER, RCE 64663 — DATE

Kimley»Horn

3880 LEMON STREET, SUITE 420; RIVERSIDE, CA 92501
PHONE: 951-543-9868
WWW.KIMLEY-HORN.COM

BENCH MARK: CITY OF RIALTO BENCHMARK NO. "007-88" ELEVATION= 1014.39 FEET
DESCRIPTION: CITY OF RIALTO BRASS DISC IN N/W CORNER PCC CATCH BASIN 4 FT NORTH OF CURB 40 FT NORTH OF CENTERLINE SLOVER 66 FT WEST OF CENTERLINE RIVERSIDE. NGVD29

CITY OF RIALTO
SANTA ANA TRUCK TERMINAL
LANDSCAPE AND IRRIGATION
IRRIGATION PLAN

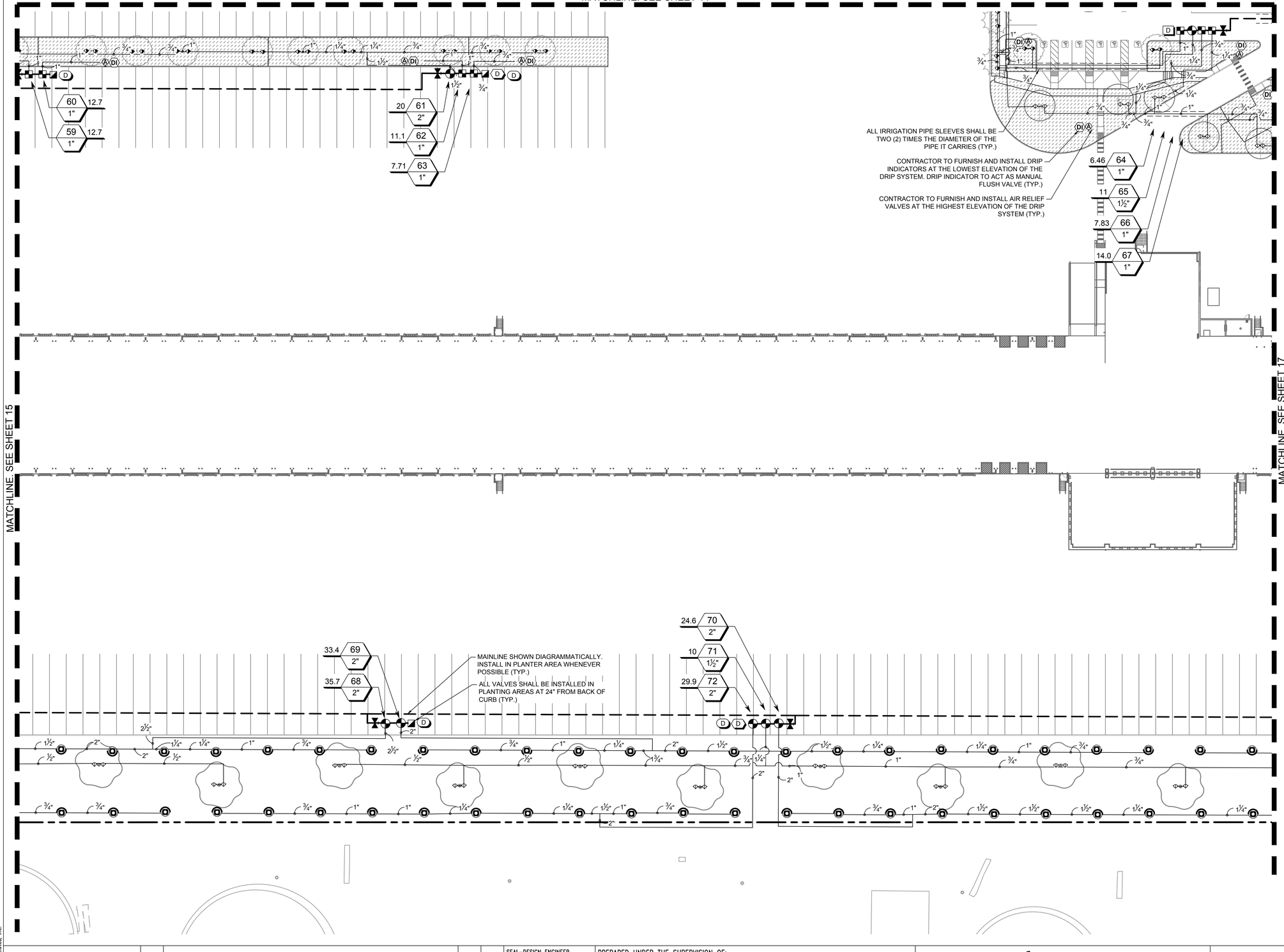
15 OF 21 SHEETS

FOR: CROWN ENTERPRISES

PPD# 2023-0006

PLAN No. _____

MATCHLINE. SEE SHEET 14



IRRIGATION LEGEND (SEE SHEET 10 FOR FULL SCHEDULE)

SYMBOL	MANUFACTURER/MODEL
1000	HUNTER MP1000 PROS-06-PRS30-CV
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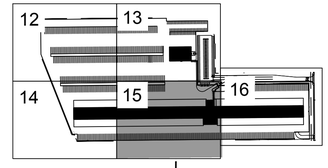
WS	HUNTER SOLAR-SYNC
FS	HUNTER HFS-150
D	HUNTER ICD-100
D	HUNTER ICD-200
D	HUNTER ICD-400
D	HUNTER ICD-600
M	WATER METER 1-1/2"

IRRIGATION LATERAL LINE: PVC SCHEDULE 40

IRRIGATION MAINLINE: PVC SCHEDULE 40

PIPE SLEEVE: PVC SCHEDULE 40

Valve Callout
Valve Number
Valve Flow
Valve Size



NORTH

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MARK	REVISIONS	APPR.	DATE

DESIGNED BY: EL DRAWN BY: EH CHECKED BY: TM

SEAL-DESIGN ENGINEER
LICENSED LANDSCAPE ARCHITECT
MICHAEL MADSEN License No. 5798
Signature
Renewal Date
Date
STATE OF CALIFORNIA

DATE: 10/28/2024

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CITY OF RIALTO
SANTA ANA TRUCK TERMINAL
LANDSCAPE AND IRRIGATION
IRRIGATION PLAN

16 OF 21 SHEETS

FOR: CROWN ENTERPRISES | PPD# 2023-0006 | PLAN No. _____

MATCHLINE. SEE SHEET 16

CONTRACTOR TO FURNISH AND INSTALL DRIP INDICATORS AT THE LOWEST ELEVATION OF THE DRIP SYSTEM. DRIP INDICATOR TO ACT AS MANUAL FLUSH VALVE (TYP.)

CONTRACTOR TO FURNISH AND INSTALL AIR RELIEF VALVES AT THE HIGHEST ELEVATION OF THE DRIP SYSTEM (TYP.)

ALL IRRIGATION PIPE SLEEVES SHALL BE TWO (2) TIMES THE DIAMETER OF THE PIPE IT CARRIES (TYP.)

INSTALL GATE VALVE BEFORE AND AFTER MAINLINE CROSSOVER (TYP.)

MAINLINE SHOWN DIAGRAMMATICALLY. INSTALL IN PLANTER AREA WHENEVER POSSIBLE (TYP.)

ALL VALVES SHALL BE INSTALLED IN PLANTING AREAS AT 24" FROM BACK OF CURB (TYP.)

PROPOSED 1 1/2" IRRIGATION WATER METER AND BACKFLOW - SEE CIVIL PLANS FOR EXACT LOCATIONS

MATCHLINE. SEE SHEET 18

IRRIGATION LEGEND (SEE SHEET 10 FOR FULL SCHEDULE)

SYMBOL	MANUFACTURER/MODEL
1000	HUNTER MP1000 PROS-06-PRS30-CV
3000	HUNTER MP3000 PROS-06-PRS30-CV
3500	HUNTER MP3500 PROS-06-PRS30-CV
25Q 50Q 50H 10H 10F 20F	HUNTER PROS-PRS30-06-CV-MSBN

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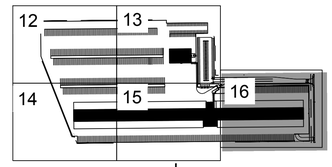
WS	HUNTER SOLAR-SYNC
FS	HUNTER HFS-150
D	HUNTER ICD-100
D	HUNTER ICD-200
D	HUNTER ICD-400
D	HUNTER ICD-600
M	WATER METER 1-1/2"

- IRRIGATION LATERAL LINE: PVC SCHEDULE 40
- IRRIGATION MAINLINE: PVC SCHEDULE 40
- PIPE SLEEVE: PVC SCHEDULE 40

Valve Callout
- # : Valve Number
- # : Valve Flow
- #" : Valve Size



NORTH

GRAPHIC SCALE IN FEET
0 15 30 60

WDID #: XXXXXXX

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MARK	REVISIONS	APPR.	DATE

DESIGNED BY: EL DRAWN BY: EH CHECKED BY: TM

SEAL-DESIGN ENGINEER
LICENSED LANDSCAPE ARCHITECT
Michael Madsen License # 5798
Signature
Renewal Date
Date
STATE OF CALIFORNIA

DATE:10/28/2024

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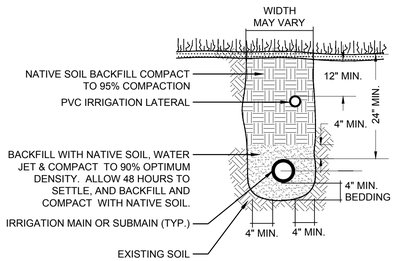
CITY OF RIALTO
SANTA ANA TRUCK TERMINAL LANDSCAPE AND IRRIGATION
IRRIGATION PLAN

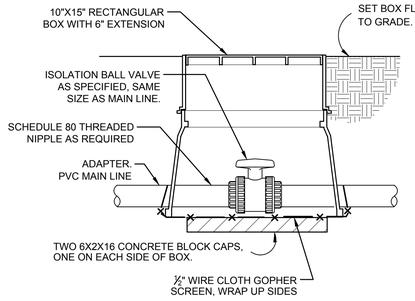
17 OF 21 SHEETS

FOR: CROWN ENTERPRISES | PPD# 2023-0006 | PLAN No. _____



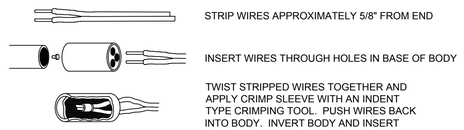
A TRENCHING DETAIL

N.T.S.



B SHUT OFF VALVE

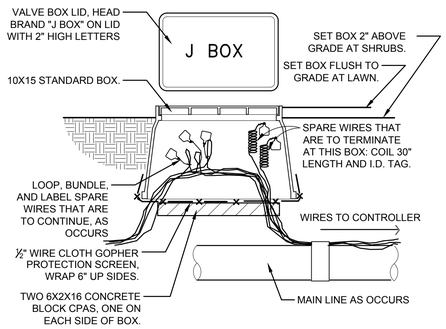
N.T.S.



NOTES:
1. ONE CONNECTOR HANDLES #10 AWG, #12 AWG AND #14 AWG WIRES.
2. WIRE CONNECTORS WILL ACCEPT THREE WIRE OR TWO WIRE CONNECTIONS.
3. WIRE CONNECTOR SHALL BE 3M DBR/DBY OR KING BROS.

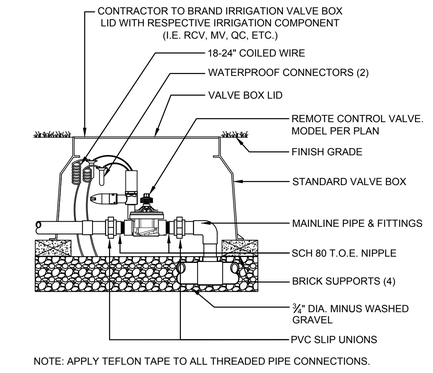
C WIRE CONNECTION

N.T.S.



D WIRE BUNDLE JUNCTION BOX

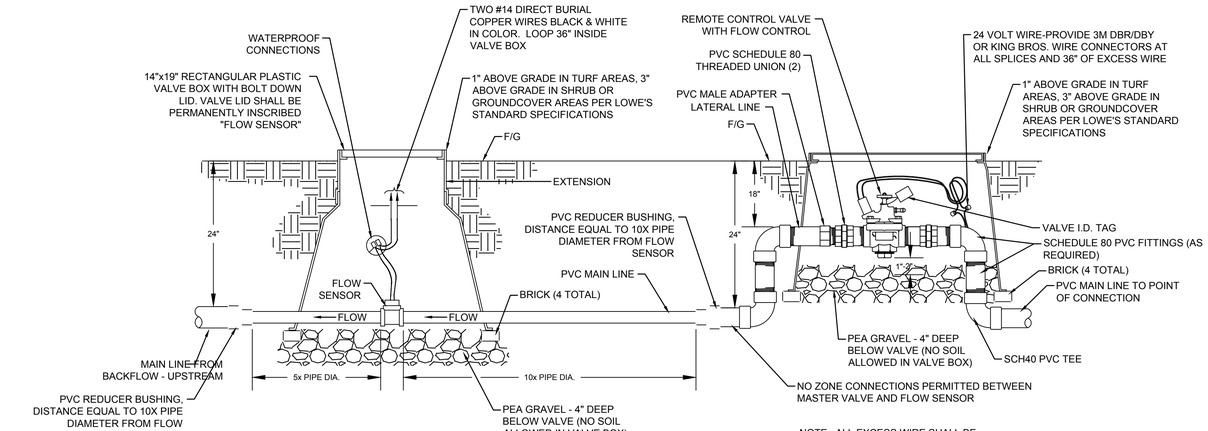
N.T.S.



NOTE: APPLY TEFLON TAPE TO ALL THREADED PIPE CONNECTIONS.

E ICV GLOBE VALVE

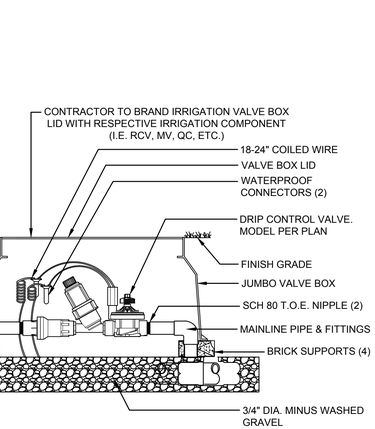
N.T.S.



NOTE: ALL EXCESS WIRE SHALL BE COILED IN A TIGHT CIRCULAR COIL.

F FLOW SENSOR AND MASTER REMOTE CONTROL VALVE INSTALLATION

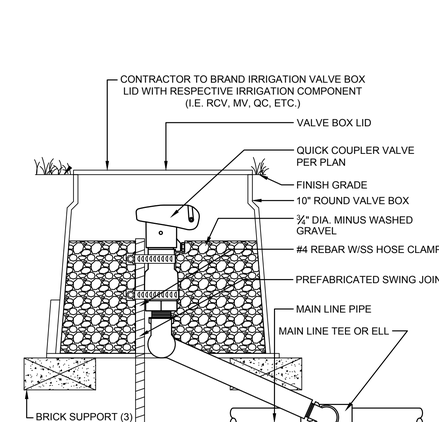
N.T.S.



NOTE: APPLY TEFLON TAPE TO ALL THREADED PIPE CONNECTIONS.

G DRIP CONTROL ZONE KIT

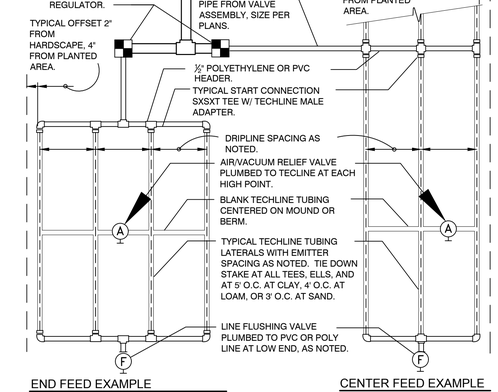
N.T.S.



NOTE: APPLY TEFLON TAPE TO ALL THREADED PIPE CONNECTIONS.

H QUICK COUPLER VALVE

N.T.S.



SLOPED CONDITION NOTES:

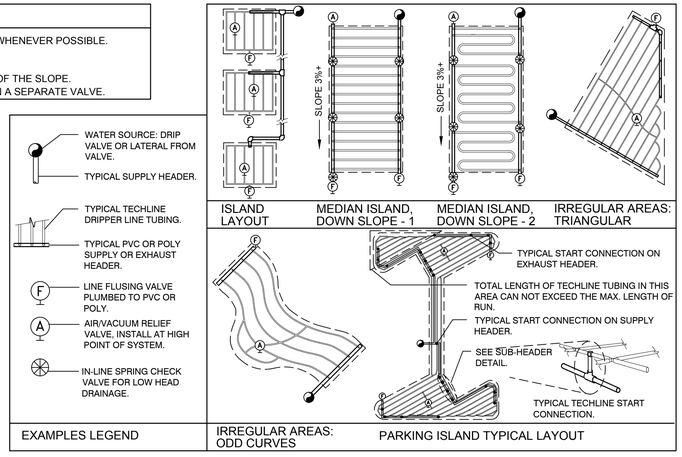
1.DRIPLINE LATERALS SHOULD FOLLOW THE CONTOURS OF THE SLOPE WHENEVER POSSIBLE.
2.INSTALL AIR RELIEF VALVE AT HIGHEST POINT.
3.TECHLINE NORMAL SPACING WITHIN THE TOP ⅔ OF SLOPE,
4.INSTALL TECHLINE AT NORMAL SPACING PLUS 25% AT THE BOTTOM ⅓ OF THE SLOPE.
5.WHEN ELEVATION CHANGE IS 10 FT OR MORE, ZONE THE BOTTOM ⅓ ON A SEPARATE VALVE.

TECHLINE MAXIMUM LENGTH OF SINGLE LATERAL (FEET)

DRIPPER SPACING		12"			18"			24"	
DRIPPER FLOW RATE (GPH)		0.4	0.6	0.9	0.4	0.6	0.9	0.6	0.9
INLET PRESSURE (PSI)	15	292	233	175	410	322	247	405	308
	25	397	321	238	558	438	335	553	423
	35	486	365	279	656	514	394	649	497
	45	520	407	311	732	574	439	725	555

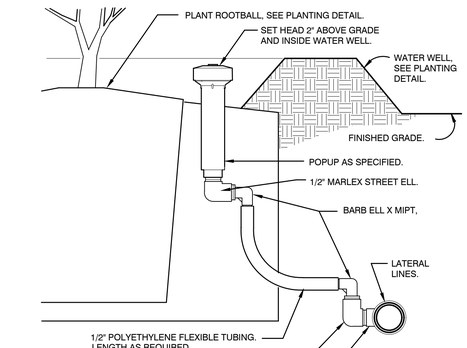
TECHLINE FLOW PER 100 FEET

DRIPPER SPACING	0.4 GPH DRIPPER		0.6 GPH DRIPPER		0.9 GPH DRIPPER	
	GPH	GPM	GPH	GPM	GPH	GPM
12"	40.00	0.67	61.00	1.02	92.00	1.53
18"	26.67	0.44	41.00	0.68	61.00	1.02
24"	N/A	N/A	31.00	0.51	46.00	0.77



I TYPICAL NETAFIM TECHLINE REQUIREMENTS

N.T.S.



J POPUP BUBBLER AT PLANT PIT

N.T.S.

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REGISTERED LANDSCAPE ARCHITECT
Kimley Madsen License No. 5798
Signature
Renewal Date
Date
STATE OF CALIFORNIA
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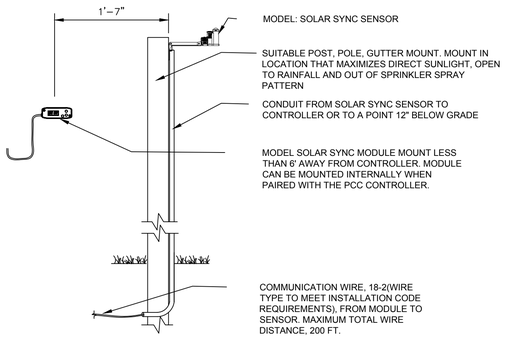
CITY OF RIALTO
SANTA ANA TRUCK TERMINAL
LANDSCAPE AND IRRIGATION
IRRIGATION DETAILS

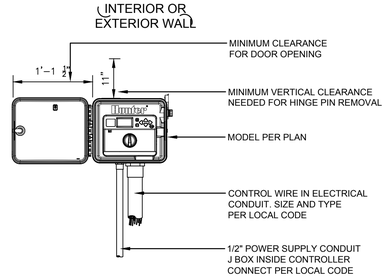
18 OF 21 SHEETS

FOR: CROWN ENTERPRISES | PPD# 2023-0006 | PLAN No.



A WEATHER SENSOR

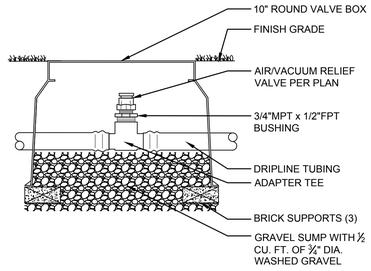
N.T.S.



NOTE
SPECIFY 6, 12, 18, 24, 30, STATION MODEL CONTROLLER. MOUNT CONTROLLER WITH LCD SCREEN AT EYE LEVEL. CONTROLLER SHALL BE HARD-WIRED TO GROUNDED 110 OR 220 VAC SOURCE.

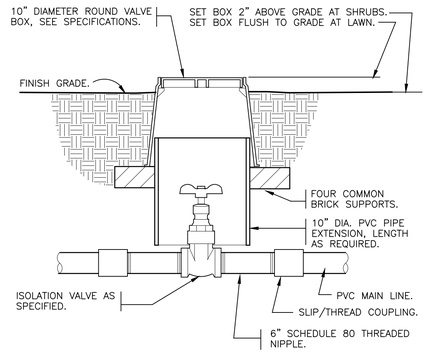
B IRRIGATION CONTROLLER

N.T.S.



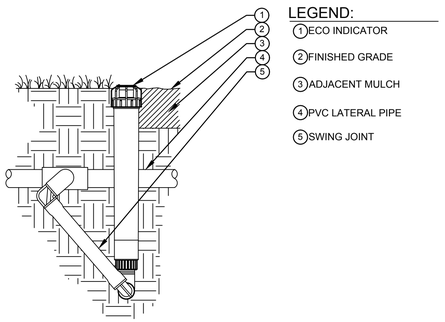
C DRIP AIR RELIEF VALVE

N.T.S.



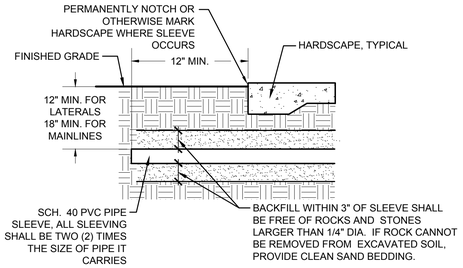
D GATE VALVE

N.T.S.



E ECO-INDICATOR ON SWING JOINT

N.T.S.



F PIPE SLEEVE

N.T.S.

DETAIL LEGEND:

1. HUNTER ICD-SENSOR DECODER PER PLAN
2. HUNTER DECODER STAKE (DECRSTAKE-10) DRIVEN INTO VALVE BOX BASE GRAVEL/SOIL. SECURE DECODER TO STAKE WITH BOTTOM OF DECODER FACING UP AND FASTENED TO STAKE USING TWO (2) PROVIDED ZIP TIES
3. INCOMING HUNTER JACKETED IDWIRE PATH PER PLAN WITH 36-IN [1m] LOOP OF SLACK WIRE, MEASURED FROM TOP OF VALVE BOX, NEATLY COILED INSIDE VALVE BOX
4. RED AND BLUE WIRES FROM DECODER TO IDWIRE SPLICES
5. BARE COPPER GROUND WIRE FROM DECODER TO GROUNDING DEVICE, ROD OR PLATE, SEE PLAN FOR GROUND LOCATIONS AND TYPE
6. STATION WIRE FROM DECODER OUTPUT TO VALVE SOLENOID WIRES
7. IDWIRE PATH SPLICE WITH DECODER OUTPUT USING 3M DBRY/6 INSTALLED PER MANUFACTURERS INSTRUCTIONS
8. VALVE SOLENOID WIRE SPLICE WITH DECODER OUTPUT USING 3M DBRY/6 INSTALLED PER MANUFACTURERS INSTRUCTIONS
9. VALVE SOLENOID WIRE WITH 18-IN [45cm] COIL TO SPLICE WITH DECODER OUTPUT
10. OUTGOING HUNTER JACKETED IDWIRE PATH PER PLAN WITH 36-IN [1m] LOOP OF SLACK WIRE, MEASURED FROM TOP OF VALVE BOX, NEATLY COILED INSIDE VALVE BOX
11. FLOW SENSOR, VALVE BOX, AND RELATED ITEMS PER IRRIGATION PLAN AND DETAILS
12. FINISHED GRADE

DETAIL NOTES:

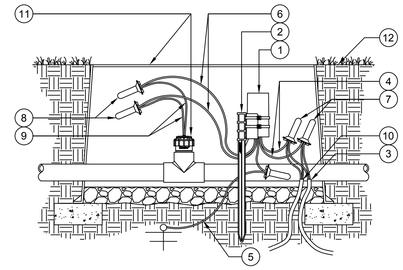
A. CONTRACTOR SHALL INDICATE ASSOCIATED VALVE NUMBER(S) ON MANUFACTURER PROVIDED LABEL ON DECODER WITH PERMANENT MARKER

B. CONTRACTOR SHALL LOCATE SPLICE WITH IDWIRE AND DECODER OUTPUT IN THE MIDDLE OF 36-IN[1m] ID WIRE LOOP IN VALVE BOX

C. CONTRACTOR SHALL CONNECT BARE COPPER GROUND WIRE FROM DECODER OUTPUT TO GROUND DEVICE WIRE USING ERICO PG11L KIT PER MANUFACTURES INSTRUCTIONS

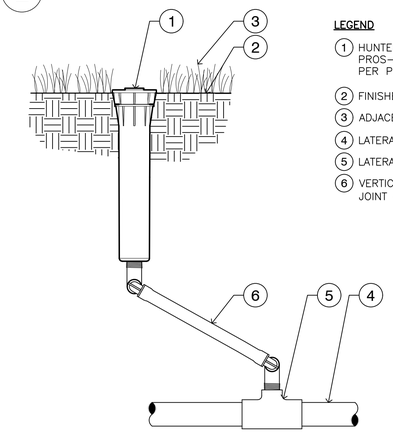
D. EARTH GROUND TO BE A MINIMUM OF 8 FEET AWAY FROM DECODER AND AT A RIGHT ANGLE TO THE TWO WIRE PATH

E. GROUNDING SHALL BE INSTALLED AT A MINIMUM OF EVERY 12TH DECODER OR 1,000', WHICHEVER OCCURS FIRST



G SENSOR DECODERS

N.T.S.



H POP UP SPRAY

N.T.S.

WDID #: XXXXXXX

UNDERGROUND SERVICE ALERT
CALL:TOLL FREE 1-800 422-4133
TWO WORKING DAYS BEFORE YOU DIG

MARK	REVISIONS	APPR.	DATE

DESIGNED BY: EL DRAWN BY: EH CHECKED BY: TM

SEAL-DESIGN ENGINEER
LICENSED LANDSCAPE ARCHITECT Beverly Madsen License No. 5798 Signature Renewal Date Date STATE OF CALIFORNIA
DATE:10/28/2024

PREPARED UNDER THE SUPERVISION OF:
MICHAEL MADSEN, PLA 5798, EXP. 8/31/2025 — 10/28/2024 DATE
RECOMMENDED FOR APPROVAL BY WILLDAN ENGINEERING:
RONALD J. STEIN, RCE 86877 — DATE
APPROVED BY:
MICHAEL ACKERMAN, ACTING CITY ENGINEER, RCE 64663 — DATE

Kimley»Horn

3880 LEMON STREET, SUITE 420; RIVERSIDE, CA 92501
PHONE: 951-543-9868
WWW.KIMLEY-HORN.COM

BENCH MARK: CITY OF RIALTO BENCHMARK NO. "007–88" ELEVATION= 1014.39 FEET
DESCRIPTION: CITY OF RIALTO BRASS DISC IN N/W CORNER PCC CATCH BASIN 4 FT NORTH OF CURB 40 FT NORTH OF CENTERLINE SLOVER 66 FT WEST OF CENTERLINE RIVERSIDE. NGVD29

CITY OF RIALTO
SANTA ANA TRUCK TERMINAL
LANDSCAPE AND IRRIGATION
IRRIGATION DETAILS

19 OF 21 SHEETS

FOR: CROWN ENTERPRISES | PPD# 2023-0006 | PLAN No. _____

SECTION 329300
PLANTS

PART 1 - GENERAL

1.1 DESCRIPTION

A. Provide planting work and planting maintenance complete as shown on the drawings and as specified including staking and layout of the landscaping.

1.2 QUALITY ASSURANCE

A. Reference Standards:

1. Ordinances and Regulations: All local, municipal and state laws, codes and regulations governing or relating to all portions of this work are hereby incorporated into and made a part of these Specifications. Anything contained in these Specifications shall not be construed to conflict with any of the above codes, regulations or requirements of the same. However, when these Specifications and Drawings call for or describe materials, workmanship or construction of a better quality, higher standard than is required by the above mentioned codes and regulations, the provisions of these Specifications and Drawings shall take precedence. Furnish without extra charge additional materials and labor required to comply with above rules and regulations.

2. CONTRACTOR shall be familiar with and follow the State of California Model Water Ordinance, California Code of Regulations, Title 23 Waters, Division 2, Department of Water Resources, Chapter 2.7. Also, the CONTRACTOR is responsible to follow all local water ordinances and the Soil Management/Analysis Report with verifying implementation.

3. "Sunset Western Garden Book," Lane Publishing Co., Menlo Park, California; current edition.

4. "American Standards for Nursery Stock," American Association of Nurseryman, 230 Southern Building, Washington, D.C. 20005.

5. US Composting Council Compost analysis Program (CAP)

6. Test Methods for the Evaluation of Composting and Compost (TMECC)

7. International Society of Arboriculture, Guide for Plant Appraisal, latest version.

8. United States Composting Council (USCC) Seal of Testing Assurance (STA) program.

9. TMECC: Refers to "Test Methods for the Examination of Composting and Compost," published by the United States Department of Agriculture and the United States Compost Council (USCC).

10. Manufacturer's recommendations.

B. Qualifications:

1. Experience: Assign a full-time employee to the job as foreman for the duration of the Contract who is certified landscape technician, certification through CLCA or minimum of four (4) years experience in landscape installation and maintenance supervision, with experience or training in turf management, entomology, pest control, soils, fertilizers and plant identification.

2. Labor Force: Provide a landscape installation and maintenance force thoroughly familiar with, and trained in, the work to be accomplished to perform the task in a competent, efficient manner acceptable to the OWNER.

C. Requirements:

1. Supervision: The foreman shall directly supervise the work force at all times and be present during the entire installation. Notify Owner's Representative of all changes in supervision.

2. Identification: Provide proper identification at all times for landscape maintenance firm's vehicles and a labor force uniformly dressed in a manner satisfactory to Owner's Representative.

3. Planting soils and organic amendments shall meet the AACWP requirement for the stormwater treatment measures used with this project work.

D. Plant Material Standards

1. Quality and Size of Plants: Conform to the State of California Grading Code of Nursery Stock, No. 1 grade and American Standards for Nursery Stock," American Association of Nurseryman. Use only nursery-grown stock which is free from insect pests and diseases.

2. Comply with federal and state laws requiring inspection for plant diseases and infestations. Submit inspection certificates required by law with each shipment of plants, and deliver certificates to the OWNER. Obtain clearance from the County Agricultural Commissioner as required by law, before planting plants delivered from outside the County in which planted.

E. Testing Agency/ Soils Report: See Section 329113 SOIL PREPARATION

F. Testing Agency/ Composted Organic Amendment: See Section 329113 SOIL PREPARATION

1.3 SUBMITTALS

A. Product Data: Manufacturer's current catalog cuts and specifications of the following:

1. Fertilizers
2. Tree Tie and Stake
3. Root Barrier
4. Iron Sulfate
5. Filter Fabric
6. 4" Perforated Pipe

B. Samples: Submit following samples along with certificates of compliance / analytical data from approved laboratory for degree of compliance:

1. Plants: Submit typical sample of each variety or entire quantity to site for approval by ENGINEER.

2. Organic Mulch: Submit 1-pint sample with list of ingredients.

3. Organic (Soil) Amendment: Submit 1/2-pint sample with Technical Data Sheet and STA certification.

4. Permeable Backfill or Drain Rock: Submit 1-pint sample.

5. Imported Planting Soil: Submit 1-pint sample

C. Delivery Receipts

1. Provide delivery receipts for quantities of organic soil amendments delivered to the site.

D. Topsoil Analysis (Soil Management) Report

1. After approval of rough grading and topsoil placement, obtain minimum of two representative one quart samples of topsoil taken from accepted site locations at depth of 4" to 6" below finish grade and submit to an accredited Soils Laboratory for evaluation of physical and chemical properties of soil including all major nutrients; pH, salinity, boron, sodium, micronutrients, copper, zinc, manganese and iron; and infiltration rate, soil texture and organic content, along with a summary describing the degree of compliance with the specified requirements. The report shall also include recommendations for modification of the soil for agricultural suitability.

2. Upon request by Owner's Representative, submit documentation verifying implementation of soil analysis report recommendations to the local agency with Certificate of Completion as required by the State of California Model Water Ordinance

E. Subsoil Analysis

1. Besides the above required soil samples, take one representative sample of any subgrade soil that is to receive a layer of imported planting soil over it. The laboratory report shall include the subgrade soil's total combined silt and clay content for determining the total desirable combined silt and clay content of the final imported planting soil cover specified herein.

F. Imported Planting Soil Analysis

1. See Imported Planting Soil Analysis requirements elsewhere in this specification for comparison to existing soil analysis.

G. Approval of Laboratory Report

1. Upon approval of the Laboratory's report by the Owner's Representative, the recommendations in the report shall become a part of the Specifications and the quantities of soil amendment, fertilizer and other additives shall be adjusted to conform with the report at no additional cost to the OWNER. Request Testing Laboratory to send one copy of test results directly to ENGINEER. Note that there is a minimum quantity of organic amendment specified elsewhere in this specification section.

1.4 PROJECT/SITE CONDITIONS

A. Site Visit: At beginning of work, visit and walk the site with the ENGINEER to clarify scope of work and understand existing project/site conditions.

1.5 WARRANTY AND REPLACEMENT

A. Pre-Emergence Weed Killer: Warrant the work against weed growth for a period of four (4) months after application.

B. Warrant all plants and planting to be in a healthy, thriving condition until the end of the maintenance period, and deciduous trees beyond that time until active growth is evident.

C. Replace all dead plants and plants not in a vigorous condition immediately upon discovery
and as directed by the Owner's Representative at CONTRACTOR's expense. Install replacement plants before the final acceptance at the size specified.

D. Warrant all plant material for a period of one year after final acceptance of the maintenance period against plant materials with defects at the time of installation.

E. Warrant plant installation and maintenance by CONTRACTOR against defects for a period of one year.

PART 2 - PRODUCTS

2.1 PLANTS

A. Plant the variety, quantity and size indicated. The total quantity tabulated on the drawings are considered approximate and furnished for convenience only. CONTRACTOR shall perform his/her own plant quantity calculations and shall provide all plants shown on the Drawings.

B. Tag plants of the type or name indicated and in accordance with the standard practice recommended by the American Association of Nurserymen.

C. Install healthy, shapely and well rooted plants with no evidence of having been root-bound, restricted or deformed.

D. Take precautions to ensure that the plants will arrive at the site in proper condition for successful growth. Protect plants in transit from windburn and sunburn. Protect and maintain plants on site by proper storage and watering.

E. Substitutions will not be permitted, except as follows:

1. If proof is submitted to the Owner's Representative that any plant specified is not obtainable, a proposal will be considered for use of nearest equivalent size or variety with an equitable adjustment of contract price.

2. Substantiate and submit proof of plant availability in writing to the Owner's Representative within 10 days after the effective date of Notice to Proceed.

F. Tree Form: Trees shall have a symmetrical form as typical for the species/cultivar and growth form.

1. Central Leader for Single Trunk Trees: Trees shall have a single, relatively straight central leader and tapered trunk, free of co dominant stems and vigorous, upright branches that compete with the central leader. Preferably, the central leader should not have been headed; however, in cases where the original leader has been remove, an upright branch at least ½ the diameter of the original leader just below the pruning point shall be present.

2. Potential Main Branches: Branches shall be evenly distributed radially around and appropriately spaced vertically along the trunk, forming a generally symmetrical crown typical for the species.

3. Headed temporary branches should be distributed around and along the trunk as noted above and shall be no greater than 3/8" diameter, and no greater than ½ diameter of the trunk at point of attachment.

G. Tree Trunk

1. Trunk diameter and taper shall be sufficient so that the tree will remain vertical without the support of a nursery stake.

2. Trunk shall be free of wounds (except properly-made pruning cuts), sunburned areas, conks (fungal fruiting-bodies), wood cracks, bleeding areas, signs of boring insects, galls, cankers and/or lesions.

3. Tree trunk diameter at 6" above the soil surface shall be within the diameter range shown for each container size below, except where shown otherwise:

Container	Trunk Diameter	Soil level from Container Top
24 inch Box	2.0" or larger	1.75 to 2.75"

4. Tree trunks shall be undamaged and uncut with all old abrasions and cuts completely callused over. Do not prune plants prior to delivery.

H. Tree Roots

1. Trunk root collar (root crown) and large roots shall be free of circling and/or kinked roots. CONTRACTOR may be required to remove soil near the root collar in order to verify that circling and/or kinked roots are not present.

2. The tree shall be well rooted in the container. When the trunk is lifted the trunk and root system shall move as one and the rootball shall remain intact.

3. The top-most roots or root collar shall be within 1" above or below the soil surface. The soil level in the container shall be within the limits shown in above table.
4. The rootball periphery shall be free of large circling and bottom-matted roots.
5. On grafted or budded trees, there shall be no suckers from the root stock.

I. Measure trees and shrubs with branches in normal position. Height and spread dimensions indicated refer to the main body of the plant, and not from branch tip to tip.

2.2 FERTILIZERS

A. Commercial fertilizer, pelleted or granular form, conform to the requirements of Chapter 7, Article 2, of the Agricultural Code of the State of California for fertilizing materials as follows:

1. 21 gram planting tablets 20% Nitrogen, 10% Phosphoric Acid and 5% Potash (20-10-5) available from Agriform or 10gm BestPacks packets 20% Nitrogen, 10% Phosphoric Acid and 5% Potash (20-10-5) available from Best Fertilizer Co.

2.3 ORGANIC AMENDMENT FOR IN SITU SOILS (ON-GRADE):

A. Ground Redwood or Ground Fir Bark with the following properties:
1. Percent Passing / Sieve Designation
100 — 9.51 mm — 3/8"
50-60 — 6.35 mm — 1/4"
20-40 — 4.76 mm — No. 4
0-20 — 2.38 mm — No. 8 8 mesh

Redwood Sawdust
Dry bulk density, lbs. per cu. yd., 260-280
Nitrogen stabilized - dry weight basis, min. 0.4%
Salinity (ECe): 4.0 maximum
Organic Content: 90% minimum
Reaction (pH): 4.0 minimum

Ground Fir and/or Pine Bark
Dry bulk density, lbs. per cu. yd., Min. 350
Nitrogen stabilized - dry weight basis, min. 0.5%
Salinity (ECe): 4.0 maximum
Organic Content: 90% minimum
Reaction (pH): 4.0 minimum

B. Submit sample along with analytical data from an approved laboratory for degree of compliance to the Owner's Representative within two weeks after award of Contract.

C. The above Ground Redwood or Ground Fir Bark or Ground Pine Bark (ORGANIC AMENDMENT FOR IN SITU SOILS) is the specified organic amendment material required. Acceptance of Composted Yard Waste Amendment in lieu of the above specified ORGANIC AMENDMENT FOR IN SITU SOILS (ON-GRADE) material will be considered if the in situ planting soil salinity and soil structure is favorable for the inclusion of recycled yard waste organic matter, as approved by the Owner's Representative. It is the CONTRACTOR's responsibility to secure test samples of both the planting soil and the proposed composted yard waste amendment (2 quart samples) and submit to Soils and Plant Laboratory for evaluation and recommendations. The composted yard waste amendment sample shall be a grab sample from the currently available material that has been tested within the last 30 days and shall include the composter's Compost Technical Data Sheet that includes lab analytical test results and directions for product use along with list of ingredients. The composted yard waste amendment shall be a mixture of feedstock materials including green material consisting of chipped, shredded, or ground vegetation and mixed food waste, or clean processed recycled wood products. Single source, Biosolids (sewage waste) compost will not be acceptable.

D. Based on the Soils and Plant Laboratory evaluation, the addition of composted yard waste amendment shall not be acceptable if it creates a leaching requirement.

E. The addition of the compost shall result in a final ECe of the amended soil of less than 4.0 dS/m @ 25 degrees C. as determined in a saturation extract. Use the following table to determine the maximum allowable Ece (dS/m of saturation extract) of compost at desired use rate and allowable Ece increase.

DESIRED USE RATE		MAXIMUM ALLOWABLE ECe INCREASE FROM AMENDMENT		
Cu. Yds. Amendment Per 1000 Sq. Ft. for Incorporation to 6" depth	Volume percentage of amendment	1 dS/m	2 dS/m	3 dS/m
		Maximum ECe of Compost		
1	5	14	28	42
2	11	7	14	21
3	16	5	9.5	14
4	22	3.5	7.0	10.5
5	27	3.0	5.5	8.5
6	32	2.5	4.5	7.0

1. Example: Specification calls for 6 cu. Yds. Compost per 1000 sq. ft. for incorporation to 6" depth, and site soil has an ECe of 2.0. In order to avoid exceeding ECe of 4 in final blend, compost ECe shall be less than 4.5 dS/m.

F. Composted Yard Waste Soil Amendment Properties as follows:

1. Gradation:
Percent Passing by Weight / Sieve Designation
90 — 1/2"
85-100 — 9.51 mm 3/8"
50-80 2.38 mm — No. 8 8 mesh
0-40 500 micron — No. 35 32 meshes
Maximum length 4 inches

2. Organic Content: Minimum 45% based on dry weight and determined by ash method.

3. Carbon to nitrogen ratio: Maximum 35:1 if material is claimed to be nitrogen stabilized.

4. pH: 5.5 – 8.0 as determined in saturated paste.

5. Soluble Salts: See above.

6. Moisture Content: 35-60%.

7. Physical Contaminants:
a) The compost shall be free of contaminants such as glass, metal and visible plastic per Man Made Inert Removal and Classification: TMECC 02.02, %> 4mm fraction. Combined total less than 1.0.
b) Man Made Inert Removal and Classification: Sharps % > 4mm fraction. (sewing needles, hypodermic needles) Non Detected.

8. Pathogens: TMECC 07.01-B Fecal Coliform Bacteria <1000 MPN/gram dry wt. <1000 (Pass)

A. General
1. Soil in all planting areas shall be moist, but not so moist that it sticks to a hand shovel, and loose and friable to a minimum depth of 12 inches with a relative maximum compaction of 85%. Rip and scarify and dry any areas that do not meet this requirement.

B. Before proceeding with the work: Carefully inspect all areas and verify all dimensions and quantities. Immediately inform the Owner's Representative of any discrepancy between the drawings and specifications and actual conditions and secure approval to proceed.

C. Planting Soil Placement Adjacent to Pavement Areas:

1. All debris shall be removed from the tree wells prior to soil backfill and proposed tree planting. Tree wells and structural soil excavations shall not be contained concrete spoils from concrete installation. Concrete deliver trucks cleaning shall be captured in CONTRACTOR furnished containers for such purposes.

2. Provide planting soil as a final lift in all planting areas within and adjacent to paved areas and other construction where native site soil has been covered by Owner's Representative fill and/or base rock. Remove all engineered fill, base rock and compacted subgrade full depth of compaction and replace with approved planting soil, a minimum lift of 12".

D. Backfill soil for tree wells shall be amended soil equal to the native soil and clean from stones greater than 3" and all construction debris.

E. All planting areas soil shall be loose and friable prior to planting. Rip any overly compacted and re-compacted planting areas in two directions full depth of compacted soil prior to planting.

F. Planting operations shall be performed only during periods when beneficial results can be obtained. When excessive moisture or other unsatisfactory conditions prevail, the work shall be stopped until conditions are satisfactory.

G. Thoroughly wet down the planting areas to settle the soil and confirm irrigation coverage and operation. Allow soil to dry so as to be workable as described herein.

H. Drag to a smooth, even surface. Grade to form all swales. Pitch grade with uniform slope to catch basins, streets, curb, etc., to ensure uniform surface drainage. Areas requiring grading include adjacent transition areas that shall be uniformly sloped between finish elevations. Slope surface away from walls so water will not stand against walls or buildings. Control surface water to avoid damage to adjoining properties or to finished work on the site. Take required remedial measures to prevent erosion of freshly graded areas and until such time as permanent drainage and erosion control features have been installed.

I. Finish Grade: Hold finish grade and/or mulch surface in planting areas 1/2-inch below adjacent pavement surfaces, tops of curbs, manholes, etc. The subgrade of the mulch in mulched planting areas shall be a minus 2 inches for a distance of 12 to 18 inch from the edge of pavement. The remainder of the planting area shall be graded to receive the required 3 inch layer of mulch.

3.2 TREE PLANTING

A. Mark tree and shrub locations on site using stakes, gypsum or similar approved means and secure location approval by the Owner's Representative before plant holes are dug. Review location of plants in relationship to irrigation heads and adjust location(s) that interfere with the function of the spray heads as accepted by the ENGINEER prior to planting.

B. Test drainage of plant beds and pits by filling with water (minimum 6"). The retention of water in planting beds and plant pits for more than two (2) hours shall be brought to the attention of the Owner's Representative. If rock, underground construction work, tree roots, poor drainage, or other obstructions are encountered in the excavation of plant pits, alternate locations may be selected by Owner's Representative.

C. Excavate tree and shrub pits as follows (Note square Tree Pit pattern required below):
1. Excavation for / Width / Depth
Boxed Trees — Box + 18" — Box depth
Container Trees (15 gc) — Can +12" — Can depth

D. Square Tree Pits

1. Tree pits shall be dug in a square pattern with pit walls scarified to promote root penetration into surrounding soil. Drilled tree pits shall be modified to a square shape.

E. Break and loosen the sides and bottom of the pit to ensure root penetration and water test hole for drainage as required above.

F. Backfill plant holes with mix as specified, free from rocks, clods or lumpy material. Backfill native soil free of soil amendments under rootball and foot tamp to prevent settlement. Backfill remainder of the hole with soil mix and place plant tablets or packets fertilizer 3 inches below finish grade and 1/2-inch from roots at the following rates:
1. Size / Rate
24" Box - 6 tablets or packet

G. Carefully remove and set plants without damaging the rootball. Superficially cut edge roots vertically on three sides. Remove bottom of plant boxes before planting. Remove sides of boxes after positioning the plant and partially backfilling.

H. Set plants in backfill with top of the rootball 2 inches above finished grade. Backfill remainder of hole and soak thoroughly by jetting with a hose and pipe section. Water backfill until saturated the full depth of the hole.

I. Stake and/or guy trees as detailed and noted herein. Drive stake(s) until solid (at least 12" beyond bottom of rootball) and remove excess stake protruding above top tree tie to prevent rubbing against branches. Avoid driving stakes through rootball. If subgrade does not accept stakes to a stable degree, delete stakes and guy the trees as specified herein and as detailed. Locate tree ties to avoid contact with tree branches. Locate top tie at tree flex point.

J. Remove any soil from top of plant rootballs and secure Owner's Representative's approval of rootball height prior to mulching.

K. After approval of rootball height, install mulch as required below.

3.3 MULCH

A. Install a 3-inch layer of bark mulch per plans in planted areas (as called out on the drawings) up to edges of pavement, curbs, headers, and project limits. Keep mulch eight (8) inches away from tree trunks.
B. Install sheet mulching underneath all areas to receive mulch with 100% complete coverage. Overlap sheets 6-8 inches.

3.4 ROOT BARRIER

A. Install in linear fashion along and adjacent to the edges of the planting area as detailed or, if not shown, in accordance with manufacturer's recommendations. Set top of barrier at finished decomposed granite surface, as accepted by Owner's Representative.

3.6 WATERING

A. Water all trees, shrubs and ground cover immediately after planting. Apply water to all plants as often and in sufficient amount as conditions may require to keep the plants in a healthy vigorous growing condition until completion of the Contract. Do supplemental hand watering of trees and shrubs during the first 3 weeks of plant establishment.

3.7 PRE-MAINTENANCE PERIOD REVIEW AND APPROVAL OF PLANTING

A. Maintain plants from time of delivery to site until final acceptance of landscape installation.

B. Receive approval of the installed planting prior to commencement of planting establishment maintenance period. Notify the Owner's Representative a minimum of seven (7) days prior to requested review. Before the review, complete the following:
1. Complete all construction work.
2. Present all planted areas neat and clean with all weeds removed and all plants installed and appearing healthy.
3. Plumb all tree stakes.
4. No partial approvals will be given.

3.8 PLANTING ESTABLISHMENT MAINTENANCE

A. General Requirements:
1. Maintenance Period: The planting establishment maintenance period required shall be 120 calendar days after all planting is complete, or if the plant material is not acceptably maintained during the maintenance period. The maintenance period may be suspended at any time upon written notice to the CONTRACTOR that the landscaping is not being acceptably maintained, and the day count suspended until the landscape is brought up to acceptable standards as determined by the Owner's Representative.

2. Planting establishment maintenance immediately follows, coincides with, and is continuous with the planting operations, and continues through turf installation, and after all planting is complete and accepted; or longer where necessary to establish acceptable stands of thriving plants.

3. Keep all walks and paved areas clean. Keep the site clear of debris resulting from landscape work and maintenance operations.

4. Check sprinkler systems at each watering; adjust coverage and clean and repair nonfunctioning heads immediately. Adjust timing of sprinkler controller to prevent runoff and flooding.

5. Maintain adequate moisture depth in soil to ensure vigorous growth, without over-watering. Check rootball of trees and shrubs independent of surrounding soils and hand water as required.

6. Keep Contract areas free from weeds by cultivating, hoeing or hand pulling. Use of chemical weed killers will not relieve the CONTRACTOR of the responsibility of keeping areas free of weeds over 1-inch high at all times.

7. One (1) Year Guarantee: Following the plant establishment period, the Contractor shall provide a warranty which guarantees all trees for one (1) year from date of final acceptance of the contract. The Contractor shall replace any tree which has died, and the tree replacement shall be the same size container as originally designated on the plans.

8. Should the Contractor fail, be neglectful, or be negligent in furnishing the required maintenance and/or maintaining the project site, the Owner may maintain these facilities. The Owner shall charge the Contractor the cost for providing the required maintenance by deducting this cost from the periodic progress payments due the Contractor as these costs are incurred by the Owner.

B. Plant Protection and Replacement
1. Protect all areas against damage, including erosion, trespass, insects, rodents, deer, disease, etc. and provide proper safeguards, including trapping of rodent and applying protective sprays and fencing to discourage deer browsing. Maintain and keep all temporary barriers erected to prevent trespass.

2. Repair all damaged planted areas. Replace plants immediately upon discovery of damage or loss.

3. Any plant material replaced within the last thirty (30) days of the plant establishment period must be maintained by the Contractor for thirty (30) days from the date of replacement

C. Tree Maintenance:

1. Maintain during the entire establishment period by regular watering, cultivating, weeding, repair of stakes and ties, and spraying for insect pests. Prune when requested by the Owner's Representative.

2. Keep watering basins in good condition and weed-free at all times.

3. Replace all damaged, unhealthy or dead trees, with new stock immediately; size as indicated on the drawings.

D. Fertilizing:
1. Observe plant's color, and if a soil pH imbalance is suspected, take soil samples and obtain laboratory analysis for confirmation. Take necessary action recommended in laboratory analysis such as top dressing with soil sulfur, leaching soil, etc.

3.9 FINAL PLANTING REVIEW AND ACCEPTANCE

A. At the conclusion of the Maintenance Period, schedule a final review with the Owner's Representative, the Owner's maintenance person, and the ENGINEER. On such date, all project improvements and all corrective work shall have been completed. If all project improvements and corrective work are not completed, continue the planting establishment, at no additional cost to the OWNER, until all work has been completed. This condition will be waived by the OWNER under such circumstances wherein the OWNER has granted an extension of time to permit the completion of a particular portion of the work beyond the time of completion set forth in the Agreement.

B. Submit written notice requesting review at least 10 days before the anticipated review.

C. Prior to review, weed and rake all planted areas, repair plant basins, plumb tree stakes, clear the site of all debris and present in a neat, orderly manner

END OF SECTION 32 93 00

WDID #: XXXXXXX

UNDERGROUND SERVICE ALERT
CALL:TOLL FREE
1-800
422-4133
TWO WORKING DAYS BEFORE YOU DIG

MARK	REVISIONS	APPR.	DATE

DESIGNED BY: EL DRAWN BY: EH CHECKED BY: TM

SEAL-DESIGN ENGINEER
LICENSED LANDSCAPE ARCHITECT
Michael Madsen License No. 5798
Signature
Renewal Date
Date
STATE OF CALIFORNIA
DATE: 10/28/2024

PREPARED UNDER THE SUPERVISION OF:
MICHAEL MADSEN, PLA 5798, EXP. 8/31/2025 — 10/28/2024 DATE
RECOMMENDED FOR APPROVAL BY WILLDAN ENGINEERING:
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BENCH MARK: CITY OF RIALTO BENCHMARK NO. "007-88" ELEVATION= 1014.39 FEET
DESCRIPTION: CITY OF RIALTO BRASS DISC IN N/W CORNER PCC CATCH BASIN 4 FT NORTH OF CURB 40 FT NORTH OF CENTERLINE SLOVER 66 FT WEST OF CENTERLINE RIVERSIDE. NGVD29

CITY OF RIALTO
SANTA ANA TRUCK TERMINAL
LANDSCAPE AND IRRIGATION
PLANTING SPECIFICATIONS

20 OF 21 SHEETS

FOR: CROWN ENTERPRISES
PPD# 2023-0006
PLAN No. _____

SECTION 328400
PLANTING IRRIGATION

PART 1 - GENERAL

1.1 DESCRIPTION

A. The work in this section consists of furnishing, layout and installing an irrigation system complete, including certification of irrigation system installation as required by the State of California Model Water Ordinance described herein.

1.2 CITY REQUIREMENTS

A. CONTRACTOR shall be familiar with and follow the City or Municipality's Efficient Water Landscape Ordinance Requirements.

B. Coordination with City's Public Works Department

1. A minimum of 11 weeks prior to need for service connection, CONTRACTOR shall contact the City's Public Works Department to establish a start date to install the new water service lateral and the irrigation water meter.

2. The City will install service lateral from the water main in the street to the location shown on the plans, including the meter box. City will supply and install the irrigation meter.

3. It is the responsibility of the Contractor to furnish and install an approved Reduced Pressure Principle (RPP) type backflow prevention assembly on General Metered Service. This assembly must be installed above ground immediately following the service connections. Any deviation from the locations indicated must be approved in advance by the City Public Works Department. City requires all backflow devices to be lead free and the backflow model is to be as specified on the plans, or approved equal.

4. The RPP assembly must be installed and tested by the City before allowing water use through its services. 24 hours prior to initiating service you must contact the City Public Works Department and they will perform a field inspection and test.

1.3 QUALITY ASSURANCE

A. Manufacturer's Specifications: Follow manufacturer's current printed specifications and drawings in all cases where the manufacturers of articles used in the Contract furnish directions covering points not specified or shown in the drawings.

B. Ordinances and Regulations: All local, municipal and state laws, codes and regulations governing or relating to all portions of this work are hereby incorporated into and made a part of these Specifications. Anything contained in these Specifications shall not be construed to conflict with any of the above codes, regulations or requirements of the same. However, when these Specifications and Drawings call for or describe materials, workmanship or construction of a better quality, higher standard, or larger size than is required by the above codes and regulations, the provisions of these Specifications and Drawings shall take precedence. Furnish without extra charge additional materials and labor required to comply with above rules and regulations.

C. References, Codes and Standards:

1. City Municipal Codes
2. California Environmental Quality Act (CEQA)
3. Water Use Classification of Landscape Species (WUCOLS).
4. American Society of Irrigation Consultants (ASIC) Design Guidelines.
5. California Landscape Standards, California Landscape Contractors Association, (CLCA) Sacramento, California.
6. CAL-OSHA, title 8, Subchapter 4-Construction Safety Orders and Subchapter 7-General Industry Safety Orders.
7. California Electric Code.
8. California Plumbing Code (UPC) published by the Association of Western Plumbing Officials.
9. NFPA 24, Section 10.4, Depth of Cover.
10. Underwriters Laboratories (UL): Electrical wiring, controls, motors and devices, UL listed and so labeled.
11. American Society of Testing Materials (ASTM).

D. Furnish without extra charge any additional material and labor when required by the compliance with all above mentioned codes and regulations, though the work be not mentioned in these specifications or shown on the drawings.

E. Experience: Assign a full-time employee to the job as supervisor for the duration of the Contract with a certified landscape technician, irrigation certification through CLCA or minimum of four (4) years experience in landscape irrigation installation.

F. Labor Force: Provide a landscape installation and maintenance force thoroughly familiar with, and trained in, the work to be accomplished to perform the task in a competent, efficient manner acceptable to the Owner's Representative.

G. Explanation of Drawings:

1. Due to the scale of the Drawings, it is not possible to indicate all piping offsets, fittings, sleeves, etc., which may be required. Carefully investigate the conditions affected all of the work and plan accordingly and furnish all required fittings. Install system in such a manner to avoid conflicts with planting, utilities and architectural features.

2. Do not install the irrigation system as shown on the Drawings when it is obvious in the field that obstructions, grade differences or discrepancies in arc dimensions exist that might not have been considered in engineering. Bring such obstruction or differences to the attention of the Owner's Representative. In the event this notification is not given, the CONTRACTOR shall assume full responsibility for any revision necessary.

H. Trench Interference with Tree Root Systems:

1. Prior to trenching, layout main and lateral line locations within Drip Line of trees and review locations with ENGINEER. Relocate any lines that may interfere with existing root systems to avoid or reduce damage to root systems as accepted by Owner's Representative.

Mechanical Trenching is not allowed within dripline of existing trees to be protected except as approved by Owner's Representative

I. Coordinate plant locations with emitter locations.

1. Adjust plant locations in relation to the subsurface emitters as required to ensure that the plant roots receive the proper amount of water in order for it to thrive.

2. Coordinate planting and irrigation and provide hand watering of emitter irrigated and drip irrigated areas as required to maintain moist root zones until end of plant establishment period.

1.4 PROTECTION OF EXISTING STRUCTURES AND UTILITIES

A. The Drawings show, if applicable, existing above and below grade structures and utilities that are known to the OWNER. Locate known existing installations before proceeding with construction operations that may cause damage to such installations. Existing installations shall be kept in service where possible and damage to them shall be repaired with no adjustment of Contract Sum.

B. If other structures or utilities are encountered, request Owner's Representative to provide direction on how to proceed with the Work. If a structure or utility is damaged, take appropriate action to ensure the safety of persons and property.

C. CONTRACTOR to ensure that existing irrigation systems mainline water sources are protected. Maintain water to existing plants served by the existing irrigation system(s). Maintain electrical low voltage conductor connections from the existing irrigation controllers to remote control valves serving existing irrigation systems within and beyond the project limits. CONTRACTOR shall be fully responsible for all repairs to existing irrigation system(s) if a list of deficiencies is not done prior to the start of construction operations and submitted to the Owner's Representative.

1.5 SUBMITTALS

A. Materials List:

1. Submit required copies of the cut sheets and a complete list of materials proposed for installation, along with any proposed substitutions clearly identified and obtain the Owner's Representative's written approval thereof before proceeding. Use only accepted materials and items of equipment.

2. List all materials by manufacturer's name and model number.

B. Substitutions:

1. If the CONTRACTOR desires to substitute a product, he shall list each item and note it as a "substitution" and provide the following information:
   a. Descriptive information describing its similarities to the specified product.

2. If the product is approved and, in the opinion of the Owner's Representative, the substituted product does not perform as well as the specified product, the CONTRACTOR shall replace it with the specified product at no additional cost to the OWNER.

C. Operations and Maintenance Manuals:

1. Prior to the final acceptance of the irrigation system, furnish three (3) individually bound Operation and Maintenance Manuals to the Owner's Representative for use by the OWNER. The manuals shall contain complete enlarged drawings, diagrams and spare parts lists of all equipment installed showing manufacturer's name and address. In addition, each Service Manual shall contain the following:
   a. Index sheet indicating the CONTRACTOR's name, address and phone number.
   b. Copy of the Landscape Irrigation Audit
   c. Copy of the 12-month irrigation schedule and estimate of annual water consumption
   d. Copies of equipment warranties and certificates.
   e. List of equipment with names, addresses and telephone numbers of all local manufacturer representatives.
   f. Complete operating and maintenance instructions in sufficient detail to permit operating personnel to understand, operate and maintain all equipment.
   g. Parts list of all equipment such as controllers, valves, solenoids and heads.

D. Record Drawings:

1. Dimension the location of the following items from two (2) permanent points of reference such as building corners, sidewalks, road intersections, etc.:
   a. Connection to existing water lines/meter.
   b. Connection to electrical power.
   c. Gate valves.
   d. Routing of sprinkler pressure lines (a dimension at least every 100 feet and as required to identify all changes in direction and location).
   e. Remote control valves.
   f. Routing of control valves.
   g. Quick coupling valves.
   h. All sleeve locations.
   i. Routing of all control wiring.
   j. Include all invert elevations below 12".

2. Deliver a reproducible record drawing to the Owner's Representative within seven (7) working days before the date of final review. Delivery of the record drawings shall not relieve the CONTRACTOR of the responsibility of furnishing required information in the future.

E. Controller Plan:

1. Provide one Irrigation Diagram plan in each controller housing. The plan shall show the area controlled by each valve in different colors and for orientation, any major permanent structure such as buildings and roads.

2. Charts to be waterproof and hermetically sealed between two pieces of transparent 10 mil thick plastic and installed in each controller on the door as accepted by the Owner's Representative no later than the time of the coverage test of the irrigation system.

F. Maintenance Material - supply the following tools to the OWNER:

1. Three (3) sets of specialized tools required for removing, disassembling and adjusting each type of sprinkler, valve or other equipment supplied on this project.
2. Two (2) keys for each type of equipment enclosure.
3. Two (2) keys for each type of automatic controller.
4. Two (2) keys for each type of valve (including square type key for valves larger than 2")
5. Two (2) quick-coupler keys and matching hose swivels for each type of quick-coupling valve installed.
6. All lock keys shall be keyed alike.

F. Irrigation Inspection Checklist - supply the attached checklist to the OWNER upon completion:

1.6 PRODUCT DELIVERY, STORAGE AND HANDLING

A. Furnish and deliver materials in manufacturer's packaging, bearing original legible labeling.

B. The CONTRACTOR is cautioned to exercise care in handling, loading, unloading, and storing PVC pipe and fittings. All PVC pipe shall be transported in a vehicle which allows the length of the pipe to lie flat so as not to subject it to undue bending or concentrated external load at any point. Any section of pipe that has been dented, cracked, or otherwise damaged shall be discarded and, if installed, shall be replaced with new piping.

1.7 TRENCH INTERFERENCE WITH TREE ROOT SYSTEMS

A. Prior to trenching, layout main and lateral line locations within Drip Line of trees and review locations with ENGINEER. Relocate any lines that may interfere with existing root systems to avoid or reduce damage to root systems as accepted by Owner's Representative.

1.8 SEQUENCING AND SCHEDULING

A. Acceptance: Do not install main line trenching prior to acceptance by Owner's Representative of rough grades completed under another Section.

B. Coordination: Coordinate with the work of other sections to insure the following sequence of events:

1. Sleeves and Conduits: Installation of all sleeves and conduits to be located under paving and through walls prior to placement of those materials.
2. Stream Bubbler Heads: Install after placement of tree, but prior to backfill with planter soil mix.
3. Coordinate work schedule with Owner's Representative to avoid disruption of landscape maintenance of existing landscaping.
4. Install piping prior to soil preparation (planting soil amendment installation).

1.9 WARRANTY

A. In addition to manufacturer's guarantees and warranties, work shall be warranted for one (1) year from date of final acceptance against defects in material, equipment and workmanship. Warranty shall also cover repair of damage to any part of the premises resulting from leaks or other defects in materials, equipment and workmanship to the satisfaction of the Owner's Representative.

B. Include a copy of the warranty form in the Operation and Maintenance Manual.

1.10 OPERATION

A. Routine: Inspect and adjust all spray heads and control valves including raising or lowering of spray head heights to accommodate plant growth and weather conditions.

B. Controller: Inspect regularly for power interruption and reset clock as required. Adjust station timing to accommodate changes in plant growth and weather conditions.

C. System Failure: Perform all repairs within one (1) operating period. Replacements to match removed products and materials in all respects. Report promptly all damage not resulting from CONTRACTOR's operations. Repair all damage caused by CONTRACTOR at no expense to OWNER.

D. Climate Change: Set and program automatic controllers in response to seasonal requirements and requirements of newly planted materials.

PART 2 - PRODUCTS

2.1 PIPE

A. Pressure Main Line Pipe and Fittings: All PVC fittings shall bear the manufacturer's trademark name, material designation, size, applicable I.P.S. schedule and NSF seal of approval.

B. All main line pipe shall be solvent welded and shall be schedule 40 unless shown otherwise on the Drawings.

1. PVC Pressure Rated Pipe: ASTM D2241 NSF approved Type I, Grade I, solvent welded PVC with an appropriate standard dimension ratio (S.D.R.).
2. PVC Scheduled Pipe: ASTM D1785 NSF approved, Type I,
3. Grade I, solvent welded PVC.
4. PVC Solvent-weld Fittings: ASTM D2466 Schedule 40, 1-2, II-I NSF approved.
5. Solvent Cement and Primer for PVC solvent-weld pipe and fittings: Type and installation methods prescribed by the manufacturer.
6. Connections between Main Lines and RCVs: Schedule 80 PVC (threaded both ends) nipples and fittings unless required otherwise by local jurisdiction
7. Valves 2-inch and larger shall be flanged only.
8. Copper pipe shall be Type K or Red Brass where threaded joints are required and Type L otherwise.

C. All lateral line pipe shall be solvent welded and shall be schedule 40 unless shown otherwise on the Drawings.

2.2 CONTROLLER ENCLOSURES

A. Type: As shown on plans (or approved equal)

2.3 REMOTE CONTROL VALVE: As shown on Drawings and with the following minimum requirements:

A. Remote control valves shall be those normally manufactured for irrigation systems and shall have a slow, consistent speed of closure through entire closing operation, including last portion. To ensure this, the effective diaphragm working area/valve seating opening ratio must be a minimum 3 to 1.

B. Shall be mechanically self-cleaning to help prevent diaphragm or solenoid port plugging. To ensure this, the flush rod should be tapered to vary the size of the port opening as the diaphragm raises and lowers, thus allowing trapped material to escape. Rod is to be finished with a serrated surface to help scrub trapped material out. Screens not acceptable.

C. Shall have removable valve seat so valve can be repaired without removal from irrigation line.

D. Shall have ability to operate manually without the use of wrenches or special keys.

E. Shall have one-piece solenoid that attaches directly to valve without shunts or clips that can be lost.

F. Shall have cross top handle to adjust maximum travel of diaphragm to allow "tuning" of valve and closure.

2.4 BOX FOR REMOTE CONTROL VALVE

A. Valve boxes shall be rated for an h-20 traffic Loading or conform to astm d-638, tensile strength 3400 psi and impact Strength of 1.5 pounds per inch. Valve box extensions shall be of the Same type as the valve box and all covers shall be lockable and be Minimum overall size of 13" x 24" and minimum depth of 24".

2.5 CONTROLLER GROUND

A. Provide each pedestal controller with its own ground rod. Separate the ground rods by a minimum of eight feet. The ground rod shall be an eight foot long by 5/8" diameter U.L. approved copper clad rod or as recommended by controller manufacturer. Install no more than 6" of the ground rod above finish grade. Connect #8 gauge wire with a U.L. approved ground rod clamp to rod and back to ground screw at base of controller with appropriate connector. Make this wire as short as possible, avoiding any kinks or bending. Install within pedestal housing base unless otherwise noted.

B. Provide each irrigation controller with its own independent low voltage common ground wire.

2.6 GENERAL REQUIREMENTS FOR AUTOMATIC CONTROLLERS & CENTRAL:

A. Satellite Controllers: Capable of operating with manufacturer's Central Control System software.

B. Flow Sensors: Compatible with Central Control System and as recommended by Control System manufacturer.

C. Flow Monitors: Compatible with Central Control System and as recommended by manufacturer.

D. Hand Held Remote Control: Portable device as manufactured by Control System manufacturer capable of operating all control valves.

E. Master Control Valve: Master control valve shall be a 24 VAC, industrial type, solenoid control valve, Griswold 2000 series or equal. Valve shall be equipped with spring loaded packless diaphragm, cast iron body and bronze trim. The valve shall be of the normally closed type and shall be equipped with four-prong (cross) flow control. Valve shall be slow closing without chatter settings or adjustment. Valve shall have a mechanical self-purging internal control system with tapered, serrated, scrubbing rod through diaphragm for positive, variable port opening and cleaning. No solenoid port screens. Valve solenoid shall be corrosion-proof, molded in epoxy to form one integral unit with no connection shunts and shall be 24 VAC, 3 watt maximum.

F. Controller Ground:

1. Provide each pedestal controller with its own ground rod set remote from controller as recommended by controller manufacturer. Separate the ground rod by a minimum of eight feet. The ground rod shall be an eight foot long by 5/8" diameter U.L. approved copper clad rod or as recommended by controller manufacturer. Install no more than 6" of the ground rod above finish grade. Connect #8 gauge wire with a U.L. approved ground rod clamp to rod and back to ground screw at base of controller with appropriate connector. Make this wire as short as possible, avoiding any kinks or bending. Install within pedestal housing base unless otherwise noted.

2. Provide each irrigation controller with its own independent low voltage common ground wire.

2.7 CONTROL WIRES

A. Connections between automatic controllers and the solenoid-operated electric control valves shall be made with direct burial copper wire 14- AWG-UF 600 volt (minimum size). Pilot wires shall be a color other than white, and shall be a different color for each automatic controller with wires sharing a common trench. Common wires shall be white in color, with a different color stripe for each controller with wiring sharing the same common trench. No stripe is required if multiple controller wiring is not present.

B. Size of wire shall conform to the remote control valve manufacturer's specification for control wire sizes, but in no case shall the control wire be smaller than #14. Runs over 2,000 lineal feet shall be #12- AWG-UF 600 volt copper wire.

C. All wire splices are to be made within a valve box, with a copper crimp-type connector, and a "3-M" #DBY splice kit or Rain Bird "DBTWC25".

D. Use continuous control wiring between controllers and remote control valves (no splices).

E. Provide polyurethane tag at valve solenoid control wire that shows the controller number and station number. Also refer to valve box lid identification.

F. Provide a spare control wire in each RCV box for future.

2.8 SHRUB POP UP SPRAY HEAD

A. As shown on drawings (or approved equal)

2.9 QUICK COUPLER VALVES:

A. Quick coupler valves shall be as listed on the Drawings with 10" diameter box and lid similar to isolation valve box described below.

2.10 ISOLATION VALVE:

A. Valves 3 inches and smaller: 125 lb. WSP bronze gate valve with screw-in bonnet, non-rising stem and solid wedge disc, NIBCO T-580-A (or approved equal). Valves shall be line size.

2.11 BOX FOR ISOLATION VALVE

A. 10" diameter plastic, Ametek, Brooks, Christy, Rain Bird with bolt down lid marked "irrigation," or accepted equal. Avoid locating valve in paved areas. Provide H/20 Loading concrete box with bolt-down concrete lid if valve is located in paved area. Obtain location approval by Owner's Representative.

2.12 SWING JOINTS

A. Sprinklers and Bubblers: Use Dura, Lasco, Rain Bird or equal pre-assembled swing joints with O-rings.

B. Quick Coupling Valve: Dura 1-inch 1-A2-1-11-18 pre-assembled swing joint with O-rings and Dura quick lock to receive stabilizing rod.

2.13 BACKFLOW PREVENTION DEVICE

A. As required by Code and as shown on Drawings. Provide an Anti-freeze Jacket.

B. Riser assemblies from main line burial depth to backflow preventers shall be Schedule 40 brass pipe.

C. All metallic pipe and fittings installed below grade shall be painted with two coats of Koppers #50 Bitumastic, or approved equal. Pipes may be wrapped with an approved asphaltic tape in lieu of the liquid-applied coating.

D. Backflow preventer shall receive a minimum 6 inch thick concrete coordinated to fit backflow preventer enclosure as shown and as accepted by the Owner's Representative.

2.14 BACKFLOW PREVENTION DEVICE ENCLOSURE - As shown on the drawings

2.15 CONDUIT/SLEEVES

A. Sleeving shall be Schedule 40 PVC pipe sleeves and a minimum of two times the aggregate diameter of all pipes contained within the sleeve. Provide vertical sweep for all electrical conduit on each side of hardscape and terminate ends at 12" minimum depth and 12" from hardscape surface.

2.16 RCV IDENTIFICATION TAGS: Plastic or brass tags with valve number, approximately 2" by 2" with number imprinted, as accepted by Owner's Representative.

2.17 MISCELLANEOUS INSTALLATION MATERIALS

A. Solvent Cement and Primers for Solvent-weld Joints: Make and type approved by manufacturer(s) of pipe and fittings. Maintain cement proper consistency throughout use.

B. Pipe and Joint Compound: Permatex: Do not use on sprinkler inlet port.

2.18 MISCELLANEOUS EQUIPMENT/ACCESSORIES

A. Concrete for equipment pads: Poured-in-place Class A concrete per Section 90 of the Caltrans Standard Specifications.

B. Sleeves and Conduits: See Drawings.

C. Key(s) for Quick-Coupling Valves:
1. Type: Same manufacturer as Quick-Coupling Valve.

2.26 OTHER EQUIPMENT: As shown on Drawings and required for a fully functional irrigation system.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Sleeves and Conduits: Verify that all installed sleeving and conduits are undisturbed and are free of defects or errors introduced by the work of other sections.

B. Water Meter/Water Pressure: Test and verify that existing water pressure is the minimum pressure at maximum system g.p.m. to operate the irrigation system as indicated on the drawings.

C. Stub-outs: Verify that all stub-outs to be provided under another contract are correctly sized, located and installed as noted on Drawings.

D. Notification: Submit written notification to ENGINEER within ten (10) working days of above inspections describing all acceptable and non-acceptable site conditions. Technical Specifications Invitation for Bids No. PW13-11

3.2 TRENCH INTERFERENCE WITH TREE ROOT SYSTEMS:

A. Prior to trenching, layout main and lateral line locations within Drip Line of trees and review locations with ENGINEER. Relocate any lines that may interfere with existing root systems to avoid or reduce damage to root systems as accepted by ENGINEER.

3.3 CONNECTIONS TO SERVICES

A. Provide and coordinate connection to water meter.

B. Provide and coordinate connection of irrigation controller to electrical power source.

3.4 INSTALLATION

A. Install irrigation system components in accordance with this Section, with the Drawings, with the manufacturer's recommendations, and with established industry standards. The CONTRACTOR shall do nothing that may jeopardize any manufacturer warranty.

B. Conduits and Sleeves:

1. Coordination: Provide conduits and sleeves and coordinate installation with other trades.
2. Extent: Install conduits and sleeves where control wires and pipes pass under paving or through walls as shown on Drawings. Extend twelve inches (12") beyond edges of paving and walls and cap ends until ready for use.

C. Excavating and Trenching:

1. Pipe Layout: Layout pipe lines within Spread of Tree Branches as described above in Section 1.7, TRENCH INTERFERENCE WITH TREE ROOT SYSTEMS.
2. Dig trenches wide enough to allow a minimum of three inches (3") between parallel pipe lines. Provide a minimum cover from finish grade as follows:

D. Pipeline Assembly:

1. Install pipe and fittings in accordance with manufacturer's current printed Specifications.
2. Clean all pipes and fittings of dirt, scale and moisture before assembly.
3. Solvent-welded Joints for PVC Pipes:
   a. Solvents: Use solvents and methods specified by pipe manufacturer.
   b. Curing Period: Minimum of one (1) hour before applying any external stress on the piping and at least 24 hours before placing the joint under water pressure.
4. Threaded Joints for Plastic Pipes:
   a. Use Permatex on all threaded PVC fittings except sprinkler heads and quick coupler valve ACME threads.
   b. Joining: Use strap-type friction wrench only. Do not use metal-jawed wrench.
   Assemble finger tight plus one or two turns.
5. Laying of Pipe:
   a. Bedding On-grade: Remove from trench all rocks or clods. Bed pipe in at least 2 inches of soil excavated from trench. Backfill on all sides of piping to provide a uniform bearing.
   b. Snaking: Snake pipe from side to side of trench bottom to allow for expansion and contraction. Minimum allowance for snaking is one (1) additional foot per 100 ft. of pipe.
   c. Moisture Restrictions: Do not lay PVC pipe when there is water in the trench. Do not assemble PVC pipe unless the pipe is dry.

E. Control Valves:

1. Install in valve boxes where shown on Drawings and group together where practical. Install box flush with finish grade, not necessarily level. If valve occurs in drainage swale, relocate out of drainage swale as approved by Owner's Representative.
2. Where two or more valves are installed adjacent to each other, provide at least six inches (6") separation. Align boxes in a row, perpendicular with pavement edge.
3. Permanently mark valve box lid with 2" black valve number and controller letter or with numbered metal tag inside box as approved by Owner's Representative.
4. Refer to control wiring for required spare wire in each valve box.

F. Sprinkler Head Installation:

1. Stream Bubblers:
   1.1. Coordinate installation with planting CONTRACTOR to insure timely and proper placement of heads at new planting.

G. Automatic Controller:

1. General: Install with lock box cutoff switch per local code and manufacturer's current printed specifications.
2. Connection to Valves: Connect remote control valves to controller in clockwise sequence to correspond with station setting beginning with Stations 1, 2, 3, etc.
3. Labeling: Affix controller letter (i.e., "A") on inside of controller cabinet door with minimum of one-inch (1") high permanent letter.
4. Irrigation Diagram: Affix a non-fading, waterproof copy of irrigation diagram to cabinet door below controller name. Irrigation diagram to be sealed between two plastic sheets, 20 mil. minimum thickness. Use a legible reduced copy of the Record Drawing for the irrigation diagram clearly showing all valves operated by the controller, station, number, valve size, and type of planting irrigated. Color code area operated by each valve.

H. Control Wiring:

1. General: Install control wires in common trenches with sprinkler mains and laterals wherever possible. Lay to the bottom side of pipe line. Provide looped slack at valves. Snake wires in trench to allow for contraction of wires. Tie wires in bundles at 10 ft. intervals.
2. Extra Length: Provide 30 inches (30") extra control wire at each remote control valve splice to facilitate the removal of the remote control bonnet to finish grade without cutting wires.
3. Spare: Install one unconnected spare control wire running from the controller through each intermediate control valve box.
4. Size: Minimum size of wire is to be determined strictly by the manufacturer's current printed specifications for remote control valves, but not smaller than #14.
5. Detection Wire: Install a bare #12 copper wire or greater on top of the PVC supply line for the purpose of possible future mine detection search. Install the control wires on the bottom of the PVC supply line with electrical tape every ten feet (10').
6. Splicing: Crimp control wire splices at remote control valves. Seal with specified splicing materials. In-line splices will be allowed only on runs exceeding 2500 feet and only in junction boxes.

I. Closing of Pipe and Flushing of Lines:

1. Capping: Cap or plug all openings as soon as lines have been installed to prevent entrance of materials that would obstruct the pipe. Leave in place until removal is necessary for completion of installation.

J. Detection Wire and Warning Tape:

1. Install a bare # 12 copper wire or greater on top of the PVC supply line for the purpose of possible future mine detection search.
2. Install a continuous PVC irrigation mainline warning tape 12" above the supply line.

K. RCV IDENTIFICATION TAGS: Install in remote control valve box as recommended by manufacturer and as accepted by Owner's Representative.

3.5 MISCELLANEOUS EQUIPMENT

A. Install miscellaneous equipment with concrete footings, brackets, etc., as required and as recommended by manufacturer.

3.6 FIELD QUALITY CONTROL

A. Testing of Irrigation System:

1. Make hydrostatic tests with risers capped when welded PVC joints have cured at least 24 hours. Center load piping with backfill to prevent pipe from moving under pressure.
   Keep all couplings and fittings exposed.
2. Install two (2) pressure gauges at opposite ends of main line system. Pump system up to a minimum of 125 psi the day preceding the scheduled test and verify that pressure is holding. Inspect system early following day and immediately notify Owner's Representative if the test confirmation must be postponed.
3. Apply continuous static water pressure of 125 psi in accordance with Caltrans Standard Specifications Section 20-3.03N, except after a drop in pressure (5 psi maximum), then the pressure must stabilize and remain stable for a one (1) hour minimum period before acceptance of the test.
4. Leaks detected during tests shall be repaired and test repeated until system passes tests at no additional cost to OWNER.

B. Adjustment of the System:

1. Flush and adjust all sprinkler heads for optimum performance and to prevent overspray onto walks, roadways and buildings. Adjust the arc and radius as applicable.
2. Include as a part of the work any nozzle changes or arc adjustments necessary due to daytime windy conditions during grass establishment period. After grass has been established and watering can be performed during calm early morning or evening hours, make any required adjustments to nozzles and arcs.
3. Set all sprinkler heads perpendicular to finished grades unless otherwise noted on the drawings.
4. When the landscape sprinkler system is completed and before planting, perform a coverage test in the presence of the Owner's Representative to determine if the water coverage for planting areas is adequate.
5. Test controllers individually in the presence of the Owner's Representative. Demonstrate that all control valves operate electronically. Provide vehicles and radio equipment as necessary to expedite this process.
6. Demonstrate to Owner's Representative that irrigation scheduling programmed into controller is adequate for plant requirements without causing runoff, and that scheduling capacities of controller are utilized.

3.7 IRRIGATION SCHEDULING AND CONTROLLER PROGRAMMING

A. All irrigation schedules and programs shall be developed, managed and evaluated to utilize the minimum amount of water required to maintain plant health.

3.8 BACKFILL AND COMPACTING

A. General: After system is operating and required tests and reviews have been made, backfill excavations and trenches with clean soil, free of debris.

B. Backfill for All Trenches: Regardless of the type of pipe covered, compact to minimum 95% density under pavements and 85% under planted areas.

C. Finishing: Dress off areas to finish grades. Re-dress any areas which subsequently settle.

D. OWNER's testing agency will test backfill compaction in areas under paving.

3.9 MAINTENANCE

A. The entire sprinkler irrigation system shall be under full automatic operation for a period of 2 days prior to any planting.

B. The Owner's Representative reserves the right to waive or shorten the operation period.

C. Maintain/repair system for full duration of plant maintenance period.

3.10 REVIEWS PRIOR TO ACCEPTANCE

A. Notify the Owner's Representative in advance for the following reviews, according to the time indicated:

1. Supply line pressure test and control wire installation - 72 hours.
2. Coverage and controller test - 72 hours.
3. Final review - 7 days.

B. No reviews will commence without record drawings, without completing previously noted corrections, or without preparing the system for review.

3.11 FINAL REVIEW AND CLEANUP

A. Operate each system in its entirety for the Owner's Representative at time of final review. Any items deemed not acceptable by the Owner's Representative shall be reworked to the complete satisfaction of the Owner's Representative.

B. Provide evidence to the Owner's Representative that the OWNER has received all accessories and equipment as required before final review can occur.

C. Final acceptance and start of warranty period will occur no earlier than the end of the plant maintenance period.

D. For time of final review, CONTRACTOR shall arrange a meeting with the OWNER's maintenance personnel to demonstrate the operation of the irrigation systems automatically in order to verify acceptance and to familiarize the maintenance personnel with the system and recommended programming.

END OF SECTION 32 84 00

WDID #: XXXXXXX

UNDERGROUND SERVICE ALERT
CALL BEFORE YOU DIG
CALL:TOLL FREE
1-800
422-4133
TWO WORKING DAYS BEFORE YOU DIG

MARK	REVISIONS	APPR.	DATE

DESIGNED BY: EL DRAWN BY: EH CHECKED BY: TM

SEAL-DESIGN ENGINEER
LICENSED LANDSCAPE ARCHITECT, Michael P. Madsen License No. 5798, Signature, Renewal Date, Date, STATE OF CALIFORNIA
DATE: 10/28/2024

PREPARED UNDER THE SUPERVISION OF:
MICHAEL MADSEN, PLA 5798, EXP. 8/31/2025 — 10/28/2024 DATE
RECOMMENDED FOR APPROVAL BY WILLDAN ENGINEERING:
RONALD J. STEIN, RCE 86877 — DATE
APPROVED BY:
MICHAEL ACKERMAN, ACTING CITY ENGINEER, RCE 64663 — DATE

Kimley»Horn

3880 LEMON STREET, SUITE 420; RIVERSIDE, CA 92501
PHONE: 951-543-9868
WWW.KIMLEY-HORN.COM

BENCH MARK: CITY OF RIALTO BENCHMARK NO. "007-88" ELEVATION= 1014.39 FEET
DESCRIPTION: CITY OF RIALTO BRASS DISC IN N/W CORNER PCC CATCH BASIN 4 FT NORTH OF CURB 40 FT NORTH OF CENTERLINE SLOVER 66 FT WEST OF CENTERLINE RIVERSIDE. NGVD29

CITY OF RIALTO
SANTA ANA TRUCK TERMINAL
LANDSCAPE AND IRRIGATION
IRRIGATION SPECIFICATIONS

21 OF 21 SHEETS

FOR: CROWN ENTERPRISES
PPD# 2023-0006
PLAN No. ______

Appendix O
Traffic Study

Traffic Study

for:

249 Santa Ana Avenue Truck Terminal

In the City of Rialto

April 2023

Kimley»Horn

TRAFFIC STUDY
FOR THE PROPOSED
249 SANTA ANA AVENUE TRUCK TERMINAL PROJECT
IN THE CITY OF RIALTO

Prepared by:

Kimley-Horn and Associates, Inc.
1100 Town and Country Rd, Suite 700
Orange, California 92868

April 2023

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TRAFFIC STUDY
FOR THE PROPOSED
249 SANTA ANA AVENUE TRUCK TERMINAL PROJECT
IN THE CITY OF RIALTO

I. INTRODUCTION

A. Purpose of the TIA and Study Objectives

This Traffic Study has been prepared to address the traffic-related effects of the proposed 249 Santa Ana Avenue Truck Terminal project in the City of Rialto.

This Traffic Study has been conducted in accordance with the traffic study requirements of the City of Rialto, based on the City's *Traffic Impact Analysis Report Guidelines and Requirements* (October 2021), and in accordance with San Bernardino Association of Governments (SANBAG) Congestion Management Program (CMP) requirements.

This report includes a description of existing traffic conditions in the surrounding area, estimated project trip generation and distribution, future traffic growth, and an assessment of project-related effects on the roadway system. Where necessary, circulation system improvements have been identified to achieve acceptable intersection operation in the vicinity of the project.

The project will be evaluated for the following scenarios:

- Existing Conditions
- Opening Year 2024
- Opening Year 2024 Plus Project
- Opening Year 2024 Cumulative
- Opening Year 2024 Cumulative Plus Project

B. Site Plan Location and Study Area

The project site is located on Santa Ana Avenue approximately 2,000 feet east of Riverside Avenue in the City of Rialto. The project site is bounded by Santa Ana Avenue to the north, industrial uses to the west, a water treatment plant to the east, and vacant land to the south. The project site is located on approximately 45.5 acres of vacant land. The project site is located approximately 700 feet from the City of Rialto's border with the City of Colton. The project site is shown in its regional setting on **Figure 1**.

NOT TO SCALE

FIGURE 1
VICINITY MAP

Development Project Identification

Pending.

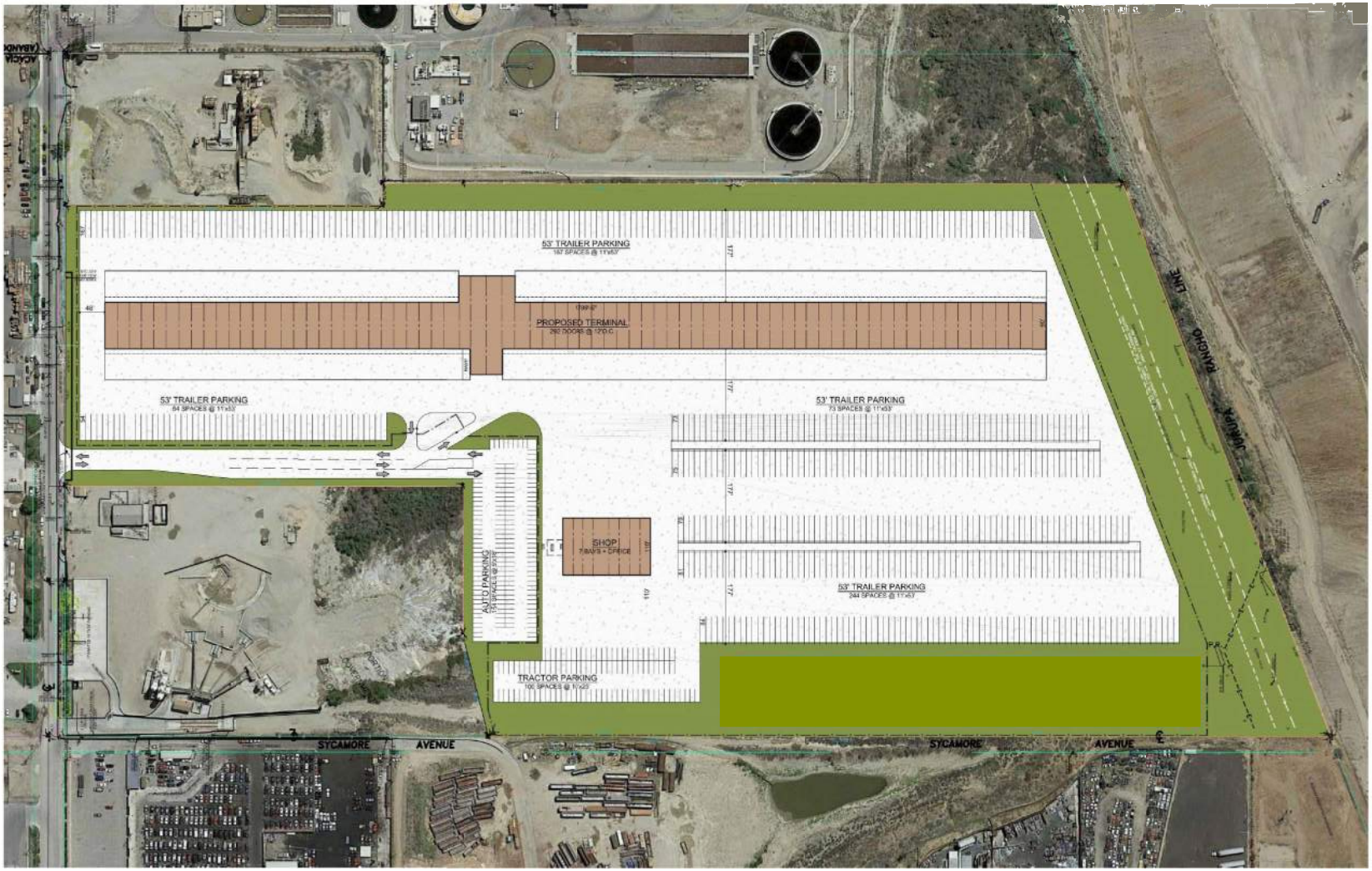
C. Development Project Description

The project will involve the construction of a truck terminal with 280 bay doors, a maintenance shop/office, 538 trailer parking stalls, 100 tractor parking stalls, and 154 employee parking stalls. The project site is located within the Agua Mansa Specific Plan, which is generally bounded by Interstate 10 to the north, Market Street to the south, Rancho Avenue and the Santa Ana River to the east, and Cedar Avenue and residential uses to the west. The Agua Mansa Specific Plan area covers 4,285 acres, with 12 separate Planning Areas, and is approved for a variety of land uses including residential, agricultural, and industrial uses. A copy of the project site plan is provided on **Figure 2**.

The Project site is located within Sub-Area 8 of the Agua Mansa Specific Plan. The City's General Plan land use designation for the Project site is the Heavy Industrial (H-IND) zone of the Agua Mansa Industrial Corridor Specific Plan.

Vehicular access provisions for the project site would be provided via one full-movement driveway on Santa Ana Avenue. The project driveway would be unsignalized and would allow access for both passenger vehicles and trucks.

The proposed opening year for the project is Year 2024. The project will be developed in a single project phase.


53' TRAILER PARKING
PROPOSED TERMINAL
53' TRAILER PARKING
53' TRAILER PARKING
SHOP
AUTO PARKING
53' TRAILER PARKING
TRACTOR PARKING
SYCAMORE AVENUE
SYCAMORE AVENUE
RANCHO LANE

D. Analysis Methodology

1. Intersection Analysis – HCM Methodology

Peak hour intersection operations at signalized and unsignalized intersections were evaluated using the methods prescribed in the Highway Capacity Manual (HCM) 7th Edition, consistent with the requirements of the City of Rialto and the San Bernardino County CMP.

The City of Rialto guidelines require analysis of traffic operations to be based on the vehicular delay methodologies of the HCM (Transportation Research Board Special Report 209). The intersection analysis for the proposed project has been accomplished using the VISTRO software program and using the specified input parameters outlined in the City's *Traffic Impact Analysis Report Guidelines and Requirements*.

Per the HCM Methodology, Level of Service (LOS) for signalized intersections is defined in terms of average vehicle delay. Specifically, LOS criteria are stated in terms of the average control delay per vehicle for the peak 15-minute period within the hour analyzed. The charts on the following page provide a description of the operating characteristics of each Level of Service and define the LOS in terms of average seconds of delay for signalized and unsignalized intersections.

2. Level of Service Standards and Measure of Significance

The City of Rialto, per the City of Rialto 2010 General Plan Update, establishes minimum Level of Service standards. According to Policy 4-1.20 of the General Plan document, the City requires that signalized intersections operate at LOS D or better during the morning and evening peak hours. The City's Traffic Study Guidelines require new development to mitigate effects that cause the Level of Service to fall below LOS D, or cause the peak hour delay to increase as follows:

- LOS A/B – by 10.0 seconds
- LOS C – by 8.0 seconds
- LOS D – by 5.0 seconds
- LOS E – by 2.0 seconds
- LOS F – by 1.0 second

The City's traffic study guidelines require unsignalized intersections to operate with no vehicular movement having an average delay exceeding 120 seconds during the morning and evening peak hours.

LEVEL OF SERVICE DEFINITIONS	
Level of Service	**Description**
A	No approach phase is fully utilized by traffic and no vehicle waits longer than one red indication. Typically, the approach appears quite open, turns are made easily and nearly all drivers find freedom of operation.
B	This service level represents stable operation, where an occasional approach phase is fully utilized, and a substantial number are approaching full use. Many drivers begin to feel restricted within platoons of vehicles.
C	This level still represents stable operating conditions. Occasionally drivers may have to wait through more than one red signal indication, and backups may develop behind turning vehicles. Most drivers feel somewhat restricted but not objectionably so.
D	This level encompasses a zone of increasing restriction, approaching instability at the intersection. Delays to approaching vehicles may be substantial during short peaks within the peak period; however, enough cycles with lower demand occur to permit periodic clearance of developing queues, thus preventing excessive backups.
E	Capacity occurs at the upper end of this service level. It represents the most vehicles that any particular intersection approach can accommodate. Full utilization of every signal cycle is seldom attained no matter how great the demand.
F	This level describes forced flow operations at low speeds, where volumes exceed capacity. These conditions usually result from queues of vehicles backing up from a restriction downstream. Speeds are reduced substantially, and stoppages may occur for short or long periods of time due to the congestion. In the extreme case, both speed and volume can drop to zero.

LEVEL OF SERVICE CRITERIA FOR SIGNALIZED AND UNSIGNALIZED INTERSECTIONS		
Level of Service	**Signalized Intersection (Average delay per vehicle, in seconds)** [1]	**Unsignalized Intersections (Average delay per vehicle, in seconds)** [2]
A	≤ 10	0 – 10
B	> 10 – 20	> 10 – 15
C	> 20 – 35	> 15 – 25
D	> 35 – 55	> 25 – 35
E	> 55 – 80	> 35 – 50
F	> 80	> 50

[1] Source: Highway Capacity Manual HCM 7th Edition, Exhibit 19-8.
[2] Source: Highway Capacity Manual HCM 7th Edition, Exhibit 20-2.

Roadway Segment Analysis

The roadway segment analysis will address the project's effect on daily operating conditions on roadway segments within the project vicinity. Roadway segments are evaluated by comparing the daily traffic volume on a roadway segment to the daily capacity of that segment, to determine the volume-to-capacity (v/c) ratio. Daily capacity is based on the roadway classification, as shown in the following chart:

CITY OF RIALTO ROADWAY CAPACITY (1)				
Roadway Classification	**No. of Lanes**	**Two-Way Traffic Volume (ADT)(2)**		
		Service Level C	**Service Level D**	**Service Level E**
Local	2	2,500-2,799	2,800-3,099	3,100 +
Collector (60' or 64')	2	9,900-11,199	11,200-12,499	12,500 +
Industrial (45')	2	9,900-11,199	11,200-12,499	12,500 +
Arterial(3)	2	14,400-16,199	16,200-17,999	18,000 +
Secondary Highway	4	16,900-19,399	19,400-21,999	22,000 +
Modified Arterial (100')	4	26,200-29,599	29,600-32,999	33,000 +
Arterial (120')	6	38,700-44,099	44,100-49,499	49,500 +

Notes:
(1) All capacity figures are based on optimum conditions and are intended as guidelines for planning purposes only
(2) Maximum two-way ADT values are based on the 1999 Modified Highway Capacity Manual Level of Service Tables.
(3) Two-lane roads designated as future arterials that conform to arterial design standards for vertical and horizontal alignments are analyzed as arterials.

Source: City of Rialto *Traffic Impact Analysis Report Guidelines and Requirements* (2013)

II. AREA CONDITIONS

A. Identify Study Area and Intersections

This traffic study includes identification of project-related effects at the following study intersections and roadways:

Intersections

1. Riverside Avenue at I-10 WB Ramps
2. Riverside Avenue at I-10 EB Ramps
3. Riverside Avenue at Slover Avenue
4. Riverside Avenue at Santa Ana Avenue
5. Riverside Avenue at Jurupa Avenue

D1. Santa Ana Avenue at Project Driveway

Roadway Segments

1. Riverside Avenue: I-10 EB Ramps to Slover Avenue
2. Riverside Avenue: Slover Avenue to Santa Ana Avenue
3. Riverside Avenue: Santa Ana Avenue to Jurupa Avenue
4. Santa Ana Avenue: East of Riverside Avenue

The study locations were established in conjunction with City staff through the Scoping Agreement process (Exhibit B of the City of Rialto *Traffic Impact Analysis Report Guidelines and Requirements*). A copy of the approved Scoping Agreement is provided in ***Appendix A***.

Due to current construction on Riverside Avenue, recent historical accounts collected in April 2018 were used for this analysis. An ambient annual growth rate of two (2) percent per year was applied to historical counts to develop existing year 2023 volumes.

B. Description of Existing Roads, Traffic Control, and Intersection Geometrics

Regional access to the site is provided primarily by Interstate 10 (1-10) Freeway, approximately one mile to the north of the project site. In addition, the Interstate 215 (I-215) Freeway is located approximately 4 miles to the east of the site, the Interstate 15 (I-15) Freeway is approximately 10 miles to the west of the site, and access to the State Route 60 (SR 60) Highway is approximately 4 miles to the south.

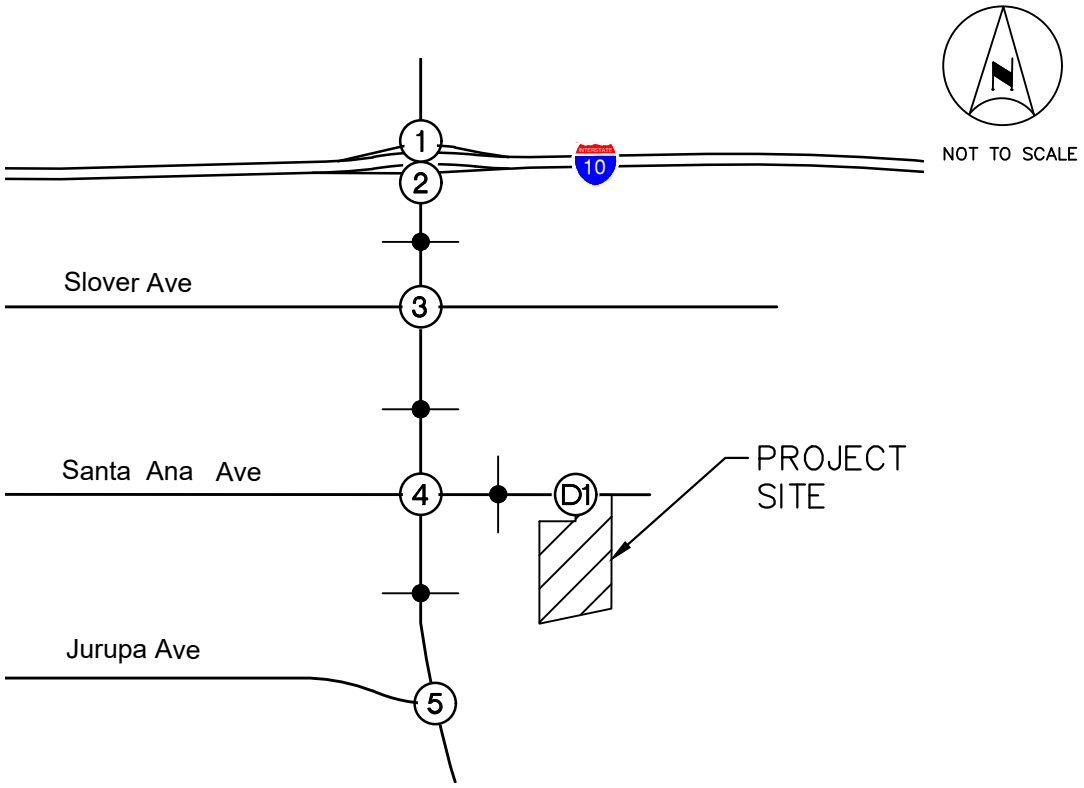
Existing lane configurations and intersection controls at the study intersections are shown on **Figure 3**. The following provides a description of the roadways surrounding the project site.

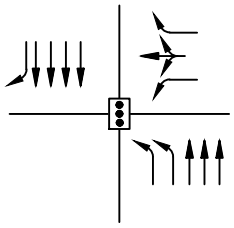
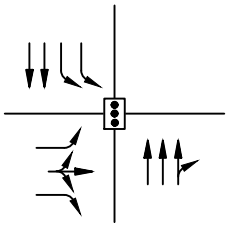
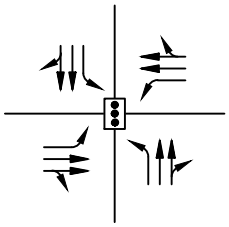
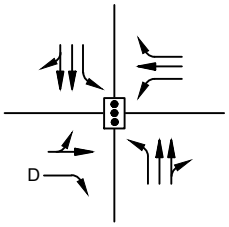
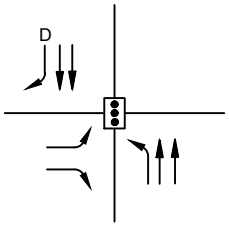
Santa Ana Avenue – Santa Ana Avenue is a two lane east-west roadway. The posted speed limit on Santa Ana Avenue is 40 miles per hour (mph) and on-street parking is permitted. Santa Ana Avenue is designated as a Collector Street east of Riverside Avenue and a Secondary Arterial west of Riverside Avenue in the City's Circulation Element. Santa Ana Avenue is a designated truck route for its entire length within the City.

Riverside Avenue – Riverside Avenue is currently a four- to six-lane north-south roadway divided by a painted median through the study area. The posted speed limit is 50 mph and on-street parking is prohibited on both sides of the roadway. Riverside Avenue is designated as a Modified Major Arterial II between San Bernardino Avenue and Slover Avenue, and a Modified Arterial I between Slover Avenue and the southern City boundary in the City's Circulation Element. The ultimate configuration will also accommodate a bike lane on each side of the roadway. Riverside Avenue is a designated truck route for its entire length within the Agua Mansa Specific Plan. Riverside Avenue provides direct access to the I-10 Freeway interchange to the north of the project site. The posted speed limit is 50mph.

Slover Avenue – Slover Avenue is a four-lane east-west roadway divided by a painted median through the study area. The posted speed limit is 45 mph and on-street parking is prohibited on both sides of the street. Slover Avenue is designated as a Major Arterial in the City's Circulation Element. Slover Avenue is a designated truck route between Riverside Avenue and Cedar Avenue.

Jurupa Avenue – Jurupa Avenue is a two-lane east-west undivided roadway. Between Riverside Avenue and Willow Avenue, Jurupa Avenue has four lanes and remains undivided. The posted speed limit is 40 mph and on-street parking is prohibited on both sides of the street. Jurupa Avenue is designated as a Secondary Arterial in the City's Circulation Element.



1. Riverside Ave at I-10 WB Ramps	2. Riverside Ave at I-10 EB Ramps	3. Riverside Ave at Slover Avenue
		
4. Riverside Ave at Santa Ana Ave	**5. Riverside Ave at Jurupa Avenue**	**D1. Santa Ana Ave at Project Driveway 1**
		FUTURE INTERSECTION

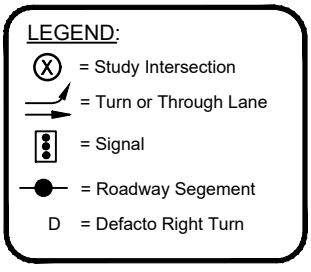


FIGURE 3
EXISTING LANE CONFIGURATION
AND TRAFFIC CONTROL

C. Existing Traffic Volumes

As mentioned earlier, historical traffic data was used for the study intersections and grown to create existing year 2023 traffic volumes. Copies of the traffic count data worksheets are provided in ***Appendix B***.

Traffic count data included vehicle classifications for passenger vehicles and trucks. Vehicle classifications are necessary to compute Passenger Car Equivalent (PCE) volumes, which are used in the traffic analysis to address the truck-related traffic effect on intersection and roadway operation.

The PCE volumes were developed by applying a PCE factor of 1.5 for 2-axle trucks, 2.0 for 3-axle trucks, and 3.0 for trucks with 4 or more axles. These factors are consistent with the City of Rialto's *Traffic Impact Analysis Guidelines and Requirements*. PCE volume worksheets are provided in ***Appendix C***. Existing morning and evening peak hour volumes with the PCE factors applied are presented on **Figure 4**.

D. Existing Delay and Level of Service

Peak Hour Operating Conditions

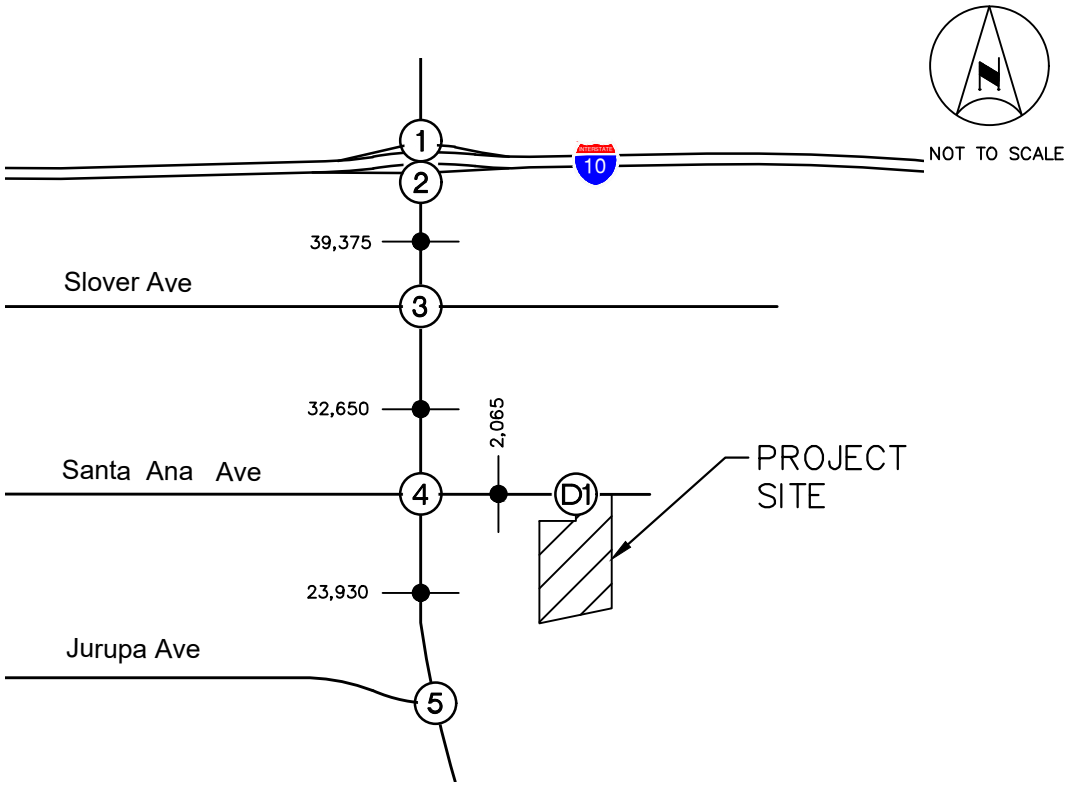
Intersection Level of Service analysis was conducted for the morning and evening peak hours using the analysis procedures and assumptions described previously in this report. The results of the intersection analysis for Existing Conditions are shown on **Table 1**.

Review of this table indicates that all study intersections are currently operating at an acceptable Level of Service. Copies of the intersection analysis worksheets are provided in ***Appendix D***.

Daily Roadway Operating Conditions

Roadway Level of Service analysis was conducted for the Existing Conditions scenario and the results are shown on **Table 2**. Review of this table indicates that the following roadway segment currently operates at an unacceptable LOS:

- Riverside Avenue: I-10 EB Ramps to Slover Avenue



1. Riverside Ave at I-10 WB Ramps	2. Riverside Ave at I-10 EB Ramps	3. Riverside Ave at Slover Avenue
599/437 ← 1142/1302 ↖ 402/585 ↑ 6/2 ← 588/625 ↖ 341/371 ↗ 988/1706 ↑	1368/1454 ← 451/501 ↖ 379/644 ↘ 10/0 → 532/482 ↘ 1016/1436 ↑ 455/675 ↗	463/324 ↖ 1389/1649 ← 54/29 ↙ 36/83 ↑ 18/34 ← 33/37 ↖ 271/470 ↘ 21/132 → 79/168 ↘ 78/38 ↗ 1095/1571 ↑ 31/23 ↗
4. Riverside Ave at Santa Ana Ave	**5. Riverside Ave at Jurupa Avenue**	**D1. Santa Ana Ave at Project Driveway 1**
136/87 ↖ 1341/1707 ← 85/51 ↙ 79/72 ↑ 42/20 ← 42/44 ↖ 99/122 ↘ 31/16 → 69/106 ↘ 78/97 ↗ 1071/1414 ↑ 63/19 ↗	56/53 ↖ 1220/1839 ← 42/35 ↘ 119/182 ↘ 110/117 ↑ 1067/1414 ↑	FUTURE INTERSECTION

Note: Volumes reflect PCE adjustments.

LEGEND:

- ⓧ = Study Intersection
- —●— = Roadway Segement + ADT Volumes
- XX/YY = AM/PM Peak Hour Turning Movement Volumes

FIGURE 4
EXISTING PEAK HOUR TRAFFIC VOLUMES

TABLE 1
SUMMARY OF INTERSECTION OPERATIONS
EXISTING CONDITIONS

Int. #	Intersection	Traffic Control	AM Peak Hour		PM Peak Hour	
			Delay	LOS	Delay	LOS
1	Riverside Avenue at I-10 WB Ramps	S	20.1	C	20.0	B
2	Riverside Avenue at I-10 EB Ramps	S	20.3	C	27.0	C
3	Riverside Avenue at Slover Avenue	S	20.5	C	43.8	D
4	Riverside Avenue at Santa Ana Avenue	S	14.6	B	15.6	B
5	Riverside Avenue at Jurupa Avenue	S	8.4	A	11.3	B

Notes:
- **Bold** and shaded values indicate intersections operating at an unacceptable Level of Service.
- At a signalized intersection, delay refers to the average control delay for the entire intersection, measured in seconds per vehicle.
- S = Signalized

TABLE 2
SUMMARY OF ROADWAY ANALYSIS
EXISTING CONDITIONS

Roadway	Segment	Current Configuration	LOS D Capacity	Existing ADT	Existing ADT w/ PCE	LOS D or Better?
Riverside Avenue	I-10 EB Ramps to Slover Avenue	4 Lanes Divided	32,999	33,990	39,375	**No**
	Slover Avenue to Santa Ana Avenue	4 Lanes Divided	32,999	27,760	32,650	Yes
	Santa Ana Avenue to Jurupa Avenue	4 Lanes Divided	32,999	23,930	23,930	Yes
Santa Ana Avenue	East of Riverside Avenue	2 Lanes Undivided	21,999	1,430	2,065	Yes

Notes: LOS = Level of Service
ADT = Average Daily Traffic
PCE = Passenger Car Equivalent

E. General Plan Circulation Element

The General Plan Circulation Element provides street classifications near the project vicinity. A copy of the General Plan Street Classifications is provided on **Figure 5**. Designated truck routes in the City of Rialto General Plan are shown on **Figure 6**.

F. Transit Service

Transit service to the project area is provided via the OmniTrans transit lines, which serve various cities in San Bernardino. Bus stops in the project vicinity are located along Riverside Avenue and Valley Boulevard, approximately 1 mile to north and Spruce Avenue approximately 1.5 mile to the west. A description of the bus routes serving the project area is provided below.

OmniTrans Route 22 operates between the City of Rialto and the City of Colton through Rialto along Riverside Avenue in the project vicinity. Route 22 operates on weekdays from 5:00 AM to 9:40 PM with approximately 1-hour headways, on Saturdays from 7:15 AM to 6:30 PM with approximately 1-hour headways, and on Sundays from 7:30 AM to 6:40 PM with approximately 1-hour headways. Route 22 has a transfer point with Route 10 at the intersection of Riverside Avenue and Baseline Road.

OmniTrans Route 329 operates between Bloomington (unincorporated area) and the City of Fontana Valley Boulevard in the project vicinity. Route 329 operates on weekdays from 6:45 AM to 6:40 PM with approximately 1-hour headways and on Saturdays from 7:45 AM to 6:40 PM with approximately 1-hour headways.

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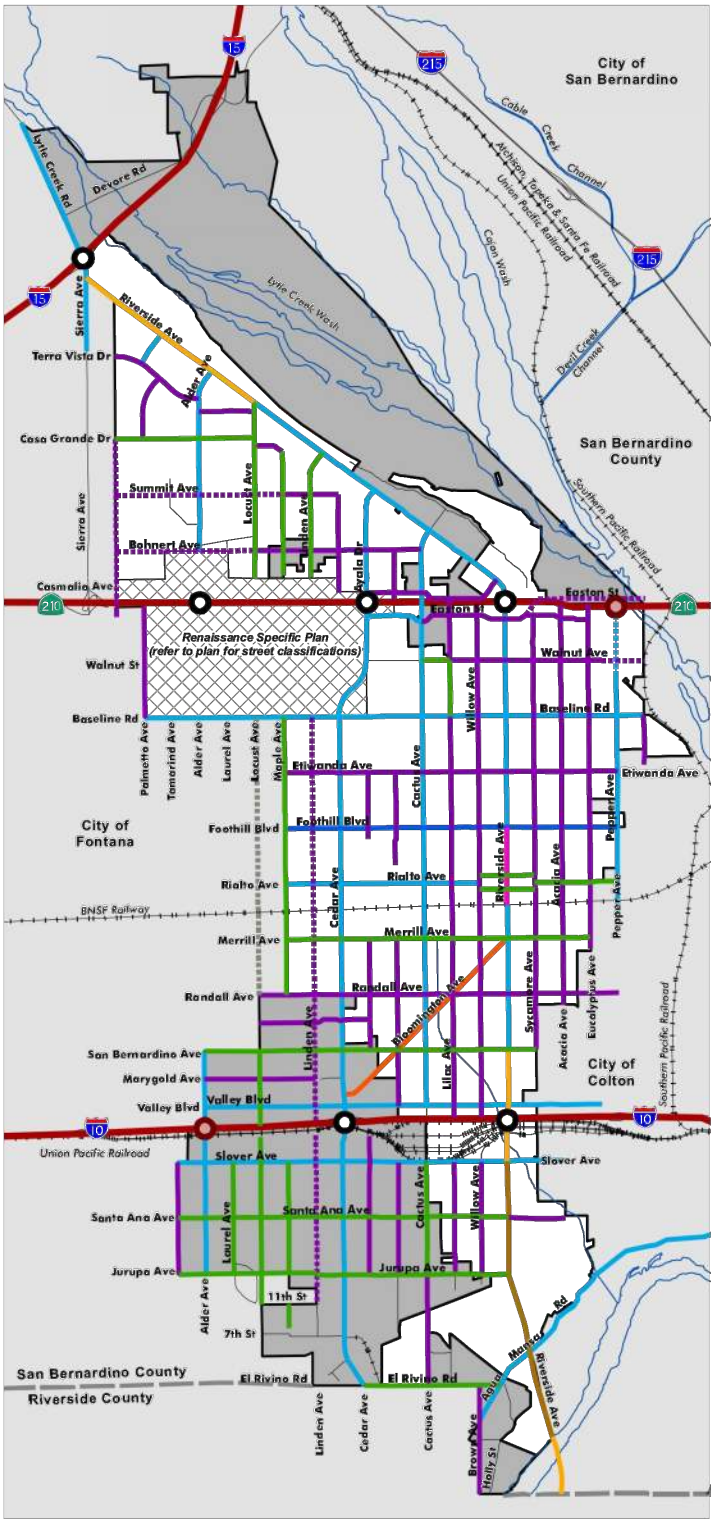


Street Classification

Existing right-of-ways are indicated with a solid line, proposed right-of-ways are indicated with a dotted line, and right-of-ways outside the planning area are indicated with a gray line.

- Freeway
- Major Arterial Highway
- Major Arterial
- Major Arterial
- Modified Major Arterial I
- Modified Major Arterial II
- Modified Arterial I
- Modified Arterial II
- Secondary Arterial
- Secondary Arterial
- Secondary Arterial
- Collector Street
- Collector Street

Freeway Interchanges

- Existing Interchange
- Planned Future Interchange

Base Map Features

- Rialto Incorporated Area
- Rialto Sphere of Influence
- County Boundary
- Local Road
- Railroad
- Hydrological Feature

FIGURE 5
GENERAL PLAN STREET CLASSIFICATIONS

NOT TO SCALE

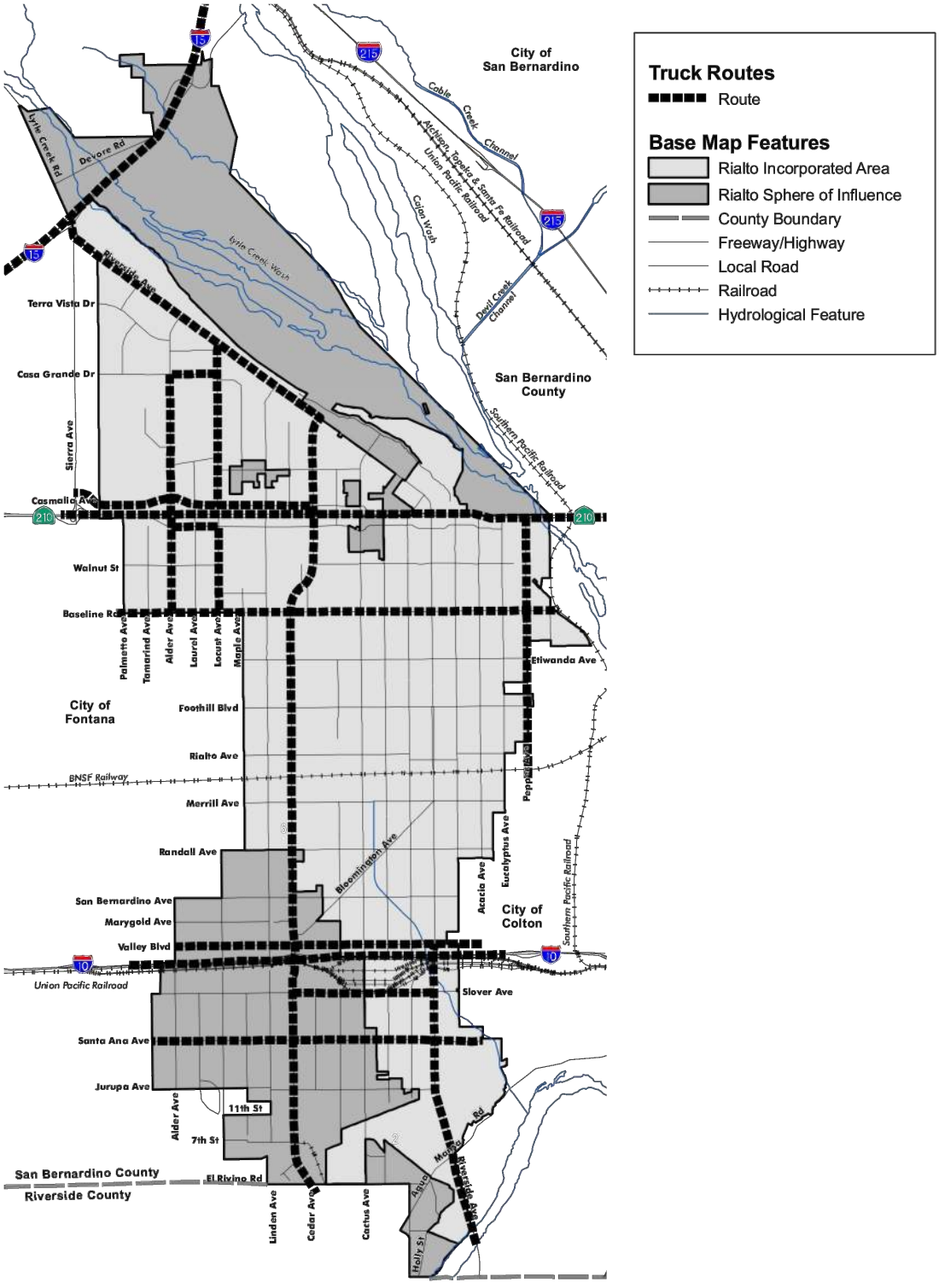


FIGURE 6
GENERAL PLAN TRUCK ROUTES

III. PROJECTED FUTURE TRAFFIC

A. Ambient Growth Rate

An ambient growth rate of 2.0% per year was applied to existing peak hour traffic volumes to develop Opening Year 2024 forecasts. The resulting peak hour Opening Year 2024 traffic volumes are shown on **Figure 7.**

B. Opening Year 2024

Peak Hour Operating Conditions

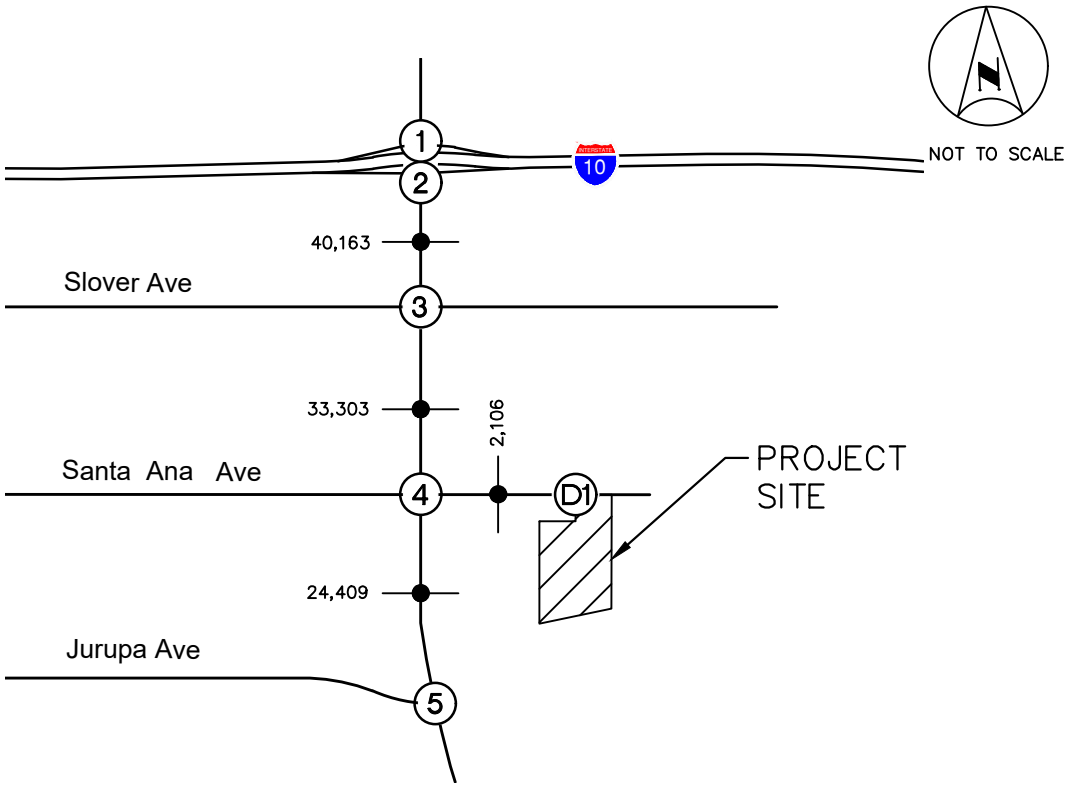
Intersection Level of Service analysis was conducted for Opening Year 2024. The results are shown on **Table 3**. Intersection analysis worksheets for this scenario are provided in ***Appendix D***.

Review of this table indicates that with the addition of ambient growth, all study intersections would continue to operate at an acceptable Level of Service.

Daily Roadway Operating Conditions

Roadway Level of Service analysis was conducted for the Opening Year 2024 scenario and the results are shown on **Table 4**. Review of this table indicates that the following roadway segments would operate at an unacceptable LOS:

- Riverside Avenue: I-10 EB Ramps to Slover Avenue
- Riverside Avenue: Slover Avenue to Santa Ana Avenue



1. Riverside Ave at I-10 WB Ramps	2. Riverside Ave at I-10 EB Ramps	3. Riverside Ave at Slover Avenue
600/435 ← 1143/1294 ↖ ; 403/581 ← 6/2 ← 589/621 ↖ ; 342/369 ↑ 989/1696 ↑	1305/1443 ← 430/497 ↙ ; 361/640 → 9/0 → 507/478 ↘ ; 969/1425 ↑ 434/670 ↑	447/310 ← 1339/1579 ← 52/28 ↙ ; 35/80 ← 17/33 ← 32/36 ↖ ; 261/450 → 20/126 → 77/161 ↘ ; 75/37 ↑ 1056/1505 ↑ 30/22 ↑
4. Riverside Ave at Santa Ana Ave	**5. Riverside Ave at Jurupa Avenue**	**D1. Santa Ana Ave at Project Driveway 1**
129/83 ← 1269/1626 ← 81/49 ↙ ; 74/68 ← 40/19 ← 40/42 ↖ ; 94/116 → 30/15 → 65/101 ↘ ; 73/93 ↑ 1014/1347 ↑ 59/18 ↑	54/49 ← 1184/1697 ↙ ; 41/33 → 115/168 ↘ ; 107/108 ↑ 1036/1306 ↑	FUTURE INTERSECTION

Note: Volumes reflect PCE adjustments.

LEGEND:

- ⓧ = Study Intersection
- ●— = Roadway Segement + ADT Volumes
- XX/YY = AM/PM Peak Hour Turning Movement Volumes

FIGURE 7
OPENING YEAR 2024 TRAFFIC VOLUMES

TABLE 3
SUMMARY OF INTERSECTION OPERATIONS
OPENING YEAR 2024

Int. #	Intersection	Traffic Control	AM Peak Hour		PM Peak Hour	
			Delay	LOS	Delay	LOS
1	Riverside Avenue at I-10 WB Ramps	S	20.4	C	20.3	C
2	Riverside Avenue at I-10 EB Ramps	S	20.6	C	28.2	C
3	Riverside Avenue at Slover Avenue	S	21.3	C	46.8	D
4	Riverside Avenue at Santa Ana Avenue	S	14.8	B	15.9	B
5	Riverside Avenue at Jurupa Avenue	S	8.5	A	11.7	B

Notes:
- **Bold** and shaded values indicate intersections operating at an unacceptable Level of Service.
- At a signalized intersection, delay refers to the average control delay for the entire intersection, measured in seconds per vehicle.
- S = Signalized

TABLE 4
SUMMARY OF ROADWAY ANALYSIS
OPENING YEAR 2024

Roadway	Segment	LOS D Capacity	Existing ADT	Existing ADT w/ PCE	Existing Plus Growth ADT	LOS D or Better?
Riverside Avenue	I-10 EB Ramps to Slover Avenue	32,999	33,990	39,375	40,163	**No**
	Slover Avenue to Santa Ana Avenue	32,999	27,760	32,650	33,303	**No**
	Santa Ana Avenue to Jurupa Avenue	32,999	23,930	23,930	24,409	Yes
Santa Ana Avenue	East of Riverside Avenue	21,999	1,430	2,065	2,106	Yes

Notes: LOS = Level of Service
ADT = Average Daily Traffic
PCE = Passenger Car Equivalent

C. Project Traffic

1. Project Trip Generation

Trip generation surveys were conducted at an existing 82,095 square-foot Central Transport site located at 2765 Riverside Avenue in the City of Rialto. Vehicle trips entering and exiting the site via the driveways on Riverside Avenue and Industrial Drive were conducted from 6:00 AM to 8:00 PM during two typical weekdays.

Passenger Car Trips

Passenger car trip generation estimates for the proposed project were based on a ratio of the parking stalls provided at the existing Central Transport site, compared to the proposed project. The existing Central Transport site has 83 parking stalls. The proposed project would have 154 parking stalls. When the trips for the existing Central Transport are factored to account for the difference in number of parking stalls, the trips forecasted to be generated by the proposed project would be 377 passenger car trips on a daily basis, 15 passenger car trips (9 inbound and 6 outbound) in the morning peak hour, and 62 passenger car trips (29 inbound and 33 outbound) in the evening peak hour.

Truck Trips

Truck trip generation estimates for the proposed project were based on a ratio of the truck docks provided at the existing Central Transport site, compared to the proposed project.

It should be noted that the current truck operations of the existing site (including at time of data collection) exceed the current building size. As such, the existing site utilizes off-site trailer drop lots that provide a staging buffer until a dock position is available at the existing site. The additional truck trips created from moving truck trailers to/from the off-site drop lot from/to the existing site overestimates the number of truck trips at a typical site. As a result, the truck trip rates have been reduced by 40% to account for this overestimation of truck trips at the existing site.

The existing Central Transport site has 102 truck docks. The proposed project would have 280 truck docks. When the trips for the existing Central Transport are factored to account for the difference in the number of truck docks, the trips forecasted to be generated by the proposed project would be 1,545 truck trips on a daily basis, 111 trips (43 inbound and 68 outbound) in the morning peak hour, and 166 trips (107 inbound and 59 outbound) in the evening peak hour.

Total Project Trips

Passenger car equivalent (PCE) factors were then applied to the truck types, based on number of axles (1.5 for 2-axle trucks, 2.0 PCE for 3-axle trucks, and 3.0 for 4+ axle trucks) to determine the total PCE volumes generated by the project. After applying PCE factors to the estimated truck trips, the project is estimated to generate 1,922 daily PCE trips, with 126 PCE trips in the morning peak hour, and 228 PCE trips in the evening peak hour.

Trip generation rates and the resulting trip generation estimated for the proposed project are summarized on **Table 5**.

2. Trip Distribution and Assignment

Trip distribution assumptions for the project were developed by considering the proposed site uses, and the routes to and from the freeway system for the truck terminal. Separate distribution patterns were assumed for passenger car trips and truck trips and are shown on **Figure 8**. Trip distribution percentages at each study intersection were applied to the project trip generation to determine the project trips through each intersection. The resulting project-related peak hour trips at the study intersections are shown on **Figure 9**. Project-related trips were then added to Opening Year 2024 traffic volumes to develop forecasts for the Opening Year 2024 Plus Project scenario. The resulting peak hour traffic volumes are shown on **Figure 10**.

TABLE 5
SUMMARY OF PROJECT TRIP GENERATION
249 SANTA ANA AVENUE TRUCK TERMINAL PROJECT

TRIP GENERATION RATES [1]

Existing Land Use	Quantity	Unit	Daily	AM Peak Hour			PM Peak Hour		
				In	Out	Total	In	Out	Total
Truck Terminal - Passenger Vehicles	83	Parking Stalls	2.446	0.060	0.042	0.102	0.187	0.217	0.404
Truck Terminal - Trucks [3]	102	Truck Docks	2.050	0.059	0.088	0.147	0.144	0.079	0.224

PROJECT TRIP GENERATION

Project Land Use	Quantity	Unit	Daily	AM Peak Hour			PM Peak Hour		
				In	Out	Total	In	Out	Total
Proposed Passenger Vehicle Trips	154	Parking Stalls	377	9	6	15	29	33	62
Proposed Truck Trips	280	Truck Docks	574	16	25	41	40	22	62
Total Project Trips (Non-PCE)	--	--	**951**	**25**	**31**	**56**	**69**	**55**	**124**

PROJECT TRIPS - PASSENGER CAR EQUIVALENTS (PCE)

Vehicle Type	Vehicle Mix [2]	Daily Vehicles	PCE Factor	Daily	AM Peak Hour			PM Peak Hour		
					In	Out	Total	In	Out	Total
Passenger Vehicles	100.0%	377	1.0	377	9	6	15	29	33	62
2-Axle Trucks	2.0%	11	1.5	17	0	1	1	1	1	2
3-Axle Trucks	28.0%	161	2.0	322	9	14	23	22	12	34
4+ Axle Trucks	70.0%	402	3.0	1,206	34	53	87	84	46	130
Total Truck PCE Trips				1,545	43	68	111	107	59	166
Total Project PCE Trips				**1,922**	**52**	**74**	**126**	**136**	**92**	**228**

[1] Based on trip generation data at a comparable Truck Terminal site in the City of Rialto. Data collection worksheets are provided as Appendix A to the Scoping Agreement.

[2] Source: City of Rialto Traffic Impact Analysis Guidelines for VMT and LOS Assessment, October, 2021

[3] The current truck operations of the existing site (including at time of data collection) exceeds the current building size. As such, the existing site uses off-site trailer drop lots that provide a staging buffer until a dock position is available at the existing site. The additional truck trips created from moving truck trailers to/from the off-site drop lot from/to the existing site overestimates the number of truck trips at a typical site. As a result, the truck trip rates have been reduced by 40% to account for this overestimation of truck trips at the existing site.

PCE = Passenger Car Equivalent

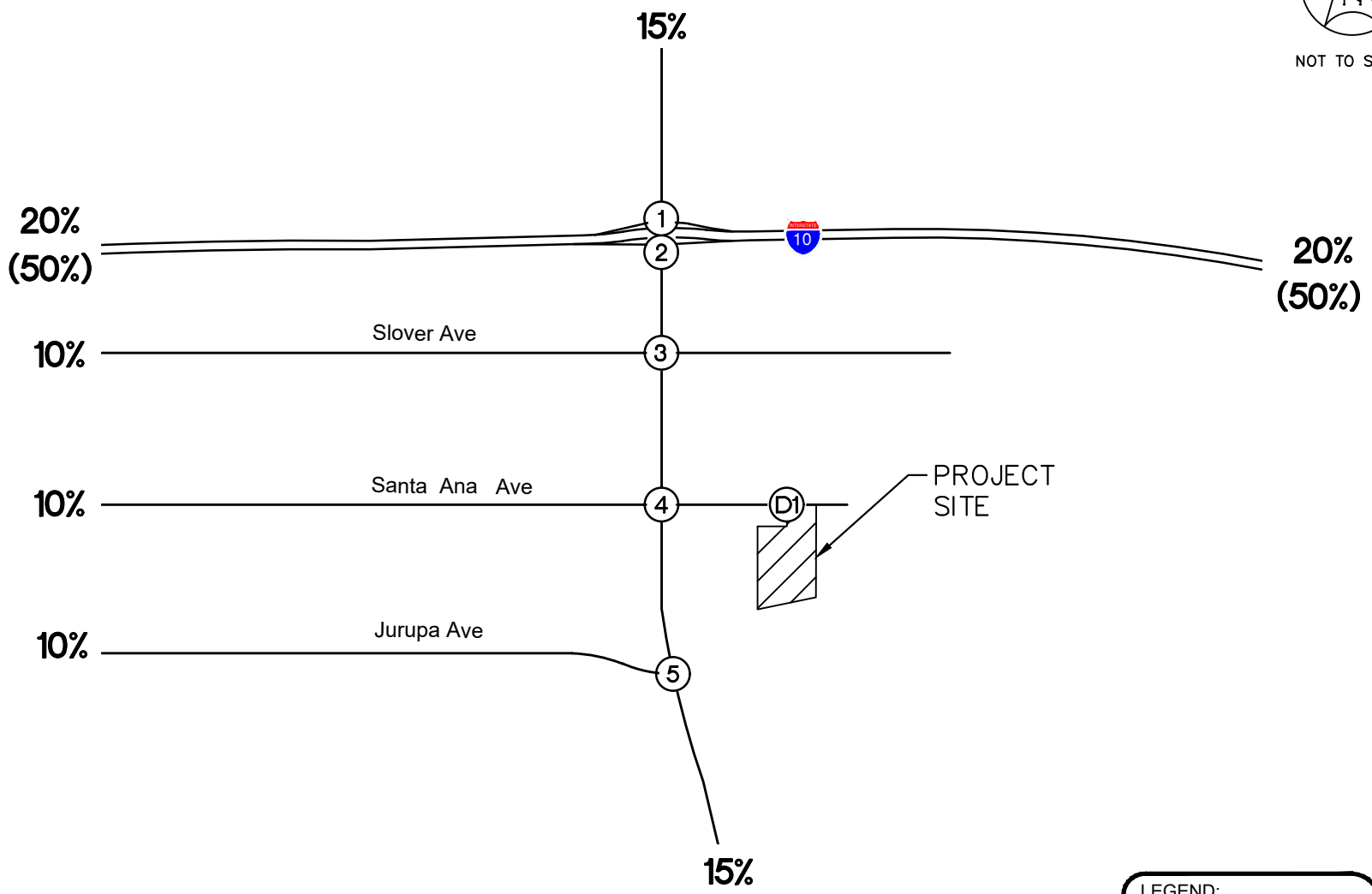
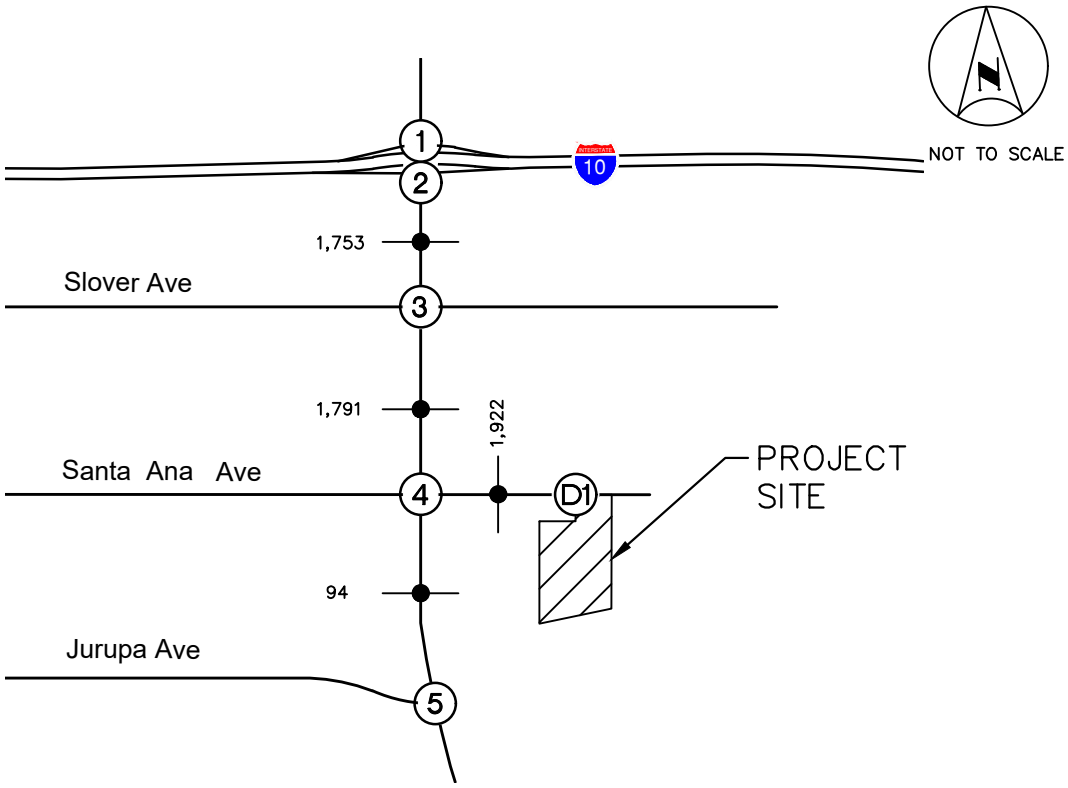


FIGURE 8
PROJECT TRIP DISTRIBUTION

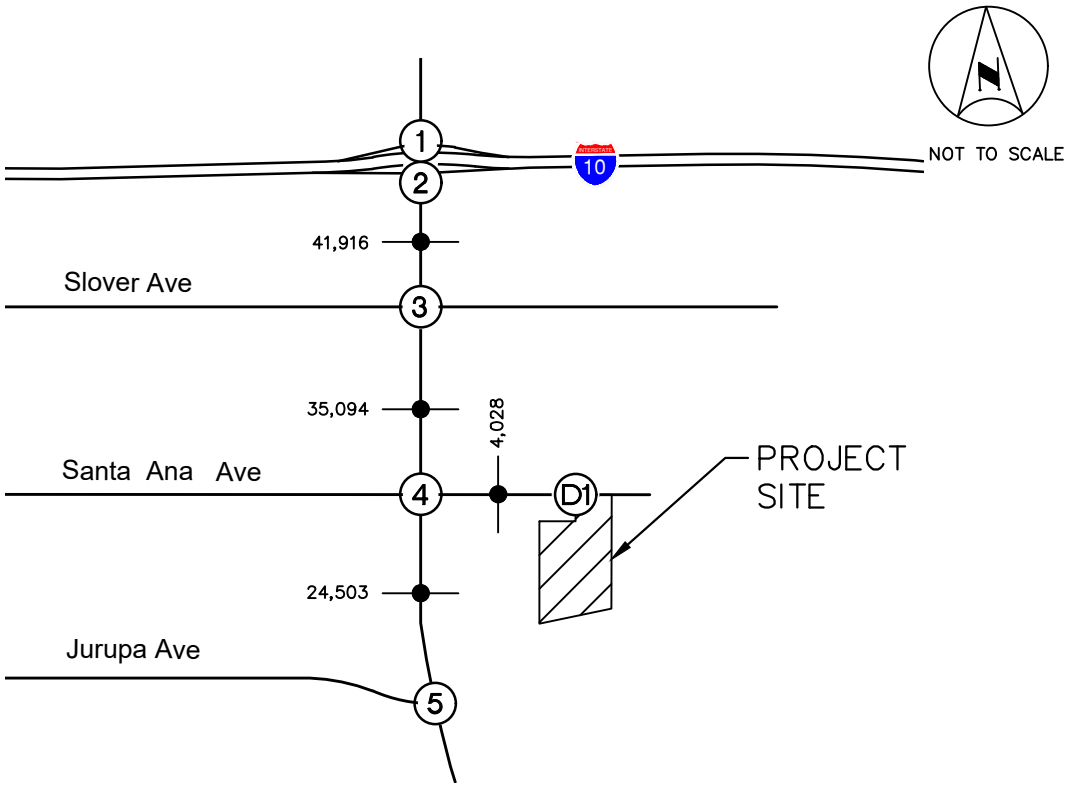


1. Riverside Ave at I-10 WB Ramps	2. Riverside Ave at I-10 EB Ramps	3. Riverside Ave at Slover Avenue
←1/4 ↖24/61 ↗35/37 ↑1/5	←25/65 23/58↘ ↑36/42 ↑34/36	←48/123 1/3↘ ↗1/3 ↑70/78
4. Riverside Ave at Santa Ana Ave	**5. Riverside Ave at Jurupa Avenue**	**D1. Santa Ana Ave at Project Driveway 1**
↙49/126 ↖71/81 ←1/3 ←2/8 1/3→ ↗2/7	↙1/3 ←1/5 1/3↗ ↑1/4	52/136↘ ↑74/92

Note: Volumes reflect PCE adjustments.

LEGEND:
- (X) = Study Intersection
- —●— = Roadway Segement + ADT Volumes
- XX/YY = AM/PM Peak Hour Turning Movement Volumes

FIGURE 9
PROJECT-RELATED TRAFFIC VOLUMES



1. Riverside Ave at I-10 WB Ramps	2. Riverside Ave at I-10 EB Ramps	3. Riverside Ave at Slover Avenue
600/435 ← 1144/1298 ↘ ; 403/581 ← 6/2 ← 613/682 ↖ ; 377/406 ↑ 990/1701 ↑ ↗	1330/1508 ← 430/497 ↙ ; 361/640 ↘ 9/0 → 530/536 ↘ ; 1005/1467 ↑ 468/706 ↑ ↗	447/310 ← 1387/1702 ← 52/28 ↙ ; 35/80 ← 17/33 ← 32/36 ↖ ; 261/450 ↘ 20/126 → 78/164 ↘ ; 76/40 ↑ 1126/1583 ↑ 30/22 ↗
4. Riverside Ave at Santa Ana Ave	**5. Riverside Ave at Jurupa Avenue**	**D1. Santa Ana Ave at Project Driveway 1**
129/83 ← 1269/1626 ← 130/175 ↙ ; 145/149 ← 41/22 ← 42/50 ↖ ; 94/116 ↘ 31/18 → 65/101 ↘ ; 73/93 ↑ 1014/1347 ↑ 61/25 ↗	55/52 ← 1185/1702 ↙ ; 42/36 ↘ 115/168 ↘ ; 107/108 ↑ 1037/1310 ↑ ↗	← 171/130 ; 187/83 → 52/136 ↘ ; 74/92 ↑ ↗

Note: Volumes reflect PCE adjustments.

LEGEND:
- (X) = Study Intersection
- —●— = Roadway Segement + ADT Volumes
- XX/YY = AM/PM Peak Hour Turning Movement Volumes

FIGURE 10
OPENING YEAR 2024 PLUS PROJECT TRAFFIC VOLUMES

D. Opening Year 2024 Plus Project

Peak Hour Operating Conditions

Intersection Level of Service analysis was conducted for the Opening Year 2024 Plus Project conditions. The results of the intersection analysis are shown on **Table 6**. Intersection analysis worksheets for this scenario are provided in ***Appendix D***.

Review of this table indicates that with the addition of project traffic, all study intersections would continue to operate at an acceptable Level of Service.

Daily Roadway Operating Conditions

Roadway Level of Service analysis was conducted for the Opening Year 2024 Plus Project scenario and the results are shown on **Table 7**. Review of this table indicates that the following roadway segments would continue to operate at an unacceptable LOS:

- Riverside Avenue: I-10 EB Ramps to Slover Avenue
- Riverside Avenue: Slover Avenue to Santa Ana Avenue

E. Cumulative Conditions (Opening Year 2024 Plus Cumulative Projects)

1. Cumulative Projects

In addition to ambient growth, traffic volumes for cumulative projects (approved and pending projects) were added to the Opening Year 2024 peak hour traffic volumes. Cumulative Projects consist of any project that has been approved and is not yet occupied, and projects that are in various stages of the application and approval process, but have not yet been approved.

A summary of Cumulative Projects in the project vicinity and the trip generation associated with each is provided on **Table 8**. The locations of the Cumulative Projects are shown on **Figure 11**. Cumulative Project volumes are shown on **Figure 12**.

TABLE 6
SUMMARY OF INTERSECTION OPERATIONS
OPENING YEAR 2024 PLUS PROJECT

Int. #	Intersection	Traffic Control	AM Peak Hour						PM Peak Hour					
			Without Project		With Project		Project Effect	Effect Sig?	Without Project		With Project		Project Effect	Effect Sig?
			Delay	LOS	Delay	LOS			Delay	LOS	Delay	LOS		
1	Riverside Avenue at I-10 WB Ramps	S	20.4	C	21.2	C	0.8	No	20.3	C	21.3	C	1.0	No
2	Riverside Avenue at I-10 EB Ramps	S	20.6	C	21.1	C	0.5	No	28.2	C	31.2	C	3.0	No
3	Riverside Avenue at Slover Avenue	S	21.3	C	22.1	C	0.8	No	46.8	D	53.1	D	6.3	No
4	Riverside Avenue at Santa Ana Avenue	S	14.8	B	16.4	B	1.6	No	15.9	B	25.2	C	9.3	No
5	Riverside Avenue at Jurupa Avenue	S	8.5	A	8.5	A	0.0	No	11.7	B	11.7	B	0.0	No
D1	Santa Ana Avenue at Project Driveway	U	-	-	11.8	B	-	-	-	-	11.0	B	-	-

Notes:
- **Bold** and shaded values indicate intersections operating at an unacceptable Level of Service.
- At a signalized intersection, delay refers to the average control delay for the entire intersection, measured in seconds per vehicle.
- At a two-way stop-controlled intersection, delay refers to the average vehicle delay on the worst movement.
- S = Signalized
- U = Unsignalized

TABLE 7
SUMMARY OF ROADWAY ANALYSIS
OPENING YEAR 2024 PLUS PROJECT

Roadway	Segment	LOS D Capacity	Existing ADT	Existing ADT w/ PCE	Existing Plus Growth ADT	Daily Project Traffic	Existing + Growth + Project ADT	LOS D or Better?
Riverside Avenue	I-10 EB Ramps to Slover Avenue	32,999	33,990	39,375	40,163	1,753	41,916	**No**
	Slover Avenue to Santa Ana Avenue	32,999	27,760	32,650	33,303	1,791	35,094	**No**
	Santa Ana Avenue to Jurupa Avenue	32,999	23,930	23,930	24,409	94	24,503	Yes
Santa Ana Avenue	East of Riverside Avenue	21,999	1,430	2,065	2,106	1,922	4,028	Yes

Notes: LOS = Level of Service
ADT = Average Daily Traffic
PCE = Passenger Car Equivalent

TABLE 8
SUMMARY OF CUMULATIVE PROJECTS

Project #	Location	Land Use	Quantity	Unit	Trip Generation Estimates [1]						
						AM Peak Hour			PM Peak Hour		
					Daily	In	Out	Total	In	Out	Total
City of Rialto											
1	Rialto Village	Free Standing Discount Superstore	198.000	KSF	10,003	206	162	368	420	437	857
		Tire Store	9.861	KSF	273	16	9	25	16	21	37
		Shopping Center (>150k)	25.436	KSF	941	13	8	21	42	45	87
		Fast-Food Restaurant w/ Drive-thru	5.484	KSF	2,564	125	120	245	94	87	181
2	South of Santa Ana Ave, East of Riverside Ave	Warehousing	370.000	KSF	633	48	14	62	19	48	67
3	NWC of Riverside Ave and Santa Ana Ave	Warehousing	527.900	KSF	903	69	21	90	26	69	95
4	SEC of Riverside Ave and Santa Ana Ave	Convenience Store/Gasoline Station	16	FP	4,242	128	128	256	147	147	294
5	Lilac Avenue Warehouse	Warehousing	47.460	KSF	81	6	2	8	2	6	8
6	SC Fuels (19839 Santa Ana Ave)	Warehousing	48.302	KSF	83	6	2	8	2	6	8
7	Flyers Energy Addition	Warehousing	9.350	KSF	16	1	0	1	0	1	1
8	Angelus Black - Concrete Block	Manufacturing	178.475	KSF	848	92	29	121	41	91	132
9	Rialto Industrial Building	Warehousing [2]	82.000	KSF	235	18	6	24	6	18	24
10	Birtcher Logistics Center	Warehousing	492.410	KSF	842	65	19	84	25	64	89
11	2720 Willow Avenue Warehouse	Warehousing [3]	118.450	KSF	347	27	8	35	10	27	37
County of San Bernardino											
12	Cedar / Slover Retail	Convenience Store/Gasoline Station	12	FP	3,181	96	96	192	111	111	222
		Self-Service Car Wash	1	Wash Stall	108	0	0	0	3	3	6
		Fast-Food Restaurant w/ Drive-thru	9.907	KSF	4,631	225	217	442	170	157	327
13	Cactus and Slover Warehouse	Warehousing	257.855	KSF	441	34	10	44	13	34	47
Total Project Trips					**30,372**	**1,175**	**851**	**2,026**	**1,147**	**1,372**	**2,519**

KSF = Thousand Square Feet, DU = Dwelling Units, FP = Fueling Positions
ADT = Average Daily Traffic
Source:
[1] ITE Trip Generation Manual (11th Edition)
[2] Rialto Industrial Building Focused Traffic Study (Kimley-Horn; November 2022)
[3] 2720 Willow Avenue Warehouse Project Focused Traffic Study (Kimley-Horn; January 2023)

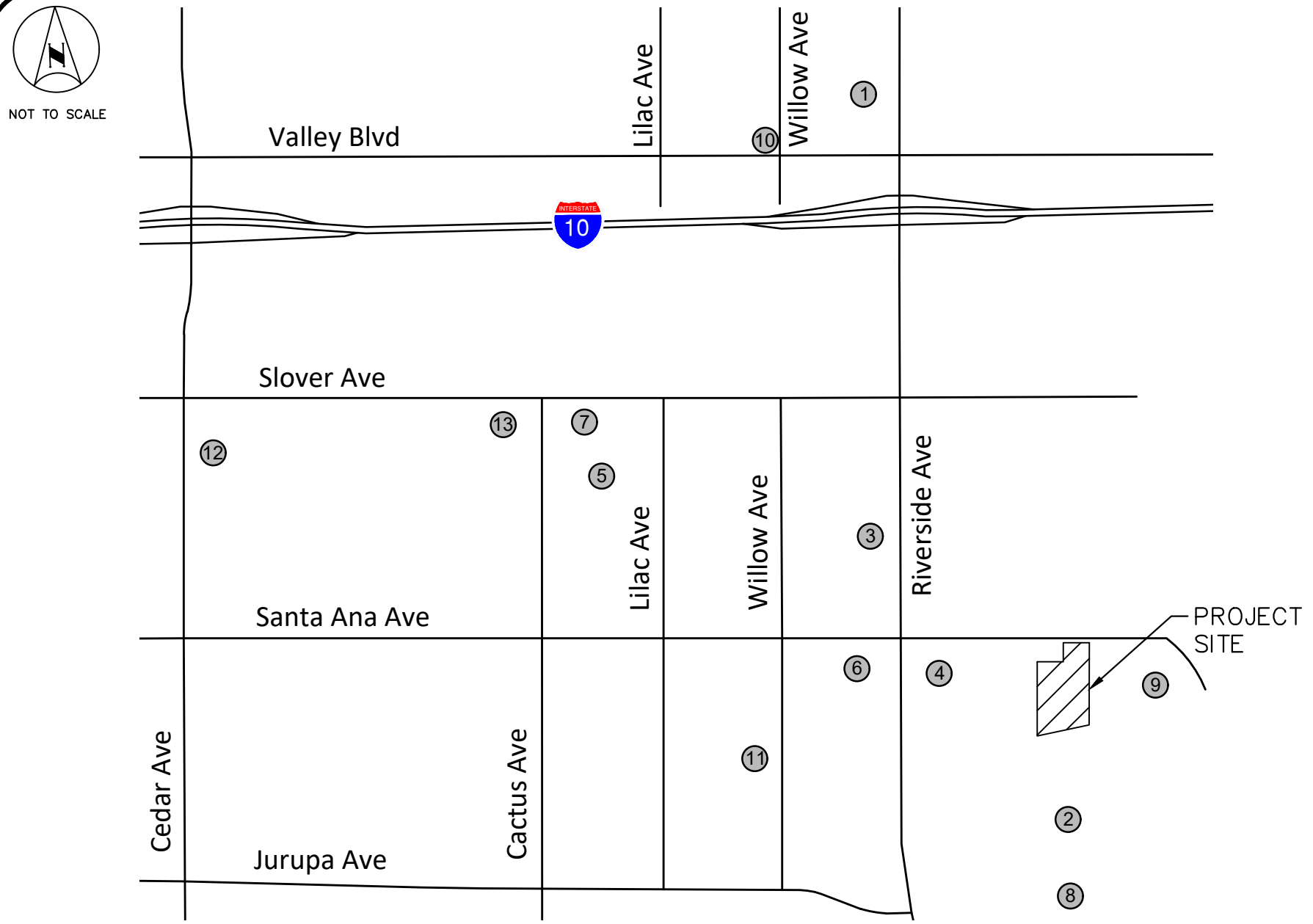
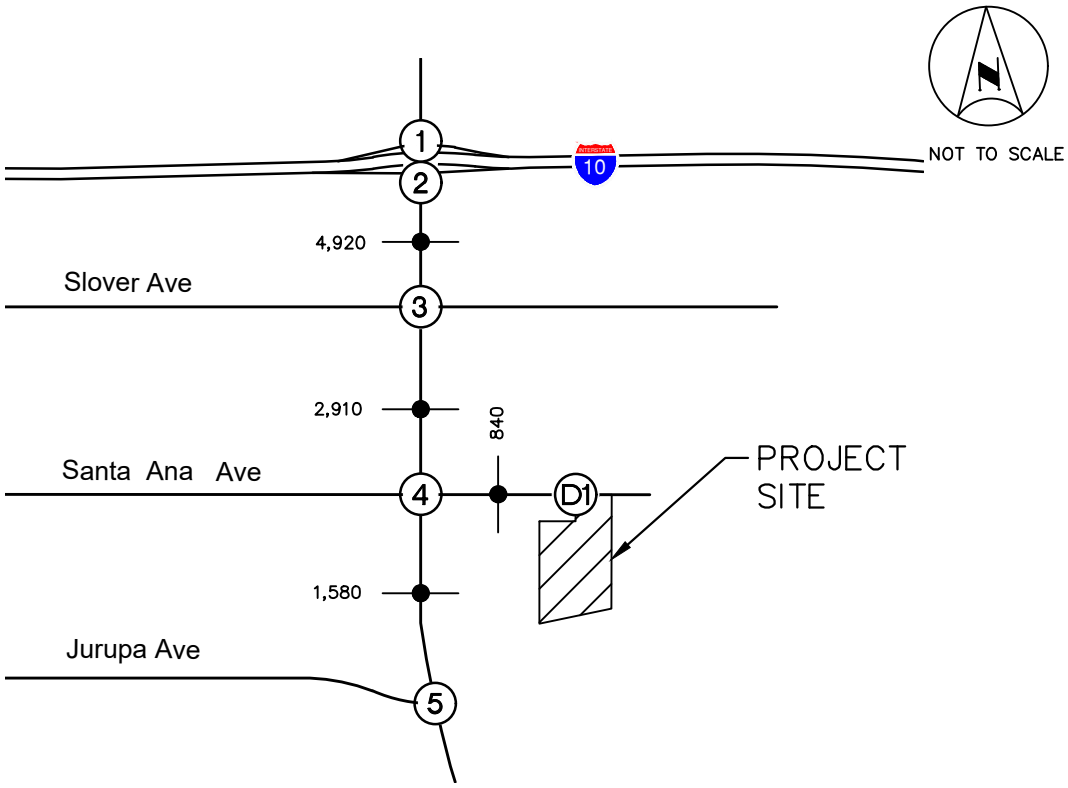
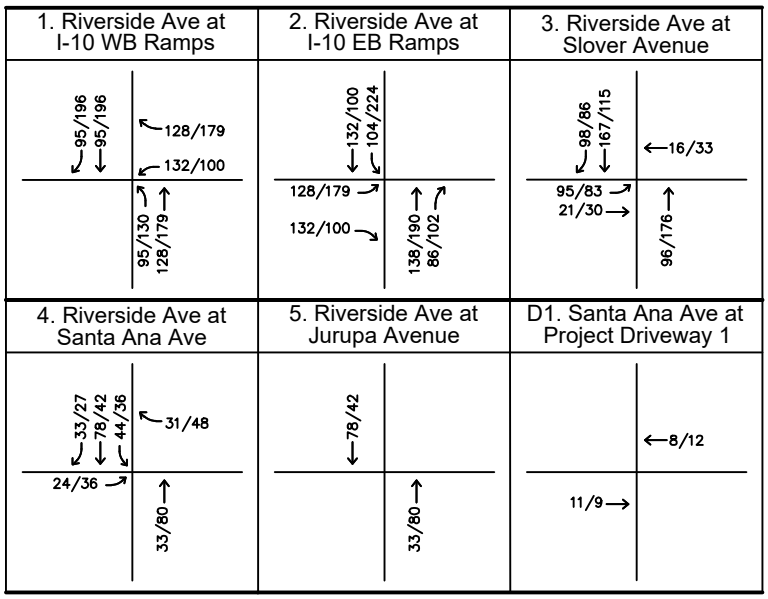


FIGURE 11
LOCATION OF CUMULATIVE PROJECTS





LEGEND:

⊗ = Study Intersection

—●— = Roadway Segement + ADT Volumes

XX/YY = AM/PM Peak Hour Turning Movement Volumes

FIGURE 12
CUMULATIVE PROJECTS
TRAFFIC VOLUMES

2. Cumulative Projects Trip Generation

Trip generation information for the Cumulative Projects was derived either from approved traffic studies, where available; or developed by Kimley-Horn if approved traffic studies were not available. Project information and trip generation assumptions for Cumulative Projects are provided in ***Appendix E***.

3. Cumulative Projects Trip Distribution and Assignment

Likewise, trip distribution and assignment for the Cumulative Projects were either derived from approved traffic studies, where available; or were developed by Kimley-Horn if approved traffic studies were not available. Trip distribution assumptions for Cumulative Projects are provided in ***Appendix E***.

4. Opening Year 2024 Cumulative without Project Conditions

Peak Hour Operating Conditions

Daily and peak hour traffic volumes for Opening Year 2024 Cumulative without Project Conditions are shown on **Figure 13**. Intersection Level of Service results are shown on **Table 9.** Review of this table indicates that, with the addition of Cumulative Projects traffic, the following intersections would operate at an unacceptable Level of Service:

- #2 – Riverside Avenue at I-10 EB Ramps: PM – LOS E
- #3 – Riverside Avenue at Slover Avenue: PM – LOS F

Copies of intersection analysis worksheets for this scenario are provided in ***Appendix D***.

Daily Roadway Operating Conditions

Roadway Level of Service analysis was conducted for Opening Year 2024 Cumulative without Project conditions and the results are shown on **Table 10.** Review of this table indicates that the following study roadway segments would continue to operate at an unacceptable LOS:

- Riverside Avenue: I-10 EB Ramps to Slover Avenue
- Riverside Avenue: Slover Avenue to Santa Ana Avenue

5. Opening Year 2024 Cumulative Plus Project Conditions

Peak Hour Operating Conditions

Project traffic was added to Opening Year 2024 Cumulative traffic volumes to develop Opening Year 2024 Cumulative Plus Project traffic forecast volumes. The resulting daily and peak hour traffic volumes are shown on **Figure 14**.

Intersection Level of Service analysis results are shown on **Table 11**. As this table indicates, with the addition of project traffic, the following intersections would continue to operate at an unacceptable Level of Service:

- #2 – Riverside Avenue at I-10 EB Ramps: PM – LOS E
- #3 – Riverside Avenue at Slover Avenue: PM – LOS F

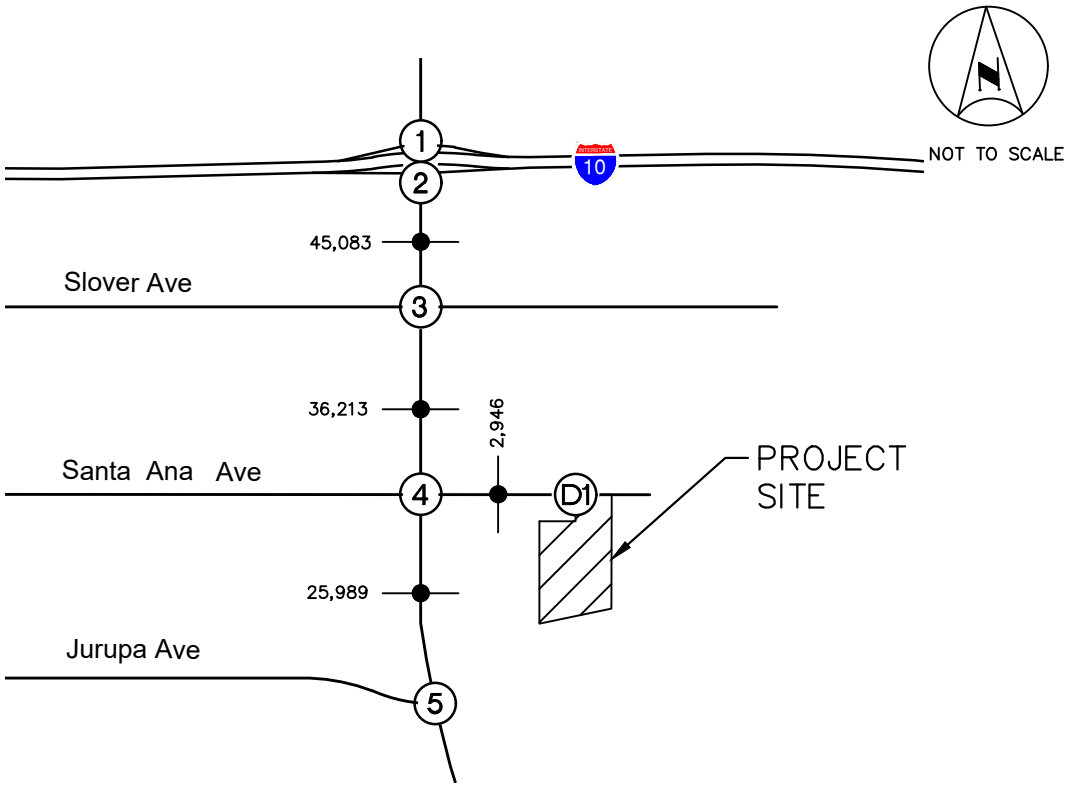
These intersections were also forecasted to operate at an unacceptable Level of Service under Opening Year 2024 Cumulative Without Project conditions. Based on the significance thresholds presented earlier in this report, the project effect would be considered to be cumulatively significant at these intersections. Recommended measures to improve the project-related effects are presented in the Recommended Improvements section of this report. Copies of intersection analysis worksheets for this scenario are provided in ***Appendix D***.

In this Plus Project analysis, the site driveway was also analyzed. The results indicate that the driveway will operate at Level of Service D or better during both peak hours.

Daily Roadway Operating Conditions

Roadway Level of Service analysis results for Opening Year 2024 Cumulative Plus Project conditions are shown on **Table 12.** Review of this table indicates that the following study roadway segments would continue to operate at an unacceptable LOS:

- Riverside Avenue: I-10 EB Ramps to Slover Avenue
- Riverside Avenue: Slover Avenue to Santa Ana Avenue



1. Riverside Ave at I-10 WB Ramps	2. Riverside Ave at I-10 EB Ramps	3. Riverside Ave at Slover Avenue
695/631 ← 1238/1490 ↖ 531/760 ↑ 6/2 ← 740/728 ↖ 444/519 ↑ 1117/1875 ↑	1456/1550 ← 525/893 ↙ 489/819 → 9/0 → 658/586 ↘ 1071/1575 ↑ 536/821 ↗	556/400 ← 1533/1704 ↙ 52/28 ↘ 35/80 ↑ 17/33 ← 32/36 ↖ 359/544 → 20/126 → 77/161 ↘ 75/37 ↑ 1161/1711 ↑ 30/22 ↗
4. Riverside Ave at Santa Ana Ave	**5. Riverside Ave at Jurupa Avenue**	**D1. Santa Ana Ave at Project Driveway 1**
180/117 ← 1325/1650 ↙ 137/89 ↘ 109/127 ↑ 40/20 ← 41/44 ↖ 124/173 → 31/15 → 65/101 ↘ 73/93 ↑ 1031/1403 ↑ 61/19 ↗	54/49 ← 1185/1699 ↙ 41/33 → 116/170 ↘ 112/110 ↑ 1038/1307 ↑	FUTURE INTERSECTION

Note: Volumes reflect PCE adjustments.

LEGEND:

- ⓧ = Study Intersection
- —●— = Roadway Segement + ADT Volumes
- XX/YY = AM/PM Peak Hour Turning Movement Volumes

FIGURE 13
OPENING YEAR 2024 CUMULATIVE WITHOUT PROJECT TRAFFIC VOLUMES

TABLE 9
SUMMARY OF INTERSECTION OPERATION
OPENING YEAR 2024 CUMULATIVE WITHOUT PROJECT

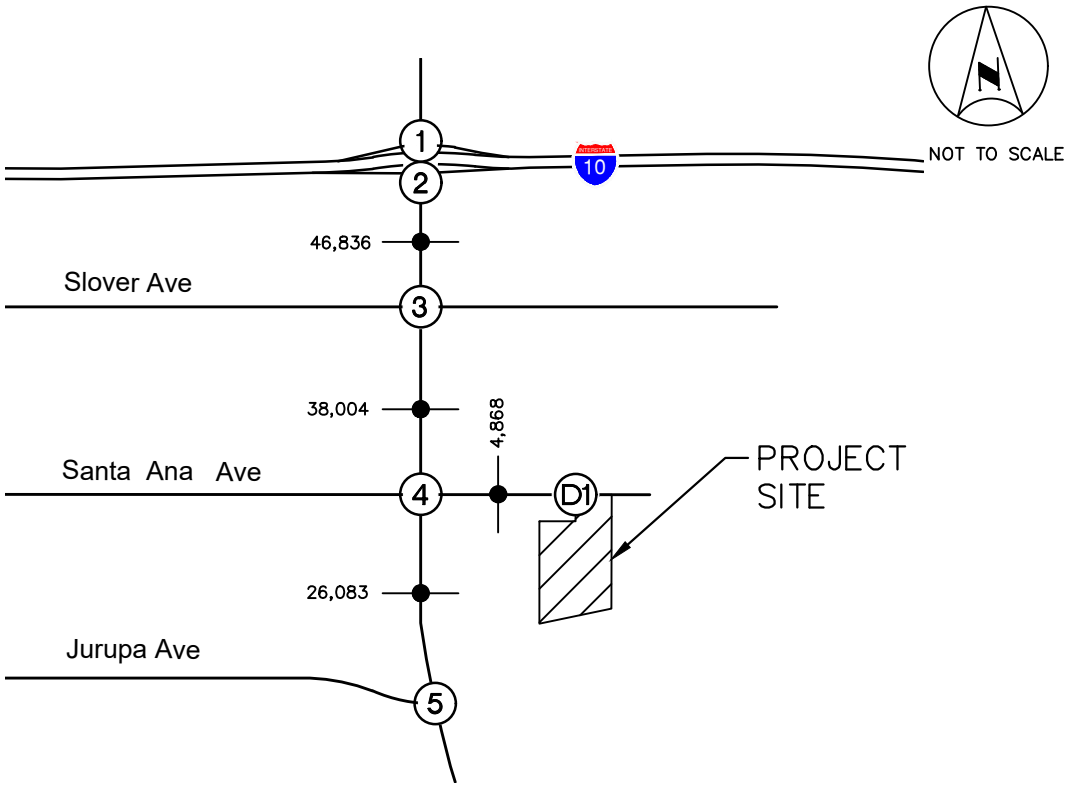
Int. #	Intersection	Traffic Control	AM Peak Hour		PM Peak Hour	
			Delay	LOS	Delay	LOS
1	Riverside Avenue at I-10 WB Ramps	S	27.9	C	30.5	C
2	Riverside Avenue at I-10 EB Ramps	S	27.1	C	61.8	**E**
3	Riverside Avenue at Slover Avenue	S	45.2	D	94.8	**F**
4	Riverside Avenue at Santa Ana Avenue	S	16.9	B	18.8	B
5	Riverside Avenue at Jurupa Avenue	S	8.7	A	11.9	B

Notes:
- **Bold** and shaded values indicate intersections operating at an unacceptable Level of Service.
- At a signalized intersection, delay refers to the average control delay for the entire intersection, measured in seconds per vehicle.
- S = Signalized

TABLE 10
SUMMARY OF ROADWAY ANALYSIS
OPENING YEAR 2024 CUMULATIVE WITHOUT PROJECT

Roadway	Segment	LOS D Capacity	Existing Plus Growth ADT	Cumulative Projects ADT	Opening Year + Cum. Projects ADT	LOS D or Better?
Riverside Avenue	I-10 EB Ramps to Slover Avenue	32,999	40,163	4,920	45,083	**No**
	Slover Avenue to Santa Ana Avenue	32,999	33,303	2,910	36,213	**No**
	Santa Ana Avenue to Jurupa Avenue	32,999	24,409	1,580	25,989	Yes
Santa Ana Avenue	East of Riverside Avenue	21,999	2,106	840	2,946	Yes

Notes: LOS = Level of Service
ADT = Average



1. Riverside Ave at I-10 WB Ramps	2. Riverside Ave at I-10 EB Ramps	3. Riverside Ave at Slover Avenue
695/631 ← 1239/1494 ↖ ← 531/760 ← 6/2 ↖ 764/789 479/556 ↑ 1118/1880 ↑	1481/1615 ← 525/693 ↙ 489/819 → 9/0 → 681/644 ↘ 1107/1617 ↑ 570/857 ↑	556/400 ← 1581/1827 ← 52/28 ↙ 35/80 ← 17/33 ← 32/36 ↖ 359/544 → 20/126 → 78/164 ↘ 76/40 ↑ 1231/1789 ↑ 30/22 ↑
4. Riverside Ave at Santa Ana Ave	**5. Riverside Ave at Jurupa Avenue**	**D1. Santa Ana Ave at Project Driveway 1**
180/117 ← 1325/1650 ← 186/215 ↙ 180/208 ← 41/23 ← 43/52 ↖ 124/173 → 32/18 → 65/101 ↘ 73/93 ↑ 1031/1403 ↑ 63/26 ↑	55/52 ← 1186/1704 ↙ 42/36 → 116/170 ↘ 112/110 ↑ 1039/1311 ↑	← 211/148 253/89 → 52/136 ↘ 74/92 ↑

Note: Volumes reflect PCE adjustments.

LEGEND:
- Ⓧ = Study Intersection
- ●— = Roadway Segement + ADT Volumes
- XX/YY = AM/PM Peak Hour Turning Movement Volumes

FIGURE 14
OPENING YEAR 2024 CUMULATIVE PLUS PROJECT TRAFFIC VOLUMES

TABLE 11
SUMMARY OF INTERSECTION OPERATION
OPENING YEAR 2024 CUMULATIVE PLUS PROJECT

Int. #	Intersection	Traffic Control	AM Peak Hour						PM Peak Hour					
			Without Project		With Project		Project Effect	Effect Sig?	Without Project		With Project		Project Effect	Effect Sig?
			Delay	LOS	Delay	LOS			Delay	LOS	Delay	LOS		
1	Riverside Avenue at I-10 WB Ramps	S	27.9	C	29.2	C	1.3	No	30.5	C	33.9	C	3.4	No
2	Riverside Avenue at I-10 EB Ramps	S	27.1	C	28.3	C	1.2	No	61.8	**E**	70.1	**E**	8.3	**Yes**
3	Riverside Avenue at Slover Avenue	S	45.2	D	48.7	D	3.5	No	94.8	**F**	113.0	**F**	18.2	**Yes**
4	Riverside Avenue at Santa Ana Avenue	S	16.9	B	18.6	B	1.7	No	18.8	B	22.7	C	3.9	No
5	Riverside Avenue at Jurupa Avenue	S	8.7	A	8.7	A	0.0	No	11.9	B	12.0	B	0.1	No
D1	Santa Ana Avenue at Project Driveway	U	-	-	13.1	B	-	-	-	-	11.2	B	-	-

Notes:
- **Bold** and shaded values indicate intersections operating at an unacceptable Level of Service.
- At a signalized intersection, delay refers to the average control delay for the entire intersection, measured in seconds per vehicle.
- At a two-way stop-controlled intersection, delay refers to the average vehicle delay on the worst movement.
- S = Signalized
- U = Unsignalized

TABLE 12
SUMMARY OF ROADWAY ANALYSIS
OPENING YEAR 2024 CUMULATIVE PLUS PROJECT

Roadway	Segment	LOS D Capacity	Opening Year + Cum. Projects ADT	Daily Project Traffic	Opening Year + Cum. Project + Project ADT	LOS D or Better?
Riverside Avenue	I-10 EB Ramps to Slover Avenue	32,999	45,083	1,753	46,836	**No**
	Slover Avenue to Santa Ana Avenue	32,999	36,213	1,791	38,004	**No**
	Santa Ana Avenue to Jurupa Avenue	32,999	25,989	94	26,083	Yes
Santa Ana Avenue	East of Riverside Avenue	21,999	2,946	1,922	4,868	Yes

Notes: LOS = Level of Service
ADT = Average Daily Traffic

IV. RECOMMENDED IMPROVEMENTS

A. Intersection Improvements

Based on the criteria in the City's *Traffic Impact Analysis Report Guidelines and Requirements* (Exhibit F), there would be a project-related effect at the following intersections:

- #2 – Riverside Avenue at I-10 Eastbound Ramps (Cumulative Effect)
- #3 – Riverside Avenue at Slover Avenue (Cumulative Effect)

Implementation of the following improvements would mitigate the project-related effect at each intersection:

#2 – Riverside Avenue at I-10 Eastbound Ramps: Add a northbound right-turn lane. This improvement is part of the Riverside Avenue bridge improvement project to provide a 4th northbound through lane on Riverside Avenue from Slover Avenue to the I-10 Westbound Ramps. This improvement would more than offset the project-related incremental delay.

#3 – Riverside Avenue at Slover Avenue: Add a 3rd north- and southbound through lane. This improvement is part of the planned Riverside Avenue Widening project and would more than offset the project-related incremental delay.

A summary of the intersection analysis after implementation of the Riverside Avenue bridge and roadway widening is provided on **Table 13**.

B. Roadway Improvements

The study roadway segment of Riverside Avenue from Santa Ana Avenue to Project Driveway is currently and would continue to exceed its daily roadway capacity with LOS E operations.

Riverside Avenue is currently a four-lane divided roadway from north of Slover Avenue to south of Jurupa Avenue. Riverside Avenue is designated as a Modified Major Arterial II (six-lane divided roadway) north of Slover Avenue and a Modified Arterial I (four-lane divided roadway) south of Slover Avenue in the City of Rialto Circulation Element of the General Plan. The City's General Plan is being modified to upgrade Riverside Avenue south of Slover Avenue as a six-lane arterial roadway within 120 feet of right-of-way. As mentioned previously, the widening of Riverside Avenue from the I-10 EB Ramps to Jurupa Avenue from 4 lanes to 6 lanes were presented in the City of Rialto Traffic/Transportation Fee Study as a "Location of Improvement." The proposed project will pay applicable Direct Impact Fees (DIF) toward the Riverside Avenue Widening project.

A summary of the roadway analysis after implementation of the Riverside Avenue widening is provided on **Table 14**. With the planned widening of Riverside Avenue, the roadway segment of Riverside Avenue from the I-10 EB Ramps to Jurupa Avenue would operate within its daily roadway capacity. The estimated DIF for the proposed project based on total daily trips, as derived from the City of Rialto Traffic/Transportation Fee Study (April 2019), is shown on **Table 15**.

C. Significant Effects – Other Improvements

Not applicable.

TABLE 13
SUMMARY OF INTERSECTION OPERATIONS WITH RECOMMENDED IMPROVEMENTS
OPENING YEAR 2024 CUMULATIVE PLUS PROJECT

Int. #	Intersection	AM Peak Hour				PM Peak Hour			
		Without Improvements		With Improvements		Without Improvements		With Improvements	
		Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
2	Riverside Avenue at I-10 EB Ramps								
	Add a NB Right-Turn Lane	28.3	C	27.0	C	70.1	**E**	60.5	**E**
3	Riverside Avenue at Slover Avenue								
	Add a 3rd NB and SB Through Lane	48.7	D	23.4	C	113.0	**F**	48.3	D

Notes:
- **Bold** and shaded values indicate intersections operating at an unacceptable Level of Service.
- At a signalized intersection, delay refers to the average control delay for the entire intersection, measured in seconds per vehicle.

TABLE 14
SUMMARY OF ROADWAY ANALYSIS
WITH RECOMMENDED IMPROVEMENTS

Roadway	Segment	LOS D Capacity	Opening Year + Cum. Projects ADT	Daily Project Traffic	Opening Year + Cum. Project + Project ADT	LOS D or Better?
Riverside Avenue	I-10 EB Ramps to Slover Avenue	49,499	45,083	1,753	46,836	Yes
	Slover Avenue to Santa Ana Avenue	49,499	36,213	1,791	38,004	Yes

Notes: LOS = Level of Service
ADT = Average Daily Traffic

TABLE 15

TRAFFIC IMPACT IMPROVEMENT COSTS

Roadway Improvements			
Riverside Avenue Improvement Project (Included in the proposed DIF fee)	**Proposed DIF Fee per Daily Trip[1]**	**Project Daily Trips**	**Total**
Riverside Avenue Improvement Cost	$ 375.50	1,922	$ 721,711
Total Project Cost			**$ 721,711**

[1]Source: City of Rialto Traffic/Transportation Fee Study (April 2019)

VII. FINDINGS AND RECOMMENDATIONS

A. Improvements

Off-site improvements were identified to mitigate the project-related effects at the following deficient intersections:

- #2 – Riverside Avenue at I-10 Eastbound Ramps (Cumulative Effect)
- #3 – Riverside Avenue at Slover Avenue (Cumulative Effect)

The improvements are part of an already in construction project, widening Riverside Avenue to have an additional through lane in both the north and south directions. With the addition of the recommended improvements, all deficient intersections and roadway segments would operate at an acceptable LOS.

B. Traffic Signal Warrant Analysis

Not Applicable.

C. Site Circulation

Vehicular access provisions for the project site would consist of one unsignalized driveway on Santa Ana Avenue. The driveway would provide full access to the project for both passenger vehicles and trucks.

D. Safety and Operational Improvements

The roadways serving the project site are generally straight and flat. A sight distance analysis of existing roadway conditions is not needed. The site driveways and project improvements must be designed so that adequate sight distance for drivers entering and exiting the site is maintained. The line of sight – a straight line between the driver's eye and oncoming vehicles on the adjacent roadway defines the Limited Use Area. The Limited Use Area for each driveway must be kept clear of visual obstructions, including project signs, building structures, and landscaping, in order to maintain adequate sight distance.

E. Fair Share Calculations

The project fair share proportion for the Riverside Avenue Widening Project are shown on Table 15 (presented previously).

F. Specific Plan Signalization

Not Applicable.

G. General Plan Conformance

The proposed Rialto Industrial Building project is in conformance with the Agua Mansa Specific Plan and the City of Rialto General Plan. The proposed use is permitted under the Heavy Industrial designations. Neither a Specific Plan Amendment nor a General Plan Amendment is required for the project.

H. Regional Funding Mechanisms

The project is subject to the City's city-wide traffic impact fee program. The proposed project will pay applicable DIF fees toward the Riverside Avenue Widening project. The fees paid by the Developer will be collected by the City of Rialto and used toward the Riverside Avenue Widening Project, as identified in Measure I of the 2018 Nexus Study Item "Widen Riverside Avenue from South City Limit to Slover Avenue from 4 lanes to 6 lanes. To the extent that a mitigation measure is included in an existing fee program, the project's payment of impact fees can be used to offset the costs of implementing the mitigation measures. In addition, the project may be required to construct a needed improvement in advance of the City's receipt of full funding, in which case the improvement may be subject to a reimbursement agreement, to allow the project to recoup costs from future development.

APPENDIX **A**

APPROVED SCOPING AGREEMENT

Exhibit B

SCOPING AGREEMENT FOR TRAFFIC IMPACT ANALYSIS

This following form shall be used to acknowledge preliminary approval of the scope for the traffic impact analysis (TIA) of the following project. The TIA must follow the City of Rialto Traffic Impact Analysis – Report Guidelines and Requirements, dated December 2013 and approved by the Transportation Commission on February 5, 2014.

City of Rialto

Traffic Impact Analysis

Scoping Agreement

Case No. TBD

Related Cases -

SP No. _____

EIR No. _____

GPA No. _____

ZC No. _____

Project Name: Crown Enterprises – Santa Ana Avenue Truck Terminal
Site Plan and Project Description attached – ***Attachment 1***

Project Address: 249 E Santa Ana Avenue

Project Description: 172,415 SF Truck Terminal plus 18,700 SF Shop Building: Total 191,115 SF Located in Sub-Area 8 of the Agua Mansa Specific Plan.

	Consultant	Developer
Name:	Kimley-Horn and Associates, Inc.	Crown Enterprises, Inc.
Address:	3880 Lemon St #420	12225 Stephens Road
	Riverside, CA 92501	Warren, Michigan 48089
Telephone:	(951) 543-9868	(586) 939-7000
Fax:	NA	NA

1. Trip Generation Source: Based on Trip Generation survey at similar site (in Rialto)

Existing GP Land Use General Industrial (Holliday Rock)

Proposed Land Use Intermodal Truck Terminal

Current Zoning: Heavy Industrial Proposed Zoning: No change

Total Daily Project Trips: 1,856 (with PCE) – see ***Attachment 2*** – Trip Generation Table

	Existing Trip Generation			Proposed Trip Generation (with PCE)		
	In	Out	Total	In	Out	Total
AM Trips				53	75	128
PM Trips				132	84	216

Internal Trip Allowance Yes No X (0 % Trip Discount)

Pass-By Trip Allowance Yes No X (0 % Trip Discount)

Trip Credit for Existing Site Trips Yes No X

For appropriate land uses, a pass-by trip discount may be allowed not to exceed 25%.

Discount trips shall be indicated on a report figure for intersections and access locations.

2. Trip Geographic Distribution: N 15 % S 15 % E 20 % W 50 %

(Detailed exhibits of trip distribution must be attached with Trucks as a separate exhibit)

See ***Attachment 3*** - (Truck and Passenger Car Distribution)

3. Background Growth Traffic

Project Completion Year: 2024 Annual Background Growth Rate: 2 %

Other Phase Years N/A

Other area projects to be considered: We will start with the Cumulative Projects list from our most recent TIA (Riverside Avenue Storage Lot – See *Attachment 4*), and will update and add other recent projects based on info to be provided by Planning.

(Contact Planning for Lists. Correlate projects to exhibit map and also indicate which projects have been included in study area forecasts for existing + background growth + project + cumulative)

Model/Forecast methodology: Existing plus Growth plus Cum Proj plus Project to Opening Year

4. Study Intersections: (NOTE: Subject to revision after other projects, trip generation and distribution are determined, or comments from other agencies received.)

1. Riverside Avenue at I-10 WB Ramps
2. Riverside Avenue at I-10 EB Ramps
3. Riverside Avenue at Slover Avenue
4. Riverside Avenue at Santa Ana Avenue
5. Riverside Avenue at Jurupa Avenue

We will also study the site entrance on Santa Ana Avenue.

5. Study Roadway Segments: (NOTE: Subject to revision after other projects, trip generation and distribution are determined, or comments from other agencies received.)

1. Riverside Avenue – North of Slover Ave
2. Riverside Avenue – Slover to Santa Ana
3. Riverside Avenue – Santa Ana to Jurupa
4. Santa Ana Avenue – East of Riverside
5. _____
6. _____
7. _____
8. _____
9. _____
10. _____

6. Other Jurisdictional Impacts

Is this project within any other Agency's Sphere of Influence or within one-mile of another jurisdictional boundary? X YES _____ NO

If so, name of Jurisdiction: City of Colton, County of San Bernardino

7. Site Plan (please attach 11" x 17" legible copy) – see ***Attachment 1*** – Site Plan

8. Specific issues to be addressed in the Study (in addition to the standard analysis described in the Guideline) (to be filled out by the City of Rialto Public Works Department) (NOTE: If the traffic study states that "a traffic signal is warranted" (or "a traffic signal appears to be warranted," or similar statement) at an existing un-signalized intersection under existing conditions, 8-hour approach traffic volume information must be submitted in addition to the peak hourly turning movement counts for that intersection.)

_____

_____

_____

9. Existing Conditions

Traffic count data must be new or within one year. Provide traffic count dates if using other than new counts.

Date of counts: New counts will be collected

NOTE: Fees are due and must be submitted with, or prior to submittal of this form. The City will not process the Scoping Agreement prior to the receipt of the processing fee.

Fees Paid: _____ Date _____

Recommended:

Scoping Agreement Submittal date December 21, 2022

Scoping Agreement Resubmittal date _____

Kimley-Horn and Associates, Inc. December 21, 2022
Applicant/Engineer Date

Land Use Concurrence:

_____
Development Services Department Date

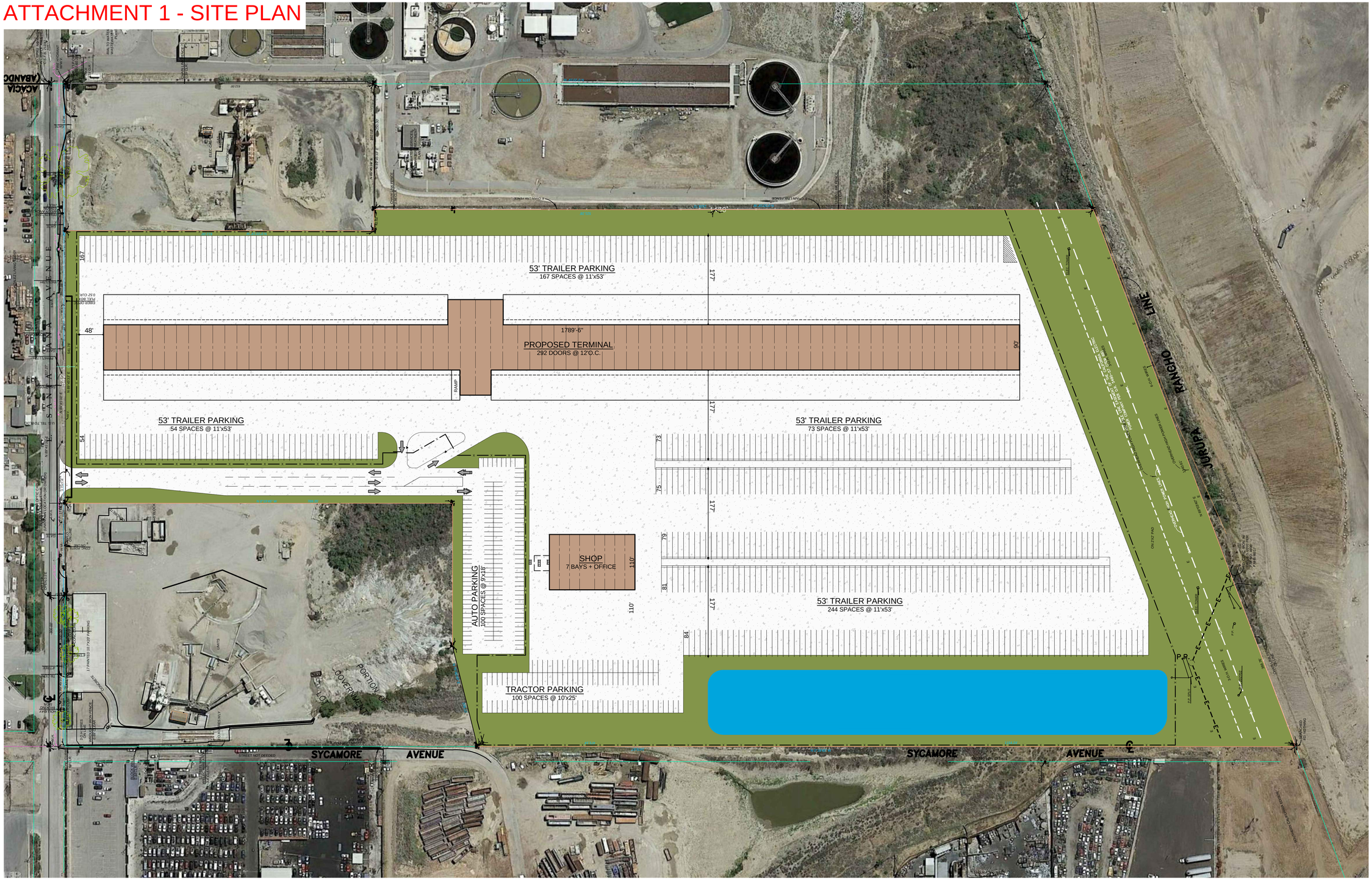
Approved by:

Justin P. Schlafli 2/24/2023
_____
Public Works Department Date

NOTE:

The Applicant/Engineer acknowledges that the Scoping Agreement is intended to assist in the preparation of any required TIA. It is preliminary in nature and the City does not have sufficient data to determine the ultimate conditions that may be imposed for the project. It does not provide nor limit the requirements imposed on the Project but is intended only to provide initial input into the parameters for review of the traffic generated by the Project and the initial areas to be considered and studied. Subsequent changes to scope of required analysis to be included in the TIA may be required by the Transportation Commission, Planning Commission, and/or the City Council upon Public Works Director/City Engineer review and approval.

ATTACHMENT 1 - SITE PLAN



ACREAGE: 46

DOCK: (292) DOORS AT 12' OC x 90' WIDE
SHOP: 7 DRIVE-THRU BAYS + OFFICE/PARTS BAY
TRAILER PARKING: (538) 53' SPACES
TRACTOR PARKING: (100) SPACES
EMPLOYEE PARKING: (150) SPACES

CONCEPTUAL SITE PLAN

SCALE: N.T.S.

DATE	ISSUED FOR	REV
05-16-2019	CONCEPT	

KEY PLAN

DRAWN BY: J. -

DATE: 2-17-2021

APPROVAL: D. ONIFER

CROWN ENTERPRISES INC

PROJECT: SANTA ANA AVE

DRAWING TITLE: PROPOSED CT TERMINAL

CHECK SCALE

SCALE

PROJECT NO.: 18-000

DRAWING NO.: C1

ATTACHMENT **2**

SUMMARY OF PROJECT TRIP GENERATION

249 SANTA ANA AVENUE TRUCK TERMINAL PROJECT

TRIP GENERATION RATES [1]

Existing Land Use	Quantity	Unit	Daily	AM Peak Hour			PM Peak Hour		
				In	Out	Total	In	Out	Total
Truck Terminal - Passenger Vehicles	83	Parking Stalls	2.446	0.060	0.042	0.102	0.187	0.217	0.404
Truck Terminal - Trucks [3]	102	Truck Docks	2.050	0.059	0.088	0.147	0.144	0.079	0.224

PROJECT TRIP GENERATION

Project Land Use	Quantity	Unit	Daily	AM Peak Hour			PM Peak Hour		
				In	Out	Total	In	Out	Total
Proposed Passenger Vehicle Trips	100	Parking Stalls	245	6	4	10	19	22	41
Proposed Truck Trips	292	Truck Docks	599	17	26	43	42	23	65
Total Project Trips (Non-PCE)	--	--	844	23	30	53	61	45	106

PROJECT TRIPS - PASSENGER CAR EQUIVALENTS (PCE)

Vehicle Type	Vehicle Mix [2]	Daily Vehicles	PCE Factor	Daily	AM Peak Hour			PM Peak Hour		
					In	Out	Total	In	Out	Total
Passenger Vehicles	100.0%	245	1.0	245	6	4	10	19	22	41
2-Axle Trucks	2.0%	12	1.5	18	1	1	2	1	1	2
3-Axle Trucks	28.0%	168	2.0	336	10	15	25	24	13	37
4+ Axle Trucks	70.0%	419	3.0	1,257	36	55	91	88	48	136
Total Truck PCE Trips				1,611	47	71	118	113	62	175
Total Project PCE Trips				1,856	53	75	128	132	84	216

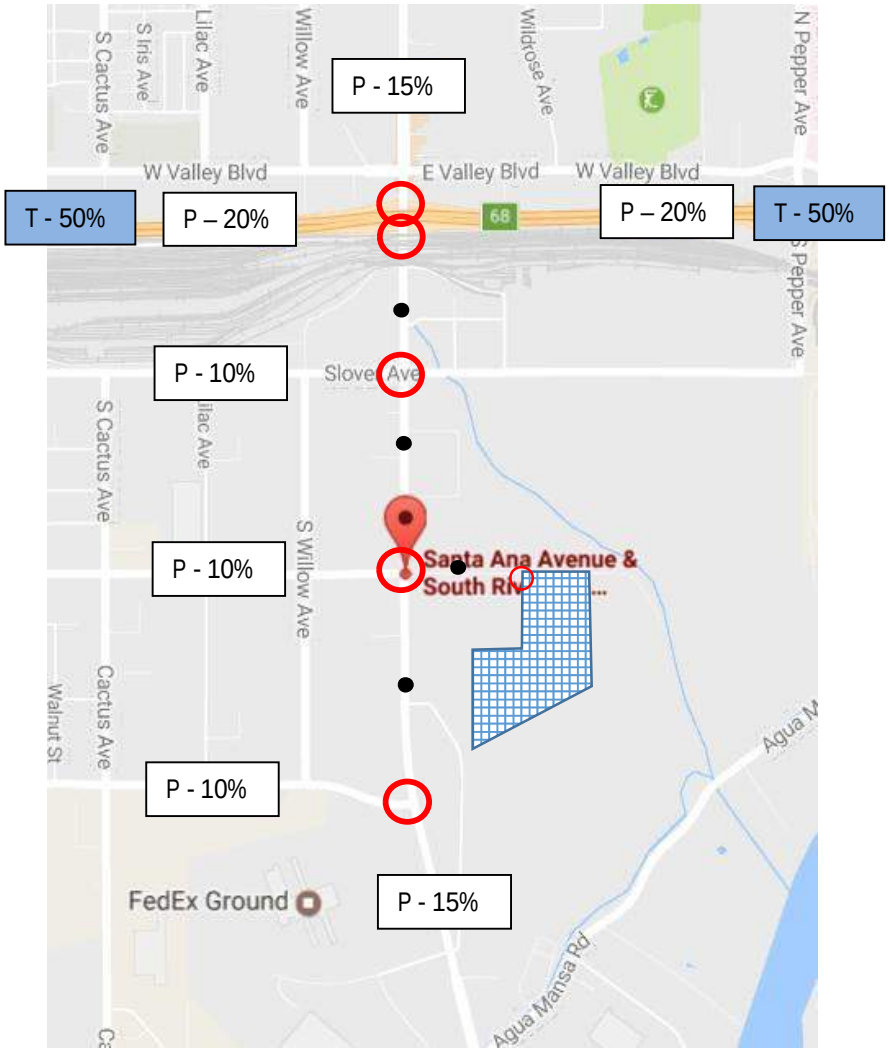
[1] Based on trip generation data at a comparable Truck Terminal site in the City of Rialto. Data collection worksheets are provided as Appendix A to the Scoping Agreement.

[2] Source: City of Rialto *Traffic Impact Analysis Guidelines for VMT and LOS Assessment*, October, 2021

[3] The current truck operations of the existing site (including at time of data collection) exceeds the current building size. As such, the existing site uses off-site trailer drop lots that provide a staging buffer until a dock position is available at the existing site. The additional truck trips created from moving truck trailers to/from the off-site drop lot from/to the existing site overestimates the number of truck trips at a typical site. As a result, the truck trip rates have been reduced by 40% to account for this overestimation of truck trips at the existing site.

PCE = Passenger Car Equivalent

ATTACHMENT 3 - SANTA ANA TRUCK TERMINAL – SUGGESTED STUDY LOCATIONS AND TRIP DISTRIBUTION



LEGEND

○	STUDY INTERSECTION
•	STUDY ROADWAY SEGMENT
P – X%	PASSENGER VEHICLE DISTRIBUTION
T - X%	TRUCK DISTRIBUTION

TABLE 8
SUMMARY OF CUMULATIVE PROJECTS

PROJECT TRIP GENERATION

Project #	Land Use	Quantity	Units	Trip Generation Estimates						
				Daily	AM Peak Hour			PM Peak Hour		
					In	Out	Total	In	Out	Total
City of Rialto										
1	Panattoni I-10 (Rialto Commerce Center)	2,475.745	KSF	3,565	145	78	223	82	166	248
2	CapRock III	527.900	KSF	3,151	212	53	265	73	211	284
3	Rialto Walmart									
	Free Standing Discount Superstore	197.639	KSF	10,501	185	145	330	446	465	911
	Shopping Center	13.712	KSF	589	8	5	13	25	26	51
	High-Turnover (Sit-Down) Restaurant	12.856	KSF	1,635	77	71	148	85	59	144
	Gasoline/Service Station	16	VFP	2,697	99	95	194	111	111	222
	Pass-by Gasoline/Service Station			-1,019	-52	-50	-102	-42	-42	-84
	Fast-Food Restaurant w/ D.T.	5.948	KSF	2,951	150	144	294	105	97	202
	Pass-by Fast-Food Restaurant			-1,328	-66	-63	-129	-48	-44	-92
	Internal Capture (10%)			-1,837	-52	-46	-98	-77	-76	-153
4	Fuel/Convenience Market	18	VFP	3,803	232	231	463	190	189	379
5	Truck Yard (SWC of Riverside Ave and Santa Ana Ave)[1]			686	29	43	72	31	34	65
6	Fast Food/Retail (SWC of Riverside Ave and Slover Ave)[1]			1,104	34	22	56	38	37	75
7	Warehouse (SWC of Cactus Ave and Slover Ave)[1]			587	45	12	57	16	48	64
8	Truck Lot (Jurupa Ave)[1]			393	14	21	35	18	20	38
9	FedEx[1]			5,174	342	91	432	116	347	463
10	Warehouse (Valley Blvd)[1]			2,405	159	42	201	54	161	215
11	Warehouse (San Bernardino Ave)[1]			956	66	18	84	22	67	89
12	Warehouse (Riverside Ave)[1]			494	33	9	42	11	34	45
13	Warehouse (Agus Mansa Rd)[1]			319	22	6	28	7	21	28
City of Colton										
14	CUSM (300 N. Pepper Ave)	150	STUDENTS	357	25	6	31	9	22	31
15	1600 Agua Mansa Road	805.500	KSF	2,868	191	51	242	64	193	257
16	Valley Orange Ent. (1600 W. Valley Blvd)	8	VFP	1,348	50	48	98	55	55	110
17	785 M Street	20.600	KSF	144	17	2	19	2	18	20
18	644-660 Laurel Lane	7	DU	67	1	4	5	4	3	7
19	602 Agua Mansa Road	19.919	KSF	196	7	11	18	8	9	17
20	Roquet Ranch									
	Single-Family Detached Housing	754	DU	7,216	141	424	565	480	282	762
	Condominium	244	DU	1,418	18	89	107	85	42	127
	Senior Adult Housing-Attached	52	DU	181	2	4	6	5	3	8
	Shopping Center	6.500	VFP	279	4	3	7	12	12	24
	Coffee/Donut Shop w/ D.T.	1.500	KSF	1,228	85	81	166	32	32	64
	Fast-Food Restaurant w/ D.T.	4.000	KSF	1,984	101	97	198	70	65	135
	County Park	19.5	ACRES	44	0	0	0	0	1	1
City of Riverside										
21	P15-0812	61	DU	354	5	22	27	21	10	31
22	P14-1033	308.000	KSF	1,096	73	19	92	25	74	99
City of Jurupa Valley										
23	Rio Vista Specific Plan 243									
	Single-Family Detached Housing	579	DU	5,541	109	326	435	368	216	584
	Condominium	290	DU	1,685	22	106	128	101	50	151
	Apartment	346	DU	2,301	35	141	176	139	75	214
	City Park	22.2	ACRES	35	-	-	-	-	-	-
	Elementary School (1)	600	STUDENTS	774	149	122	271	44	46	90
24	Rubidoux Commercial Development	315.499	KSF	2,199	255	35	290	37	269	306
25	Wheatley Industrial Mfg. Bldg.	31.500	KSF	220	26	3	29	4	27	31
26	Emerald Ridge North	187	DU	1,790	35	105	140	119	70	189
County of San Bernardino										
27	High Cube	334.000	KSF	481	20	11	31	11	22	33
28	High Cube	476.000	KSF	685	28	15	43	16	32	48
	General Warehouse	30.000	KSF	107	7	2	9	2	7	9
29	High Cube	677.000	KSF	975	40	21	61	22	45	67
30	Single Family Residential	198	DU	1,895	37	111	148	126	74	200
31	General Warehouse	395.000	KSF	1,406	94	25	119	32	95	127
32	Truck Terminal	450.000	KSF	8,231	300	449	749	300	391	691
County of Riverside										
33	CUP03718	19.988	KSF	139	16	2	18	2	17	19
34	PP24798									
	Shopping Center	5.361	KSF	230	3	2	5	10	10	20
	General Office Building	3.405	KSF	37	5	1	6	1	4	5
Total Project Trips				84,337	3,583	3,265	6,848	3,468	4,202	7,670

Notes:

[1] Trip generation estimates provided by City staff.

DU = Dwelling Units, KSF = 1,000 square feet, VFP = Vehicle Fueling Positions

NEC = Northeast Corner, SEC = Southeast Corner, NWC = Northwest Corner, SWC = Southwest Corner

APPENDIX A

TRIP GENERATION SURVEY WORKSHEETS

Prepared by National Data & Surveying Services

Directional Dwy In & Out

Location: S Riverside Ave & 2765 S Riverside Ave/Central Transport Dwy
City: Bloomington

Date: 6/28/2022
Day: Tuesday

TIME	FHWA 1-3				FHWA 5				FHWA 6				FHWA 8				FHWA 9			
	Dwy In		Dwy Out		Dwy In		Dwy Out		Dwy In		Dwy Out		Dwy In		Dwy Out		Dwy In		Dwy Out	
	NR	SL	WL	WR	NR	SL	WL	WR	NR	SL	WL	WR	NR	SL	WL	WR	NR	SL	WL	WR
6:00 AM	4	9	1	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0
6:15 AM	2	2	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
6:30 AM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
7:00 AM	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0
7:30 AM	0	2	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0
7:45 AM	1	0	1	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0
8:00 AM	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0
8:45 AM	1	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	2	0	0
9:00 AM	1	1	0	3	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0
9:15 AM	0	0	2	2	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
9:30 AM	0	0	0	2	0	0	0	0	0	0	0	0	0	2	0	0	0	1	0	0
9:45 AM	0	1	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
10:00 AM	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0
10:15 AM	0	0	0	2	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
10:30 AM	0	0	1	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:45 AM	0	1	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
11:00 AM	0	2	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0
11:15 AM	0	1	1	6	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0
11:30 AM	1	6	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
11:45 AM	0	4	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:00 PM	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 PM	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0
12:30 PM	0	1	1	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:00 PM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
1:15 PM	0	2	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:30 PM	2	4	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0
1:45 PM	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0
2:00 PM	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	2	1	0	0
2:15 PM	0	3	1	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	0	0
2:30 PM	0	2	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
2:45 PM	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	1	0	0
3:00 PM	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:15 PM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	3	0	0
3:30 PM	1	2	1	1	0	1	0	0	0	1	0	0	0	0	0	0	1	2	0	0
3:45 PM	1	0	1	2	0	2	0	0	0	0	0	0	0	0	0	0	1	1	0	0
4:00 PM	0	0	4	0	0	0	0	0	0	3	0	0	0	0	0	0	0	1	0	0
4:15 PM	0	0	1	2	0	2	0	0	0	0	0	0	0	0	0	0	1	0	0	0
4:30 PM	2	0	0	2	0	1	0	0	1	1	0	0	0	0	0	0	0	1	0	0
4:45 PM	1	1	1	1	0	0	0	0	0	3	0	0	0	0	0	0	1	5	0	0
5:00 PM	1	3	1	3	0	0	0	0	1	3	0	0	0	0	0	0	0	0	0	0
5:15 PM	1	4	3	2	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	1	4	1	4	0	2	0	0	0	0	0	0	0	0	0	0	1	0	0	0
5:45 PM	0	1	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0
6:00 PM	0	2	0	2	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0
6:15 PM	0	2	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	3	0	0
6:30 PM	1	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45 PM	1	0	1	0	0	1	0	0	0	1	0	0	0	0	0	0	0	1	0	0
7:00 PM	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	4	0	0
7:15 PM	1	2	0	1	0	1	0	0	0	2	0	0	0	0	0	0	0	6	0	0
7:30 PM	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0
7:45 PM	0	2	1	1	0	2	0	0	0	1	0	0	0	0	0	0	0	1	0	0
Totals	*27*	*72*	*32*	*60*	*0*	*21*	*0*	*0*	*2*	*22*	*0*	*0*	*0*	*12*	*0*	*0*	*16*	*51*	*0*	*0*

Prepared by National Data & Surveying Services

Directional Dwy In & Out

Location: S Riverside Ave & 2765 S Riverside Ave/Central Transport Dwy
City: Bloomington

Date: 6/29/2022
Day: Wednesday

TIME	FHWA 1-3				FHWA 5				FHWA 6				FHWA 8				FHWA 9			
	Dwy In		Dwy Out		Dwy In		Dwy Out		Dwy In		Dwy Out		Dwy In		Dwy Out		Dwy In		Dwy Out	
	NR	SL	WL	WR	NR	SL	WL	WR	NR	SL	WL	WR	NR	SL	WL	WR	NR	SL	WL	WR
6:00 AM	2	4	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
6:15 AM	6	3	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
6:30 AM	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00 AM	0	1	0	4	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	1	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	1	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	2	0	0
8:00 AM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
8:45 AM	0	0	1	1	0	0	0	0	0	1	0	0	0	1	0	0	0	1	0	0
9:00 AM	0	0	0	2	0	1	0	0	0	0	0	0	0	0	0	0	0	2	0	0
9:15 AM	0	1	0	1	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:30 AM	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
9:45 AM	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00 AM	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
10:15 AM	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:30 AM	0	0	3	6	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:45 AM	1	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0
11:00 AM	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 AM	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 AM	0	5	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0
11:45 AM	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:00 PM	0	1	0	4	0	1	0	0	0	1	0	0	0	0	0	0	1	1	0	0
12:15 PM	1	0	1	4	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0
12:30 PM	1	0	1	2	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0
12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0
1:00 PM	0	1	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:15 PM	0	2	2	2	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0
1:30 PM	2	4	0	1	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0
1:45 PM	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:00 PM	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
2:15 PM	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
2:30 PM	0	3	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
2:45 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	2	0	0	0	0	0	0
3:00 PM	0	2	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0
3:15 PM	0	0	0	2	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0	0
3:30 PM	0	2	1	2	0	1	0	0	0	0	0	0	0	0	0	0	1	4	0	0
3:45 PM	1	0	2	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0	0
4:00 PM	0	1	1	1	0	0	0	0	0	1	0	0	0	1	0	0	1	1	0	0
4:15 PM	0	0	2	0	0	1	0	0	0	0	0	0	0	0	0	0	0	2	0	0
4:30 PM	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	2	3	0	0
4:45 PM	1	1	0	1	0	0	0	0	1	3	0	0	0	0	0	0	1	1	0	0
5:00 PM	1	4	3	6	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0
5:15 PM	2	3	0	2	0	0	0	0	1	1	1	0	0	0	0	0	0	1	0	0
5:30 PM	1	2	1	4	0	0	0	0	1	1	0	0	0	0	0	0	0	1	0	0
5:45 PM	0	3	0	3	0	1	0	0	0	0	0	0	0	0	0	0	0	3	0	0
6:00 PM	0	5	1	4	0	0	0	0	1	0	0	0	0	0	0	0	0	3	0	0
6:15 PM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0
6:30 PM	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0
6:45 PM	0	0	3	2	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00 PM	1	2	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	3	0	0
7:15 PM	1	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	7	0	0
7:30 PM	0	1	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 PM	0	1	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	*26*	*71*	*27*	*68*	*0*	*28*	*0*	*0*	*5*	*17*	*1*	*0*	*0*	*6*	*0*	*0*	*16*	*50*	*0*	*0*

Prepared by National Data & Surveying Services

Directional Dwy In & Out

Location: 2765 S Riverside Ave/Central Transport Dwy & Industrial Dr
City: Bloomington

Date: 6/28/2022
Day: Tuesday

TIME	FHWA 1-3						FHWA 5						FHWA 6						FHWA 8						FHWA 9						FHWA 11					
	Dwy In			Dwy Out			Dwy In			Dwy Out			Dwy In			Dwy Out			Dwy In			Dwy Out			Dwy In			Dwy Out			Dwy In			Dwy Out		
	NT	EL	WR	SL	ST	SR	NT	EL	WR	SL	ST	SR	NT	EL	WR	SL	ST	SR	NT	EL	WR	SL	ST	SR	NT	EL	WR	SL	ST	SR	NT	EL	WR	SL	ST	SR
6:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
6:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	0	0	0	0	1	0	1	0	0	0	1	0	0	0	0	0	0
6:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	1	0	0	0	1	0	0	0	0	0	0
6:45 AM	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	1	0	7	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	1	0	1	0	1	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	2	0	1	0	0	0	1	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	3	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	2	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	1	0	0	0	1	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	2	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
9:00 AM	0	1	0	0	0	1	0	1	0	0	0	1	0	0	0	3	0	4	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
9:15 AM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0
9:30 AM	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0
10:15 AM	0	1	0	0	0	1	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
10:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
10:45 AM	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:00 AM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0
11:15 AM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
12:30 PM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	1	0	0	0	0	0	0
12:45 PM	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:00 PM	0	0	0	0	0	1	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
1:15 PM	0	0	1	0	0	0	0	1	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0
1:30 PM	0	1	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
1:45 PM	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:15 PM	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	1	0	0	0	0	0	2	0	0	0	0	0	0
2:45 PM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	3	0	0	0	0	0	0
3:00 PM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	3	0	1	0	0	0	0	0	0
3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	2	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	2	0	0	0	0	0	1	0	0	0	0	0	0
3:45 PM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	1	0	0	0	0	0	2	0	1	0	0	0	1	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	1	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	2	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	2	0	0	0	0	0	2	0	1	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	1	1	0	2	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2	0	0	0	0	0	1	0	1	0	0	0	3	0	0	0	0	0	0
6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	2	1	0	0	2	0	0	0	0	0	0
6:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	0	0	0	0	0	1	0	2	0	0	0	3	0	0	0	0	0	0
6:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	1
6:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0
7:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	2	0	0	0	3	0	0	0	0	0	0
7:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	0	0	0	0	1	0	0	0	0	0	2	0	0	0	0	0	0
7:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	5	0	0	0	0	0	0
7:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0
Totals	*0*	*5*	*3*	*0*	*0*	*10*	*0*	*14*	*0*	*2*	*0*	*6*	*0*	*14*	*0*	*6*	*0*	*76*	*0*	*1*	*0*	*0*	*0*	*41*	*0*	*19*	*5*	*6*	*0*	*53*	*0*	*0*	*0*	*0*	*0*	*1*

Prepared by National Data & Surveying Services

Directional Dwy In & Out

Location: 2765 S Riverside Ave/Central Transport Dwy & Industrial Dr
City: Bloomington

Date: 6/29/2022
Day: Wednesday

TIME	FHWA 1-3						FHWA 5						FHWA 6						FHWA 8						FHWA 9						FHWA 10					
	Dwy In			Dwy Out			Dwy In			Dwy Out			Dwy In			Dwy Out			Dwy In			Dwy Out			Dwy In			Dwy Out			Dwy In			Dwy Out		
	NT	EL	WR	SL	ST	SR	NT	EL	WR	SL	ST	SR	NT	EL	WR	SL	ST	SR	NT	EL	WR	SL	ST	SR	NT	EL	WR	SL	ST	SR	NT	EL	WR	SL	ST	SR
6:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0
6:15 AM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
6:30 AM	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	1	0	5	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0
6:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	2	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	2	0	0	0	1	0	1	0	0	0	0	0	0
9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0
9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0
9:45 AM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00 AM	0	1	0	0	0	1	0	1	1	2	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:15 AM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
10:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:45 AM	0	0	1	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	2	0	0	0	0	0	0	0	0	0	0
11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
12:00 PM	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
12:15 PM	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	2	0	0	0	0	0	0
12:30 PM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0
12:45 PM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0
1:00 PM	0	0	0	0	0	0	0	1	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0
1:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
1:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0
1:45 PM	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
2:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	2	0	0	0	0	0	1
2:15 PM	0	0	0	0	0	0	0	2	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	1	0	0	0	0	0	0
2:30 PM	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0
2:45 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0
3:15 PM	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	1
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	2	0	0	0	0	0	1	0	0	0	1	0	1	0	0	0	0	0	0
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	2	0	0	0	0	0	3	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
6:15 PM	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0
6:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	2	0	0	0	0	0	0
6:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	0	0	0	0	0	1	0	0	0	0	0	5	0	0	0	0	0	0
7:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	1	0	0	0	0	1	2	0	0	0	0	0	0
7:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	2	0	0	0	0	0	0
7:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	2	0	0	0	0	0	1	0	0	0	0	0	0
7:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	5	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0
Totals	*0*	*1*	*1*	*0*	*0*	*3*	*0*	*18*	*2*	*4*	*0*	*8*	*0*	*8*	*0*	*4*	*0*	*56*	*0*	*4*	*0*	*0*	*0*	*44*	*0*	*5*	*1*	*7*	*0*	*46*	*0*	*0*	*0*	*0*	*0*	*2*

TABLE 1
SUMMARY OF CENTRAL TRANSPORT SURVEYS
TUESDAY JUNE 28, 2022

Time	Driveway						Hourly Sum			
	S Riverside Ave & 2765 S Riverside Ave Dwy		2765 S Riverside Ave & Industrial Dr Dwy		Combined					
	In	Out	In	Out	In	Out	In	Out	Total	
AM Peak										
7:00 to 7:15	1	1	0	3	1	4	-	-	-	
7:15 to 7:30	2	0	2	4	4	4	-	-	-	
7:30 to 7:45	4	0	1	5	5	5	-	-	-	
7:45 to 8:00	3	1	2	4	5	5	15	18	33	
8:00 to 8:15	3	0	0	4	3	4	17	18	35	*
8:15 to 8:30	0	0	2	2	2	2	15	16	31	
8:30 to 8:45	2	1	0	1	2	2	12	13	25	
8:45 to 9:00	5	0	0	5	5	5	12	13	25	
PM Peak										
4:00 to 4:15	4	4	3	4	7	8	-	-	-	
4:15 to 4:30	3	3	0	4	3	7	-	-	-	
4:30 to 4:45	6	2	1	2	7	4	-	-	-	
4:45 to 5:00	11	2	3	3	14	5	31	24	55	
5:00 to 5:15	8	4	1	3	9	7	33	23	56	
5:15 to 5:30	6	5	2	4	8	9	38	25	63	
5:30 to 5:45	8	5	2	4	10	9	41	30	71	*
5:45 to 6:00	3	3	3	6	6	9	33	34	67	
Total	*69*	*31*	*22*	*58*	*91*	*89*				

* = Peak hour volumes, based on the highest 4 consecutive 15-minute periods.

TABLE 2
SUMMARY OF CENTRAL TRANSPORT SURVEYS
WEDNESDAY JUNE 29, 2022

Time	Driveway						Hourly Sum		
	S Riverside Ave & 2765 S Riverside Ave Dwy		2765 S Riverside Ave & Industrial Dr Dwy		Combined				
	In	Out	In	Out	In	Out	In	Out	Total
AM Peak									
7:00 to 7:15	3	4	0	3	3	7	-	-	-
7:15 to 7:30	2	1	0	3	2	4	-	-	-
7:30 to 7:45	3	0	0	1	3	1	-	-	-
7:45 to 8:00	4	1	0	3	4	4	12	16	28 *
8:00 to 8:15	2	0	0	3	2	3	11	12	23
8:15 to 8:30	1	0	0	1	1	1	10	9	19
8:30 to 8:45	1	1	0	4	1	5	8	13	21
8:45 to 9:00	3	2	0	5	3	7	7	16	23
PM Peak									
4:00 to 4:15	5	2	0	8	5	10	-	-	-
4:15 to 4:30	3	2	2	2	5	4	-	-	-
4:30 to 4:45	6	1	1	3	7	4	-	-	-
4:45 to 5:00	8	1	1	1	9	2	26	20	46
5:00 to 5:15	8	9	1	2	9	11	30	21	51
5:15 to 5:30	8	3	2	2	10	5	35	22	57
5:30 to 5:45	6	5	0	2	6	7	34	25	59
5:45 to 6:00	7	3	2	4	9	7	34	30	64 *
Total	*70*	*35*	*9*	*47*	*79*	*82*			

* = Peak hour volumes, based on the highest 4 consecutive 15-minute periods.

APPENDIX **B**

TRAFFIC COUNT DATA
WORKSHEETS

National Data & Surveying Services

Intersection Turning Movement Count

Location: S Riverside Ave & I-10 WB Ramps
City: Rialto
Control: Signalized

Project ID: 18-06047-001
Date: 4/12/2018

Total

NS/EW Streets:	S Riverside Ave				S Riverside Ave				I-10 WB Ramps				I-10 WB Ramps				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	2	3	0	0	0	4	1	0	0	0	0	0	1.3	0.3	1.3	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	36	194	0	5	0	241	145	0	0	0	0	0	111	2	95	0	829
7:15 AM	37	185	0	3	0	253	146	0	0	0	0	0	106	1	89	0	820
7:30 AM	30	211	0	2	0	270	141	0	0	0	0	0	90	1	88	0	833
7:45 AM	45	230	0	3	0	233	86	0	0	0	0	0	113	1	78	0	789
8:00 AM	35	176	0	0	0	248	123	0	0	0	0	0	94	0	64	0	740
8:15 AM	37	163	0	3	0	238	119	0	0	0	0	0	87	3	86	0	736
8:30 AM	48	184	0	2	0	225	114	0	0	0	0	0	81	0	96	0	750
8:45 AM	45	201	0	0	0	199	102	0	0	0	0	0	71	0	80	0	698
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	313	1544	0	18	0	1907	976	0	0	0	0	0	753	8	676	0	6195
APPROACH %'s :	16.69%	82.35%	0.00%	0.96%	0.00%	66.15%	33.85%	0.00%					52.40%	0.56%	47.04%	0.00%	
PEAK HR :	07:00 AM - 08:00 AM																TOTAL
PEAK HR VOL :	148	820	0	13	0	997	518	0	0	0	0	0	420	5	350	0	3271
PEAK HR FACTOR :	0.822	0.891	0.000	0.650	0.000	0.923	0.887	0.000	0.000	0.000	0.000	0.000	0.929	0.625	0.921	0.000	0.982
	0.882				0.922								0.931				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	2	3	0	0	0	4	1	0	0	0	0	0	1.3	0.3	1.3	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	58	356	0	0	0	266	102	0	0	0	0	0	93	1	127	0	1003
4:15 PM	51	343	0	1	0	252	104	0	0	0	0	0	90	0	118	0	959
4:30 PM	61	356	0	0	0	294	97	0	0	0	0	0	95	0	144	0	1047
4:45 PM	61	357	0	0	0	263	89	0	0	0	0	0	99	0	112	0	981
5:00 PM	60	374	0	0	0	301	92	0	0	0	0	0	114	0	109	0	1050
5:15 PM	59	385	0	0	0	261	96	0	0	0	0	0	116	2	143	0	1062
5:30 PM	49	368	0	0	0	266	105	0	0	0	0	0	121	1	119	0	1029
5:45 PM	52	361	0	0	0	244	84	0	0	0	0	0	113	0	98	0	952
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	451	2900	0	1	0	2147	769	0	0	0	0	0	841	4	970	0	8083
APPROACH %'s :	13.45%	86.52%	0.00%	0.03%	0.00%	73.63%	26.37%	0.00%					46.34%	0.22%	53.44%	0.00%	
PEAK HR :	04:30 PM - 05:30 PM																TOTAL
PEAK HR VOL :	241	1472	0	0	0	1119	374	0	0	0	0	0	424	2	508	0	4140
PEAK HR FACTOR :	0.988	0.956	0.000	0.000	0.000	0.929	0.964	0.000	0.000	0.000	0.000	0.000	0.914	0.250	0.882	0.000	0.975
	0.965				0.950								0.895				

National Data & Surveying Services

Intersection Turning Movement Count

Location: S Riverside Ave & I-10 WB Ramps
City: Rialto
Control: Signalized

Project ID: 18-06047-001
Date: 4/12/2018

Cars

NS/EW Streets:	S Riverside Ave				S Riverside Ave				I-10 WB Ramps				I-10 WB Ramps				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	2	3	0	0	0	4	1	0	0	0	0	0	1.3	0.3	1.3	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	12	181	0	5	0	232	141	0	0	0	0	0	90	2	94	0	757
7:15 AM	9	168	0	3	0	245	146	0	0	0	0	0	88	1	87	0	747
7:30 AM	15	199	0	2	0	268	136	0	0	0	0	0	75	1	84	0	780
7:45 AM	19	221	0	3	0	227	84	0	0	0	0	0	97	1	72	0	724
8:00 AM	17	165	0	0	0	240	122	0	0	0	0	0	70	0	62	0	676
8:15 AM	11	145	0	3	0	225	113	0	0	0	0	0	46	3	81	0	627
8:30 AM	14	169	0	2	0	212	110	0	0	0	0	0	55	0	91	0	653
8:45 AM	19	184	0	0	0	179	97	0	0	0	0	0	57	0	80	0	616
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	116	1432	0	18	0	1828	949	0	0	0	0	0	578	8	651	0	5580
APPROACH %'s :	7.41%	91.44%	0.00%	1.15%	0.00%	65.83%	34.17%	0.00%					46.73%	0.65%	52.63%	0.00%	
PEAK HR :	07:00 AM - 08:00 AM																TOTAL
PEAK HR VOL :	55	769	0	13	0	972	507	0	0	0	0	0	350	5	337	0	3008
PEAK HR FACTOR :	0.72	0.870	0.000	0.650	0.000	0.907	0.868	0.000	0.000	0.000	0.000	0.000	0.902	0.625	0.896	0.000	0.964
	0.861				0.915								0.930				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	2	3	0	0	0	4	1	0	0	0	0	0	1.3	0.3	1.3	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	41	348	0	0	0	255	100	0	0	0	0	0	74	0	124	0	942
4:15 PM	38	332	0	0	0	240	101	0	0	0	0	0	61	0	114	0	886
4:30 PM	46	345	0	0	0	289	94	0	0	0	0	0	67	0	140	0	981
4:45 PM	48	346	0	0	0	256	85	0	0	0	0	0	79	0	108	0	922
5:00 PM	46	365	0	0	0	292	90	0	0	0	0	0	94	0	109	0	996
5:15 PM	49	375	0	0	0	254	94	0	0	0	0	0	105	2	140	0	1019
5:30 PM	39	363	0	0	0	258	101	0	0	0	0	0	101	1	115	0	978
5:45 PM	39	356	0	0	0	240	84	0	0	0	0	0	80	0	95	0	894
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	346	2830	0	0	0	2084	749	0	0	0	0	0	661	3	945	0	7618
APPROACH %'s :	10.89%	89.11%	0.00%	0.00%	0.00%	73.56%	26.44%	0.00%					41.08%	0.19%	58.73%	0.00%	
PEAK HR :	04:30 PM - 05:30 PM																TOTAL
PEAK HR VOL :	189	1431	0	0	0	1091	363	0	0	0	0	0	345	2	497	0	3918
PEAK HR FACTOR :	0.96	0.954	0.000	0.000	0.000	0.934	0.965	0.000	0.000	0.000	0.000	0.000	0.821	0.250	0.888	0.000	0.961
	0.955				0.949								0.854				

National Data & Surveying Services

Intersection Turning Movement Count

Location: S Riverside Ave & I-10 WB Ramps
City: Rialto
Control: Signalized

Project ID: 18-06047-001
Date: 4/12/2018

2axle

NS/EW Streets:	S Riverside Ave				S Riverside Ave				I-10 WB Ramps				I-10 WB Ramps				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	2	3	0	0	0	4	1	0	0	0	0	0	1.3	0.3	1.3	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	6	4	0	0	0	7	1	0	0	0	0	0	5	0	1	0	24
7:15 AM	5	8	0	0	0	5	0	0	0	0	0	0	9	0	2	0	29
7:30 AM	4	6	0	0	0	1	3	0	0	0	0	0	4	0	3	0	21
7:45 AM	3	5	0	0	0	5	1	0	0	0	0	0	1	0	5	0	20
8:00 AM	2	4	0	0	0	3	0	0	0	0	0	0	2	0	2	0	13
8:15 AM	4	8	0	0	0	10	1	0	0	0	0	0	4	0	4	0	31
8:30 AM	7	3	0	0	0	11	1	0	0	0	0	0	3	0	4	0	29
8:45 AM	6	9	0	0	0	12	3	0	0	0	0	0	2	0	0	0	32
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	37	47	0	0	0	54	10	0	0	0	0	0	30	0	21	0	199
APPROACH %'s :	44.05%	55.95%	0.00%	0.00%	0.00%	84.38%	15.63%	0.00%					58.82%	0.00%	41.18%	0.00%	
PEAK HR :	07:00 AM - 08:00 AM																TOTAL
PEAK HR VOL :	18	23	0	0	0	18	5	0	0	0	0	0	19	0	11	0	94
PEAK HR FACTOR :	0.750	0.719	0.000	0.000	0.000	0.643	0.417	0.000	0.000	0.000	0.000	0.000	0.528	0.000	0.550	0.000	0.810
	0.788				0.719								0.682				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	2	3	0	0	0	4	1	0	0	0	0	0	1.3	0.3	1.3	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	2	3	0	0	0	6	0	0	0	0	0	0	3	1	2	0	17
4:15 PM	0	1	0	0	0	9	3	0	0	0	0	0	5	0	2	0	20
4:30 PM	3	7	0	0	0	1	0	0	0	0	0	0	4	0	3	0	18
4:45 PM	2	6	0	0	0	4	0	0	0	0	0	0	4	0	3	0	19
5:00 PM	0	4	0	0	0	4	0	0	0	0	0	0	4	0	0	0	12
5:15 PM	1	8	0	0	0	1	2	0	0	0	0	0	2	0	1	0	15
5:30 PM	0	1	0	0	0	2	1	0	0	0	0	0	3	0	2	0	9
5:45 PM	1	2	0	0	0	3	0	0	0	0	0	0	4	0	1	0	11
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	9	32	0	0	0	30	6	0	0	0	0	0	29	1	14	0	121
APPROACH %'s :	21.95%	78.05%	0.00%	0.00%	0.00%	83.33%	16.67%	0.00%					65.91%	2.27%	31.82%	0.00%	
PEAK HR :	04:30 PM - 05:30 PM																TOTAL
PEAK HR VOL :	6	25	0	0	0	10	2	0	0	0	0	0	14	0	7	0	64
PEAK HR FACTOR :	0.50	0.781	0.000	0.000	0.000	0.625	0.250	0.000	0.000	0.000	0.000	0.000	0.875	0.000	0.583	0.000	0.842
	0.775				0.750								0.750				

National Data & Surveying Services

Intersection Turning Movement Count

Location: S Riverside Ave & I-10 WB Ramps
City: Rialto
Control: Signalized

Project ID: 18-06047-001
Date: 4/12/2018

3axle

NS/EW Streets:	S Riverside Ave				S Riverside Ave				I-10 WB Ramps				I-10 WB Ramps				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	2	3	0	0	0	4	1	0	0	0	0	0	1.3	0.3	1.3	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	4	1	0	0	0	0	0	0	0	0	0	0	4	0	0	0	9
7:15 AM	6	1	0	0	0	1	0	0	0	0	0	0	1	0	0	0	9
7:30 AM	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5
7:45 AM	2	2	0	0	0	1	0	0	0	0	0	0	2	0	0	0	7
8:00 AM	4	3	0	0	0	3	0	0	0	0	0	0	4	0	0	0	14
8:15 AM	5	4	0	0	0	1	0	0	0	0	0	0	4	0	0	0	14
8:30 AM	4	3	0	0	0	1	1	0	0	0	0	0	3	0	0	0	12
8:45 AM	4	3	0	0	0	3	0	0	0	0	0	0	3	0	0	0	13
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	34	17	0	0	0	10	1	0	0	0	0	0	21	0	0	0	83
APPROACH %'s :	66.67%	33.33%	0.00%	0.00%	0.00%	90.91%	9.09%	0.00%					100.00%	0.00%	0.00%	0.00%	
PEAK HR :	07:00 AM - 08:00 AM																TOTAL
PEAK HR VOL :	17	4	0	0	0	2	0	0	0	0	0	0	7	0	0	0	30
PEAK HR FACTOR :	0.708	0.500	0.000	0.000	0.000	0.500	0.000	0.000	0.000	0.000	0.000	0.000	0.438	0.000	0.000	0.000	0.833
	0.750				0.500								0.438				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	2	3	0	0	0	4	1	0	0	0	0	0	1.3	0.3	1.3	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	5	0	0	0	0	0	1	0	0	0	0	0	2	0	0	0	8
4:15 PM	4	6	0	1	0	2	0	0	0	0	0	0	4	0	0	0	17
4:30 PM	3	1	0	0	0	1	2	0	0	0	0	0	2	0	1	0	10
4:45 PM	1	2	0	0	0	1	2	0	0	0	0	0	4	0	0	0	10
5:00 PM	3	2	0	0	0	2	1	0	0	0	0	0	1	0	0	0	9
5:15 PM	2	1	0	0	0	4	0	0	0	0	0	0	2	0	0	0	9
5:30 PM	2	1	0	0	0	1	2	0	0	0	0	0	0	0	0	0	6
5:45 PM	3	2	0	0	0	1	0	0	0	0	0	0	9	0	1	0	16
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	23	15	0	1	0	12	8	0	0	0	0	0	24	0	2	0	85
APPROACH %'s :	58.97%	38.46%	0.00%	2.56%	0.00%	60.00%	40.00%	0.00%					92.31%	0.00%	7.69%	0.00%	
PEAK HR :	04:30 PM - 05:30 PM																TOTAL
PEAK HR VOL :	9	6	0	0	0	8	5	0	0	0	0	0	9	0	1	0	38
PEAK HR FACTOR :	0.75	0.750	0.000	0.000	0.000	0.500	0.625	0.000	0.000	0.000	0.000	0.000	0.563	0.000	0.250	0.000	0.950
	0.750				0.813								0.625				

National Data & Surveying Services

Intersection Turning Movement Count

Location: S Riverside Ave & I-10 WB Ramps
City: Rialto
Control: Signalized

Project ID: 18-06047-001
Date: 4/12/2018

4axle

NS/EW Streets:	S Riverside Ave				S Riverside Ave				I-10 WB Ramps				I-10 WB Ramps				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	2	3	0	0	0	4	1	0	0	0	0	0	1.3	0.3	1.3	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	14	8	0	0	0	2	3	0	0	0	0	0	12	0	0	0	39
7:15 AM	17	8	0	0	0	2	0	0	0	0	0	0	8	0	0	0	35
7:30 AM	6	6	0	0	0	1	2	0	0	0	0	0	11	0	1	0	27
7:45 AM	21	2	0	0	0	0	1	0	0	0	0	0	13	0	1	0	38
8:00 AM	12	4	0	0	0	2	1	0	0	0	0	0	18	0	0	0	37
8:15 AM	17	6	0	0	0	2	5	0	0	0	0	0	33	0	1	0	64
8:30 AM	23	9	0	0	0	1	2	0	0	0	0	0	20	0	1	0	56
8:45 AM	16	5	0	0	0	5	2	0	0	0	0	0	9	0	0	0	37
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	126	48	0	0	0	15	16	0	0	0	0	0	124	0	4	0	333
APPROACH %'s :	72.41%	27.59%	0.00%	0.00%	0.00%	48.39%	51.61%	0.00%					96.88%	0.00%	3.13%	0.00%	
PEAK HR :	07:00 AM - 08:00 AM																TOTAL
PEAK HR VOL :	58	24	0	0	0	5	6	0	0	0	0	0	44	0	2	0	139
PEAK HR FACTOR :	0.690	0.750	0.000	0.000	0.000	0.625	0.500	0.000	0.000	0.000	0.000	0.000	0.846	0.000	0.500	0.000	0.891
	0.820				0.550								0.821				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	2	3	0	0	0	4	1	0	0	0	0	0	1.3	0.3	1.3	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	10	5	0	0	0	5	1	0	0	0	0	0	14	0	1	0	36
4:15 PM	9	4	0	0	0	1	0	0	0	0	0	0	20	0	2	0	36
4:30 PM	9	3	0	0	0	3	1	0	0	0	0	0	22	0	0	0	38
4:45 PM	10	3	0	0	0	2	2	0	0	0	0	0	12	0	1	0	30
5:00 PM	11	3	0	0	0	3	1	0	0	0	0	0	15	0	0	0	33
5:15 PM	7	1	0	0	0	2	0	0	0	0	0	0	7	0	2	0	19
5:30 PM	8	3	0	0	0	5	1	0	0	0	0	0	17	0	2	0	36
5:45 PM	9	1	0	0	0	0	0	0	0	0	0	0	20	0	1	0	31
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	73	23	0	0	0	21	6	0	0	0	0	0	127	0	9	0	259
APPROACH %'s :	76.04%	23.96%	0.00%	0.00%	0.00%	77.78%	22.22%	0.00%					93.38%	0.00%	6.62%	0.00%	
PEAK HR :	04:30 PM - 05:30 PM																TOTAL
PEAK HR VOL :	37	10	0	0	0	10	4	0	0	0	0	0	56	0	3	0	120
PEAK HR FACTOR :	0.84	0.833	0.000	0.000	0.000	0.833	0.500	0.000	0.000	0.000	0.000	0.000	0.636	0.000	0.375	0.000	0.789
	0.839				0.875								0.670				

National Data & Surveying Services

Intersection Turning Movement Count

S Riverside Ave & I-10 WB Ramps

Peak Hour Turning Movement Count

ID: 18-06047-001
City: Rialto

Day: Thursday
Date: 04/12/2018

S Riverside Ave

SOUTHBOUND

PEAK HOURS		AM	NOON	PM		COUNT PERIODS
07:00 AM - 08:00 AM	AM	518	997	0	0	1170 AM
NONE	NOON	0	0	0	0	0 NOON
04:30 PM - 05:30 PM	PM	374	1119	0	0	1980 PM

07:00 AM - 09:00 AM
NONE
04:00 PM - 06:00 PM

I-10 WB Ramps

EASTBOUND

AM	NOON	PM	
671	0	617	
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
AM	NOON	PM	

1 4 0 0

CONTROL

Signalized

TEV	3271	0	4140
	AM	NOON	PM
PHF	0.98		0.97

WESTBOUND

I-10 WB Ramps

PM	NOON	AM	
508	0	350	1.3
2	0	5	0.3
424	0	420	1.3
0	0	0	0
0	0	0	
PM	NOON	AM	

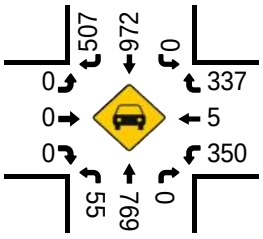
0 2 3 0

PM	1543	0	241	1472	0 PM
NOON	0	0	0	0	0 NOON
AM	1430	13	148	820	0 AM

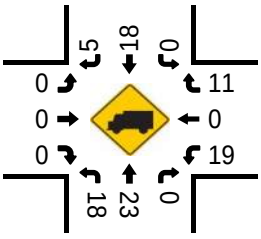
NORTHBOUND

S Riverside Ave

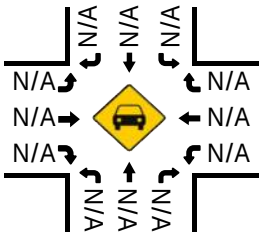
Cars (AM)



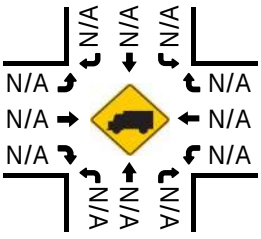
2axle (AM)



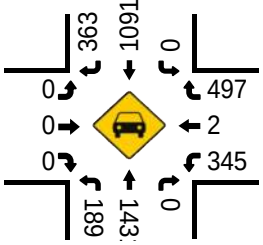
Cars (NOON)



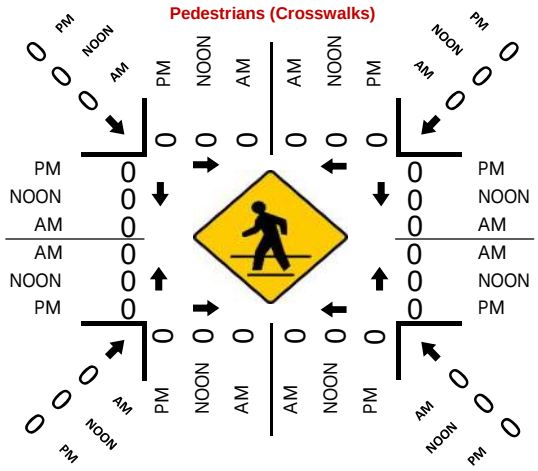
2axle (NOON)



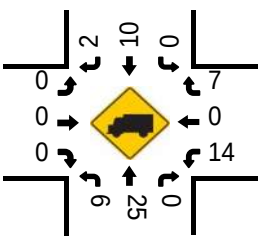
Cars (PM)



Pedestrians (Crosswalks)



2axle (PM)



National Data & Surveying Services

Intersection Turning Movement Count

Location: S Riverside Ave & I-10 EB Ramps
City: Rialto
Control: Signalized

Project ID: 18-06047-002
Date: 4/12/2018

Total

NS/EW Streets:	S Riverside Ave				S Riverside Ave				I-10 EB Ramps				I-10 EB Ramps				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	2.5	0.5	0	2	2	0	0	1.3	0.3	1.3	0	0	0	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	0	169	75	1	75	261	0	2	64	2	61	0	0	0	0	0	710
7:15 AM	0	156	51	0	106	271	0	0	72	4	70	0	0	0	0	0	730
7:30 AM	0	154	71	0	103	251	0	0	88	0	90	0	0	0	0	0	757
7:45 AM	0	188	71	0	89	263	0	0	88	1	102	0	0	0	0	0	802
8:00 AM	0	153	71	0	97	260	0	0	65	0	61	0	0	0	0	0	707
8:15 AM	0	141	80	0	94	240	0	0	73	0	79	0	0	0	0	0	707
8:30 AM	0	142	63	0	115	199	0	1	84	1	67	0	0	0	0	0	672
8:45 AM	0	181	112	0	85	187	0	0	78	1	61	0	0	0	0	0	705
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	1284	594	1	764	1932	0	3	612	9	591	0	0	0	0	0	5790
APPROACH %'s :	0.00%	68.33%	31.61%	0.05%	28.31%	71.58%	0.00%	0.11%	50.50%	0.74%	48.76%	0.00%					
PEAK HR :	07:00 AM - 08:00 AM																TOTAL
PEAK HR VOL :	0	667	268	1	373	1046	0	2	312	7	323	0	0	0	0	0	2999
PEAK HR FACTOR :	0.000	0.887	0.893	0.250	0.880	0.965	0.000	0.250	0.886	0.438	0.792	0.000	0.000	0.000	0.000	0.000	0.935
		0.903				0.942				0.840							

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	2.5	0.5	0	2	2	0	0	1.3	0.3	1.3	0	0	0	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	0	259	115	0	123	236	0	0	159	0	69	0	0	0	0	0	961
4:15 PM	0	255	141	0	118	218	0	0	140	0	73	0	0	0	0	0	945
4:30 PM	0	300	124	0	140	259	0	0	122	0	50	0	0	0	0	0	995
4:45 PM	0	289	116	0	103	266	0	0	126	1	50	0	0	0	0	0	951
5:00 PM	0	285	129	0	124	293	0	0	152	0	65	0	0	0	0	0	1048
5:15 PM	0	316	125	0	100	274	0	0	140	0	96	0	0	0	0	0	1051
5:30 PM	0	290	106	0	97	290	0	0	126	0	81	0	0	0	0	0	990
5:45 PM	0	279	131	0	115	265	0	1	146	0	64	0	0	0	0	0	1001
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	2273	987	0	920	2101	0	1	1111	1	548	0	0	0	0	0	7942
APPROACH %'s :	0.00%	69.72%	30.28%	0.00%	30.44%	69.52%	0.00%	0.03%	66.93%	0.06%	33.01%	0.00%					
PEAK HR :	05:00 PM - 06:00 PM																TOTAL
PEAK HR VOL :	0	1170	491	0	436	1122	0	1	564	0	306	0	0	0	0	0	4090
PEAK HR FACTOR :	0.000	0.926	0.937	0.000	0.879	0.957	0.000	0.250	0.928	0.000	0.797	0.000	0.000	0.000	0.000	0.000	0.973
		0.942				0.935				0.922							

National Data & Surveying Services

Intersection Turning Movement Count

Location: S Riverside Ave & I-10 EB Ramps
City: Rialto
Control: Signalized

Project ID: 18-06047-002
Date: 4/12/2018

Cars

NS/EW Streets:	S Riverside Ave				S Riverside Ave				I-10 EB Ramps				I-10 EB Ramps				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	2.5	0.5	0	2	2	0	0	1.3	0.3	1.3	0	0	0	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	0	129	57	1	71	236	0	2	62	1	45	0	0	0	0	0	604
7:15 AM	0	120	35	0	102	249	0	0	66	3	56	0	0	0	0	0	631
7:30 AM	0	132	53	0	103	236	0	0	85	0	64	0	0	0	0	0	673
7:45 AM	0	153	50	0	86	242	0	0	86	1	81	0	0	0	0	0	699
8:00 AM	0	127	48	0	95	228	0	0	62	0	44	0	0	0	0	0	604
8:15 AM	0	104	50	0	85	196	0	0	63	0	58	0	0	0	0	0	556
8:30 AM	0	101	37	0	108	168	0	1	81	0	40	0	0	0	0	0	536
8:45 AM	0	141	66	0	80	158	0	0	71	1	31	0	0	0	0	0	548
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	1007	396	1	730	1713	0	3	576	6	419	0	0	0	0	0	4851
APPROACH %'s :	0.00%	71.72%	28.21%	0.07%	29.84%	70.03%	0.00%	0.12%	57.54%	0.60%	41.86%	0.00%					
PEAK HR :	07:00 AM - 08:00 AM																TOTAL
PEAK HR VOL :	0	534	195	1	362	963	0	2	299	5	246	0	0	0	0	0	2607
PEAK HR FACTOR :	0.00	0.873	0.855	0.250	0.879	0.967	0.000	0.250	0.869	0.417	0.759	0.000	0.000	0.000	0.000	0.000	0.932
		0.899				0.945				0.818							

	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
PM	0	2.5	0.5	0	2	2	0	0	1.3	0.3	1.3	0	0	0	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	0	239	97	0	120	208	0	0	157	0	53	0	0	0	0	0	874
4:15 PM	0	235	122	0	117	179	0	0	134	0	52	0	0	0	0	0	839
4:30 PM	0	281	103	0	139	228	0	0	114	0	31	0	0	0	0	0	896
4:45 PM	0	261	97	0	101	242	0	0	125	1	41	0	0	0	0	0	868
5:00 PM	0	270	110	0	122	268	0	0	149	0	44	0	0	0	0	0	963
5:15 PM	0	293	112	0	99	257	0	0	140	0	82	0	0	0	0	0	983
5:30 PM	0	279	93	0	96	261	0	0	124	0	64	0	0	0	0	0	917
5:45 PM	0	261	112	0	114	229	0	1	145	0	41	0	0	0	0	0	903
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	2119	846	0	908	1872	0	1	1088	1	408	0	0	0	0	0	7243
APPROACH %'s :	0.00%	71.47%	28.53%	0.00%	32.65%	67.31%	0.00%	0.04%	72.68%	0.07%	27.25%	0.00%					
PEAK HR :	05:00 PM - 06:00 PM																TOTAL
PEAK HR VOL :	0	1103	427	0	431	1015	0	1	558	0	231	0	0	0	0	0	3766
PEAK HR FACTOR :	0.00	0.941	0.953	0.000	0.883	0.947	0.000	0.250	0.936	0.000	0.704	0.000	0.000	0.000	0.000	0.000	0.958
		0.944				0.928				0.889							

National Data & Surveying Services

Intersection Turning Movement Count

Location: S Riverside Ave & I-10 EB Ramps
City: Rialto
Control: Signalized

Project ID: 18-06047-002
Date: 4/12/2018

2axle

NS/EW Streets:	S Riverside Ave				S Riverside Ave				I-10 EB Ramps				I-10 EB Ramps				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	2.5	0.5	0	2	2	0	0	1.3	0.3	1.3	0	0	0	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	0	14	2	0	3	8	0	0	1	1	1	0	0	0	0	0	30
7:15 AM	0	4	3	0	2	11	0	0	6	1	2	0	0	0	0	0	29
7:30 AM	0	8	5	0	0	4	0	0	2	0	2	0	0	0	0	0	21
7:45 AM	0	8	2	0	3	4	0	0	0	0	6	0	0	0	0	0	23
8:00 AM	0	6	4	0	1	6	0	0	1	0	5	0	0	0	0	0	23
8:15 AM	0	7	5	0	6	8	0	0	6	0	2	0	0	0	0	0	34
8:30 AM	0	8	6	0	6	7	0	0	1	1	3	0	0	0	0	0	32
8:45 AM	0	10	24	0	4	10	0	0	4	0	3	0	0	0	0	0	55
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	65	51	0	25	58	0	0	21	3	24	0	0	0	0	0	247
APPROACH %'s :	0.00%	56.03%	43.97%	0.00%	30.12%	69.88%	0.00%	0.00%	43.75%	6.25%	50.00%	0.00%					
PEAK HR :	07:00 AM - 08:00 AM																TOTAL
PEAK HR VOL :	0	34	12	0	8	27	0	0	9	2	11	0	0	0	0	0	103
PEAK HR FACTOR :	0.000	0.607	0.600	0.000	0.667	0.614	0.000	0.000	0.375	0.500	0.458	0.000	0.000	0.000	0.000	0.000	0.858
		0.719				0.673				0.611							

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	2.5	0.5	0	2	2	0	0	1.3	0.3	1.3	0	0	0	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	0	6	4	0	1	8	0	0	0	0	4	0	0	0	0	0	23
4:15 PM	0	1	2	0	1	12	0	0	0	0	4	0	0	0	0	0	20
4:30 PM	0	7	0	0	0	4	0	0	4	0	3	0	0	0	0	0	18
4:45 PM	0	9	2	0	1	8	0	0	0	0	0	0	0	0	0	0	20
5:00 PM	0	1	0	0	1	7	0	0	1	0	2	0	0	0	0	0	12
5:15 PM	0	6	4	0	0	3	0	0	0	0	1	0	0	0	0	0	14
5:30 PM	0	2	2	0	0	6	0	0	1	0	1	0	0	0	0	0	12
5:45 PM	0	4	3	0	1	5	0	0	0	0	3	0	0	0	0	0	16
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	36	17	0	5	53	0	0	6	0	18	0	0	0	0	0	135
APPROACH %'s :	0.00%	67.92%	32.08%	0.00%	8.62%	91.38%	0.00%	0.00%	25.00%	0.00%	75.00%	0.00%					
PEAK HR :	05:00 PM - 06:00 PM																TOTAL
PEAK HR VOL :	0	13	9	0	2	21	0	0	2	0	7	0	0	0	0	0	54
PEAK HR FACTOR :	0.00	0.542	0.563	0.000	0.500	0.750	0.000	0.000	0.500	0.000	0.583	0.000	0.000	0.000	0.000	0.000	0.844
		0.550				0.719				0.750							

National Data & Surveying Services

Intersection Turning Movement Count

Location: S Riverside Ave & I-10 EB Ramps
City: Rialto
Control: Signalized

Project ID: 18-06047-002
Date: 4/12/2018

3axle

NS/EW Streets:	S Riverside Ave				S Riverside Ave				I-10 EB Ramps				I-10 EB Ramps				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	2.5	0.5	0	2	2	0	0	1.3	0.3	1.3	0	0	0	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	0	4	1	0	0	6	0	0	1	0	3	0	0	0	0	0	15
7:15 AM	0	8	2	0	1	1	0	0	0	0	3	0	0	0	0	0	15
7:30 AM	0	4	2	0	0	0	0	0	0	0	2	0	0	0	0	0	8
7:45 AM	0	4	5	0	0	3	0	0	1	0	2	0	0	0	0	0	15
8:00 AM	0	7	2	0	0	6	0	0	1	0	3	0	0	0	0	0	19
8:15 AM	0	6	4	0	1	3	0	0	1	0	2	0	0	0	0	0	17
8:30 AM	0	7	0	0	0	4	0	0	1	0	3	0	0	0	0	0	15
8:45 AM	0	6	4	0	1	5	0	0	1	0	4	0	0	0	0	0	21
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	46	20	0	3	28	0	0	6	0	22	0	0	0	0	0	125
APPROACH %'s :	0.00%	69.70%	30.30%	0.00%	9.68%	90.32%	0.00%	0.00%	21.43%	0.00%	78.57%	0.00%					
PEAK HR :	07:00 AM - 08:00 AM																TOTAL
PEAK HR VOL :	0	20	10	0	1	10	0	0	2	0	10	0	0	0	0	0	53
PEAK HR FACTOR :	0.000	0.625	0.500	0.000	0.250	0.417	0.000	0.000	0.500	0.000	0.833	0.000	0.000	0.000	0.000	0.000	0.883
		0.750				0.458				0.750							

NS/EW Streets:	S Riverside Ave				S Riverside Ave				I-10 EB Ramps				I-10 EB Ramps				
PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	2.5	0.5	0	2	2	0	0	1.3	0.3	1.3	0	0	0	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	0	4	2	0	0	2	0	0	0	0	4	0	0	0	0	0	12
4:15 PM	0	6	3	0	0	7	0	0	3	0	6	0	0	0	0	0	25
4:30 PM	0	4	2	0	0	4	0	0	0	0	6	0	0	0	0	0	16
4:45 PM	0	4	1	0	0	3	0	0	0	0	0	0	0	0	0	0	8
5:00 PM	0	4	3	0	0	3	0	0	1	0	5	0	0	0	0	0	16
5:15 PM	0	5	1	0	0	6	0	0	0	0	2	0	0	0	0	0	14
5:30 PM	0	3	3	0	0	1	0	0	0	0	6	0	0	0	0	0	13
5:45 PM	0	3	3	0	0	10	0	0	1	0	5	0	0	0	0	0	22
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	33	18	0	0	36	0	0	5	0	34	0	0	0	0	0	126
APPROACH %'s :	0.00%	64.71%	35.29%	0.00%	0.00%	100.00%	0.00%	0.00%	12.82%	0.00%	87.18%	0.00%					
PEAK HR :	05:00 PM - 06:00 PM																TOTAL
PEAK HR VOL :	0	15	10	0	0	20	0	0	2	0	18	0	0	0	0	0	65
PEAK HR FACTOR :	0.00	0.750	0.833	0.000	0.000	0.500	0.000	0.000	0.500	0.000	0.750	0.000	0.000	0.000	0.000	0.000	0.739
		0.893				0.500				0.833							

National Data & Surveying Services

Intersection Turning Movement Count

Location: S Riverside Ave & I-10 EB Ramps
City: Rialto
Control: Signalized

Project ID: 18-06047-002
Date: 4/12/2018

4axle

NS/EW Streets:	S Riverside Ave				S Riverside Ave				I-10 EB Ramps				I-10 EB Ramps				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	2.5	0.5	0	2	2	0	0	1.3	0.3	1.3	0	0	0	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	0	22	15	0	1	11	0	0	0	0	12	0	0	0	0	0	61
7:15 AM	0	24	11	0	1	10	0	0	0	0	9	0	0	0	0	0	55
7:30 AM	0	10	11	0	0	11	0	0	1	0	22	0	0	0	0	0	55
7:45 AM	0	23	14	0	0	14	0	0	1	0	13	0	0	0	0	0	65
8:00 AM	0	13	17	0	1	20	0	0	1	0	9	0	0	0	0	0	61
8:15 AM	0	24	21	0	2	33	0	0	3	0	17	0	0	0	0	0	100
8:30 AM	0	26	20	0	1	20	0	0	1	0	21	0	0	0	0	0	89
8:45 AM	0	24	18	0	0	14	0	0	2	0	23	0	0	0	0	0	81
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	166	127	0	6	133	0	0	9	0	126	0	0	0	0	0	567
APPROACH %'s :	0.00%	56.66%	43.34%	0.00%	4.32%	95.68%	0.00%	0.00%	6.67%	0.00%	93.33%	0.00%					
PEAK HR :	07:00 AM - 08:00 AM																TOTAL
PEAK HR VOL :	0	79	51	0	2	46	0	0	2	0	56	0	0	0	0	0	236
PEAK HR FACTOR :	0.000	0.823	0.850	0.000	0.500	0.821	0.000	0.000	0.500	0.000	0.636	0.000	0.000	0.000	0.000	0.000	0.908
		0.878				0.857				0.630							

NS/EW Streets:	S Riverside Ave				S Riverside Ave				I-10 EB Ramps				I-10 EB Ramps				
PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	2.5	0.5	0	2	2	0	0	1.3	0.3	1.3	0	0	0	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	0	10	12	0	2	18	0	0	2	0	8	0	0	0	0	0	52
4:15 PM	0	13	14	0	0	20	0	0	3	0	11	0	0	0	0	0	61
4:30 PM	0	8	19	0	1	23	0	0	4	0	10	0	0	0	0	0	65
4:45 PM	0	15	16	0	1	13	0	0	1	0	9	0	0	0	0	0	55
5:00 PM	0	10	16	0	1	15	0	0	1	0	14	0	0	0	0	0	57
5:15 PM	0	12	8	0	1	8	0	0	0	0	11	0	0	0	0	0	40
5:30 PM	0	6	8	0	1	22	0	0	1	0	10	0	0	0	0	0	48
5:45 PM	0	11	13	0	0	21	0	0	0	0	15	0	0	0	0	0	60
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	85	106	0	7	140	0	0	12	0	88	0	0	0	0	0	438
APPROACH %'s :	0.00%	44.50%	55.50%	0.00%	4.76%	95.24%	0.00%	0.00%	12.00%	0.00%	88.00%	0.00%					
PEAK HR :	05:00 PM - 06:00 PM																TOTAL
PEAK HR VOL :	0	39	45	0	3	66	0	0	2	0	50	0	0	0	0	0	205
PEAK HR FACTOR :	0.00	0.813	0.703	0.000	0.750	0.750	0.000	0.000	0.500	0.000	0.833	0.000	0.000	0.000	0.000	0.000	0.854
		0.808				0.750				0.867							

National Data & Surveying Services

Intersection Turning Movement Count

S Riverside Ave & I-10 EB Ramps

Peak Hour Turning Movement Count

ID: 18-06047-002
City: Rialto

Day: Thursday
Date: 04/12/2018

PEAK HOURS

AM	07:00 AM - 08:00 AM
NOON	NONE
PM	05:00 PM - 06:00 PM

COUNT PERIODS

AM	07:00 AM - 09:00 AM
NOON	NONE
PM	04:00 PM - 06:00 PM

S Riverside Ave

SOUTHBOUND

AM	0	1046	373	2	981	AM
NOON	0	0	0	0	0	NOON
PM	0	1122	436	1	1735	PM
	0	2	2	0		

I-10 EB Ramps

EASTBOUND

AM	NOON	PM	
0	0	0	
0	0	0	0
312	0	564	1.3
7	0	0	0.3
323	0	306	1.3
AM	NOON	PM	

CONTROL

Signalized

TEV	2999	0	4090
	AM	NOON	PM
PHF	0.93		0.97

WESTBOUND

PM	NOON	AM	
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
927	0	648	
PM	NOON	AM	

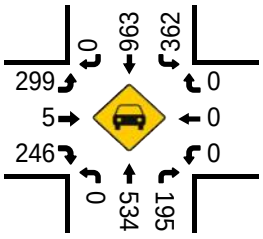
I-10 EB Ramps

PM	1428	0	0	1170	491	PM
NOON	0	0	0	0	0	NOON
AM	1370	1	0	667	268	AM
		0	0	2.5	0.5	

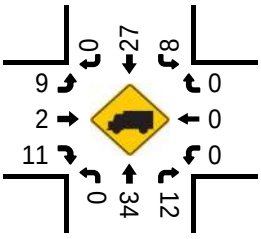
NORTHBOUND

S Riverside Ave

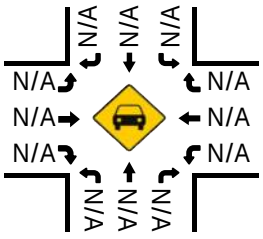
Cars (AM)



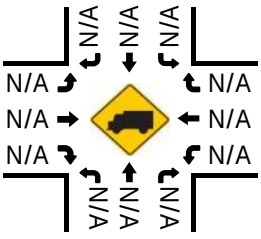
2axle (AM)



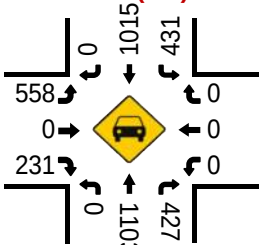
Cars (NOON)



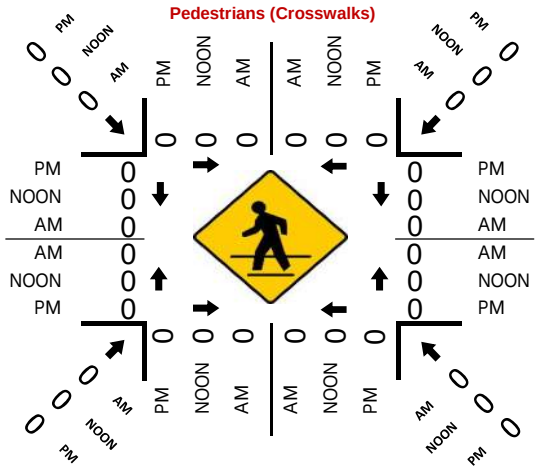
2axle (NOON)



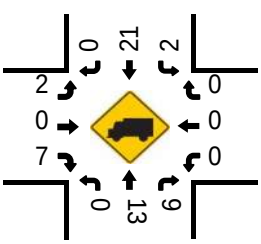
Cars (PM)



Pedestrians (Crosswalks)



2axle (PM)



National Data & Surveying Services

Intersection Turning Movement Count

Location: S Riverside Ave & Slover Ave
City: Bloomington
Control: Signalized

Project ID: 18-06047-003
Date: 4/12/2018

Total

NS/EW Streets:	S Riverside Ave				S Riverside Ave				Slover Ave				Slover Ave				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	2	0	0	1	2	0	0	1	2	0	0	1	2	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	17	129	3	0	9	215	110	0	74	6	10	0	4	12	5	0	594
7:15 AM	17	145	7	0	10	246	88	0	47	2	3	0	5	2	5	0	577
7:30 AM	12	177	1	0	4	240	87	0	54	5	14	0	6	4	5	0	609
7:45 AM	15	191	4	1	4	254	90	0	51	5	13	0	4	3	6	0	641
8:00 AM	7	150	1	1	11	258	86	2	54	5	10	0	4	2	4	0	595
8:15 AM	8	161	2	3	16	243	48	0	48	8	11	0	4	4	6	0	562
8:30 AM	9	180	6	0	8	224	52	0	53	9	7	0	6	5	4	0	563
8:45 AM	9	213	3	1	5	196	40	0	48	13	10	0	5	7	3	0	553
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	94	1346	27	6	67	1876	601	2	429	53	78	0	38	39	38	0	4694
APPROACH %'s :	6.38%	91.38%	1.83%	0.41%	2.63%	73.68%	23.61%	0.08%	76.61%	9.46%	13.93%	0.00%	33.04%	33.91%	33.04%	0.00%	
PEAK HR :	07:15 AM - 08:15 AM																TOTAL
PEAK HR VOL :	51	663	13	2	29	998	351	2	206	17	40	0	19	11	20	0	2422
PEAK HR FACTOR :	0.750	0.868	0.464	0.500	0.659	0.967	0.975	0.250	0.954	0.850	0.714	0.000	0.792	0.688	0.833	0.000	0.945
	0.864				0.966				0.901				0.833				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	2	0	0	1	2	0	0	1	2	0	0	1	2	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	6	273	2	1	5	219	66	0	109	46	28	0	10	2	25	0	792
4:15 PM	7	215	2	1	7	225	64	0	89	47	33	0	5	2	29	0	726
4:30 PM	2	290	4	0	8	239	79	0	84	32	36	0	4	4	25	0	807
4:45 PM	5	230	2	1	5	237	60	0	101	13	27	0	5	3	13	0	702
5:00 PM	2	302	1	3	3	313	44	0	86	38	31	0	2	7	9	0	841
5:15 PM	9	327	2	0	3	294	63	0	95	35	29	0	4	3	20	0	884
5:30 PM	7	261	6	3	2	301	58	0	106	11	25	0	4	1	10	0	795
5:45 PM	4	281	5	0	6	273	61	0	91	23	30	0	5	3	18	0	800
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	42	2179	24	9	39	2101	495	0	761	245	239	0	39	25	149	0	6347
APPROACH %'s :	1.86%	96.67%	1.06%	0.40%	1.48%	79.73%	18.79%	0.00%	61.12%	19.68%	19.20%	0.00%	18.31%	11.74%	69.95%	0.00%	
PEAK HR :	05:00 PM - 06:00 PM																TOTAL
PEAK HR VOL :	22	1171	14	6	14	1181	226	0	378	107	115	0	15	14	57	0	3320
PEAK HR FACTOR :	0.611	0.895	0.583	0.500	0.583	0.943	0.897	0.000	0.892	0.704	0.927	0.000	0.750	0.500	0.713	0.000	0.939
	0.897				0.984				0.943				0.796				

National Data & Surveying Services

Intersection Turning Movement Count

Location: S Riverside Ave & Slover Ave
City: Bloomington
Control: Signalized

Project ID: 18-06047-003
Date: 4/12/2018

Cars

NS/EW Streets:	S Riverside Ave				S Riverside Ave				Slover Ave				Slover Ave				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	2	0	0	1	2	0	0	1	2	0	0	1	2	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	11	97	2	0	7	181	105	0	69	5	6	0	3	10	4	0	500
7:15 AM	14	95	3	0	7	220	79	0	44	1	1	0	4	2	4	0	474
7:30 AM	10	141	0	0	3	209	79	0	45	5	8	0	4	3	2	0	509
7:45 AM	13	138	3	1	2	218	85	0	50	5	5	0	1	2	4	0	527
8:00 AM	4	113	0	1	6	222	78	2	45	4	6	0	2	1	0	0	484
8:15 AM	6	111	1	3	10	182	45	0	36	7	6	0	2	4	2	0	415
8:30 AM	7	114	3	0	5	178	44	0	39	7	6	0	4	1	1	0	409
8:45 AM	6	149	3	0	4	147	32	0	35	11	5	0	4	5	2	0	403
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	71	958	15	5	44	1557	547	2	363	45	43	0	24	28	19	0	3721
APPROACH %'s :	6.77%	91.33%	1.43%	0.48%	2.05%	72.42%	25.44%	0.09%	80.49%	9.98%	9.53%	0.00%	33.80%	39.44%	26.76%	0.00%	
PEAK HR :	07:15 AM - 08:15 AM																TOTAL
PEAK HR VOL :	41	487	6	2	18	869	321	2	184	15	20	0	11	8	10	0	1994
PEAK HR FACTOR :	0.73	0.863	0.500	0.500	0.643	0.979	0.944	0.250	0.920	0.750	0.625	0.000	0.688	0.667	0.625	0.000	0.946
		0.865				0.982				0.913				0.725			

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	2	0	0	1	2	0	0	1	2	0	0	1	2	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	4	232	0	1	3	185	56	0	103	44	21	0	6	1	23	0	679
4:15 PM	7	186	1	1	2	178	57	0	83	46	25	0	2	2	26	0	616
4:30 PM	1	257	2	0	5	208	63	0	76	28	24	0	2	2	23	0	691
4:45 PM	4	198	1	1	2	215	52	0	97	11	20	0	2	1	10	0	614
5:00 PM	2	277	1	3	0	279	38	0	79	37	25	0	0	1	7	0	749
5:15 PM	6	301	2	0	3	264	59	0	90	33	24	0	1	1	19	0	803
5:30 PM	6	240	4	3	1	261	52	0	102	10	23	0	2	1	8	0	713
5:45 PM	3	248	3	0	1	231	45	0	90	22	25	0	1	1	16	0	686
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	33	1939	14	9	17	1821	422	0	720	231	187	0	16	10	132	0	5551
APPROACH %'s :	1.65%	97.19%	0.70%	0.45%	0.75%	80.58%	18.67%	0.00%	63.27%	20.30%	16.43%	0.00%	10.13%	6.33%	83.54%	0.00%	
PEAK HR :	05:00 PM - 06:00 PM																TOTAL
PEAK HR VOL :	17	1066	10	6	5	1035	194	0	361	102	97	0	4	4	50	0	2951
PEAK HR FACTOR :	0.71	0.885	0.625	0.500	0.417	0.927	0.822	0.000	0.885	0.689	0.970	0.000	0.500	1.000	0.658	0.000	0.919
		0.889				0.946				0.952				0.690			

National Data & Surveying Services

Intersection Turning Movement Count

Location: S Riverside Ave & Slover Ave
City: Bloomington
Control: Signalized

Project ID: 18-06047-003
Date: 4/12/2018

2axle

NS/EW Streets:	S Riverside Ave				S Riverside Ave				Slover Ave				Slover Ave				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	2	0	0	1	2	0	0	1	2	0	0	1	2	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	1	9	0	0	1	5	3	0	2	1	0	0	1	1	0	0	24
7:15 AM	2	10	0	0	1	9	3	0	1	1	1	0	0	0	0	0	28
7:30 AM	0	5	0	0	0	3	4	0	5	0	0	0	1	0	1	0	19
7:45 AM	0	12	1	0	1	10	1	0	0	0	2	0	1	0	1	0	29
8:00 AM	1	6	0	0	1	9	0	0	1	1	0	0	0	0	1	0	20
8:15 AM	1	7	0	0	1	9	2	0	6	1	4	0	0	0	2	0	33
8:30 AM	1	9	0	0	1	8	1	0	7	0	0	0	0	3	1	0	31
8:45 AM	1	24	0	1	1	12	0	0	9	2	1	0	0	2	0	0	53
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	7	82	1	1	7	65	14	0	31	6	8	0	3	6	6	0	237
APPROACH %'s :	7.69%	90.11%	1.10%	1.10%	8.14%	75.58%	16.28%	0.00%	68.89%	13.33%	17.78%	0.00%	20.00%	40.00%	40.00%	0.00%	
PEAK HR :	07:15 AM - 08:15 AM																TOTAL
PEAK HR VOL :	3	33	1	0	3	31	8	0	7	2	3	0	2	0	3	0	96
PEAK HR FACTOR :	0.375	0.688	0.250	0.000	0.750	0.775	0.500	0.000	0.350	0.500	0.375	0.000	0.500	0.000	0.750	0.000	0.828
	0.712				0.808				0.600				0.625				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	2	0	0	1	2	0	0	1	2	0	0	1	2	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	0	6	1	0	1	11	4	0	3	0	0	0	0	0	1	0	27
4:15 PM	0	3	0	0	0	13	1	0	1	1	0	0	0	0	2	0	21
4:30 PM	0	8	0	0	0	3	3	0	2	4	4	0	0	0	0	0	24
4:45 PM	0	4	0	0	1	6	0	0	0	0	0	0	0	0	0	0	11
5:00 PM	0	2	0	0	1	6	1	0	3	1	1	0	0	2	0	0	17
5:15 PM	2	4	0	0	0	3	1	0	1	1	0	0	0	0	0	0	12
5:30 PM	0	4	0	0	0	9	1	0	1	0	1	0	0	0	0	0	16
5:45 PM	0	5	0	0	2	5	3	0	1	0	0	0	1	0	1	0	18
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	2	36	1	0	5	56	14	0	12	7	6	0	1	2	4	0	146
APPROACH %'s :	5.13%	92.31%	2.56%	0.00%	6.67%	74.67%	18.67%	0.00%	48.00%	28.00%	24.00%	0.00%	14.29%	28.57%	57.14%	0.00%	
PEAK HR :	05:00 PM - 06:00 PM																TOTAL
PEAK HR VOL :	2	15	0	0	3	23	6	0	6	2	2	0	1	2	1	0	63
PEAK HR FACTOR :	0.25	0.750	0.000	0.000	0.375	0.639	0.500	0.000	0.500	0.500	0.500	0.000	0.250	0.250	0.250	0.000	0.875
	0.708				0.800				0.500				0.500				

National Data & Surveying Services

Intersection Turning Movement Count

Location: S Riverside Ave & Slover Ave
City: Bloomington
Control: Signalized

Project ID: 18-06047-003
Date: 4/12/2018

3axle

NS/EW Streets:	S Riverside Ave				S Riverside Ave				Slover Ave				Slover Ave				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	2	0	0	1	2	0	0	1	2	0	0	1	2	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	1	5	0	0	1	8	1	0	0	0	1	0	0	0	1	0	18
7:15 AM	1	7	0	0	0	3	0	0	2	0	0	0	0	0	0	0	13
7:30 AM	1	4	1	0	1	1	0	0	2	0	4	0	0	0	1	0	15
7:45 AM	0	6	0	0	1	4	0	0	0	0	3	0	1	1	1	0	17
8:00 AM	0	7	0	0	1	6	1	0	4	0	1	0	1	0	1	0	22
8:15 AM	0	8	0	0	0	5	0	0	1	0	1	0	0	0	1	0	16
8:30 AM	0	8	1	0	0	4	1	0	0	0	1	0	0	1	1	0	17
8:45 AM	0	8	0	0	0	6	3	0	1	0	0	0	0	0	0	0	18
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	3	53	2	0	4	37	6	0	10	0	11	0	2	2	6	0	136
APPROACH %'s :	5.17%	91.38%	3.45%	0.00%	8.51%	78.72%	12.77%	0.00%	47.62%	0.00%	52.38%	0.00%	20.00%	20.00%	60.00%	0.00%	
PEAK HR :	07:15 AM - 08:15 AM																TOTAL
PEAK HR VOL :	2	24	1	0	3	14	1	0	8	0	8	0	2	1	3	0	67
PEAK HR FACTOR :	0.500	0.857	0.250	0.000	0.750	0.583	0.250	0.000	0.500	0.000	0.500	0.000	0.500	0.250	0.750	0.000	0.761
	0.844				0.563				0.667				0.500				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	2	0	0	1	2	0	0	1	2	0	0	1	2	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	1	8	0	0	1	2	2	0	1	2	2	0	1	0	1	0	21
4:15 PM	0	6	0	0	0	11	2	0	3	0	4	0	0	0	0	0	26
4:30 PM	1	8	1	0	3	5	3	0	0	0	3	0	0	1	2	0	27
4:45 PM	1	5	0	0	0	2	0	0	1	0	4	0	2	1	1	0	17
5:00 PM	0	3	0	0	0	6	1	0	2	0	1	0	1	0	0	0	14
5:15 PM	1	7	0	0	0	9	0	0	2	0	3	0	0	1	0	0	23
5:30 PM	0	4	1	0	0	6	0	0	1	0	0	0	1	0	0	0	13
5:45 PM	0	5	0	0	2	10	5	0	0	0	1	0	2	1	0	0	26
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	4	46	2	0	6	51	13	0	10	2	18	0	7	4	4	0	167
APPROACH %'s :	7.69%	88.46%	3.85%	0.00%	8.57%	72.86%	18.57%	0.00%	33.33%	6.67%	60.00%	0.00%	46.67%	26.67%	26.67%	0.00%	
PEAK HR :	05:00 PM - 06:00 PM																TOTAL
PEAK HR VOL :	1	19	1	0	2	31	6	0	5	0	5	0	4	2	0	0	76
PEAK HR FACTOR :	0.25	0.679	0.250	0.000	0.250	0.775	0.300	0.000	0.625	0.000	0.417	0.000	0.500	0.500	0.000	0.000	0.731
	0.656				0.574				0.500				0.500				

National Data & Surveying Services

Intersection Turning Movement Count

Location: S Riverside Ave & Slover Ave
City: Bloomington
Control: Signalized

Project ID: 18-06047-003
Date: 4/12/2018

4axle

NS/EW Streets:	S Riverside Ave				S Riverside Ave				Slover Ave				Slover Ave				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	2	0	0	1	2	0	0	1	2	0	0	1	2	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	4	18	1	0	0	21	1	0	3	0	3	0	0	1	0	0	52
7:15 AM	0	33	4	0	2	14	6	0	0	0	1	0	1	0	1	0	62
7:30 AM	1	27	0	0	0	27	4	0	2	0	2	0	1	1	1	0	66
7:45 AM	2	35	0	0	0	22	4	0	1	0	3	0	1	0	0	0	68
8:00 AM	2	24	1	0	3	21	7	0	4	0	3	0	1	1	2	0	69
8:15 AM	1	35	1	0	5	47	1	0	5	0	0	0	2	0	1	0	98
8:30 AM	1	49	2	0	2	34	6	0	7	2	0	0	2	0	1	0	106
8:45 AM	2	32	0	0	0	31	5	0	3	0	4	0	1	0	1	0	79
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	13	253	9	0	12	217	34	0	25	2	16	0	9	3	7	0	600
APPROACH %'s :	4.73%	92.00%	3.27%	0.00%	4.56%	82.51%	12.93%	0.00%	58.14%	4.65%	37.21%	0.00%	47.37%	15.79%	36.84%	0.00%	
PEAK HR :	07:15 AM - 08:15 AM																TOTAL
PEAK HR VOL :	5	119	5	0	5	84	21	0	7	0	9	0	4	2	4	0	265
PEAK HR FACTOR :	0.625	0.850	0.313	0.000	0.417	0.778	0.750	0.000	0.438	0.000	0.750	0.000	1.000	0.500	0.500	0.000	0.960
	0.872				0.887				0.571				0.625				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	2	0	0	1	2	0	0	1	2	0	0	1	2	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	1	27	1	0	0	21	4	0	2	0	5	0	3	1	0	0	65
4:15 PM	0	20	1	0	5	23	4	0	2	0	4	0	3	0	1	0	63
4:30 PM	0	17	1	0	0	23	10	0	6	0	5	0	2	1	0	0	65
4:45 PM	0	23	1	0	2	14	8	0	3	2	3	0	1	1	2	0	60
5:00 PM	0	20	0	0	2	22	4	0	2	0	4	0	1	4	2	0	61
5:15 PM	0	15	0	0	0	18	3	0	2	1	2	0	3	1	1	0	46
5:30 PM	1	13	1	0	1	25	5	0	2	1	1	0	1	0	2	0	53
5:45 PM	1	23	2	0	1	27	8	0	0	1	4	0	1	1	1	0	70
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	3	158	7	0	11	173	46	0	19	5	28	0	15	9	9	0	483
APPROACH %'s :	1.79%	94.05%	4.17%	0.00%	4.78%	75.22%	20.00%	0.00%	36.54%	9.62%	53.85%	0.00%	45.45%	27.27%	27.27%	0.00%	
PEAK HR :	05:00 PM - 06:00 PM																TOTAL
PEAK HR VOL :	2	71	3	0	4	92	20	0	6	3	11	0	6	6	6	0	230
PEAK HR FACTOR :	0.50	0.772	0.375	0.000	0.500	0.852	0.625	0.000	0.750	0.750	0.688	0.000	0.500	0.375	0.750	0.000	0.821
	0.731				0.806				0.833				0.643				

National Data & Surveying Services

Intersection Turning Movement Count

S Riverside Ave & Slover Ave

Peak Hour Turning Movement Count

ID: 18-06047-003
City: Bloomington

Day: Thursday
Date: 04/12/2018

PEAK HOURS

AM	07:15 AM - 08:15 AM
NOON	NONE
PM	05:00 PM - 06:00 PM

COUNT PERIODS

AM	07:00 AM - 09:00 AM
NOON	NONE
PM	04:00 PM - 06:00 PM

S Riverside Ave

SOUTHBOUND

AM	351	998	29	2	891	AM
NOON	0	0	0	0	0	NOON
PM	226	1181	14	0	1606	PM

EASTBOUND (Slover Ave)

AM	NOON	PM	
413	0	262	
0	0	0	0
206	0	378	1
17	0	107	2
40	0	115	0
AM	NOON	PM	

WESTBOUND (Slover Ave)

PM	NOON	AM	
57	0	20	0
14	0	11	2
15	0	19	1
0	0	0	0
PM	NOON	AM	
135	0	59	

CONTROL

Signalized

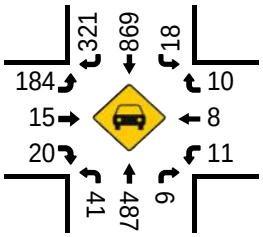
TEV	2422	0	3320
	AM	NOON	PM
PHF	0.94		0.94

PM	1317	6	22	1171	14	PM
NOON	0	0	0	0	0	NOON
AM	1059	2	51	663	13	AM

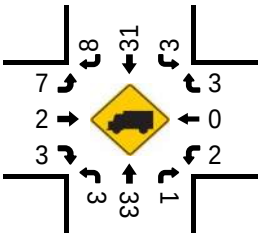
NORTHBOUND

S Riverside Ave

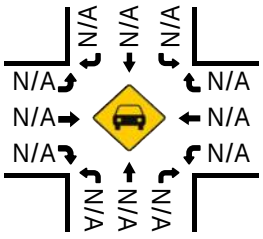
Cars (AM)



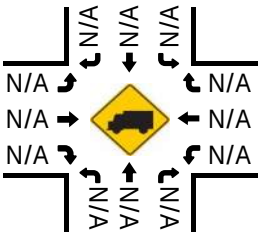
2axle (AM)



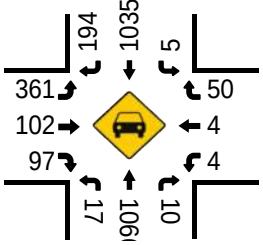
Cars (NOON)



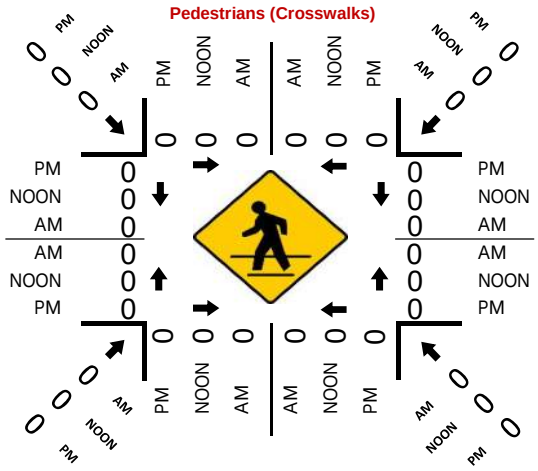
2axle (NOON)



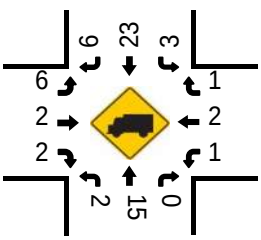
Cars (PM)



Pedestrians (Crosswalks)



2axle (PM)



National Data & Surveying Services

Intersection Turning Movement Count

Location: S Riverside Ave & Santa Ana Ave
City: Bloomington
Control: Signalized

Project ID: 18-06047-004
Date: 4/12/2018

Total

NS/EW Streets:	S Riverside Ave				S Riverside Ave				Santa Ana Ave				Santa Ana Ave				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	3	0	0	0	3	0	0	0	1	0	0	0	2	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	24	160	3	0	13	196	23	0	7	7	14	0	4	3	10	0	464
7:15 AM	15	146	4	1	8	217	31	0	10	8	11	0	4	5	7	0	467
7:30 AM	14	185	1	0	4	222	23	0	14	7	9	0	2	3	7	0	491
7:45 AM	21	178	7	0	11	234	25	0	17	4	13	0	5	6	9	0	530
8:00 AM	13	154	6	0	2	231	26	0	13	2	16	0	2	2	7	0	474
8:15 AM	8	149	11	0	17	225	21	0	19	1	10	0	7	1	4	0	473
8:30 AM	12	162	7	0	19	193	18	1	15	1	9	0	8	4	12	0	461
8:45 AM	9	202	8	0	23	182	15	0	25	5	13	0	9	1	8	0	500
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	116	1336	47	1	97	1700	182	1	120	35	95	0	41	25	64	0	3860
APPROACH %'s :	7.73%	89.07%	3.13%	0.07%	4.90%	85.86%	9.19%	0.05%	48.00%	14.00%	38.00%	0.00%	31.54%	19.23%	49.23%	0.00%	
PEAK HR :	07:30 AM - 08:30 AM																TOTAL
PEAK HR VOL :	56	666	25	0	34	912	95	0	63	14	48	0	16	12	27	0	1968
PEAK HR FACTOR :	0.667	0.900	0.568	0.000	0.500	0.974	0.913	0.000	0.829	0.500	0.750	0.000	0.571	0.500	0.750	0.000	0.928
	0.907				0.964				0.919				0.688				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	3	0	0	0	3	0	0	0	1	0	0	0	2	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	16	244	6	0	9	234	18	0	19	6	26	0	10	6	11	0	605
4:15 PM	19	220	5	0	12	248	10	0	16	3	19	0	5	2	17	0	576
4:30 PM	21	202	6	0	7	261	13	0	18	1	18	0	12	1	15	0	575
4:45 PM	9	224	9	0	7	238	19	1	11	1	12	0	5	2	9	0	547
5:00 PM	22	274	4	0	5	296	19	0	24	5	21	0	7	3	23	0	703
5:15 PM	15	271	1	0	9	340	15	0	24	2	25	0	9	2	12	0	725
5:30 PM	18	269	3	0	7	309	15	0	23	2	15	0	7	5	10	0	683
5:45 PM	15	235	1	0	9	277	19	0	16	1	12	0	3	4	7	0	599
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	135	1939	35	0	65	2203	128	1	151	21	148	0	58	25	104	0	5013
APPROACH %'s :	6.40%	91.94%	1.66%	0.00%	2.71%	91.91%	5.34%	0.04%	47.19%	6.56%	46.25%	0.00%	31.02%	13.37%	55.61%	0.00%	
PEAK HR :	05:00 PM - 06:00 PM																TOTAL
PEAK HR VOL :	70	1049	9	0	30	1222	68	0	87	10	73	0	26	14	52	0	2710
PEAK HR FACTOR :	0.795	0.957	0.563	0.000	0.833	0.899	0.895	0.000	0.906	0.500	0.730	0.000	0.722	0.700	0.565	0.000	0.934
	0.940				0.907				0.833				0.697				

National Data & Surveying Services

Intersection Turning Movement Count

Location: S Riverside Ave & Santa Ana Ave
City: Bloomington
Control: Signalized

Project ID: 18-06047-004
Date: 4/12/2018

Cars

NS/EW Streets:	S Riverside Ave				S Riverside Ave				Santa Ana Ave				Santa Ana Ave				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	3	0	0	0	3	0	0	0	1	0	0	0	2	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	23	125	1	0	8	166	19	0	4	1	13	0	0	0	2	0	362
7:15 AM	14	109	2	1	7	189	29	0	8	2	9	0	1	2	0	0	373
7:30 AM	10	152	0	0	0	193	22	0	13	0	8	0	1	0	1	0	400
7:45 AM	18	137	3	0	7	201	18	0	12	0	11	0	1	0	1	0	409
8:00 AM	10	117	4	0	0	200	24	0	9	2	11	0	0	0	1	0	378
8:15 AM	6	111	2	0	5	172	17	0	14	1	9	0	2	0	2	0	341
8:30 AM	10	111	2	0	6	160	15	1	11	1	7	0	0	4	4	0	332
8:45 AM	8	159	3	0	11	139	14	0	9	3	10	0	2	1	1	0	360
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	99	1021	17	1	44	1420	158	1	80	10	78	0	7	7	12	0	2955
APPROACH %'s :	8.70%	89.72%	1.49%	0.09%	2.71%	87.49%	9.74%	0.06%	47.62%	5.95%	46.43%	0.00%	26.92%	26.92%	46.15%	0.00%	
PEAK HR :	07:30 AM - 08:30 AM																TOTAL
PEAK HR VOL :	44	517	9	0	12	766	81	0	48	3	39	0	4	0	5	0	1528
PEAK HR FACTOR :	0.61	0.850	0.563	0.000	0.429	0.953	0.844	0.000	0.857	0.375	0.886	0.000	0.500	0.000	0.625	0.000	0.934
	0.880				0.950				0.938				0.563				

	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
PM	0	3	0	0	0	3	0	0	0	1	0	0	0	2	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	15	214	5	0	4	199	15	0	16	6	19	0	7	4	7	0	511
4:15 PM	17	195	3	0	8	203	10	0	16	3	17	0	5	2	16	0	495
4:30 PM	19	182	5	0	5	220	10	0	15	1	17	0	9	1	13	0	497
4:45 PM	6	198	4	0	5	207	18	1	6	0	11	0	3	1	7	0	467
5:00 PM	20	254	3	0	2	265	16	0	21	4	18	0	6	3	21	0	633
5:15 PM	15	246	1	0	5	306	14	0	22	1	22	0	8	1	10	0	651
5:30 PM	15	247	0	0	4	273	13	0	21	1	12	0	3	3	8	0	600
5:45 PM	13	205	0	0	3	232	18	0	14	1	11	0	1	4	7	0	509
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	120	1741	21	0	36	1905	114	1	131	17	127	0	42	19	89	0	4363
APPROACH %'s :	6.38%	92.51%	1.12%	0.00%	1.75%	92.66%	5.54%	0.05%	47.64%	6.18%	46.18%	0.00%	28.00%	12.67%	59.33%	0.00%	
PEAK HR :	05:00 PM - 06:00 PM																TOTAL
PEAK HR VOL :	63	952	4	0	14	1076	61	0	78	7	63	0	18	11	46	0	2393
PEAK HR FACTOR :	0.79	0.937	0.333	0.000	0.700	0.879	0.847	0.000	0.886	0.438	0.716	0.000	0.563	0.688	0.548	0.000	0.919
	0.920				0.885				0.822				0.625				

National Data & Surveying Services

Intersection Turning Movement Count

Location: S Riverside Ave & Santa Ana Ave
City: Bloomington
Control: Signalized

Project ID: 18-06047-004
Date: 4/12/2018

2axle

NS/EW Streets:	S Riverside Ave				S Riverside Ave				Santa Ana Ave				Santa Ana Ave				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	3	0	0	0	3	0	0	0	1	0	0	0	2	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	0	10	0	0	0	8	1	0	1	0	0	0	0	0	1	0	21
7:15 AM	0	7	0	0	0	12	0	0	0	1	0	0	0	0	1	0	21
7:30 AM	4	8	0	0	1	5	0	0	0	1	0	0	0	0	0	0	19
7:45 AM	2	6	0	0	1	7	3	0	3	0	0	0	0	0	2	0	24
8:00 AM	1	5	0	0	0	7	1	0	1	0	2	0	0	0	0	0	17
8:15 AM	1	5	0	0	0	13	2	0	2	0	0	0	0	0	1	0	24
8:30 AM	1	7	0	0	0	7	0	0	4	0	0	0	0	0	0	0	19
8:45 AM	0	13	1	0	1	13	0	0	13	0	0	0	0	0	1	0	42
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	9	61	1	0	3	72	7	0	24	2	2	0	0	0	6	0	187
APPROACH %'s :	12.68%	85.92%	1.41%	0.00%	3.66%	87.80%	8.54%	0.00%	85.71%	7.14%	7.14%	0.00%	0.00%	0.00%	100.00%	0.00%	
PEAK HR :	07:30 AM - 08:30 AM																TOTAL
PEAK HR VOL :	8	24	0	0	2	32	6	0	6	1	2	0	0	0	3	0	84
PEAK HR FACTOR :	0.500	0.750	0.000	0.000	0.500	0.615	0.500	0.000	0.500	0.250	0.250	0.000	0.000	0.000	0.375	0.000	0.875
	0.667				0.667				0.750				0.375				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	3	0	0	0	3	0	0	0	1	0	0	0	2	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	1	2	0	0	0	7	2	0	1	0	1	0	1	0	2	0	17
4:15 PM	0	2	0	0	0	11	0	0	0	0	0	0	0	0	0	0	13
4:30 PM	1	4	0	0	0	3	2	0	0	0	1	0	1	0	0	0	12
4:45 PM	0	4	0	0	1	6	1	0	0	0	0	0	0	0	0	0	12
5:00 PM	1	2	0	0	2	2	1	0	0	0	0	0	0	0	0	0	8
5:15 PM	0	3	0	0	1	6	1	0	0	0	0	0	0	0	1	0	12
5:30 PM	0	4	0	0	0	6	2	0	0	0	0	0	0	1	0	0	13
5:45 PM	0	5	0	0	0	7	0	0	0	0	0	0	0	0	0	0	12
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	3	26	0	0	4	48	9	0	1	0	2	0	2	1	3	0	99
APPROACH %'s :	10.34%	89.66%	0.00%	0.00%	6.56%	78.69%	14.75%	0.00%	33.33%	0.00%	66.67%	0.00%	33.33%	16.67%	50.00%	0.00%	
PEAK HR :	05:00 PM - 06:00 PM																TOTAL
PEAK HR VOL :	1	14	0	0	3	21	4	0	0	0	0	0	0	1	1	0	45
PEAK HR FACTOR :	0.25	0.700	0.000	0.000	0.375	0.750	0.500	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.250	0.000	0.865
	0.750				0.875								0.500				

National Data & Surveying Services

Intersection Turning Movement Count

Location: S Riverside Ave & Santa Ana Ave
City: Bloomington
Control: Signalized

Project ID: 18-06047-004
Date: 4/12/2018

3axle

NS/EW Streets:	S Riverside Ave				S Riverside Ave				Santa Ana Ave				Santa Ana Ave				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	3	0	0	0	3	0	0	0	1	0	0	0	2	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	1	2	1	0	1	3	1	0	0	5	0	0	2	0	2	0	18
7:15 AM	0	6	0	0	0	3	1	0	1	5	0	0	1	1	2	0	20
7:30 AM	0	7	0	0	0	2	0	0	0	4	0	0	1	0	0	0	14
7:45 AM	1	5	1	0	0	7	0	0	1	4	1	0	2	0	0	0	22
8:00 AM	0	8	1	0	1	5	0	0	1	0	2	0	0	0	1	0	19
8:15 AM	1	5	1	0	2	13	1	0	0	0	0	0	1	0	0	0	24
8:30 AM	0	6	1	0	2	5	1	0	0	0	1	0	1	0	1	0	18
8:45 AM	0	7	1	0	0	7	0	0	0	1	0	0	1	0	1	0	18
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	3	46	6	0	6	45	4	0	3	19	4	0	9	1	7	0	153
APPROACH %'s :	5.45%	83.64%	10.91%	0.00%	10.91%	81.82%	7.27%	0.00%	11.54%	73.08%	15.38%	0.00%	52.94%	5.88%	41.18%	0.00%	
PEAK HR :	07:30 AM - 08:30 AM																TOTAL
PEAK HR VOL :	2	25	3	0	3	27	1	0	2	8	3	0	4	0	1	0	79
PEAK HR FACTOR :	0.500	0.781	0.750	0.000	0.375	0.519	0.250	0.000	0.500	0.500	0.375	0.000	0.500	0.000	0.250	0.000	0.823
	0.833				0.484				0.542				0.625				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	3	0	0	0	3	0	0	0	1	0	0	0	2	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	0	5	0	0	1	6	0	0	0	0	1	0	1	1	1	0	16
4:15 PM	1	5	0	0	3	12	0	0	0	0	1	0	0	0	0	0	22
4:30 PM	0	4	0	0	1	6	0	0	0	0	0	0	1	0	0	0	12
4:45 PM	3	6	2	0	0	5	0	0	2	1	1	0	1	1	0	0	22
5:00 PM	0	5	1	0	1	10	0	0	0	1	1	0	1	0	0	0	20
5:15 PM	0	7	0	0	1	9	0	0	0	0	2	0	0	0	1	0	20
5:30 PM	1	4	0	0	2	6	0	0	0	1	0	0	3	1	0	0	18
5:45 PM	0	4	0	0	1	10	1	0	2	0	0	0	1	0	0	0	19
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	5	40	3	0	10	64	1	0	4	3	6	0	8	3	2	0	149
APPROACH %'s :	10.42%	83.33%	6.25%	0.00%	13.33%	85.33%	1.33%	0.00%	30.77%	23.08%	46.15%	0.00%	61.54%	23.08%	15.38%	0.00%	
PEAK HR :	05:00 PM - 06:00 PM																TOTAL
PEAK HR VOL :	1	20	1	0	5	35	1	0	2	2	3	0	5	1	1	0	77
PEAK HR FACTOR :	0.25	0.714	0.250	0.000	0.625	0.875	0.250	0.000	0.250	0.500	0.375	0.000	0.417	0.250	0.250	0.000	0.963
	0.786				0.854				0.875				0.438				

National Data & Surveying Services

Intersection Turning Movement Count

Location: S Riverside Ave & Santa Ana Ave
City: Bloomington
Control: Signalized

Project ID: 18-06047-004
Date: 4/12/2018

4axle

NS/EW Streets:	S Riverside Ave				S Riverside Ave				Santa Ana Ave				Santa Ana Ave				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	3	0	0	0	3	0	0	0	1	0	0	0	2	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	0	23	1	0	4	19	2	0	2	1	1	0	2	3	5	0	63
7:15 AM	1	24	2	0	1	13	1	0	1	0	2	0	2	2	4	0	53
7:30 AM	0	18	1	0	3	22	1	0	1	2	1	0	0	3	6	0	58
7:45 AM	0	30	3	0	3	19	4	0	1	0	1	0	2	6	6	0	75
8:00 AM	2	24	1	0	1	19	1	0	2	0	1	0	2	2	5	0	60
8:15 AM	0	28	8	0	10	27	1	0	3	0	1	0	4	1	1	0	84
8:30 AM	1	38	4	0	11	21	2	0	0	0	1	0	7	0	7	0	92
8:45 AM	1	23	3	0	11	23	1	0	3	1	3	0	6	0	5	0	80
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	5	208	23	0	44	163	13	0	13	4	11	0	25	17	39	0	565
APPROACH %'s :	2.12%	88.14%	9.75%	0.00%	20.00%	74.09%	5.91%	0.00%	46.43%	14.29%	39.29%	0.00%	30.86%	20.99%	48.15%	0.00%	
PEAK HR :	07:30 AM - 08:30 AM																TOTAL
PEAK HR VOL :	2	100	13	0	17	87	7	0	7	2	4	0	8	12	18	0	277
PEAK HR FACTOR :	0.250	0.833	0.406	0.000	0.425	0.806	0.438	0.000	0.583	0.250	1.000	0.000	0.500	0.500	0.750	0.000	0.824
	0.799				0.730				0.813				0.679				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	3	0	0	0	3	0	0	0	1	0	0	0	2	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	0	23	1	0	4	22	1	0	2	0	5	0	1	1	1	0	61
4:15 PM	1	18	2	0	1	22	0	0	0	0	1	0	0	0	1	0	46
4:30 PM	1	12	1	0	1	32	1	0	3	0	0	0	1	0	2	0	54
4:45 PM	0	16	3	0	1	20	0	0	3	0	0	0	1	0	2	0	46
5:00 PM	1	13	0	0	0	19	2	0	3	0	2	0	0	0	2	0	42
5:15 PM	0	15	0	0	2	19	0	0	2	1	1	0	1	1	0	0	42
5:30 PM	2	14	3	0	1	24	0	0	2	0	3	0	1	0	2	0	52
5:45 PM	2	21	1	0	5	28	0	0	0	0	1	0	1	0	0	0	59
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	7	132	11	0	15	186	4	0	15	1	13	0	6	2	10	0	402
APPROACH %'s :	4.67%	88.00%	7.33%	0.00%	7.32%	90.73%	1.95%	0.00%	51.72%	3.45%	44.83%	0.00%	33.33%	11.11%	55.56%	0.00%	
PEAK HR :	05:00 PM - 06:00 PM																TOTAL
PEAK HR VOL :	5	63	4	0	8	90	2	0	7	1	7	0	3	1	4	0	195
PEAK HR FACTOR :	0.63	0.750	0.333	0.000	0.400	0.804	0.250	0.000	0.583	0.250	0.583	0.000	0.750	0.250	0.500	0.000	0.826
	0.750				0.758				0.750				0.667				

National Data & Surveying Services
Intersection Turning Movement Count
S Riverside Ave & Santa Ana Ave

Peak Hour Turning Movement Count

ID: 18-06047-004
City: Bloomington

Day: Thursday
Date: 04/12/2018

PEAK HOURS		COUNT PERIODS
AM	07:30 AM - 08:30 AM	07:00 AM - 09:00 AM
NOON	NONE	NONE
PM	05:00 PM - 06:00 PM	04:00 PM - 06:00 PM

S Riverside Ave – SOUTHBOUND

	Right	Thru	Left	U-Turn	Departure
AM	95	912	34	0	756
NOON	0	0	0	0	0
PM	68	1222	30	0	1188
	0	3	0	0	

Santa Ana Ave – EASTBOUND

	AM	NOON	PM	
Departure	163	0	152	
U-Turn	0	0	0	0
Left	63	0	87	0
Thru	14	0	10	1
Right	48	0	73	0

Santa Ana Ave – WESTBOUND

		PM	NOON	AM
Right	0	52	0	27
Thru	2	14	0	12
Left	0	26	0	16
U-Turn	0	0	0	0
Departure		49	0	73

CONTROL: Signalized

	AM	NOON	PM
TEV	1968	0	2710
PHF	0.93		0.93

S Riverside Ave – NORTHBOUND

	Departure	U-Turn	Left	Thru	Right
		0	0	3	0
PM	1321	0	70	1049	9
NOON	0	0	0	0	0
AM	976	0	56	666	25

Cars (AM)

	Left	Thru	Right
Southbound	12	766	81
Eastbound	48	3	39
Westbound	4	0	5
Northbound	44	517	9

2axle (AM)

	Left	Thru	Right
Southbound	2	32	6
Eastbound	6	1	2
Westbound	0	0	3
Northbound	8	24	0

Cars (NOON)

	Left	Thru	Right
Southbound	N/A	N/A	N/A
Eastbound	N/A	N/A	N/A
Westbound	N/A	N/A	N/A
Northbound	N/A	N/A	N/A

2axle (NOON)

	Left	Thru	Right
Southbound	N/A	N/A	N/A
Eastbound	N/A	N/A	N/A
Westbound	N/A	N/A	N/A
Northbound	N/A	N/A	N/A

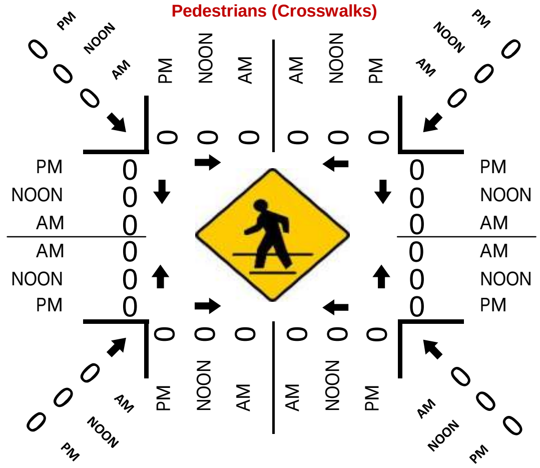
Cars (PM)

	Left	Thru	Right
Southbound	14	1076	61
Eastbound	78	7	63
Westbound	18	11	46
Northbound	63	952	4

2axle (PM)

	Left	Thru	Right
Southbound	3	21	4
Eastbound	0	0	0
Westbound	0	1	1
Northbound	1	14	0

Pedestrians (Crosswalks)



National Data & Surveying Services

Intersection Turning Movement Count

Location: S Riverside Ave & S Jurupa Ave
City: Bloomington
Control: Signalized

Project ID: 18-06047-007
Date: 4/12/2018

Total

NS/EW Streets:	S Riverside Ave				S Riverside Ave				S Jurupa Ave				S Jurupa Ave				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	2	0	0	0	2	0	0	1	0	1	0	0	0	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	19	178	0	0	0	174	9	0	5	0	20	0	0	0	0	0	405
7:15 AM	22	161	0	0	0	207	12	0	4	0	13	0	0	0	0	0	419
7:30 AM	21	181	0	2	0	227	11	0	6	0	18	0	0	0	0	0	466
7:45 AM	16	197	0	1	0	225	10	0	9	0	19	0	0	0	0	0	477
8:00 AM	16	165	0	0	0	220	11	0	13	0	29	0	0	0	0	0	454
8:15 AM	14	138	0	0	0	218	7	0	9	0	13	0	0	0	0	0	399
8:30 AM	17	155	0	0	0	192	8	0	7	0	26	0	0	0	0	0	405
8:45 AM	17	192	0	0	0	165	9	0	15	0	23	0	0	0	0	0	421
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	142	1367	0	3	0	1628	77	0	68	0	161	0	0	0	0	0	3446
APPROACH %'s :	9.39%	90.41%	0.00%	0.20%	0.00%	95.48%	4.52%	0.00%	29.69%	0.00%	70.31%	0.00%					
PEAK HR :	07:15 AM - 08:15 AM																TOTAL
PEAK HR VOL :	75	704	0	3	0	879	44	0	32	0	79	0	0	0	0	0	1816
PEAK HR FACTOR :	0.852	0.893	0.000	0.375	0.000	0.968	0.917	0.000	0.615	0.000	0.681	0.000	0.000	0.000	0.000	0.000	0.952
	0.914				0.970				0.661								

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	2	0	0	0	2	0	0	1	0	1	0	0	0	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	23	239	0	2	0	261	14	0	14	0	36	0	0	0	0	0	589
4:15 PM	17	208	0	2	0	265	14	0	17	0	46	0	0	0	0	0	569
4:30 PM	11	186	0	0	0	258	9	0	9	0	42	0	0	0	0	0	515
4:45 PM	20	226	0	0	0	246	15	0	10	0	22	0	0	0	0	0	539
5:00 PM	22	238	0	0	0	289	8	0	12	0	39	0	0	0	0	0	608
5:15 PM	14	291	0	1	0	364	13	0	4	0	31	0	0	0	0	0	718
5:30 PM	22	252	0	1	0	355	8	0	4	0	41	0	0	0	0	0	683
5:45 PM	20	242	0	0	0	282	10	0	9	0	26	0	0	0	0	0	589
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	149	1882	0	6	0	2320	91	0	79	0	283	0	0	0	0	0	4810
APPROACH %'s :	7.31%	92.39%	0.00%	0.29%	0.00%	96.23%	3.77%	0.00%	21.82%	0.00%	78.18%	0.00%					
PEAK HR :	05:00 PM - 06:00 PM																TOTAL
PEAK HR VOL :	78	1023	0	2	0	1290	39	0	29	0	137	0	0	0	0	0	2598
PEAK HR FACTOR :	0.886	0.879	0.000	0.500	0.000	0.886	0.750	0.000	0.604	0.000	0.835	0.000	0.000	0.000	0.000	0.000	0.905
	0.901				0.881				0.814								

National Data & Surveying Services

Intersection Turning Movement Count

Location: S Riverside Ave & S Jurupa Ave
City: Bloomington
Control: Signalized

Project ID: 18-06047-007
Date: 4/12/2018

Cars

NS/EW Streets:	S Riverside Ave				S Riverside Ave				S Jurupa Ave				S Jurupa Ave				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	2	0	0	0	2	0	0	1	0	1	0	0	0	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	19	141	0	0	0	143	9	0	4	0	15	0	0	0	0	0	331
7:15 AM	20	127	0	0	0	178	12	0	3	0	10	0	0	0	0	0	350
7:30 AM	17	152	0	0	0	198	10	0	6	0	14	0	0	0	0	0	397
7:45 AM	14	152	0	1	0	194	10	0	7	0	15	0	0	0	0	0	393
8:00 AM	13	129	0	0	0	191	9	0	11	0	23	0	0	0	0	0	376
8:15 AM	12	97	0	0	0	171	6	0	8	0	10	0	0	0	0	0	304
8:30 AM	15	103	0	0	0	148	8	0	5	0	12	0	0	0	0	0	291
8:45 AM	16	147	0	0	0	122	8	0	11	0	14	0	0	0	0	0	318
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	126	1048	0	1	0	1345	72	0	55	0	113	0	0	0	0	0	2760
APPROACH %'s :	10.72%	89.19%	0.00%	0.09%	0.00%	94.92%	5.08%	0.00%	32.74%	0.00%	67.26%	0.00%					
PEAK HR :	07:15 AM - 08:15 AM																TOTAL
PEAK HR VOL :	64	560	0	1	0	761	41	0	27	0	62	0	0	0	0	0	1516
PEAK HR FACTOR :	0.80	0.921	0.000	0.250	0.000	0.961	0.854	0.000	0.614	0.000	0.674	0.000	0.000	0.000	0.000	0.000	0.955
	0.925				0.964				0.654								

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	2	0	0	0	2	0	0	1	0	1	0	0	0	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	20	215	0	2	0	224	14	0	13	0	31	0	0	0	0	0	519
4:15 PM	12	179	0	2	0	224	12	0	17	0	41	0	0	0	0	0	487
4:30 PM	7	166	0	0	0	226	8	0	9	0	38	0	0	0	0	0	454
4:45 PM	16	197	0	0	0	219	12	0	9	0	21	0	0	0	0	0	474
5:00 PM	18	218	0	0	0	258	8	0	12	0	36	0	0	0	0	0	550
5:15 PM	13	270	0	1	0	329	9	0	4	0	27	0	0	0	0	0	653
5:30 PM	19	230	0	1	0	319	8	0	4	0	41	0	0	0	0	0	622
5:45 PM	18	217	0	0	0	243	8	0	9	0	26	0	0	0	0	0	521
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	123	1692	0	6	0	2042	79	0	77	0	261	0	0	0	0	0	4280
APPROACH %'s :	6.75%	92.92%	0.00%	0.33%	0.00%	96.28%	3.72%	0.00%	22.78%	0.00%	77.22%	0.00%					
PEAK HR :	05:00 PM - 06:00 PM																TOTAL
PEAK HR VOL :	68	935	0	2	0	1149	33	0	29	0	130	0	0	0	0	0	2346
PEAK HR FACTOR :	0.89	0.866	0.000	0.500	0.000	0.873	0.917	0.000	0.604	0.000	0.793	0.000	0.000	0.000	0.000	0.000	0.898
	0.885				0.874				0.828								

National Data & Surveying Services

Intersection Turning Movement Count

Location: S Riverside Ave & S Jurupa Ave
City: Bloomington
Control: Signalized

Project ID: 18-06047-007
Date: 4/12/2018

2axle

NS/EW Streets:	S Riverside Ave				S Riverside Ave				S Jurupa Ave				S Jurupa Ave				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	2	0	0	0	2	0	0	1	0	1	0	0	0	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	0	10	0	0	0	6	0	0	0	0	3	0	0	0	0	0	19
7:15 AM	1	7	0	0	0	4	0	0	1	0	1	0	0	0	0	0	14
7:30 AM	2	8	0	2	0	7	0	0	0	0	2	0	0	0	0	0	21
7:45 AM	0	10	0	0	0	7	0	0	1	0	2	0	0	0	0	0	20
8:00 AM	1	5	0	0	0	6	1	0	0	0	0	0	0	0	0	0	13
8:15 AM	1	6	0	0	0	8	1	0	0	0	1	0	0	0	0	0	17
8:30 AM	1	7	0	0	0	8	0	0	0	0	6	0	0	0	0	0	22
8:45 AM	1	11	0	0	0	6	0	0	3	0	6	0	0	0	0	0	27
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	7	64	0	2	0	52	2	0	5	0	21	0	0	0	0	0	153
APPROACH %'s :	9.59%	87.67%	0.00%	2.74%	0.00%	96.30%	3.70%	0.00%	19.23%	0.00%	80.77%	0.00%					
PEAK HR :	07:15 AM - 08:15 AM																TOTAL
PEAK HR VOL :	4	30	0	2	0	24	1	0	2	0	5	0	0	0	0	0	68
PEAK HR FACTOR :	0.500	0.750	0.000	0.250	0.000	0.857	0.250	0.000	0.500	0.000	0.625	0.000	0.000	0.000	0.000	0.000	0.810
		0.750				0.893				0.583							

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	2	0	0	0	2	0	0	1	0	1	0	0	0	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	0	3	0	0	0	7	0	0	1	0	0	0	0	0	0	0	11
4:15 PM	1	4	0	0	0	7	1	0	0	0	2	0	0	0	0	0	15
4:30 PM	1	4	0	0	0	4	1	0	0	0	2	0	0	0	0	0	12
4:45 PM	3	5	0	0	0	3	3	0	0	0	1	0	0	0	0	0	15
5:00 PM	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
5:15 PM	1	5	0	0	0	3	3	0	0	0	0	0	0	0	0	0	12
5:30 PM	0	3	0	0	0	5	0	0	0	0	0	0	0	0	0	0	8
5:45 PM	0	3	0	0	0	4	1	0	0	0	0	0	0	0	0	0	8
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	6	29	0	0	0	33	9	0	1	0	5	0	0	0	0	0	83
APPROACH %'s :	17.14%	82.86%	0.00%	0.00%	0.00%	78.57%	21.43%	0.00%	16.67%	0.00%	83.33%	0.00%					
PEAK HR :	05:00 PM - 06:00 PM																TOTAL
PEAK HR VOL :	1	13	0	0	0	12	4	0	0	0	0	0	0	0	0	0	30
PEAK HR FACTOR :	0.25	0.650	0.000	0.000	0.000	0.600	0.333	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.625
		0.583				0.667											

National Data & Surveying Services

Intersection Turning Movement Count

Location: S Riverside Ave & S Jurupa Ave
City: Bloomington
Control: Signalized

Project ID: 18-06047-007
Date: 4/12/2018

3axle

NS/EW Streets:	S Riverside Ave				S Riverside Ave				S Jurupa Ave				S Jurupa Ave				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	2	0	0	0	2	0	0	1	0	1	0	0	0	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	0	5	0	0	0	4	0	0	1	0	1	0	0	0	0	0	11
7:15 AM	0	5	0	0	0	5	0	0	0	0	0	0	0	0	0	0	10
7:30 AM	1	6	0	0	0	5	0	0	0	0	1	0	0	0	0	0	13
7:45 AM	0	6	0	0	0	5	0	0	0	0	1	0	0	0	0	0	12
8:00 AM	1	8	0	0	0	7	0	0	2	0	1	0	0	0	0	0	19
8:15 AM	0	2	0	0	0	11	0	0	0	0	2	0	0	0	0	0	15
8:30 AM	1	8	0	0	0	6	0	0	0	0	2	0	0	0	0	0	17
8:45 AM	0	9	0	0	0	7	0	0	1	0	1	0	0	0	0	0	18
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	3	49	0	0	0	50	0	0	4	0	9	0	0	0	0	0	115
APPROACH %'s :	5.77%	94.23%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	30.77%	0.00%	69.23%	0.00%					
PEAK HR :	07:15 AM - 08:15 AM																TOTAL
PEAK HR VOL :	2	25	0	0	0	22	0	0	2	0	3	0	0	0	0	0	54
PEAK HR FACTOR :	0.500	0.781	0.000	0.000	0.000	0.786	0.000	0.000	0.250	0.000	0.750	0.000	0.000	0.000	0.000	0.000	0.711
	0.750				0.786				0.417								

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	2	0	0	0	2	0	0	1	0	1	0	0	0	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	0	4	0	0	0	6	0	0	0	0	3	0	0	0	0	0	13
4:15 PM	0	10	0	0	0	13	0	0	0	0	1	0	0	0	0	0	24
4:30 PM	0	4	0	0	0	7	0	0	0	0	0	0	0	0	0	0	11
4:45 PM	0	10	0	0	0	4	0	0	0	0	0	0	0	0	0	0	14
5:00 PM	1	4	0	0	0	10	0	0	0	0	1	0	0	0	0	0	16
5:15 PM	0	4	0	0	0	13	0	0	0	0	1	0	0	0	0	0	18
5:30 PM	1	6	0	0	0	10	0	0	0	0	0	0	0	0	0	0	17
5:45 PM	1	3	0	0	0	9	0	0	0	0	0	0	0	0	0	0	13
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	3	45	0	0	0	72	0	0	0	0	6	0	0	0	0	0	126
APPROACH %'s :	6.25%	93.75%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	0.00%	0.00%	100.00%	0.00%					
PEAK HR :	05:00 PM - 06:00 PM																TOTAL
PEAK HR VOL :	3	17	0	0	0	42	0	0	0	0	2	0	0	0	0	0	64
PEAK HR FACTOR :	0.75	0.708	0.000	0.000	0.000	0.808	0.000	0.000	0.000	0.000	0.500	0.000	0.000	0.000	0.000	0.000	0.889
	0.714				0.808				0.500								

National Data & Surveying Services

Intersection Turning Movement Count

Location: S Riverside Ave & S Jurupa Ave
City: Bloomington
Control: Signalized

Project ID: 18-06047-007
Date: 4/12/2018

4axle

NS/EW Streets:	S Riverside Ave				S Riverside Ave				S Jurupa Ave				S Jurupa Ave				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	2	0	0	0	2	0	0	1	0	1	0	0	0	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	0	22	0	0	0	21	0	0	0	0	1	0	0	0	0	0	44
7:15 AM	1	22	0	0	0	20	0	0	0	0	2	0	0	0	0	0	45
7:30 AM	1	15	0	0	0	17	1	0	0	0	1	0	0	0	0	0	35
7:45 AM	2	29	0	0	0	19	0	0	1	0	1	0	0	0	0	0	52
8:00 AM	1	23	0	0	0	16	1	0	0	0	5	0	0	0	0	0	46
8:15 AM	1	33	0	0	0	28	0	0	1	0	0	0	0	0	0	0	63
8:30 AM	0	37	0	0	0	30	0	0	2	0	6	0	0	0	0	0	75
8:45 AM	0	25	0	0	0	30	1	0	0	0	2	0	0	0	0	0	58
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	6	206	0	0	0	181	3	0	4	0	18	0	0	0	0	0	418
APPROACH %'s :	2.83%	97.17%	0.00%	0.00%	0.00%	98.37%	1.63%	0.00%	18.18%	0.00%	81.82%	0.00%					
PEAK HR :	07:15 AM - 08:15 AM																TOTAL
PEAK HR VOL :	5	89	0	0	0	72	2	0	1	0	9	0	0	0	0	0	178
PEAK HR FACTOR :	0.625	0.767	0.000	0.000	0.000	0.900	0.500	0.000	0.250	0.000	0.450	0.000	0.000	0.000	0.000	0.000	0.856
	0.758				0.925				0.500								

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	2	0	0	0	2	0	0	1	0	1	0	0	0	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	3	17	0	0	0	24	0	0	0	0	2	0	0	0	0	0	46
4:15 PM	4	15	0	0	0	21	1	0	0	0	2	0	0	0	0	0	43
4:30 PM	3	12	0	0	0	21	0	0	0	0	2	0	0	0	0	0	38
4:45 PM	1	14	0	0	0	20	0	0	1	0	0	0	0	0	0	0	36
5:00 PM	3	14	0	0	0	21	0	0	0	0	2	0	0	0	0	0	40
5:15 PM	0	12	0	0	0	19	1	0	0	0	3	0	0	0	0	0	35
5:30 PM	2	13	0	0	0	21	0	0	0	0	0	0	0	0	0	0	36
5:45 PM	1	19	0	0	0	26	1	0	0	0	0	0	0	0	0	0	47
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	17	116	0	0	0	173	3	0	1	0	11	0	0	0	0	0	321
APPROACH %'s :	12.78%	87.22%	0.00%	0.00%	0.00%	98.30%	1.70%	0.00%	8.33%	0.00%	91.67%	0.00%					
PEAK HR :	05:00 PM - 06:00 PM																TOTAL
PEAK HR VOL :	6	58	0	0	0	87	2	0	0	0	5	0	0	0	0	0	158
PEAK HR FACTOR :	0.50	0.763	0.000	0.000	0.000	0.837	0.500	0.000	0.000	0.000	0.417	0.000	0.000	0.000	0.000	0.000	0.840
	0.800				0.824				0.417								

National Data & Surveying Services

Intersection Turning Movement Count

S Riverside Ave & S Jurupa Ave

Peak Hour Turning Movement Count

ID: 18-06047-007
City: Bloomington

Day: Thursday
Date: 04/12/2018

PEAK HOURS

AM: 07:15 AM - 08:15 AM
NOON: NONE
PM: 05:00 PM - 06:00 PM

COUNT PERIODS

AM: 07:00 AM - 09:00 AM
NOON: NONE
PM: 04:00 PM - 06:00 PM

CONTROL: Signalized

	AM	NOON	PM
TEV	1816	0	2598
PHF	0.95		0.90

S Riverside Ave — SOUTHBOUND

	Left	Thru	Right	U-Turn		
AM	44	879	0	0	736	AM
NOON	0	0	0	0	0	NOON
PM	39	1290	0	0	1052	PM

S Jurupa Ave — EASTBOUND

	Left	Thru	Right	
AM	119	0	117	
NOON	0	0	0	0
PM	32	0	29	1
	0	0	0	0
	79	0	137	1
	AM	NOON	PM	

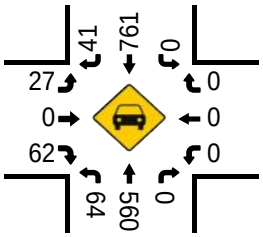
S Jurupa Ave — WESTBOUND

	Left	Thru	Right	
	PM	NOON	AM	
0	0	0	0	
0	0	0	0	
0	0	0	0	
0	0	0	0	
	0	0	0	
	PM	NOON	AM	

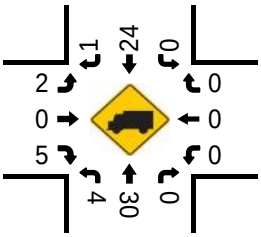
S Riverside Ave — NORTHBOUND

	Left	Thru	Right	U-Turn		
PM	1429	2	78	1023	0	PM
NOON	0	0	0	0	0	NOON
AM	961	3	75	704	0	AM

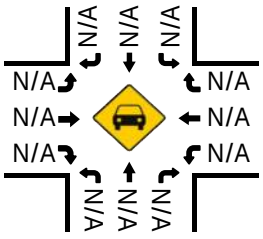
Cars (AM)



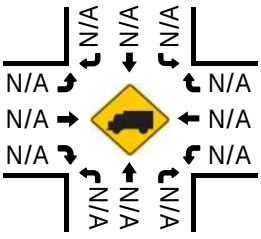
2axle (AM)



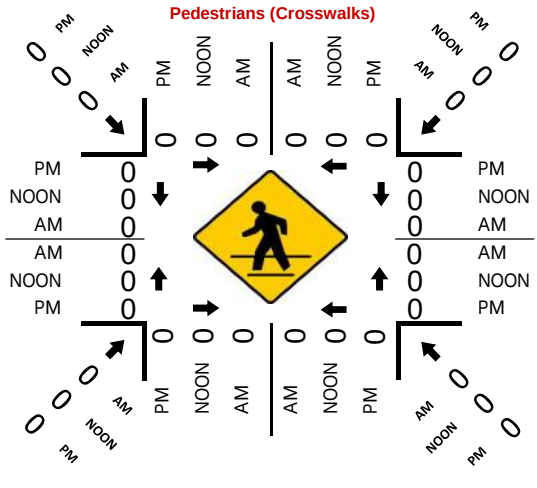
Cars (NOON)



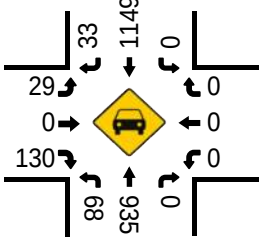
2axle (NOON)



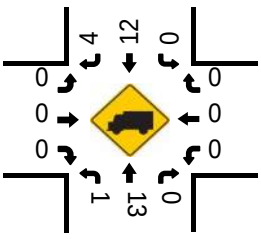
Pedestrians (Crosswalks)



Cars (PM)



2axle (PM)



APPENDIX C

PCE WORKSHEETS

1 Riverside Ave and I-10 WB Ramps

	AM Peak Hour Volumes									PM Peak Hour Volumes								
		Truck Volumes							Total		Truck Volumes							Total
	Passenger Vehicles	2-Axle 1.5	3-Axle 2.0	4-Axle 3.0	Total Trucks	Truck %-age	PCE	Average PCE	PCE Volume	Passenger Vehicles	2-Axle 1.5	3-Axle 2.0	4-Axle 3.0	Total Trucks	Truck %-age	PCE	Average PCE	PCE Volume
NL	75	20	19	64	103	57.9%	260	2.5	335	208	7	10	41	58	21.8%	154	2.7	362
NT	846	25	4	26	55	6.1%	124	2.3	970	1,574	28	7	11	46	2.8%	89	1.9	1,663
NR	0	0	0	0	0	0.0%	0	0.0	0	0	0	0	0	0	0.0%	0	0.0	0
SL	0	0	0	0	0	0.0%	0	0.0	0	0	0	0	0	0	0.0%	0	0.0	0
ST	1,069	20	2	6	28	2.6%	52	1.9	1,121	1,201	11	9	11	31	2.5%	68	2.2	1,269
SR	558	6	0	7	13	2.3%	30	2.3	588	399	2	6	4	12	2.9%	27	2.3	426
EL	0	0	0	0	0	0.0%	0	0.0	0	0	0	0	0	0	0.0%	0	0.0	0
ET	0	0	0	0	0	0.0%	0	0.0	0	0	0	0	0	0	0.0%	0	0.0	0
ER	0	0	0	0	0	0.0%	0	0.0	0	0	0	0	0	0	0.0%	0	0.0	0
WL	385	21	8	48	77	16.7%	192	2.5	577	380	15	10	62	87	18.6%	229	2.6	609
WT	6	0	0	0	0	0.0%	0	0.0	6	2	0	0	0	0	0.0%	0	0.0	2
WR	371	12	0	2	14	3.6%	24	1.7	395	547	8	1	3	12	2.1%	23	1.9	570
									3,992									4,901
North Leg Volumes																		
Approach	1,627	26	2	13	41		82		1,709	1,600	13	15	15	43		95		1,695
Depart	1,217	37	4	28	69		148		1,365	2,121	36	8	14	58		112		2,233
Total	2,844	63	6	41	110	3.7%	230	2.1	3,074	3,721	49	23	29	101	2.6%	207	2.0	3,928
South Leg Volumes																		
Approach	921	45	23	90	158		384		1,305	1,782	35	17	52	104		243		2,025
Depart	1,454	41	10	54	105		244		1,698	1,581	26	19	73	118		297		1,878
Total	2,375	86	33	144	263	10.0%	628	2.4	3,003	3,363	61	36	125	222	6.2%	540	2.4	3,903
East Leg Volumes																		
Approach	762	33	8	50	91		216		978	929	23	11	65	99		252		1,181
Depart	0	0	0	0	0		0		0	0	0	0	0	0		0		0
Total	762	33	8	50	91	10.7%	216	2.4	978	929	23	11	65	99	9.6%	252	2.5	1,181
West Leg Volumes																		
Approach	0	0	0	0	0		0		0	0	0	0	0	0		0		0
Depart	639	26	19	71	116		290		929	609	9	16	45	70		181		790
Total	639	26	19	71	116	15.4%	290	2.5	929	609	9	16	45	70	10.3%	181	2.6	790
All Legs																		
Approach	3,310	104	33	153	290		682		3,992	4,311	71	43	132	246		590		4,901
Depart	3,310	104	33	153	290		682		3,992	4,311	71	43	132	246		590		4,901
Total	6,620	208	66	306	580	8.1%	1,364	2.4	7,984	8,622	142	86	264	492	5.4%	1,180	2.4	9,802

2 Riverside Ave and I-10 EB Ramps

	AM Peak Hour Volumes									PM Peak Hour Volumes								
		Truck Volumes							Total		Truck Volumes							Total
	Passenger Vehicles	2-Axle 1.5	3-Axle 2.0	4-Axle 3.0	Total Trucks	Truck %-age	PCE	Average PCE	PCE Volume	Passenger Vehicles	2-Axle 1.5	3-Axle 2.0	4-Axle 3.0	Total Trucks	Truck %-age	PCE	Average PCE	PCE Volume
NL	0	0	0	0	0	0.0%	0	0.0	0	0	0	0	0	0	0.0%	0	0.0	0
NT	589	37	22	87	146	19.9%	361	2.5	950	1,213	14	17	43	74	5.7%	184	2.5	1,397
NR	215	13	11	56	80	27.1%	210	2.6	425	470	10	11	50	71	13.1%	187	2.6	657
SL	400	9	1	2	12	2.9%	22	1.8	422	475	2	0	3	5	1.0%	12	2.4	487
ST	1,059	30	11	51	92	8.0%	220	2.4	1,279	1,117	23	22	73	118	9.6%	298	2.5	1,415
SR	0	0	0	0	0	0.0%	0	0.0	0	0	0	0	0	0	0.0%	0	0.0	0
EL	329	10	2	2	14	4.1%	25	1.8	354	614	2	2	2	6	1.0%	13	2.2	627
ET	6	2	0	0	2	25.0%	3	1.5	9	0	0	0	0	0	0.0%	0	0.0	0
ER	271	12	11	62	85	23.9%	226	2.7	497	254	8	19	55	82	24.4%	215	2.6	469
WL	0	0	0	0	0	0.0%	0	0.0	0	0	0	0	0	0	0.0%	0	0.0	0
WT	0	0	0	0	0	0.0%	0	0.0	0	0	0	0	0	0	0.0%	0	0.0	0
WR	0	0	0	0	0	0.0%	0	0.0	0	0	0	0	0	0	0.0%	0	0.0	0
									3,936									5,052
North Leg Volumes																		
Approach	1,459	39	12	53	104		242		1,701	1,592	25	22	76	123		310		1,902
Depart	918	47	24	89	160		386		1,304	1,827	16	19	45	80		197		2,024
Total	2,377	86	36	142	264	10.0%	628	2.4	3,005	3,419	41	41	121	203	5.6%	507	2.5	3,926
South Leg Volumes																		
Approach	804	50	33	143	226		571		1,375	1,683	24	28	93	145		371		2,054
Depart	1,330	42	22	113	177		446		1,776	1,371	31	41	128	200		513		1,884
Total	2,134	92	55	256	403	15.9%	1,017	2.5	3,151	3,054	55	69	221	345	10.2%	884	2.6	3,938
East Leg Volumes																		
Approach	0	0	0	0	0		0		0	0	0	0	0	0		0		0
Depart	621	24	12	58	94		235		856	945	12	11	53	76		199		1,144
Total	621	24	12	58	94	13.1%	235	2.5	856	945	12	11	53	76	7.4%	199	2.6	1,144
West Leg Volumes																		
Approach	606	24	13	64	101		254		860	868	10	21	57	88		228		1,096
Depart	0	0	0	0	0		0		0	0	0	0	0	0		0		0
Total	606	24	13	64	101	14.3%	254	2.5	860	868	10	21	57	88	9.2%	228	2.6	1,096
All Legs																		
Approach	2,869	113	58	260	431		1,067		3,936	4,143	59	71	226	356		909		5,052
Depart	2,869	113	58	260	431		1,067		3,936	4,143	59	71	226	356		909		5,052
Total	5,738	226	116	520	862	13.1%	2,134	2.5	7,872	8,286	118	142	452	712	7.9%	1,818	2.6	10,104

3 Riverside Ave and Slover Ave

	AM Peak Hour Volumes									PM Peak Hour Volumes								
		Truck Volumes							Total		Truck Volumes							Total
	Passenger Vehicles	2-Axle 1.5	3-Axle 2.0	4-Axle 3.0	Total Trucks	Truck %-age	PCE	Average PCE	PCE Volume	Passenger Vehicles	2-Axle 1.5	3-Axle 2.0	4-Axle 3.0	Total Trucks	Truck %-age	PCE	Average PCE	PCE Volume
NL	47	3	2	6	11	19.0%	27	2.5	74	25	2	1	2	5	16.7%	11	2.2	36
NT	536	36	26	131	193	26.5%	499	2.6	1,035	1,173	17	21	78	116	9.0%	302	2.6	1,475
NR	7	1	1	6	8	53.3%	22	2.8	29	11	0	1	3	4	26.7%	11	2.8	22
SL	22	3	3	6	12	35.3%	29	2.4	51	6	3	2	4	9	60.0%	21	2.3	27
ST	956	34	15	92	141	12.9%	357	2.5	1,313	1,139	25	34	101	160	12.3%	409	2.6	1,548
SR	353	9	1	23	33	8.5%	85	2.6	438	213	7	7	22	36	14.5%	91	2.5	304
EL	202	8	9	8	25	11.0%	54	2.2	256	397	7	6	7	20	4.8%	44	2.2	441
ET	17	2	0	0	2	10.5%	3	1.5	20	112	2	0	3	5	4.3%	12	2.4	124
ER	22	3	9	10	22	50.0%	53	2.4	75	107	2	6	12	20	15.7%	51	2.6	158
WL	12	2	2	4	8	40.0%	19	2.4	31	4	1	4	7	12	75.0%	31	2.6	35
WT	9	0	1	2	3	25.0%	8	2.7	17	4	2	2	7	11	73.3%	28	2.5	32
WR	11	3	3	4	10	47.6%	23	2.3	34	55	1	0	7	8	12.7%	23	2.9	78
									3,373									4,280
North Leg Volumes																		
Approach	1,331	46	19	121	186		471		1,802	1,358	35	43	127	205		521		1,879
Depart	749	47	38	143	228		576		1,325	1,625	25	27	92	144		369		1,994
Total	2,080	93	57	264	414	16.6%	1,047	2.5	3,127	2,983	60	70	219	349	10.5%	890	2.6	3,873
South Leg Volumes																		
Approach	590	40	29	143	212		548		1,138	1,209	19	23	83	125		324		1,533
Depart	990	39	26	106	171		429		1,419	1,250	28	44	120	192		491		1,741
Total	1,580	79	55	249	383	19.5%	977	2.6	2,557	2,459	47	67	203	317	11.4%	815	2.6	3,274
East Leg Volumes																		
Approach	32	5	6	10	21		50		82	63	4	6	21	31		82		145
Depart	46	6	4	12	22		54		100	129	5	3	10	18		44		173
Total	78	11	10	22	43	35.5%	104	2.4	182	192	9	9	31	49	20.3%	126	2.6	318
West Leg Volumes																		
Approach	241	13	18	18	49		110		351	616	11	12	22	45		107		723
Depart	409	12	4	31	47		120		529	242	11	10	31	52		130		372
Total	650	25	22	49	96	12.9%	230	2.4	880	858	22	22	53	97	10.2%	237	2.4	1,095
All Legs																		
Approach	2,194	104	72	292	468		1,179		3,373	3,246	69	84	253	406		1,034		4,280
Depart	2,194	104	72	292	468		1,179		3,373	3,246	69	84	253	406		1,034		4,280
Total	4,388	208	144	584	936	17.6%	2,358	2.5	6,746	6,492	138	168	506	812	11.1%	2,068	2.5	8,560

4 Riverside Ave and Santa Ana Ave

	AM Peak Hour Volumes									PM Peak Hour Volumes								
		Truck Volumes							Total		Truck Volumes							Total
	Passenger Vehicles	2-Axle 1.5	3-Axle 2.0	4-Axle 3.0	Total Trucks	Truck %-age	PCE	Average PCE	PCE Volume	Passenger Vehicles	2-Axle 1.5	3-Axle 2.0	4-Axle 3.0	Total Trucks	Truck %-age	PCE	Average PCE	PCE Volume
NL	48	9	2	2	13	21.3%	24	1.8	72	69	1	1	6	8	10.4%	22	2.8	91
NT	569	26	28	110	164	22.4%	425	2.6	994	1,047	15	22	69	106	9.2%	274	2.6	1,321
NR	10	0	3	14	17	63.0%	48	2.8	58	4	0	1	4	5	55.6%	14	2.8	18
SL	13	2	3	19	24	64.9%	66	2.8	79	4	3	6	9	18	81.8%	44	2.4	48
ST	843	35	30	96	161	16.0%	401	2.5	1,244	1,184	23	39	99	161	12.0%	410	2.5	1,594
SR	89	7	1	8	16	15.2%	37	2.3	126	67	4	1	2	7	9.5%	14	2.0	81
EL	53	7	2	8	17	24.3%	39	2.3	92	86	0	2	8	10	10.4%	28	2.8	114
ET	3	1	9	2	12	80.0%	26	2.2	29	8	0	2	1	3	27.3%	7	2.3	15
ER	43	2	3	4	9	17.3%	21	2.3	64	69	0	3	8	11	13.8%	30	2.7	99
WL	4	0	4	9	13	76.5%	35	2.7	39	20	0	6	3	9	31.0%	21	2.3	41
WT	0	0	0	13	13	100.0%	39	3.0	39	12	1	1	1	3	20.0%	7	2.3	19
WR	6	3	1	20	24	80.0%	67	2.8	73	51	1	1	4	6	10.5%	16	2.7	67
									2,909									3,508
North Leg Volumes																		
Approach	945	44	34	123	201		504		1,449	1,255	30	46	110	186		468		1,723
Depart	628	36	31	138	205		531		1,159	1,184	16	25	81	122		318		1,502
Total	1,573	80	65	261	406	20.5%	1,035	2.5	2,608	2,439	46	71	191	308	11.2%	786	2.6	3,225
South Leg Volumes																		
Approach	627	35	33	126	194		497		1,124	1,120	16	24	79	119		310		1,430
Depart	890	37	37	109	183		457		1,347	1,273	23	48	110	181		461		1,734
Total	1,517	72	70	235	377	19.9%	954	2.5	2,471	2,393	39	72	189	300	11.1%	771	2.6	3,164
East Leg Volumes																		
Approach	10	3	5	42	50		141		151	83	2	8	8	18		44		127
Depart	26	3	15	35	53		140		166	16	3	9	14	26		65		81
Total	36	6	20	77	103	74.1%	281	2.7	317	99	5	17	22	44	30.8%	109	2.5	208
West Leg Volumes																		
Approach	99	10	14	14	38		86		185	163	0	7	17	24		65		228
Depart	137	16	3	23	42		100		237	148	6	3	9	18		43		191
Total	236	26	17	37	80	25.3%	186	2.3	422	311	6	10	26	42	11.9%	108	2.6	419
All Legs																		
Approach	1,681	92	86	305	483		1,228		2,909	2,621	48	85	214	347		887		3,508
Depart	1,681	92	86	305	483		1,228		2,909	2,621	48	85	214	347		887		3,508
Total	3,362	184	172	610	966	22.3%	2,456	2.5	5,818	5,242	96	170	428	694	11.7%	1,774	2.6	7,016

5 Riverside Ave and Jurupa Ave

	AM Peak Hour Volumes									PM Peak Hour Volumes								
		Truck Volumes							Total		Truck Volumes							Total
	Passenger Vehicles	2-Axle 1.5	3-Axle 2.0	4-Axle 3.0	Total Trucks	Truck %-age	PCE	Average PCE	PCE Volume	Passenger Vehicles	2-Axle 1.5	3-Axle 2.0	4-Axle 3.0	Total Trucks	Truck %-age	PCE	Average PCE	PCE Volume
NL	72	7	2	6	15	17.2%	33	2.2	105	77	1	3	7	11	12.5%	29	2.6	106
NT	616	33	28	98	159	20.5%	400	2.5	1,016	1,029	14	19	64	97	8.6%	251	2.6	1,280
NR	0	0	0	0	0	0.0%	0	0.0	0	0	0	0	0	0	0.0%	0	0.0	0
SL	0	0	0	0	0	0.0%	0	0.0	0	0	0	0	0	0	0.0%	0	0.0	0
ST	837	26	24	79	129	13.4%	324	2.5	1,161	1,264	13	46	96	155	10.9%	400	2.6	1,664
SR	45	1	0	2	3	6.3%	8	2.7	53	36	4	0	2	6	14.3%	12	2.0	48
EL	30	2	2	1	5	14.3%	10	2.0	40	32	0	0	0	0	0.0%	0	0.0	32
ET	0	0	0	0	0	0.0%	0	0.0	0	0	0	0	0	0	0.0%	0	0.0	0
ER	68	6	3	10	19	21.8%	45	2.4	113	143	0	2	6	8	5.3%	22	2.8	165
WL	0	0	0	0	0	0.0%	0	0.0	0	0	0	0	0	0	0.0%	0	0.0	0
WT	0	0	0	0	0	0.0%	0	0.0	0	0	0	0	0	0	0.0%	0	0.0	0
WR	0	0	0	0	0	0.0%	0	0.0	0	0	0	0	0	0	0.0%	0	0.0	0
									2,488									3,295
North Leg Volumes																		
Approach	882	27	24	81	132		332		1,214	1,300	17	46	98	161		412		1,712
Depart	646	35	30	99	164		410		1,056	1,061	14	19	64	97		251		1,312
Total	1,528	62	54	180	296	16.2%	742	2.5	2,270	2,361	31	65	162	258	9.9%	663	2.6	3,024
South Leg Volumes																		
Approach	688	40	30	104	174		433		1,121	1,106	15	22	71	108		280		1,386
Depart	905	32	27	89	148		369		1,274	1,407	13	48	102	163		422		1,829
Total	1,593	72	57	193	322	16.8%	802	2.5	2,395	2,513	28	70	173	271	9.7%	702	2.6	3,215
East Leg Volumes																		
Approach	0	0	0	0	0		0		0	0	0	0	0	0		0		0
Depart	0	0	0	0	0		0		0	0	0	0	0	0		0		0
Total	0	0	0	0	0	0.0%	0	0.0	0	0	0	0	0	0	0.0%	0	0.0	0
West Leg Volumes																		
Approach	98	8	5	11	24		55		153	175	0	2	6	8		22		197
Depart	117	8	2	8	18		41		158	113	5	3	9	17		41		154
Total	215	16	7	19	42	16.3%	96	2.3	311	288	5	5	15	25	8.0%	63	2.5	351
All Legs																		
Approach	1,668	75	59	196	330		820		2,488	2,581	32	70	175	277		714		3,295
Depart	1,668	75	59	196	330		820		2,488	2,581	32	70	175	277		714		3,295
Total	3,336	150	118	392	660	16.5%	1,640	2.5	4,976	5,162	64	140	350	554	9.7%	1,428	2.6	6,590

TOTAL PCE VOLUME AM

Int	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	
1	335	970	0	0	1121	588	0	0	0	577	6	395	Riverside Ave and I-10 WB Ramps
2	0	950	425	422	1279	0	354	9	497	0	0	0	Riverside Ave and I-10 EB Ramps
3	74	1035	29	51	1313	438	256	20	75	31	17	34	Riverside Ave and Slover Ave
4	72	994	58	79	1244	126	92	29	64	39	39	73	Riverside Ave and Santa Ana Ave
5	105	1016	0	0	1161	53	40	0	113	0	0	0	Riverside Ave and Jurupa Ave

TOTAL PCE VOLUME PM

Int	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	
1	362	1663	0	0	1269	426	0	0	0	609	2	570	Riverside Ave and I-10 WB Ramps
2	0	1397	657	487	1415	0	627	0	469	0	0	0	Riverside Ave and I-10 EB Ramps
3	36	1475	22	27	1548	304	441	124	158	35	32	78	Riverside Ave and Slover Ave
4	91	1321	18	48	1594	81	114	15	99	41	19	67	Riverside Ave and Santa Ana Ave
5	106	1280	0	0	1664	48	32	0	165	0	0	0	Riverside Ave and Jurupa Ave

APPENDIX **D**

INTERSECTION ANALYSIS
WORKSHEETS

APPENDIX D-1

INTERSECTION ANALYSIS
WORKSHEETS – EXISTING
CONDITIONS

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Riverside Ave / I-10 WB Ramps	Signalized	HCM 7th Edition	NB Left	0.777	20.1	C
2	Riverside Ave / I-10 EB Ramps	Signalized	HCM 7th Edition	SB Left	0.712	20.3	C
3	Riverside Ave / Slover Ave	Signalized	HCM 7th Edition	EB Left	0.888	20.5	C
4	Riverside Ave / Santa Ana Ave	Signalized	HCM 7th Edition	SB Left	0.642	14.6	B
5	Riverside Ave / Jurupa Ave	Signalized	HCM 7th Edition	NB Left	0.544	8.4	A

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 1: Riverside Ave / I-10 WB Ramps

Control Type:	Signalized	Delay (sec / veh):	20.1
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.777

Intersection Setup

Name	Riverside Ave			Riverside Ave			I-10 WB Ramps			I-10 WB Ramps		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	49.21	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No						No		
Crosswalk	No			No			No			Yes		

Volumes

Name	Riverside Ave			Riverside Ave			I-10 WB Ramps			I-10 WB Ramps		
Base Volume Input [veh/h]	335	970	0	0	1121	588	0	0	0	577	6	395
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	335	970	0	0	1121	588	0	0	0	577	6	395
Peak Hour Factor	0.9820	0.9820	1.0000	1.0000	0.9820	0.9820	1.0000	1.0000	1.0000	0.9820	0.9820	0.9820
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	85	247	0	0	285	150	0	0	0	147	2	101
Total Analysis Volume [veh/h]	341	988	0	0	1142	599	0	0	0	588	6	402
Presence of On-Street Parking	No		No	No		No				No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	5	2	0	0	6	0	0	0	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	7	7	0	0	7	0	0	0	0	0	7	0
Maximum Green [s]	30	30	0	0	30	0	0	0	0	0	30	0
Amber [s]	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0
All red [s]	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0
Split [s]	14	56	0	0	42	0	0	0	0	0	34	0
Vehicle Extension [s]	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	0	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	0	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No						No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0
Minimum Recall	No	No			No						No	
Maximum Recall	No	No			No						No	
Pedestrian Recall	No	No			No						No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	R		L	C	R
C, Cycle Length [s]	90	90	90	90		90	90	90
L, Total Lost Time per Cycle [s]	3.00	3.00	3.00	3.00		3.00	3.00	3.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00		0.00	0.00	0.00
l2, Clearance Lost Time [s]	1.00	1.00	1.00	1.00		1.00	1.00	1.00
g_i, Effective Green Time [s]	11	62	48	48		22	22	22
g / C, Green / Cycle	0.12	0.69	0.54	0.54		0.24	0.24	0.24
(v / s)_i Volume / Saturation Flow Rate	0.10	0.19	0.17	0.37		0.18	0.19	0.21
s, saturation flow rate [veh/h]	3514	5176	6901	1615		1810	1766	1615
c, Capacity [veh/h]	414	3567	3714	869		442	431	394
d1, Uniform Delay [s]	38.79	5.37	11.50	15.26		31.49	31.67	32.37
k, delay calibration	0.11	0.50	0.50	0.50		0.12	0.13	0.17
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00		1.00	1.00	1.00
d2, Incremental Delay [s]	4.18	0.19	0.22	4.45		2.90	3.53	7.47
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00		0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00		1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00		1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.82	0.28	0.31	0.69		0.75	0.77	0.84
d, Delay for Lane Group [s/veh]	42.97	5.56	11.72	19.71		34.39	35.20	39.84
Lane Group LOS	D	A	B	B		C	D	D
Critical Lane Group	Yes	No	No	Yes		No	No	Yes
50th-Percentile Queue Length [veh/ln]	3.86	2.05	3.01	9.31		6.87	6.98	7.52
50th-Percentile Queue Length [ft/ln]	96.52	51.17	75.35	232.70		171.81	174.39	187.89
95th-Percentile Queue Length [veh/ln]	6.95	3.68	5.43	14.31		11.17	11.31	12.01
95th-Percentile Queue Length [ft/ln]	173.74	92.11	135.63	357.79		279.29	282.67	300.29

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	42.97	5.56	0.00	0.00	11.72	19.71	0.00	0.00	0.00	34.74	35.20	39.03
Movement LOS	D	A			B	B				C	D	D
d_A, Approach Delay [s/veh]	15.16			14.46			0.00			36.48		
Approach LOS	B			B			A			D		
d_I, Intersection Delay [s/veh]	20.08											
Intersection LOS	C											
Intersection V/C	0.777											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	36.45
l_p,int, Pedestrian LOS Score for Intersection	0.000	0.000	0.000	2.265
Crosswalk LOS	F	F	F	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1178	867	0	689
d_b, Bicycle Delay [s]	7.61	14.45	45.00	19.34
l_b,int, Bicycle LOS Score for Intersection	2.291	2.278	4.132	3.203
Bicycle LOS	B	B	D	C

Sequence

Ring 1	-	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 2: Riverside Ave / I-10 EB Ramps

Control Type:	Signalized	Delay (sec / veh):	20.3
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.712

Intersection Setup

Name	Riverside Ave			Riverside Ave			I-10 EB Ramps			I-10 EB Ramps		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	49.21
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No					
Crosswalk	No			No			No			Yes		

Volumes

Name	Riverside Ave			Riverside Ave			I-10 EB Ramps			I-10 EB Ramps		
Base Volume Input [veh/h]	0	950	425	422	1279	0	354	9	497	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	950	425	422	1279	0	354	9	497	0	0	0
Peak Hour Factor	1.0000	0.9350	0.9350	0.9350	0.9350	1.0000	0.9350	0.9350	0.9350	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	254	114	113	342	0	95	2	133	0	0	0
Total Analysis Volume [veh/h]	0	1016	455	451	1368	0	379	10	532	0	0	0
Presence of On-Street Parking	No		No	No		No	No		No			
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	2	0	1	6	0	0	8	0	0	0	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	0	7	0	7	7	0	0	7	0	0	0	0
Maximum Green [s]	0	30	0	30	30	0	0	30	0	0	0	0
Amber [s]	0.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0
All red [s]	0.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0
Split [s]	0	34	0	21	55	0	0	35	0	0	0	0
Vehicle Extension [s]	0.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	0	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No				
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0
I2, Clearance Lost Time [s]	0.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0
Minimum Recall		No		No	No			No				
Maximum Recall		No		No	No			No				
Pedestrian Recall		No		No	No			No				
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	L	C	L	C	R	
C, Cycle Length [s]	90	90	90	90	90	90	90	
L, Total Lost Time per Cycle [s]	3.00	3.00	3.00	3.00	3.00	3.00	3.00	
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
l2, Clearance Lost Time [s]	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
g_i, Effective Green Time [s]	47	47	14	64	20	20	20	
g / C, Green / Cycle	0.52	0.52	0.15	0.71	0.23	0.23	0.23	
(v / s)_i Volume / Saturation Flow Rate	0.27	0.30	0.13	0.38	0.17	0.18	0.19	
s, saturation flow rate [veh/h]	3618	1633	3514	3618	1810	1663	1615	
c, Capacity [veh/h]	1872	845	544	2553	412	379	368	
d1, Uniform Delay [s]	14.37	14.97	36.89	6.27	32.42	32.89	33.05	
k, delay calibration	0.50	0.50	0.11	0.50	0.11	0.11	0.12	
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
d2, Incremental Delay [s]	1.05	2.90	3.33	0.81	2.85	4.16	5.15	
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	

Lane Group Results

X, volume / capacity	0.52	0.58	0.83	0.54	0.76	0.81	0.83	
d, Delay for Lane Group [s/veh]	15.42	17.87	40.22	7.08	35.26	37.04	38.20	
Lane Group LOS	B	B	D	A	D	D	D	
Critical Lane Group	No	Yes	Yes	No	No	No	Yes	
50th-Percentile Queue Length [veh/ln]	6.43	7.09	4.98	5.19	6.51	6.60	6.68	
50th-Percentile Queue Length [ft/ln]	160.72	177.33	124.38	129.79	162.77	164.93	166.92	
95th-Percentile Queue Length [veh/ln]	10.59	11.46	8.63	8.93	10.70	10.81	10.91	
95th-Percentile Queue Length [ft/ln]	264.67	286.53	215.83	223.21	267.38	270.24	272.86	

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	15.51	17.87	40.22	7.08	0.00	35.60	37.04	37.71	0.00	0.00	0.00
Movement LOS		B	B	D	A		D	D	D			
d_A, Approach Delay [s/veh]	16.24			15.30			36.82			0.00		
Approach LOS	B			B			D			A		
d_I, Intersection Delay [s/veh]	20.34											
Intersection LOS	C											
Intersection V/C	0.712											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	36.45
l_p,int, Pedestrian LOS Score for Intersection	0.000	0.000	0.000	2.163
Crosswalk LOS	F	F	F	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	689	1156	711	0
d_b, Bicycle Delay [s]	19.34	8.02	18.69	45.00
l_b,int, Bicycle LOS Score for Intersection	2.369	3.060	3.079	4.132
Bicycle LOS	B	C	C	D

Sequence

Ring 1	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 3: Riverside Ave / Slover Ave

Control Type:	Signalized	Delay (sec / veh):	20.5
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.888

Intersection Setup

Name	Riverside Ave			Riverside Ave			Slover Ave			Slover Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Riverside Ave			Riverside Ave			Slover Ave			Slover Ave		
Base Volume Input [veh/h]	74	1035	29	51	1313	438	256	20	75	31	17	34
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	74	1035	29	51	1313	438	256	20	75	31	17	34
Peak Hour Factor	0.9450	0.9450	0.9450	0.9450	0.9450	0.9450	0.9450	0.9450	0.9450	0.9450	0.9450	0.9450
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	20	274	8	13	347	116	68	5	20	8	4	9
Total Analysis Volume [veh/h]	78	1095	31	54	1389	463	271	21	79	33	18	36
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	5	2	0	1	6	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	7	7	0	7	7	0	0	7	0	0	7	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	10	47	0	21	58	0	0	22	0	0	22	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	C	L	C	C
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
g_i, Effective Green Time [s]	6	57	57	5	56	56	19	19	19	19	19	19
g / C, Green / Cycle	0.07	0.63	0.63	0.06	0.62	0.62	0.21	0.21	0.21	0.21	0.21	0.21
(v / s)_i Volume / Saturation Flow Rate	0.04	0.30	0.30	0.03	0.49	0.53	0.20	0.01	0.05	0.03	0.01	0.02
s, saturation flow rate [veh/h]	1810	1900	1882	1810	1900	1745	1371	1900	1615	1315	1900	1615
c, Capacity [veh/h]	121	1197	1186	106	1182	1086	314	401	341	275	401	341
d1, Uniform Delay [s]	40.95	8.76	8.77	41.10	12.58	13.63	38.35	28.32	29.45	33.48	28.27	28.64
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.17	0.11	0.11	0.11	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	5.65	1.34	1.35	3.72	5.31	8.35	10.19	0.05	0.34	0.19	0.05	0.13
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, 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
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.65	0.47	0.47	0.51	0.79	0.85	0.86	0.05	0.23	0.12	0.04	0.11
d, Delay for Lane Group [s/veh]	46.61	10.10	10.12	44.81	17.89	21.98	48.53	28.37	29.79	33.67	28.32	28.78
Lane Group LOS	D	B	B	D	B	C	D	C	C	C	C	C
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No	No	No	No	No
50th-Percentile Queue Length [veh/ln]	1.86	5.56	5.51	1.26	13.68	15.36	6.88	0.36	1.43	0.64	0.31	0.63
50th-Percentile Queue Length [ft/ln]	46.41	138.93	137.80	31.50	341.98	384.10	172.08	9.09	35.78	15.94	7.78	15.82
95th-Percentile Queue Length [veh/ln]	3.34	9.42	9.36	2.27	19.74	21.79	11.19	0.65	2.58	1.15	0.56	1.14
95th-Percentile Queue Length [ft/ln]	83.54	235.58	234.06	56.69	493.62	544.81	279.64	16.36	64.40	28.70	14.00	28.47

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	46.61	10.11	10.12	44.81	19.24	21.98	48.53	28.37	29.79	33.67	28.32	28.78
Movement LOS	D	B	B	D	B	C	D	C	C	C	C	C
d_A, Approach Delay [s/veh]	12.47			20.63			43.40			30.54		
Approach LOS	B			C			D			C		
d_I, Intersection Delay [s/veh]	20.49											
Intersection LOS	C											
Intersection V/C	0.888											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	36.45	36.45	36.45	36.45
l_p,int, Pedestrian LOS Score for Intersection	2.941	3.377	2.483	2.339
Crosswalk LOS	C	C	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	978	1222	422	422
d_b, Bicycle Delay [s]	11.76	6.81	28.01	28.01
l_b,int, Bicycle LOS Score for Intersection	2.553	3.132	1.866	1.631
Bicycle LOS	B	C	A	A

Sequence

Ring 1	1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 4: Riverside Ave / Santa Ana Ave

Control Type:	Signalized	Delay (sec / veh):	14.6
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.642

Intersection Setup

Name	Riverside Ave			Riverside Ave			Santa Ana Ave			Santa Ana Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			No			No			Yes		

Volumes

Name	Riverside Ave			Riverside Ave			Santa Ana Ave			Santa Ana Ave		
Base Volume Input [veh/h]	72	994	58	79	1244	126	92	29	64	39	39	73
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	72	994	58	79	1244	126	92	29	64	39	39	73
Peak Hour Factor	0.9280	0.9280	0.9280	0.9280	0.9280	0.9280	0.9280	0.9280	0.9280	0.9280	0.9280	0.9280
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	19	268	16	21	335	34	25	8	17	11	11	20
Total Analysis Volume [veh/h]	78	1071	63	85	1341	136	99	31	69	42	42	79
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	5	2	0	1	6	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	7	7	0	7	7	0	0	7	0	0	7	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	10	51	0	21	62	0	0	18	0	0	18	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	C	R	L	C	R
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
g_i, Effective Green Time [s]	6	60	60	6	60	60	15	15	15	15	15
g / C, Green / Cycle	0.07	0.66	0.66	0.07	0.67	0.67	0.17	0.17	0.17	0.17	0.17
(v / s)_i Volume / Saturation Flow Rate	0.04	0.30	0.30	0.05	0.39	0.40	0.12	0.04	0.03	0.02	0.05
s, saturation flow rate [veh/h]	1810	1900	1863	1810	1900	1840	1122	1615	1315	1900	1615
c, Capacity [veh/h]	121	1260	1236	128	1267	1227	257	268	109	316	268
d1, Uniform Delay [s]	40.95	7.30	7.30	40.79	8.22	8.28	36.95	32.69	44.33	32.00	32.90
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	5.63	1.18	1.21	5.84	2.01	2.14	1.54	0.50	2.24	0.19	0.60
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.64	0.45	0.45	0.67	0.59	0.60	0.51	0.26	0.39	0.13	0.29
d, Delay for Lane Group [s/veh]	46.57	8.48	8.51	46.64	10.23	10.41	38.49	33.19	46.58	32.19	33.51
Lane Group LOS	D	A	A	D	B	B	D	C	D	C	C
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No	No	No	No
50th-Percentile Queue Length [veh/ln]	1.86	4.93	4.85	2.02	7.40	7.33	2.80	1.33	1.00	0.79	1.54
50th-Percentile Queue Length [ft/ln]	46.39	123.20	121.22	50.62	184.94	183.29	70.02	33.29	24.91	19.69	38.41
95th-Percentile Queue Length [veh/ln]	3.34	8.57	8.46	3.64	11.86	11.77	5.04	2.40	1.79	1.42	2.77
95th-Percentile Queue Length [ft/ln]	83.51	214.22	211.50	91.11	296.46	294.31	126.04	59.92	44.84	35.45	69.14

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	46.57	8.49	8.51	46.64	10.31	10.41	38.49	38.49	33.19	46.58	32.19	33.51
Movement LOS	D	A	A	D	B	B	D	D	C	D	C	C
d_A, Approach Delay [s/veh]	10.94			12.30			36.65			36.53		
Approach LOS	B			B			D			D		
d_I, Intersection Delay [s/veh]	14.58											
Intersection LOS	B											
Intersection V/C	0.642											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	0.0	0.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	36.45	0.00	0.00	36.45
l_p,int, Pedestrian LOS Score for Intersection	2.947	0.000	0.000	2.216
Crosswalk LOS	C	F	F	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1067	1311	333	333
d_b, Bicycle Delay [s]	9.80	5.34	31.25	31.25
l_b,int, Bicycle LOS Score for Intersection	2.560	2.848	1.888	1.829
Bicycle LOS	B	C	A	A

Sequence

Ring 1	1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 5: Riverside Ave / Jurupa Ave

Control Type:	Signalized	Delay (sec / veh):	8.4
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.544

Intersection Setup

Name	Riverside Ave		Riverside Ave		Jurupa Ave	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		No		Yes	

Volumes

Name	Riverside Ave		Riverside Ave		Jurupa Ave	
Base Volume Input [veh/h]	105	1016	1161	53	40	113
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Proportion of CAVs [%]	0.00					
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	105	1016	1161	53	40	113
Peak Hour Factor	0.9520	0.9520	0.9520	0.9520	0.9520	0.9520
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	28	267	305	14	11	30
Total Analysis Volume [veh/h]	110	1067	1220	56	42	119
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Protected	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	5	2	6	0	3	0
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	Lead	-
Minimum Green [s]	7	7	7	0	7	0
Maximum Green [s]	30	30	30	0	30	0
Amber [s]	2.0	2.0	2.0	0.0	2.0	0.0
All red [s]	1.0	1.0	1.0	0.0	1.0	0.0
Split [s]	19	70	51	0	20	0
Vehicle Extension [s]	3.0	3.0	3.0	0.0	3.0	0.0
Walk [s]	0	5	5	0	5	0
Pedestrian Clearance [s]	0	10	10	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No	No		No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	1.0	1.0	1.0	0.0	1.0	0.0
Minimum Recall	No	No	No		No	
Maximum Recall	No	No	No		No	
Pedestrian Recall	No	No	No		No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	R	L	R
C, Cycle Length [s]	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	3.00	3.00	3.00	3.00	3.00	3.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	1.00	1.00	1.00	1.00	1.00	1.00
g_i, Effective Green Time [s]	7	75	65	65	9	9
g / C, Green / Cycle	0.08	0.84	0.73	0.73	0.10	0.10
(v / s)_i Volume / Saturation Flow Rate	0.06	0.29	0.34	0.03	0.02	0.07
s, saturation flow rate [veh/h]	1810	3618	3618	1615	1810	1615
c, Capacity [veh/h]	143	3030	2623	1171	174	155
d1, Uniform Delay [s]	40.64	1.69	5.13	3.52	37.66	39.71
k, delay calibration	0.11	0.50	0.50	0.50	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	8.40	0.32	0.60	0.08	0.71	7.75
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.77	0.35	0.47	0.05	0.24	0.77
d, Delay for Lane Group [s/veh]	49.04	2.01	5.73	3.60	38.37	47.46
Lane Group LOS	D	A	A	A	D	D
Critical Lane Group	Yes	No	Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	2.69	1.02	3.86	0.25	0.88	2.87
50th-Percentile Queue Length [ft/ln]	67.35	25.48	96.57	6.37	22.07	71.71
95th-Percentile Queue Length [veh/ln]	4.85	1.83	6.95	0.46	1.59	5.16
95th-Percentile Queue Length [ft/ln]	121.24	45.87	173.83	11.47	39.73	129.07

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	49.04	2.01	5.73	3.60	38.37	47.46
Movement LOS	D	A	A	A	D	D
d_A, Approach Delay [s/veh]	6.40		5.63		45.09	
Approach LOS	A		A		D	
d_I, Intersection Delay [s/veh]	8.41					
Intersection LOS	A					
Intersection V/C	0.544					

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	0.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	36.45	0.00	36.45
l_p,int, Pedestrian LOS Score for Intersection	2.863	0.000	2.048
Crosswalk LOS	C	F	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1489	1067	378
d_b, Bicycle Delay [s]	2.94	9.80	29.61
l_b,int, Bicycle LOS Score for Intersection	2.531	2.612	1.560
Bicycle LOS	B	B	A

Sequence

Ring 1	-	2	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Riverside Ave / I-10 WB Ramps	Signalized	HCM 7th Edition	NB Left	0.723	20.0	B
2	Riverside Ave / I-10 EB Ramps	Signalized	HCM 7th Edition	EB Right	0.932	27.0	C
3	Riverside Ave / Slover Ave	Signalized	HCM 7th Edition	EB Left	1.077	43.8	D
4	Riverside Ave / Santa Ana Ave	Signalized	HCM 7th Edition	NB Left	0.755	15.6	B
5	Riverside Ave / Jurupa Ave	Signalized	HCM 7th Edition	NB Left	0.791	11.3	B

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 1: Riverside Ave / I-10 WB Ramps

Control Type:	Signalized	Delay (sec / veh):	20.0
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.723

Intersection Setup

Name	Riverside Ave			Riverside Ave			I-10 WB Ramps			I-10 WB Ramps		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	49.21	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No						No		
Crosswalk	No			No			No			Yes		

Volumes

Name	Riverside Ave			Riverside Ave			I-10 WB Ramps			I-10 WB Ramps		
Base Volume Input [veh/h]	362	1663	0	0	1269	426	0	0	0	609	2	570
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	362	1663	0	0	1269	426	0	0	0	609	2	570
Peak Hour Factor	0.9750	0.9750	1.0000	1.0000	0.9750	0.9750	1.0000	1.0000	1.0000	0.9750	0.9750	0.9750
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	93	426	0	0	325	109	0	0	0	156	1	146
Total Analysis Volume [veh/h]	371	1706	0	0	1302	437	0	0	0	625	2	585
Presence of On-Street Parking	No		No	No		No				No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	5	2	0	0	6	0	0	0	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	7	7	0	0	7	0	0	0	0	0	7	0
Maximum Green [s]	30	30	0	0	30	0	0	0	0	0	30	0
Amber [s]	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0
All red [s]	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0
Split [s]	15	47	0	0	32	0	0	0	0	0	43	0
Vehicle Extension [s]	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	0	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	0	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No						No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0
Minimum Recall	No	No			No						No	
Maximum Recall	No	No			No						No	
Pedestrian Recall	No	No			No						No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	R		L	C	R
C, Cycle Length [s]	90	90	90	90		90	90	90
L, Total Lost Time per Cycle [s]	3.00	3.00	3.00	3.00		3.00	3.00	3.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00		0.00	0.00	0.00
l2, Clearance Lost Time [s]	1.00	1.00	1.00	1.00		1.00	1.00	1.00
g_i, Effective Green Time [s]	11	58	43	43		26	26	26
g / C, Green / Cycle	0.13	0.64	0.48	0.48		0.29	0.29	0.29
(v / s)_i Volume / Saturation Flow Rate	0.11	0.33	0.19	0.27		0.22	0.24	0.25
s, saturation flow rate [veh/h]	3514	5176	6901	1615		1810	1717	1615
c, Capacity [veh/h]	445	3305	3304	773		533	506	476
d1, Uniform Delay [s]	38.38	8.77	15.07	16.76		28.82	29.27	29.85
k, delay calibration	0.11	0.50	0.50	0.50		0.11	0.12	0.15
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00		1.00	1.00	1.00
d2, Incremental Delay [s]	4.17	0.58	0.35	2.98		2.23	3.29	5.74
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00		0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00		1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00		1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.83	0.52	0.39	0.57		0.76	0.80	0.85
d, Delay for Lane Group [s/veh]	42.56	9.34	15.42	19.74		31.05	32.56	35.59
Lane Group LOS	D	A	B	B		C	C	D
Critical Lane Group	Yes	No	No	Yes		No	No	Yes
50th-Percentile Queue Length [veh/ln]	4.19	5.38	4.15	6.71		8.01	8.26	8.71
50th-Percentile Queue Length [ft/ln]	104.72	134.61	103.67	167.78		200.19	206.48	217.78
95th-Percentile Queue Length [veh/ln]	7.54	9.19	7.46	10.96		12.65	12.97	13.55
95th-Percentile Queue Length [ft/ln]	188.49	229.75	186.60	274.00		316.22	324.31	338.79

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	42.56	9.34	0.00	0.00	15.42	19.74	0.00	0.00	0.00	31.59	32.56	34.65
Movement LOS	D	A			B	B				C	C	C
d_A, Approach Delay [s/veh]	15.28			16.51			0.00			33.07		
Approach LOS	B			B			A			C		
d_I, Intersection Delay [s/veh]	19.99											
Intersection LOS	B											
Intersection V/C	0.723											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	36.45
l_p,int, Pedestrian LOS Score for Intersection	0.000	0.000	0.000	2.336
Crosswalk LOS	F	F	F	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	978	644	0	889
d_b, Bicycle Delay [s]	11.76	20.67	45.00	13.89
l_b,int, Bicycle LOS Score for Intersection	2.702	2.277	4.132	3.559
Bicycle LOS	B	B	D	D

Sequence

Ring 1	-	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 2: Riverside Ave / I-10 EB Ramps

Control Type:	Signalized	Delay (sec / veh):	27.0
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.932

Intersection Setup

Name	Riverside Ave			Riverside Ave			I-10 EB Ramps			I-10 EB Ramps		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	49.21
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No					
Crosswalk	No			No			No			Yes		

Volumes

Name	Riverside Ave			Riverside Ave			I-10 EB Ramps			I-10 EB Ramps		
Base Volume Input [veh/h]	0	1397	657	487	1415	0	627	0	469	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	1397	657	487	1415	0	627	0	469	0	0	0
Peak Hour Factor	1.0000	0.9730	0.9730	0.9730	0.9730	1.0000	0.9730	0.9730	0.9730	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	359	169	125	364	0	161	0	121	0	0	0
Total Analysis Volume [veh/h]	0	1436	675	501	1454	0	644	0	482	0	0	0
Presence of On-Street Parking	No		No	No		No	No		No			
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	2	0	1	6	0	0	8	0	0	0	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	0	7	0	7	7	0	0	7	0	0	0	0
Maximum Green [s]	0	30	0	30	30	0	0	30	0	0	0	0
Amber [s]	0.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0
All red [s]	0.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0
Split [s]	0	45	0	18	63	0	0	27	0	0	0	0
Vehicle Extension [s]	0.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	0	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No				
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0
I2, Clearance Lost Time [s]	0.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0
Minimum Recall		No		No	No			No				
Maximum Recall		No		No	No			No				
Pedestrian Recall		No		No	No			No				
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	L	C	L	C	R	
C, Cycle Length [s]	90	90	90	90	90	90	90	
L, Total Lost Time per Cycle [s]	3.00	3.00	3.00	3.00	3.00	3.00	3.00	
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
l2, Clearance Lost Time [s]	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
g_i, Effective Green Time [s]	43	43	15	61	23	23	23	
g / C, Green / Cycle	0.48	0.48	0.16	0.68	0.26	0.26	0.26	
(v / s)_i Volume / Saturation Flow Rate	0.39	0.43	0.14	0.40	0.21	0.21	0.23	
s, saturation flow rate [veh/h]	3618	1625	3514	3618	1810	1750	1615	
c, Capacity [veh/h]	1739	781	572	2449	464	449	414	
d1, Uniform Delay [s]	19.86	21.40	36.78	7.85	31.39	31.68	32.41	
k, delay calibration	0.50	0.50	0.11	0.50	0.19	0.20	0.25	
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
d2, Incremental Delay [s]	4.19	15.53	4.42	1.07	5.79	7.61	15.16	
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	

Lane Group Results

X, volume / capacity	0.81	0.90	0.88	0.59	0.81	0.84	0.91	
d, Delay for Lane Group [s/veh]	24.05	36.93	41.20	8.92	37.18	39.28	47.57	
Lane Group LOS	C	D	D	A	D	D	D	
Critical Lane Group	No	Yes	Yes	No	No	No	Yes	
50th-Percentile Queue Length [veh/ln]	12.62	15.88	5.62	6.66	8.19	8.46	9.43	
50th-Percentile Queue Length [ft/ln]	315.59	397.09	140.61	166.56	204.72	211.45	235.72	
95th-Percentile Queue Length [veh/ln]	18.45	22.42	9.51	10.90	12.88	13.23	14.46	
95th-Percentile Queue Length [ft/ln]	461.26	560.49	237.85	272.39	322.05	330.68	361.61	

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	24.31	36.93	41.20	8.92	0.00	38.06	39.28	45.74	0.00	0.00	0.00
Movement LOS		C	D	D	A		D	D	D			
d_A, Approach Delay [s/veh]	28.34			17.19			41.35			0.00		
Approach LOS	C			B			D			A		
d_I, Intersection Delay [s/veh]	26.97											
Intersection LOS	C											
Intersection V/C	0.932											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	36.45
l_p,int, Pedestrian LOS Score for Intersection	0.000	0.000	0.000	2.290
Crosswalk LOS	F	F	F	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	933	1333	533	0
d_b, Bicycle Delay [s]	12.80	5.00	24.20	45.00
l_b,int, Bicycle LOS Score for Intersection	2.721	3.172	3.418	4.132
Bicycle LOS	B	C	C	D

Sequence

Ring 1	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 3: Riverside Ave / Slover Ave

Control Type:	Signalized	Delay (sec / veh):	43.8
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.077

Intersection Setup

Name	Riverside Ave			Riverside Ave			Slover Ave			Slover Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Riverside Ave			Riverside Ave			Slover Ave			Slover Ave		
Base Volume Input [veh/h]	36	1475	22	27	1548	304	441	124	158	35	32	78
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	36	1475	22	27	1548	304	441	124	158	35	32	78
Peak Hour Factor	0.9390	0.9390	0.9390	0.9390	0.9390	0.9390	0.9390	0.9390	0.9390	0.9390	0.9390	0.9390
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	10	393	6	7	412	81	117	33	42	9	9	21
Total Analysis Volume [veh/h]	38	1571	23	29	1649	324	470	132	168	37	34	83
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	5	2	0	1	6	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	7	7	0	7	7	0	0	7	0	0	7	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	10	42	0	20	52	0	0	28	0	0	28	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	C	L	C	C
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
g_i, Effective Green Time [s]	4	52	52	4	52	52	25	25	25	25	25	25
g / C, Green / Cycle	0.05	0.58	0.58	0.04	0.57	0.57	0.28	0.28	0.28	0.28	0.28	0.28
(v / s)_i Volume / Saturation Flow Rate	0.02	0.42	0.42	0.02	0.52	0.55	0.36	0.07	0.10	0.03	0.02	0.05
s, saturation flow rate [veh/h]	1810	1900	1890	1810	1900	1796	1295	1900	1615	1096	1900	1615
c, Capacity [veh/h]	87	1104	1098	75	1091	1031	360	528	449	268	528	449
d1, Uniform Delay [s]	41.66	13.63	13.65	42.04	16.96	18.09	37.42	25.22	26.20	31.95	23.90	24.74
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.50	0.11	0.11	0.11	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.45	4.12	4.17	3.27	12.14	19.31	155.72	0.25	0.52	0.23	0.05	0.20
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, 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
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.44	0.72	0.72	0.39	0.90	0.96	1.30	0.25	0.37	0.14	0.06	0.19
d, Delay for Lane Group [s/veh]	45.11	17.75	17.82	45.30	29.10	37.41	193.14	25.47	26.72	32.18	23.95	24.94
Lane Group LOS	D	B	B	D	C	D	F	C	C	C	C	C
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No	No	No	No	No
50th-Percentile Queue Length [veh/ln]	0.90	11.69	11.69	0.69	19.59	22.51	23.56	2.19	2.91	0.70	0.53	1.35
50th-Percentile Queue Length [ft/ln]	22.38	292.28	292.25	17.24	489.80	562.73	588.95	54.70	72.73	17.49	13.32	33.80
95th-Percentile Queue Length [veh/ln]	1.61	17.30	17.30	1.24	26.85	30.29	36.27	3.94	5.24	1.26	0.96	2.43
95th-Percentile Queue Length [ft/ln]	40.28	432.47	432.44	31.03	671.28	757.25	906.80	98.47	130.92	31.49	23.97	60.84

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	45.11	17.78	17.82	45.30	32.44	37.41	193.14	25.47	26.72	32.18	23.95	24.94
Movement LOS	D	B	B	D	C	D	F	C	C	C	C	C
d_A, Approach Delay [s/veh]	18.42			33.43			128.09			26.46		
Approach LOS	B			C			F			C		
d_I, Intersection Delay [s/veh]	43.81											
Intersection LOS	D											
Intersection V/C	1.077											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	36.45	36.45	36.45	36.45
l_p,int, Pedestrian LOS Score for Intersection	3.073	3.793	2.529	2.367
Crosswalk LOS	C	D	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	867	1089	556	556
d_b, Bicycle Delay [s]	14.45	9.34	23.47	23.47
l_b,int, Bicycle LOS Score for Intersection	2.906	3.211	2.195	1.687
Bicycle LOS	C	C	B	A

Sequence

Ring 1	1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 4: Riverside Ave / Santa Ana Ave

Control Type:	Signalized	Delay (sec / veh):	15.6
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.755

Intersection Setup

Name	Riverside Ave			Riverside Ave			Santa Ana Ave			Santa Ana Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			No			No			Yes		

Volumes

Name	Riverside Ave			Riverside Ave			Santa Ana Ave			Santa Ana Ave		
Base Volume Input [veh/h]	91	1321	18	48	1594	81	114	15	99	41	19	67
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	91	1321	18	48	1594	81	114	15	99	41	19	67
Peak Hour Factor	0.9340	0.9340	0.9340	0.9340	0.9340	0.9340	0.9340	0.9340	0.9340	0.9340	0.9340	0.9340
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	24	354	5	13	427	22	31	4	26	11	5	18
Total Analysis Volume [veh/h]	97	1414	19	51	1707	87	122	16	106	44	20	72
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	5	2	0	1	6	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	7	7	0	7	7	0	0	7	0	0	7	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	12	62	0	10	60	0	0	18	0	0	18	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	C	R	L	C	R
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
g_i, Effective Green Time [s]	6	61	61	5	60	60	15	15	15	15	15
g / C, Green / Cycle	0.07	0.68	0.68	0.06	0.66	0.66	0.17	0.17	0.17	0.17	0.17
(v / s)_i Volume / Saturation Flow Rate	0.05	0.38	0.38	0.03	0.47	0.48	0.12	0.07	0.03	0.01	0.04
s, saturation flow rate [veh/h]	1810	1900	1891	1810	1900	1868	1139	1615	1289	1900	1615
c, Capacity [veh/h]	132	1287	1281	104	1257	1236	264	267	108	314	267
d1, Uniform Delay [s]	40.89	7.54	7.55	41.14	9.76	9.89	37.14	33.54	44.39	31.67	32.80
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	7.78	1.75	1.76	3.56	3.49	3.72	1.61	0.95	2.47	0.08	0.54
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.74	0.56	0.56	0.49	0.71	0.72	0.52	0.40	0.41	0.06	0.27
d, Delay for Lane Group [s/veh]	48.66	9.29	9.31	44.70	13.25	13.60	38.74	34.49	46.87	31.76	33.34
Lane Group LOS	D	A	A	D	B	B	D	C	D	C	C
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No	No	No	No
50th-Percentile Queue Length [veh/ln]	2.37	6.61	6.59	1.19	10.70	10.84	2.98	2.11	1.05	0.37	1.39
50th-Percentile Queue Length [ft/ln]	59.18	165.13	164.86	29.72	267.53	271.11	74.55	52.72	26.18	9.26	34.84
95th-Percentile Queue Length [veh/ln]	4.26	10.82	10.81	2.14	16.07	16.25	5.37	3.80	1.88	0.67	2.51
95th-Percentile Queue Length [ft/ln]	106.52	270.51	270.14	53.50	401.65	406.13	134.19	94.89	47.12	16.67	62.71

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	48.66	9.30	9.31	44.70	13.42	13.60	38.74	38.74	34.49	46.87	31.76	33.34
Movement LOS	D	A	A	D	B	B	D	D	C	D	C	C
d_A, Approach Delay [s/veh]	11.79			14.29			36.90			37.48		
Approach LOS	B			B			D			D		
d_I, Intersection Delay [s/veh]	15.58											
Intersection LOS	B											
Intersection V/C	0.755											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	0.0	0.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	36.45	0.00	0.00	36.45
l_p,int, Pedestrian LOS Score for Intersection	3.067	0.000	0.000	2.187
Crosswalk LOS	C	F	F	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1311	1267	333	333
d_b, Bicycle Delay [s]	5.34	6.05	31.25	31.25
l_b,int, Bicycle LOS Score for Intersection	2.822	3.082	1.962	1.784
Bicycle LOS	C	C	A	A

Sequence

Ring 1	1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 5: Riverside Ave / Jurupa Ave

Control Type:	Signalized	Delay (sec / veh):	11.3
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.791

Intersection Setup

Name	Riverside Ave		Riverside Ave		Jurupa Ave	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		No		Yes	

Volumes

Name	Riverside Ave		Riverside Ave		Jurupa Ave	
Base Volume Input [veh/h]	106	1280	1664	48	32	165
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Proportion of CAVs [%]	0.00					
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	106	1280	1664	48	32	165
Peak Hour Factor	0.9050	0.9050	0.9050	0.9050	0.9050	0.9050
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	29	354	460	13	9	46
Total Analysis Volume [veh/h]	117	1414	1839	53	35	182
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Protected	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	5	2	6	0	3	0
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	Lead	-
Minimum Green [s]	7	7	7	0	7	0
Maximum Green [s]	30	30	30	0	30	0
Amber [s]	2.0	2.0	2.0	0.0	2.0	0.0
All red [s]	1.0	1.0	1.0	0.0	1.0	0.0
Split [s]	10	72	62	0	18	0
Vehicle Extension [s]	3.0	3.0	3.0	0.0	3.0	0.0
Walk [s]	0	5	5	0	5	0
Pedestrian Clearance [s]	0	10	10	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No	No		No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	1.0	1.0	1.0	0.0	1.0	0.0
Minimum Recall	No	No	No		No	
Maximum Recall	No	No	No		No	
Pedestrian Recall	No	No	No		No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	R	L	R
C, Cycle Length [s]	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	3.00	3.00	3.00	3.00	3.00	3.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	1.00	1.00	1.00	1.00	1.00	1.00
g_i, Effective Green Time [s]	7	72	62	62	12	12
g / C, Green / Cycle	0.08	0.80	0.69	0.69	0.13	0.13
(v / s)_i Volume / Saturation Flow Rate	0.06	0.39	0.51	0.03	0.02	0.11
s, saturation flow rate [veh/h]	1810	3618	3618	1615	1810	1615
c, Capacity [veh/h]	141	2889	2487	1110	244	218
d1, Uniform Delay [s]	40.92	3.00	8.94	4.54	34.36	37.97
k, delay calibration	0.11	0.50	0.50	0.50	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	11.79	0.60	2.02	0.08	0.27	8.22
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.83	0.49	0.74	0.05	0.14	0.84
d, Delay for Lane Group [s/veh]	52.71	3.59	10.96	4.63	34.62	46.19
Lane Group LOS	D	A	B	A	C	D
Critical Lane Group	Yes	No	Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	2.98	2.72	9.88	0.29	0.69	4.35
50th-Percentile Queue Length [ft/ln]	74.60	67.88	247.06	7.35	17.20	108.65
95th-Percentile Queue Length [veh/ln]	5.37	4.89	15.04	0.53	1.24	7.76
95th-Percentile Queue Length [ft/ln]	134.28	122.18	375.94	13.24	30.95	194.12

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	52.71	3.59	10.96	4.63	34.62	46.19
Movement LOS	D	A	B	A	C	D
d_A, Approach Delay [s/veh]	7.35		10.78		44.33	
Approach LOS	A		B		D	
d_I, Intersection Delay [s/veh]	11.34					
Intersection LOS	B					
Intersection V/C	0.791					

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	0.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	36.45	0.00	36.45
l_p,int, Pedestrian LOS Score for Intersection	3.032	0.000	2.067
Crosswalk LOS	C	F	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1533	1311	333
d_b, Bicycle Delay [s]	2.45	5.34	31.25
l_b,int, Bicycle LOS Score for Intersection	2.823	3.121	1.560
Bicycle LOS	C	C	A

Sequence

Ring 1	-	2	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

APPENDIX D-2

INTERSECTION ANALYSIS
WORKSHEETS – OPENING YEAR 2024

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Riverside Ave / I-10 WB Ramps	Signalized	HCM 7th Edition	NB Left	0.793	20.4	C
2	Riverside Ave / I-10 EB Ramps	Signalized	HCM 7th Edition	SB Left	0.726	20.6	C
3	Riverside Ave / Slover Ave	Signalized	HCM 7th Edition	EB Left	0.907	21.3	C
4	Riverside Ave / Santa Ana Ave	Signalized	HCM 7th Edition	WB Left	0.655	14.8	B
5	Riverside Ave / Jurupa Ave	Signalized	HCM 7th Edition	NB Left	0.555	8.5	A

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 1: Riverside Ave / I-10 WB Ramps

Control Type:	Signalized	Delay (sec / veh):	20.4
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.793

Intersection Setup

Name	Riverside Ave			Riverside Ave			I-10 WB Ramps			I-10 WB Ramps		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	49.21	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No						No		
Crosswalk	No			No			No			Yes		

Volumes

Name	Riverside Ave			Riverside Ave			I-10 WB Ramps			I-10 WB Ramps		
Base Volume Input [veh/h]	335	970	0	0	1121	588	0	0	0	577	6	395
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0200	1.0200	1.0000	1.0000	1.0200	1.0200	1.0000	1.0000	1.0000	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	342	989	0	0	1143	600	0	0	0	589	6	403
Peak Hour Factor	0.9820	0.9820	1.0000	1.0000	0.9820	0.9820	1.0000	1.0000	1.0000	0.9820	0.9820	0.9820
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	87	252	0	0	291	153	0	0	0	150	2	103
Total Analysis Volume [veh/h]	348	1007	0	0	1164	611	0	0	0	600	6	410
Presence of On-Street Parking	No		No	No		No				No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	5	2	0	0	6	0	0	0	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	7	7	0	0	7	0	0	0	0	0	7	0
Maximum Green [s]	30	30	0	0	30	0	0	0	0	0	30	0
Amber [s]	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0
All red [s]	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0
Split [s]	14	56	0	0	42	0	0	0	0	0	34	0
Vehicle Extension [s]	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	0	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	0	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No						No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0
Minimum Recall	No	No			No						No	
Maximum Recall	No	No			No						No	
Pedestrian Recall	No	No			No						No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	R		L	C	R
C, Cycle Length [s]	90	90	90	90		90	90	90
L, Total Lost Time per Cycle [s]	3.00	3.00	3.00	3.00		3.00	3.00	3.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00		0.00	0.00	0.00
l2, Clearance Lost Time [s]	1.00	1.00	1.00	1.00		1.00	1.00	1.00
g_i, Effective Green Time [s]	11	62	48	48		22	22	22
g / C, Green / Cycle	0.12	0.69	0.53	0.53		0.25	0.25	0.25
(v / s)_i Volume / Saturation Flow Rate	0.10	0.19	0.17	0.38		0.19	0.19	0.21
s, saturation flow rate [veh/h]	3514	5176	6901	1615		1810	1766	1615
c, Capacity [veh/h]	420	3546	3674	860		449	438	401
d1, Uniform Delay [s]	38.73	5.54	11.84	15.83		31.29	31.47	32.19
k, delay calibration	0.11	0.50	0.50	0.50		0.13	0.14	0.18
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00		1.00	1.00	1.00
d2, Incremental Delay [s]	4.26	0.20	0.23	4.95		3.08	3.74	7.85
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00		0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00		1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00		1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.83	0.28	0.32	0.71		0.75	0.77	0.84
d, Delay for Lane Group [s/veh]	42.98	5.74	12.06	20.78		34.37	35.21	40.04
Lane Group LOS	D	A	B	C		C	D	D
Critical Lane Group	Yes	No	No	Yes		No	No	Yes
50th-Percentile Queue Length [veh/ln]	3.94	2.14	3.14	9.83		7.02	7.13	7.70
50th-Percentile Queue Length [ft/ln]	98.57	53.49	78.41	245.66		175.46	178.18	192.44
95th-Percentile Queue Length [veh/ln]	7.10	3.85	5.65	14.97		11.36	11.51	12.25
95th-Percentile Queue Length [ft/ln]	177.42	96.28	141.13	374.18		284.08	287.63	306.19

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	42.98	5.74	0.00	0.00	12.06	20.78	0.00	0.00	0.00	34.74	35.21	39.20
Movement LOS	D	A			B	C				C	D	D
d_A, Approach Delay [s/veh]	15.30			15.07			0.00			36.54		
Approach LOS	B			B			A			D		
d_I, Intersection Delay [s/veh]	20.41											
Intersection LOS	C											
Intersection V/C	0.793											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	36.45
l_p,int, Pedestrian LOS Score for Intersection	0.000	0.000	0.000	2.272
Crosswalk LOS	F	F	F	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1178	867	0	689
d_b, Bicycle Delay [s]	7.61	14.45	45.00	19.34
l_b,int, Bicycle LOS Score for Intersection	2.305	2.292	4.132	3.236
Bicycle LOS	B	B	D	C

Sequence

Ring 1	-	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 2: Riverside Ave / I-10 EB Ramps

Control Type:	Signalized	Delay (sec / veh):	20.6
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.726

Intersection Setup

Name	Riverside Ave			Riverside Ave			I-10 EB Ramps			I-10 EB Ramps		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	49.21
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No					
Crosswalk	No			No			No			Yes		

Volumes

Name	Riverside Ave			Riverside Ave			I-10 EB Ramps			I-10 EB Ramps		
Base Volume Input [veh/h]	0	950	425	422	1279	0	354	9	497	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0200	1.0200	1.0200	1.0200	1.0000	1.0200	1.0200	1.0200	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	969	434	430	1305	0	361	9	507	0	0	0
Peak Hour Factor	1.0000	0.9350	0.9350	0.9350	0.9350	1.0000	0.9350	0.9350	0.9350	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	259	116	115	349	0	97	2	136	0	0	0
Total Analysis Volume [veh/h]	0	1036	464	460	1396	0	386	10	542	0	0	0
Presence of On-Street Parking	No		No	No		No	No		No			
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	2	0	1	6	0	0	8	0	0	0	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	0	7	0	7	7	0	0	7	0	0	0	0
Maximum Green [s]	0	30	0	30	30	0	0	30	0	0	0	0
Amber [s]	0.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0
All red [s]	0.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0
Split [s]	0	34	0	21	55	0	0	35	0	0	0	0
Vehicle Extension [s]	0.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	0	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No				
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0
I2, Clearance Lost Time [s]	0.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0
Minimum Recall		No		No	No			No				
Maximum Recall		No		No	No			No				
Pedestrian Recall		No		No	No			No				
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	L	C	L	C	R	
C, Cycle Length [s]	90	90	90	90	90	90	90	
L, Total Lost Time per Cycle [s]	3.00	3.00	3.00	3.00	3.00	3.00	3.00	
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
l2, Clearance Lost Time [s]	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
g_i, Effective Green Time [s]	46	46	14	63	21	21	21	
g / C, Green / Cycle	0.51	0.51	0.16	0.70	0.23	0.23	0.23	
(v / s)_i Volume / Saturation Flow Rate	0.28	0.31	0.13	0.39	0.17	0.19	0.19	
s, saturation flow rate [veh/h]	3618	1633	3514	3618	1810	1663	1615	
c, Capacity [veh/h]	1849	834	552	2538	420	386	374	
d1, Uniform Delay [s]	14.87	15.51	36.79	6.53	32.16	32.68	32.87	
k, delay calibration	0.50	0.50	0.11	0.50	0.11	0.12	0.13	
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
d2, Incremental Delay [s]	1.14	3.17	3.37	0.86	2.75	4.39	5.52	
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	

Lane Group Results

X, volume / capacity	0.54	0.60	0.83	0.55	0.75	0.81	0.83	
d, Delay for Lane Group [s/veh]	16.01	18.68	40.16	7.39	34.92	37.06	38.39	
Lane Group LOS	B	B	D	A	C	D	D	
Critical Lane Group	No	Yes	Yes	No	No	No	Yes	
50th-Percentile Queue Length [veh/ln]	6.73	7.45	5.07	5.49	6.57	6.74	6.85	
50th-Percentile Queue Length [ft/ln]	168.23	186.19	126.85	137.26	164.25	168.48	171.26	
95th-Percentile Queue Length [veh/ln]	10.98	11.92	8.77	9.33	10.77	11.00	11.14	
95th-Percentile Queue Length [ft/ln]	274.59	298.09	219.21	233.32	269.34	274.91	278.58	

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	16.10	18.68	40.16	7.39	0.00	35.32	37.06	37.82	0.00	0.00	0.00
Movement LOS		B	B	D	A		D	D	D			
d_A, Approach Delay [s/veh]	16.90			15.51			36.78			0.00		
Approach LOS	B			B			D			A		
d_I, Intersection Delay [s/veh]	20.64											
Intersection LOS	C											
Intersection V/C	0.726											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	36.45
l_p,int, Pedestrian LOS Score for Intersection	0.000	0.000	0.000	2.172
Crosswalk LOS	F	F	F	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	689	1156	711	0
d_b, Bicycle Delay [s]	19.34	8.02	18.69	45.00
l_b,int, Bicycle LOS Score for Intersection	2.385	3.091	3.107	4.132
Bicycle LOS	B	C	C	D

Sequence

Ring 1	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 3: Riverside Ave / Slover Ave

Control Type:	Signalized	Delay (sec / veh):	21.3
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.907

Intersection Setup

Name	Riverside Ave			Riverside Ave			Slover Ave			Slover Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Riverside Ave			Riverside Ave			Slover Ave			Slover Ave		
Base Volume Input [veh/h]	74	1035	29	51	1313	438	256	20	75	31	17	34
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	75	1056	30	52	1339	447	261	20	77	32	17	35
Peak Hour Factor	0.9450	0.9450	0.9450	0.9450	0.9450	0.9450	0.9450	0.9450	0.9450	0.9450	0.9450	0.9450
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	20	279	8	14	354	118	69	5	20	8	4	9
Total Analysis Volume [veh/h]	79	1117	32	55	1417	473	276	21	81	34	18	37
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	5	2	0	1	6	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	7	7	0	7	7	0	0	7	0	0	7	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	10	47	0	21	58	0	0	22	0	0	22	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	C	L	C	C
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
g_i, Effective Green Time [s]	6	57	57	5	56	56	19	19	19	19	19	19
g / C, Green / Cycle	0.07	0.63	0.63	0.06	0.62	0.62	0.21	0.21	0.21	0.21	0.21	0.21
(v / s)_i Volume / Saturation Flow Rate	0.04	0.30	0.30	0.03	0.50	0.54	0.20	0.01	0.05	0.03	0.01	0.02
s, saturation flow rate [veh/h]	1810	1900	1881	1810	1900	1746	1370	1900	1615	1313	1900	1615
c, Capacity [veh/h]	122	1194	1183	109	1181	1085	313	401	341	273	401	341
d1, Uniform Delay [s]	40.95	8.92	8.92	40.98	12.81	14.04	38.51	28.32	29.48	33.59	28.27	28.66
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.17	0.11	0.11	0.11	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	5.74	1.40	1.42	3.56	5.73	9.58	12.05	0.05	0.36	0.20	0.05	0.14
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, 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
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.65	0.48	0.48	0.50	0.80	0.87	0.88	0.05	0.24	0.12	0.04	0.11
d, Delay for Lane Group [s/veh]	46.68	10.32	10.34	44.54	18.54	23.61	50.57	28.37	29.84	33.79	28.32	28.80
Lane Group LOS	D	B	B	D	B	C	D	C	C	C	C	C
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No	No	No	No	No
50th-Percentile Queue Length [veh/ln]	1.88	5.75	5.70	1.28	14.24	16.42	7.15	0.36	1.47	0.66	0.31	0.65
50th-Percentile Queue Length [ft/ln]	47.05	143.71	142.56	31.96	355.89	410.54	178.84	9.09	36.74	16.47	7.78	16.27
95th-Percentile Queue Length [veh/ln]	3.39	9.68	9.62	2.30	20.42	23.07	11.54	0.65	2.65	1.19	0.56	1.17
95th-Percentile Queue Length [ft/ln]	84.69	242.01	240.46	57.53	510.59	576.68	288.50	16.36	66.13	29.64	14.00	29.28

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	46.68	10.33	10.34	44.54	20.23	23.61	50.57	28.37	29.84	33.79	28.32	28.80
Movement LOS	D	B	B	D	C	C	D	C	C	C	C	C
d_A, Approach Delay [s/veh]	12.67			21.74			44.89			30.61		
Approach LOS	B			C			D			C		
d_I, Intersection Delay [s/veh]	21.30											
Intersection LOS	C											
Intersection V/C	0.907											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	36.45	36.45	36.45	36.45
l_p,int, Pedestrian LOS Score for Intersection	2.951	3.395	2.486	2.340
Crosswalk LOS	C	C	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	978	1222	422	422
d_b, Bicycle Delay [s]	11.76	6.81	28.01	28.01
l_b,int, Bicycle LOS Score for Intersection	2.573	3.164	1.871	1.633
Bicycle LOS	B	C	A	A

Sequence

Ring 1	1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 4: Riverside Ave / Santa Ana Ave

Control Type:	Signalized	Delay (sec / veh):	14.8
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.655

Intersection Setup

Name	Riverside Ave			Riverside Ave			Santa Ana Ave			Santa Ana Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			No			No			Yes		

Volumes

Name	Riverside Ave			Riverside Ave			Santa Ana Ave			Santa Ana Ave		
Base Volume Input [veh/h]	72	994	58	79	1244	126	92	29	64	39	39	73
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	73	1014	59	81	1269	129	94	30	65	40	40	74
Peak Hour Factor	0.9280	0.9280	0.9280	0.9280	0.9280	0.9280	0.9280	0.9280	0.9280	0.9280	0.9280	0.9280
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	20	273	16	22	342	35	25	8	18	11	11	20
Total Analysis Volume [veh/h]	79	1093	64	87	1367	139	101	32	70	43	43	80
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	5	2	0	1	6	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	7	7	0	7	7	0	0	7	0	0	7	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	10	51	0	21	62	0	0	18	0	0	18	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	C	R	L	C	R
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
g_i, Effective Green Time [s]	6	60	60	6	60	60	15	15	15	15	15
g / C, Green / Cycle	0.07	0.66	0.66	0.07	0.67	0.67	0.17	0.17	0.17	0.17	0.17
(v / s)_i Volume / Saturation Flow Rate	0.04	0.31	0.31	0.05	0.40	0.41	0.12	0.04	0.03	0.02	0.05
s, saturation flow rate [veh/h]	1810	1900	1863	1810	1900	1839	1121	1615	1313	1900	1615
c, Capacity [veh/h]	122	1259	1235	128	1267	1226	257	268	106	316	268
d1, Uniform Delay [s]	40.95	7.39	7.39	40.80	8.34	8.41	37.04	32.70	44.46	32.01	32.91
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	5.74	1.23	1.26	6.10	2.11	2.25	1.62	0.51	2.48	0.19	0.61
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.65	0.46	0.46	0.68	0.60	0.61	0.52	0.26	0.41	0.14	0.30
d, Delay for Lane Group [s/veh]	46.68	8.62	8.65	46.90	10.45	10.66	38.65	33.21	46.95	32.20	33.52
Lane Group LOS	D	A	A	D	B	B	D	C	D	C	C
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No	No	No	No
50th-Percentile Queue Length [veh/ln]	1.88	5.09	5.01	2.08	7.65	7.61	2.87	1.35	1.02	0.81	1.56
50th-Percentile Queue Length [ft/ln]	47.05	127.16	125.17	51.97	191.37	190.16	71.87	33.79	25.60	20.17	38.92
95th-Percentile Queue Length [veh/ln]	3.39	8.79	8.68	3.74	12.19	12.13	5.17	2.43	1.84	1.45	2.80
95th-Percentile Queue Length [ft/ln]	84.69	219.63	216.92	93.55	304.81	303.23	129.37	60.83	46.08	36.31	70.06

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	46.68	8.63	8.65	46.90	10.54	10.66	38.65	38.65	33.21	46.95	32.20	33.52
Movement LOS	D	A	A	D	B	B	D	D	C	D	C	C
d_A, Approach Delay [s/veh]	11.06			12.54			36.78			36.66		
Approach LOS	B			B			D			D		
d_I, Intersection Delay [s/veh]	14.76											
Intersection LOS	B											
Intersection V/C	0.655											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	0.0	0.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	36.45	0.00	0.00	36.45
l_p,int, Pedestrian LOS Score for Intersection	2.957	0.000	0.000	2.218
Crosswalk LOS	C	F	F	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1067	1311	333	333
d_b, Bicycle Delay [s]	9.80	5.34	31.25	31.25
l_b,int, Bicycle LOS Score for Intersection	2.579	2.874	1.895	1.834
Bicycle LOS	B	C	A	A

Sequence

Ring 1	1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 5: Riverside Ave / Jurupa Ave

Control Type:	Signalized	Delay (sec / veh):	8.5
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.555

Intersection Setup

Name	Riverside Ave		Riverside Ave		Jurupa Ave	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		No		Yes	

Volumes

Name	Riverside Ave		Riverside Ave		Jurupa Ave	
Base Volume Input [veh/h]	105	1016	1161	53	40	113
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Proportion of CAVs [%]	0.00					
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	107	1036	1184	54	41	115
Peak Hour Factor	0.9520	0.9520	0.9520	0.9520	0.9520	0.9520
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	28	272	311	14	11	30
Total Analysis Volume [veh/h]	112	1088	1244	57	43	121
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Protected	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	5	2	6	0	3	0
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	Lead	-
Minimum Green [s]	7	7	7	0	7	0
Maximum Green [s]	30	30	30	0	30	0
Amber [s]	2.0	2.0	2.0	0.0	2.0	0.0
All red [s]	1.0	1.0	1.0	0.0	1.0	0.0
Split [s]	19	70	51	0	20	0
Vehicle Extension [s]	3.0	3.0	3.0	0.0	3.0	0.0
Walk [s]	0	5	5	0	5	0
Pedestrian Clearance [s]	0	10	10	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No	No		No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	1.0	1.0	1.0	0.0	1.0	0.0
Minimum Recall	No	No	No		No	
Maximum Recall	No	No	No		No	
Pedestrian Recall	No	No	No		No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	R	L	R
C, Cycle Length [s]	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	3.00	3.00	3.00	3.00	3.00	3.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	1.00	1.00	1.00	1.00	1.00	1.00
g_i, Effective Green Time [s]	7	75	65	65	9	9
g / C, Green / Cycle	0.08	0.84	0.72	0.72	0.10	0.10
(v / s)_i Volume / Saturation Flow Rate	0.06	0.30	0.34	0.04	0.02	0.07
s, saturation flow rate [veh/h]	1810	3618	3618	1615	1810	1615
c, Capacity [veh/h]	145	3025	2614	1167	176	157
d1, Uniform Delay [s]	40.58	1.73	5.28	3.59	37.57	39.65
k, delay calibration	0.11	0.50	0.50	0.50	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	8.35	0.33	0.62	0.08	0.71	7.74
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.77	0.36	0.48	0.05	0.24	0.77
d, Delay for Lane Group [s/veh]	48.93	2.06	5.90	3.67	38.28	47.39
Lane Group LOS	D	A	A	A	D	D
Critical Lane Group	Yes	No	Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	2.74	1.07	4.04	0.26	0.90	2.91
50th-Percentile Queue Length [ft/ln]	68.48	26.87	101.09	6.59	22.56	72.85
95th-Percentile Queue Length [veh/ln]	4.93	1.93	7.28	0.47	1.62	5.25
95th-Percentile Queue Length [ft/ln]	123.27	48.36	181.97	11.86	40.61	131.13

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	48.93	2.06	5.90	3.67	38.28	47.39
Movement LOS	D	A	A	A	D	D
d_A, Approach Delay [s/veh]	6.44		5.81		45.00	
Approach LOS	A		A		D	
d_I, Intersection Delay [s/veh]	8.50					
Intersection LOS	A					
Intersection V/C	0.555					

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	0.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	36.45	0.00	36.45
l_p,int, Pedestrian LOS Score for Intersection	2.871	0.000	2.050
Crosswalk LOS	C	F	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1489	1067	378
d_b, Bicycle Delay [s]	2.94	9.80	29.61
l_b,int, Bicycle LOS Score for Intersection	2.550	2.633	1.560
Bicycle LOS	B	B	A

Sequence

Ring 1	-	2	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Riverside Ave / I-10 WB Ramps	Signalized	HCM 7th Edition	NB Left	0.737	20.3	C
2	Riverside Ave / I-10 EB Ramps	Signalized	HCM 7th Edition	EB Right	0.951	28.2	C
3	Riverside Ave / Slover Ave	Signalized	HCM 7th Edition	EB Left	1.099	46.8	D
4	Riverside Ave / Santa Ana Ave	Signalized	HCM 7th Edition	NB Left	0.770	15.9	B
5	Riverside Ave / Jurupa Ave	Signalized	HCM 7th Edition	NB Left	0.807	11.7	B

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 1: Riverside Ave / I-10 WB Ramps

Control Type:	Signalized	Delay (sec / veh):	20.3
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.737

Intersection Setup

Name	Riverside Ave			Riverside Ave			I-10 WB Ramps			I-10 WB Ramps		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	49.21	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No						No		
Crosswalk	No			No			No			Yes		

Volumes

Name	Riverside Ave			Riverside Ave			I-10 WB Ramps			I-10 WB Ramps		
Base Volume Input [veh/h]	362	1663	0	0	1269	426	0	0	0	609	2	570
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0200	1.0200	1.0000	1.0000	1.0200	1.0200	1.0000	1.0000	1.0000	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	369	1696	0	0	1294	435	0	0	0	621	2	581
Peak Hour Factor	0.9750	0.9750	1.0000	1.0000	0.9750	0.9750	1.0000	1.0000	1.0000	0.9750	0.9750	0.9750
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	95	435	0	0	332	112	0	0	0	159	1	149
Total Analysis Volume [veh/h]	378	1739	0	0	1327	446	0	0	0	637	2	596
Presence of On-Street Parking	No		No	No		No				No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	5	2	0	0	6	0	0	0	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	7	7	0	0	7	0	0	0	0	0	7	0
Maximum Green [s]	30	30	0	0	30	0	0	0	0	0	30	0
Amber [s]	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0
All red [s]	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0
Split [s]	15	47	0	0	32	0	0	0	0	0	43	0
Vehicle Extension [s]	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	0	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	0	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No						No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0
Minimum Recall	No	No			No						No	
Maximum Recall	No	No			No						No	
Pedestrian Recall	No	No			No						No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	R		L	C	R
C, Cycle Length [s]	90	90	90	90		90	90	90
L, Total Lost Time per Cycle [s]	3.00	3.00	3.00	3.00		3.00	3.00	3.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00		0.00	0.00	0.00
l2, Clearance Lost Time [s]	1.00	1.00	1.00	1.00		1.00	1.00	1.00
g_i, Effective Green Time [s]	12	57	43	43		27	27	27
g / C, Green / Cycle	0.13	0.63	0.47	0.47		0.30	0.30	0.30
(v / s)_i Volume / Saturation Flow Rate	0.11	0.34	0.19	0.28		0.23	0.24	0.25
s, saturation flow rate [veh/h]	3514	5176	6901	1615		1810	1717	1615
c, Capacity [veh/h]	451	3280	3258	763		542	514	484
d1, Uniform Delay [s]	38.32	9.09	15.52	17.32		28.58	29.04	29.63
k, delay calibration	0.11	0.50	0.50	0.50		0.11	0.13	0.15
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00		1.00	1.00	1.00
d2, Incremental Delay [s]	4.24	0.62	0.38	3.27		2.22	3.47	6.02
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00		0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00		1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00		1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.84	0.53	0.41	0.58		0.76	0.80	0.85
d, Delay for Lane Group [s/veh]	42.56	9.71	15.90	20.59		30.79	32.50	35.65
Lane Group LOS	D	A	B	C		C	C	D
Critical Lane Group	Yes	No	No	Yes		No	No	Yes
50th-Percentile Queue Length [veh/ln]	4.27	5.65	4.32	7.04		8.13	8.42	8.90
50th-Percentile Queue Length [ft/ln]	106.76	141.35	107.91	175.97		203.34	210.52	222.41
95th-Percentile Queue Length [veh/ln]	7.66	9.55	7.72	11.39		12.81	13.18	13.79
95th-Percentile Queue Length [ft/ln]	191.49	238.85	193.09	284.75		320.28	329.49	344.69

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	42.56	9.71	0.00	0.00	15.90	20.59	0.00	0.00	0.00	31.40	32.50	34.68
Movement LOS	D	A			B	C				C	C	C
d_A, Approach Delay [s/veh]	15.58			17.08			0.00			32.98		
Approach LOS	B			B			A			C		
d_I, Intersection Delay [s/veh]	20.29											
Intersection LOS	C											
Intersection V/C	0.737											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	36.45
l_p,int, Pedestrian LOS Score for Intersection	0.000	0.000	0.000	2.343
Crosswalk LOS	F	F	F	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	978	644	0	889
d_b, Bicycle Delay [s]	11.76	20.67	45.00	13.89
l_b,int, Bicycle LOS Score for Intersection	2.724	2.291	4.132	3.597
Bicycle LOS	B	B	D	D

Sequence

Ring 1	-	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 2: Riverside Ave / I-10 EB Ramps

Control Type:	Signalized	Delay (sec / veh):	28.2
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.951

Intersection Setup

Name	Riverside Ave			Riverside Ave			I-10 EB Ramps			I-10 EB Ramps		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	49.21
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No					
Crosswalk	No			No			No			Yes		

Volumes

Name	Riverside Ave			Riverside Ave			I-10 EB Ramps			I-10 EB Ramps		
Base Volume Input [veh/h]	0	1397	657	487	1415	0	627	0	469	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0200	1.0200	1.0200	1.0200	1.0000	1.0200	1.0200	1.0200	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	1425	670	497	1443	0	640	0	478	0	0	0
Peak Hour Factor	1.0000	0.9730	0.9730	0.9730	0.9730	1.0000	0.9730	0.9730	0.9730	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	366	172	128	371	0	164	0	123	0	0	0
Total Analysis Volume [veh/h]	0	1465	689	511	1483	0	658	0	491	0	0	0
Presence of On-Street Parking	No		No	No		No	No		No			
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	2	0	1	6	0	0	8	0	0	0	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	0	7	0	7	7	0	0	7	0	0	0	0
Maximum Green [s]	0	30	0	30	30	0	0	30	0	0	0	0
Amber [s]	0.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0
All red [s]	0.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0
Split [s]	0	45	0	18	63	0	0	27	0	0	0	0
Vehicle Extension [s]	0.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	0	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No				
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0
I2, Clearance Lost Time [s]	0.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0
Minimum Recall		No		No	No			No				
Maximum Recall		No		No	No			No				
Pedestrian Recall		No		No	No			No				
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	L	C	L	C	R	
C, Cycle Length [s]	90	90	90	90	90	90	90	
L, Total Lost Time per Cycle [s]	3.00	3.00	3.00	3.00	3.00	3.00	3.00	
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
l2, Clearance Lost Time [s]	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
g_i, Effective Green Time [s]	43	43	15	61	23	23	23	
g / C, Green / Cycle	0.48	0.48	0.16	0.67	0.26	0.26	0.26	
(v / s)_i Volume / Saturation Flow Rate	0.40	0.44	0.15	0.41	0.21	0.22	0.24	
s, saturation flow rate [veh/h]	3618	1625	3514	3618	1810	1750	1615	
c, Capacity [veh/h]	1717	771	580	2435	471	455	420	
d1, Uniform Delay [s]	20.60	22.25	36.70	8.15	31.24	31.53	32.29	
k, delay calibration	0.50	0.50	0.11	0.50	0.20	0.21	0.26	
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
d2, Incremental Delay [s]	5.02	19.39	4.55	1.14	6.14	8.05	16.07	
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	

Lane Group Results

X, volume / capacity	0.84	0.93	0.88	0.61	0.81	0.84	0.91	
d, Delay for Lane Group [s/veh]	25.61	41.65	41.24	9.29	37.39	39.58	48.36	
Lane Group LOS	C	D	D	A	D	D	D	
Critical Lane Group	No	Yes	Yes	No	No	No	Yes	
50th-Percentile Queue Length [veh/ln]	13.37	17.31	5.75	7.01	8.40	8.68	9.72	
50th-Percentile Queue Length [ft/ln]	334.29	432.74	143.64	175.18	209.93	217.05	243.08	
95th-Percentile Queue Length [veh/ln]	19.37	24.13	9.68	11.35	13.15	13.51	14.84	
95th-Percentile Queue Length [ft/ln]	484.21	603.32	241.91	283.72	328.74	337.86	370.93	

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	25.93	41.65	41.24	9.29	0.00	38.30	39.58	46.43	0.00	0.00	0.00
Movement LOS		C	D	D	A		D	D	D			
d_A, Approach Delay [s/veh]	30.96			17.48			41.78			0.00		
Approach LOS	C			B			D			A		
d_I, Intersection Delay [s/veh]	28.23											
Intersection LOS	C											
Intersection V/C	0.951											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	36.45
l_p,int, Pedestrian LOS Score for Intersection	0.000	0.000	0.000	2.301
Crosswalk LOS	F	F	F	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	933	1333	533	0
d_b, Bicycle Delay [s]	12.80	5.00	24.20	45.00
l_b,int, Bicycle LOS Score for Intersection	2.744	3.205	3.455	4.132
Bicycle LOS	B	C	C	D

Sequence

Ring 1	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 3: Riverside Ave / Slover Ave

Control Type:	Signalized	Delay (sec / veh):	46.8
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.099

Intersection Setup

Name	Riverside Ave			Riverside Ave			Slover Ave			Slover Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Riverside Ave			Riverside Ave			Slover Ave			Slover Ave		
Base Volume Input [veh/h]	36	1475	22	27	1548	304	441	124	158	35	32	78
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	37	1505	22	28	1579	310	450	126	161	36	33	80
Peak Hour Factor	0.9390	0.9390	0.9390	0.9390	0.9390	0.9390	0.9390	0.9390	0.9390	0.9390	0.9390	0.9390
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	10	401	6	7	420	83	120	34	43	10	9	21
Total Analysis Volume [veh/h]	39	1603	23	30	1682	330	479	134	171	38	35	85
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	5	2	0	1	6	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	7	7	0	7	7	0	0	7	0	0	7	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	10	42	0	20	52	0	0	28	0	0	28	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	C	L	C	C
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
g_i, Effective Green Time [s]	4	52	52	4	52	52	25	25	25	25	25	25
g / C, Green / Cycle	0.05	0.58	0.58	0.04	0.57	0.57	0.28	0.28	0.28	0.28	0.28	0.28
(v / s)_i Volume / Saturation Flow Rate	0.02	0.43	0.43	0.02	0.53	0.56	0.37	0.07	0.11	0.03	0.02	0.05
s, saturation flow rate [veh/h]	1810	1900	1891	1810	1900	1796	1292	1900	1615	1091	1900	1615
c, Capacity [veh/h]	88	1102	1097	76	1090	1030	358	528	449	266	528	449
d1, Uniform Delay [s]	41.62	13.89	13.91	41.98	17.39	18.60	37.47	25.25	26.25	32.11	23.91	24.78
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.50	0.11	0.11	0.11	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.46	4.45	4.51	3.26	14.10	22.94	169.39	0.25	0.53	0.24	0.05	0.20
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, 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
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.44	0.74	0.74	0.39	0.92	0.98	1.34	0.25	0.38	0.14	0.07	0.19
d, Delay for Lane Group [s/veh]	45.09	18.33	18.42	45.24	31.49	41.54	206.86	25.50	26.78	32.36	23.97	24.98
Lane Group LOS	D	B	B	D	C	D	F	C	C	C	C	C
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No	No	No	No	No
50th-Percentile Queue Length [veh/ln]	0.92	12.19	12.19	0.71	20.89	24.34	24.78	2.22	2.97	0.72	0.55	1.39
50th-Percentile Queue Length [ft/ln]	22.95	304.64	304.79	17.80	522.21	608.59	619.62	55.60	74.20	18.03	13.72	34.66
95th-Percentile Queue Length [veh/ln]	1.65	17.91	17.92	1.28	28.38	32.44	38.33	4.00	5.34	1.30	0.99	2.50
95th-Percentile Queue Length [ft/ln]	41.30	447.77	447.95	32.04	709.59	810.88	958.19	100.08	133.56	32.46	24.69	62.39

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	45.09	18.38	18.42	45.24	35.53	41.54	206.86	25.50	26.78	32.36	23.97	24.98
Movement LOS	D	B	B	D	D	D	F	C	C	C	C	C
d_A, Approach Delay [s/veh]	19.00			36.64			136.59			26.53		
Approach LOS	B			D			F			C		
d_I, Intersection Delay [s/veh]	46.84											
Intersection LOS	D											
Intersection V/C	1.099											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	36.45	36.45	36.45	36.45
l_p,int, Pedestrian LOS Score for Intersection	3.086	3.820	2.533	2.369
Crosswalk LOS	C	D	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	867	1089	556	556
d_b, Bicycle Delay [s]	14.45	9.34	23.47	23.47
l_b,int, Bicycle LOS Score for Intersection	2.933	3.244	2.206	1.690
Bicycle LOS	C	C	B	A

Sequence

Ring 1	1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 4: Riverside Ave / Santa Ana Ave

Control Type:	Signalized	Delay (sec / veh):	15.9
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.770

Intersection Setup

Name	Riverside Ave			Riverside Ave			Santa Ana Ave			Santa Ana Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			No			No			Yes		

Volumes

Name	Riverside Ave			Riverside Ave			Santa Ana Ave			Santa Ana Ave		
Base Volume Input [veh/h]	91	1321	18	48	1594	81	114	15	99	41	19	67
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	93	1347	18	49	1626	83	116	15	101	42	19	68
Peak Hour Factor	0.9340	0.9340	0.9340	0.9340	0.9340	0.9340	0.9340	0.9340	0.9340	0.9340	0.9340	0.9340
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	25	361	5	13	435	22	31	4	27	11	5	18
Total Analysis Volume [veh/h]	100	1442	19	52	1741	89	124	16	108	45	20	73
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	5	2	0	1	6	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	7	7	0	7	7	0	0	7	0	0	7	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	12	62	0	10	60	0	0	18	0	0	18	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	C	R	L	C	R
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
g_i, Effective Green Time [s]	7	61	61	5	60	60	15	15	15	15	15
g / C, Green / Cycle	0.07	0.68	0.68	0.06	0.66	0.66	0.17	0.17	0.17	0.17	0.17
(v / s)_i Volume / Saturation Flow Rate	0.06	0.39	0.39	0.03	0.48	0.49	0.12	0.07	0.03	0.01	0.05
s, saturation flow rate [veh/h]	1810	1900	1891	1810	1900	1868	1138	1615	1287	1900	1615
c, Capacity [veh/h]	132	1285	1279	105	1256	1235	264	267	106	315	267
d1, Uniform Delay [s]	40.92	7.66	7.67	41.12	9.97	10.12	37.19	33.57	44.48	31.66	32.81
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	8.42	1.83	1.85	3.60	3.74	4.01	1.65	0.98	2.69	0.08	0.54
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.76	0.57	0.57	0.50	0.73	0.74	0.53	0.40	0.43	0.06	0.27
d, Delay for Lane Group [s/veh]	49.33	9.49	9.52	44.72	13.72	14.13	38.84	34.55	47.17	31.74	33.36
Lane Group LOS	D	A	A	D	B	B	D	C	D	C	C
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No	No	No	No
50th-Percentile Queue Length [veh/ln]	2.46	6.84	6.83	1.21	11.17	11.36	3.03	2.15	1.07	0.37	1.41
50th-Percentile Queue Length [ft/ln]	61.48	171.03	170.80	30.30	279.24	283.93	75.79	53.80	26.86	9.26	35.34
95th-Percentile Queue Length [veh/ln]	4.43	11.13	11.12	2.18	16.65	16.88	5.46	3.87	1.93	0.67	2.54
95th-Percentile Queue Length [ft/ln]	110.66	278.26	277.97	54.55	416.26	422.11	136.42	96.83	48.34	16.67	63.62

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	49.33	9.50	9.52	44.72	13.91	14.13	38.84	38.84	34.55	47.17	31.74	33.36
Movement LOS	D	A	A	D	B	B	D	D	C	D	C	C
d_A, Approach Delay [s/veh]	12.06			14.77			36.97			37.63		
Approach LOS	B			B			D			D		
d_I, Intersection Delay [s/veh]	15.93											
Intersection LOS	B											
Intersection V/C	0.770											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	0.0	0.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	36.45	0.00	0.00	36.45
l_p,int, Pedestrian LOS Score for Intersection	3.080	0.000	0.000	2.187
Crosswalk LOS	C	F	F	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1311	1267	333	333
d_b, Bicycle Delay [s]	5.34	6.05	31.25	31.25
l_b,int, Bicycle LOS Score for Intersection	2.847	3.112	1.969	1.787
Bicycle LOS	C	C	A	A

Sequence

Ring 1	1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 5: Riverside Ave / Jurupa Ave

Control Type:	Signalized	Delay (sec / veh):	11.7
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.807

Intersection Setup

Name	Riverside Ave		Riverside Ave		Jurupa Ave	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		No		Yes	

Volumes

Name	Riverside Ave		Riverside Ave		Jurupa Ave	
Base Volume Input [veh/h]	106	1280	1664	48	32	165
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Proportion of CAVs [%]	0.00					
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	108	1306	1697	49	33	168
Peak Hour Factor	0.9050	0.9050	0.9050	0.9050	0.9050	0.9050
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	30	361	469	14	9	46
Total Analysis Volume [veh/h]	119	1443	1875	54	36	186
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Protected	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	5	2	6	0	3	0
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	Lead	-
Minimum Green [s]	7	7	7	0	7	0
Maximum Green [s]	30	30	30	0	30	0
Amber [s]	2.0	2.0	2.0	0.0	2.0	0.0
All red [s]	1.0	1.0	1.0	0.0	1.0	0.0
Split [s]	10	72	62	0	18	0
Vehicle Extension [s]	3.0	3.0	3.0	0.0	3.0	0.0
Walk [s]	0	5	5	0	5	0
Pedestrian Clearance [s]	0	10	10	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No	No		No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	1.0	1.0	1.0	0.0	1.0	0.0
Minimum Recall	No	No	No		No	
Maximum Recall	No	No	No		No	
Pedestrian Recall	No	No	No		No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	R	L	R
C, Cycle Length [s]	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	3.00	3.00	3.00	3.00	3.00	3.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	1.00	1.00	1.00	1.00	1.00	1.00
g_i, Effective Green Time [s]	7	72	62	62	12	12
g / C, Green / Cycle	0.08	0.80	0.69	0.69	0.14	0.14
(v / s)_i Volume / Saturation Flow Rate	0.07	0.40	0.52	0.03	0.02	0.12
s, saturation flow rate [veh/h]	1810	3618	3618	1615	1810	1615
c, Capacity [veh/h]	141	2881	2479	1107	248	221
d1, Uniform Delay [s]	40.97	3.11	9.26	4.61	34.19	37.87
k, delay calibration	0.11	0.50	0.50	0.50	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	12.78	0.63	2.21	0.08	0.27	8.29
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.85	0.50	0.76	0.05	0.15	0.84
d, Delay for Lane Group [s/veh]	53.74	3.73	11.47	4.70	34.46	46.17
Lane Group LOS	D	A	B	A	C	D
Critical Lane Group	Yes	No	Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	3.07	2.88	10.43	0.30	0.71	4.44
50th-Percentile Queue Length [ft/ln]	76.72	72.05	260.87	7.58	17.64	111.05
95th-Percentile Queue Length [veh/ln]	5.52	5.19	15.73	0.55	1.27	7.90
95th-Percentile Queue Length [ft/ln]	138.10	129.70	393.32	13.65	31.74	197.46

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	53.74	3.73	11.47	4.70	34.46	46.17
Movement LOS	D	A	B	A	C	D
d_A, Approach Delay [s/veh]	7.54		11.28		44.27	
Approach LOS	A		B		D	
d_I, Intersection Delay [s/veh]	11.68					
Intersection LOS	B					
Intersection V/C	0.807					

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	0.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	36.45	0.00	36.45
l_p,int, Pedestrian LOS Score for Intersection	3.043	0.000	2.070
Crosswalk LOS	C	F	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1533	1311	333
d_b, Bicycle Delay [s]	2.45	5.34	31.25
l_b,int, Bicycle LOS Score for Intersection	2.848	3.151	1.560
Bicycle LOS	C	C	A

Sequence

Ring 1	-	2	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

APPENDIX D-3

INTERSECTION ANALYSIS
WORKSHEETS – OPENING YEAR 2024
PLUS PROJECT

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Riverside Ave / I-10 WB Ramps	Signalized	HCM 7th Edition	NB Left	0.810	21.2	C
2	Riverside Ave / I-10 EB Ramps	Signalized	HCM 7th Edition	SB Left	0.753	21.1	C
3	Riverside Ave / Slover Ave	Signalized	HCM 7th Edition	EB Left	0.924	22.1	C
4	Riverside Ave / Santa Ana Ave	Signalized	HCM 7th Edition	WB Left	0.664	16.4	B
5	Riverside Ave / Jurupa Ave	Signalized	HCM 7th Edition	NB Left	0.555	8.5	A
6	Santa Ana Ave / West Dwy	Two-way stop	HCM 7th Edition	NB Left	0.129	11.8	B

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 1: Riverside Ave / I-10 WB Ramps

Control Type:	Signalized	Delay (sec / veh):	21.2
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.810

Intersection Setup

Name	Riverside Ave			Riverside Ave			I-10 WB Ramps			I-10 WB Ramps		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	49.21	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No						No		
Crosswalk	No			No			No			Yes		

Volumes

Name	Riverside Ave			Riverside Ave			I-10 WB Ramps			I-10 WB Ramps		
Base Volume Input [veh/h]	335	970	0	0	1121	588	0	0	0	577	6	395
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0200	1.0200	1.0000	1.0000	1.0200	1.0200	1.0000	1.0000	1.0000	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	35	1	0	0	1	0	0	0	0	24	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	377	990	0	0	1144	600	0	0	0	613	6	403
Peak Hour Factor	0.9820	0.9820	1.0000	1.0000	0.9820	0.9820	1.0000	1.0000	1.0000	0.9820	0.9820	0.9820
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	96	252	0	0	291	153	0	0	0	156	2	103
Total Analysis Volume [veh/h]	384	1008	0	0	1165	611	0	0	0	624	6	410
Presence of On-Street Parking	No		No	No		No				No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	5	2	0	0	6	0	0	0	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	7	7	0	0	7	0	0	0	0	0	7	0
Maximum Green [s]	30	30	0	0	30	0	0	0	0	0	30	0
Amber [s]	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0
All red [s]	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0
Split [s]	14	56	0	0	42	0	0	0	0	0	34	0
Vehicle Extension [s]	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	0	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	0	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No						No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0
Minimum Recall	No	No			No						No	
Maximum Recall	No	No			No						No	
Pedestrian Recall	No	No			No						No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	R		L	C	R
C, Cycle Length [s]	90	90	90	90		90	90	90
L, Total Lost Time per Cycle [s]	3.00	3.00	3.00	3.00		3.00	3.00	3.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00		0.00	0.00	0.00
l2, Clearance Lost Time [s]	1.00	1.00	1.00	1.00		1.00	1.00	1.00
g_i, Effective Green Time [s]	11	61	47	47		23	23	23
g / C, Green / Cycle	0.12	0.68	0.53	0.53		0.25	0.25	0.25
(v / s)_i Volume / Saturation Flow Rate	0.11	0.19	0.17	0.38		0.19	0.20	0.21
s, saturation flow rate [veh/h]	3514	5176	6901	1615		1810	1772	1615
c, Capacity [veh/h]	430	3521	3621	847		458	448	409
d1, Uniform Delay [s]	38.93	5.71	12.23	16.35		31.06	31.21	31.97
k, delay calibration	0.11	0.50	0.50	0.50		0.14	0.15	0.19
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00		1.00	1.00	1.00
d2, Incremental Delay [s]	6.70	0.20	0.24	5.27		3.29	3.89	8.31
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00		0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00		1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00		1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.89	0.29	0.32	0.72		0.76	0.77	0.85
d, Delay for Lane Group [s/veh]	45.63	5.92	12.46	21.62		34.35	35.10	40.28
Lane Group LOS	D	A	B	C		C	D	D
Critical Lane Group	Yes	No	No	Yes		No	No	Yes
50th-Percentile Queue Length [veh/ln]	4.51	2.19	3.21	10.07		7.19	7.29	7.92
50th-Percentile Queue Length [ft/ln]	112.71	54.85	80.21	251.82		179.86	182.34	197.96
95th-Percentile Queue Length [veh/ln]	7.99	3.95	5.77	15.28		11.59	11.72	12.53
95th-Percentile Queue Length [ft/ln]	199.76	98.73	144.37	381.94		289.83	293.07	313.33

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	45.63	5.92	0.00	0.00	12.46	21.62	0.00	0.00	0.00	34.68	35.10	39.48
Movement LOS	D	A			B	C				C	D	D
d_A, Approach Delay [s/veh]	16.87			15.61			0.00			36.58		
Approach LOS	B			B			A			D		
d_I, Intersection Delay [s/veh]	21.21											
Intersection LOS	C											
Intersection V/C	0.810											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	36.45
l_p,int, Pedestrian LOS Score for Intersection	0.000	0.000	0.000	2.280
Crosswalk LOS	F	F	F	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1178	867	0	689
d_b, Bicycle Delay [s]	7.61	14.45	45.00	19.34
l_b,int, Bicycle LOS Score for Intersection	2.325	2.292	4.132	3.276
Bicycle LOS	B	B	D	C

Sequence

Ring 1	-	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 2: Riverside Ave / I-10 EB Ramps

Control Type:	Signalized	Delay (sec / veh):	21.1
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.753

Intersection Setup

Name	Riverside Ave			Riverside Ave			I-10 EB Ramps			I-10 EB Ramps		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	49.21
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No					
Crosswalk	No			No			No			Yes		

Volumes

Name	Riverside Ave			Riverside Ave			I-10 EB Ramps			I-10 EB Ramps		
Base Volume Input [veh/h]	0	950	425	422	1279	0	354	9	497	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0200	1.0200	1.0200	1.0200	1.0000	1.0200	1.0200	1.0200	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	36	34	0	25	0	0	0	23	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	1005	468	430	1330	0	361	9	530	0	0	0
Peak Hour Factor	1.0000	0.9350	0.9350	0.9350	0.9350	1.0000	0.9350	0.9350	0.9350	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	269	125	115	356	0	97	2	142	0	0	0
Total Analysis Volume [veh/h]	0	1075	501	460	1422	0	386	10	567	0	0	0
Presence of On-Street Parking	No		No	No		No	No		No			
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	2	0	1	6	0	0	8	0	0	0	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	0	7	0	7	7	0	0	7	0	0	0	0
Maximum Green [s]	0	30	0	30	30	0	0	30	0	0	0	0
Amber [s]	0.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0
All red [s]	0.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0
Split [s]	0	34	0	21	55	0	0	35	0	0	0	0
Vehicle Extension [s]	0.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	0	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No				
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0
I2, Clearance Lost Time [s]	0.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0
Minimum Recall		No		No	No			No				
Maximum Recall		No		No	No			No				
Pedestrian Recall		No		No	No			No				
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	L	C	L	C	R	
C, Cycle Length [s]	90	90	90	90	90	90	90	
L, Total Lost Time per Cycle [s]	3.00	3.00	3.00	3.00	3.00	3.00	3.00	
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
l2, Clearance Lost Time [s]	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
g_i, Effective Green Time [s]	46	46	14	63	21	21	21	
g / C, Green / Cycle	0.51	0.51	0.16	0.70	0.24	0.24	0.24	
(v / s)_i Volume / Saturation Flow Rate	0.29	0.32	0.13	0.39	0.18	0.19	0.20	
s, saturation flow rate [veh/h]	3618	1626	3514	3618	1810	1658	1615	
c, Capacity [veh/h]	1826	821	552	2515	431	395	384	
d1, Uniform Delay [s]	15.55	16.30	36.79	6.88	31.78	32.39	32.59	
k, delay calibration	0.50	0.50	0.11	0.50	0.11	0.13	0.14	
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
d2, Incremental Delay [s]	1.33	3.81	3.37	0.93	2.61	4.84	6.06	
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	

Lane Group Results

X, volume / capacity	0.58	0.64	0.83	0.57	0.75	0.81	0.83	
d, Delay for Lane Group [s/veh]	16.87	20.10	40.16	7.81	34.39	37.23	38.65	
Lane Group LOS	B	C	D	A	C	D	D	
Critical Lane Group	No	Yes	Yes	No	No	No	Yes	
50th-Percentile Queue Length [veh/ln]	7.35	8.22	5.07	5.85	6.65	6.96	7.11	
50th-Percentile Queue Length [ft/ln]	183.69	205.42	126.85	146.28	166.23	174.10	177.82	
95th-Percentile Queue Length [veh/ln]	11.79	12.92	8.77	9.82	10.88	11.29	11.49	
95th-Percentile Queue Length [ft/ln]	294.82	322.94	219.21	245.46	271.95	282.30	287.16	

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	16.95	20.10	40.16	7.81	0.00	34.87	37.23	38.04	0.00	0.00	0.00
Movement LOS		B	C	D	A		C	D	D			
d_A, Approach Delay [s/veh]	17.95			15.72			36.76			0.00		
Approach LOS	B			B			D			A		
d_I, Intersection Delay [s/veh]	21.10											
Intersection LOS	C											
Intersection V/C	0.753											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	36.45
l_p,int, Pedestrian LOS Score for Intersection	0.000	0.000	0.000	2.190
Crosswalk LOS	F	F	F	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	689	1156	711	0
d_b, Bicycle Delay [s]	19.34	8.02	18.69	45.00
l_b,int, Bicycle LOS Score for Intersection	2.426	3.112	3.149	4.132
Bicycle LOS	B	C	C	D

Sequence

Ring 1	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 3: Riverside Ave / Slover Ave

Control Type:	Signalized	Delay (sec / veh):	22.1
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.924

Intersection Setup

Name	Riverside Ave			Riverside Ave			Slover Ave			Slover Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Riverside Ave			Riverside Ave			Slover Ave			Slover Ave		
Base Volume Input [veh/h]	74	1035	29	51	1313	438	256	20	75	31	17	34
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	1	70	0	0	48	0	0	0	1	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	76	1126	30	52	1387	447	261	20	78	32	17	35
Peak Hour Factor	0.9450	0.9450	0.9450	0.9450	0.9450	0.9450	0.9450	0.9450	0.9450	0.9450	0.9450	0.9450
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	20	298	8	14	367	118	69	5	21	8	4	9
Total Analysis Volume [veh/h]	80	1192	32	55	1468	473	276	21	83	34	18	37
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	5	2	0	1	6	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	7	7	0	7	7	0	0	7	0	0	7	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	10	47	0	21	58	0	0	22	0	0	22	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	C	L	C	C
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
g_i, Effective Green Time [s]	6	57	57	5	56	56	19	19	19	19	19	19
g / C, Green / Cycle	0.07	0.63	0.63	0.06	0.62	0.62	0.21	0.21	0.21	0.21	0.21	0.21
(v / s)_i Volume / Saturation Flow Rate	0.04	0.32	0.32	0.03	0.51	0.55	0.20	0.01	0.05	0.03	0.01	0.02
s, saturation flow rate [veh/h]	1810	1900	1883	1810	1900	1750	1370	1900	1615	1311	1900	1615
c, Capacity [veh/h]	122	1194	1183	109	1181	1087	313	401	341	272	401	341
d1, Uniform Delay [s]	40.95	9.18	9.18	40.98	13.18	14.48	38.51	28.32	29.52	33.68	28.27	28.66
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.17	0.11	0.11	0.11	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	5.85	1.59	1.60	3.56	6.51	11.17	12.05	0.05	0.37	0.20	0.05	0.14
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, 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
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.66	0.51	0.52	0.50	0.82	0.89	0.88	0.05	0.24	0.13	0.04	0.11
d, Delay for Lane Group [s/veh]	46.80	10.76	10.79	44.54	19.69	25.65	50.57	28.37	29.89	33.88	28.32	28.80
Lane Group LOS	D	B	B	D	B	C	D	C	C	C	C	C
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No	No	No	No	No
50th-Percentile Queue Length [veh/ln]	1.91	6.32	6.27	1.28	15.18	17.71	7.15	0.36	1.51	0.66	0.31	0.65
50th-Percentile Queue Length [ft/ln]	47.71	157.88	156.81	31.96	379.54	442.74	178.84	9.09	37.70	16.50	7.78	16.27
95th-Percentile Queue Length [veh/ln]	3.44	10.44	10.38	2.30	21.57	24.61	11.54	0.65	2.71	1.19	0.56	1.17
95th-Percentile Queue Length [ft/ln]	85.88	260.92	259.49	57.53	539.29	615.28	288.50	16.36	67.86	29.69	14.00	29.28

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	46.80	10.77	10.79	44.54	21.71	25.65	50.57	28.37	29.89	33.88	28.32	28.80
Movement LOS	D	B	B	D	C	C	D	C	C	C	C	C
d_A, Approach Delay [s/veh]	12.98			23.27			44.82			30.64		
Approach LOS	B			C			D			C		
d_I, Intersection Delay [s/veh]	22.06											
Intersection LOS	C											
Intersection V/C	0.924											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	36.45	36.45	36.45	36.45
l_p,int, Pedestrian LOS Score for Intersection	2.972	3.416	2.487	2.340
Crosswalk LOS	C	C	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	978	1222	422	422
d_b, Bicycle Delay [s]	11.76	6.81	28.01	28.01
l_b,int, Bicycle LOS Score for Intersection	2.635	3.206	1.873	1.633
Bicycle LOS	B	C	A	A

Sequence

Ring 1	1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 4: Riverside Ave / Santa Ana Ave

Control Type:	Signalized	Delay (sec / veh):	16.4
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.664

Intersection Setup

Name	Riverside Ave			Riverside Ave			Santa Ana Ave			Santa Ana Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			No			No			Yes		

Volumes

Name	Riverside Ave			Riverside Ave			Santa Ana Ave			Santa Ana Ave		
Base Volume Input [veh/h]	72	994	58	79	1244	126	92	29	64	39	39	73
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	2	49	0	0	0	1	0	2	1	71
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	73	1014	61	130	1269	129	94	31	65	42	41	145
Peak Hour Factor	0.9280	0.9280	0.9280	0.9280	0.9280	0.9280	0.9280	0.9280	0.9280	0.9280	0.9280	0.9280
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	20	273	16	35	342	35	25	8	18	11	11	39
Total Analysis Volume [veh/h]	79	1093	66	140	1367	139	101	33	70	45	44	156
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	5	2	0	1	6	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	7	7	0	7	7	0	0	7	0	0	7	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	10	51	0	21	62	0	0	18	0	0	18	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	C	R	L	C	R
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
g_i, Effective Green Time [s]	6	57	57	9	60	60	15	15	15	15	15
g / C, Green / Cycle	0.07	0.64	0.64	0.10	0.67	0.67	0.17	0.17	0.17	0.17	0.17
(v / s)_i Volume / Saturation Flow Rate	0.04	0.31	0.31	0.08	0.40	0.41	0.13	0.04	0.03	0.02	0.10
s, saturation flow rate [veh/h]	1810	1900	1862	1810	1900	1840	1067	1615	1312	1900	1615
c, Capacity [veh/h]	122	1208	1184	177	1266	1226	248	269	99	316	269
d1, Uniform Delay [s]	40.95	8.63	8.63	39.69	8.34	8.43	37.21	32.68	44.72	32.01	34.61
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	5.74	1.39	1.42	7.66	2.11	2.26	1.84	0.51	3.22	0.20	1.98
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.65	0.48	0.48	0.79	0.60	0.61	0.54	0.26	0.45	0.14	0.58
d, Delay for Lane Group [s/veh]	46.68	10.02	10.06	47.36	10.45	10.69	39.05	33.19	47.94	32.21	36.59
Lane Group LOS	D	B	B	D	B	B	D	C	D	C	D
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No	No	No	No
50th-Percentile Queue Length [veh/ln]	1.88	5.72	5.62	3.36	7.64	7.63	2.92	1.35	1.08	0.83	3.25
50th-Percentile Queue Length [ft/ln]	47.05	142.92	140.62	84.09	191.07	190.63	73.07	33.79	27.10	20.65	81.20
95th-Percentile Queue Length [veh/ln]	3.39	9.64	9.51	6.05	12.18	12.15	5.26	2.43	1.95	1.49	5.85
95th-Percentile Queue Length [ft/ln]	84.69	240.95	237.86	151.36	304.41	303.85	131.53	60.82	48.77	37.17	146.15

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	46.68	10.04	10.06	47.36	10.55	10.69	39.05	39.05	33.19	47.94	32.21	36.59
Movement LOS	D	B	B	D	B	B	D	D	C	D	C	D
d_A, Approach Delay [s/veh]	12.38			13.69			37.04			37.89		
Approach LOS	B			B			D			D		
d_I, Intersection Delay [s/veh]	16.41											
Intersection LOS	B											
Intersection V/C	0.664											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	0.0	0.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	36.45	0.00	0.00	36.45
l_p,int, Pedestrian LOS Score for Intersection	2.960	0.000	0.000	2.251
Crosswalk LOS	C	F	F	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1067	1311	333	333
d_b, Bicycle Delay [s]	9.80	5.34	31.25	31.25
l_b,int, Bicycle LOS Score for Intersection	2.581	2.918	1.896	1.964
Bicycle LOS	B	C	A	A

Sequence

Ring 1	1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 5: Riverside Ave / Jurupa Ave

Control Type:	Signalized	Delay (sec / veh):	8.5
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.555

Intersection Setup

Name	Riverside Ave		Riverside Ave		Jurupa Ave	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		No		Yes	

Volumes

Name	Riverside Ave		Riverside Ave		Jurupa Ave	
Base Volume Input [veh/h]	105	1016	1161	53	40	113
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Proportion of CAVs [%]	0.00					
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	1	1	1	1	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	107	1037	1185	55	42	115
Peak Hour Factor	0.9520	0.9520	0.9520	0.9520	0.9520	0.9520
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	28	272	311	14	11	30
Total Analysis Volume [veh/h]	112	1089	1245	58	44	121
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Protected	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	5	2	6	0	3	0
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	Lead	-
Minimum Green [s]	7	7	7	0	7	0
Maximum Green [s]	30	30	30	0	30	0
Amber [s]	2.0	2.0	2.0	0.0	2.0	0.0
All red [s]	1.0	1.0	1.0	0.0	1.0	0.0
Split [s]	19	70	51	0	20	0
Vehicle Extension [s]	3.0	3.0	3.0	0.0	3.0	0.0
Walk [s]	0	5	5	0	5	0
Pedestrian Clearance [s]	0	10	10	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No	No		No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	1.0	1.0	1.0	0.0	1.0	0.0
Minimum Recall	No	No	No		No	
Maximum Recall	No	No	No		No	
Pedestrian Recall	No	No	No		No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	R	L	R
C, Cycle Length [s]	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	3.00	3.00	3.00	3.00	3.00	3.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	1.00	1.00	1.00	1.00	1.00	1.00
g_i, Effective Green Time [s]	7	75	65	65	9	9
g / C, Green / Cycle	0.08	0.84	0.72	0.72	0.10	0.10
(v / s)_i Volume / Saturation Flow Rate	0.06	0.30	0.34	0.04	0.02	0.07
s, saturation flow rate [veh/h]	1810	3618	3618	1615	1810	1615
c, Capacity [veh/h]	145	3025	2614	1167	176	157
d1, Uniform Delay [s]	40.58	1.73	5.28	3.60	37.59	39.64
k, delay calibration	0.11	0.50	0.50	0.50	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	8.35	0.33	0.62	0.08	0.73	7.72
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.77	0.36	0.48	0.05	0.25	0.77
d, Delay for Lane Group [s/veh]	48.93	2.06	5.91	3.68	38.32	47.36
Lane Group LOS	D	A	A	A	D	D
Critical Lane Group	Yes	No	Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	2.74	1.08	4.05	0.27	0.92	2.91
50th-Percentile Queue Length [ft/ln]	68.48	26.93	101.25	6.71	23.10	72.83
95th-Percentile Queue Length [veh/ln]	4.93	1.94	7.29	0.48	1.66	5.24
95th-Percentile Queue Length [ft/ln]	123.27	48.47	182.25	12.08	41.59	131.09

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	48.93	2.06	5.91	3.68	38.32	47.36
Movement LOS	D	A	A	A	D	D
d_A, Approach Delay [s/veh]	6.44		5.81		44.95	
Approach LOS	A		A		D	
d_I, Intersection Delay [s/veh]	8.51					
Intersection LOS	A					
Intersection V/C	0.555					

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	0.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	36.45	0.00	36.45
l_p,int, Pedestrian LOS Score for Intersection	2.872	0.000	2.051
Crosswalk LOS	C	F	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1489	1067	378
d_b, Bicycle Delay [s]	2.94	9.80	29.61
l_b,int, Bicycle LOS Score for Intersection	2.550	2.635	1.560
Bicycle LOS	B	B	A

Sequence

Ring 1	-	2	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 6: Santa Ana Ave / West Dwy

Control Type:	Two-way stop	Delay (sec / veh):	11.8
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.129

Intersection Setup

Name	West Dwy		Santa Ana Ave		Santa Ana Ave	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	West Dwy		Santa Ana Ave		Santa Ana Ave	
Base Volume Input [veh/h]	0	0	183	0	0	168
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	74	0	0	52	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	74	0	187	52	0	171
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	19	0	49	14	0	45
Total Analysis Volume [veh/h]	78	0	197	55	0	180
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.13	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	11.82	10.27	0.00	0.00	7.72	0.00
Movement LOS	B	B	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.44	0.44	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	11.00	11.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	11.82		0.00		0.00	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	1.81					
Intersection LOS	B					

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Riverside Ave / I-10 WB Ramps	Signalized	HCM 7th Edition	NB Left	0.764	21.3	C
2	Riverside Ave / I-10 EB Ramps	Signalized	HCM 7th Edition	NB Right	0.986	31.2	C
3	Riverside Ave / Slover Ave	Signalized	HCM 7th Edition	EB Left	1.141	53.1	D
4	Riverside Ave / Santa Ana Ave	Signalized	HCM 7th Edition	SB Left	0.784	25.2	C
5	Riverside Ave / Jurupa Ave	Signalized	HCM 7th Edition	NB Left	0.809	11.7	B
6	Santa Ana Ave / West Dwy	Two-way stop	HCM 7th Edition	NB Left	0.139	11.0	B

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 1: Riverside Ave / I-10 WB Ramps

Control Type:	Signalized	Delay (sec / veh):	21.3
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.764

Intersection Setup

Name	Riverside Ave			Riverside Ave			I-10 WB Ramps			I-10 WB Ramps		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	49.21	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No						No		
Crosswalk	No			No			No			Yes		

Volumes

Name	Riverside Ave			Riverside Ave			I-10 WB Ramps			I-10 WB Ramps		
Base Volume Input [veh/h]	362	1663	0	0	1269	426	0	0	0	609	2	570
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0200	1.0200	1.0000	1.0000	1.0200	1.0200	1.0000	1.0000	1.0000	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	37	5	0	0	4	0	0	0	0	61	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	406	1701	0	0	1298	435	0	0	0	682	2	581
Peak Hour Factor	0.9750	0.9750	1.0000	1.0000	0.9750	0.9750	1.0000	1.0000	1.0000	0.9750	0.9750	0.9750
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	104	436	0	0	333	112	0	0	0	175	1	149
Total Analysis Volume [veh/h]	416	1745	0	0	1331	446	0	0	0	699	2	596
Presence of On-Street Parking	No		No	No		No				No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	5	2	0	0	6	0	0	0	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	7	7	0	0	7	0	0	0	0	0	7	0
Maximum Green [s]	30	30	0	0	30	0	0	0	0	0	30	0
Amber [s]	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0
All red [s]	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0
Split [s]	15	47	0	0	32	0	0	0	0	0	43	0
Vehicle Extension [s]	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	0	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	0	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No						No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0
Minimum Recall	No	No			No						No	
Maximum Recall	No	No			No						No	
Pedestrian Recall	No	No			No						No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	R		L	C	R
C, Cycle Length [s]	90	90	90	90		90	90	90
L, Total Lost Time per Cycle [s]	3.00	3.00	3.00	3.00		3.00	3.00	3.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00		0.00	0.00	0.00
l2, Clearance Lost Time [s]	1.00	1.00	1.00	1.00		1.00	1.00	1.00
g_i, Effective Green Time [s]	12	56	41	41		28	28	28
g / C, Green / Cycle	0.13	0.62	0.45	0.45		0.31	0.31	0.31
(v / s)_i Volume / Saturation Flow Rate	0.12	0.34	0.19	0.28		0.24	0.25	0.27
s, saturation flow rate [veh/h]	3514	5176	6901	1615		1810	1731	1615
c, Capacity [veh/h]	469	3207	3126	732		568	543	507
d1, Uniform Delay [s]	38.34	9.82	16.68	18.60		27.85	28.26	28.95
k, delay calibration	0.11	0.50	0.50	0.50		0.13	0.15	0.18
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00		1.00	1.00	1.00
d2, Incremental Delay [s]	5.88	0.67	0.43	3.76		2.52	3.64	6.65
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00		0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00		1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00		1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.89	0.54	0.43	0.61		0.76	0.80	0.85
d, Delay for Lane Group [s/veh]	44.22	10.49	17.11	22.36		30.38	31.89	35.60
Lane Group LOS	D	B	B	C		C	C	D
Critical Lane Group	Yes	No	No	Yes		No	No	Yes
50th-Percentile Queue Length [veh/ln]	4.81	5.99	4.53	7.40		8.52	8.79	9.38
50th-Percentile Queue Length [ft/ln]	120.36	149.70	113.26	184.92		213.02	219.74	234.45
95th-Percentile Queue Length [veh/ln]	8.41	10.00	8.02	11.86		13.31	13.65	14.40
95th-Percentile Queue Length [ft/ln]	210.32	250.03	200.53	296.43		332.70	341.29	360.01

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	44.22	10.49	0.00	0.00	17.11	22.36	0.00	0.00	0.00	30.95	31.89	34.58
Movement LOS	D	B			B	C				C	C	C
d_A, Approach Delay [s/veh]	16.98			18.42			0.00			32.62		
Approach LOS	B			B			A			C		
d_I, Intersection Delay [s/veh]	21.35											
Intersection LOS	C											
Intersection V/C	0.764											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	36.45
l_p,int, Pedestrian LOS Score for Intersection	0.000	0.000	0.000	2.363
Crosswalk LOS	F	F	F	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	978	644	0	889
d_b, Bicycle Delay [s]	11.76	20.67	45.00	13.89
l_b,int, Bicycle LOS Score for Intersection	2.748	2.293	4.132	3.700
Bicycle LOS	B	B	D	D

Sequence

Ring 1	-	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 2: Riverside Ave / I-10 EB Ramps

Control Type:	Signalized	Delay (sec / veh):	31.2
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.986

Intersection Setup

Name	Riverside Ave			Riverside Ave			I-10 EB Ramps			I-10 EB Ramps		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	49.21
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No					
Crosswalk	No			No			No			Yes		

Volumes

Name	Riverside Ave			Riverside Ave			I-10 EB Ramps			I-10 EB Ramps		
Base Volume Input [veh/h]	0	1397	657	487	1415	0	627	0	469	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0200	1.0200	1.0200	1.0200	1.0000	1.0200	1.0200	1.0200	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	42	36	0	65	0	0	0	58	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	1467	706	497	1508	0	640	0	536	0	0	0
Peak Hour Factor	1.0000	0.9730	0.9730	0.9730	0.9730	1.0000	0.9730	0.9730	0.9730	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	377	181	128	387	0	164	0	138	0	0	0
Total Analysis Volume [veh/h]	0	1508	726	511	1550	0	658	0	551	0	0	0
Presence of On-Street Parking	No		No	No		No	No		No			
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	2	0	1	6	0	0	8	0	0	0	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	0	7	0	7	7	0	0	7	0	0	0	0
Maximum Green [s]	0	30	0	30	30	0	0	30	0	0	0	0
Amber [s]	0.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0
All red [s]	0.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0
Split [s]	0	45	0	18	63	0	0	27	0	0	0	0
Vehicle Extension [s]	0.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	0	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No				
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0
I2, Clearance Lost Time [s]	0.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0
Minimum Recall		No		No	No			No				
Maximum Recall		No		No	No			No				
Pedestrian Recall		No		No	No			No				
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	L	C	L	C	R	
C, Cycle Length [s]	90	90	90	90	90	90	90	
L, Total Lost Time per Cycle [s]	3.00	3.00	3.00	3.00	3.00	3.00	3.00	
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
l2, Clearance Lost Time [s]	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
g_i, Effective Green Time [s]	42	42	15	60	24	24	24	
g / C, Green / Cycle	0.47	0.47	0.16	0.67	0.27	0.27	0.27	
(v / s)_i Volume / Saturation Flow Rate	0.41	0.46	0.15	0.43	0.22	0.23	0.25	
s, saturation flow rate [veh/h]	3618	1621	3514	3618	1810	1733	1615	
c, Capacity [veh/h]	1694	759	580	2412	482	462	430	
d1, Uniform Delay [s]	21.62	23.53	36.70	8.74	31.15	31.55	32.27	
k, delay calibration	0.50	0.50	0.11	0.50	0.22	0.25	0.28	
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
d2, Incremental Delay [s]	6.85	28.31	4.55	1.33	7.68	11.01	20.43	
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	

Lane Group Results

X, volume / capacity	0.88	0.98	0.88	0.64	0.84	0.87	0.94	
d, Delay for Lane Group [s/veh]	28.47	51.83	41.24	10.07	38.83	42.56	52.69	
Lane Group LOS	C	D	D	B	D	D	D	
Critical Lane Group	No	Yes	Yes	No	No	No	Yes	
50th-Percentile Queue Length [veh/ln]	14.78	20.30	5.75	7.83	9.04	9.53	10.74	
50th-Percentile Queue Length [ft/ln]	369.46	507.42	143.64	195.67	226.03	238.19	268.53	
95th-Percentile Queue Length [veh/ln]	21.08	27.69	9.68	12.41	13.97	14.59	16.12	
95th-Percentile Queue Length [ft/ln]	527.08	692.14	241.91	310.37	349.31	364.75	402.91	

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	28.76	51.83	41.24	10.07	0.00	40.27	42.56	49.97	0.00	0.00	0.00
Movement LOS		C	D	D	B		D	D	D			
d_A, Approach Delay [s/veh]	36.26			17.80			44.69			0.00		
Approach LOS	D			B			D			A		
d_I, Intersection Delay [s/veh]	31.20											
Intersection LOS	C											
Intersection V/C	0.986											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	36.45
l_p,int, Pedestrian LOS Score for Intersection	0.000	0.000	0.000	2.319
Crosswalk LOS	F	F	F	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	933	1333	533	0
d_b, Bicycle Delay [s]	12.80	5.00	24.20	45.00
l_b,int, Bicycle LOS Score for Intersection	2.788	3.260	3.554	4.132
Bicycle LOS	C	C	D	D

Sequence

Ring 1	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 3: Riverside Ave / Slover Ave

Control Type:	Signalized	Delay (sec / veh):	53.1
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.141

Intersection Setup

Name	Riverside Ave			Riverside Ave			Slover Ave			Slover Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Riverside Ave			Riverside Ave			Slover Ave			Slover Ave		
Base Volume Input [veh/h]	36	1475	22	27	1548	304	441	124	158	35	32	78
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	3	78	0	0	123	0	0	0	3	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	40	1583	22	28	1702	310	450	126	164	36	33	80
Peak Hour Factor	0.9390	0.9390	0.9390	0.9390	0.9390	0.9390	0.9390	0.9390	0.9390	0.9390	0.9390	0.9390
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	11	421	6	7	453	83	120	34	44	10	9	21
Total Analysis Volume [veh/h]	43	1686	23	30	1813	330	479	134	175	38	35	85
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	5	2	0	1	6	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	7	7	0	7	7	0	0	7	0	0	7	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	10	42	0	20	52	0	0	28	0	0	28	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	C	L	C	C
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
g_i, Effective Green Time [s]	5	52	52	4	51	51	25	25	25	25	25	25
g / C, Green / Cycle	0.05	0.58	0.58	0.04	0.57	0.57	0.28	0.28	0.28	0.28	0.28	0.28
(v / s)_i Volume / Saturation Flow Rate	0.02	0.45	0.45	0.02	0.56	0.59	0.37	0.07	0.11	0.03	0.02	0.05
s, saturation flow rate [veh/h]	1810	1900	1891	1810	1900	1802	1292	1900	1615	1087	1900	1615
c, Capacity [veh/h]	93	1102	1097	76	1084	1029	358	528	449	263	528	449
d1, Uniform Delay [s]	41.48	14.43	14.47	41.98	19.01	19.31	37.47	25.25	26.32	32.29	23.91	24.78
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.50	0.11	0.11	0.11	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.54	5.37	5.46	3.26	24.60	39.53	169.39	0.25	0.55	0.25	0.05	0.20
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, 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
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.46	0.78	0.78	0.39	0.99	1.04	1.34	0.25	0.39	0.14	0.07	0.19
d, Delay for Lane Group [s/veh]	45.01	19.81	19.93	45.24	43.62	58.84	206.86	25.50	26.88	32.54	23.97	24.98
Lane Group LOS	D	B	B	D	D	F	F	C	C	C	C	C
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No	No	No	No	No
50th-Percentile Queue Length [veh/ln]	1.01	13.47	13.50	0.71	26.69	30.09	24.78	2.22	3.05	0.72	0.55	1.39
50th-Percentile Queue Length [ft/ln]	25.23	336.65	337.39	17.80	667.15	752.27	619.62	55.60	76.16	18.10	13.72	34.66
95th-Percentile Queue Length [veh/ln]	1.82	19.48	19.52	1.28	35.16	40.44	38.33	4.00	5.48	1.30	0.99	2.50
95th-Percentile Queue Length [ft/ln]	45.41	487.11	488.01	32.04	878.95	1010.99	958.19	100.08	137.10	32.57	24.69	62.39

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	45.01	19.87	19.93	45.24	49.84	58.84	206.86	25.50	26.88	32.54	23.97	24.98
Movement LOS	D	B	B	D	D	E	F	C	C	C	C	C
d_A, Approach Delay [s/veh]	20.49			51.15			136.05			26.57		
Approach LOS	C			D			F			C		
d_I, Intersection Delay [s/veh]	53.06											
Intersection LOS	D											
Intersection V/C	1.141											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	36.45	36.45	36.45	36.45
l_p,int, Pedestrian LOS Score for Intersection	3.122	3.854	2.535	2.369
Crosswalk LOS	C	D	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	867	1089	556	556
d_b, Bicycle Delay [s]	14.45	9.34	23.47	23.47
l_b,int, Bicycle LOS Score for Intersection	3.005	3.352	2.210	1.690
Bicycle LOS	C	C	B	A

Sequence

Ring 1	1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 4: Riverside Ave / Santa Ana Ave

Control Type:	Signalized	Delay (sec / veh):	25.2
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.784

Intersection Setup

Name	Riverside Ave			Riverside Ave			Santa Ana Ave			Santa Ana Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			No			No			Yes		

Volumes

Name	Riverside Ave			Riverside Ave			Santa Ana Ave			Santa Ana Ave		
Base Volume Input [veh/h]	91	1321	18	48	1594	81	114	15	99	41	19	67
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	7	126	0	0	0	3	0	8	3	81
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	93	1347	25	175	1626	83	116	18	101	50	22	149
Peak Hour Factor	0.9340	0.9340	0.9340	0.9340	0.9340	0.9340	0.9340	0.9340	0.9340	0.9340	0.9340	0.9340
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	25	361	7	47	435	22	31	5	27	13	6	40
Total Analysis Volume [veh/h]	100	1442	27	187	1741	89	124	19	108	54	24	160
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	5	2	0	1	6	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	7	7	0	7	7	0	0	7	0	0	7	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	12	62	0	10	60	0	0	18	0	0	18	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	C	R	L	C	R
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
g_i, Effective Green Time [s]	7	59	59	7	59	59	15	15	15	15	15
g / C, Green / Cycle	0.07	0.66	0.66	0.08	0.66	0.66	0.17	0.17	0.17	0.17	0.17
(v / s)_i Volume / Saturation Flow Rate	0.06	0.39	0.39	0.10	0.48	0.49	0.13	0.07	0.04	0.01	0.10
s, saturation flow rate [veh/h]	1810	1900	1888	1810	1900	1868	1066	1615	1284	1900	1615
c, Capacity [veh/h]	132	1246	1238	141	1254	1233	252	269	95	317	269
d1, Uniform Delay [s]	40.92	8.71	8.73	41.50	10.03	10.19	37.45	33.49	44.85	31.65	34.69
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	8.42	2.06	2.09	158.34	3.75	4.06	1.99	0.96	5.25	0.10	2.09
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.76	0.59	0.59	1.33	0.73	0.74	0.57	0.40	0.57	0.08	0.59
d, Delay for Lane Group [s/veh]	49.33	10.78	10.82	199.84	13.78	14.24	39.45	34.45	50.10	31.75	36.78
Lane Group LOS	D	B	B	F	B	B	D	C	D	C	D
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No	No	No	No
50th-Percentile Queue Length [veh/ln]	2.46	7.59	7.58	9.27	11.17	11.42	3.14	2.15	1.33	0.45	3.34
50th-Percentile Queue Length [ft/ln]	61.48	189.85	189.53	231.72	279.34	285.38	78.54	53.74	33.32	11.13	83.61
95th-Percentile Queue Length [veh/ln]	4.43	12.11	12.10	15.56	16.66	16.96	5.65	3.87	2.40	0.80	6.02
95th-Percentile Queue Length [ft/ln]	110.66	302.84	302.41	389.01	416.39	423.90	141.36	96.73	59.97	20.03	150.49

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	49.33	10.80	10.82	199.84	14.00	14.24	39.45	39.45	34.45	50.10	31.75	36.78
Movement LOS	D	B	B	F	B	B	D	D	C	D	C	D
d_A, Approach Delay [s/veh]	13.25			31.24			37.30			39.30		
Approach LOS	B			C			D			D		
d_I, Intersection Delay [s/veh]	25.16											
Intersection LOS	C											
Intersection V/C	0.784											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	0.0	0.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	36.45	0.00	0.00	36.45
l_p,int, Pedestrian LOS Score for Intersection	3.095	0.000	0.000	2.247
Crosswalk LOS	C	F	F	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1311	1267	333	333
d_b, Bicycle Delay [s]	5.34	6.05	31.25	31.25
l_b,int, Bicycle LOS Score for Intersection	2.854	3.224	1.974	1.952
Bicycle LOS	C	C	A	A

Sequence

Ring 1	1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 5: Riverside Ave / Jurupa Ave

Control Type:	Signalized	Delay (sec / veh):	11.7
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.809

Intersection Setup

Name	Riverside Ave		Riverside Ave		Jurupa Ave	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		No		Yes	

Volumes

Name	Riverside Ave		Riverside Ave		Jurupa Ave	
Base Volume Input [veh/h]	106	1280	1664	48	32	165
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Proportion of CAVs [%]	0.00					
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	4	5	3	3	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	108	1310	1702	52	36	168
Peak Hour Factor	0.9050	0.9050	0.9050	0.9050	0.9050	0.9050
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	30	362	470	14	10	46
Total Analysis Volume [veh/h]	119	1448	1881	57	40	186
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Protected	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	5	2	6	0	3	0
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	Lead	-
Minimum Green [s]	7	7	7	0	7	0
Maximum Green [s]	30	30	30	0	30	0
Amber [s]	2.0	2.0	2.0	0.0	2.0	0.0
All red [s]	1.0	1.0	1.0	0.0	1.0	0.0
Split [s]	10	72	62	0	18	0
Vehicle Extension [s]	3.0	3.0	3.0	0.0	3.0	0.0
Walk [s]	0	5	5	0	5	0
Pedestrian Clearance [s]	0	10	10	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No	No		No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	1.0	1.0	1.0	0.0	1.0	0.0
Minimum Recall	No	No	No		No	
Maximum Recall	No	No	No		No	
Pedestrian Recall	No	No	No		No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	R	L	R
C, Cycle Length [s]	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	3.00	3.00	3.00	3.00	3.00	3.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	1.00	1.00	1.00	1.00	1.00	1.00
g_i, Effective Green Time [s]	7	72	62	62	12	12
g / C, Green / Cycle	0.08	0.80	0.69	0.69	0.14	0.14
(v / s)_i Volume / Saturation Flow Rate	0.07	0.40	0.52	0.04	0.02	0.12
s, saturation flow rate [veh/h]	1810	3618	3618	1615	1810	1615
c, Capacity [veh/h]	141	2880	2478	1106	248	221
d1, Uniform Delay [s]	40.97	3.12	9.30	4.63	34.26	37.87
k, delay calibration	0.11	0.50	0.50	0.50	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	12.78	0.63	2.24	0.09	0.30	8.26
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.85	0.50	0.76	0.05	0.16	0.84
d, Delay for Lane Group [s/veh]	53.74	3.75	11.54	4.71	34.56	46.13
Lane Group LOS	D	A	B	A	C	D
Critical Lane Group	Yes	No	Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	3.07	2.90	10.51	0.32	0.79	4.44
50th-Percentile Queue Length [ft/ln]	76.72	72.54	262.84	8.02	19.64	111.00
95th-Percentile Queue Length [veh/ln]	5.52	5.22	15.83	0.58	1.41	7.90
95th-Percentile Queue Length [ft/ln]	138.10	130.57	395.78	14.44	35.36	197.39

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	53.74	3.75	11.54	4.71	34.56	46.13
Movement LOS	D	A	B	A	C	D
d_A, Approach Delay [s/veh]	7.54		11.34		44.08	
Approach LOS	A		B		D	
d_I, Intersection Delay [s/veh]	11.73					
Intersection LOS	B					
Intersection V/C	0.809					

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	0.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	36.45	0.00	36.45
l_p,int, Pedestrian LOS Score for Intersection	3.045	0.000	2.072
Crosswalk LOS	C	F	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1533	1311	333
d_b, Bicycle Delay [s]	2.45	5.34	31.25
l_b,int, Bicycle LOS Score for Intersection	2.852	3.158	1.560
Bicycle LOS	C	C	A

Sequence

Ring 1	-	2	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 6: Santa Ana Ave / West Dwy

Control Type:	Two-way stop	Delay (sec / veh):	11.0
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.139

Intersection Setup

Name	West Dwy		Santa Ana Ave		Santa Ana Ave	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	West Dwy		Santa Ana Ave		Santa Ana Ave	
Base Volume Input [veh/h]	0	0	81	0	0	127
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	92	0	0	136	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	92	0	83	136	0	130
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	24	0	22	36	0	34
Total Analysis Volume [veh/h]	97	0	87	143	0	137
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.14	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	10.97	9.86	0.00	0.00	7.67	0.00
Movement LOS	B	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.48	0.48	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	11.99	11.99	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	10.97		0.00		0.00	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	2.29					
Intersection LOS	B					

APPENDIX D-4

INTERSECTION ANALYSIS
WORKSHEETS – OPENING YEAR 2024
CUMULATIVE

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Riverside Ave / I-10 WB Ramps	Signalized	HCM 7th Edition	WB Right	0.964	27.9	C
2	Riverside Ave / I-10 EB Ramps	Signalized	HCM 7th Edition	EB Right	0.888	27.1	C
3	Riverside Ave / Slover Ave	Signalized	HCM 7th Edition	EB Left	1.104	45.2	D
4	Riverside Ave / Santa Ana Ave	Signalized	HCM 7th Edition	WB Left	0.743	16.9	B
5	Riverside Ave / Jurupa Ave	Signalized	HCM 7th Edition	NB Left	0.560	8.7	A

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 1: Riverside Ave / I-10 WB Ramps

Control Type:	Signalized	Delay (sec / veh):	27.9
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.964

Intersection Setup

Name	Riverside Ave			Riverside Ave			I-10 WB Ramps			I-10 WB Ramps		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	49.21	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No						No		
Crosswalk	No			No			No			Yes		

Volumes

Name	Riverside Ave			Riverside Ave			I-10 WB Ramps			I-10 WB Ramps		
Base Volume Input [veh/h]	335	970	0	0	1121	588	0	0	0	577	6	395
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0200	1.0200	1.0000	1.0000	1.0200	1.0200	1.0000	1.0000	1.0000	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	102	128	0	0	95	95	0	0	0	151	0	128
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	444	1117	0	0	1238	695	0	0	0	740	6	531
Peak Hour Factor	0.9820	0.9820	1.0000	1.0000	0.9820	0.9820	1.0000	1.0000	1.0000	0.9820	0.9820	0.9820
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	113	284	0	0	315	177	0	0	0	188	2	135
Total Analysis Volume [veh/h]	452	1137	0	0	1261	708	0	0	0	754	6	541
Presence of On-Street Parking	No		No	No		No				No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	5	2	0	0	6	0	0	0	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	7	7	0	0	7	0	0	0	0	0	7	0
Maximum Green [s]	30	30	0	0	30	0	0	0	0	0	30	0
Amber [s]	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0
All red [s]	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0
Split [s]	16	61	0	0	45	0	0	0	0	0	29	0
Vehicle Extension [s]	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	0	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	0	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No						No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0
Minimum Recall	No	No			No						No	
Maximum Recall	No	No			No						No	
Pedestrian Recall	No	No			No						No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	R		L	C	R
C, Cycle Length [s]	90	90	90	90		90	90	90
L, Total Lost Time per Cycle [s]	3.00	3.00	3.00	3.00		3.00	3.00	3.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00		0.00	0.00	0.00
l2, Clearance Lost Time [s]	1.00	1.00	1.00	1.00		1.00	1.00	1.00
g_i, Effective Green Time [s]	13	58	42	42		26	26	26
g / C, Green / Cycle	0.14	0.65	0.47	0.47		0.29	0.29	0.29
(v / s)_i Volume / Saturation Flow Rate	0.13	0.22	0.18	0.44		0.24	0.25	0.27
s, saturation flow rate [veh/h]	3514	5176	6901	1615		1810	1758	1615
c, Capacity [veh/h]	508	3345	3233	757		519	505	464
d1, Uniform Delay [s]	37.80	7.21	15.55	22.63		30.08	30.36	31.27
k, delay calibration	0.11	0.50	0.50	0.50		0.26	0.28	0.33
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00		1.00	1.00	1.00
d2, Incremental Delay [s]	5.59	0.28	0.36	20.33		8.25	10.38	21.27
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00		0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00		1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00		1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.89	0.34	0.39	0.94		0.83	0.86	0.94
d, Delay for Lane Group [s/veh]	43.40	7.49	15.91	42.96		38.34	40.75	52.54
Lane Group LOS	D	A	B	D		D	D	D
Critical Lane Group	Yes	No	No	Yes		No	No	Yes
50th-Percentile Queue Length [veh/ln]	5.19	2.98	4.09	17.38		9.71	10.06	11.60
50th-Percentile Queue Length [ft/ln]	129.84	74.43	102.26	434.51		242.87	251.47	289.99
95th-Percentile Queue Length [veh/ln]	8.93	5.36	7.36	24.22		14.83	15.26	17.19
95th-Percentile Queue Length [ft/ln]	223.28	133.97	184.07	605.44		370.66	381.50	429.63

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	43.40	7.49	0.00	0.00	15.91	42.96	0.00	0.00	0.00	39.36	40.75	50.20
Movement LOS	D	A			B	D				D	D	D
d_A, Approach Delay [s/veh]	17.70			25.64			0.00			43.87		
Approach LOS	B			C			A			D		
d_I, Intersection Delay [s/veh]	27.93											
Intersection LOS	C											
Intersection V/C	0.964											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	36.45
l_p,int, Pedestrian LOS Score for Intersection	0.000	0.000	0.000	2.365
Crosswalk LOS	F	F	F	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1289	933	0	578
d_b, Bicycle Delay [s]	5.69	12.80	45.00	22.76
l_b,int, Bicycle LOS Score for Intersection	2.434	2.372	4.132	3.706
Bicycle LOS	B	B	D	D

Sequence

Ring 1	-	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 2: Riverside Ave / I-10 EB Ramps

Control Type:	Signalized	Delay (sec / veh):	27.1
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.888

Intersection Setup

Name	Riverside Ave			Riverside Ave			I-10 EB Ramps			I-10 EB Ramps		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	49.21
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No					
Crosswalk	No			No			No			Yes		

Volumes

Name	Riverside Ave			Riverside Ave			I-10 EB Ramps			I-10 EB Ramps		
Base Volume Input [veh/h]	0	950	425	422	1279	0	354	9	497	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0200	1.0200	1.0200	1.0200	1.0000	1.0200	1.0200	1.0200	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	102	102	95	151	0	128	0	151	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	1071	536	525	1456	0	489	9	658	0	0	0
Peak Hour Factor	1.0000	0.9350	0.9350	0.9350	0.9350	1.0000	0.9350	0.9350	0.9350	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	286	143	140	389	0	131	2	176	0	0	0
Total Analysis Volume [veh/h]	0	1145	573	561	1557	0	523	10	704	0	0	0
Presence of On-Street Parking	No		No	No		No	No		No			
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	2	0	1	6	0	0	8	0	0	0	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	0	7	0	7	7	0	0	7	0	0	0	0
Maximum Green [s]	0	30	0	30	30	0	0	30	0	0	0	0
Amber [s]	0.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0
All red [s]	0.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0
Split [s]	0	39	0	20	59	0	0	31	0	0	0	0
Vehicle Extension [s]	0.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	0	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No				
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0
I2, Clearance Lost Time [s]	0.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0
Minimum Recall		No		No	No			No				
Maximum Recall		No		No	No			No				
Pedestrian Recall		No		No	No			No				
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	L	C	L	C	R	
C, Cycle Length [s]	90	90	90	90	90	90	90	
L, Total Lost Time per Cycle [s]	3.00	3.00	3.00	3.00	3.00	3.00	3.00	
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
l2, Clearance Lost Time [s]	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
g_i, Effective Green Time [s]	39	39	16	58	26	26	26	
g / C, Green / Cycle	0.43	0.43	0.18	0.65	0.29	0.29	0.29	
(v / s)_i Volume / Saturation Flow Rate	0.32	0.35	0.16	0.43	0.23	0.25	0.26	
s, saturation flow rate [veh/h]	3618	1615	3514	3618	1810	1669	1615	
c, Capacity [veh/h]	1569	700	635	2343	517	477	461	
d1, Uniform Delay [s]	21.12	22.37	35.94	9.81	29.74	30.49	30.83	
k, delay calibration	0.50	0.50	0.11	0.50	0.23	0.28	0.30	
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
d2, Incremental Delay [s]	3.03	10.28	4.29	1.51	6.04	11.32	14.87	
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	

Lane Group Results

X, volume / capacity	0.73	0.82	0.88	0.66	0.80	0.86	0.89	
d, Delay for Lane Group [s/veh]	24.15	32.66	40.23	11.32	35.78	41.81	45.70	
Lane Group LOS	C	C	D	B	D	D	D	
Critical Lane Group	No	Yes	Yes	No	No	No	Yes	
50th-Percentile Queue Length [veh/ln]	10.09	12.00	6.25	8.58	8.87	9.70	10.20	
50th-Percentile Queue Length [ft/ln]	252.34	300.07	156.34	214.41	221.70	242.58	255.03	
95th-Percentile Queue Length [veh/ln]	15.30	17.68	10.35	13.38	13.75	14.81	15.44	
95th-Percentile Queue Length [ft/ln]	382.60	442.11	258.87	334.48	343.79	370.29	385.98	

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	24.15	32.66	40.23	11.32	0.00	37.05	41.81	44.09	0.00	0.00	0.00
Movement LOS		C	C	D	B		D	D	D			
d_A, Approach Delay [s/veh]	26.99			18.98			41.10			0.00		
Approach LOS	C			B			D			A		
d_I, Intersection Delay [s/veh]	27.08											
Intersection LOS	C											
Intersection V/C	0.888											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	36.45
l_p,int, Pedestrian LOS Score for Intersection	0.000	0.000	0.000	2.274
Crosswalk LOS	F	F	F	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	800	1244	622	0
d_b, Bicycle Delay [s]	16.20	6.42	21.36	45.00
l_b,int, Bicycle LOS Score for Intersection	2.505	3.307	3.601	4.132
Bicycle LOS	B	C	D	D

Sequence

Ring 1	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 3: Riverside Ave / Slover Ave

Control Type:	Signalized	Delay (sec / veh):	45.2
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.104

Intersection Setup

Name	Riverside Ave			Riverside Ave			Slover Ave			Slover Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Riverside Ave			Riverside Ave			Slover Ave			Slover Ave		
Base Volume Input [veh/h]	74	1035	29	51	1313	438	256	20	75	31	17	34
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	105	0	0	194	109	98	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	75	1161	30	52	1533	556	359	20	77	32	17	35
Peak Hour Factor	0.9450	0.9450	0.9450	0.9450	0.9450	0.9450	0.9450	0.9450	0.9450	0.9450	0.9450	0.9450
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	20	307	8	14	406	147	95	5	20	8	4	9
Total Analysis Volume [veh/h]	79	1229	32	55	1622	588	380	21	81	34	18	37
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	5	2	0	1	6	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	7	7	0	7	7	0	0	7	0	0	7	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	10	31	0	34	55	0	0	25	0	0	25	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	C	L	C	C
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
g_i, Effective Green Time [s]	6	54	54	5	53	53	22	22	22	22	22	22
g / C, Green / Cycle	0.07	0.60	0.60	0.06	0.59	0.59	0.24	0.24	0.24	0.24	0.24	0.24
(v / s)_i Volume / Saturation Flow Rate	0.04	0.33	0.33	0.03	0.58	0.64	0.28	0.01	0.05	0.03	0.01	0.02
s, saturation flow rate [veh/h]	1810	1900	1883	1810	1900	1737	1370	1900	1615	1313	1900	1615
c, Capacity [veh/h]	121	1133	1123	107	1118	1022	360	464	395	319	464	395
d1, Uniform Delay [s]	40.96	11.00	11.00	41.08	18.21	18.52	37.84	25.98	27.05	30.89	25.93	26.29
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.35	0.11	0.11	0.11	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	5.78	1.99	2.01	3.76	24.23	52.70	54.79	0.04	0.25	0.14	0.03	0.10
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, 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
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.65	0.56	0.56	0.51	0.99	1.08	1.05	0.05	0.21	0.11	0.04	0.09
d, Delay for Lane Group [s/veh]	46.74	12.99	13.02	44.84	42.44	71.22	92.63	26.02	27.30	31.03	25.97	26.39
Lane Group LOS	D	B	B	D	D	F	F	C	C	C	C	C
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No	No	No	No	No
50th-Percentile Queue Length [veh/ln]	1.88	7.45	7.41	1.28	27.07	33.35	13.45	0.34	1.39	0.63	0.30	0.62
50th-Percentile Queue Length [ft/ln]	47.08	186.35	185.19	32.08	676.85	833.81	336.21	8.62	34.82	15.64	7.38	15.43
95th-Percentile Queue Length [veh/ln]	3.39	11.93	11.87	2.31	35.61	45.65	20.06	0.62	2.51	1.13	0.53	1.11
95th-Percentile Queue Length [ft/ln]	84.74	298.28	296.78	57.75	890.19	1141.32	501.42	15.52	62.67	28.16	13.28	27.78

Movement, Approach, & Intersection Results

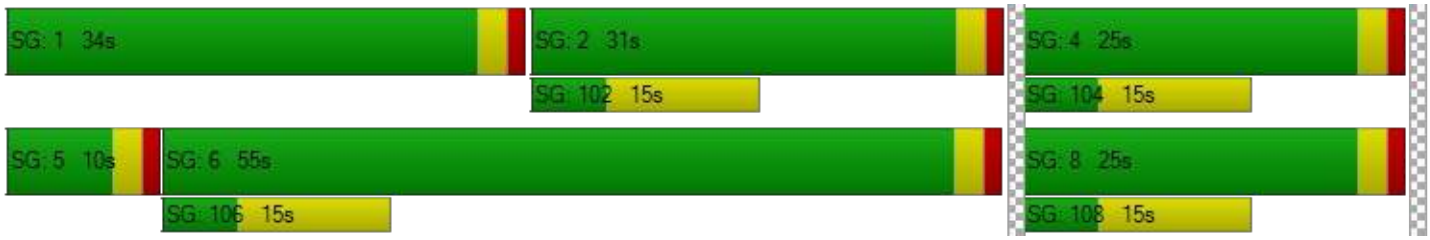
d_M, Delay for Movement [s/veh]	46.74	13.00	13.02	44.84	51.61	71.22	92.63	26.02	27.30	31.03	25.97	26.39
Movement LOS	D	B	B	D	D	E	F	C	C	C	C	C
d_A, Approach Delay [s/veh]	14.99			56.54			78.75			28.08		
Approach LOS	B			E			E			C		
d_I, Intersection Delay [s/veh]	45.16											
Intersection LOS	D											
Intersection V/C	1.104											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	36.45	36.45	36.45	36.45
l_p,int, Pedestrian LOS Score for Intersection	3.003	3.630	2.529	2.340
Crosswalk LOS	C	D	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	622	1156	489	489
d_b, Bicycle Delay [s]	21.36	8.02	25.69	25.69
l_b,int, Bicycle LOS Score for Intersection	2.665	3.428	1.957	1.633
Bicycle LOS	B	C	A	A

Sequence

Ring 1	1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 4: Riverside Ave / Santa Ana Ave

Control Type:	Signalized	Delay (sec / veh):	16.9
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.743

Intersection Setup

Name	Riverside Ave			Riverside Ave			Santa Ana Ave			Santa Ana Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			No			No			Yes		

Volumes

Name	Riverside Ave			Riverside Ave			Santa Ana Ave			Santa Ana Ave		
Base Volume Input [veh/h]	72	994	58	79	1244	126	92	29	64	39	39	73
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	17	2	56	56	51	30	1	0	1	0	35
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	73	1031	61	137	1325	180	124	31	65	41	40	109
Peak Hour Factor	0.9280	0.9280	0.9280	0.9280	0.9280	0.9280	0.9280	0.9280	0.9280	0.9280	0.9280	0.9280
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	20	278	16	37	357	48	33	8	18	11	11	29
Total Analysis Volume [veh/h]	79	1111	66	148	1428	194	134	33	70	44	43	117
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	5	2	0	1	6	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	7	7	0	7	7	0	0	7	0	0	7	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	10	56	0	16	62	0	0	18	0	0	18	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	C	R	L	C	R
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
g_i, Effective Green Time [s]	6	57	57	9	60	60	15	15	15	15	15
g / C, Green / Cycle	0.07	0.63	0.63	0.10	0.67	0.67	0.17	0.17	0.17	0.17	0.17
(v / s)_i Volume / Saturation Flow Rate	0.04	0.31	0.31	0.08	0.43	0.44	0.16	0.04	0.03	0.02	0.07
s, saturation flow rate [veh/h]	1810	1900	1863	1810	1900	1823	1052	1615	1312	1900	1615
c, Capacity [veh/h]	122	1198	1175	186	1265	1213	247	269	84	317	269
d1, Uniform Delay [s]	40.90	8.93	8.94	39.45	8.82	9.01	38.66	32.67	44.99	31.97	33.69
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	5.58	1.47	1.50	7.54	2.55	2.88	3.19	0.51	4.91	0.19	1.11
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.65	0.50	0.50	0.80	0.65	0.66	0.67	0.26	0.52	0.14	0.43
d, Delay for Lane Group [s/veh]	46.48	10.40	10.44	46.99	11.37	11.89	41.85	33.17	49.90	32.17	34.80
Lane Group LOS	D	B	B	D	B	B	D	C	D	C	C
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No	No	No	No
50th-Percentile Queue Length [veh/ln]	1.88	5.95	5.86	3.54	8.72	8.86	3.81	1.35	1.09	0.81	2.35
50th-Percentile Queue Length [ft/ln]	46.94	148.81	146.49	88.60	218.11	221.40	95.35	33.78	27.21	20.17	58.67
95th-Percentile Queue Length [veh/ln]	3.38	9.95	9.83	6.38	13.57	13.74	6.87	2.43	1.96	1.45	4.22
95th-Percentile Queue Length [ft/ln]	84.50	248.84	245.74	159.49	339.22	343.41	171.64	60.81	48.97	36.30	105.60

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	46.48	10.42	10.44	46.99	11.59	11.89	41.85	41.85	33.17	49.90	32.17	34.80
Movement LOS	D	B	B	D	B	B	D	D	C	D	C	C
d_A, Approach Delay [s/veh]	12.69			14.59			39.29			37.50		
Approach LOS	B			B			D			D		
d_I, Intersection Delay [s/veh]	16.94											
Intersection LOS	B											
Intersection V/C	0.743											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	0.0	0.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	36.45	0.00	0.00	36.45
l_p,int, Pedestrian LOS Score for Intersection	2.972	0.000	0.000	2.243
Crosswalk LOS	C	F	F	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1178	1311	333	333
d_b, Bicycle Delay [s]	7.61	5.34	31.25	31.25
l_b,int, Bicycle LOS Score for Intersection	2.596	3.020	1.951	1.896
Bicycle LOS	B	C	A	A

Sequence

Ring 1	1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 5: Riverside Ave / Jurupa Ave

Control Type:	Signalized	Delay (sec / veh):	8.7
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.560

Intersection Setup

Name	Riverside Ave		Riverside Ave		Jurupa Ave	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		No		Yes	

Volumes

Name	Riverside Ave		Riverside Ave		Jurupa Ave	
Base Volume Input [veh/h]	105	1016	1161	53	40	113
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Proportion of CAVs [%]	0.00					
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	5	2	1	0	0	1
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	112	1038	1185	54	41	116
Peak Hour Factor	0.9520	0.9520	0.9520	0.9520	0.9520	0.9520
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	29	273	311	14	11	30
Total Analysis Volume [veh/h]	118	1090	1245	57	43	122
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Protected	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	5	2	6	0	3	0
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	Lead	-
Minimum Green [s]	7	7	7	0	7	0
Maximum Green [s]	30	30	30	0	30	0
Amber [s]	2.0	2.0	2.0	0.0	2.0	0.0
All red [s]	1.0	1.0	1.0	0.0	1.0	0.0
Split [s]	20	70	50	0	20	0
Vehicle Extension [s]	3.0	3.0	3.0	0.0	3.0	0.0
Walk [s]	0	5	5	0	5	0
Pedestrian Clearance [s]	0	10	10	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No	No		No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	1.0	1.0	1.0	0.0	1.0	0.0
Minimum Recall	No	No	No		No	
Maximum Recall	No	No	No		No	
Pedestrian Recall	No	No	No		No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	R	L	R
C, Cycle Length [s]	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	3.00	3.00	3.00	3.00	3.00	3.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	1.00	1.00	1.00	1.00	1.00	1.00
g_i, Effective Green Time [s]	8	75	65	65	9	9
g / C, Green / Cycle	0.08	0.84	0.72	0.72	0.10	0.10
(v / s)_i Volume / Saturation Flow Rate	0.07	0.30	0.34	0.04	0.02	0.08
s, saturation flow rate [veh/h]	1810	3618	3618	1615	1810	1615
c, Capacity [veh/h]	152	3022	2597	1159	177	158
d1, Uniform Delay [s]	40.37	1.74	5.46	3.71	37.52	39.62
k, delay calibration	0.11	0.50	0.50	0.50	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	8.10	0.34	0.64	0.08	0.70	7.75
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.77	0.36	0.48	0.05	0.24	0.77
d, Delay for Lane Group [s/veh]	48.47	2.08	6.10	3.79	38.22	47.36
Lane Group LOS	D	A	A	A	D	D
Critical Lane Group	Yes	No	Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	2.87	1.09	4.16	0.27	0.90	2.94
50th-Percentile Queue Length [ft/ln]	71.77	27.25	104.01	6.76	22.54	73.44
95th-Percentile Queue Length [veh/ln]	5.17	1.96	7.49	0.49	1.62	5.29
95th-Percentile Queue Length [ft/ln]	129.18	49.05	187.22	12.17	40.57	132.18

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	48.47	2.08	6.10	3.79	38.22	47.36
Movement LOS	D	A	A	A	D	D
d_A, Approach Delay [s/veh]	6.61		6.00		44.98	
Approach LOS	A		A		D	
d_I, Intersection Delay [s/veh]	8.68					
Intersection LOS	A					
Intersection V/C	0.560					

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	0.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	36.45	0.00	36.45
l_p,int, Pedestrian LOS Score for Intersection	2.873	0.000	2.052
Crosswalk LOS	C	F	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1489	1044	378
d_b, Bicycle Delay [s]	2.94	10.27	29.61
l_b,int, Bicycle LOS Score for Intersection	2.556	2.634	1.560
Bicycle LOS	B	B	A

Sequence

Ring 1	-	2	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Riverside Ave / I-10 WB Ramps	Signalized	HCM 7th Edition	SB Right	1.001	30.5	C
2	Riverside Ave / I-10 EB Ramps	Signalized	HCM 7th Edition	EB Right	1.181	61.8	E
3	Riverside Ave / Slover Ave	Signalized	HCM 7th Edition	EB Left	1.268	94.8	F
4	Riverside Ave / Santa Ana Ave	Signalized	HCM 7th Edition	WB Left	0.871	18.8	B
5	Riverside Ave / Jurupa Ave	Signalized	HCM 7th Edition	NB Left	0.811	11.9	B

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 1: Riverside Ave / I-10 WB Ramps

Control Type:	Signalized	Delay (sec / veh):	30.5
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.001

Intersection Setup

Name	Riverside Ave			Riverside Ave			I-10 WB Ramps			I-10 WB Ramps		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	49.21	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No						No		
Crosswalk	No			No			No			Yes		

Volumes

Name	Riverside Ave			Riverside Ave			I-10 WB Ramps			I-10 WB Ramps		
Base Volume Input [veh/h]	362	1663	0	0	1269	426	0	0	0	609	2	570
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0200	1.0200	1.0000	1.0000	1.0200	1.0200	1.0000	1.0000	1.0000	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	150	179	0	0	196	196	0	0	0	107	0	179
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	519	1875	0	0	1490	631	0	0	0	728	2	760
Peak Hour Factor	0.9750	0.9750	1.0000	1.0000	0.9750	0.9750	1.0000	1.0000	1.0000	0.9750	0.9750	0.9750
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	133	481	0	0	382	162	0	0	0	187	1	195
Total Analysis Volume [veh/h]	532	1923	0	0	1528	647	0	0	0	747	2	779
Presence of On-Street Parking	No		No	No		No				No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	5	2	0	0	6	0	0	0	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	7	7	0	0	7	0	0	0	0	0	7	0
Maximum Green [s]	30	30	0	0	30	0	0	0	0	0	30	0
Amber [s]	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0
All red [s]	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0
Split [s]	17	57	0	0	40	0	0	0	0	0	33	0
Vehicle Extension [s]	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	0	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	0	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No						No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0
Minimum Recall	No	No			No						No	
Maximum Recall	No	No			No						No	
Pedestrian Recall	No	No			No						No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	R		L	C	R
C, Cycle Length [s]	90	90	90	90		90	90	90
L, Total Lost Time per Cycle [s]	3.00	3.00	3.00	3.00		3.00	3.00	3.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00		0.00	0.00	0.00
l2, Clearance Lost Time [s]	1.00	1.00	1.00	1.00		1.00	1.00	1.00
g_i, Effective Green Time [s]	14	54	37	37		30	30	30
g / C, Green / Cycle	0.16	0.60	0.41	0.41		0.33	0.33	0.33
(v / s)_i Volume / Saturation Flow Rate	0.15	0.37	0.22	0.40		0.28	0.30	0.32
s, saturation flow rate [veh/h]	3514	5176	6901	1615		1810	1701	1615
c, Capacity [veh/h]	547	3111	2844	666		601	565	537
d1, Uniform Delay [s]	37.81	11.40	19.97	25.94		27.92	28.64	29.31
k, delay calibration	0.11	0.50	0.50	0.50		0.36	0.40	0.43
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00		1.00	1.00	1.00
d2, Incremental Delay [s]	12.63	0.93	0.73	28.65		10.29	16.74	25.63
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00		0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00		1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00		1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.97	0.62	0.54	0.97		0.85	0.90	0.95
d, Delay for Lane Group [s/veh]	50.44	12.33	20.70	54.60		38.22	45.38	54.94
Lane Group LOS	D	B	C	D		D	D	D
Critical Lane Group	Yes	No	No	Yes		No	No	Yes
50th-Percentile Queue Length [veh/ln]	6.67	7.50	5.94	18.04		11.51	12.67	14.10
50th-Percentile Queue Length [ft/ln]	166.80	187.39	148.45	451.11		287.76	316.75	352.41
95th-Percentile Queue Length [veh/ln]	10.91	11.99	9.93	25.01		17.07	18.51	20.25
95th-Percentile Queue Length [ft/ln]	272.70	299.65	248.36	625.28		426.86	462.69	506.35

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	50.44	12.33	0.00	0.00	20.70	54.60	0.00	0.00	0.00	40.50	45.38	51.63
Movement LOS	D	B			C	D				D	D	D
d_A, Approach Delay [s/veh]	20.59			30.78			0.00			46.18		
Approach LOS	C			C			A			D		
d_I, Intersection Delay [s/veh]	30.54											
Intersection LOS	C											
Intersection V/C	1.001											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	36.45
l_p,int, Pedestrian LOS Score for Intersection	0.000	0.000	0.000	2.438
Crosswalk LOS	F	F	F	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1200	822	0	667
d_b, Bicycle Delay [s]	7.20	15.61	45.00	20.00
l_b,int, Bicycle LOS Score for Intersection	2.910	2.457	4.132	4.081
Bicycle LOS	C	B	D	D

Sequence

Ring 1	-	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 2: Riverside Ave / I-10 EB Ramps

Control Type:	Signalized	Delay (sec / veh):	61.8
Analysis Method:	HCM 7th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.181

Intersection Setup

Name	Riverside Ave			Riverside Ave			I-10 EB Ramps			I-10 EB Ramps		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	49.21
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No					
Crosswalk	No			No			No			Yes		

Volumes

Name	Riverside Ave			Riverside Ave			I-10 EB Ramps			I-10 EB Ramps		
Base Volume Input [veh/h]	0	1397	657	487	1415	0	627	0	469	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0200	1.0200	1.0200	1.0200	1.0000	1.0200	1.0200	1.0200	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	150	151	196	107	0	179	0	108	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	1575	821	693	1550	0	819	0	586	0	0	0
Peak Hour Factor	1.0000	0.9730	0.9730	0.9730	0.9730	1.0000	0.9730	0.9730	0.9730	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	405	211	178	398	0	210	0	151	0	0	0
Total Analysis Volume [veh/h]	0	1619	844	712	1593	0	842	0	602	0	0	0
Presence of On-Street Parking	No		No	No		No	No		No			
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	2	0	1	6	0	0	8	0	0	0	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	0	7	0	7	7	0	0	7	0	0	0	0
Maximum Green [s]	0	30	0	30	30	0	0	30	0	0	0	0
Amber [s]	0.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0
All red [s]	0.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0
Split [s]	0	46	0	19	65	0	0	25	0	0	0	0
Vehicle Extension [s]	0.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	0	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No				
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0
I2, Clearance Lost Time [s]	0.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0
Minimum Recall		No		No	No			No				
Maximum Recall		No		No	No			No				
Pedestrian Recall		No		No	No			No				
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	L	C	L	C	R	
C, Cycle Length [s]	90	90	90	90	90	90	90	
L, Total Lost Time per Cycle [s]	3.00	3.00	3.00	3.00	3.00	3.00	3.00	
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
l2, Clearance Lost Time [s]	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
g_i, Effective Green Time [s]	43	43	16	62	22	22	22	
g / C, Green / Cycle	0.48	0.48	0.18	0.69	0.24	0.24	0.24	
(v / s)_i Volume / Saturation Flow Rate	0.45	0.52	0.20	0.44	0.27	0.27	0.30	
s, saturation flow rate [veh/h]	3618	1615	3514	3618	1810	1756	1615	
c, Capacity [veh/h]	1728	772	625	2492	442	429	395	
d1, Uniform Delay [s]	22.21	23.50	37.00	7.78	34.00	34.00	34.00	
k, delay calibration	0.50	0.50	0.11	0.50	0.32	0.34	0.39	
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
d2, Incremental Delay [s]	11.09	61.03	67.59	1.27	60.77	73.91	115.72	
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	

Lane Group Results

X, volume / capacity	0.94	1.09	1.14	0.64	1.09	1.12	1.22	
d, Delay for Lane Group [s/veh]	33.31	84.53	104.59	9.05	94.77	107.91	149.72	
Lane Group LOS	C	F	F	A	F	F	F	
Critical Lane Group	No	Yes	Yes	No	No	No	Yes	
50th-Percentile Queue Length [veh/ln]	17.57	28.11	12.58	7.40	16.84	17.91	21.05	
50th-Percentile Queue Length [ft/ln]	439.16	702.75	314.44	185.10	420.90	447.76	526.30	
95th-Percentile Queue Length [veh/ln]	24.44	39.35	19.57	11.87	24.72	26.49	31.75	
95th-Percentile Queue Length [ft/ln]	610.99	983.78	489.14	296.66	618.01	662.13	793.71	

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	33.31	84.53	104.59	9.05	0.00	100.40	107.91	141.34	0.00	0.00	0.00
Movement LOS		C	F	F	A		F	F	F			
d_A, Approach Delay [s/veh]	50.86			38.56			117.46			0.00		
Approach LOS	D			D			F			A		
d_I, Intersection Delay [s/veh]	61.78											
Intersection LOS	E											
Intersection V/C	1.181											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	36.45
l_p,int, Pedestrian LOS Score for Intersection	0.000	0.000	0.000	2.475
Crosswalk LOS	F	F	F	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	956	1378	489	0
d_b, Bicycle Delay [s]	12.27	4.36	25.69	45.00
l_b,int, Bicycle LOS Score for Intersection	2.914	3.461	3.942	4.132
Bicycle LOS	C	C	D	D

Sequence

Ring 1	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 3: Riverside Ave / Slover Ave

Control Type:	Signalized	Delay (sec / veh):	94.8
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.268

Intersection Setup

Name	Riverside Ave			Riverside Ave			Slover Ave			Slover Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Riverside Ave			Riverside Ave			Slover Ave			Slover Ave		
Base Volume Input [veh/h]	36	1475	22	27	1548	304	441	124	158	35	32	78
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	206	0	0	125	90	94	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	37	1711	22	28	1704	400	544	126	161	36	33	80
Peak Hour Factor	0.9390	0.9390	0.9390	0.9390	0.9390	0.9390	0.9390	0.9390	0.9390	0.9390	0.9390	0.9390
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	10	456	6	7	454	106	145	34	43	10	9	21
Total Analysis Volume [veh/h]	39	1822	23	30	1815	426	579	134	171	38	35	85
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	5	2	0	1	6	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	7	7	0	7	7	0	0	7	0	0	7	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	10	35	0	20	45	0	0	35	0	0	35	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	C	L	C	C
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
g_i, Effective Green Time [s]	4	45	45	4	45	45	32	32	32	32	32	32
g / C, Green / Cycle	0.05	0.50	0.50	0.04	0.50	0.50	0.36	0.36	0.36	0.36	0.36	0.36
(v / s)_i Volume / Saturation Flow Rate	0.02	0.49	0.49	0.02	0.59	0.63	0.45	0.07	0.11	0.03	0.02	0.05
s, saturation flow rate [veh/h]	1810	1900	1892	1810	1900	1781	1292	1900	1615	1091	1900	1615
c, Capacity [veh/h]	88	954	950	76	942	883	464	676	574	361	676	574
d1, Uniform Delay [s]	41.62	21.68	21.76	41.98	22.69	22.69	33.92	20.11	20.90	25.73	19.04	19.73
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.50	0.11	0.11	0.11	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.46	22.16	22.92	3.26	95.95	130.15	128.06	0.14	0.29	0.13	0.03	0.12
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, 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
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.44	0.97	0.97	0.39	1.19	1.27	1.25	0.20	0.30	0.11	0.05	0.15
d, Delay for Lane Group [s/veh]	45.09	43.84	44.67	45.24	118.64	152.84	161.98	20.25	21.19	25.86	19.07	19.84
Lane Group LOS	D	D	D	D	F	F	F	C	C	C	B	B
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No	No	No	No	No
50th-Percentile Queue Length [veh/ln]	0.92	23.00	23.23	0.71	43.26	48.93	26.79	1.93	2.58	0.63	0.48	1.21
50th-Percentile Queue Length [ft/ln]	22.95	574.99	580.66	17.80	1081.53	1223.20	669.73	48.34	64.39	15.76	11.94	30.14
95th-Percentile Queue Length [veh/ln]	1.65	30.86	31.13	1.28	61.36	71.32	40.29	3.48	4.64	1.13	0.86	2.17
95th-Percentile Queue Length [ft/ln]	41.30	771.61	778.25	32.04	1534.10	1783.06	1007.27	87.01	115.89	28.37	21.49	54.25

Movement, Approach, & Intersection Results

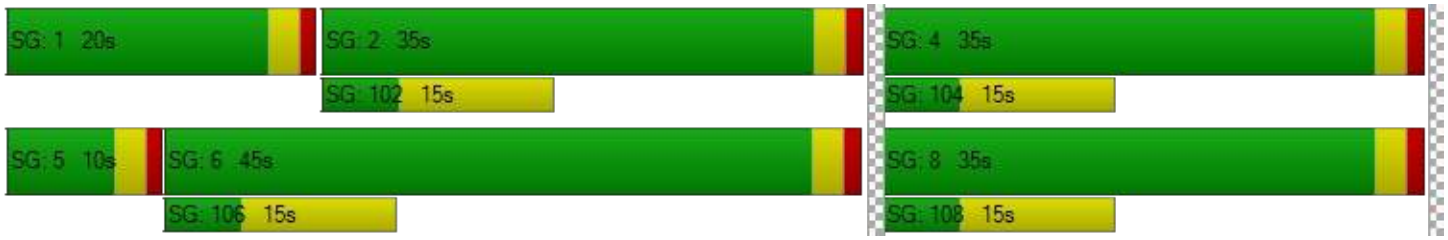
d_M, Delay for Movement [s/veh]	45.09	44.25	44.67	45.24	131.72	152.84	161.98	20.25	21.19	25.86	19.07	19.84
Movement LOS	D	D	D	D	F	F	F	C	C	C	B	B
d_A, Approach Delay [s/veh]	44.27			134.54			113.26			21.12		
Approach LOS	D			F			F			C		
d_I, Intersection Delay [s/veh]	94.75											
Intersection LOS	F											
Intersection V/C	1.268											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	36.45	36.45	36.45	36.45
l_p,int, Pedestrian LOS Score for Intersection	3.143	4.051	2.571	2.369
Crosswalk LOS	C	D	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	711	933	711	711
d_b, Bicycle Delay [s]	18.69	12.80	18.69	18.69
l_b,int, Bicycle LOS Score for Intersection	3.114	3.433	2.289	1.690
Bicycle LOS	C	C	B	A

Sequence

Ring 1	1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 4: Riverside Ave / Santa Ana Ave

Control Type:	Signalized	Delay (sec / veh):	18.8
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.871

Intersection Setup

Name	Riverside Ave			Riverside Ave			Santa Ana Ave			Santa Ana Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			No			No			Yes		

Volumes

Name	Riverside Ave			Riverside Ave			Santa Ana Ave			Santa Ana Ave		
Base Volume Input [veh/h]	91	1321	18	48	1594	81	114	15	99	41	19	67
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	56	1	40	24	34	57	0	0	2	1	59
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	93	1403	19	89	1650	117	173	15	101	44	20	127
Peak Hour Factor	0.9340	0.9340	0.9340	0.9340	0.9340	0.9340	0.9340	0.9340	0.9340	0.9340	0.9340	0.9340
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	25	376	5	24	442	31	46	4	27	12	5	34
Total Analysis Volume [veh/h]	100	1502	20	95	1767	125	185	16	108	47	21	136
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	5	2	0	1	6	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	7	7	0	7	7	0	0	7	0	0	7	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	10	48	0	23	61	0	0	19	0	0	19	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	C	R	L	C	R
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
g_i, Effective Green Time [s]	6	59	59	6	59	59	16	16	16	16	16
g / C, Green / Cycle	0.07	0.65	0.65	0.07	0.65	0.65	0.18	0.18	0.18	0.18	0.18
(v / s)_i Volume / Saturation Flow Rate	0.06	0.40	0.40	0.05	0.50	0.51	0.19	0.07	0.04	0.01	0.08
s, saturation flow rate [veh/h]	1810	1900	1891	1810	1900	1857	1057	1615	1287	1900	1615
c, Capacity [veh/h]	129	1236	1230	130	1236	1208	265	287	80	338	287
d1, Uniform Delay [s]	41.07	9.18	9.19	40.92	10.93	11.19	38.84	32.60	45.00	30.76	33.22
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.15	0.11	0.11	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	9.41	2.31	2.33	7.69	4.55	5.11	6.04	0.81	6.59	0.08	1.21
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.77	0.62	0.62	0.73	0.77	0.78	0.76	0.38	0.58	0.06	0.47
d, Delay for Lane Group [s/veh]	50.48	11.49	11.52	48.62	15.48	16.29	44.88	33.42	51.59	30.84	34.43
Lane Group LOS	D	B	B	D	B	B	D	C	D	C	C
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No	No	No	No
50th-Percentile Queue Length [veh/ln]	2.49	8.22	8.22	2.32	12.57	12.99	4.84	2.11	1.19	0.38	2.72
50th-Percentile Queue Length [ft/ln]	62.24	205.53	205.41	57.91	314.37	324.70	121.06	52.76	29.66	9.56	68.03
95th-Percentile Queue Length [veh/ln]	4.48	12.92	12.92	4.17	18.39	18.90	8.45	3.80	2.14	0.69	4.90
95th-Percentile Queue Length [ft/ln]	112.04	323.08	322.93	104.24	459.76	472.46	211.28	94.96	53.39	17.21	122.45

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	50.48	11.51	11.52	48.62	15.86	16.29	44.88	44.88	33.42	51.59	30.84	34.43
Movement LOS	D	B	B	D	B	B	D	D	C	D	C	C
d_A, Approach Delay [s/veh]	13.91			17.45			40.87			38.02		
Approach LOS	B			B			D			D		
d_I, Intersection Delay [s/veh]	18.83											
Intersection LOS	B											
Intersection V/C	0.871											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	0.0	0.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	36.45	0.00	0.00	36.45
l_p,int, Pedestrian LOS Score for Intersection	3.097	0.000	0.000	2.214
Crosswalk LOS	C	F	F	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1000	1289	356	356
d_b, Bicycle Delay [s]	11.25	5.69	30.42	30.42
l_b,int, Bicycle LOS Score for Intersection	2.898	3.199	2.069	1.896
Bicycle LOS	C	C	B	A

Sequence

Ring 1	1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 5: Riverside Ave / Jurupa Ave

Control Type:	Signalized	Delay (sec / veh):	11.9
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.811

Intersection Setup

Name	Riverside Ave		Riverside Ave		Jurupa Ave	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		No		Yes	

Volumes

Name	Riverside Ave		Riverside Ave		Jurupa Ave	
Base Volume Input [veh/h]	106	1280	1664	48	32	165
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Proportion of CAVs [%]	0.00					
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	2	1	2	0	0	2
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	110	1307	1699	49	33	170
Peak Hour Factor	0.9050	0.9050	0.9050	0.9050	0.9050	0.9050
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	30	361	469	14	9	47
Total Analysis Volume [veh/h]	122	1444	1877	54	36	188
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Protected	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	5	2	6	0	3	0
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	Lead	-
Minimum Green [s]	7	7	7	0	7	0
Maximum Green [s]	30	30	30	0	30	0
Amber [s]	2.0	2.0	2.0	0.0	2.0	0.0
All red [s]	1.0	1.0	1.0	0.0	1.0	0.0
Split [s]	11	71	60	0	19	0
Vehicle Extension [s]	3.0	3.0	3.0	0.0	3.0	0.0
Walk [s]	0	5	5	0	5	0
Pedestrian Clearance [s]	0	10	10	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No	No		No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	1.0	1.0	1.0	0.0	1.0	0.0
Minimum Recall	No	No	No		No	
Maximum Recall	No	No	No		No	
Pedestrian Recall	No	No	No		No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	R	L	R
C, Cycle Length [s]	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	3.00	3.00	3.00	3.00	3.00	3.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	1.00	1.00	1.00	1.00	1.00	1.00
g_i, Effective Green Time [s]	8	72	61	61	12	12
g / C, Green / Cycle	0.08	0.80	0.68	0.68	0.14	0.14
(v / s)_i Volume / Saturation Flow Rate	0.07	0.40	0.52	0.03	0.02	0.12
s, saturation flow rate [veh/h]	1810	3618	3618	1615	1810	1615
c, Capacity [veh/h]	153	2873	2447	1093	252	225
d1, Uniform Delay [s]	40.45	3.17	9.79	4.87	34.03	37.75
k, delay calibration	0.11	0.50	0.50	0.50	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	9.14	0.63	2.37	0.09	0.26	8.03
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.80	0.50	0.77	0.05	0.14	0.84
d, Delay for Lane Group [s/veh]	49.59	3.80	12.15	4.96	34.29	45.78
Lane Group LOS	D	A	B	A	C	D
Critical Lane Group	Yes	No	Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	3.01	2.94	10.91	0.32	0.70	4.47
50th-Percentile Queue Length [ft/ln]	75.14	73.51	272.69	7.88	17.59	111.79
95th-Percentile Queue Length [veh/ln]	5.41	5.29	16.32	0.57	1.27	7.94
95th-Percentile Queue Length [ft/ln]	135.25	132.32	408.10	14.19	31.66	198.48

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	49.59	3.80	12.15	4.96	34.29	45.78
Movement LOS	D	A	B	A	C	D
d_A, Approach Delay [s/veh]	7.37		11.95		43.94	
Approach LOS	A		B		D	
d_I, Intersection Delay [s/veh]	11.95					
Intersection LOS	B					
Intersection V/C	0.811					

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	0.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	36.45	0.00	36.45
I_p,int, Pedestrian LOS Score for Intersection	3.044	0.000	2.072
Crosswalk LOS	C	F	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1511	1267	356
d_b, Bicycle Delay [s]	2.69	6.05	30.42
I_b,int, Bicycle LOS Score for Intersection	2.852	3.153	1.560
Bicycle LOS	C	C	A

Sequence

Ring 1	-	2	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

APPENDIX D-5

INTERSECTION ANALYSIS
WORKSHEETS – OPENING YEAR 2024
CUMULATIVE PLUS PROJECT

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Riverside Ave / I-10 WB Ramps	Signalized	HCM 7th Edition	WB Right	0.982	29.2	C
2	Riverside Ave / I-10 EB Ramps	Signalized	HCM 7th Edition	EB Right	0.920	28.3	C
3	Riverside Ave / Slover Ave	Signalized	HCM 7th Edition	EB Left	1.121	48.7	D
4	Riverside Ave / Santa Ana Ave	Signalized	HCM 7th Edition	WB Left	0.757	18.6	B
5	Riverside Ave / Jurupa Ave	Signalized	HCM 7th Edition	NB Left	0.560	8.7	A
6	Santa Ana Ave / West Dwy	Two-way stop	HCM 7th Edition	NB Left	0.149	13.1	B

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 1: Riverside Ave / I-10 WB Ramps

Control Type:	Signalized	Delay (sec / veh):	29.2
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.982

Intersection Setup

Name	Riverside Ave			Riverside Ave			I-10 WB Ramps			I-10 WB Ramps		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	49.21	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No						No		
Crosswalk	No			No			No			Yes		

Volumes

Name	Riverside Ave			Riverside Ave			I-10 WB Ramps			I-10 WB Ramps		
Base Volume Input [veh/h]	335	970	0	0	1121	588	0	0	0	577	6	395
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0200	1.0200	1.0000	1.0000	1.0200	1.0200	1.0000	1.0000	1.0000	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	102	128	0	0	95	95	0	0	0	151	0	128
Site-Generated Trips [veh/h]	35	1	0	0	1	0	0	0	0	24	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	479	1118	0	0	1239	695	0	0	0	764	6	531
Peak Hour Factor	0.9820	0.9820	1.0000	1.0000	0.9820	0.9820	1.0000	1.0000	1.0000	0.9820	0.9820	0.9820
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	122	285	0	0	315	177	0	0	0	195	2	135
Total Analysis Volume [veh/h]	488	1138	0	0	1262	708	0	0	0	778	6	541
Presence of On-Street Parking	No		No	No		No				No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	5	2	0	0	6	0	0	0	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	7	7	0	0	7	0	0	0	0	0	7	0
Maximum Green [s]	30	30	0	0	30	0	0	0	0	0	30	0
Amber [s]	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0
All red [s]	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0
Split [s]	16	61	0	0	45	0	0	0	0	0	29	0
Vehicle Extension [s]	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	0	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	0	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No						No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0
Minimum Recall	No	No			No						No	
Maximum Recall	No	No			No						No	
Pedestrian Recall	No	No			No						No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	R		L	C	R
C, Cycle Length [s]	90	90	90	90		90	90	90
L, Total Lost Time per Cycle [s]	3.00	3.00	3.00	3.00		3.00	3.00	3.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00		0.00	0.00	0.00
l2, Clearance Lost Time [s]	1.00	1.00	1.00	1.00		1.00	1.00	1.00
g_i, Effective Green Time [s]	13	58	42	42		26	26	26
g / C, Green / Cycle	0.14	0.64	0.47	0.47		0.29	0.29	0.29
(v / s)_i Volume / Saturation Flow Rate	0.14	0.22	0.18	0.44		0.24	0.25	0.27
s, saturation flow rate [veh/h]	3514	5176	6901	1615		1810	1763	1615
c, Capacity [veh/h]	508	3335	3220	754		523	509	467
d1, Uniform Delay [s]	38.25	7.29	15.66	22.79		30.10	30.36	31.32
k, delay calibration	0.11	0.50	0.50	0.50		0.27	0.29	0.34
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00		1.00	1.00	1.00
d2, Incremental Delay [s]	11.49	0.28	0.36	20.94		9.02	11.14	23.45
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00		0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00		1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00		1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.96	0.34	0.39	0.94		0.84	0.87	0.95
d, Delay for Lane Group [s/veh]	49.74	7.57	16.02	43.73		39.12	41.50	54.77
Lane Group LOS	D	A	B	D		D	D	D
Critical Lane Group	Yes	No	No	Yes		No	No	Yes
50th-Percentile Queue Length [veh/ln]	6.05	3.01	4.11	17.56		10.01	10.35	12.09
50th-Percentile Queue Length [ft/ln]	151.33	75.15	102.87	438.93		250.30	258.82	302.32
95th-Percentile Queue Length [veh/ln]	10.09	5.41	7.41	24.43		15.20	15.63	17.80
95th-Percentile Queue Length [ft/ln]	252.20	135.27	185.17	610.73		380.03	390.74	444.89

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	49.74	7.57	0.00	0.00	16.02	43.73	0.00	0.00	0.00	40.15	41.50	52.33
Movement LOS	D	A			B	D				D	D	D
d_A, Approach Delay [s/veh]	20.23			25.98			0.00			45.13		
Approach LOS	C			C			A			D		
d_I, Intersection Delay [s/veh]	29.24											
Intersection LOS	C											
Intersection V/C	0.982											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	36.45
l_p,int, Pedestrian LOS Score for Intersection	0.000	0.000	0.000	2.372
Crosswalk LOS	F	F	F	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1289	933	0	578
d_b, Bicycle Delay [s]	5.69	12.80	45.00	22.76
l_b,int, Bicycle LOS Score for Intersection	2.454	2.372	4.132	3.746
Bicycle LOS	B	B	D	D

Sequence

Ring 1	-	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 2: Riverside Ave / I-10 EB Ramps

Control Type:	Signalized	Delay (sec / veh):	28.3
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.920

Intersection Setup

Name	Riverside Ave			Riverside Ave			I-10 EB Ramps			I-10 EB Ramps		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	49.21
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No					
Crosswalk	No			No			No			Yes		

Volumes

Name	Riverside Ave			Riverside Ave			I-10 EB Ramps			I-10 EB Ramps		
Base Volume Input [veh/h]	0	950	425	422	1279	0	354	9	497	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0200	1.0200	1.0200	1.0200	1.0000	1.0200	1.0200	1.0200	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	102	102	95	151	0	128	0	151	0	0	0
Site-Generated Trips [veh/h]	0	36	34	0	25	0	0	0	23	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	1107	570	525	1481	0	489	9	681	0	0	0
Peak Hour Factor	1.0000	0.9350	0.9350	0.9350	0.9350	1.0000	0.9350	0.9350	0.9350	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	296	152	140	396	0	131	2	182	0	0	0
Total Analysis Volume [veh/h]	0	1184	610	561	1584	0	523	10	728	0	0	0
Presence of On-Street Parking	No		No	No		No	No		No			
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	2	0	1	6	0	0	8	0	0	0	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	0	7	0	7	7	0	0	7	0	0	0	0
Maximum Green [s]	0	30	0	30	30	0	0	30	0	0	0	0
Amber [s]	0.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0
All red [s]	0.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0
Split [s]	0	39	0	20	59	0	0	31	0	0	0	0
Vehicle Extension [s]	0.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	0	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No				
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0
I2, Clearance Lost Time [s]	0.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0
Minimum Recall		No		No	No			No				
Maximum Recall		No		No	No			No				
Pedestrian Recall		No		No	No			No				
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	L	C	L	C	R	
C, Cycle Length [s]	90	90	90	90	90	90	90	
L, Total Lost Time per Cycle [s]	3.00	3.00	3.00	3.00	3.00	3.00	3.00	
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
l2, Clearance Lost Time [s]	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
g_i, Effective Green Time [s]	39	39	16	58	26	26	26	
g / C, Green / Cycle	0.43	0.43	0.18	0.64	0.29	0.29	0.29	
(v / s)_i Volume / Saturation Flow Rate	0.33	0.38	0.16	0.44	0.23	0.25	0.26	
s, saturation flow rate [veh/h]	3618	1615	3514	3618	1810	1665	1615	
c, Capacity [veh/h]	1555	694	635	2329	524	482	467	
d1, Uniform Delay [s]	21.75	23.51	35.94	10.15	29.59	30.40	30.71	
k, delay calibration	0.50	0.50	0.11	0.50	0.24	0.29	0.31	
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
d2, Incremental Delay [s]	3.57	14.78	4.29	1.62	6.38	12.24	15.73	
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	

Lane Group Results

X, volume / capacity	0.76	0.88	0.88	0.68	0.80	0.87	0.90	
d, Delay for Lane Group [s/veh]	25.32	38.29	40.23	11.78	35.97	42.64	46.45	
Lane Group LOS	C	D	D	B	D	D	D	
Critical Lane Group	No	Yes	Yes	No	No	No	Yes	
50th-Percentile Queue Length [veh/ln]	10.77	13.98	6.25	8.99	9.08	10.01	10.50	
50th-Percentile Queue Length [ft/ln]	269.19	349.60	156.34	224.87	226.97	250.24	262.55	
95th-Percentile Queue Length [veh/ln]	16.15	20.12	10.35	13.91	14.02	15.20	15.82	
95th-Percentile Queue Length [ft/ln]	403.73	502.93	258.87	347.83	350.51	379.96	395.42	

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	25.32	38.29	40.23	11.78	0.00	37.28	42.64	44.84	0.00	0.00	0.00
Movement LOS		C	D	D	B		D	D	D			
d_A, Approach Delay [s/veh]	29.73			19.22			41.69			0.00		
Approach LOS	C			B			D			A		
d_I, Intersection Delay [s/veh]	28.29											
Intersection LOS	C											
Intersection V/C	0.920											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	36.45
l_p,int, Pedestrian LOS Score for Intersection	0.000	0.000	0.000	2.292
Crosswalk LOS	F	F	F	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	800	1244	622	0
d_b, Bicycle Delay [s]	16.20	6.42	21.36	45.00
l_b,int, Bicycle LOS Score for Intersection	2.546	3.329	3.640	4.132
Bicycle LOS	B	C	D	D

Sequence

Ring 1	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 3: Riverside Ave / Slover Ave

Control Type:	Signalized	Delay (sec / veh):	48.7
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.121

Intersection Setup

Name	Riverside Ave			Riverside Ave			Slover Ave			Slover Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Riverside Ave			Riverside Ave			Slover Ave			Slover Ave		
Base Volume Input [veh/h]	74	1035	29	51	1313	438	256	20	75	31	17	34
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	105	0	0	194	109	98	0	0	0	0	0
Site-Generated Trips [veh/h]	1	70	0	0	48	0	0	0	1	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	76	1231	30	52	1581	556	359	20	78	32	17	35
Peak Hour Factor	0.9450	0.9450	0.9450	0.9450	0.9450	0.9450	0.9450	0.9450	0.9450	0.9450	0.9450	0.9450
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	20	326	8	14	418	147	95	5	21	8	4	9
Total Analysis Volume [veh/h]	80	1303	32	55	1673	588	380	21	83	34	18	37
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	5	2	0	1	6	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	7	7	0	7	7	0	0	7	0	0	7	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	10	31	0	34	55	0	0	25	0	0	25	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	C	L	C	C
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
g_i, Effective Green Time [s]	6	54	54	5	53	53	22	22	22	22	22	22
g / C, Green / Cycle	0.07	0.60	0.60	0.06	0.59	0.59	0.24	0.24	0.24	0.24	0.24	0.24
(v / s)_i Volume / Saturation Flow Rate	0.04	0.35	0.35	0.03	0.60	0.65	0.28	0.01	0.05	0.03	0.01	0.02
s, saturation flow rate [veh/h]	1810	1900	1884	1810	1900	1740	1370	1900	1615	1311	1900	1615
c, Capacity [veh/h]	122	1133	1123	107	1118	1024	360	464	395	318	464	395
d1, Uniform Delay [s]	40.96	11.32	11.34	41.08	18.53	18.53	37.84	25.98	27.08	30.97	25.93	26.29
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.35	0.11	0.11	0.11	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	5.89	2.27	2.30	3.76	29.77	61.21	54.79	0.04	0.26	0.15	0.03	0.10
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, 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
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.66	0.59	0.59	0.51	1.01	1.10	1.05	0.05	0.21	0.11	0.04	0.09
d, Delay for Lane Group [s/veh]	46.85	13.59	13.63	44.84	48.30	79.73	92.63	26.02	27.34	31.11	25.97	26.39
Lane Group LOS	D	B	B	D	F	F	F	C	C	C	C	C
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No	No	No	No	No
50th-Percentile Queue Length [veh/ln]	1.91	8.15	8.11	1.28	29.36	35.83	13.45	0.34	1.43	0.63	0.30	0.62
50th-Percentile Queue Length [ft/ln]	47.74	203.87	202.87	32.08	733.89	895.65	336.21	8.62	35.73	15.67	7.38	15.43
95th-Percentile Queue Length [veh/ln]	3.44	12.84	12.79	2.31	38.62	49.47	20.06	0.62	2.57	1.13	0.53	1.11
95th-Percentile Queue Length [ft/ln]	85.93	320.95	319.67	57.75	965.45	1236.69	501.42	15.52	64.31	28.20	13.28	27.78

Movement, Approach, & Intersection Results

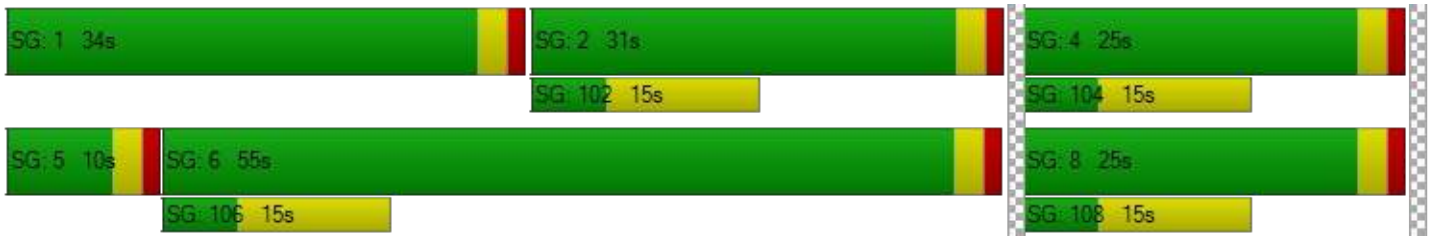
d_M, Delay for Movement [s/veh]	46.85	13.61	13.63	44.84	58.49	79.73	92.63	26.02	27.34	31.11	25.97	26.39
Movement LOS	D	B	B	D	E	E	F	C	C	C	C	C
d_A, Approach Delay [s/veh]	15.49			63.56			78.54			28.11		
Approach LOS	B			E			E			C		
d_I, Intersection Delay [s/veh]	48.71											
Intersection LOS	D											
Intersection V/C	1.121											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	36.45	36.45	36.45	36.45
l_p,int, Pedestrian LOS Score for Intersection	3.024	3.651	2.530	2.340
Crosswalk LOS	C	D	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	622	1156	489	489
d_b, Bicycle Delay [s]	21.36	8.02	25.69	25.69
l_b,int, Bicycle LOS Score for Intersection	2.727	3.470	1.959	1.633
Bicycle LOS	B	C	A	A

Sequence

Ring 1	1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 4: Riverside Ave / Santa Ana Ave

Control Type:	Signalized	Delay (sec / veh):	18.6
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.757

Intersection Setup

Name	Riverside Ave			Riverside Ave			Santa Ana Ave			Santa Ana Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			No			No			Yes		

Volumes

Name	Riverside Ave			Riverside Ave			Santa Ana Ave			Santa Ana Ave		
Base Volume Input [veh/h]	72	994	58	79	1244	126	92	29	64	39	39	73
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	17	2	56	56	51	30	1	0	1	0	35
Site-Generated Trips [veh/h]	0	0	2	49	0	0	0	1	0	2	1	71
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	73	1031	63	186	1325	180	124	32	65	43	41	180
Peak Hour Factor	0.9280	0.9280	0.9280	0.9280	0.9280	0.9280	0.9280	0.9280	0.9280	0.9280	0.9280	0.9280
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	20	278	17	50	357	48	33	9	18	12	11	48
Total Analysis Volume [veh/h]	79	1111	68	200	1428	194	134	34	70	46	44	194
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	5	2	0	1	6	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	7	7	0	7	7	0	0	7	0	0	7	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	10	56	0	16	62	0	0	18	0	0	18	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	C	R	L	C	R
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
g_i, Effective Green Time [s]	6	54	54	12	60	60	15	15	15	15	15
g / C, Green / Cycle	0.07	0.60	0.60	0.13	0.67	0.67	0.17	0.17	0.17	0.17	0.17
(v / s)_i Volume / Saturation Flow Rate	0.04	0.31	0.31	0.11	0.43	0.44	0.17	0.04	0.04	0.02	0.12
s, saturation flow rate [veh/h]	1810	1900	1862	1810	1900	1823	991	1615	1311	1900	1615
c, Capacity [veh/h]	124	1144	1121	238	1263	1212	237	269	88	317	269
d1, Uniform Delay [s]	40.84	10.38	10.39	38.18	8.84	9.06	39.04	32.67	44.95	31.99	35.52
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	5.39	1.69	1.73	7.84	2.55	2.90	3.88	0.51	4.74	0.20	3.62
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.64	0.52	0.52	0.84	0.65	0.67	0.71	0.26	0.52	0.14	0.72
d, Delay for Lane Group [s/veh]	46.23	12.07	12.12	46.01	11.39	11.96	42.92	33.17	49.69	32.19	39.14
Lane Group LOS	D	B	B	D	B	B	D	C	D	C	D
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No	No	No	No
50th-Percentile Queue Length [veh/ln]	1.87	6.64	6.54	4.76	8.71	8.90	3.91	1.35	1.13	0.83	4.23
50th-Percentile Queue Length [ft/ln]	46.80	166.08	163.43	118.90	217.71	222.57	97.68	33.78	28.33	20.65	105.71
95th-Percentile Queue Length [veh/ln]	3.37	10.87	10.73	8.33	13.55	13.80	7.03	2.43	2.04	1.49	7.60
95th-Percentile Queue Length [ft/ln]	84.25	271.76	268.26	208.31	338.70	344.91	175.83	60.81	50.99	37.17	190.02

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	46.23	12.09	12.12	46.01	11.64	11.96	42.92	42.92	33.17	49.69	32.19	39.14
Movement LOS	D	B	B	D	B	B	D	D	C	D	C	D
d_A, Approach Delay [s/veh]	14.24			15.45			40.05			39.77		
Approach LOS	B			B			D			D		
d_I, Intersection Delay [s/veh]	18.57											
Intersection LOS	B											
Intersection V/C	0.757											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	0.0	0.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	36.45	0.00	0.00	36.45
l_p,int, Pedestrian LOS Score for Intersection	2.975	0.000	0.000	2.275
Crosswalk LOS	C	F	F	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1178	1311	333	333
d_b, Bicycle Delay [s]	7.61	5.34	31.25	31.25
l_b,int, Bicycle LOS Score for Intersection	2.597	3.063	1.952	2.028
Bicycle LOS	B	C	A	B

Sequence

Ring 1	1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 5: Riverside Ave / Jurupa Ave

Control Type:	Signalized	Delay (sec / veh):	8.7
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.560

Intersection Setup

Name	Riverside Ave		Riverside Ave		Jurupa Ave	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		No		Yes	

Volumes

Name	Riverside Ave		Riverside Ave		Jurupa Ave	
Base Volume Input [veh/h]	105	1016	1161	53	40	113
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Proportion of CAVs [%]	0.00					
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	5	2	1	0	0	1
Site-Generated Trips [veh/h]	0	1	1	1	1	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	112	1039	1186	55	42	116
Peak Hour Factor	0.9520	0.9520	0.9520	0.9520	0.9520	0.9520
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	29	273	311	14	11	30
Total Analysis Volume [veh/h]	118	1091	1246	58	44	122
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Protected	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	5	2	6	0	3	0
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	Lead	-
Minimum Green [s]	7	7	7	0	7	0
Maximum Green [s]	30	30	30	0	30	0
Amber [s]	2.0	2.0	2.0	0.0	2.0	0.0
All red [s]	1.0	1.0	1.0	0.0	1.0	0.0
Split [s]	20	70	50	0	20	0
Vehicle Extension [s]	3.0	3.0	3.0	0.0	3.0	0.0
Walk [s]	0	5	5	0	5	0
Pedestrian Clearance [s]	0	10	10	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No	No		No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	1.0	1.0	1.0	0.0	1.0	0.0
Minimum Recall	No	No	No		No	
Maximum Recall	No	No	No		No	
Pedestrian Recall	No	No	No		No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	R	L	R
C, Cycle Length [s]	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	3.00	3.00	3.00	3.00	3.00	3.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	1.00	1.00	1.00	1.00	1.00	1.00
g_i, Effective Green Time [s]	8	75	65	65	9	9
g / C, Green / Cycle	0.08	0.84	0.72	0.72	0.10	0.10
(v / s)_i Volume / Saturation Flow Rate	0.07	0.30	0.34	0.04	0.02	0.08
s, saturation flow rate [veh/h]	1810	3618	3618	1615	1810	1615
c, Capacity [veh/h]	152	3022	2597	1159	177	158
d1, Uniform Delay [s]	40.37	1.75	5.46	3.72	37.53	39.61
k, delay calibration	0.11	0.50	0.50	0.50	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	8.10	0.34	0.64	0.08	0.72	7.73
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.77	0.36	0.48	0.05	0.25	0.77
d, Delay for Lane Group [s/veh]	48.47	2.08	6.10	3.80	38.26	47.34
Lane Group LOS	D	A	A	A	D	D
Critical Lane Group	Yes	No	Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	2.87	1.09	4.17	0.28	0.92	2.94
50th-Percentile Queue Length [ft/ln]	71.77	27.32	104.17	6.89	23.08	73.41
95th-Percentile Queue Length [veh/ln]	5.17	1.97	7.50	0.50	1.66	5.29
95th-Percentile Queue Length [ft/ln]	129.18	49.17	187.51	12.40	41.54	132.15

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	48.47	2.08	6.10	3.80	38.26	47.34
Movement LOS	D	A	A	A	D	D
d_A, Approach Delay [s/veh]	6.61		6.00		44.93	
Approach LOS	A		A		D	
d_I, Intersection Delay [s/veh]	8.69					
Intersection LOS	A					
Intersection V/C	0.560					

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	0.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	36.45	0.00	36.45
l_p,int, Pedestrian LOS Score for Intersection	2.873	0.000	2.053
Crosswalk LOS	C	F	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1489	1044	378
d_b, Bicycle Delay [s]	2.94	10.27	29.61
l_b,int, Bicycle LOS Score for Intersection	2.557	2.635	1.560
Bicycle LOS	B	B	A

Sequence

Ring 1	-	2	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 6: Santa Ana Ave / West Dwy

Control Type:	Two-way stop	Delay (sec / veh):	13.1
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.149

Intersection Setup

Name	West Dwy		Santa Ana Ave		Santa Ana Ave	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	West Dwy		Santa Ana Ave		Santa Ana Ave	
Base Volume Input [veh/h]	0	0	230	0	0	201
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	18	0	0	6
Site-Generated Trips [veh/h]	74	0	0	52	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	74	0	253	52	0	211
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	19	0	67	14	0	56
Total Analysis Volume [veh/h]	78	0	266	55	0	222
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.15	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	13.09	11.00	0.00	0.00	7.88	0.00
Movement LOS	B	B	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.52	0.52	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	13.02	13.02	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	13.09		0.00		0.00	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	1.64					
Intersection LOS	B					

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Riverside Ave / I-10 WB Ramps	Signalized	HCM 7th Edition	NB Left	1.028	33.9	C
2	Riverside Ave / I-10 EB Ramps	Signalized	HCM 7th Edition	EB Right	1.221	70.1	E
3	Riverside Ave / Slover Ave	Signalized	HCM 7th Edition	SB Right	1.310	113.0	F
4	Riverside Ave / Santa Ana Ave	Signalized	HCM 7th Edition	WB Left	0.894	22.7	C
5	Riverside Ave / Jurupa Ave	Signalized	HCM 7th Edition	NB Left	0.813	12.0	B
6	Santa Ana Ave / West Dwy	Two-way stop	HCM 7th Edition	NB Left	0.143	11.2	B

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 1: Riverside Ave / I-10 WB Ramps

Control Type:	Signalized	Delay (sec / veh):	33.9
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.028

Intersection Setup

Name	Riverside Ave			Riverside Ave			I-10 WB Ramps			I-10 WB Ramps		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	49.21	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No						No		
Crosswalk	No			No			No			Yes		

Volumes

Name	Riverside Ave			Riverside Ave			I-10 WB Ramps			I-10 WB Ramps		
Base Volume Input [veh/h]	362	1663	0	0	1269	426	0	0	0	609	2	570
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0200	1.0200	1.0000	1.0000	1.0200	1.0200	1.0000	1.0000	1.0000	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	150	179	0	0	196	196	0	0	0	107	0	179
Site-Generated Trips [veh/h]	37	5	0	0	4	0	0	0	0	61	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	556	1880	0	0	1494	631	0	0	0	789	2	760
Peak Hour Factor	0.9750	0.9750	1.0000	1.0000	0.9750	0.9750	1.0000	1.0000	1.0000	0.9750	0.9750	0.9750
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	143	482	0	0	383	162	0	0	0	202	1	195
Total Analysis Volume [veh/h]	570	1928	0	0	1532	647	0	0	0	809	2	779
Presence of On-Street Parking	No		No	No		No				No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	5	2	0	0	6	0	0	0	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	7	7	0	0	7	0	0	0	0	0	7	0
Maximum Green [s]	30	30	0	0	30	0	0	0	0	0	30	0
Amber [s]	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0
All red [s]	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0
Split [s]	17	57	0	0	40	0	0	0	0	0	33	0
Vehicle Extension [s]	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	0	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	0	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No						No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0
Minimum Recall	No	No			No						No	
Maximum Recall	No	No			No						No	
Pedestrian Recall	No	No			No						No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	R		L	C	R
C, Cycle Length [s]	90	90	90	90		90	90	90
L, Total Lost Time per Cycle [s]	3.00	3.00	3.00	3.00		3.00	3.00	3.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00		0.00	0.00	0.00
l2, Clearance Lost Time [s]	1.00	1.00	1.00	1.00		1.00	1.00	1.00
g_i, Effective Green Time [s]	14	54	37	37		30	30	30
g / C, Green / Cycle	0.16	0.60	0.41	0.41		0.33	0.33	0.33
(v / s)_i Volume / Saturation Flow Rate	0.16	0.37	0.22	0.40		0.29	0.31	0.33
s, saturation flow rate [veh/h]	3514	5176	6901	1615		1810	1713	1615
c, Capacity [veh/h]	547	3105	2837	664		603	571	538
d1, Uniform Delay [s]	38.00	11.47	20.06	26.04		28.28	28.96	29.77
k, delay calibration	0.11	0.50	0.50	0.50		0.38	0.42	0.46
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00		1.00	1.00	1.00
d2, Incremental Delay [s]	30.26	0.94	0.74	29.21		13.30	20.84	33.72
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00		0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00		1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00		1.00	1.00	1.00

Lane Group Results

X, volume / capacity	1.04	0.62	0.54	0.97		0.88	0.93	0.98
d, Delay for Lane Group [s/veh]	68.26	12.42	20.80	55.25		41.59	49.80	63.49
Lane Group LOS	F	B	C	E		D	D	E
Critical Lane Group	Yes	No	No	Yes		No	No	Yes
50th-Percentile Queue Length [veh/ln]	8.20	7.56	5.97	18.17		12.56	13.88	15.91
50th-Percentile Queue Length [ft/ln]	204.93	188.99	149.35	454.15		313.98	347.06	397.87
95th-Percentile Queue Length [veh/ln]	13.14	12.07	9.98	25.16		18.37	19.99	22.46
95th-Percentile Queue Length [ft/ln]	328.45	301.71	249.56	628.90		459.28	499.82	561.43

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	68.26	12.42	0.00	0.00	20.80	55.25	0.00	0.00	0.00	44.42	49.80	59.11
Movement LOS	F	B			C	E				D	D	E
d_A, Approach Delay [s/veh]	25.16			31.03			0.00			51.62		
Approach LOS	C			C			A			D		
d_I, Intersection Delay [s/veh]	33.92											
Intersection LOS	C											
Intersection V/C	1.028											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	36.45
l_p,int, Pedestrian LOS Score for Intersection	0.000	0.000	0.000	2.458
Crosswalk LOS	F	F	F	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1200	822	0	667
d_b, Bicycle Delay [s]	7.20	15.61	45.00	20.00
l_b,int, Bicycle LOS Score for Intersection	2.934	2.458	4.132	4.183
Bicycle LOS	C	B	D	D

Sequence

Ring 1	-	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 2: Riverside Ave / I-10 EB Ramps

Control Type:	Signalized	Delay (sec / veh):	70.1
Analysis Method:	HCM 7th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.221

Intersection Setup

Name	Riverside Ave			Riverside Ave			I-10 EB Ramps			I-10 EB Ramps		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	49.21
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No					
Crosswalk	No			No			No			Yes		

Volumes

Name	Riverside Ave			Riverside Ave			I-10 EB Ramps			I-10 EB Ramps		
Base Volume Input [veh/h]	0	1397	657	487	1415	0	627	0	469	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0200	1.0200	1.0200	1.0200	1.0000	1.0200	1.0200	1.0200	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	150	151	196	107	0	179	0	108	0	0	0
Site-Generated Trips [veh/h]	0	42	36	0	65	0	0	0	58	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	1617	857	693	1615	0	819	0	644	0	0	0
Peak Hour Factor	1.0000	0.9730	0.9730	0.9730	0.9730	1.0000	0.9730	0.9730	0.9730	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	415	220	178	415	0	210	0	165	0	0	0
Total Analysis Volume [veh/h]	0	1662	881	712	1660	0	842	0	662	0	0	0
Presence of On-Street Parking	No		No	No		No	No		No			
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	2	0	1	6	0	0	8	0	0	0	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	0	7	0	7	7	0	0	7	0	0	0	0
Maximum Green [s]	0	30	0	30	30	0	0	30	0	0	0	0
Amber [s]	0.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0
All red [s]	0.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0
Split [s]	0	46	0	19	65	0	0	25	0	0	0	0
Vehicle Extension [s]	0.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	0	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No				
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0
I2, Clearance Lost Time [s]	0.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0
Minimum Recall		No		No	No			No				
Maximum Recall		No		No	No			No				
Pedestrian Recall		No		No	No			No				
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	L	C	L	C	R	
C, Cycle Length [s]	90	90	90	90	90	90	90	
L, Total Lost Time per Cycle [s]	3.00	3.00	3.00	3.00	3.00	3.00	3.00	
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
l2, Clearance Lost Time [s]	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
g_i, Effective Green Time [s]	43	43	16	62	22	22	22	
g / C, Green / Cycle	0.48	0.48	0.18	0.69	0.24	0.24	0.24	
(v / s)_i Volume / Saturation Flow Rate	0.46	0.55	0.20	0.46	0.28	0.29	0.31	
s, saturation flow rate [veh/h]	3618	1615	3514	3618	1810	1742	1615	
c, Capacity [veh/h]	1728	772	625	2492	442	426	395	
d1, Uniform Delay [s]	22.70	23.50	37.00	8.05	34.00	34.00	34.00	
k, delay calibration	0.50	0.50	0.11	0.50	0.35	0.37	0.42	
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
d2, Incremental Delay [s]	14.28	78.97	67.59	1.43	78.38	96.86	137.48	
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	

Lane Group Results

X, volume / capacity	0.96	1.14	1.14	0.67	1.13	1.18	1.27	
d, Delay for Lane Group [s/veh]	36.98	102.47	104.59	9.48	112.38	130.86	171.48	
Lane Group LOS	D	F	F	A	F	F	F	
Critical Lane Group	No	Yes	Yes	No	No	No	Yes	
50th-Percentile Queue Length [veh/ln]	19.06	31.96	12.58	8.00	19.00	20.48	23.44	
50th-Percentile Queue Length [ft/ln]	476.57	798.88	314.44	200.00	475.02	512.02	585.96	
95th-Percentile Queue Length [veh/ln]	26.22	45.40	19.57	12.64	28.04	30.50	35.53	
95th-Percentile Queue Length [ft/ln]	655.58	1135.08	489.14	315.96	700.95	762.40	888.20	

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	36.98	102.47	104.59	9.48	0.00	119.86	130.86	161.62	0.00	0.00	0.00
Movement LOS		D	F	F	A		F	F	F			
d_A, Approach Delay [s/veh]	59.67			38.03			138.24			0.00		
Approach LOS	E			D			F			A		
d_I, Intersection Delay [s/veh]	70.08											
Intersection LOS	E											
Intersection V/C	1.221											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	36.45
l_p,int, Pedestrian LOS Score for Intersection	0.000	0.000	0.000	2.493
Crosswalk LOS	F	F	F	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	956	1378	489	0
d_b, Bicycle Delay [s]	12.27	4.36	25.69	45.00
l_b,int, Bicycle LOS Score for Intersection	2.958	3.517	4.041	4.132
Bicycle LOS	C	D	D	D

Sequence

Ring 1	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 3: Riverside Ave / Slover Ave

Control Type:	Signalized	Delay (sec / veh):	113.0
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.310

Intersection Setup

Name	Riverside Ave			Riverside Ave			Slover Ave			Slover Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Riverside Ave			Riverside Ave			Slover Ave			Slover Ave		
Base Volume Input [veh/h]	36	1475	22	27	1548	304	441	124	158	35	32	78
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	206	0	0	125	90	94	0	0	0	0	0
Site-Generated Trips [veh/h]	3	78	0	0	123	0	0	0	3	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	40	1789	22	28	1827	400	544	126	164	36	33	80
Peak Hour Factor	0.9390	0.9390	0.9390	0.9390	0.9390	0.9390	0.9390	0.9390	0.9390	0.9390	0.9390	0.9390
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	11	476	6	7	486	106	145	34	44	10	9	21
Total Analysis Volume [veh/h]	43	1905	23	30	1946	426	579	134	175	38	35	85
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	5	2	0	1	6	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	7	7	0	7	7	0	0	7	0	0	7	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	10	35	0	20	45	0	0	35	0	0	35	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	C	L	C	C
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
g_i, Effective Green Time [s]	5	45	45	4	44	44	32	32	32	32	32	32
g / C, Green / Cycle	0.05	0.50	0.50	0.04	0.49	0.49	0.36	0.36	0.36	0.36	0.36	0.36
(v / s)_i Volume / Saturation Flow Rate	0.02	0.51	0.51	0.02	0.62	0.66	0.45	0.07	0.11	0.03	0.02	0.05
s, saturation flow rate [veh/h]	1810	1900	1892	1810	1900	1787	1292	1900	1615	1087	1900	1615
c, Capacity [veh/h]	93	954	950	76	937	881	464	676	574	357	676	574
d1, Uniform Delay [s]	41.48	22.40	22.40	41.98	22.81	22.81	33.92	20.11	20.96	25.88	19.04	19.73
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.50	0.11	0.11	0.11	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.54	31.66	32.83	3.26	128.29	163.45	128.06	0.14	0.30	0.13	0.03	0.12
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, 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
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.46	1.01	1.01	0.39	1.27	1.35	1.25	0.20	0.30	0.11	0.05	0.15
d, Delay for Lane Group [s/veh]	45.01	54.06	55.23	45.24	151.11	186.27	161.98	20.25	21.26	26.01	19.07	19.84
Lane Group LOS	D	F	F	D	F	F	F	C	C	C	B	B
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No	No	No	No	No
50th-Percentile Queue Length [veh/ln]	1.01	26.69	26.89	0.71	51.47	57.00	26.79	1.93	2.64	0.63	0.48	1.21
50th-Percentile Queue Length [ft/ln]	25.23	667.33	672.25	17.80	1286.65	1425.01	669.73	48.34	66.08	15.81	11.94	30.14
95th-Percentile Queue Length [veh/ln]	1.82	35.46	35.81	1.28	74.60	84.63	40.29	3.48	4.76	1.14	0.86	2.17
95th-Percentile Queue Length [ft/ln]	45.41	886.41	895.17	32.04	1864.91	2115.63	1007.27	87.01	118.95	28.47	21.49	54.25

Movement, Approach, & Intersection Results

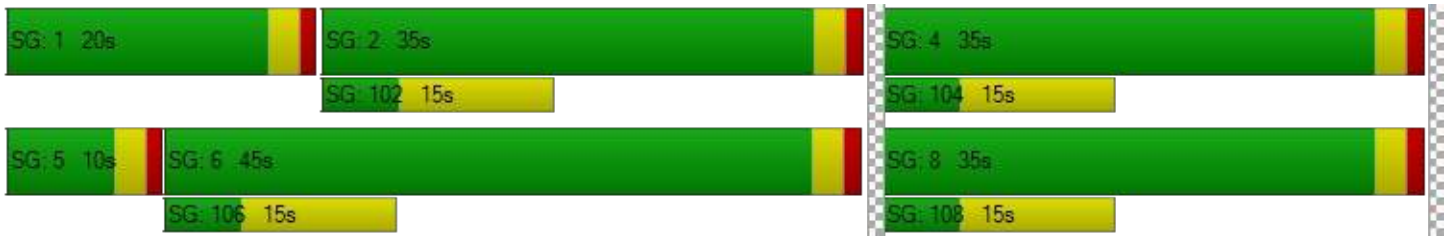
d_M, Delay for Movement [s/veh]	45.01	54.64	55.23	45.24	164.84	186.27	161.98	20.25	21.26	26.01	19.07	19.84
Movement LOS	D	F	E	D	F	F	F	C	C	C	B	B
d_A, Approach Delay [s/veh]	54.44			167.15			112.86			21.16		
Approach LOS	D			F			F			C		
d_I, Intersection Delay [s/veh]	113.00											
Intersection LOS	F											
Intersection V/C	1.310											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	36.45	36.45	36.45	36.45
l_p,int, Pedestrian LOS Score for Intersection	3.180	4.086	2.573	2.369
Crosswalk LOS	C	D	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	711	933	711	711
d_b, Bicycle Delay [s]	18.69	12.80	18.69	18.69
l_b,int, Bicycle LOS Score for Intersection	3.186	3.541	2.292	1.690
Bicycle LOS	C	D	B	A

Sequence

Ring 1	1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 4: Riverside Ave / Santa Ana Ave

Control Type:	Signalized	Delay (sec / veh):	22.7
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.894

Intersection Setup

Name	Riverside Ave			Riverside Ave			Santa Ana Ave			Santa Ana Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			No			No			Yes		

Volumes

Name	Riverside Ave			Riverside Ave			Santa Ana Ave			Santa Ana Ave		
Base Volume Input [veh/h]	91	1321	18	48	1594	81	114	15	99	41	19	67
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	56	1	40	24	34	57	0	0	2	1	59
Site-Generated Trips [veh/h]	0	0	7	126	0	0	0	3	0	8	3	81
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	93	1403	26	215	1650	117	173	18	101	52	23	208
Peak Hour Factor	0.9340	0.9340	0.9340	0.9340	0.9340	0.9340	0.9340	0.9340	0.9340	0.9340	0.9340	0.9340
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	25	376	7	58	442	31	46	5	27	14	6	56
Total Analysis Volume [veh/h]	100	1502	28	230	1767	125	185	19	108	56	25	223
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	5	2	0	1	6	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	7	7	0	7	7	0	0	7	0	0	7	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	10	48	0	23	61	0	0	19	0	0	19	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	C	R	L	C	R
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
g_i, Effective Green Time [s]	6	52	52	13	59	59	16	16	16	16	16
g / C, Green / Cycle	0.07	0.57	0.57	0.15	0.65	0.65	0.18	0.18	0.18	0.18	0.18
(v / s)_i Volume / Saturation Flow Rate	0.06	0.40	0.40	0.13	0.50	0.51	0.21	0.07	0.04	0.01	0.14
s, saturation flow rate [veh/h]	1810	1900	1888	1810	1900	1857	971	1615	1284	1900	1615
c, Capacity [veh/h]	130	1087	1080	271	1236	1208	249	287	81	338	287
d1, Uniform Delay [s]	41.06	13.80	13.83	37.25	10.94	11.20	39.50	32.60	45.00	30.83	35.30
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.19	0.11	0.11	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	9.31	3.84	3.90	7.20	4.55	5.11	11.23	0.81	9.87	0.09	4.51
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.77	0.70	0.71	0.85	0.77	0.78	0.82	0.38	0.69	0.07	0.78
d, Delay for Lane Group [s/veh]	50.37	17.64	17.73	44.45	15.49	16.31	50.72	33.42	54.87	30.92	39.81
Lane Group LOS	D	B	B	D	B	B	D	C	D	C	D
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No	No	No	No
50th-Percentile Queue Length [veh/ln]	2.49	11.17	11.17	5.39	12.58	12.99	5.29	2.11	1.46	0.46	4.93
50th-Percentile Queue Length [ft/ln]	62.17	279.30	279.19	134.66	314.50	324.83	132.19	52.76	36.54	11.41	123.29
95th-Percentile Queue Length [veh/ln]	4.48	16.65	16.65	9.19	18.40	18.90	9.06	3.80	2.63	0.82	8.57
95th-Percentile Queue Length [ft/ln]	111.91	416.34	416.20	229.82	459.92	472.62	226.47	94.96	65.77	20.53	214.34

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	50.37	17.69	17.73	44.45	15.87	16.31	50.72	50.72	33.42	54.87	30.92	39.81
Movement LOS	D	B	B	D	B	B	D	D	C	D	C	D
d_A, Approach Delay [s/veh]	19.69			18.99			44.73			41.85		
Approach LOS	B			B			D			D		
d_I, Intersection Delay [s/veh]	22.68											
Intersection LOS	C											
Intersection V/C	0.894											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	0.0	0.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	36.45	0.00	0.00	36.45
l_p,int, Pedestrian LOS Score for Intersection	3.113	0.000	0.000	2.274
Crosswalk LOS	C	F	F	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1000	1289	356	356
d_b, Bicycle Delay [s]	11.25	5.69	30.42	30.42
l_b,int, Bicycle LOS Score for Intersection	2.904	3.310	2.074	2.061
Bicycle LOS	C	C	B	B

Sequence

Ring 1	1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 5: Riverside Ave / Jurupa Ave

Control Type:	Signalized	Delay (sec / veh):	12.0
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.813

Intersection Setup

Name	Riverside Ave		Riverside Ave		Jurupa Ave	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		No		Yes	

Volumes

Name	Riverside Ave		Riverside Ave		Jurupa Ave	
Base Volume Input [veh/h]	106	1280	1664	48	32	165
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Proportion of CAVs [%]	0.00					
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	2	1	2	0	0	2
Site-Generated Trips [veh/h]	0	4	5	3	3	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	110	1311	1704	52	36	170
Peak Hour Factor	0.9050	0.9050	0.9050	0.9050	0.9050	0.9050
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	30	362	471	14	10	47
Total Analysis Volume [veh/h]	122	1449	1883	57	40	188
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Protected	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	5	2	6	0	3	0
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	Lead	-
Minimum Green [s]	7	7	7	0	7	0
Maximum Green [s]	30	30	30	0	30	0
Amber [s]	2.0	2.0	2.0	0.0	2.0	0.0
All red [s]	1.0	1.0	1.0	0.0	1.0	0.0
Split [s]	11	71	60	0	19	0
Vehicle Extension [s]	3.0	3.0	3.0	0.0	3.0	0.0
Walk [s]	0	5	5	0	5	0
Pedestrian Clearance [s]	0	10	10	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No	No		No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	1.0	1.0	1.0	0.0	1.0	0.0
Minimum Recall	No	No	No		No	
Maximum Recall	No	No	No		No	
Pedestrian Recall	No	No	No		No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	R	L	R
C, Cycle Length [s]	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	3.00	3.00	3.00	3.00	3.00	3.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	1.00	1.00	1.00	1.00	1.00	1.00
g_i, Effective Green Time [s]	8	72	61	61	12	12
g / C, Green / Cycle	0.08	0.80	0.68	0.68	0.14	0.14
(v / s)_i Volume / Saturation Flow Rate	0.07	0.40	0.52	0.04	0.02	0.12
s, saturation flow rate [veh/h]	1810	3618	3618	1615	1810	1615
c, Capacity [veh/h]	153	2873	2447	1092	252	225
d1, Uniform Delay [s]	40.45	3.18	9.83	4.88	34.10	37.74
k, delay calibration	0.11	0.50	0.50	0.50	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	9.14	0.64	2.40	0.09	0.29	8.00
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.80	0.50	0.77	0.05	0.16	0.84
d, Delay for Lane Group [s/veh]	49.59	3.81	12.23	4.97	34.40	45.75
Lane Group LOS	D	A	B	A	C	D
Critical Lane Group	Yes	No	Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	3.01	2.96	10.99	0.33	0.78	4.47
50th-Percentile Queue Length [ft/ln]	75.14	74.01	274.76	8.34	19.59	111.74
95th-Percentile Queue Length [veh/ln]	5.41	5.33	16.43	0.60	1.41	7.94
95th-Percentile Queue Length [ft/ln]	135.25	133.22	410.68	15.02	35.26	198.41

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	49.59	3.81	12.23	4.97	34.40	45.75
Movement LOS	D	A	B	A	C	D
d_A, Approach Delay [s/veh]	7.37		12.01		43.76	
Approach LOS	A		B		D	
d_I, Intersection Delay [s/veh]	12.00					
Intersection LOS	B					
Intersection V/C	0.813					

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	0.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	36.45	0.00	36.45
l_p,int, Pedestrian LOS Score for Intersection	3.046	0.000	2.074
Crosswalk LOS	C	F	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1511	1267	356
d_b, Bicycle Delay [s]	2.69	6.05	30.42
l_b,int, Bicycle LOS Score for Intersection	2.856	3.160	1.560
Bicycle LOS	C	C	A

Sequence

Ring 1	-	2	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 6: Santa Ana Ave / West Dwy

Control Type:	Two-way stop	Delay (sec / veh):	11.2
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.143

Intersection Setup

Name	West Dwy		Santa Ana Ave		Santa Ana Ave	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	West Dwy		Santa Ana Ave		Santa Ana Ave	
Base Volume Input [veh/h]	0	0	81	0	0	127
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	6	0	0	18
Site-Generated Trips [veh/h]	92	0	0	136	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	92	0	89	136	0	148
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	24	0	23	36	0	39
Total Analysis Volume [veh/h]	97	0	94	143	0	156
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.14	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	11.21	9.96	0.00	0.00	7.68	0.00
Movement LOS	B	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.50	0.50	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	12.47	12.47	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	11.21		0.00		0.00	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	2.22					
Intersection LOS	B					

APPENDIX D-6

INTERSECTION ANALYSIS
WORKSHEETS – OPENING YEAR 2024
CUMULATIVE PLUS PROJECT – WITH
IMPROVEMENTS

Option 1: Add a NBR Turn Lane

Number	2											
Intersection	Riverside Ave / I-10 EB Ramps											
Control Type	Signalized											
Analysis Method	HCM 7th Edition											
Name	Riverside Ave			Riverside Ave			I-10 EB Ramps			I-10 EB Ramps		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Base Volume Input [veh/h]	0	950	425	422	1279	0	354	9	497	0	0	0
Total Analysis Volume [veh/h]	0	1184	610	561	1584	0	523	10	728	0	0	0

Intersection Settings

Cycle Length [s]	90											
Coordination Type	Time of Day Pattern Coordinated											
Actuation Type	Semi-actuated											
Lost time [s]	12.00											
Control Type	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	2	0	1	6	0	0	8	0	0	0	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	0	7	0	7	7	0	0	7	0	0	0	0
Maximum Green [s]	0	30	0	30	30	0	0	30	0	0	0	0
Amber [s]	0.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0
All red [s]	0.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0
Split [s]	0	39	0	19	58	0	0	32	0	0	0	0
Walk [s]	0	5	0	0	5	0	0	5	0	0	0	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
l1, Start-Up Lost Time [s]	0.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0
Minimum Recall		No		No	No			No				
Maximum Recall		No		No	No			No				
Pedestrian Recall		No		No	No			No				
Pedestrian Signal Group	0											
Pedestrian Walk [s]	0											
Pedestrian Clearance [s]	0											

Lane Group Calculations

g / C, Green / Cycle	0.43	0.43	0.18	0.64	0.29	0.29	0.29	
(v / s)_i Volume / Saturation Flow Rate	0.23	0.38	0.16	0.44	0.23	0.25	0.26	
so, Base Saturation Flow per Lane [pc/h/ln]	1900	1900	1900	1900	1900	1900	1900	
Arrival type	3		3		3			3
s, saturation flow rate [veh/h]	5176	1615	3514	3618	1810	1665	1615	
c, Capacity [veh/h]	2220	693	625	2315	531	488	474	
X, volume / capacity	0.53	0.88	0.90	0.68	0.79	0.86	0.89	
d, Delay for Lane Group [s/veh]	19.95	38.57	41.15	12.04	35.22	41.32	44.77	
Lane Group LOS	B	D	D	B	D	D	D	

Critical Lane Group	No	Yes	Yes	No	No	No	Yes	
50th-Percentile Queue Length [veh/ln]	6.01	14.03	6.33	9.12	8.98	9.85	10.31	
50th-Percentile Queue Length [ft/ln]	150.18	350.66	158.19	227.89	224.60	246.32	257.69	
95th-Percentile Queue Length [veh/ln]	10.03	20.17	10.45	14.07	13.90	15.00	15.57	
95th-Percentile Queue Length [ft/ln]	250.66	504.22	261.33	351.68	347.49	375.01	389.32	

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	19.95	38.57	41.15	12.04	0.00	36.42	41.32	43.31	0.00	0.00	0.00
Movement LOS		B	D	D	B		D	D	D			
Critical Movement		No	No	No	No		No	No	Yes			
d_A, Approach Delay [s/veh]	26.28			19.65			40.43			0.00		
Approach LOS	C			B			D			A		
d_I, Intersection Delay [s/veh]	26.98											
Intersection LOS	C											
Intersection V/C	0.920											

Option 1: Add a NBR Turn Lane

Number	2											
Intersection	Riverside Ave / I-10 EB Ramps											
Control Type	Signalized											
Analysis Method	HCM 7th Edition											
Name	Riverside Ave			Riverside Ave			I-10 EB Ramps			I-10 EB Ramps		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Base Volume Input [veh/h]	0	1397	657	487	1415	0	627	0	469	0	0	0
Total Analysis Volume [veh/h]	0	1662	881	712	1660	0	842	0	662	0	0	0

Intersection Settings

Cycle Length [s]	90											
Coordination Type	Time of Day Pattern Coordinated											
Actuation Type	Semi-actuated											
Lost time [s]	12.00											
Control Type	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	2	0	1	6	0	0	8	0	0	0	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	0	7	0	7	7	0	0	7	0	0	0	0
Maximum Green [s]	0	30	0	30	30	0	0	30	0	0	0	0
Amber [s]	0.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0
All red [s]	0.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0
Split [s]	0	44	0	19	63	0	0	27	0	0	0	0
Walk [s]	0	5	0	0	5	0	0	5	0	0	0	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
l1, Start-Up Lost Time [s]	0.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0
Minimum Recall		No		No	No			No				
Maximum Recall		No		No	No			No				
Pedestrian Recall		No		No	No			No				
Pedestrian Signal Group	0											
Pedestrian Walk [s]	0											
Pedestrian Clearance [s]	0											

Lane Group Calculations

g / C, Green / Cycle	0.46	0.46	0.18	0.67	0.27	0.27	0.27	
(v / s)_i Volume / Saturation Flow Rate	0.32	0.55	0.20	0.46	0.28	0.29	0.31	
so, Base Saturation Flow per Lane [pc/h/ln]	1900	1900	1900	1900	1900	1900	1900	
Arrival type	3		3		3			3
s, saturation flow rate [veh/h]	5176	1615	3514	3618	1810	1742	1615	
c, Capacity [veh/h]	2358	736	625	2412	483	465	431	
X, volume / capacity	0.70	1.20	1.14	0.69	1.04	1.08	1.16	
d, Delay for Lane Group [s/veh]	21.45	126.31	104.59	10.87	77.62	92.16	126.61	
Lane Group LOS	C	F	F	B	F	F	F	

Critical Lane Group	No	Yes	Yes	No	No	No	Yes	
50th-Percentile Queue Length [veh/ln]	9.15	35.30	12.58	8.90	16.15	17.42	20.27	
50th-Percentile Queue Length [ft/ln]	228.66	882.54	314.44	222.59	403.67	435.58	506.77	
95th-Percentile Queue Length [veh/ln]	14.11	51.05	19.57	13.80	23.27	25.38	30.13	
95th-Percentile Queue Length [ft/ln]	352.66	1276.23	489.14	344.93	581.63	634.55	753.30	

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	21.45	126.31	104.59	10.87	0.00	83.51	92.16	118.25	0.00	0.00	0.00
Movement LOS		C	F	F	B		F	F	F			
Critical Movement		No	Yes	No	No		No	No	No			
d_A, Approach Delay [s/veh]	57.78			39.00			98.80			0.00		
Approach LOS	E			D			F			A		
d_I, Intersection Delay [s/veh]	60.45											
Intersection LOS	E											
Intersection V/C	1.221											

Option 1: Add a 3rd NB and SB Through Lane

Number	3											
Intersection	Riverside Ave / Slover Ave											
Control Type	Signalized											
Analysis Method	HCM 7th Edition											
Name	Riverside Ave			Riverside Ave			Slover Ave			Slover Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Base Volume Input [veh/h]	74	1035	29	51	1313	438	256	20	75	31	17	34
Total Analysis Volume [veh/h]	80	1303	32	55	1673	588	380	21	83	34	18	37

Intersection Settings

Cycle Length [s]	90											
Coordination Type	Time of Day Pattern Coordinated											
Actuation Type	Semi-actuated											
Lost time [s]	12.00											
Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	5	2	0	1	6	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	7	7	0	7	7	0	0	7	0	0	7	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	10	37	0	22	49	0	0	31	0	0	31	0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
l1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Pedestrian Signal Group	0											
Pedestrian Walk [s]	0											
Pedestrian Clearance [s]	0											

Lane Group Calculations

g / C, Green / Cycle	0.07	0.53	0.53	0.06	0.52	0.52	0.31	0.31	0.31	0.31	0.31	0.31
(v / s)_i Volume / Saturation Flow Rate	0.04	0.24	0.24	0.03	0.42	0.44	0.28	0.01	0.05	0.03	0.01	0.02
so, Base Saturation Flow per Lane [pc/h/ln]	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Arrival type	3			3			3			3		
s, saturation flow rate [veh/h]	1810	3618	1877	1810	3618	1665	1370	1900	1615	1311	1900	1615
c, Capacity [veh/h]	122	1916	994	107	1887	868	454	591	502	410	591	502
X, volume / capacity	0.66	0.46	0.46	0.51	0.81	0.85	0.84	0.04	0.17	0.08	0.03	0.07
d, Delay for Lane Group [s/veh]	46.83	13.95	14.68	44.81	21.70	28.35	45.11	21.62	22.67	25.96	21.58	21.92
Lane Group LOS	D	B	B	D	C	C	D	C	C	C	C	C

Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No	No	No	No	No
50th-Percentile Queue Length [veh/ln]	1.91	5.36	5.76	1.28	13.01	14.31	9.58	0.31	1.28	0.56	0.26	0.55
50th-Percentile Queue Length [ft/ln]	47.73	133.89	143.98	32.07	325.16	357.70	239.46	7.71	31.90	14.05	6.60	13.79
95th-Percentile Queue Length [veh/ln]	3.44	9.15	9.69	2.31	18.92	20.51	14.65	0.56	2.30	1.01	0.48	0.99
95th-Percentile Queue Length [ft/ln]	85.92	228.78	242.37	57.73	473.02	512.78	366.35	13.88	57.42	25.30	11.88	24.82

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	46.83	14.19	14.68	44.81	22.28	28.35	45.11	21.62	22.67	25.96	21.58	21.92
Movement LOS	D	B	B	D	C	C	D	C	C	C	C	C
Critical Movement	Yes	No	No	No	No	No	No	No	No	No	No	No
d_A, Approach Delay [s/veh]	16.04			24.35			40.24			23.39		
Approach LOS	B			C			D			C		
d_I, Intersection Delay [s/veh]	23.39											
Intersection LOS	C											
Intersection V/C	0.880											

Option 1: Add a 3rd NB and SB Through Lane

Number	3											
Intersection	Riverside Ave / Slover Ave											
Control Type	Signalized											
Analysis Method	HCM 7th Edition											
Name	Riverside Ave			Riverside Ave			Slover Ave			Slover Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Base Volume Input [veh/h]	36	1475	22	27	1548	304	441	124	158	35	32	78
Total Analysis Volume [veh/h]	43	1905	23	30	1946	426	579	134	175	38	35	85

Intersection Settings

Cycle Length [s]	90											
Coordination Type	Time of Day Pattern Coordinated											
Actuation Type	Semi-actuated											
Lost time [s]	12.00											
Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	5	2	0	1	6	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	7	7	0	7	7	0	0	7	0	0	7	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	10	35	0	14	39	0	0	41	0	0	41	0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
l1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Pedestrian Signal Group	0											
Pedestrian Walk [s]	0											
Pedestrian Clearance [s]	0											

Lane Group Calculations

g / C, Green / Cycle	0.05	0.44	0.44	0.04	0.43	0.43	0.42	0.42	0.42	0.42	0.42	0.42
(v / s)_i Volume / Saturation Flow Rate	0.02	0.35	0.35	0.02	0.44	0.45	0.45	0.07	0.11	0.03	0.02	0.05
so, Base Saturation Flow per Lane [pc/h/ln]	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Arrival type	3			3			3			3		
s, saturation flow rate [veh/h]	1810	3618	1888	1810	3618	1735	1292	1900	1615	1087	1900	1615
c, Capacity [veh/h]	93	1575	822	77	1542	739	555	802	682	439	802	682
X, volume / capacity	0.46	0.80	0.80	0.39	1.03	1.07	1.04	0.17	0.26	0.09	0.04	0.12
d, Delay for Lane Group [s/veh]	44.95	26.52	30.31	45.20	56.05	78.01	80.60	16.26	17.04	21.02	15.33	15.94
Lane Group LOS	D	C	C	D	F	F	F	B	B	C	B	B

Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No	No	No	No	No
50th-Percentile Queue Length [veh/ln]	1.01	11.90	13.30	0.71	21.86	25.47	19.96	1.69	2.31	0.56	0.42	1.05
50th-Percentile Queue Length [ft/ln]	25.21	297.51	332.50	17.79	546.51	636.77	498.94	42.21	57.65	13.91	10.43	26.31
95th-Percentile Queue Length [veh/ln]	1.81	17.56	19.28	1.28	30.12	35.36	28.11	3.04	4.15	1.00	0.75	1.89
95th-Percentile Queue Length [ft/ln]	45.37	438.94	482.03	32.03	753.11	883.96	702.85	75.97	103.78	25.04	18.77	47.37

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	44.95	27.79	30.31	45.20	60.14	78.01	80.60	16.26	17.04	21.02	15.33	15.94
Movement LOS	D	C	C	D	E	E	F	B	B	C	B	B
Critical Movement	No	No	No	No	No	No	Yes	No	No	No	No	No
d_A, Approach Delay [s/veh]	28.20			63.12			58.36			17.03		
Approach LOS	C			E			E			B		
d_I, Intersection Delay [s/veh]	48.29											
Intersection LOS	D											
Intersection V/C	1.069											

APPENDIX E

CUMULATIVE PROJECTS INFORMATION

TOTAL CUMULATIVE PROJECTS TRAFFIC

AM Peak Hour

			NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
1	Riverside Avenue at I-10 WB Ramps		102	128	0	0	95	95	0	0	0	151	0	128
2	Riverside Avenue at I-10 EB Ramps		0	102	102	95	151	0	128	0	151	0	0	0
3	Riverside Avenue at Slover Avenue		0	105	0	0	194	109	98	0	0	0	0	0
4	Riverside Avenue at Santa Ana Avenue		0	17	2	56	56	51	30	1	0	1	0	35
5	Riverside Avenue at Jurupa Avenue		5	2	0	0	1	0	0	0	1	0	0	0
6	Santa Ana Avenue at Project Driveway		0	0	0	0	0	0	0	18	0	0	6	0
7		0	0	0	0	0	0	0	0	0	0	0	0	0
8		0	0	0	0	0	0	0	0	0	0	0	0	0
9		0	0	0	0	0	0	0	0	0	0	0	0	0
10		0	0	0	0	0	0	0	0	0	0	0	0	0
11		0	0	0	0	0	0	0	0	0	0	0	0	0
12		0	0	0	0	0	0	0	0	0	0	0	0	0

PM Peak Hour

			NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
1	Riverside Avenue at I-10 WB Ramps		150	179	0	0	196	196	0	0	0	107	0	179
2	Riverside Avenue at I-10 EB Ramps		0	150	151	196	107	0	179	0	108	0	0	0
3	Riverside Avenue at Slover Avenue		0	206	0	0	125	90	94	0	0	0	0	0
4	Riverside Avenue at Santa Ana Avenue		0	56	1	40	24	34	57	0	0	2	1	59
5	Riverside Avenue at Jurupa Avenue		2	1	0	0	2	0	0	0	2	0	0	0
6	Santa Ana Avenue at Project Driveway		0	0	0	0	0	0	0	6	0	0	18	0
7		0	0	0	0	0	0	0	0	0	0	0	0	0
8		0	0	0	0	0	0	0	0	0	0	0	0	0
9		0	0	0	0	0	0	0	0	0	0	0	0	0
10		0	0	0	0	0	0	0	0	0	0	0	0	0
11		0	0	0	0	0	0	0	0	0	0	0	0	0
12		0	0	0	0	0	0	0	0	0	0	0	0	0

Enter only in blue cells	Yellow cells calculate

Int. #:	1	Riverside Avenue at I-10 WB Ramps

Mirror distribution? N Entire Intersection

Mirror distribution?

TOTAL CUMULATIVE PROJECTS TRAFFIC

Pk Hr		NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In		0	128	0	0	0	0	0	0	0	133	0	128
AM Out		96	0	0	0	95	95	0	0	0	0	0	0
AM Tot		96	128	0	0	95	95	0	0	0	133	0	128
PM In		0	179	0	0	0	0	0	0	0	101	0	179
PM Out		131	0	0	0	196	196	0	0	0	0	0	0
PM Tot		131	179	0	0	196	196	0	0	0	101	0	179

Zone #	1	CP #1,10

Pk Hr	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In		30%										30%
N	0%	0%	0%	0%	30%	30%	0%	0%	0%	0%	0%	0%
AM Out					30%	30%						
PM In	0%	30%	0%	0%	0%	0%	0%	0%	0%		0%	30%
PM Out	0%	0%	0%	0%	30%	30%	0%	0%	0%	0%	0%	0%

Pk Hr	T Gen	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In	425	0	128	0	0	0	0	0	0	0	0	0	128
AM Out	318	0	0	0	0	95	95	0	0	0	0	0	0
PM In	597	0	179	0	0	0	0	0	0	0	0	0	179
PM Out	654	0	0	0	0	196	196	0	0	0	0	0	0

Zone #	2	CP #5,7,12,13

Pk Hr	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In										15%		
N	15%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
AM Out	15%											
PM In	0%	0%	0%	0%	0%	0%	0%	0%	0%	15%	0%	0%
PM Out	15%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%

Pk Hr	T Gen	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In	362	0	0	0	0	0	0	0	0	0	54	0	0
AM Out	325	49	0	0	0	0	0	0	0	0	0	0	0
PM In	299	0	0	0	0	0	0	0	0	0	45	0	0
PM Out	312	47	0	0	0	0	0	0	0	0	0	0	0

Zone #	3	CP #3,4,6

Pk Hr	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In										25%		
N	25%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
AM Out	25%											
PM In	0%	0%	0%	0%	0%	0%	0%	0%	0%	25%	0%	0%
PM Out	25%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%

Pk Hr	T Gen	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In	203	0	0	0	0	0	0	0	0	0	51	0	0
AM Out	151	38	0	0	0	0	0	0	0	0	0	0	0
PM In	175	0	0	0	0	0	0	0	0	0	44	0	0
PM Out	222	56	0	0	0	0	0	0	0	0	0	0	0

Zone #	4	CP #2,8

Pk Hr	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In										20%		
N	20%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
AM Out	20%											
PM In	0%	0%	0%	0%	0%	0%	0%	0%	0%	20%	0%	0%
PM Out	20%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%

Pk Hr	T Gen	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In	140	0	0	0	0	0	0	0	0	0	28	0	0
AM Out	43	9	0	0	0	0	0	0	0	0	0	0	0
PM In	60	0	0	0	0	0	0	0	0	0	12	0	0
PM Out	139	28	0	0	0	0	0	0	0	0	0	0	0

Enter only in blue cells	Yellow cells calculate

Int. #:	2	Riverside Avenue at I-10 EB Ramps

N

TOTAL CUMULATIVE PROJECTS TRAFFIC													
Pk Hr		NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In		0	0	0	0	133	0	128	0	133	0	0	0
AM Out		0	96	96	95	0	0	0	0	0	0	0	0
AM Tot		0	96	96	95	133	0	128	0	133	0	0	0
PM In		0	0	0	0	101	0	179	0	101	0	0	0
PM Out		0	131	131	196	0	0	0	0	0	0	0	0
PM Tot		0	131	131	196	101	0	179	0	101	0	0	0

Zone #	1	CP #1,10

Pk Hr	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In							30%					
N	0%	0%	0%	30%	0%	0%	0%	0%	0%	0%	0%	0%
AM Out				30%								
PM In	0%	0%	0%	0%	0%	0%	30%	0%	0%		0%	0%
PM Out	0%	0%	0%	30%	0%	0%	0%	0%	0%	0%	0%	0%

Pk Hr	T Gen	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In	425	0	0	0	0	0	0	128	0	0	0	0	0
AM Out	318	0	0	0	95	0	0	0	0	0	0	0	0
PM In	597	0	0	0	0	0	0	179	0	0	0	0	0
PM Out	654	0	0	0	196	0	0	0	0	0	0	0	0

Zone #	2	CP #5,7,12,13

Pk Hr	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In					15%				15%			
N	0%	15%	15%	0%	0%	0%	0%	0%	0%	0%	0%	0%
AM Out		15%	15%									
PM In	0%	0%	0%	0%	15%	0%	0%	0%	15%	0%	0%	0%
PM Out	0%	15%	15%	0%	0%	0%	0%	0%	0%	0%	0%	0%

Pk Hr	T Gen	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In	362	0	0	0	0	54	0	0	0	54	0	0	0
AM Out	325	0	49	49	0	0	0	0	0	0	0	0	0
PM In	299	0	0	0	0	45	0	0	0	45	0	0	0
PM Out	312	0	47	47	0	0	0	0	0	0	0	0	0

Zone #	3	CP #3,4,6

Pk Hr	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In					25%				25%			
N	0%	25%	25%	0%	0%	0%	0%	0%	0%	0%	0%	0%
AM Out		25%	25%									
PM In	0%	0%	0%	0%	25%	0%	0%	0%	25%	0%	0%	0%
PM Out	0%	25%	25%	0%	0%	0%	0%	0%	0%	0%	0%	0%

Pk Hr	T Gen	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In	203	0	0	0	0	51	0	0	0	51	0	0	0
AM Out	151	0	38	38	0	0	0	0	0	0	0	0	0
PM In	175	0	0	0	0	44	0	0	0	44	0	0	0
PM Out	222	0	56	56	0	0	0	0	0	0	0	0	0

Zone #	4	CP #2,8

Pk Hr	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In					20%				20%			
N	0%	20%	20%	0%	0%	0%	0%	0%	0%	0%	0%	0%
AM Out		20%	20%									
PM In	0%	0%	0%	0%	20%	0%	0%	0%	20%	0%	0%	0%
PM Out	0%	20%	20%	0%	0%	0%	0%	0%	0%	0%	0%	0%

Pk Hr	T Gen	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In	140	0	0	0	0	28	0	0	0	28	0	0	0
AM Out	43	0	9	9	0	0	0	0	0	0	0	0	0
PM In	60	0	0	0	0	12	0	0	0	12	0	0	0
PM Out	139	0	28	28	0	0	0	0	0	0	0	0	0

Enter only in blue cells	Yellow cells calculate

Int. #:	3	Riverside Avenue at Slover Avenue

Y

TOTAL CUMULATIVE PROJECTS TRAFFIC

Pk Hr		NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In		0	0	0	0	158	109	0	0	0	0	0	0
AM Out		0	93	0	0	0	0	98	0	0	0	0	0
AM Tot		0	93	0	0	158	109	98	0	0	0	0	0
PM In		0	0	0	0	112	90	0	0	0	0	0	0
PM Out		0	167	0	0	0	0	94	0	0	0	0	0
PM Tot		0	167	0	0	112	90	94	0	0	0	0	0

Zone #	1	CP #1,10

Pk Hr	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In												
Y	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
AM Out												
PM In	0%	0%	0%	0%	0%	0%	0%	0%	0%		0%	0%
PM Out	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%

Pk Hr	T Gen	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In	425	0	0	0	0	0	0	0	0	0	0	0	0
AM Out	318	0	0	0	0	0	0	0	0	0	0	0	0
PM In	597	0	0	0	0	0	0	0	0	0	0	0	0
PM Out	654	0	0	0	0	0	0	0	0	0	0	0	0

Zone #	2	CP #5,7,12,13

Pk Hr	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In						30%						
Y	0%	0%	0%	0%	0%	0%	30%	0%	0%	0%	0%	0%
AM Out												
PM In	0%	0%	0%	0%	0%	30%	0%	0%	0%	0%	0%	0%
PM Out	0%	0%	0%	0%	0%	0%	30%	0%	0%	0%	0%	0%

Pk Hr	T Gen	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In	362	0	0	0	0	0	109	0	0	0	0	0	0
AM Out	325	0	0	0	0	0	0	98	0	0	0	0	0
PM In	299	0	0	0	0	0	90	0	0	0	0	0	0
PM Out	312	0	0	0	0	0	0	94	0	0	0	0	0

Zone #	3	CP #3,4,6

Pk Hr	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In					50%							
Y	0%	50%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
AM Out												
PM In	0%	0%	0%	0%	50%	0%	0%	0%	0%	0%	0%	0%
PM Out	0%	50%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%

Pk Hr	T Gen	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In	203	0	0	0	0	102	0	0	0	0	0	0	0
AM Out	151	0	76	0	0	0	0	0	0	0	0	0	0
PM In	175	0	0	0	0	88	0	0	0	0	0	0	0
PM Out	222	0	111	0	0	0	0	0	0	0	0	0	0

Zone #	4	CP #2,8

Pk Hr	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In					40%							
Y	0%	40%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
AM Out												
PM In	0%	0%	0%	0%	40%	0%	0%	0%	0%	0%	0%	0%
PM Out	0%	40%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%

Pk Hr	T Gen	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In	140	0	0	0	0	56	0	0	0	0	0	0	0
AM Out	43	0	17	0	0	0	0	0	0	0	0	0	0
PM In	60	0	0	0	0	24	0	0	0	0	0	0	0
PM Out	139	0	56	0	0	0	0	0	0	0	0	0	0

CUMULATIVE PROJECTS - DISTRIBUTION

Related Project: 9 Rialto Industrial Building

CUMULATIVE PROJECTS - HAND ENTERED FROM TRAFFIC STUDIES

AM Peak Hour

		NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
1	Riverside Avenue at I-10 WB Ramps	2									7		
2	Riverside Avenue at I-10 EB Ramps		2	3		7				8			
3	Riverside Avenue at Slover Avenue		5			15							
4	Riverside Avenue at Santa Ana Avenue	0	0	2	15	0	0	0	1	0	1	0	5
5	Riverside Avenue at Jurupa Avenue		2			1							
6	Santa Ana Avenue at Project Driveway								18			6	
7	0												
8	0												
9	0												

PM Peak Hour

		NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
1	Riverside Avenue at I-10 WB Ramps	7									2		
2	Riverside Avenue at I-10 EB Ramps		7	8		2				3			
3	Riverside Avenue at Slover Avenue		15			5							
4	Riverside Avenue at Santa Ana Avenue	0	0	1	5	0	0	0	0	0	2	1	15
5	Riverside Avenue at Jurupa Avenue		1			2							
6	Santa Ana Avenue at Project Driveway								6			18	
7	0												
8	0												
9	0												

CUMULATIVE PROJECTS - DISTRIBUTION

Related Project: 11 2720 Willow

CUMULATIVE PROJECTS - HAND ENTERED FROM TRAFFIC STUDIES

AM Peak Hour

		NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
1	Riverside Avenue at I-10 WB Ramps	4									11		
2	Riverside Avenue at I-10 EB Ramps		4	3		11				10			
3	Riverside Avenue at Slover Avenue		7			21							
4	Riverside Avenue at Santa Ana Avenue	0	0	0	0	0	21	7	0	0	0	0	0
5	Riverside Avenue at Jurupa Avenue	5								1			
6	Santa Ana Avenue at Project Driveway												
7	0												
8	0												
9	0												

PM Peak Hour

		NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
1	Riverside Avenue at I-10 WB Ramps	12									4		
2	Riverside Avenue at I-10 EB Ramps		12	12		4				4			
3	Riverside Avenue at Slover Avenue		24			8							
4	Riverside Avenue at Santa Ana Avenue	0	0	0	0	0	8	24	0	0	0	0	0
5	Riverside Avenue at Jurupa Avenue	2								2			
6	Santa Ana Avenue at Project Driveway												
7	0												
8	0												
9	0												

ECONOMIC DEVELOPMENT COMMITTEE
MINUTES
Thursday, January 30, 2025

Call to Order/Roll Call	1:01 PM

EDC MEMBERS PRESENT

Mayor Joe Baca
Councilmember Ed Scott

CITY/AGENCY STAFF PRESENT

Christy Lopez, Deputy City Attorney
Tanya Williams, Assistant City Manager
Colby Cataldi, Director of Community Development
Paul Gonzales, Community Development Manager
Paul Guerrero, Economic Development Manager
Vicente Giron, Engineering Manager
Daniel Casey, Principal Planner
Daniel Rosas, Senior Planner
Kim Dame, Administrative Analyst

PUBLIC COMMENTS – None

REVIEW/APPROVAL OF MINUTES

Minutes from the July 24, 2024, EDC meeting – Approved

REPORTS/DISCUSSION ITEMS

EDC-25-0070
Rialto Housing Authority Loan Modification for National CORE Citrus Grove Renovation Project.

Introduced by Colby Cataldi

Committee Comments/Questions/Recommendations:

Colby Cataldi introduced the project – the property composed of 150-unit apartment complex is located by Eisenhower High School.

Jason Neal reminded the audience that National CORE transformed Citrus Grove from a crime-ridden community to a safe affordable housing property. Mr. Neal advised that seventeen years later, there is now a need to conduct some renovations that are critical. Funding has been acquired, however there is a financial barrier from using those funds; more specifically, the existing debt that originated from the former redevelopment agency in 2008 is what has prevented available funds from being used.

Mr. Neal proposed various ideas:

- A $250,000 cash contribution to be paid directly to the City to use at their discretion.
- An 3.5% interest rate increase on Citrus Grove loan
- Extending affordability period for the next 55 years – low-income units would remain the same

Councilmember Ed Scott inquired who in legal is reviewing. Mr. Cataldi advised that the City's Attorney's office as well as Maryann Goodkind as the City's special counsel are reviewing. Councilmember Scott would like to see a housing expert report; Mr. Cataldi advised Maryann Goodkind could provide a written report.

Mr. Cataldi reminds the audience that National CORE has a firm deadline; if there is no action taken by Council on February 11th on this matter, they would need to go back for a TEFRA.

Councilmember Scott requested a comprehensive written report from a Housing expert and the City Attorney's office.

EDC-25-0072
Proposed Truck Terminal on Santa Ana Avenue East of Riverside Avenue

Presented by Daniel Casey

Committee Comments/Questions/Recommendations:

Daniel Casey advised that the proposed truck terminal will be about 45 acres in size and is designated as Heavy Industrial in the Agua Mansa Specific Plan. This project requires the approval of both a Conditional Development Permit and Precise Plan of Design.

A representative of Crown Enterprises explained that they would consolidate their operations to this new site, from Riverside Avenue and Santa Ana Avenue. Jonathan Shardlow gave a brief background about Crown Enterprises. Mr. Shardlow mentioned that this project would be a community benefit as it would lessen traffic congestion on Riverside Avenue and it would convert a heavy industrial site to a light industrial site.

Councilmember Scott inquired if there were trucks being parked next to the site. Mr. Shardlow confirmed there was. Mr. Cataldi confirmed parking is not permitted therefore they are in violation.

Mr. Shardlow requested that their community benefit money go towards something that adds value to the site, such as the infrastructure and that is also directly related to the project. Councilmember Scott asked if there were any improvements to Santa Ana Street. Mr. Shardlow confirmed that there would be full street improvement on the project frontage. This will include from Santa Ana Street to Riverside Avenue. The levels of truck traffic were discussed as well.

A discussion regarding where the parking should be located was touched upon. Two locations mentioned were on the project site or in the habitat area. Decomposed granite was considered for the parking to count as part of the landscaping.

EDC-25-0069
Foothill Central Specific Plan Amendment Presentation

Presented by Colby Cataldi

Committee Comments/Questions/Recommendations:

Mr. Cataldi reminded the audience that this project is funded by a grant the City of Rialto has had for several years. Mr. Cataldi also expressed that this project is being re-introduced because it will be presented to City Council in February for a Public Hearing. One thing that Mr. Cataldi specifically noted was that the Foothill Corridor Zoning is a part of the settlement for the Housing Element.

Councilmember Scott inquired about the scope of the specific plan; it was confirmed that it covers the area of Riverside Avenue starting at Foothill Boulevard and going South to Merrill Avenue. Councilmember Scott also asked about building height requirements. Paul Gonzales responded that the current height had been up to 70 feet in some areas but has been reduced to 60 feet.

Councilmember Scott requested a list of City owned properties within the Foothill Central Specific Plan. An inquiry was also made as to when these properties would be marketed to potential buyers. Mr. Cataldi advised that there is a real estate item later in the agenda.

Mr. Cataldi added that once a policy adoption is made, the property on Foothill and Spruce will get rezoned and a condo project will get to move forward. Regarding this project, Councilmember Scott directed a question towards Engineering – what is the plan to address the fact that there are no storm drains? Vicente Giron replied that the goal is to

ensure that the drainage continues to the east. In terms of the storm drain on Foothill Boulevard, Mr. Giron advised that is a long-term project; there is no initial design yet. Councilmember Scott inquired about DIF fees for this project. Mr. Giron advised that the money would be used for other purposes that don't involve the drain system.

EDC-25-0075
Request that the Economic Development Sub-Committee Provide Feedback on Priority Projects for Community Project Funding for Federal Appropriations

Presented by Tanya Williams

Committee Comments/Questions/Recommendations:

Tanya Williams provided a list of proposed suggestions for the Economic Committee to review. The idea is to put forth three or four projects to fall under different appropriation bills to essentially make them more competitive. The approved list would go to City Council for approval.

Three of the proposed projects were the fire station, police station technology center and the Cactus trail basin.

Councilmember Scott inquired about the 10 freeway improvements. Ms. Williams explained that the project is very expensive; the City is still short about twenty-five million dollars. Ms. Williams also expressed that the City applied for a grant to assist with this project.

Councilmember Scott would like to see a list with more potential projects. Ms. Williams confirmed she will provide an additional list and will also speak with the rest of Council and other departments to receive their input.

EDC-25-0050
Real Estate Update

Presented by Colby Cataldi

Committee Comments/Questions/Recommendations:

Mr. Cataldi briefly mentioned that there are two grants from SCAG, one is funneled through SBCTA and is about $300,000. In total, the two grants are near $500,000. These funds would go towards projects undertaking the disposition of all City owned properties in downtown Rialto. Mr. Cataldi confirmed that a consultant would be hired to help with the redevelopment project of these assets.

Councilmember Scott would like to know why the private sector hasn't been asked to provide proposals to buy properties and do projects versus developing a project that may or may not work; it may be better to engage the private sector. Mr. Cataldi affirmed that staff will also engage the private sector.

Mr. Cataldi updated members that the tenant at the John Longview Depot is no longer there. There is an RFP ready to be released to get a new restaurant into the space. Mr. Cataldi also mentioned the property located at 136 South Riverside, which is the space located next to the coin shop. The hope for this suite is to get a grant to assist with the retrofit engineering that is needed before listing it for sale. Councilmember Scott suggested to sell it as a tear-down and re-build property.

Mr. Cataldi introduced the next property on the list – 308 North Riverside; it is currently in escrow. The seller has challenges and can't meet the agreed upon price; he has too much debt. Mr. Cataldi advised that the deal will most likely not close and the property will fall out of escrow.

Mr. Cataldi also gave an update on 130 South Willow, the mortuary property, which is now officially City owned. Councilmember Scott added that demolition of the site needs to be done in a timely manner so the parking can be expanded to this location.

In terms of the Miro Way industrial development, Mr. Cataldi mentioned that meetings are held with the investors on a regular basis. Mr. Cataldi confirmed that this location is south of the Lennar homes in the Renaissance area.

Regarding the proposed train museum at 119 N. Riverside Ave., Mr. Cataldi advised that the museum concept was taken to the County oversight board in early 2023. The plan is to have about 500 square feet of the location to be the museum portion and 2,000 square feet would be whatever else is agreed upon, such as a restaurant cafe to service bicyclists utilizing the Pacific Electric trail.

For the next meeting, Councilmember Scott requested an update on the Carson project. Mr. Cataldi confirmed that it is already on the agenda to be discussed.

Upcoming Meetings/Other Discussion Items:

Mayor Baca requested that the EDC meetings be changed to 1pm on the last Thursday of the month following Water Subcommittee.

ADJOURNMENT

Meeting adjourned at 3:38 p.m.

SANTA ANA TRUCK TERMINAL PROJECT

Draft Environmental Impact Report
SCH No. 2023120143

CITY OF RIALTO

150 S. Palm Avenue
Rialto, California 92376

AUGUST 2024

Kimley»Horn

SANTA ANA TRUCK TERMINAL PROJECT

DRAFT ENVIRONMENTAL IMPACT REPORT
SCH NO. 2023120143

Prepared for	City of Rialto 150 South Palm Avenue Rialto, California 92376
Prepared by	Kimley-Horn and Associates 401 B Street, Suite 600 San Diego, California 92101
Date	August 2024

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1.0 EXECUTIVE SUMMARY

1.1 INTRODUCTION

The environmental impact report (EIR) process, as defined by the California Environmental Quality Act (CEQA), requires the preparation of an objective, full-disclosure document in order to (1) inform agency decision-makers and the general public of the potentially direct and indirect significant environmental effects of a proposed action; (2) identify feasible or feasible mitigation measures to reduce or eliminate potentially significant adverse impacts; and (3) identify and evaluate reasonable alternatives to a project. In accordance with Section 15161 of the State CEQA Guidelines (Title 14 of the California Code of Regulations [CCR]), this is a Project EIR that addresses the potential environmental impacts associated with the proposed Project, known as "Santa Ana Truck Terminal Project."

1.2 PROJECT OVERVIEW

The project site is at 249 East Santa Ana Avenue, approximately 0.3 miles east of South Riverside Avenue, in the City of Rialto (City), County of San Bernardino, California. The approximately 45.7-acre property is relatively flat with elevations ranging from approximately 900 to 955 feet above mean sea level (amsl). The project site is generally rectangular shaped, and is bordered by East Santa Ana Avenue to the north, Veolia Water North America to the east, and industrial land uses to the south and west.

As proposed, the Project would allow for the development one 172,445 square foot (sf) truck terminal warehouse and one 18,700 sf maintenance shop, with associated surface parking and landscaping. The proposed truck terminal would include 166,553 sf of truck terminal space and 5,890 sf of office space. The proposed maintenance shop would include 17,810 sf of maintenance space and 890 sf of office space. The Project would include 149 passenger parking spaces, 679 trailer parking spaces, and 100 tractor parking spaces. Landscaping would be included along the boundaries of the project site and within the passenger vehicle parking area.

The project site has a Rialto General Plan (General Plan) land use designation of General Industrial. The Project is consistent with the General Plan designation for the project site. The project site is within the Agua Mansa Industrial Corridor Specific Plan (Specific Plan) area. The Specific Plan zoning designation for the project site is Heavy Industrial (H IND). The proposed warehouse and truck terminal uses are identified as permitted uses within the H IND zone. Although the Project is consistent with the existing land use designation and zoning designation, the Project would require a Conditional Use Permit as development of a truck terminal is considered a conditionally permitted use within an industrial land use designation.

1.3 AREAS OF CONTROVERSY

State CEQA Guidelines §15123 (b)(2) and (3) require that this section of the EIR identify areas of controversy known to the Lead Agency, issues raised by agencies and the public, and issues to be resolved, including the choice among alternatives and whether, or how to, mitigate the significant effects. The following issues of concern have been identified during the review period of the distribution of the Notice of Preparation (NOP) and public meetings:

- Adequate air quality analysis, greenhouse gas emissions analysis, and noise analysis.
- Traffic impacts associated with development.

- Thorough tribal consultation and discussion of potential impacts to tribal cultural resources.

The aforementioned issues have been considered in this EIR, where applicable, in Sections 4.1, *Aesthetics* through 4.17, *Utilities and Service Systems*. Alternatives to the Project are evaluated in Section 6.0, *Alternatives*. However, despite the incorporation of mitigation measures, significant and unavoidable impacts to air quality, greenhouse gas emissions, and transportation remain.

1.4 PROJECT OBJECTIVES

Section 15124(b) of the State CEQA Guidelines (14 CCR) requires "A statement of objectives sought by the proposed Project. The following objectives have been identified for the Project.

Objective 1: Develop the property consistent with the guidelines and policies of the City of Rialto General Plan and more specifically, the Agua Mansa Industrial Corridor Specific Plan.

Objective 2: Develop an industrial zoned site with land uses which meet current market demands.

Objective 3: Create revenue-generating uses that provide reliable employment for the long term.

Objective 4: Provide new buildings that are compatible with the surrounding industrial uses.

Objective 5: Develop an industrial use consistent with current zoning in close proximity to designated truck routes and the State highway system to avoid or shorten truck-trip lengths on other roadways.

Objective 6: Redevelop an underutilized property in accordance with Rialto Plant Reclamation Plan.

1.5 ALTERNATIVES ANALYZED

Alternatives that would avoid or substantially lessen any of the significant effects of the Project and that would feasibly attain most or all of the basic Project objectives are discussed below. A detailed alternatives analysis is provided in Section 6.0, *Alternatives.*

Alternative 1: No Development Alternative

State CEQA Guidelines Section 15126.6, requires an evaluation of the “No Project” alternative for decision-makers to compare the impacts of approving a project with the impacts of not approving it. The No Development Alternative assumes that the proposed Project would not be developed, which means there would be no warehouse facilities, landscape improvements, or surface lot improvements developed on the project site. In its existing condition, the site would remain vacant and disturbed.

Alternative 2: High-Cube Short-Term Storage

The High-Cube Short-Term Storage Alternative would involve the development of one short-term storage warehouse. The building would be one story with approximately 500,000 sf of warehouse space. Alternative 2 would be required to provide 7 loading docks and 255 parking spaces. Alternative 2 would comply with the development standards of the Specific Plan. Although Alternative 2 would result in less Project trips, resulting in a reduction to significant and unavoidable air quality and GHG impacts and reduced noise impacts, vehicle miles travelled (VMT) impacts would be similar to the proposed Project and remain significant and unavoidable. Alternative 2 would reduce the significant and unavoidable air quality and greenhouse gas emissions (GHG) impacts associated with the Project.

Alternative 3: Business Park Alternative

Under the Business Park Alternative, the project site would be developed as a 500,000-sf business park. The business park would include two to three warehouse buildings/incubator buildings. Alternative 3 would be consistent with the Specific Plan. The buildings would be one story and building height would be consistent with development standards included in the Specific Plan. Alternative 3 would result in more square footage than the Project, the alternative would reduce the significant and unavoidable air quality and GHG impacts and VMT impacts would remain significant and unavoidable.

1.6 SUMMARY OF EFFECTS WITH NO IMPACT

Throughout preparation of the EIR, the City of Rialto Environmental Checklist was used to determine the impact categories that would require evaluation to determine the potentially significant environmental effects of the proposed Project. The following includes a discussion of the impact categories where the Project would have "no impact" and a summary discussion of why this determination was reached. There is no further evaluation of these Environmental Checklist questions in the EIR.

Agriculture and Forestry Resources

The State CEQA Guidelines ask for an evaluation of the following:

- "Would the project convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?"
- "Would the project conflict with existing zoning for agricultural use, or a Williamson Act contract?"
- "Would the project conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?"
- "Would the project result in the loss of forest land or conversion of forest land to non-forest use?"
- "Would the project involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?"

The project site does not contain Prime Farmland, Unique Farmland, or Farmland of Statewide Importance.[1] No portion of the project site is covered by a Williamson Act Contract.[2] Additionally, the area does not include forest resources, including timberlands, and is not zoned for agriculture. For these reasons, no impacts would occur and these topics are not addressed in the EIR.

[1] Department of Conservation (DOC). (2024). California Important Farmland Finder. https://maps.conservation.ca.gov/DLRP/CIFF/. Accessed January 2024.

[2] DOC. (2017). State of California Williamson Act Contract Land. https://planning.lacity.gov/eir/HollywoodCenter/Deir/ELDP/(E)%20Initial%20Study/Initial%20Study/Attachment%20B%20References/California%20Department%20of%20Conservation%20Williamson%20Map%202016.pdf. Accessed January 2024.

Recreation

The State CEQA Guidelines ask for an evaluation of the following:

- "Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility occur or be accelerated?"
- "Would the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?"

The proposed Project does not include the development of any residences, which would directly increase population and result in increased demand for parks and recreational facilities. For this reason, no impact would occur and this topic is not addressed in the EIR.

Wildfire

The State CEQA Guidelines ask for an evaluation of the following:

- "If located in or near State Responsibility Area or lands classified as Very High Fire Hazard Severity Zone, would the project:

  a) Substantially impair an adopted emergency response plan or emergency evacuation plan.

  b) Due to slope, prevailing winds, and other factors, exacerbate wildlife risks, and thereby expose Project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire.

  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.

  d) Expose people or structures, either directly or indirectly, to significant loss, injury or death involving wildfires, including downslope or downstream flooding or landslides as a result of runoff, post-fire slope instability, or drainage changes."

Fire Hazard Severity Zones (FHSZs) are mapped by the California Department of Forestry and Fire Protection (CAL FIRE) as set forth in PRC 4201-4204 and Government Code 51175-89. FHSZs are categorized fire protection within a Federal Responsibility Area under the jurisdiction of a federal agency, a State Responsibility Area under the jurisdiction of CAL FIRE, or within a Local Responsibility Area under the jurisdiction of a local agency. CAL FIRE is responsible for fire protection within State Responsibility Areas. CAL FIRE defines a State Responsibility Area as land that is not federally owned, not incorporated, does not exceed a housing density of three units per acre, contains wildland vegetation as opposed to agriculture or ornamentals, and has watershed value and/or has range/forage value (this effectively eliminates most desert lands). Where local fire protection agencies, such as the Rialto Fire Department, are responsible for wildfire protection, the land is classified as a Local Responsibility Area. The project site

and its adjacent areas are classified as a Non-VHFHSZ (non-very high FHSZ).[3] For this reason, no impact would occur and this topic is not addressed in the EIR.

1.7 SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Table 1-1: Summary of Impacts and Mitigation Program, provides a summary of the potential environmental effects of the proposed Project, the Mitigation Program recommended to ensure that Project impacts are mitigated to the extent feasible, and the expected status of effects following the implementation of the Mitigation Program. The Mitigation Program is comprised of Standard Conditions and Requirements (**SCs**) and Mitigation Measures (**MMs**). The Mitigation Program will serve to prevent, reduce, or fully mitigate potential environmental impacts. The more detailed evaluation of these issues, as well as the full text of the Mitigation Program, is presented in EIR Sections 4.1 through 4.17.

Given the length of some measures in the Mitigation Program, some measures are only summarized in the table. Each measure is identified by a number that can be used to reference the full text of the measure in the applicable EIR section. Where a measure applies to more than one topic, it is presented (either summarized or full text) in the primary section to which it applies and is then cross-referenced.

[3] CalFire. (2024). Fire Hazard Severity Zone Viewer.https://experience.arcgis.com/experience/03beab8511814e79a0e4eabf0d3e7247/. Accessed January 2024.

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Table 1-1: Summary of Impacts and Mitigation Program

Environmental Impacts	Significance Before Mitigation	Mitigation Measure	Significance With Mitigation
Section 4.1: Aesthetics			
Impact 4.1-1: Would the project have a substantial adverse effect on a scenic vista?	LS	No standard conditions or mitigation measures are required.	LS
Impact 4.1-2: In non-urbanized areas, would the project substantially degrade the existing visual character or quality of public views of the site and its surroundings (Public views are those that are experienced from publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?	No Impact	No standard conditions or mitigation measures are required.	LS
Impact 4.1-3: Would the project conflict with applicable zoning and other regulations governing scenic quality?	LS	No standard conditions or mitigation measures are required.	LS
Impact 4.1-3: Would the project create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	LS	No standard conditions or mitigation measures are required.	LS
Section 4.2: Air Quality			
Impact 4.2-1: Would the project conflict with or obstruct implementation of the applicable air quality plan?	SU	**Standard Conditions** No standard conditions are applicable. **Mitigation Measures** ***Agua Mansa Industrial Corridor Specific Plan EIR Mitigation Measures*** **Air Quality** **Mitigation Measure 2:** Individual industrial users should take all reasonable steps to encourage employees to car-pool rather than utilizing one vehicle per employee. Typical measures which can be taken by employers include:	SU

Table 1-1: Summary of Impacts and Mitigation Program

Environmental Impacts	Significance Before Mitigation	Mitigation Measure	Significance With Mitigation
		a. Designation of preferential parking areas which may be used only by employees engaged in car-pooling. b. Employers should be encouraged to institute van-pooing programs to reduce the number of vehicles driven by employees. **Mitigation Measure 4:** To minimize dust during construction activities, periodic soil wetting should be utilized. ***Project Mitigation Measures*** **MM TRF-1** is applicable. See 4.17 Traffic, below. **MM AIR-1:** Prior to the issuance of a tenant occupancy permit, the Planning Department shall confirm that the Project plans and specifications show the following: ▪ All outdoor cargo handling equipment (including yard trucks, hostlers, yard goats, pallet jacks, and forklifts) are zero emission/powered by electricity. Each building shall include the necessary charging stations for cargo handling equipment. Note that SCAQMD Rule 2305 (Warehouse Indirect Source Rule) Warehouse Actions and Investments to Reduce Emissions (WAIRE) points may be earned for electric/zero emission yard truck/hostler usage. This mitigation measure applies only to tenant improvements and not the building shell approvals. ▪ All standard emergency generators shall meet California Air Resources Board Tier 4 Final emissions standards. A copy of each unit's Best Available Control Technology (BACT) documentation (certified tier specification) and CARB or SCAQMD operating permit (if applicable) shall be provided to the City.	
Impact 4.2-2: Would the project result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable state or federal ambient air quality standard?	SU	**Standard Conditions** No standard conditions are applicable. **Mitigation Measures** ***Agua Mansa Industrial Corridor Specific Plan EIR Mitigation Measures***	SU

Table 1-1: Summary of Impacts and Mitigation Program

Environmental Impacts	Significance Before Mitigation	Mitigation Measure	Significance With Mitigation
		Air Quality **Mitigation Measures 1-4** are applicable. **Mitigation Measure 2** and **4** are included above, under Impact 4.2-1; **Mitigation Measures 1** and **3** are below: **Mitigation Measure 1:** Local bus lines should be encouraged to extend service into the Study Area to discourage the use of private automobiles by employees. Bus shelters and bus stops should be constructed as dictated by ridership demand. **Mitigation Measure 3:** The local governmental entities should enforce emission standards on equipment used during the construction and operation of industrial facilities. ***Project Mitigation Measures*** **MM AIR-1** is applicable. **MM TRF-1** is applicable, see 4.17 Traffic, below.	
Impact 4.2-3: Would the project expose sensitive receptors to substantial pollutant concentrations?	S	**Standard Conditions** No standard conditions are applicable. **Mitigation Measures** ***Agua Mansa Industrial Corridor Specific Plan EIR Mitigation Measures*** No mitigation measures are applicable. ***Project Mitigation Measures*** **MM AIR-1** is applicable. **MM TRF-1** is applicable, see 4.17 Traffic, below.	LS
Impact 4.2-4: Would the project result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	LS	No standard conditions or mitigation measures are required.	LS

Table 1-1: Summary of Impacts and Mitigation Program

Environmental Impacts	Significance Before Mitigation	Mitigation Measure	Significance With Mitigation
Section 4.3: Biological Resources			
Impact 4.3-1: Would the project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the CDFW or USFWS?	S	**Standard Conditions** No standard conditions are applicable. **Mitigation Measures** ***Agua Mansa Industrial Corridor Specific Plan EIR Mitigation Measures*** No mitigation measures are applicable. ***Project Mitigation Measures*** **MM BIO-1A:** Prior to the initiation of construction activities, a qualified biologist shall conduct pre-construction surveys for BUOW within suitable habitat to determine presence/absence of the species. The survey shall be conducted in accordance with the most current CDFW protocol within 30 days of site disturbance to determine whether the burrowing owl is present at the site. Pre-construction surveys shall include suitable BUOW habitat within the Project footprint and within 500 feet of the Project footprint (or within an appropriate buffer as required in the most recent guidelines and where legal access to conduct the survey exists). If BUOW are not detected during the clearance survey, no additional mitigation is required. If BUOW is located, occupied BUOW burrows shall not be disturbed during the nesting season (February 1 through August 31) unless a qualified biologist approved by CDFW verifies through non-invasive methods that either the birds have not begun egg laying and incubation or the juveniles from the occurred burrows are foraging independently and capable of independent survival. A 500-foot non-disturbance buffer (where no work activities may be conducted) shall be maintained between Project activities and nesting BUOW during the nesting season, unless otherwise authorized by CDFW. If BUOW is detected during the non-breeding season (September 1 through January 31) or confirmed to not be nesting, a 160-foot non-disturbance buffer shall be maintained between the Project activities and occupied burrow(s). Alternatively, a Burrowing Owl Relocation	LS

Table 1-1: Summary of Impacts and Mitigation Program

Environmental Impacts	Significance Before Mitigation	Mitigation Measure	Significance With Mitigation
		Plan may be prepared and submitted for approval by CDFW. Once approved, the Burrowing Owl Relocation Plan would be implemented to relocate non-breeding BUOW from the project site. The Burrowing Owl Relocation Plan shall detail methods and guidance for passive relocation of BUOW from the project site, provide monitoring and management of the replacement burrow sites reporting requirements, and ensure that a minimum of two suitable, unoccupied burrows are available off-site for every burrowing owl or pair of burrowing owls to be passively relocated. Compensatory mitigation of habitat would be required if occupied burrows or territories occur within the permanent impact footprints. Ratios typically include a minimum of 19.5 acres per nesting burrow lost; however, habitat compensation shall be approved by CDFW and detailed in the Burrowing Owl Relocation Plan. **MM BIO-1B:** If avoidance is not possible, either directly or indirectly, a Burrowing Owl Relocation and Mitigation Plan shall be prepared and submitted for approval by CDFW. Once approved, the Burrowing Owl Relocation and Mitigation Plan would be implemented to relocate non-breeding burrowing owls form the project site. the Burrowing Owl Relocation and Mitigation Plan shall detail methods for passive relocation of BUOW from the project site, provide guidance for the monitoring and management of the replacement burrow sites and associated reporting requirements, and ensure that a minimum of two suitable, unoccupied burrows are available off-site for every Burrowing Owl of pair of burrowing owls to be passively relocated. Compensatory mitigation of habitat would be required if occupied burrows of territories occur within the permanent impact footprint. Habitat compensation shall be approved by CDFW and detailed in the Burrowing Owl Relocation and Mitigation Plan. **MM BIO-2:** To avoid direct impacts on raptors and/or native/migratory birds, removal of habitat that supports active nests in the proposed area of disturbance should occur outside of the breeding season for these species (generally February 1 to September 15). If removal of habitat	

Table 1-1: Summary of Impacts and Mitigation Program

Environmental Impacts	Significance Before Mitigation	Mitigation Measure	Significance With Mitigation
		in the proposed area of disturbance must occur during the breeding season, a qualified biologist shall conduct a pre-construction survey to determine the presence or absence of nesting birds in the proposed area of disturbance. The pre-construction survey shall be conducted within ten (10) calendar days prior to the start of construction activities (including removal of vegetation). If nesting birds are observed, a letter report or mitigation plan in conformance with applicable state and federal Law (i.e., appropriate follow up surveys, monitoring schedules, construction, and noise barriers/buffers, etc.) shall be prepared and include proposed measures to be implemented to ensure that take of birds or eggs or disturbance of breeding activities is avoided. The report or mitigation plan shall be submitted to the CDFW and/or USFWS, as applicable, for review and approval and implemented to the satisfaction of those agencies. The project biologist shall verify and approve that all measures identified in the report or mitigation plan are in place prior to and/or during construction. If nesting birds are not detected during the pre-construction survey, no further mitigation is required.	
Impact 4.3-2: Would the project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by the CDFW or USFWS?	LS	No standard conditions or mitigation measures are required.	LS
Impact 4.3-3: Would the project have a substantial adverse effect on State or federal protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	No Impact	No standard conditions or mitigation measures are required.	No Impact
Impact 4.3-4: Would the project interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory	No Impact	No standard conditions or mitigation measures are required.	No Impact

Table 1-1: Summary of Impacts and Mitigation Program

Environmental Impacts	Significance Before Mitigation	Mitigation Measure	Significance With Mitigation
wildlife corridors, or impede the use of native wildlife nursery sites?			
Impact 4.3-5: Would the project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	LS	No standard conditions or mitigation measures are required.	LS
Section 4.4: Cultural Resources			
Impact 4.4-1: Would the project cause a substantial adverse change in the significance of a historical resource pursuant to Section 15064.5?	S	**Standard Conditions** No standard conditions are applicable. **Mitigation Measures** ***Agua Mansa Industrial Corridor Specific Plan EIR Mitigation Measures*** **Archaeological/Historical Resources** **Mitigation Measure 2:** The San Bernardino County Museum Association recommends that at least some level of evaluation of potential impacts to cultural resources be undertaken by a qualified archaeologist for every proposed project within the Study Area due to the overall prehistoric and early historic significance of the region. **Mitigation Measure 3:** In instances where earth movement uncovers potentially significant artifacts or fossils, work should be curtailed until a qualified specialist is retained to evaluate the significance of any finds. ***Project Mitigation Measures*** **MM CUL-1: Retain a Qualified Archaeologist.** Prior to the issuance of any grading permits, or any permit authorizing ground disturbance, the Project applicant shall, meeting Secretary of Interior standards and to the satisfaction of the City Planning Director, demonstrate that a qualified archaeologist has been retained to respond on an as-needed basis to address unanticipated archaeological discoveries. In the event that cultural resources are discovered during Project activities, all work in	LS

Table 1-1: Summary of Impacts and Mitigation Program

Environmental Impacts	Significance Before Mitigation	Mitigation Measure	Significance With Mitigation
		the immediate vicinity of the find (within a 60-foot buffer) shall cease and the archaeologist shall assess the find. Work on the other portions of the project outside of the buffered area may continue during this assessment period. Additionally, the Yuhaaviatam of San Manuel Nation Cultural Resources Department (YSMN) shall be contacted, as detailed within MM TCR-1 (refer to Section 4.16, Tribal Cultural Resource, of this EIR), regarding any pre-contact finds and be provided information after the archaeologist makes his/her initial assessment of the nature of the find, so as to provide Tribal input with regards to significance and treatment. **MM CUL-2:** If significant pre-contact cultural resources, as defined by CEQA, are discovered and avoidance cannot be ensured, the archaeologist shall develop a Monitoring and Treatment Plan, the draft of which shall be provided to YSMN for review and comment, as detailed within **MM TCR-1** (Refer to Section 4.16, *Tribal Cultural Resource,* of this EIR). The archaeologist shall monitor the remainder of the Project and implement the Monitoring Treatment Plan accordingly.	
Impact 4.4-2: Would the project cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	S	**Standard Conditions** No standard conditions are applicable. **Mitigation Measures** ***Agua Mansa Industrial Corridor Specific Plan EIR Mitigation Measures* Archaeological/Historical Resources** **Mitigation Measure 2** and **Mitigation Measure 3** are applicable. ***Project Mitigation Measures*** **MM CUL-1** and **MM CUL-2** are applicable.	LS
Impact 4.4-3: Would the project disturb any human remains, including those interred outside of formal cemeteries?	S	**Standard Conditions** **SC CUL-1:** California Health and Safety Code Section 7050.5, CEQA Section 15064.5, and Public Resources Code Section 5097.98 mandate the process to be followed in the event of an accidental discovery of any human remains in a location other than a dedicated cemetery.	LS

Table 1-1: Summary of Impacts and Mitigation Program

Environmental Impacts	Significance Before Mitigation	Mitigation Measure	Significance With Mitigation
		California Health and Safety Code Section 7050.5 requires that in the event that human remains are discovered within the project site, disturbance of the site shall be halted until the coroner has conducted an investigation into the circumstances, manner and cause of death, and the recommendations concerning the treatment and disposition of the human remains have been made to the person responsible for the excavation, or to his or her authorized representative, in the manner provided in Section 5097.98 of the Public Resources Code. If the coroner determines that the remains are not subject to his or her authority and if the coroner recognizes or has reason to believe the human remains to be those of a Native American, he or she shall contact, by telephone within 24 hours, the Native American Heritage Commission (NAHC). The NAHC will then identify the most likely descendants (MLD) to be consulted regarding treatment and/or reburial of the remains. If an MLD cannot be identified, or the MLD fails to make a recommendation regarding the treatment of the remains within 48 hours after gaining access to the remains, the property owner shall rebury the Native American human remains and associated grave goods with appropriate dignity on the property in a location not subject to further subsurface disturbance. **Mitigation Measures** ***Agua Mansa Industrial Corridor Specific Plan EIR Mitigation Measures*** **Archaeological/Historical Resources** No mitigation measures are applicable. ***Project Mitigation Measures*** **MM CUL-3:** If human remains of funerary object are encountered during any activities associated with the Project, work in the immediate vicinity (within a 100-foot buffer of the find) shall cease and the County Coroner shall be contacted pursuant to State Health and Safety Code §7050.5 and that code enforced for the duration of the Project.	

Table 1-1: Summary of Impacts and Mitigation Program

Environmental Impacts	Significance Before Mitigation	Mitigation Measure	Significance With Mitigation
Section 4.5: Energy			
Impact 4.5-1: Would the project result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?	LS	**Standard Conditions** No standard conditions are applicable. **Mitigation Measures** ***Agua Mansa Industrial Corridor Specific Plan EIR Mitigation Measures*** **Public Services and Utilities** **Mitigation Measure 5:** To assure adequate levels of water conservation, each specific development should be required to install water conservation measures, such as low-flow fixtures, drought resistant vegetation and drip irrigation systems. ***Project Mitigation Measures*** **MM GHG-1** through **MM GHG-2** are applicable.	LS
I**mpact 4.5-2:** Would the project conflict with or obstruct a State or Local plan for renewable energy or energy efficiency?	LS	No standard conditions or mitigation measures are required.	LS
Section 4.6: Geology and Soils			
Impact 4.6-1: Would the project expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving the 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 faults or strong seismic ground shaking?	LS	**Standard Conditions** **SC GEO-1:** The Applicant shall submit to the City of Rialto Community Development Department and Public Works Department for review and approval, a site-specific, design-level geotechnical investigation prepared for the project site by a registered geotechnical engineer. The investigation shall comply with all applicable state and local code requirements[4] and: a) Include an analysis of the expected ground motions at the site from known active faults using accepted methodologies;	LS

[4] Rialto, CA Municipal Code Section 11.12.070 (Ord. 1234 (part), 1995: Ord. 649 §1 (part), 1973: 1965 Code Title XIII, Ch. 11, §7).

Table 1-1: Summary of Impacts and Mitigation Program

Environmental Impacts	Significance Before Mitigation	Mitigation Measure	Significance With Mitigation
		b) Determine structural design requirements as prescribed by the most current version of the California Building Code, including applicable City amendments, to ensure that structures can withstand ground accelerations expected from known active faults; and c) Determine the final design parameters for walls, foundations, foundation slabs, utilities, roadways, parking lots, sidewalks, and other surrounding related improvements; Project plans for foundation design, earthwork, and site preparation shall incorporate all of the mitigation in the site-specific investigations. The structural engineer shall review the site-specific investigations, provide any additional necessary measures to meet Building Code requirements, and incorporate all applicable recommendations from the investigation in the structural design plans and shall ensure that all structural plans for the Project meet current Building Code requirements. The City's registered geotechnical engineer or third-party registered engineer retained to review the geotechnical reports shall review each site-specific geotechnical investigation, approve the final report, and require compliance with all geotechnical requirements contained in the investigation in the plans submitted for the grading, foundation, structural, infrastructure and all other relevant construction permits. The City shall review all Project plans for grading, foundations, structural, infrastructure and all other relevant construction permits to ensure compliance with the applicable geotechnical investigation and other applicable Code requirements. **Mitigation Measures** ***Agua Mansa Industrial Corridor Specific Plan EIR Mitigation Measures*** No mitigation measures are applicable.	

Table 1-1: Summary of Impacts and Mitigation Program

Environmental Impacts	Significance Before Mitigation	Mitigation Measure	Significance With Mitigation
		Project Mitigation Measures No mitigation is required.	
Impact 4.6-2: Would the project expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving seismic-related ground failure including liquefaction? Would the project be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	LS	No standard conditions or mitigation measures are required.	LS
Impact 4.6-3: Would the project expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving landslides?	No Impact	No standard conditions or mitigation measures are required.	No Impact
Impact 4.6-4: Would the project result in substantial soil erosion or the loss of topsoil?	LS	No standard conditions or mitigation measures are required.	LS
Impact 4.6-5: Would the project be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?	LS	No standard conditions or mitigation measures are required.	LS
Impact 4.6-6: 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?	No Impact	No standard conditions or mitigation measures are required.	No Impact
Impact 4.6-7: Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	S	**Standard Conditions** No standard conditions are applicable. **Mitigation Measures**	LS

Table 1-1: Summary of Impacts and Mitigation Program

Environmental Impacts	Significance Before Mitigation	Mitigation Measure	Significance With Mitigation
		Agua Mansa Industrial Corridor Specific Plan EIR Mitigation Measures No mitigation measures are applicable. ***Project Mitigation Measures*** **MM GEO-1: Retain a Qualified Paleontologist.** Prior to the issuance of any grading permits, or any permit authorizing ground disturbance, the Project Applicant shall, to the satisfaction of the City Planning Director, demonstrate that a qualified paleontologist has been retained to respond on an as-needed basis to address unanticipated paleontological discoveries. In the event that fossils or fossil-bearing deposits are discovered during construction, excavations within 50 feet of the find shall be temporarily halted or diverted. The paleontologist shall document the discovery as needed in accordance with Society of Vertebrate Paleontology standards, evaluate the potential resource, and assess the significance of the find under the criteria set forth in CEQA Guidelines Section 15064.5. The paleontologist shall notify the appropriate agencies to determine procedures that would be followed before construction is allowed to resume at the location of the find. If in consultation with the paleontologist, City staff and the Project Applicant determine that avoidance is not feasible, the paleontologist shall prepare an excavation plan for reducing the effect of the Project on the qualities that make the resource important. The plan shall be submitted to the City for review and approval and the Project Applicant shall implement the approval plan.	
Section 4.7: Greenhouse Gas Emissions			
Impact 4.7-1: Would the project generate GHG emissions, either directly or indirectly, that could have a significant impact on the environment?	SU	**Standard Conditions** No standard conditions are applicable. **Mitigation Measures** ***Agua Mansa Industrial Corridor Specific Plan EIR Mitigation Measures*** **Air Quality**	SU

Table 1-1: Summary of Impacts and Mitigation Program

Environmental Impacts	Significance Before Mitigation	Mitigation Measure	Significance With Mitigation
		Mitigation Measures **Mitigation Measure 1** through **Mitigation Measure 4** are applicable. ***Project Mitigation Measures*** **MM AIR-1** and **MM TRF-1** (see 4.17 *Transportation*, below) are applicable. **MM GHG-1:** Prior to the issuance of a building permit, the Project shall install solar photovoltaic (PV) panels or other source of renewable energy generation on-site, or otherwise acquire energy from the local utility that has been generated by renewable sources, that would provide 100 percent of the anticipated electricity demand (i.e., the Title 24 electricity demand and the plug-load, anticipated to be approximately 4.62 kilowatt hours per year [kWh/year] per square foot for warehouse uses, 17.53 kWh/year/sf for office uses, 9.54 kWh/year/sf for automobile care centers, and 38.16 kWh/year/acre for parking lots[5]). With anticipated energy consumption at approximately 2.3 million kWh per year, a PV panel array covering approximately one third of the proposed truck terminal roof space would provide sufficient on-site renewable energy generation to offset consumption.[6] The final PV generation facility size requires approval by Southern California Edison (SCE). SCE's Rule 21 governs operating and metering requirements for any facility connected to SCE's distribution system. Should SCE limit the off-site export, the proposed Project may utilize a battery energy storage system (BESS) to lower off-site export while maintaining on-site renewable generation to off-set consumption. **MM GHG-2:** Prior to the issuance of a building permit, the Project Applicant or successor in interest shall provide documentation to the City demonstrating the following: ▪ The Project shall be designed to achieve Leadership in Energy and Environmental Design (LEED) certification to meet or exceed	

[5] The expected electricity demand is based on CalEEMod; refer to **Appendix B**.
[6] Estimated solar generation potential estimated using the National Renewable Energy Laboratory PVWatt Calculator: https://pvwatts.nrel.gov/pvwatts.php.

Table 1-1: Summary of Impacts and Mitigation Program

Environmental Impacts	Significance Before Mitigation	Mitigation Measure	Significance With Mitigation
		CALGreen Tier 2 standards in effect at the time of building permit application in order to exceed 2022 Title 24 energy efficiency standards. ▪ The Project shall provide facilities to support electric charging stations per the Tier 2 standards in Section A5.106.5.3 (Nonresidential Voluntary Measures) of the 2022 CALGreen Code. **MM GHG-3** The development shall divert a minimum of 75 percent of landfill waste. Prior to issuance of certificate of tenant occupancy permits, a recyclables collection and load area shall be constructed in compliance with City standards for recyclable collection and loading areas. This mitigation measure applies only to tenant permits and not the building shell approvals. The diversion plan shall also comply with the established solid waste and recycling laws including AB 939 and AB 341. **MM GHG-4:** Prior to the issuance of an occupancy permit, the Project Applicant or successor in interest shall provide documentation to the City demonstrating that low water use landscaping and water-efficient (e.g., drip irrigation) systems would are installed.	
Impact 4.7-2: Would the project conflict with an applicable plan, policy, or regulation of an agency adopted for the purpose of reducing GHG emissions?	SU	**Standard Conditions** No standard conditions are applicable. **Mitigation Measures** ***Agua Mansa Industrial Corridor Specific Plan EIR Mitigation Measures*** No mitigation measures are applicable. ***Project Mitigation Measures*** **MM AIR-1**, MM TRF-1 (see 4.17 *Transportation*, below) and **MM GHG-1** through MM **GHG-4** are applicable.	SU

Table 1-1: Summary of Impacts and Mitigation Program

Environmental Impacts	Significance Before Mitigation	Mitigation Measure	Significance With Mitigation
Section 4.8: Hazards and Hazardous Materials			
Impact 4.8-1: Would the project create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials	LS	**Standard Conditions** No standard conditions are applicable. **Mitigation Measures** ***Agua Mansa Industrial Corridor Specific Plan EIR Mitigation Measures*** **Land Use** **Mitigation Measure 3:** Any toxic or hazardous wastes which are transported, processed, generated or stored shall be handled consistent with the regulations of the Environmental Protection Agency, the State Department of Health Services, and the South Coast Air Quality Management District. The transportation of any toxic or hazardous substances through residential areas shall be prohibited. ***Project Mitigation Measures*** No mitigation is required.	LS
Impact 4.8-2: Would the project create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	LS	No standard conditions or mitigation measures are required.	LS
Impact 4.8-3: Would the project emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	LS	No standard conditions or mitigation measures are required.	LS
Impact 4.8-4: Would the project be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it	LS	No standard conditions or mitigation measures are required.	LS

Table 1-1: Summary of Impacts and Mitigation Program

Environmental Impacts	Significance Before Mitigation	Mitigation Measure	Significance With Mitigation
create a significant hazard to the public or the environment?			
Impact 4.8-5: Would the project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	LS	No standard conditions or mitigation measures are required.	LS
Impact 4.8-6: Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	LS	No standard conditions or mitigation measures are required.	LS
Impact 4.8-7: Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?	LS	No standard conditions or mitigation measures are required.	LS
Section 4.9: Hydrology and Water Quality			
Impact 4.9-1: Would the project violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality?	LS	**Standard Conditions** **SC HYD-1:** The Applicant or his/her designees shall obtain a General Permit for Stormwater Discharge Associated with Construction Activity (Construction Activity General Permit). The Applicant or his/her designees shall provide a copy of this permit to the City Public Works Department prior to the issuance of the first grading permit. **SC HYD-2:** Prior to issuance of the first grading permit, the Applicant shall submit to the City Engineer for approval, a SWQMP specifically identifying BMPs that will be incorporated into the Project to control stormwater and non-stormwater pollutants during and after construction. To ensure compliance, a legal and fiduciary enforcement mechanism in the form of a Storm Water Quality Management Plan Agreement shall be executed with the City of Rialto. This agreement shall additionally be recorded in the office of the County Recorder for the County of San Bernardino. The SWQMP shall specify best management practices specific to the project site, which shall be integrated into the stormwater conveyance plan. The plan shall	LS

Table 1-1: Summary of Impacts and Mitigation Program

Environmental Impacts	Significance Before Mitigation	Mitigation Measure	Significance With Mitigation
		identify specific strategies. (see Section 4.9, *Hydrology and Water Quality*, for entire text of the mitigation measure). **SC HYD-3:** An Erosion Control Plan shall be prepared, and included with the Project's grading plan, and implemented for the Project that identifies specific measures to control on-site and off-site erosion from the time ground disturbing activities are initiated through completion of grading. The Erosion Control Plan shall include the following measures at a minimum: (a) Specify the timing of grading and construction to minimize soil exposure to rainy periods experienced in Southern California; and (b) An inspection and maintenance program shall be included to ensure that any erosion which does occur either on-site or off-site as a result of this Project will be corrected through a remediation or restoration program within a specified time frame. **Mitigation Measures** ***Agua Mansa Industrial Corridor Specific Plan EIR Mitigation Measures*** No mitigation measures are applicable. ***Project Mitigation Measures*** No mitigation is required.	
Impact 4.9-2: Would the project substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	LS	No standard conditions or mitigation measures are required.	LS
Impact 4.9-3i: Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would	LS	**Standard Conditions** No standard conditions are applicable. **Mitigation Measures** ***Agua Mansa Industrial Corridor Specific Plan EIR Mitigation Measures*** **Hydrology and Flood Control**	LS

Table 1-1: Summary of Impacts and Mitigation Program

Environmental Impacts	Significance Before Mitigation	Mitigation Measure	Significance With Mitigation
result in substantial erosion or siltation on- or off-site?		**Mitigation Measure 2:** Where feasible, the extent of impervious surfaces on individual industrial sites should be limited to minimize the quantity of storm run-off. ***Project Mitigation Measures*** No mitigation is required.	
Impact 4.9-3ii: Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?	LS	No standard conditions or mitigation measures are required.	LS
Impact 4.9-3iii: Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would 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?	LS	No standard conditions or mitigation measures are required.	LS
Impact 4.9-3iv: Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would impede or redirect flood flows?	LS	No standard conditions or mitigation measures are required.	LS

Table 1-1: Summary of Impacts and Mitigation Program

Environmental Impacts	Significance Before Mitigation	Mitigation Measure	Significance With Mitigation
Impact 4.9-4: Would the project in flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	LS	No standard conditions or mitigation measures are required.	LS
Section 4.10: Land Use and Planning			
Impact 4.10-1: Would the project physically divide an established community?	No Impact	No standard conditions or mitigation measures are required.	No Impact
Impact 4.10-2: Would the project cause a significant environmental impact due to a conflict with any plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?	LS	**Standard Conditions** No standard conditions are applicable. **Mitigation Measures** ***Agua Mansa Industrial Corridor Specific Plan EIR Mitigation Measures*** ***Land Use*** **Mitigation Measure 1:** The site development standards and performance standards contained in Section 4.4.2 of the Specific Plan shall be adhered to in reviewing proposed specific developments. Adherence to these standards, especially the specific criteria for industrial uses in proximity to residential and other sensitive uses, will minimize any potential impacts. **Mitigation Measure 3:** Any toxic or hazardous wastes which are transported, processed, generated or stored shall be handled consistent with the regulations of the Environmental Protection Agency, the State Department of Health Services, and the South Coast Air Quality Management District. The transportation of any toxic or hazardous substances through residential areas shall be prohibited. ***Project Mitigation Measures*** No mitigation is required.	LS

Table 1-1: Summary of Impacts and Mitigation Program

Environmental Impacts	Significance Before Mitigation	Mitigation Measure	Significance With Mitigation
Section 4.11 Mineral Resources			
Impact 4.11-1: Would the project result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	LS	No standard conditions or mitigation measures are required.	LS
Impact 4.11-2: Would the project result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?	LS	No standard conditions or mitigation measures are required.	LS
Section 4.12: Noise and Vibration			
Impact 4.12-1: Would the project generate 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?	LS	**Standard Conditions** No standard conditions are applicable. **Mitigation Measures** ***Agua Mansa Industrial Corridor Specific Plan EIR Mitigation Measures*** ***Environmental Health and Hazards*** **Mitigation Measure 2:** Interior noise levels in residential and office structures shall not exceed 45 dBA. **Mitigation Measure 3:** Where necessary noise retardant measures should be incorporated into the design of industrial structures. Such measures include, but are not limited to, berms, noise attenuation walls, building insulation and the limitation of processing/manufacturing activities to enclosed buildings. **Mitigation Measure 4:** The noise standards promulgated by the local jurisdictions shall be adhered to. Each proposed use shall be reviewed for noise generation potential prior to approval. **Project Mitigation Measures** No mitigation is required.	LS

Table 1-1: Summary of Impacts and Mitigation Program

Environmental Impacts	Significance Before Mitigation	Mitigation Measure	Significance With Mitigation
Impact 4.12-2: Would the project expose persons to or generate excessive ground borne vibration or ground borne noise levels?	LS	No standard conditions or mitigation measures are required.	LS
Impact 4.12-3: 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?	LS	No standard conditions or mitigation measures are required.	LS
Section 4.13: Population and Housing			
Impact 4.13-1: Would the project induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure?	LS	No standard conditions or mitigation measures are required.	LS
Impact 4.13-2: Would the project displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	No Impact	No standard conditions or mitigation measures are required.	No Impact
Section 4.14: Public Services			
Impact 4.14-1: Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service	LS	**Standard Conditions** No standard conditions are applicable. **Mitigation Measures** ***Agua Mansa Industrial Corridor Specific Plan EIR Mitigation Measures*** **Public Services and Utilities** **Mitigation Measure 5:** All Project specific site plans should be subject to review by the Fire Department in each jurisdiction to determine	LS

Table 1-1: Summary of Impacts and Mitigation Program

Environmental Impacts	Significance Before Mitigation	Mitigation Measure	Significance With Mitigation
ratios, response times or other performance objectives for fire protection?		whether the Project design includes adequate site access provisions and does not exceed the protection abilities of the various departments. ***Project Mitigation Measures*** No mitigation is required.	
Impact 4.14-2: Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for police protection?	LS	**Standard Conditions** **SC PS-1:** Prior to issuance of building permits, the City of Rialto Police Department shall review development plans for the incorporation of defensible space concepts to reduce demands on police services. Public safety planning recommendations shall be incorporated into the Project plans. The Applicant shall prepare a list of Project features and design components that demonstrate responsiveness to defensible space design concepts. The Police Department shall review and approve all defensible space design features incorporated into the Project prior to initiating the building plan check process. **SC PS-2:** Prior to the issuance of the first grading permit and/or action that would permit site disturbance, the Applicant shall provide evidence to the City of Rialto Police Department that a construction security service or equivalent service shall be established at the construction site along with other measures, as identified by the Police Department and the Public Works Department, to be instituted during the grading and construction phase of the Project. **Mitigation Measure** ***Agua Mansa Industrial Corridor Specific Plan EIR Mitigation Measures*** No mitigation measures are applicable. ***Project Mitigation Measures*** No mitigation is required.	LS
Impact 4.13-3: Would the project result in substantial adverse physical impacts associated	LS	No standard conditions or mitigation measures are required.	LS

Table 1-1: Summary of Impacts and Mitigation Program

Environmental Impacts	Significance Before Mitigation	Mitigation Measure	Significance With Mitigation
with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for schools?			
Impact 4.13-4: Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for parks and other public facilities?	No Impact	No standard conditions or mitigation measures are required.	No Impact
Section 4.14: Transportation			
Impact 4.15-1: Would the project, conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?	LS	No standard conditions or mitigation measures are required.	LS
Impact 4.15-2: Would the proposed project conflict or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b)?	SU	**Standard Conditions** The Project is subject to the City's citywide traffic impact fee program and will pay applicable DIF fees toward the Riverside Avenue Widening Project. The fees paid by the Project Applicant will be collected by the City and used toward the Riverside Avenue Widening Project, as identified in Measure I of the 2018 Nexus Study Item "Widen Riverside Avenue from South City Limit to Slover Avenue from 4 lanes to 6 lanes". To the extent that a mitigation measure is included in an existing fee program. The Project's payment of impact fees can be used to offset the costs of implementing the mitigation measures. In addition, the Project may be required to construct a needed improvement in advance of the City's receipt of full funding,	SU

Table 1-1: Summary of Impacts and Mitigation Program

Environmental Impacts	Significance Before Mitigation	Mitigation Measure	Significance With Mitigation
		in which case the improvement may be subject to a reimbursement agreement, to allow the Project to recoup costs from future development. **SC TRA-1A:** South **Riverside Avenue at I-10 Eastbound Ramps.** The Project Applicant shall contribute on a fair-share basis to costs associated with the widening of South Riverside Avenue. These improvements would be consistent with recommendations set forth in Measure I of the 2018 Nexus Study Item "Widen Riverside Avenue from South City Limit to Slover Avenue from 4 lanes to 6 lanes". **SC TRA-1B:** South **Riverside Avenue at Solver Avenue.** The Project Applicant shall contribute on a fair-share basis to costs associated with the widening of South Riverside Avenue. These improvements would be consistent with recommendations set forth in Measure I of the 2018 Nexus Study Item "Widen Riverside Avenue from South City Limit to Slover Avenue from 4 lanes to 6 lanes". **Mitigation Measures** ***Agua Mansa Industrial Corridor Specific Plan EIR Mitigation Measures*** No mitigation measures are applicable. ***Project Mitigation Measures*** **MM TRF-1:** Prior to issuance of building permits, the Project applicant shall develop a Transportation Demand Management (TDM) Plan with TDM measures in coordination with the City of Rialto staff. The TDM plan shall be approved by the City prior to the issuance of building permits.	
Impact 4.15-3: Would the proposed project substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	LS	No standard conditions or mitigation measures are required.	LS
Impact 4.15-4: Would the proposed project result in inadequate emergency access?	LS	No standard conditions or mitigation measures are required.	LS

Table 1-1: Summary of Impacts and Mitigation Program

Environmental Impacts	Significance Before Mitigation	Mitigation Measure	Significance With Mitigation
Section 4.16: Tribal Cultural Resources			
Impact 4.16-1: Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in PRC §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: (a) Listed or eligible for listing in the CRHR, or in a local register of historical resources as defined in PRC §5020.1(k) or: (b) 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 PRC §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.	S	**Standard Conditions** No standard conditions are applicable. **Mitigation Measures** ***Agua Mansa Industrial Corridor Specific Plan EIR Mitigation Measures*** No mitigation measures are applicable. ***Project Mitigation Measures*** **MM TCR-1:** The Yuhaaviatam of San Manuel Nation (YSMN) Cultural Resources Management Department shall be contacted of any pre-contact cultural resources discovered during Project implementation and be provided information regarding the nature of the find, as to provide Tribal input with regards to significance and treatment. Should the find be deemed significant, as defined by CEQA, a Cultural Resources Monitoring and Treatment Plan shall be created by an archaeologist, in coordination with YSMN, and all subsequent finds shall be subject to this Plan. This Plan shall allow for a monitor to be present that represents YSMN for the remainder of the Project, should YSMN elect to place a monitor on-site. **MM TCR-2:** Any and all archaeological/cultural documents created as a part of the Project (isolate records, site records, survey reports, testing reports, etc.) shall be supplied to the Project applicant and the Lead Agency for dissemination to YSMN. The Lead Agency and/or Project applicant shall, in good faith, consult with YSMN throughout the life of the Project.	LS
Section 4.17: Utilities			
Impact 4.17-1: Require or result in the relocation or construction of new or expanded water, wastewater treatment, or stormwater drainage,	LS	No standard conditions or mitigation measures are required.	LS

Table 1-1: Summary of Impacts and Mitigation Program

Environmental Impacts	Significance Before Mitigation	Mitigation Measure	Significance With Mitigation
electric power, natural gas, or telecommunication facilities, the construction or relocation of which could cause significant environmental effects?			
Impact 4.17-2: Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?	LS	No standard conditions or mitigation measures are required.	LS
Impact 4.17-3: 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?	LS	No standard conditions or mitigation measures are required.	LS
Impact 4.17-4: 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.	LS	No standard conditions or mitigation measures are required.	LS
Impact 4.17-5: Comply with federal, state, and local management and reduction statutes and regulations related to solid waste.	LS	No standard conditions or mitigation measures are required.	LS
LS= Less Than Significant; SU = Significant and Unavoidable; S = Significant			

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2.0 INTRODUCTION

2.1 PURPOSE OF THIS ENVIRONMENTAL IMPACT REPORT

This Environmental Impact Report (EIR) has been prepared to evaluate the potential environmental impacts associated with the construction and operation of the proposed Santa Ana Truck Terminal Project (Project). The EIR has been prepared in conformance with the California Environmental Quality Act (CEQA) (California *Public Resources Code* [PRC] §§21000 et seq.) and the State CEQA Guidelines (Title 14, *California Code of Regulations* [CCR] Chapter 3, §§15000 et seq.).

The City of Rialto (City) is the "public agency which has the principal responsibility for carrying out or approving the project" and, as such, is the "Lead Agency" for this Project under CEQA (14 CCR §15367). CEQA requires the Lead Agency to consider the information contained in an EIR prior to taking any discretionary action. This EIR is intended to provide information to the Lead Agency and other public agencies, the general public, and decision-makers regarding the potential environmental impacts from the construction and operation of the proposed Project. As the Lead Agency, the City will review and consider this EIR in its decision to approve, revise, or deny the proposed Project.

Pursuant to CEQA, "[t]he purpose of the environmental impact report is to identify the significant effects on the environment of a project, to identify alternatives to the proposed project, and to indicate the manner in which significant environmental effects can be mitigated or avoided" (PRC §21002.1[a]). An EIR is the most comprehensive form of environmental documentation identified in CEQA and the State CEQA Guidelines, and provides the information needed to assess the environmental consequences of a project to the extent feasible. EIRs are intended to provide an objective, factually supported, full-disclosure analysis of the environmental consequences associated with a project that may have the potential to result in significant adverse environmental impacts.

2.1.1 Type of Environmental Impact Report

The City has determined that a Project EIR is the appropriate CEQA document for the proposed Santa Ana Truck Terminal Project. In accordance with Section 15161 of the State CEQA Guidelines, a Project EIR "examines the environmental impacts of a specific development project. This type of EIR should focus primarily on the changes in the environment that would result from the development project. The EIR shall examine all phases of the Project including planning, construction, and operation". This EIR evaluates the potentially significant, adverse and beneficial impacts on the environment resulting from implementation of the proposed Project. This document analyzes the environmental effects of the Project to the degree of specificity appropriate to the current proposed actions, as required by Section15146 of the State CEQA Guidelines. The analysis considers the activities associated with the Project, to determine the short-term and long-term effects associated with their implementation. This EIR discusses both direct and indirect impacts of the Project, as well as cumulative impacts associated with other past, present, and reasonably foreseeable future projects. Section 3.0, *Project Description*, provides a detailed description of the construction and operational components of the Project. Section 4.0, *Environmental Impact Analysis*, discusses the regulatory environment, existing conditions, environmental impacts, and mitigation program for the Project.

State CEQA Guidelines Section 15206 sets forth criteria for determining if a project is of statewide, regional, or area-wide environmental significance. This Project meets the following criteria and therefore is considered regionally significant:

- The Project occupies more than 40 acres of land.

2.1.2 Standards of Adequacy Under CEQA

While Sections 15120 through 15132 of the State CEQA Guidelines generally describe the content of an EIR, CEQA does not contain specific, detailed, quantified standards for the content of environmental documents. Section 15151 of the State CEQA Guidelines states:

> *An EIR should be prepared with a sufficient degree of analysis to provide decision-makers with information that enables them to make a decision that intelligently takes account of environmental consequences. An evaluation of the environmental effects of a proposed project need not be exhaustive, but the sufficiency of an EIR is to be reviewed in light of what is reasonably feasible. Disagreement among experts does not make an EIR inadequate, but the EIR should summarize the main points of disagreement among the experts. The courts have not looked for perfection but for adequacy, and a good faith effort at full disclosure.*

2.1.3 Compliance with CEQA

The City of Rialto, which has the principal responsibility for processing and approving the Project, along with other public agencies with direct interest in the Project (e.g., responsible agencies), may use this EIR in their decision-making or permitting processes and will consider the information in this EIR in combination with other information that may be presented during the CEQA process. The Lead Agency can approve subsequent actions without additional environmental documentation unless otherwise required by Section 21166 of the CEQA Statutes and Section 15162 of the State CEQA Guidelines. In addition, this EIR provides the analysis in support of the Mitigation Program that will, if the Project is approved, be made conditions of approval for the Project and implemented through the CEQA-mandated Mitigation Monitoring and Reporting Program.

In accordance with CEQA, public agencies are required to make appropriate findings for each potentially significant environmental impact identified in the EIR if it decides to approve a project. If the EIR identifies significant environmental impacts that cannot be mitigated to a less than significant level through the adoption of mitigation measures or project alternatives, the Lead Agency (and responsible agencies using this CEQA document for their respective permits or approvals) must decide whether the benefits of the project outweigh any identified significant environmental effects that cannot be mitigated to below a threshold of significance. If the agency decides that the overriding considerations, including project benefits, outweigh the unavoidable impacts, then the agency (Lead Agency or responsible agency) is required to adopt a Statement of Overriding Considerations, which states the reasons that support its actions.

The Lead Agency's actions involved in the implementation of the Project are described in Section 3.0, *Project Description*. Other agencies that may have discretionary approval over the Project, or components thereof, including responsible agencies, are also described in the Project Description.

2.2 SCOPE OF THE ENVIRONMENTAL IMPACT REPORT

This EIR provides a comprehensive evaluation of the reasonably anticipated scope of the proposed Project. It is intended to serve as an informational document for public agency decision-makers and the general public regarding (1) the objectives and components of the Project; (2) any potentially significant environmental impacts (individual and cumulative) that may be associated with the planning, construction, and operation of the Project; (3) an appropriate and feasible Mitigation Program; (4) and alternatives that may be adopted to reduce or avoid these significant impacts.

In compliance with the State CEQA Guidelines, the City has taken steps to maximize opportunities for the public and other public agencies to participate in the environmental review process. The scope of this EIR includes issues identified in consultation with the City during the Notice of Preparation (NOP) comment period, during the public Scoping Meeting, and environmental issues raised by agencies and the general public in response to the scoping process.

2.2.1 Notice of Preparation (NOP)

Pursuant to Section 15082 of the CEQA Guidelines, as amended, the City of Rialto prepared and circulated a Notice of Preparation (NOP) to affected agencies and interested parties for a public review period beginning on December 8, 2023. The City has elected to have an extended 45-day scoping period due to the holidays, and the deadline to submit comments on the NOP was January 22, 2024. **Table 2-1: Summary of Written Comments on Notice of Preparation,** summarizes the comments received from agencies/persons during the NOP process and provides a reference, as applicable, to the section(s) of this EIR where the issues are addressed. **Table 2-1** identifies areas of controversy/unresolved issues and issues addressed in the EIR. The NOP and comment letters are provided in **Appendix A** of this EIR.

2.2.2 Scoping Meeting

Pursuant to Section 21083.9 of the CEQA Statute, the Lead Agency is required to conduct at least one scoping meeting for all projects of statewide, regional, or area-wide significance. A scoping meeting is for jurisdictional agencies and interested persons or groups to provide comments regarding, but not limited to, the range of actions, alternatives, and environmental effects to be analyzed. The City hosted a Scoping Meeting on January 18, 2024, at 6:00 PM. No issues related to the EIR were identified by participants at the Scoping Meeting at Rialto City Hall, Council Chambers (150 S. Palm Avenue).

Table 2-1: Summary of Written Comments on Notice of Preparation

Commenter Name	Summary of Comment and Where Addressed
Regional and Local Agencies	
State of California Department of Justice	Recommendations and Comments: ▪ The project should avoid land use conflicts to sensitive receptors. ▪ Warehouse development can result in various environmental impacts including air quality impacts from diesel trucks and noise impacts as a result of truck and on-site loading activities. See Section 4.2, *Air Quality*, Section 4.12, *Noise and Vibration*, and Section, 4.10, *Land Use and Planning.*
Interested Parties	
Native American Heritage Commission	▪ Consultation with California Native American tribes affiliated with the Project area is recommended. See Section 4.16, *Tribal Cultural Resources*.
Western States Regional Council of Carpenters	▪ City should require use of local workforce. ▪ City should impose training requirements Project construction activities to prevent to spread of Covid-19 and other infectious diseases. See Section 4.11, *Population and Housing*

2.3 EIR SCOPE AND CONTENT

This EIR addresses the potential environmental effects of the Project and was prepared following input for the public and the responsible and affected agencies, through the EIR scoping process, as discussed below. The contents of this EIR were established based on the findings in the NOP and public and agency input (**Table 2-1**). Based on the findings of the NOP, a determination was required to address potentially significant environmental effects on the following resources:

- Aesthetics
- Air Quality
- Biological Resources
- Cultural Resources
- Energy
- Geology and Soils
- Greenhouse Gas Emissions
- Hazards and Hazardous Materials
- Hydrology and Water Quality
- Land Use and Planning
- Mineral Resources
- Noise
- Population and Housing
- Public Services
- Transportation
- Tribal Cultural Resources
- Utilities and Services Systems

The City has determined that the EIR for the Project would not require the assessment of Agriculture and Forestry Resources; Recreation; and Wildfire. No portion of the project site is covered by a Williamson Act Contract or located on land designated as Prime Farmland, Unique Farmland, or Farmland of Statewide Importance according to the San Bernardino County Important Farmland. The project site is not zoned for agriculture. Additionally, the project site does not include forest resources, including timberlands. With respect to Recreation, the project site and surrounding area are zoned for industrial uses. Further, Project implementation would not result in a substantial increase in population, resulting in an increase in use of

existing recreational facilities. Lastly, this project site is not located within a State Responsibility Area or land classified as a Very High Fire Hazard Severity Zone. Therefore, no impacts with respect to the topic of Wildfire would occur.

2.4 DOCUMENTS INCORPORATED BY REFERENCE

Pertinent documents relating to this EIR have been cited in accordance with CEQA Guidelines Section 15148, or have been incorporated by reference in accordance with CEQA Guidelines Section 15150, which encourages incorporation by reference as means of reducing redundancy and the length of environmental reports. The following documents are hereby incorporated by reference into this EIR and are available for review online. Information contained within these documents has been used for various sections in the EIR.

- City of Rialto General Plan. December 2010, as amended
- Agua Mansa Industrial Corridor Specific Plan. 1986, as amended
- City of Rialto Zoning Ordinance
- City of Rialto Municipal Code

2.5 LEAD AGENCY AND CONTACT PERSONS

The City of Rialto is the Lead Agency for the preparation of the EIR. Inquiries regarding the EIR should be directed to the City.

Lead Agency: City of Rialto
Community Development Department, Planning Division
150 S. Palm Avenue
Rialto, CA 92376
Contact: Daniel Casey, Senior Planner
(909) 820-2535
Email: dcasey@rialtoca.gov

2.6 ENVIRONMENTAL REVIEW PROCESS

Notice of the availability of the Draft EIR has been provided to agencies, organizations, and interested groups and persons for comment during a 45-day review period in accordance with State CEQA Guidelines Section 15087. The Notice of Completion for the Draft EIR has also been distributed as required by CEQA. This Draft EIR and the full administrative record for the Project, including all studies, is available for review during normal business hours Monday through Thursday at the City of Rialto Community Development Department. Additionally, copies of the Draft EIR and technical appendices are available at the reference desk of the following library and on the City's website.

- **City of Rialto**, Community Development Department, Planning Division 150 S. Palm Avenue, Rialto, California 92376
- **Rialto Library**, 251 W. First Street, Rialto, California 92376
- **City website**: https://yourrialto.com/314/Current-Projects

Following the close of the Draft EIR public review and comment period, a Final EIR will be prepared to respond to all substantive comments related to environmental issues associated with the Project. Pursuant to Section 15088.5(f)(2) of the State CEQA Guidelines, the City will request that reviewers limit their comments to the content of the Draft EIR and will respond to all comments related to the disposition of environmental effects made during the Draft EIR public review period. The Final EIR will be available prior to the Planning Commission and City Council public hearing to consider this Draft EIR along with the actions within the City's review and discretion of approval.

2.7 LIST OF ACRONYMS USED IN THE EIR

AAQS	Ambient air quality standards
AB	Assembly Bill
ADT	Average Daily Traffic
AMSL	Average Mean Sea Level
APN	Assessor Parcel Number
APS	Auxiliary Power System
AQMD	Air Quality Management District
AQMP	Air Quality Management Plan
BACT	Best available control technology
BAU	business-as-usual
BMP	Best Management Practice
BRT	Bus Rapid Transit
BTU	British Thermal Unit
BUOW	burrowing owl
CAFE	corporate average fuel economy
CAP	Climate Action Plan
CAAQS	California Ambient Air Quality Standards
CalEPA	California Environmental Protection Agency
Caltrans	California Department of Transportation
CARB	California Air Resources Board
CBC	California Building Code
CCAA	California Clean Air Act
CCR	California Code of Regulations
CDFW	California Department of Fish and Wildlife
CDP	Conditional Development Permit
CEC	California Energy Commission
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act (Superfund)
CESA	California Endangered Species Act
CEQA	California Environmental Quality Act
CFCs	chlorofluorocarbons
CFGC	California Fish and Game Commission

CFR	Code of Federal Regulations
CGC	California Geologic Survey
CH_4	methane
CIP	Capital Improvement Program
CMP	Congestion Management Program
CNDDB	California Natural Diversity Database
CNEL	Community Noise Equivalent Level
CNPS	California Native Plant Society
CO	carbon monoxide
CO_2	carbon dioxide
COG	Council of Governments
CPTED	Crime Prevention Through environmental Design
CPUC	California Public Utilities Commission
CRHR	California Register of Historic Resources
CRPR	California Rare Plant Rank
CUPA	Certified Unified Program Agency (hazardous materials)
cy	cubic yards
CWA	Clean Water Act
DAC	Disadvantaged Communities
dB	decibel
dBA	A-weighted decibel scale
DEH	Department of Environmental Health, San Bernardino County
DIF	Development Impact Fee
DOC	Department of Conservation
DOF	Department of Finance
DOT	Department of Transportation
DPM	diesel particulate matter
DTSC	Department of Toxic Substances Control, State of California
EDD	Employment Development Department
EIR	Environmental Impact Report
EISA	Energy Independence and Security Act
EJ	Environmental Justice
EO	Executive Order

EOP	Emergency Operations Plan
EMMA	Emergency Management Mutual Aid
EMFAC	Emissions Factor
ESA	Endangered Species Act
FCCA	Federal Clean Air Act
FE	Federally Endangered
FEMA	Federal Emergency Management Agency
FESA	Federal Endangered Species Act
FFSA	Federal Fire Safety Act
FHWA	Federal Highway Administration
FIRM	Flood Insurance Rate Map
FT	Federally Threatened
GHG	greenhouse gas
GVWR	Gross Vehicle weight rating
GWh	gigawatt-hours
HCP	Habitat Conservation Plan
HFCs	hydrofluorocarbons
HVAC	heating, ventilating, and air conditioning
Hz	hertz
IRUWMP	Integrated Regional Urban Water Management Plan
ISR	Indirect Source Rule
ITE	Institute of Transportation Engineers
kWh	kilowatt-hour
LCFS	Low Carbon Fuel Standard
LEED	Leadership in Energy and Environmental Design
Leq	Equivalent noise levels
Lmax	Maximum sound level
Lmin	Minimum sound level
LOR	Laws, Ordinance, and Regulations
LOS	Level of Service
LST	Localized significance thresholds
LUST	leaking underground storage tank
M-2	General Manufacturing

MATES V	Multiple Air Toxics Exposure Study V
MBTA	Migratory Bird Treaty Act
MHFP	Multi-Hazard Functional Plan
MLD	most likely descendants
MM	Mitigation Measure
MMRP	Mitigation Monitoring and Reporting Program
MMT	million metric tons
$MMTCO_2e$	million metric tons of CO_2e
mph	miles per hour
MPG	miles per gallon
MPO	Metropolitan Planning Organization
MW	megawatt
MWh	megawatt-hour
NAAQS	National ambient air quality standards
NAHC	California Native American Heritage Commission
NCP	National Contingency Plan
NCCP	Natural Community Conservation Plan
NEPA	National Environmental Policy Act
NF_3	nitrogen trifluoride
NFIP	National Flood Insurance Program
NHD	National Hydrography Dataset
NHPA	National Historic Preservation Act
NHTSA	National Highway Traffic Safety Administration
NIMS	National Incident Management System
NMHC	Nonmethane Hydrocarbon
MRZ	Mineral Resource Zone
NO_2	Nitrogen dioxide
NOA	Notice of Availability
NOC	Notice of Completion
NOP	Notice of Preparation
NO_x	Nitrogen oxides
NPDES	National Pollutant Discharge Elimination System
NPL	National Priorities List

NPRM	notice of proposed rulemaking
NRHP	National Register of Historic Places
NSR	New Source Review Program (air pollution health effects)
NWI	National Wetlands Inventory
NZE	Near Zero Emissions
O3	Ozone
OES	Office of Emergency Services, State of California
OEHHA	Office of Environmental Health Hazard Assessment
OPR	Office of Planning and Research
OSHA	Occupational Safety and Health Administration
Pb	Lead
PCE	Passenger Car Equivalent
PFCs	perfluorocarbons
$PM_{2.5}$	Fine particulate matter (2.5 microns or less)
PM_{10}	Fine particulate matter (10 microns or less)
PPD	Precise Plan of Design
ppv	peak particle velocity
ppm	Parts per million
PRC	Public Resources Code
UST	underground storage tank
RCP	Regional Comprehensive Plan
RCRA	Resource Conservation and Recovery Act
REAP	Rain Event Action Plan
RFS2	Renewable Fuel Standard
RHNA	Regional Housing Needs Assessment
ROG	reactive organic gases
RTP/SCS	Regional Transportation Plan/Sustainable Communities Strategy (SCAG)
RWQCB	Regional Water Quality Control Board
SAFE	Safer Affordable Fuel-Efficient
SANBAG	San Bernardino Associated Governments
SB	Senate Bill
SBCTA	San Bernardino County Transportation Authority
SC	Standard Condition

SCAB	South Coast Air Basin
SCAG	Southern California Association of Governments
SCAQMD	South Coast Air Quality Management District
SCCIC	South Central Coastal Information Center
SCE	Southern California Edison
SEMS	Standardized Emergency Management System
sf	square feet
SF_6	sulfur hexafluoride
SIP	State Implementation Plan
SLF	Sacred Lands File
SMARA	Surface Mining and Reclamation Act
SO_2	sulfur dioxide
SoCalGas	Southern California Gas Company
SPCC	Spill Prevention, Control and Countermeasure
SRA	source receptor area
SSC	Species of Special Concern
ST	State Threatened
SWPPP	Stormwater Pollution Prevention Program
SWRCB	State Water Resources Control Board
TAC	toxic air contaminants
TDM	Transportation Demand Management
TMDL	total maximum daily load
UBC	Uniform Building Code
USACE	United States Army Corps of Engineers
USDA	United States Department of Agriculture
U.S. EPA	United State Environmental Protection Act
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey
UWMP	Urban Water Management Plan
VMT	Vehicle Miles Travelled
VOC	Volatile organic compound
Wh	watt-hours
WAIRE	Warehouse Actions and Investments to Reduce Emissions

WQMP	Water Quality Management Plan
WVWD	West Valley Water District
WWTP	Wastewater Treatment Plant
YSMN	Yuhaaviatam of San Manuel Nation
ZE	Zero Emissions
ZEV	Zero Emission Vehicle

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3.0 PROJECT DESCRIPTION

3.1 INTRODUCTION

The purpose of the Project Description is to describe the Santa Ana Truck Terminal Project (Project) to allow for meaningful review by reviewing agencies, decision-makers, and interested parties. Section 15124 of the California Environmental Quality Act (CEQA) Guidelines (14 CCR §15124) requires that a project description for an Environmental Impact Report (EIR) contain (1) the precise location and boundaries of a project site; (2) a statement of objectives sought by a project including the underlying purpose of the project; (3) a general description of a project's characteristics; and (4) a statement briefly describing the intended uses of the EIR, including a list of the agencies that are expected to use the EIR in their decision making, a list of the permits and other approvals required to implement the project, and a list of related environmental review and consultation requirements required by federal, State, or local laws, regulations, or policies. An adequate project description need not be exhaustive but should supply the detail necessary for project evaluation.

3.2 PROJECT LOCATION

The project site is located at 249 East Santa Ana Avenue, in the City of Rialto (City), San Bernardino County, California. The project site consists of Assessor's Parcel Number (APN) 0258-141-18. The City is largely urbanized and bordered by other developed cities. To the north, the City is bordered by the unincorporated community of Muscoy, the cities of San Bernardino and Colton to the east, the City of Jurupa Valley to the south, and the City of Fontana to the west. **Figure 3-1: Regional Location Map** and **Figure 3-2: Project Vicinity Map** depict the project site in a regional and local context. The approximately 45.7-acre property ranges in elevation from approximately 900 to 955 feet above mean sea level (amsl) and includes a 105-foot California Electric Power Company pole line easement on the southern portion of the property. A 6-foot SCE easement is located on the western portion of the project site and 10-foot and 105-foot SCE pole line easements are located on the southern portion of the project site, along with a 70-foot Southern Sierras Power Company pole line easement.

The project site is an irregularly-shaped property surrounded by existing industrial land uses. Regional access to the project site is provided via Interstate 10 (I-10) to the north and Interstate 215 (I-215) to the east. Local access to the project site is provided via East Santa Ana Avenue along the northern boundary.

3.3 ON-SITE AND SURROUNDING LAND USES

The project site and surrounding area is designated for industrial land uses within the City's General Plan. The project site features previously disturbed land from previous industrial uses on-site. Adjacent and surrounding land uses include the following:

North	East Santa Ana Avenue
	Industrial land uses
South	Industrial land uses
	Santa Ana River
	La Loma Hills
East	Veolia Water North America Treatment Plant
West	Industrial land uses
	South Riverside Avenue

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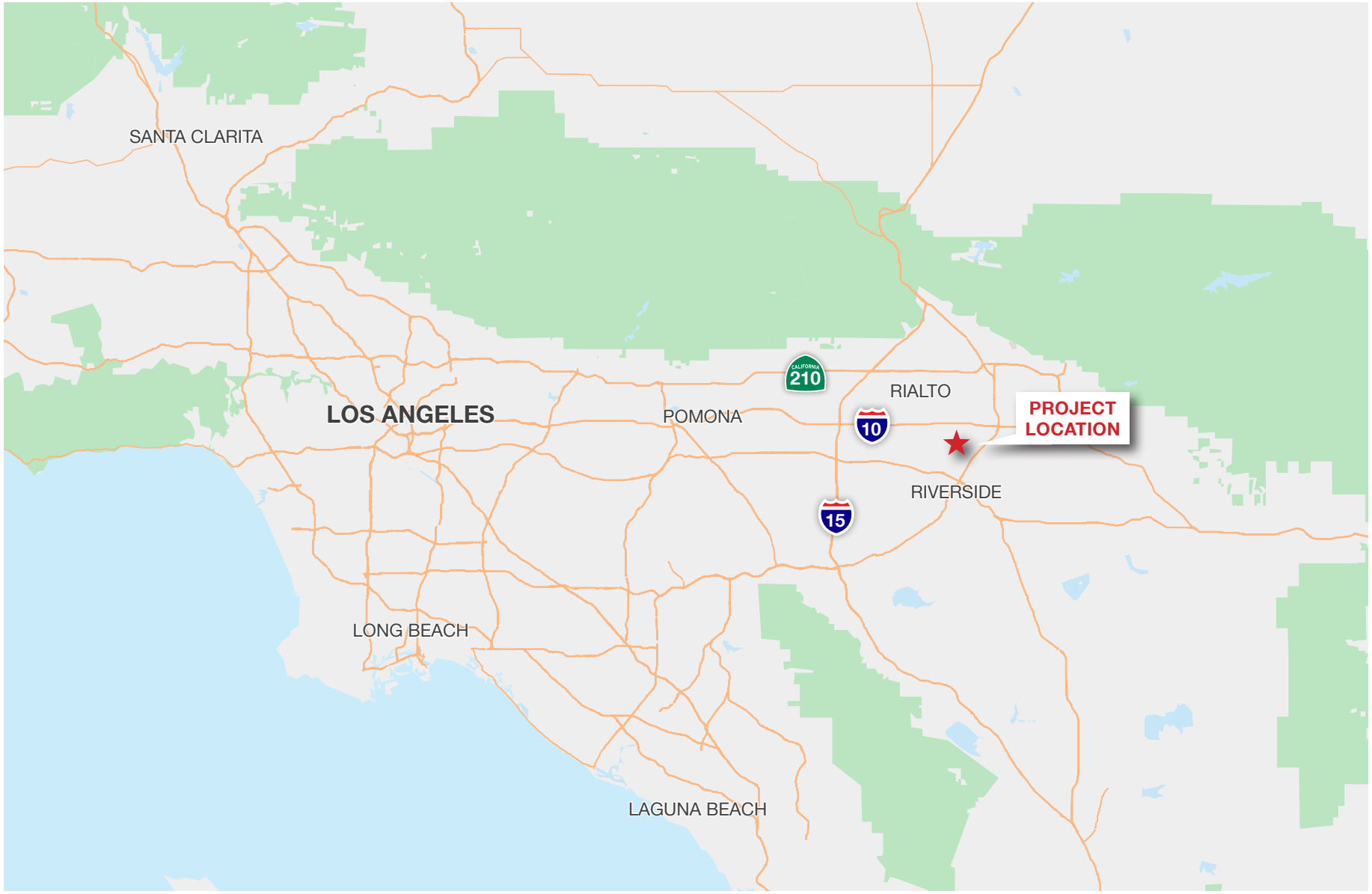

Source: ArcGIS 2024

Figure 3-1: Regional Location Map
Santa Ana Truck Terminal Project
Rialto, CA

Kimley»Horn

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Source: Google Earth Pro, 2023

Figure 3-2: Project Vicinity Map

Santa Ana Truck Terminal Project
Rialto, CA

Kimley»Horn

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The project site consists of 45.7 acres of previously disturbed land. The northern portion of the project site is paved and features trailer storage. The project site is located within a predominantly industrial area of the City. Existing industrial uses, including a concrete and asphalt recycling facility and a transport and wooden pallet facility are located north of the project site. A quarry is located south of the project site and a wastewater treatment facility is located east of the site. An automobile storage lot, shipping container storage area, and quarry are located west of the project site. The property is predominantly adjacent to industrial uses.

The project site is located on land previously known as the Rialto Plant (California Mine ID# 91-36-004) and was used for sand and gravel surface mining operations. The disturbance area of the former uses totals the entirety of the project site. Current activities on-site are limited to mining reclamation, which is anticipated to be completed in 2024, prior to the commencement of Project construction. Therefore, given that reclamation activities would be completed prior to Project construction, the analysis assumes a projected future condition (i.e., Rialto Plant Reclamation Plan completion) as the baseline condition. These reclamation activities include changes to topography, soil disturbance, and other geologic conditions within the proposed project site to justify the use of a future baseline condition.

3.4 LAND USE DESIGNATIONS

3.4.1 General Plan Designations

The City of Rialto General Plan (General Plan) is the comprehensive planning document governing development in the City, and contains goals, policies, and actions describing the community's vision for economic viability, livable neighborhoods, and environmental protection. The General Plan establishes land use designations for land in the City and policies for the orderly growth and development of the City of Rialto. Among other purposes, the General Plan identifies policies necessary to protect and enhance those features and services which contribute to the quality of life of the community in which it serves. Section 4.10, *Land Use and Planning*, of this EIR includes a discussion of the General Plan goals and policies relevant to the proposed Project.

The project site has a General Plan land use designation of General Industrial. The General Industrial designation allows for a broad range of heavy industrial activities. The General Industrial designation permits manufacturing and distribution, heavy equipment operations, and similar uses.[1] The land use designation allows for a maximum Floor to Area Ratio (FAR)[2] of 1.0. The Project's proposed uses are allowed under the General Plan designation for the project site.

3.4.2 Zoning Designations

The project site is zoned Agua Mansa Industrial Corridor Specific Plan within the City. The Agua Mansa Industrial Corridor Specific Plan (Specific Plan) serves as a comprehensive and strategic framework designed to guide the responsible and sustainable development of a designated industrial area. Its primary purpose is to facilitate the growth and enhancement of economic activity, job opportunities, and infrastructure within the corridor, while simultaneously ensuring the protection of natural resources and the overall well-being of the community. By outlining land use regulations, zoning guidelines, and transportation improvements, the Specific Plan seeks to create a cohesive and harmonious environment

[1] City of Rialto. (2010). Rialto General Plan. https://www.yourrialto.com/653/General-Plan. Accessed January 2024.
[2] Floor Area Ratio is the measurement of a building's floor area in relation to the size of the parcel.

that supports both industrial growth and the quality of life for residents. The Specific Plan aims to establish a thriving and resilient industrial hub that benefits the local economy and maintains a high standard of living for the Rialto community. The project site has a land use designation of General Industrial within the City's General Plan and is zoned as Heavy Industrial (H IND) within the Specific Plan. The H IND zone is identified as an industrial land use designation. Permitted uses within the H IND zone include transit and transportation terminals, repairs, and storage facilities.

The project site has a land use designation of General Industrial within the City's General Plan and is zoned as H IND within the Specific Plan. The H IND zone is identified as an industrial land use designation. Permitted uses within the H IND zone include transit and transportation terminals, repairs, and storage facilities. A Conditional Development Permit would be required for Project development, as a truck terminal is a conditionally permitted use within an industrial land use designation.

3.5 PROJECT OBJECTIVES

Section 15124(b) of the State CEQA Guidelines (14 CCR) requires "A statement of objectives sought by the proposed Project. A clearly written statement of objectives would help the lead agency develop a reasonable range of alternatives to evaluate in the EIR and would aid the decision-makers in preparing findings or a statement of overriding considerations, if necessary. The statement of objectives should include the underlying purpose of the project." The following objectives have been identified for the Project.

Objective 1: Develop the property consistent with the guidelines and policies of the City of Rialto General Plan and more specifically, the Agua Mansa Industrial Corridor Specific Plan.

Objective 2: Develop an industrial zoned site with land uses which meet current market demands.

Objective 3: Create revenue-generating uses that provide reliable employment for the long term.

Objective 4: Provide new buildings that are compatible with the surrounding industrial uses.

Objective 5: Develop an industrial use consistent with current zoning in close proximity to designated truck routes and the State highway system to avoid or shorten truck-trip lengths on other roadways.

Objective 6: Redevelop an underutilized property in accordance with Rialto Plant Reclamation Plan.

3.6 PROJECT CHARACTERISTICS

The site plan for the proposed Project is depicted on **Figure 3-3: Conceptual Site Plan**. As proposed, the Project would allow for the development of a truck terminal, maintenance shop, and associated on-site improvements on an approximately 45.7-acre project site. As shown in **Table 3-1: Building Summary**, the Project proposes an approximately 172,445 square foot (sf) truck terminal building with 292 bays and approximately 5,890 sf of office space and an approximately 18,700 sf maintenance shop with 8 bays and 890 sf of office space. Approximately 140 employees are anticipated to be employed by Project operations.

Table 3-1: Building Summary

Building	Warehouse/ Maintenance (sf)	Office (sf)	Total Building (sf)	Automobile Parking Spaces		Tractor Parking	Trailer Parking
				Required	Provided		
Truck Terminal	166,555	5,890	172,445	109			
Maintenance Shop	17,810	890	18,700	39			
			Total	**148**	**149**	**100**	**679**

Source: Section 4 of the Agua Mansa Industrial Corridor Specific Plan.

Truck Terminal Building

The proposed truck terminal would be located within the eastern portion of the project site with the building oriented east-to-west. The building would be mostly rectangular with dimensions of approximately 90 feet wide (east-to-west) by 1,790 feet long (north-to-south). As shown in **Figure 3-4a** and **3-4b**: **Conceptual Elevations Truck Terminal**, the building would be one story and the office entry would be located on the west side of the building. The building would have a maximum height of approximately 24 feet and would include 292 dock doors.

Maintenance Shop

The proposed maintenance shop would be located within the western portion of the project site with the building oriented from north-to-south. The building would be rectangular in configuration with dimensions of approximately 110 feet wide (east-to-west) by 110 feet long (north-to-south). As depicted on **Figure 3-4c: Conceptual Elevations Maintenance Shop**, the building would be one story with a maximum height of approximately 22 feet. The office entry would be on the east side of the building. Additionally, the maintenance shop would include two 20,000-gallon diesel storage tanks and one 8,000-gallon diesel exhaust fluid storage tank.

3.6.1 Site Access and Parking

Access to the project site would be provided via one driveway along East Santa Ana Avenue. The Project would provide an emergency access driveway along East Santa Ana Avenue at the northeastern corner of the project site. As shown in **Table 3-1**, the Project would meet the Specific Plan Parking requirements.

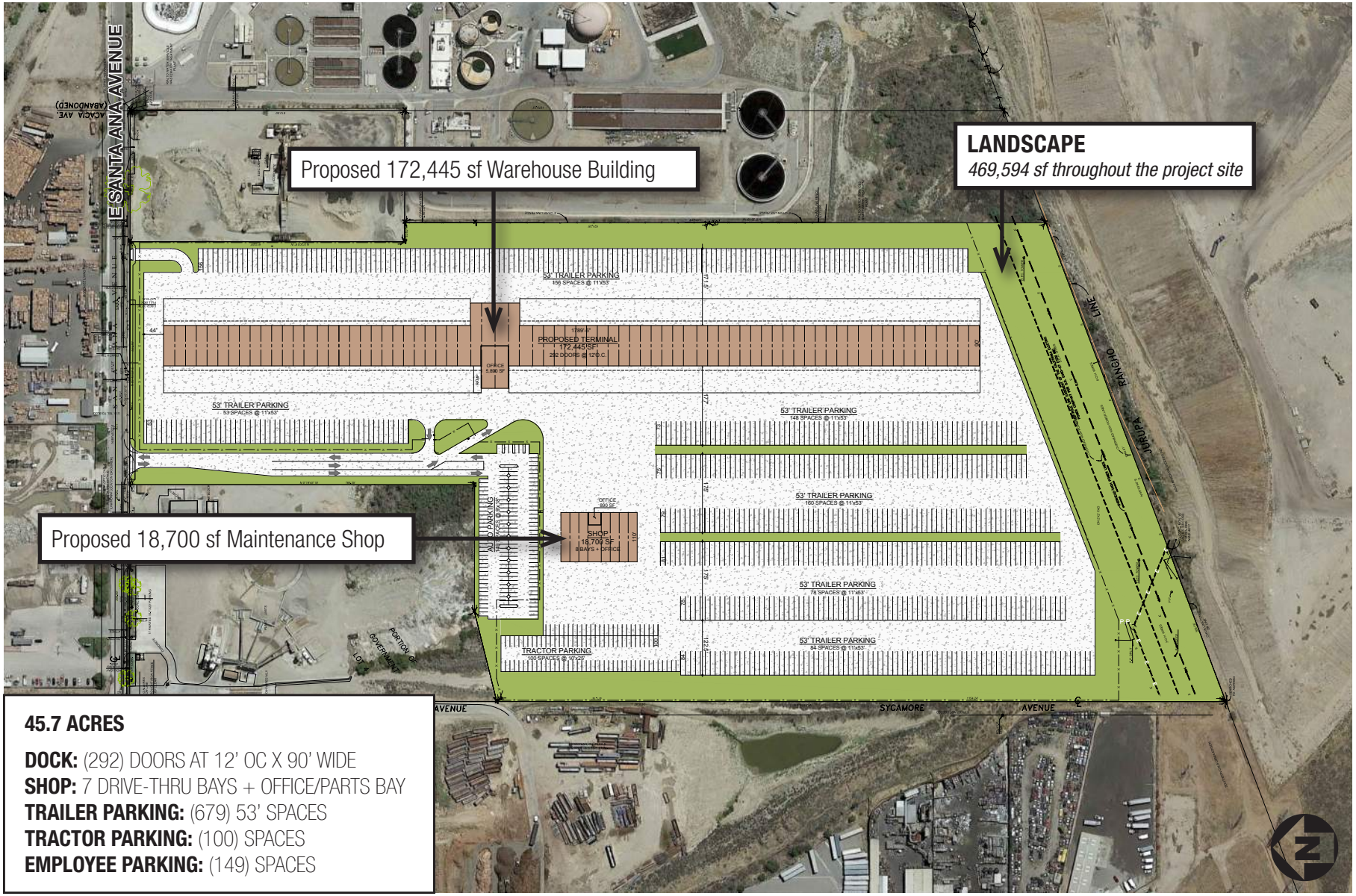
The Project would include a 32-foot-wide driveway within the northwestern portion of the project site, which would provide full-access to the project site. The Project would include an additional emergency only access driveway at the northeastern corner of the project site; the emergency only access driveway would be 26 feet wide.

All automobile and truck trailer parking would be provided on the project site. **Table 3-2: Automobile Parking** identifies the vehicular parking requirements in the City of Rialto Municipal Code Chapter 18.58 that are applicable to the Project.

Table 3-2: Automobile Parking

Use Description	Requirement	Required	Provided
Truck Terminal			
Office (5,890 sf)	1 space per 300 sf	20	
Warehouse (10,000 sf)	1 space per 1,000 sf < 10,000 sf	10	
Warehouse (156,555 sf)	1 space per 2,000 sf > 10,000 sf	79	
Truck Terminal Warehouse Subtotal:		**109**	**110**
Maintenance Shop			
Office (890 sf)	1 space per 300 sf	3	
Maintenance (17,810 sf)	1 space per 500 sf	36	
Maintenance Shop: Subtotal:		**39**	**39**
Total		**148**	**149**

Source: Section 4 of the Agua Mansa Industrial Corridor Specific Plan



Source: Crown Enterprises, Inc.

Figure 3-3: Conceptual Site Plan
Santa Ana Truck Terminal Project
Rialto, CA

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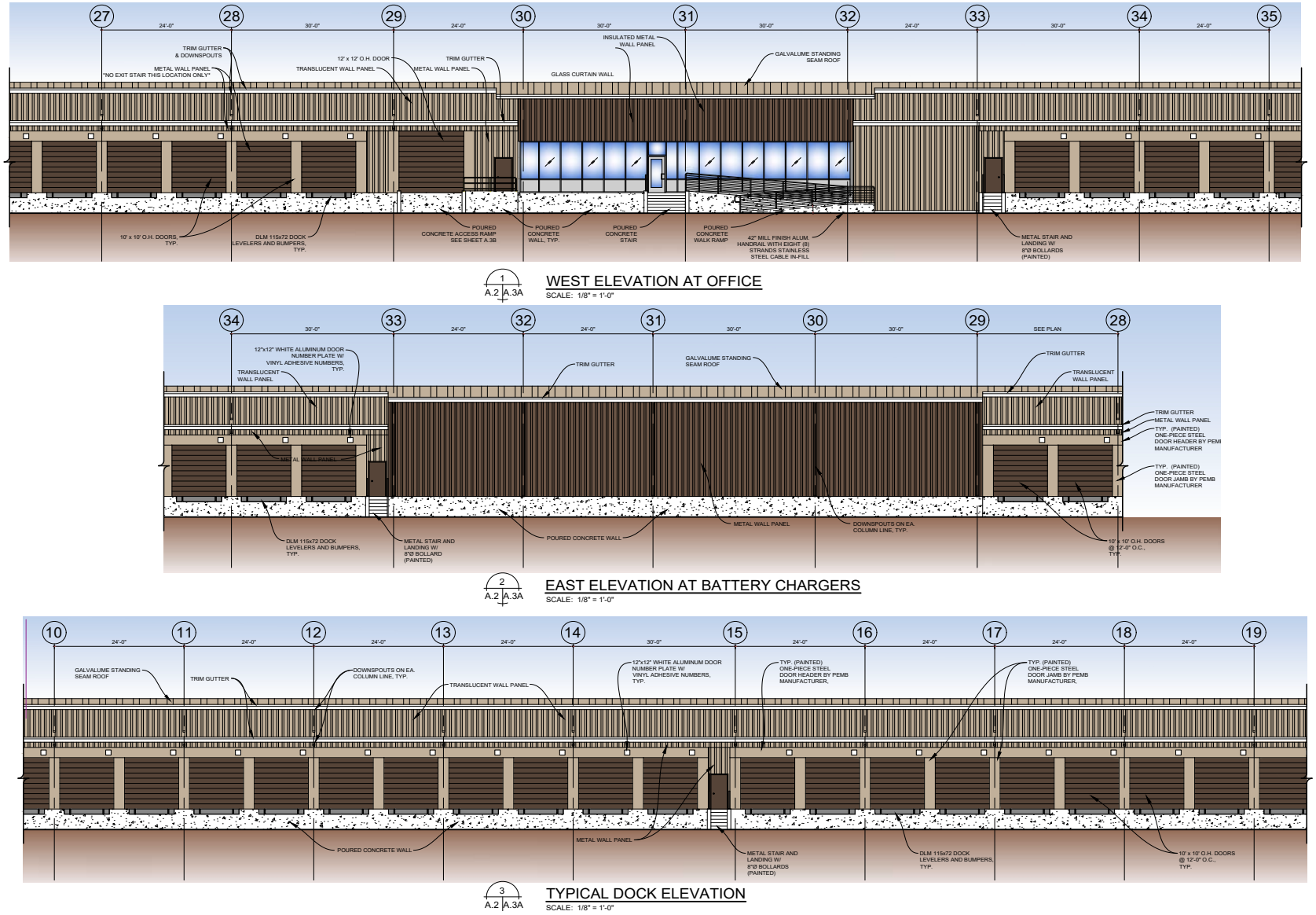

Source: Crown Enterprises, Inc.

Figure 3-4a: Conceptual Elevations Truck Terminal
Santa Ana Truck Terminal Project
Rialto, CA

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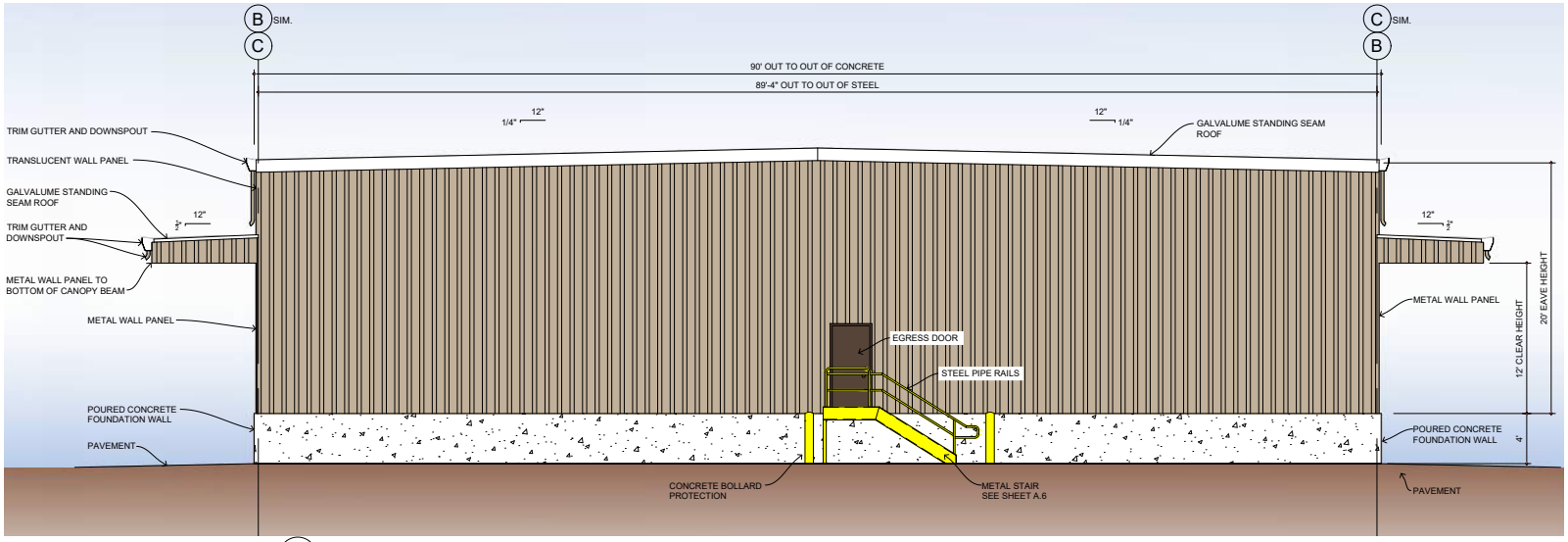
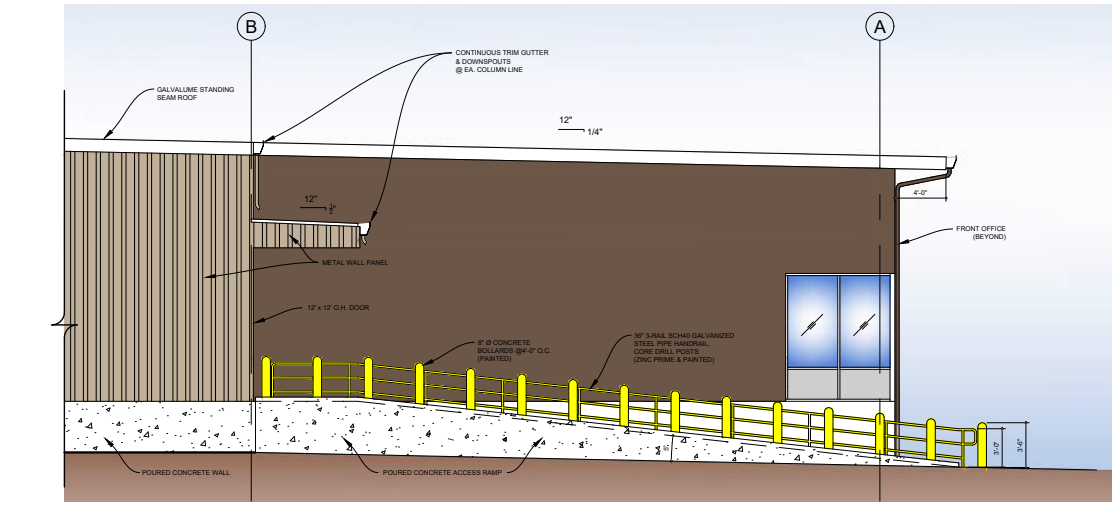


1 A.2 A.3B NORTH ELEVATION - TYPICAL DOCK END WALL
SCALE: 1/4" = 1'-0"



2 A.2 A.3B NORTH ELEVATION - RAMP
SCALE: 1/4" = 1'-0"

Source: Crown Enterprises, Inc.

Figure 3-4b: Conceptual Elevations Truck Terminal
Santa Ana Truck Terminal Project
Rialto, CA

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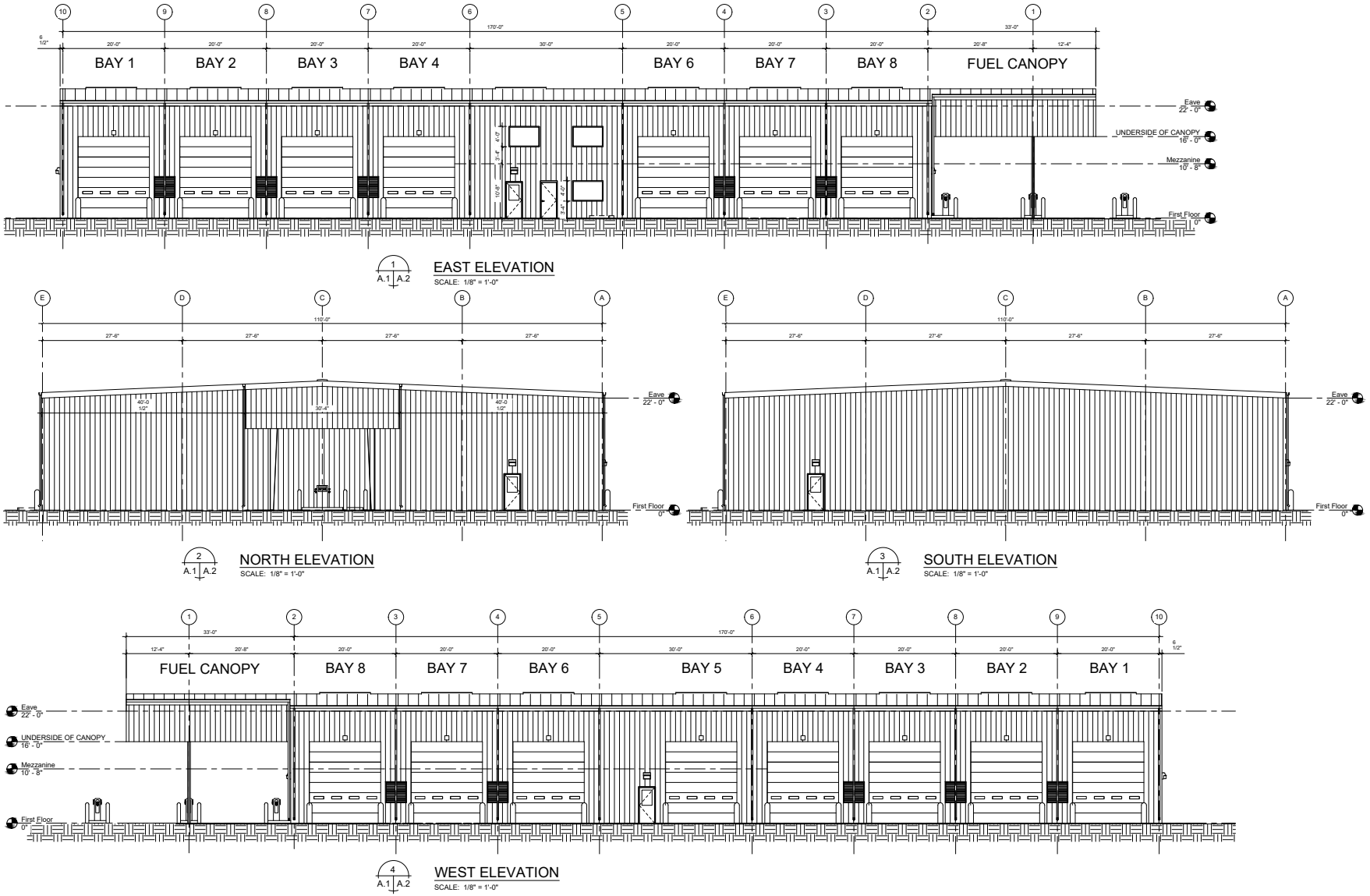

Source: Crown Enterprises, Inc.

Figure 3-4c: Conceptual Elevations Maintenance Shop
Santa Ana Truck Terminal Project
Rialto, CA

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As identified in **Table 3-2**, the Specific Plan requires 109 parking spaces for the proposed truck terminal building and 39 parking spaces for the proposed maintenance shop for a total of 148 required parking spaces. The Project would provide a total of 149 passenger vehicle parking spaces. As shown in **Figure 3-3**, vehicular parking would be located within the northwestern portion of the project site. Project truck trailer parking and loading dock requirements are identified in **Table 3-3: Truck Terminal Loading**. Compliance with Municipal Code Chapter 18.58.030 (O) would require 5 loading docks on-site. The Project proposes 292 loading docks within the proposed truck terminal. The proposed maintenance shop would include 8 bays.

Table 3-3: Truck Terminal Loading

Type	Requirement	Required	Provided
Truck Terminal Building			
Loading Docks	4 spaces for uses of 160,000 sf – 240,000 sf	4	292
Maintenance Shop			
Loading Docks	1 space for uses of 10,000 sf – 40,000 sf	1	8
Source: City of Rialto Municipal Code Section 18.58.030.			

3.6.2 Building Design, Landscaping, and Lighting

The conceptual architectural design for the Project includes metal wall panels, a glass curtain, and galvalume standing seam roofs. As shown in **Figure 3-4a and 4b: Conceptual Elevations – Truck Terminal** and **Figure 3-5: 3D Color Renderings,** the exterior elevations would be shades of brown.

The truck terminal would be set back more than 44 feet from the property line along East Santa Ana Avenue. The Specific Plan does not require side or rear setbacks; however, the Project would include a landscaped perimeter, including the 105-foot pole line easement on the southern portion of the property. A 6-foot Southern California Edison (SCE) easement is located on the western portion of the project site and 10-foot and 105-foot SCE pole line easements are located on the southern portion of the project site, along with a 70-foot Southern Sierras Power Company pole line easement. Additionally, A 6-foot SCE easement is located on the western portion of the project site and 10-foot and 105-foot SCE pole line easements are located on the southern portion of the project site, along with a 70-foot Southern Sierras Power Company pole line easement. Of the 45.7-acre project site, approximately 10.8 acres (or approximately 23.6 percent) of the project site would be landscaped. As shown on **Figure 3-5a: 3D Color Renderings and Figure 3-5b: 3D Coloring Renderings**, landscaping would be provided along the Project boundaries and within the passenger vehicle parking area. The landscaped area would comply with the water efficient landscape requirements as set forth in Chapter 12.50.060 of the Rialto Municipal Code, including the use of automatic irrigation systems and appropriate use and grouping pf plants to foster long-term landscape water conservation. Additionally, the Project would provide sidewalks along the south side of East Santa Ana Avenue and the northwestern boundary to the proposed full-access driveway. The Project would include a retaining wall along the eastern boundary to screen views of the parking area from the adjacent parcels.

Site lighting would be used to provide adequate lighting for circulation, safety, and security. Night lighting would be provided seven days a week. Outdoor lighting for the parking areas would be provided consistent with the requirements set forth in the Municipal Code and Specific Plan. Lighting levels would not exceed 1.0 candle/foot measured at ground level throughout the parking areas.

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Source: Crown Enterprises, Inc.

Figure 3-5a: 3D Color Renderings
Santa Ana Truck Terminal Project
Rialto, CA

Kimley»Horn

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Source: Crown Enterprises, Inc.

Figure 3-5b: 3D Color Renderings
Santa Ana Truck Terminal Project
Rialto, CA

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3.6.3 Infrastructure and Off-Site Improvements

East Santa Ana Avenue

The Project would include improvements to East Santa Ana Avenue along the frontage of the project site, to South Riverside Avenue. The Project would require full depth reconstruction along East Santa Ana Avenue, including mill and overlay. Improvements to East Santa Ana Avenue would include curb gutter, and streetlights on the southern side of East Santa Ana Avenue. In addition, the Project would include sidewalks along the Project frontage on East Santa Ana Avenue.

Water Service

The City would provide the domestic water to the project site from an existing municipal water main located within East Santa Ana Avenue. The Project proposes water connections for domestic water, fire protection, and landscape irrigation.

Drainage and Water Quality Treatment

The developer would be responsible for drainage and water quality treatment before discharging into the City's existing storm drainage infrastructure located within East Santa Ana Avenue. The Project proposes conveyance of storm drain to underground detention basins located at the center of the project site, and modular wetland treatment on-site.

Wastewater Collection and Disposal

The City has an existing sanitary sewer mainline located within East Santa Ana Avenue. The Project proposes sewer service connections to the existing sanitary sewer mainline.

Dry Utilities and Services

Along the project site boundary on East Santa Ana Avenue, there are existing utility poles that contain electrical power, communications, and cable television lines. This Project proposes to convert the above-ground utility poles to below-ground along the Project frontage on East Santa Ana Avenue.

3.7 CONSTRUCTION PHASING

Project construction is anticipated to begin in 2024 with a construction duration of approximately 18 months. Construction would occur in a single phase. Construction of the Project would require the following activities: site preparation, grading, paving, building construction/infrastructure installation, and architectural coatings. Approximately 50,000 cubic yards of soils and Project materials would be imported during grading activities.

3.8 INTENDED USE OF THE EIR

Pursuant to Section 15121 of the State CEQA Guidelines, an EIR is primarily an informational document intended to inform the public agency decision-makers and the general public of the potentially significant environmental effects of a project. Prior to taking action on the proposed Project, the City must consider the information in this EIR and certify the Final EIR.

The City of Rialto, as lead agency for the Project, has discretionary authority over the primary approvals. The Applicant has requested the consideration of the following discretionary actions.

3.8.1 City of Rialto

- **Certification of the Santa Ana Truck Terminal Project Final Environmental Impact Report**
- **Precise Plan of Design (PPD) (PPD 2023-0006):** The proposed Project includes the review of a PPD for one truck terminal and one maintenance shop totaling approximately 191,145 sf. The total site area is approximately 45.7 acres.
- **Conditional Development Permit (CDP) (2023-0007):** The Project includes a CDP for the development of a truck terminal, which is considered a conditionally permitted use in industrial zones within the City.

In addition to the approvals identified above, the Project would be subject to other discretionary and ministerial actions by the City as part of Project implementation. Additional City approvals include but are not limited to haul route permits, site development permits, grading permits, use permits, sign permits, and building permits.

3.8.2 Responsible Agencies

- **Santa Ana Regional Water Quality Control Board (RWQCB):** Issuance of a National Pollution Discharge Elimination System (NPDES) Permit and Construction General Permit.

4.0 ENVIRONMENTAL IMPACT ANALYSIS

4.0.1 Environmental Assessment Methodology

This section discusses the potential environmental impacts that would result with implementation of the proposed Santa Ana Truck Terminal Project (Project). The following environmental topics are evaluated in Sections 4.1 through 4.17 of this Environmental Impact Report (EIR):

- Aesthetics
- Air Quality
- Biological Resources
- Cultural Resources
- Energy
- Geology and Soils
- Greenhouse Gas Emissions
- Hazards and Hazardous Materials
- Hydrology and Water Quality
- Land Use and Planning
- Mineral Resources
- Noise
- Population and Housing
- Public Services
- Transportation
- Tribal Cultural Resources
- Utilities and Service Systems

Pursuant to State California Environmental Quality Act (CEQA) Guidelines Section 15128, "An EIR shall contain a statement briefly indicating the reasons that various possible significant effects of a project were determined not to be significant and were therefore not discussed in detail in the EIR." The City determined that the Project would have no impact on the following CEQA environmental topics: Agriculture and Forestry Resources, Recreation, and Wildfires. As such, these topics are not addressed in the EIR.

4.0.2 Environmental Setting

This environmental setting provides a brief overview of relevant plans, policies, and regulations that compose the regulatory framework for the Project and describes the existing physical environmental conditions on the project site and in the surrounding area, as relevant. The existing conditions are the on-site physical environmental conditions at the time of publication of the Notice of Preparation (NOP), pursuant to CEQA Guidelines Section 15125(a)(1). For purposes of this analysis, the environmental setting constitutes the baseline physical conditions by which the City of Rialto, as Lead Agency, determines whether an impact is significant. The project site was previously used for mining operations. The disturbance area of the former uses totals the entirety of the project site. Current activities on-site are limited to mining reclamation, which is anticipated to be completed in 2024, prior to the commencement of Project construction. Therefore, given that reclamation activities would be completed prior to Project construction, the analysis assumes a projected future condition (i.e., Rialto Plant Reclamation Plan completion) as the baseline condition. These reclamation activities include changes to topography, soil disturbance, and other geologic conditions within the project site to justify the use of a future baseline condition.

4.0.3 Environmental Analysis

As described in detail in Section 2, *Introduction*, this EIR has been prepared as a Project EIR in accordance with Section 15161 of the State CEQA Guidelines. This Project EIR is intended to serve as the primary environmental document for all future discretionary actions associated with implementation of the Project. The analysis contained within this Project EIR provides environmental information to responsible agencies, trustee agencies, and other public agencies which may be required to grant approvals and permits or coordinate with the City of Rialto as part of the Project's implementation.

Thresholds of Significance

As set forth in the State CEQA Guidelines Section 15064(b)(2), thresholds of significance assist a lead agency in determining whether a project may cause a significant impact. When using a threshold, the lead agency should briefly explain how compliance with the threshold means that a project's impacts are less than significant. The significance determinations are based on a number of factors as explained in each impact section. These thresholds are derived from Appendix G of the State CEQA Guidelines, 2010 Rialto General Plan policies, ordinances, generally accepted professional standards, and quantified thresholds established by the City of Rialto or other agencies (such as pollutant emission thresholds adopted by the Air Quality Management District).

Environmental Impacts and Mitigation Measures

This subsection describes changes that could potentially result to the existing physical environment should the Project be implemented. In evaluating the significance of the environmental effect of a project, the lead agency will consider direct physical changes in the environment which may be caused by the project and reasonably foreseeable indirect physical changes in the environment which may be caused by a project (CEQA Guidelines §15064(d)). A significant impact on the environment means a substantial, or potentially substantial, adverse change in any of the physical conditions in the area affected by a proposed project, including land, air, water, minerals, flora, fauna, ambient noise, and objects of historical or aesthetic significance. An economic or social change by itself is not considered a significant impact on the environment. A social or economic change related to a physical change may be considered in determining whether the physical change is significant.

The following is an explanation of the significance determinations used in this EIR:

- **No Impact**: Due to the nature of the Project or location of the project site, the Project would not have any measurable impact on the environment. For example, underground facilities do not have the potential for long-term visual impacts.
- **Less Than Significant**: An impact that is adverse but that does not exceed the defined thresholds of significance. Although an impact may occur, it will not be at a significant level based on applicable standards and thresholds. For example, construction-related air emissions that fall below the standards are less than significant and do not require mitigation.
- **Less Than Significant With Mitigation**: An impact that exceeds the defined thresholds of significance and would or could cause a substantial adverse change in the environment. Standard Conditions and Requirements, and Mitigation Measures are recommended to prevent the impact, eliminate the impact, or reduce it to a level that is considered less than significant. For example,

potentially significant impacts to unknown resources can be mitigated to less than significant with monitoring during ground disturbing construction activities.

- **Significant and Unavoidable**: This determination is made for a potentially significant impact where there is no feasible mitigation available, or the recommended mitigation measures are not sufficient enough to reduce the impact to a less than significant level. To approve a project with unavoidable significant impacts, the lead agency must adopt a Statement of Overriding Considerations. In adopting such a statement, the lead agency is required to balance the benefits of a project against its unavoidable environmental impacts in determining whether to approve a project. If a project's benefits are found to outweigh the unavoidable adverse environmental effects, the adverse effects may be considered "acceptable" (State CEQA Guidelines §15093(a)).

Mitigation

Pursuant to State CEQA Guidelines Sections 15002, 15021, and 15126.4, mitigation measures are required (as feasible) when significant impacts are identified. If a mitigation measure itself would cause a significant impact, in addition to the impact caused by a project, that impact is also discussed, although at a lesser level of detail than a project impact (pursuant to State CEQA Guidelines §15126.4 (a)(1)(D)). "Mitigation measures must be fully enforceable through permit conditions, agreements, or other legally-binding instruments" (pursuant to State CEQA Guidelines §15126.4(a)(2)), and "mitigation measures must be consistent with all applicable constitutional requirements" (pursuant to State CEQA Guidelines §15126.4(a)(4)).

4.0.4 Cumulative Impacts

CEQA Requirements

Under the State CEQA Guidelines, "a cumulative impact consists of an impact which is created as a result of the combination of the project evaluated in the EIR together with other projects causing related impacts" (14 CCR §15130(a)(1)). Therefore, an EIR must discuss cumulative impacts if the incremental effect of a project, combined with the effects of other projects is "cumulatively considerable" (14 CCR §15130(a)). Such incremental effects are to be "viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects" (14 CCR §15064(h)(1)). Together, these projects compose the cumulative scenario which forms the basis of the cumulative impact analysis.

Cumulative impacts analysis should highlight actions that are closely related either in time or location to the project being considered. Both the severity of impacts and the likelihood of their occurrence are to be reflected in the discussion, "…but the discussion need not provide as great a level of detail as is provided for the effects attributable to the project alone. The discussion of cumulative impacts shall be guided by standards of practicality and reasonableness and should focus on the cumulative impact to which the identified other projects contribute rather than the attributes of other projects which do not contribute to the cumulative impact" (14 CCR §15130(b)).

The cumulative analysis must be in sufficient detail to be useful in deciding whether, or how, to alter a project to lessen cumulative impacts.

There are two commonly used approaches for establishing the cumulative impact setting or scenario. One approach is to use a "list of past, present, and probable future projects producing related or cumulative impacts" (14 CCR §15130(b)(1)(A)). The other is to use a "summary of projections contained in an adopted local, regional, or statewide plan or related planning document, that describes or evaluates conditions contributing to the cumulative effect" (14 CCR §15130(b)(1)(B)). This EIR uses the summary approach of projections based on the buildout assumptions contained in the 2010 General Plan EIR (SCH No. 2008071100); however, a Cumulative Projects List, is also used as applicable.

Cumulative Impact Analysis Methodology

The area within which a cumulative effect can occur varies by resource. For example, air quality impacts generally affect a large area (such as the regional Air Basin), while traffic impacts are typically more localized. The analysis of cumulative effects considers a number of variables, including geographic (spatial) limits, time (temporal) limits, and the characteristics of the resource being evaluated. The geographic scope of each analysis is based on the topography surrounding the project site and the natural boundaries of the resource affected, rather than jurisdictional boundaries. The geographic scope of cumulative effects will often extend beyond the scope of the direct effects, but not beyond the scope of the direct and indirect effects of the a project. For this reason, the geographic scope for the analysis of cumulative impacts is identified for each resource area in the respective environmental topical sections of this EIR.

Cumulative List

The cumulative study area varies from one environmental topic to another depending upon the nature of impacts related to the topic. For example, cumulative aesthetic considerations encompass only the surrounding areas with direct views of the project site, while air quality is a regional issue that is analyzed on a broader scale, and greenhouse gas emissions are analyzed on an even broader scale. To determine the Project's potential cumulative impacts, this EIR includes the use of a list of past, present, and future projects obtained from the City of Rialto San Bernardino County prior to the issuance of the EIR's Notice of Preparation as shown in **Table 4.0-1: Cumulative Projects List**.

The cumulative impacts analyses are provided in **Sections 4.1** through **4.17**. These analyses describe the potential environmental changes to the existing physical conditions that may occur as a result of the Project together with the cumulative projects listed in the table. Not all related projects would contribute to significant cumulative impacts for each topical area. For example, not all related projects would have visual impacts. The cumulative impact analyses in each topical area provides an evaluation of the cumulative projects and how these would contribute to cumulative impacts. Some of the impacts are very site-specific and would not compound the impacts associated with the Project. In other cases, short-term impacts would not contribute to cumulative impacts because the construction of the cumulative project and the development of the Project would not occur in the same time period or be near to each other.

Table 4.0-1: Cumulative Projects List

Project #	Location	Land Use	Quantity	Unit
City of Rialto				
1	Rialto Village	Free Standing Discount Superstore	198,000	SF
		Tire Store	9,861	SF
		Shopping Center (>150k)	25,436	SF
		Fast-Food Restaurant w/ Drive-thru	5,484	SF
2	South Santa Ana Avenue, East Santa Ana Avenue	Warehousing	370,000	SF
3	NWC of South Riverside Avenue and East Santa Ana Avenue	Warehousing	527,900	SF
4	SEC of South Riverside Avenue and East Santa Ana Avenue	Convenience Store/ Gasoline Station	16	SF
5	Lilac Avenue Warehouse	Warehousing	47,460	SF
6	SC Fuels (19839 Santa Ana Avenue)	Warehousing	48,302	SF
7	Flyers Energy Addition	Warehousing	9,350	SF
8	Angelus Black – Concrete Block	Manufacturing	178,475	SF
9	Rialto Industrial Building	Warehousing	82,000	SF
10	Birtcher Logistics Center	Warehousing	492,410	SF
11	2720 Willow Avenue Warehouse	Warehousing	118,450	SF
County of San Bernardino				
12	Cedar / Slover Retail	Convenience Store / Gasoline Station	12	FP
		Self-Service Car Wash	1	Wash Stall
		Fast-Food Restaurant w/ Drive Thru	9,907	SF
13	Cactus and Slover Warehouse	Warehousing	257,855	SF

SF = Square Feet, FP = Fueling Positions

Source: **Appendix O**

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4.1 AESTHETICS

4.1.1 Introduction

This section of the Environmental Impact Report (EIR) identifies and analyzes the scenic vistas, visual resources, and aesthetic qualities present on and nearby the Santa Ana Truck Terminal Project (Project) while assessing the potential impact the Project could have on those resources. The pre-development conditions of the project site and surrounding area was used as the baseline which to compare potential impacts associated with the Project. Applicable regulations provide further context regarding the Project area's visual character.

4.1.2 Visual Resource Terminology and Concepts

When viewing the same landscape, people may have different responses to that landscape and any proposed visual changes, based upon their values, familiarity, concern, or expectations for that landscape and its scenic quality. Because each person's attachment to and value for a landscape is unique, visual changes to that landscape inherently affect viewers differently. However, generalizations can be made about viewer sensitivity to scenic quality and visual changes. Recreational users (e.g., hikers, equestrians, tourists, and people driving for pleasure) are expected to have a high concern for scenery and landscape character. People commuting daily through the same landscape generally have a moderate concern for scenery, while people working at industrial sites generally have a lower concern for scenic quality or changes to existing landscape character. The visual sensitivity of a landscape is affected by the viewing distances at which it is seen, such as close-up or far away. The visual sensitivity of a landscape is also affected by the travel speed at which a person is viewing the landscape (e.g., high speeds on a highway, low speeds on a hiking trail, or stationary at a residence). Visual resources, as they relate to tribal cultural resources, include tribal cultural landscapes which may be defined temporally (with regard to time) or geographically (such as by natural features such as a stream, boulder or outcrop) and through oral traditions and cultural practices. For more information on tribal cultural resources, see Section 4.16, *Tribal Cultural Resources,* of this EIR.

The same feature can be perceived differently by people depending on the distance between the observer and the viewed object. When a viewer is closer to a viewed object in the landscape, greater detail is visible, and there is greater potential influence of the object on visual quality because of its form or scale (relative size of the object in relation to the viewer). When the same object is viewed at background distances, details may be imperceptible but overall forms of terrain and vegetation are evident, and the horizon and skyline are dominant. In the middle ground, some detail is evident (e.g., the foreground), and landscape elements are seen in context with landforms and vegetation patterns (e.g., the background).

The following terms and concepts are used in the discussion below to describe and assess the aesthetic setting and potential Project impacts.

Scenic Vista. As described in the City of Rialto General Plan (General Plan), scenic vistas can generally be defined as natural landscapes that form views of unique flora, geologic, or other natural features that are generally free from urban intrusions. Typical scenic vistas include views of mountains and hills, large, uninterrupted open spaces, and waterbodies.[1] Scenic vistas are often designated, signed, and accessible

[1] City of Rialto. (2010). Rialto General Plan. https://www.yourrialto.com/653/General-Plan. Accessed August 2023.

to the public for the express purposes of viewing and sightseeing. This includes any such areas designated by a federal, State, or local agency.

Scenic Resources. Typical examples of natural scenic resources include rock outcroppings, trees, and prominent ridgelines, but scenic resources can occur naturally or be man-made, such as historic or architecturally distinctive buildings.

Scenic Highway. Refers to any highway designated as a scenic highway by an agency of the city, county, or State.

Sensitive Receptors. Viewer responses to visual settings are inferred from a variety of factors, including distance and viewing angle, types of viewers, number of viewers, duration of view, and viewer activities. The viewer type and associated viewer sensitivity are distinguished among project viewers in recreational, residential, commercial, military, and industrial areas. Viewer activities can range from a circumstance that encourages a viewer to observe the surroundings more closely (such as recreational activities) to one that discourages close observation (such as commuting in heavy traffic). Viewers in recreational areas are considered to have high sensitivity to visual resources. Residential viewers generally have moderate sensitivity but extended viewing periods. Viewers in commercial, military, and industrial areas are considered to have low sensitivity.

Viewshed. A viewshed can be defined as the area within view from a defined observation point or a visually sensitive area that is visible from a defined observation point.[2] A project's viewshed is the surrounding geographic area from which the project is likely to be seen, based on topography, atmospheric conditions, land use patterns, and roadway orientations. "Project viewshed" is used to describe the area surrounding a project site where a person standing on the ground or driving a vehicle can view a project site.

Visual Character. Visual character typically consists of the landforms, vegetation, water features, and cultural modifications that impart an overall visual impression of an area's landscape. Scenic areas typically include open space, landscaped corridors, and viewsheds. Visual character is influenced by many different landscape attributes including color contrasts, landform prominence, repetition of geometric forms, and uniqueness of textures among other characteristics.

4.1.3 Regulatory Setting

State Regulations

California Scenic Highway Program

The California Department of Transportation (Caltrans) Scenic Highway Program protects and enhances the natural scenic beauty of California's highways and corridors through special conservation treatment. Caltrans defines a scenic highway as any freeway, highway, road, or other public rights-of-way that transverses an area of exceptional scenic quality. Caltrans designates a scenic highway by evaluating how much of the natural landscape a traveler sees and the extent to which visual intrusions degrade the scenic corridor. No officially designated scenic highways are located in the project site or within the City of Rialto

[2] American Planning Association. (2004). A Planner's Dictionary. Page 444. Accessed August 2023.

(City). The nearest designated scenic highway is State Route 38 (Rim of the World Scenic Byway), located approximately 34 miles east of the project site.[3]

California Building Standards Code

The 2022 California Building Code (CBC), Title 24 of the California Code of Regulations (CCR), is administered by the California Building Standards Commission. The CBC, as amended and adopted by each local jurisdiction, regulates the design of all new buildings within the State of California. Part 6 of Title 24 contains standards for outdoor lighting that are intended to improve energy efficiency and reduce light pollution and glare by regulating light power and brightness, shielding, and sensor controls. The 2022 CBC went into effect on January 1, 2023.

Regional and Local Regulations

Rialto General Plan 2010

Chapter 2, Managing Our Land Supply, of the City's General Plan provides guidance to promote the City's goals for current and future development related to Land Use, Community Design, Open Space and Conservation. Relevant General Plan policies for aesthetics are identified below. Where inconsistencies exist, if any, they are addressed in the respective impact analysis below.

Goal 2-14: Protect scenic vistas and scenic resources.

Policy 2-14.1: Protect views of the San Gabriel and San Bernardino Mountains by ensuring that building heights are consistent with the scale of surrounding, existing development.

Policy 2-14.2: Protect views of the La Loma Hills, Jurupa Hills, Box Spring Mountains, Moreno Valley, and Riverside by ensuring that building heights are consistent with the scale of surrounding, existing development.

Policy 2-14.3: Ensure use of building materials that do not produce glare, such as polished metals or reflective windows.

Goal 2-18: Protect Rialto's small-town character.

Policy 2-18.1: Require all new development and renovations within residential neighborhoods to be consistent with the existing scale, massing, and landscaping of that neighborhood.

Agua Mansa Industrial Corridor Specific Plan

The Agua Mansa Industrial Corridor Specific Plan (Specific Plan) was adopted in July 1986. The Specific Plan encompasses 4,285 acres within the cities of Colton and Rialto, and the counties of San Bernadino and Riverside.[4] The Specific Plan area is bound by Interstate 10 (I-10) to the north, Rancho Avenue to the east, and the Santa Ana River to the southeast, and unincorporated San Bernadino County to the west. The purpose of the Specific Plan is to serve as a master plan for future economic development. The Specific

[3] California Department of Transportation (Caltrans). (2023). California State Scenic Highway System Map. https://dot.ca.gov/programs/design/lap-landscape-architecture-and-community-livability/lap-liv-i-scenic-highways. Accessed July 2023.

[4] City of Rialto. (1986). Agua Mansa Industrial Corridor Specific Plan. http://www.sbcounty.gov/uploads/lus/specificplans/amsp.pdf. Accessed August 2023.

Plan area is comprised of various land uses, including industrial uses, agricultural land, residential uses, and vacant land. The project site is zoned General Manufacturing (M-2) in the Specific Plan.

City of Rialto Municipal Code

Title 18 of the Rialto Municipal Code functions as the City's Zoning Ordinance, which identifies the permitted land uses on all parcels in the City through assigned land use designations and associated land use regulations and development standards. The purpose of Title 18 is also to promote the consistent aesthetic character of the City and balance that character with continued development. Title 18 also contains provisions to manage light and glare levels in the City. In coordination with the General Plan and the Specific Plan, Title 18 presents the following guidelines to promote appropriate land use and City design:

- lessen congestion in the streets;
- secure safety from fire, panic and other dangers;
- promote health and the general welfare;
- provide adequate light and air; to prevent the overcrowding of land;
- avoid undue concentration of population; and
- facilitate the adequate provision of transportation, water, sewerage, schools, parks and other public requirements.

4.1.4 Environmental Setting

The project site consists of approximately 45.7 acres of previously disturbed land. The northern portion of the project site is paved and features trailer storage. On-site elevations range from approximately 900 to 955 feet above mean sea level (amsl). A 105-foot California Electric Power Company pole line easement is located on the southern portion of the property. Adjacent properties include industrial uses and vacant land. In addition, the Santa Ana River is approximately 0.7 miles south of the project site. Current activities on-site are limited to mining reclamation, which is anticipated to be completed in 2024, prior to the commencement of Project construction. Therefore, given that reclamation activities would be completed prior to Project construction, the analysis assumes a projected future condition (i.e., Rialto Plant Reclamation Plan completion) as the baseline condition. These reclamation activities include changes to topography, soil disturbance, and other geologic conditions within the proposed project site to justify the use of a future baseline condition.

Scenic Vistas

The General Plan identifies the San Gabriel and San Bernardino Mountains as scenic vistas, views of which are visible from certain parts of the City. The San Gabriel Mountains are approximately 10 miles northwest of the project site and the San Bernardino Mountains are approximately 14 miles east of the project site. Both the San Gabriel Mountains and San Bernardino Mountains are visible from the project site in the distance.

Scenic Resources

The General Plan identifies examples of scenic resources as including rock outcroppings, trees, and prominent ridgelines as well as architecturally distinctive or historic buildings. The City's General Plan identifies Box Spring Mountains, La Loma and Jurupa Hills, Lytle Creek, and the Santa Ana River as scenic resources. Lytle Creek is approximately 4.1 miles north of the project site and the Santa Ana River is approximately 0.6 miles east of the project site. Neither resource is visible from the project site due to intervening topography and development. Box Spring Mountains are approximately 7 miles southeast of the project site, but views of these mountains are obscured by intervening urban development. The La Loma Hills are approximately 0.9 miles southeast of the project site and the Jurupa Hills are approximately 3.1 miles west of the project site. The Jurupa Hills are visible from the project site.

Light and Glare

Light and glare in the project site area are typical of that found in urban environments. Sources of light and potential glare in the area include adjacent industrial uses. Stationary source lighting in the area is generated from building interiors and exterior sources (e.g., building illumination, security lighting, and parking lot lighting) associated with uses adjacent to the project site. The area is also influenced by light and glare from vehicle headlights and streetlights. The project site is currently vacant and undeveloped and does not contain any lighting or sources of potential glare.

4.1.5 Methodology

The analysis of visual quality of the Project is based on the land use plan and conceptual landscape plan, as described in Section 3.0, *Project Description*. The assessment of aesthetic/visual changes is based on the evaluation of the Specific Plan Design Guidelines, and other regulatory requirements, and the evaluation of the proposed site development in comparison to existing conditions. Aesthetics may be defined as visual qualities within a given field of view, and may include such considerations as size, shape, color, contextual and general composition and the relationships between these elements; the potential aesthetic impacts of a project can be evaluated by considering such factors as scale and mass, landscaping, and setbacks.

The Project is evaluated against the significance criteria/thresholds below, as the basis for determining the impact's level of significance concerning aesthetics. In addition to the design characteristics of future development, this analysis considers the existing regulatory framework (i.e., laws, ordinances, regulations, and standards) that avoid or reduce the potentially significant environmental impact. Where significant impacts remain despite compliance with the regulatory framework, feasible mitigation measures are recommended, to avoid or reduce the Project's potentially significant environmental impacts.

This analysis of impacts on aesthetic resources examines the Project's temporary (i.e., construction) and permanent (i.e., operational) effects-based significance criteria/threshold's application. For each criterion, the analyses address both temporary (construction) and operational impacts, as applicable. Each criterion is discussed in the context of Project components that share similar characteristics/geography. The impact conclusions consider the potential for changes in environmental conditions, as well as compliance with the regulatory framework enacted to protect the environment.

4.1.6 Thresholds of Significance

The following significance criteria for aesthetic impacts were derived from the Environmental Checklist in State CEQA Guidelines Appendix G. An impact of a project could be considered significant and may require mitigation if it meets one of the following criteria:

- Have a substantial adverse effect on a scenic vista;
- Substantially damage scenic resources, including but not limited to trees, rock outcroppings, and historic buildings within a state scenic highway;
- 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, the project has a significant environmental impact if it would conflict with applicable zoning and other regulations governing scenic quality; or
- Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area.

4.1.7 Project Impacts and Mitigation

Impact 4.1-1: Would the project have a substantial adverse effect on a scenic vista?

Level of Significance: Less than Significant Impact

The project site is located on vacant land with a Heavy Industrial (H IND) land use designation in the Specific Plan. The project site is located adjacent to existing industrial land uses and vacant land. The project site is not located within an area designated by the City as a scenic vista. As described in General Plan Policy 2-14.1 and 2-14.2, the General Plan encourages the protection of scenic resources and views of the San Gabriel and San Bernardino Mountains, and the La Loma Hills, Jurupa Hills, Box Spring Mountains, Moreno Valley, and Riverside by limiting building heights. Views of these resources from the area surrounding the project site are already limited and interrupted.

Views of a scenic vista can be affected by the development of buildings and structures which may block visibility at different angles. Upon completion of Project development, the distant views of the San Gabriel and San Bernardino Mountains from uses south of the project site may be partially obstructed, and views of the La Loma Hills may be partially obstructed when viewed from north of the project site; however, those views are currently partially obstructed by intervening urban development.

The Project would include the construction of an approximately 172,445 sf truck terminal and an approximately 18,700 sf maintenance shop. The proposed truck terminal would be approximately 24 feet in height and 90 feet in width, and the proposed maintenance shop would be approximately 22 feet in height and 110 feet in width. As such, Project implementation would partially obstruct views of designated scenic vistas; however, those views are currently partially obstructed by existing urban development. The Project would include a retaining wall along the eastern boundary, screening views of the parking areas from adjacent parcels. The nearest sensitive receptor to the project site is residential land uses located approximately 2,800 feet to the southwest. Compliance with the City's design standards for the Project would minimize potential impacts to scenic vistas to a less than significant level.

Mitigation Program

Standard Conditions

No standard conditions are applicable.

Mitigation Measures

Agua Mansa Industrial Corridor Specific Plan EIR Mitigation Measures

No mitigation measures are applicable.

Project Mitigation Measures

No mitigation is required.

Impact 4.1-2: Would the project substantially damage scenic resources, including but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?

Level of Significance: No Impact

The nearest designated state scenic highway to the project site is SR-38 (Rim of the World Scenic Byway), located approximately 34 miles east, and the nearest eligible state scenic highway to the project site is the portion of SR-38 located between State Route 10 (SR-10) and State Route 18 (SR-18), approximately 10.2 miles east of the project site.[5] Due to distance and intervening topography, Project implementation would not substantially damage scenic resources within a state scenic highway. No impact would occur.

Mitigation Program

Standard Conditions

No standard conditions are applicable.

Agua Mansa Industrial Corridor Specific Plan EIR Mitigation Measures

No mitigation measures are applicable.

Project Mitigation Measures

No mitigation is required.

Impact 4.1-3: Would the project conflict with applicable zoning and other regulations governing scenic quality?

Level of Significance: Less than Significant Impact

The Project would include the construction of a truck terminal on an approximately 45.7-acre project site. The project site is zoned H IND within the Specific Plan and is adjacent to existing industrial uses. Additionally, permitted uses within a Heavy Industrial land use includes transit and transportation terminals, and repair and storage facilities. As such, the proposed truck terminal would be consistent with the Heavy Industrial zone.

Table 4.1-1: Development Standard Consistency Summary identifies the development standards applicable to the Project and the Project's consistency with the standards identified in Section 4.2 of the Specific Plan

[5] Caltrans. (2023). California State Scenic Highway System Map. https://dot.ca.gov/programs/design/lap-landscape-architecture-and-community-livability/lap-liv-i-scenic-highways. Accessed July 2023.

for development on sites with Heavy Industrial land use designations. The development standards have been incorporated into the Project design to ensure full compliance with the Specific Plan development standards to minimize impacts related to aesthetics, light, or glare.

Table 4.1-1: Development Standard Consistency Summary

Development Standard	Heavy Industrial Land Use	Project
Maximum Height	None	24
Minimum Lot Size	0.3 acres	45.7 acres
Minimum Lot Depth	100 ft	2,234.5 feet
Front Setbacks	25 feet	44 feet
Side Setbacks	None	15 feet
Rear Setbacks	None	20 feet
Landscape Minimum	20 ft along public street frontages	The Project would include 10.8 acres (23.6% of the project site) of landscaping

Source: City of Rialto. (1987). Agua Mansa Industrial Corridor Specific Plan. https://www.yourrialto.com/DocumentCenter/View/563/Agua-Mansa-Specific-Plan. Accessed August 2023.

Information regarding project site design, necessary permits, and land use regulations are provided in Section 3.0, *Project Description,* and Section 4.10, *Land Use and Planning*, of this EIR. Additionally, although the proposed Project is consistent with the land use designation and zoning designation for the project site, as required by Section 18.106.040 of the City's Municipal Code, the Project would require a Conditional Development Permit (CDP), which is required for Project implementation because the proposed truck terminal is considered a conditionally permitted use in industrial zones within the City. Therefore, the Project would comply with applicable zoning regulations governing scenic quality. Impacts would be less than significant and no mitigation is required.

Mitigation Program

Standard Conditions

No standard conditions are applicable.

Mitigation Measures

Agua Mansa Industrial Corridor Specific Plan EIR Mitigation Measures

No mitigation measures are applicable.

Project Mitigation Measures

No mitigation is required.

Impact 4.1-4: Would the project create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?

Level of Significance: Less than Significant Impact

The project site is in an urbanized area of the City, which includes nighttime lighting associated with industrial land uses including parking lot lighting and security lighting as well as street lighting and vehicle

lights traveling at night. The nearest light-sensitive receptor to the project site is a single-family residential use located approximately 2,800 feet to the southwest of the project site. The project site would be developed on a vacant property in an urbanized area. Developed and urbanized areas often have higher levels of light and glare than rural or undeveloped areas. New sources of lighting on the project site would include parking lot illumination and various security lights around the property and from inside the proposed maintenance shop. The Specific Plan Performance Standards require that lighting shall reflect away from adjoining property or any public way. All outdoor lighting would be directed downward to minimize excess light spillover on surrounding properties.

General Plan Policy 2-14.3 requires the use of building materials that do not produce glare, such as polished metals or reflective windows. The Project would comply with General Plan Policy 2-14.3 as well as the development standards for lighting identified in Section 4.2 of the Specific Plan, and therefore would preclude significant impacts from the project site related to light and glare.

As discussed above, the Project vicinity includes existing nighttime lighting from surrounding sources including vehicle headlights, streetlights, and existing industrial land uses. The lighting used for the project site would be consistent with the existing sources of nighttime lighting in the area from the surrounding uses such as parking lot lighting and security lighting. Accordingly, compliance with the Specific Plan and the City's zoning ordinance would result in a less than significant increase in light and glare in the area.

Mitigation Program

Standard Conditions

No standard conditions are applicable.

Mitigation Measures

Agua Mansa Industrial Corridor Specific Plan EIR Mitigation Measures

No mitigation measures are applicable.

Project Mitigation Measures

No mitigation is required.

4.1.8 Cumulative Impacts

For purposes of aesthetic resource impact analysis, cumulative impacts are considered for cumulative development according to the related projects; see **Table 4.0-1: Cumulative Projects List** As concluded above, Project implementation would have a less than significant impact on a scenic vista. When evaluating cumulative aesthetic impacts, a number of factors must be considered. The cumulative study area for aesthetic impacts is the viewshed that includes the project site and surrounding areas. The context in which a project is being viewed will also influence the significance of the aesthetic impact. The contrast a project has with its surrounding environment may actually be reduced by the presence of other cumulative projects. If most of an area is or is becoming more urbanized, the contrast of a project with the natural surrounding may be relatively less since it would not stand out in contrast as much. In order for a cumulative aesthetic impact to occur, the proposed elements of the cumulative projects would need to be seen together or in proximity to each other. If the projects were not near each other, the viewer would not perceive them in the same scene.

The project site is bordered by existing development to the north, east and west. Vacant properties to the south of the project site are within the Specific Plan area and are zoned for industrial use. Similar to the Project, development to the south of the project site would alter the visual character of the area. However, current development and future development in the area would be required to conform with the applicable Specific Plans and the Municipal Code, which would require compliance with development standards that would further minimize impacts to views and the visual character of the area.

With respect to nighttime illumination, nighttime lighting effects may be considered in a regional context because of the potential for night glow that can extend beyond the boundaries of a site. Therefore, with respect to night lighting, the Project is considered in context to the forecasted growth for the area and with cumulative projects in the area that may contribute to the increased nighttime lighting. Because the Project would be required to comply with lighting requirements to preclude glare and light spillage, the Project's contribution to nighttime lighting would not be cumulatively considerable. Therefore, the Project's incremental effects involving scenic vistas, consistency with zoning and other regulations governing scenic quality, and light and glare are not cumulatively considerable.

4.1.9 Level of Significance After Mitigation

The Project would result in less than significant impacts associated with aesthetics. No mitigation is required.

4.2 AIR QUALITY

4.2.1 Introduction

This section of the Environmental Impact Report (EIR) identifies and evaluates potential impacts that will be generated by construction and operation of the Santa Ana Truck Terminal Project (Project). The ambient air quality of the local and regional area is described, along with relevant federal, State, and local air pollutant regulations. The Air Quality Assessment and Health Risk Assessment are summarized in this EIR section and provided as **Appendix B** and **Appendix C**, respectively, of this EIR.

4.2.2 Regulatory Setting

Federal Regulations

Federal Clean Air Act

Air quality is federally protected by the Federal Clean Air Act (FCAA) and its amendments. Under the FCAA, the United States Environmental Protection Agency (EPA) developed the primary and secondary National Ambient Air Quality Standards (NAAQS) for the criteria air pollutants including ozone (O_3), nitrogen dioxide (NO_2), carbon monoxide (CO), sulfur dioxide (SO_2), fine particulate matters 10 microns or less and 2.5 microns or less (PM_{10}, $PM_{2.5}$), and lead (pb). Proposed projects in or near nonattainment areas could be subject to more stringent air-permitting requirements. The FCAA requires each state to prepare a State Implementation Plan to demonstrate how it will attain the NAAQS within the federally imposed deadlines.

The United States EPA can withhold certain transportation funds from states that fail to comply with the planning requirements of the FCAA. If a state fails to correct these planning deficiencies within two years of federal notification, the United States EPA is required to develop a federal implementation plan for the identified nonattainment area or areas. The provisions of 40 Code of Federal Regulations Parts 51 and 93 apply in all nonattainment and maintenance areas for transportation-related criteria pollutants for which the area is designated nonattainment or has a maintenance plan. The United States EPA has designated enforcement of air pollution control regulations to the individual states. Applicable federal standards are summarized in **Table 4.2-1: State and Federal Ambient Air Quality Standards**.

Federal Emissions Standards for On-Road Trucks

To reduce emissions from on-road, heavy-duty diesel trucks, the United States EPA established a series of increasingly strict emission standards for new engines, starting in 1988. The United States EPA promulgated the final and cleanest standards with the 2007 Heavy-Duty Highway Rule. The PM emission standard of 0.01 gram per horsepower-hour (g/hp-hr) is required for new vehicles beginning with model year 2007. Also, the NO_X and nonmethane hydrocarbon (NMHC) standards of 0.20 g/hp-hr and 0.14 g/hp-hr, respectively, were phased in together between 2007 and 2010 on a percent of sales basis: 50 percent from 2007 to 2009 and 100 percent in 2010.

Emission Standards for Off-Road Diesel Engines

To reduce emissions from off-road diesel equipment, the United States EPA established a series of cleaner emission standards for new off-road diesel engines. Tier 1 standards were phased in from 1996 to 2000 (year of manufacture), depending on the engine horsepower category. Tier 2 standards were phased in from 2001 to 2006. Tier 3 standards were phased in from 2006 to 2008. Tier 4 standards, which generally require add-on emission control equipment to attain them, were phased in from 2008 to 2015.

State Regulations

California Air Resources Board

The California Air Resources Board (CARB) administers air quality policies for the State of California. The California Ambient Air Quality Standards (CAAQS) were established in 1969 pursuant to the Mulford-Carrell Act. **Table 4.2-1: State and Federal Ambient Air Quality Standards** identifies the CCAQS and NAAQS standards. The State standards are generally more stringent and apply to more pollutants than the NAAQS. In addition to the criteria pollutants, CAAQS have been established for visibility reducing particulates, hydrogen sulfide, and sulfates.

Table 4.2-1: State and Federal Ambient Air Quality Standards

Pollutant	Averaging Time	State Standards[1]	Federal Standards[2]
Ozone (O_3) [2, 5, 7]	8 Hour	0.070 ppm (137 µg/m^3)	0.070 ppm
	1 Hour	0.09 ppm (180 µg/m^3)	NA
Carbon Monoxide (CO)	8 Hour	9.0 ppm (10 mg/m^3)	9 ppm (10 mg/m^3)
	1 Hour	20 ppm (23 mg/m^3)	35 ppm (40 mg/m^3)
Nitrogen Dioxide (NO_2)	1 Hour	0.18 ppm (339 µg/m^3)	0.10 ppm[11]
	Annual Arithmetic Mean	0.030 ppm (57 µg/m^3)	0.053 ppm (100 µg/m^3)
Sulfur Dioxide (SO_2) [8]	24 Hour	0.04 ppm (105 µg/m^3)	0.14 ppm (365 µg/m^3)
	1 Hour	0.25 ppm (655 µg/m^3)	0.075 ppm (196 µg/m^3)
	Annual Arithmetic Mean	NA	0.03 ppm (80 µg/m^3)
Particulate Matter (PM_{10}) [1, 3, 6]	24-Hour	50 µg/m^3	150 µg/m^3
	Annual Arithmetic Mean	20 µg/m^3	NA
Fine Particulate Matter ($PM_{2.5}$) [3, 4, 6, 9]	24-Hour	NA	35 µg/m^3
	Annual Arithmetic Mean	12 µg/m^3	12 µg/m^3
Sulfates (SO_{4-2})	24 Hour	25 µg/m^3	NA
Lead (Pb) [10, 11]	30-Day Average	1.5 µg/m^3	NA
	Calendar Quarter	NA	1.5 µg/m^3
	Rolling 3-Month Average	NA	0.15 µg/m^3
Hydrogen Sulfide (H_2S)	1 Hour	0.03 ppm (0.15 µg/m^3)	NA
Vinyl Chloride (C_2H_3Cl) [10]	24 Hour	0.01 ppm (26 µg/m^3)	NA

ppm = parts per million; µg/m^3 = micrograms per cubic meter; mg/m^3 = milligrams per cubic meter; – = no information available.

1. California standards for O3, carbon monoxide (except Lake Tahoe), sulfur dioxide (1-hour and 24-hour), nitrogen dioxide, suspended particulate matter - PM10, and visibility reducing particles are values that are not to be exceeded. The standards for sulfates, Lake Tahoe carbon monoxide, lead, hydrogen sulfide, and vinyl chloride are not to be equaled or exceeded. If the standard is for a 1-hour, 8-hour or 24-hour average (i.e., all standards except for lead and the PM10 annual standard), then some measurements may be excluded.

Table 4.2-1: State and Federal Ambient Air Quality Standards

Measurements are excluded that CARB determines would occur less than once per year on the average. The Lake Tahoe carbon monoxide standard is 6.0 ppm, a level one-half the national standard and two-thirds the State standard.

2. National standards shown are the "primary standards" designed to protect public health. National standards other than for O3, particulates and those based on annual averages are not to be exceeded more than once a year. The 1-hour O3 standard is attained if, during the most recent three-year period, the average number of days per year with maximum hourly concentrations above the standard is equal to or less than one. The 8-hour O3 standard is attained when the 3-year average of the 4th highest daily concentrations is 0.070 ppm or less. The 24-hour PM10 standard is attained when the 3-year average of the 99th percentile of monitored concentrations is less than 150 µg/m3. The 24-hour PM2.5 standard is attained when the 3-year average of 98th percentiles is less than 35 µg/m3.
3. Except for the national particulate standards, annual standards are met if the annual average falls below the standard at every site. The national annual particulate standard for PM10 is met if the 3-year average falls below the standard at every site. The annual PM2.5 standard is met if the 3-year average of annual averages spatially-averaged across officially designed clusters of sites falls below the standard.
4. NAAQS are set by the United States EPA at levels determined to be protective of public health with an adequate margin of safety.
5. On October 1, 2015, the national 8-hour O3 primary and secondary standards were lowered from 0.075 to 0.070 ppm. An area will meet the standard if the fourth-highest maximum daily 8-hour O3 concentration per year, averaged over three years, is equal to or less than 0.070 ppm. United States. EPA will make recommendations on attainment designations by October 1, 2016, and issue final designations October 1, 2017. Nonattainment areas will have until 2020 to late 2037 to meet the health standard, with attainment dates varying based on the O3 level in the area.
6. The national 1-hour O3 standard was revoked by the United States EPA on June 15, 2005.
7. In June 2002, CARB established new annual standards for PM2.5 and PM10.
8. The 8-hour California O3 standard was approved by the CARB on April 28, 2005 and became effective on May 17, 2006.
9. On June 2, 2010, the United States EPA established a new 1-hour SO2 standard, effective August 23, 2010, which is based on the 3-year average of the annual 99th percentile of 1-hour daily maximum concentrations. The existing 0.030 ppm annual and 0.14 ppm 24-hour SO2 NAAQS however must continue to be used until one year following United States EPA initial designations of the new 1-hour SO2 NAAQS.
10. In December 2012, United States EPA strengthened the annual PM2.5 NAAQS from 15.0 to 12.0 µg/m3. In December 2014, the United States EPA issued final area designations for the 2012 primary annual PM2.5 NAAQS. Areas designated “unclassifiable/attainment” must continue to take steps to prevent their air quality from deteriorating to unhealthy levels. The effective date of this standard is April 15, 2015.
11. CARB has identified lead and vinyl chloride as ‘toxic air contaminants’ with no threshold level of exposure below which there are no adverse health effects determined.
12. National lead standard, rolling 3-month average: final rule signed October 15, 2008. Final designations effective December 31, 2011.

Source: **Appendix B**

The California Clean Air Act (CCAA), which was approved in 1988, requires that each local air district prepare and maintain an Air Quality Management Plan (AQMP) to achieve compliance with CAAQS. These AQMPs also serve as the basis for the preparation of the State Implementation Plan for meeting federal clean air standards for the State of California. Like the United States EPA, CARB also designates areas within California as either attainment or nonattainment for each criteria pollutant based on whether the CAAQS have been achieved. Under the CCAA, areas are designated as nonattainment for a pollutant if air quality data shows that a state standard for the pollutant was violated at least once during the previous three calendar years. Exceedances that are affected by highly irregular or infrequent events such as wildfires, volcanoes, etc., are not considered violations of a state standard, and are not used as a basis for designating areas as nonattainment.

Diesel Risk Reduction Plan

The identification of diesel particulate matter (DPM) as a toxic air contaminant (TAC) in 1998 led CARB to adopt the Risk Reduction Plan to Reduce Particulate Matter Emissions from Diesel-Fueled Engines and Vehicles (DRRP) in October 2000. The DRRP's goals include an 85 percent reduction in DPM by 2020 from the 2000 baseline[1]. CARB estimates that emissions of DPM in 2035 will be less than half those in 2010,

[1] California Air Resources Control Board (CARB). (2000). Risk Reduction Plan to Reduce Particulate Matter Emissions from Diesel-Fueled Engines and Vehicles. https://ww2.arb.ca.gov/sites/default/files/classic/diesel/documents/rrpfinal.pdf. Accessed May 2023.

further reducing statewide cancer risk and non-cancer health effects[2]. The DRRP includes regulations for cleaner new diesel engines, cleaner in-use diesel engines (retrofits), and cleaner diesel fuel.

Truck and Bus Regulation Reducing Emissions from Existing Diesel Vehicles

On December 12, 2008, CARB approved the Truck and Bus Regulation to significantly reduce particulate matter (PM) and oxides of nitrogen (NO_x) emissions from existing diesel vehicles operating in California. The regulation requires diesel trucks and buses that operate in California to be upgraded to reduce emissions. Heavier trucks were retrofitted with PM filters beginning January 1, 2012, and replacement for older trucks began on January 1, 2015. Beginning on January 1, 2023, nearly all trucks and buses are required to have 2010 model year engines or equivalent.

The regulation applies to most privately and federally-owned diesel fueled trucks and buses and to privately and publicly owned school buses with a gross vehicle weight rating (GVWR) greater than 14,000 pounds. Small fleets with three or fewer diesel trucks can delay compliance for heavier trucks and there are several extensions for low-mileage construction trucks, early PM filter retrofits, adding cleaner vehicles, and other situations. Privately and publicly owned school buses have different requirements.

Heavy-Duty Vehicle Idling Emission Reduction Program

The purpose of the CARB ATCM to Limit Diesel-Fueled Commercial Motor Vehicle Idling is to reduce public exposure to diesel particulate matter and criteria pollutants by limiting the idling of diesel-fueled commercial vehicles. The driver of any vehicle subject to this ATCM is prohibited from idling the vehicle's primary diesel engine for greater than five minutes at any location and is prohibited from idling a diesel-fueled auxiliary power system (APS) for more than five minutes to power a heater, air conditioner, or any ancillary equipment on the vehicle if it has a sleeper berth and the truck is located within 100 feet of a restricted area (homes and schools).

CARB Final Regulation Order, Requirements to Reduce Idling Emissions from New and In-Use Trucks, beginning in 2008, requires that new 2008 and subsequent model-year heavy-duty diesel engines be equipped with an engine shutdown system that automatically shuts down the engine after 300 seconds of continuous idling operation once the vehicle is stopped, the transmission is set to "neutral" or "park" and the parking brake is engaged.

Section 2485 and Section 2449 of Title 13 of the California Code of Regulations limits diesel-fueled motor vehicle and off-road idling to no more than five minutes. Section 2485 limits idling for diesel-fueled commercial motor vehicles with gross vehicle weight ratings of greater than 10,000 pounds that are or must be licensed to operate on publicly maintained highways and streets within California. Section 2449 limits idling for off-road diesel-fueled fleets.

CalEnviroScreen

OEHHA has developed CalEnviroScreen 4.0, which is a mapping tool that helps identify California communities that are most affected by many sources of pollution, and where people are often especially vulnerable to pollution's effects. CalEnviroScreen uses environmental, health, and socioeconomic

[2] CARB. (2023). Overview: Diesel Exhaust & Health, https://ww2.arb.ca.gov/resources/overview-diesel-exhaust-and-health. Accessed May 2023.

information to produce scores for every census tract in the State. The scores are mapped so that different communities can be compared. An area with a high score is one that experiences a much higher pollution burden than areas with low scores.

According to CalEnviroScreen, the project site and the nearest residences to the east are located within Census Tract 6071004004, which is within the 96th percentile.[3] It should be noted that the CalEnviroScreen scores are relative to other census tracts and are not an expression of health risk, and do not provide quantitative information on increases in cumulative impacts for specific sites or projects. Further, as a comparative screening tool, the results do not provide a basis for determining when differences between scores are significant in relation to public health or the environment.

Senate Bill 535

Senate Bill (SB) 535 directs 25 percent of the proceeds from the Greenhouse Gas Reduction Fund (i.e., funds from the AB 32 cap-and-trade program) to go to projects that provide a benefit to disadvantaged communities (DACs) (as identified by the OEHHA mapping). These funds must be used for programs that further reduce greenhouse gas emissions. Funding programs that reduce greenhouse gas emissions would also potentially reduce exposure to other emissions including TACs. Based on OEHHA mapping, the project site is located within a SB 535 designated disadvantaged community (Census Tract 6071004004)[4]. SB 535 does not include project specific requirements or prohibit developments within designated communities.

CARB Advances Clean Truck Regulation

CARB adopted the Advanced Clean Truck Regulation in June 2020 requiring truck manufacturers to transition from diesel trucks and vans to electric zero-emission trucks beginning in 2024. By 2045, every new truck sold in California is required to be zero-emission. This rule directly addresses disproportionate risks and health and pollution burdens and puts California on the path for an all zero-emission short-haul drayage fleet in ports and railyards by 2035, and zero-emission "last-mile" delivery trucks and vans by 2040. The Advanced Clean Truck Regulation accelerates the transition of zero-emission medium-and heavy-duty vehicles from Class 2b to Class 8. The regulation has two components including a manufacturer sales requirement, and a reporting requirement:

- Zero-Emission Truck Sales: Manufacturers who certify Class 2b through 8 chassis or complete vehicles with combustion engines are required to sell zero-emission trucks as an increasing percentage of their annual California sales from 2024 to 2035. By 2035, zero-emission truck/chassis sales need to be 55 percent of Class 2b – 3 truck sales, 75 percent of Class 4 – 8 straight truck sales, and 40 percent of truck tractor sales.
- Company and Fleet Reporting: Large employers including retailers, manufacturers, brokers and others would be required to report information about shipments and shuttle services. Fleet owners, with 50 or more trucks, would be required to report about their existing fleet operations. This information would help identify future strategies to ensure that fleets purchase available zero-emission trucks and place them in service where suitable to meet their needs.

[3] California Office of Environmental Health Hazard Assessment. (2023). CalEnviroScreen 4.0 Results (October 2021 Update). https://oehha.ca.gov/calenviroscreen/report/calenviroscreen-40. Accessed September 2023.

[4] California Office of Environmental Health Hazard Assessment. (2023). SB 535 Disadvantaged Communities (2022 Update). https://oehha.ca.gov/calenviroscreen/sb535. Accessed September 2023.

Executive Order N-79-20

Signed in September 2020, Executive Order (EO) N-79-20 establishes as a goal that where feasible, all new passenger cars and trucks, as well as all drayage/cargo trucks and off-road vehicles and equipment, sold in California, will be zero-emission by 2035. The executive order sets a similar goal requiring that all medium and heavy-duty vehicles will be zero-emission by 2045 where feasible. It also directs CARB to develop and propose rulemaking for passenger vehicles and trucks, medium-and heavy-duty fleets where feasible, drayage trucks, and off-road vehicles and equipment "requiring increasing volumes" of new zero emission vehicles (ZEVs) "towards the target of 100 percent." The executive order directs the California Environmental Protection Agency, the California Geologic Energy Management Division (CalGEM), and the California Natural Resources Agency to transition and repurpose oil production facilities with a goal toward meeting carbon neutrality by 2045. Executive Order N-79-20 builds upon the CARB Advanced Clean Trucks regulation, which was adopted by CARB in July 2020.

Regional and Local Regulations

South Coast Air Quality Management District

The SCAQMD is the air pollution control agency for Orange County and the urban portions of Los Angeles, Riverside, and San Bernardino Counties. The agency's primary responsibility is ensuring that state and federal ambient air quality standards are attained and maintained in the SCAB. The SCAQMD is also responsible for adopting and enforcing rules and regulations concerning air pollutant sources, issuing permits for stationary sources of air pollutants, inspecting stationary sources of air pollutants, responding to citizen complaints, monitoring ambient air quality and meteorological conditions, awarding grants to reduce motor vehicle emissions, conducting public education campaigns, and many other activities. All projects are subject to SCAQMD rules and regulations in effect at the time of construction.

The SCAQMD is also the lead agency in charge of developing the AQMP, with input from the Southern California Association of Governments (SCAG) and CARB. The AQMP is a comprehensive plan that includes control strategies for stationary and area sources, as well as for on-road and off-road mobile sources. SCAG has the primary responsibility for providing future growth projections and the development and implementation of transportation control measures. CARB, in coordination with federal agencies, provides the control element for mobile sources.

The 2016 AQMP was adopted by the SCAQMD Governing Board on March 3, 2017. The purpose of the AQMP is to set forth a comprehensive and integrated program that would lead the SCAB into compliance with the federal 24-hour $PM_{2.5}$ air quality standard, and to provide an update to the SCAQMD's commitments towards meeting the federal 8-hour O_3 standards. Specifically, the 2016 AQMP covers the following federal standards: 1979 1-hour O_3 NAAQS, 1997 8-hour O_3 NAAQS, 2006 24-hour $PM_{2.5}$ NAAQS, 2008 8-hour O_3 NAAQS, and the 2012 annual $PM_{2.5}$ NAAQS.

On October 1, 2015, the United States EPA strengthened the NAAQS for ground-level O_3. The 2022 AQMP, adopted by the SCAQMD Governing Board on December 2, 2022, was developed to address the requirements for meeting the 2015 8-hour O_3 standard. The 2022 AQMP builds upon measures already in place from previous AQMPs. It also includes a variety of additional strategies such as regulation, accelerated deployment of available cleaner technologies (e.g., zero emissions technologies, when cost-effective and feasible, and low NO_X technologies in other applications), best management practices, co-

benefits from existing programs (e.g., climate and energy efficiency), incentives, and other FCAA measures to achieve the 2015 8-hour ozone standard. The 2022 AQMP incorporates the latest scientific and technological information and planning assumptions, including the *2020-2045 Regional Transportation Plan/Sustainable Communities Strategy* (RTP/SCS) and updated emission inventory methodologies for various source categories.

The SCAQMD has published the CEQA Air Quality Handbook (approved by the SCAQMD Governing Board in 1993 and augmented with guidance for Localized Significance Thresholds [LSTs] in 2008). The SCAQMD guidance helps local government agencies and consultants to develop environmental documents required by California Environmental Quality Act (CEQA) and provides identification of suggested thresholds of significance for criteria pollutants for both construction and operation (see discussion of thresholds below). With the help of the CEQA Air Quality Handbook and associated guidance, local land use planners and consultants are able to analyze and document how proposed and existing projects affect air quality in order to meet the requirements of the CEQA review process. The SCAQMD periodically provides supplemental guidance and updates to the handbook on their website.

The SCAG is the regional planning agency for Los Angeles, Orange, Ventura, Riverside, San Bernardino, and Imperial Counties and serves as a forum for regional issues relating to transportation, the economy, community development, and the environment. Under federal law, SCAG is designated as a Metropolitan Planning Organization and under State law as a Regional Transportation Planning Agency and a Council of Governments.

The State and federal attainment status designations for the SCAB are summarized in **Table 4.2-2: South Coast Air Basin Attainment Status**. The SCAB is currently designated as a nonattainment area for the State O_3, PM_{10}, and $PM_{2.5}$ standards, as well as the national 8-hour O_3 and $PM_{2.5}$ standards. The SCAB is designated as attainment or unclassified for the remaining State and federal standards.

The following is a list of SCAQMD rules that are required of construction activities associated with the Project:

- **Rule 402 (Nuisance)** – This rule prohibits the discharge from any source whatsoever such quantities of air contaminants or other material which cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public, or which endanger the comfort, repose, health, or safety of any such persons or the public, or which cause, or have a natural tendency to cause, injury or damage to business or property. This rule does not apply to odors emanating from agricultural operations necessary for the growing of crops or the raising of fowl or animals.
- **Rule 403 (Fugitive Dust)** – This rule requires fugitive dust sources to implement best available control measures for all sources, and all forms of visible particulate matter are prohibited from crossing any property line. This rule is intended to reduce PM_{10} emissions from any transportation, handling, construction, or storage activity that has the potential to generate fugitive dust. PM_{10} suppression techniques are summarized below.
    a) Portions of a construction site to remain inactive longer than a period of three months will be seeded and watered until grass cover is grown or otherwise stabilized.
    b) All on-site roads will be paved as soon as feasible or watered periodically or chemically stabilized.

c) All material transported off-site will be either sufficiently watered or securely covered to prevent excessive amounts of dust.

d) The area disturbed by clearing, grading, earthmoving, or excavation operations will be minimized at all times.

e) Where vehicles leave a construction site and enter adjacent public streets, the streets will be swept daily or washed down at the end of the work day to remove soil tracked onto the paved surface.

- **Rule 1113 (Architectural Coatings)** – This rule requires manufacturers, distributors, and end users of architectural and industrial maintenance coatings to reduce ROG emissions from the use of these coatings, primarily by placing limits on the ROG content of various coating categories.
- **Rule 2305 (Warehouse Indirect Source Rule)** – Rule 2305 was adopted by the SCAQMD Governing Board on May 7, 2021 to reduce NO_X and particulate matter emissions associated with warehouses and mobile sources attracted to warehouses. This rule applies to all existing and proposed warehouses over 100,000 square feet located in the SCAQMD. Rule 2305 requires warehouse operators to track annual vehicle miles traveled associated with truck trips to and from the warehouse. These trip miles are used to calculate the warehouses WAIRE (Warehouse Actions and Investments to Reduce Emissions) Points Compliance Obligation. WAIRE Points are earned based on emission reduction measures and warehouse operators are required to submit an annual WAIRE Report which includes truck trip data and emission reduction measures. Reduction strategies listed in the WAIRE menu include acquire zero emission (ZE) or near zero emission (NZE) trucks; require ZE/NZE truck visits; require ZE yard trucks; install on-site ZE charging/fueling infrastructure; install onsite energy systems; and install filtration systems in residences, schools, and other buildings in the adjacent community. Warehouse operators that do not earn a sufficient number of WAIRE points to satisfy the WAIRE Points Compliance Obligation would be required to pay a mitigation fee. Funds from the mitigation fee will be used to incentivize the purchase of cleaner trucks and charging/fueling infrastructure in communities nearby.

Table 4.2-2: South Coast Air Basin Attainment Status

Pollutant	State	Federal
Ozone (O_3) (1 Hour Standard)	Non-Attainment	Non-Attainment (Extreme)
Ozone (O_3) (8 Hour Standard)	Non-Attainment	Non-Attainment (Extreme)
Particulate Matter ($PM_{2.5}$) (24 Hour Standard)	–	Non-Attainment (Serious)
Particulate Matter ($PM_{2.5}$) (Annual Standard)	Non-Attainment	Non-Attainment (Serious)
Particulate Matter (PM_{10}) (24 Hour Standard)	Non-Attainment	Attainment (Maintenance)
Particulate Matter (PM_{10}) (Annual Standard)	Non-Attainment	–
Carbon Monoxide (CO) (1 Hour Standard)	Attainment	Attainment (Maintenance)
Carbon Monoxide (CO) (8 Hour Standard)	Attainment	Attainment (Maintenance)
Nitrogen Dioxide (NO_2) (1 Hour Standard)	Attainment	Unclassifiable/Attainment
Nitrogen Dioxide (NO_2) (Annual Standard)	Attainment	Attainment (Maintenance)
Sulfur Dioxide (SO_2) (1 Hour Standard)	Attainment	Unclassifiable/Attainment
Sulfur Dioxide (SO_2) (24 Hour Standard)	Attainment	–
Lead (Pb) (30 Day Standard)	–	Unclassifiable/Attainment
Lead (Pb) (3 Month Standard)	Attainment	–
Sulfates (SO_{4-2}) (24 Hour Standard)	Attainment	–
Hydrogen Sulfide (H_2S) (1 Hour Standard)	Unclassified	–

Source: **Appendix B**

Air Toxics Control Plan

The Air Toxics Control Plan (March 2000, revised March 26, 2004) is a planning document designed to examine the overall direction of the SCAQMD's air toxics control program. It includes development and implementation of strategic initiatives to monitor and control air toxics emissions. Control strategies that are deemed viable and are within the SCAQMD's jurisdiction will each be brought to the SCAQMD Board for further consideration through the normal public review process. Strategies that are to be implemented by other agencies will be developed in a cooperative effort, and the progress will be reported back to the Board periodically.

Multiple Air Toxics Exposure Study

The SCAQMD conducted an in-depth analysis of the toxic air contaminants and their resulting health risks for all of Southern California. The Multiple Air Toxics Exposure Study in the SCAB (MATES V) (August 2021) shows that carcinogenic risk from air toxics in the SCAB, based on the average concentrations at the 10 monitoring sites, is approximately 40 percent lower than the monitored average in MATES IV and 84 percent lower than the average in MATES II.

MATES V also evaluated the population-weighted cancer risk within Environmental Justice (EJ) communities using the SB 5357 definition of disadvantaged communities. Between MATES IV and MATES V, air toxics cancer risk decreased by 57 percent in Environmental Justice (EJ) communities overall compared to a 53 percent reduction in non-EJ communities.

MATES V is the most comprehensive dataset documenting the ambient air toxic levels and health risks associated with the SCAB emissions. Therefore, MATES V study represents the baseline health risk for a cumulative analysis. MATES V estimates the average excess cancer risk level from exposure to TACs is 424 in one million basin wide. In comparison, the MATES IV basin average risk was 897 per million. These model estimates were based on monitoring data collected at ten fixed sites within the SCAB. None of the fixed monitoring sites are near the Project site. However, MATES V has extrapolated the excess cancer risk levels throughout the SCAB by modeling the specific grids. MATES V modeling predicted an excess cancer risk of 450 million of the Project area. DPM is included in this cancer risk along with all other TAC sources. DPM accounts for a majority of the total risk shown in MATES V in this area.

Warehouse Indirect Source Rule (ISR)

The SCAQMD Governing Board adopted Rule 2305 in 2021 to reduce NO_X and PM emissions associated with warehouses and mobile sources attracted to warehouses. This rule applies to all existing and proposed warehouses over 100,000 square feet located in the SCAQMD. Rule 2305 requires warehouse operators to track annual vehicle miles traveled associated with truck trips to and from the warehouse. These trip miles are used to calculate the warehouses WAIRE (Warehouse Actions and Investments to Reduce Emissions) Points Compliance Obligation. WAIRE Points are earned based on emission reduction measures and warehouse operators are required to submit an annual WAIRE Report which includes truck trip data and emission reduction measures. Reduction strategies listed in the WAIRE menu include acquire zero emission (ZE) or near zero emission (NZE) trucks; require ZE/NZE truck visits; require ZE yard trucks; install on-site ZE charging/fueling infrastructure; install onsite energy systems; and install filtration systems in residences, schools, and other buildings in the adjacent community. Warehouse operators that do not earn a sufficient number of WAIRE points to satisfy the WAIRE Points Compliance Obligation would be required to pay a mitigation fee. Funds from the mitigation fee will be used to incentivize the purchase of cleaner trucks and charging/fueling infrastructure in communities nearby.

Rialto General Plan 2010

The City of Rialto General Plan (General Plan) identifies goals that will improve air quality within the City in Chapter 2, *Managing Our Land Supply*. Goals and policies that relate to air quality impacts include the following:

Goal 2-9 Protect residential, schools, parks, and other sensitive land uses from the impacts associated with industrial and trucking-related land uses, as well as commercial and retail uses.

Policy 2-9.1 Require mitigation and utilize other techniques to protect residential development and other sensitive land uses near industrial land uses or within identified health risk areas from excessive noise, hazardous materials and waste releases, toxic air pollutant concentrations, and other impacts.

Policy 2-9.2 Require all industrial development to front on an improved street with appropriate front yard setbacks, landscaping, and façade and entrance treatments.

Goal 2-35 Reduce air pollution emissions from both mobile and stationary sources in the City.

Policy 2-35.2 Require that new development projects incorporate design features that encourage ridesharing, transit use, park and ride facilities, and bicycle and pedestrian circulation.

Policy 2-35.3 Establish a balanced land use pattern, and facilitate developments that provide jobs for City residents in order to reduce vehicle trips citywide.

Policy 2-35.4 Require new development and significant redevelopment proposals to incorporate sufficient design and operational controls to prevent release of noxious odors beyond the limits of the development site.

Goal 2-36 Reduce the amount of fugitive dust released into the atmosphere.

Policy 2-36.1 Put conditions on discretionary permits to require fugitive dust controls.

Policy 2-36.3 Enforce regulations that do not allow vehicles to transport aggregate or similar material upon a roadway unless the material is stabilized or covered.

4.2.3 Environmental Setting

Climate and Meteorology

CARB divides the State into 15 air basins that share similar meteorological and topographical features. The Project is located within the South Coast Air Basin (SCAB), which includes the non-desert portions of Los Angeles, Riverside, and San Bernardino counties, as well as all of Orange County. The SCAB is on a coastal plain with connecting broad valleys and low hills, bounded by the Pacific Ocean on the southwest and high mountains forming the remainder of the perimeter.[5] Air quality in this area is determined by natural factors such as topography, meteorology, and climate, in addition to the presence of existing air pollution sources and ambient conditions. These factors along with applicable regulations are discussed below.

[5] South Coast Air Quality Management District (SCAQMD). (1993). CEQA Air Quality Handbook. Accessed September 2023.

The SCAB is part of a semi-permanent high-pressure zone in the eastern Pacific. As a result, the climate is mild and tempered by cool sea breezes. This usually mild weather pattern is occasionally interrupted by periods of extreme heat, winter storms, and Santa Ana winds. The annual average temperature throughout the 6,645-square-mile SCAB ranges from low 60 to high 80 degrees Fahrenheit with little variance. With more oceanic influence, coastal areas show less variability in annual minimum and maximum temperatures than inland areas.

Contrasting the steady pattern of temperature, rainfall is seasonally and annually highly variable. Almost all annual rainfall occurs between the months of November and April. Summer rainfall is reduced to widely scattered thundershowers near the coast, with slightly heavier activity in the east and over the mountains.

Although the SCAB has a semiarid climate, the air closer to the Earth's surface is typically moist because of the presence of a shallow marine layer. Except for occasional periods when dry, continental air is brought into the SCAB by offshore winds, the "ocean effect" is dominant. Periods of heavy fog are frequent and low clouds known as high fog are characteristic climatic features, especially along the coast. Annual average humidity is 70 percent at the coast and 57 percent in the eastern portions of the SCAB.

Wind patterns across the SCAB are characterized by westerly or southwesterly on-shore winds during the day and easterly or northeasterly breezes at night. Wind speed is typically higher during the dry summer months than during the rainy winter. Between periods of wind, air stagnation may occur in both the morning and evening hours. Air stagnation is one of the critical determinants of air quality conditions on any given day. During winter and fall, surface high-pressure systems over the SCAB, combined with other meteorological conditions, result in very strong, downslope Santa Ana winds. These winds normally continue for a few days before predominant meteorological conditions are reestablished.

The mountain ranges to the east affect the diffusion of pollutants by inhibiting the eastward transport of pollutants. Air quality in the SCAB generally ranges from fair to poor and is similar to air quality in most of coastal Southern California. The entire region experiences heavy concentrations of air pollutants during prolonged periods of stable atmospheric conditions.

In addition to the characteristic wind patterns that affect the rate and orientation of horizontal pollutant transport, two distinct types of temperature inversions control the vertical depth through which air pollutants are mixed. These inversions are the marine inversion and the radiation inversion. The height of the base of the inversion at any given time is called the "mixing height." The combination of winds and inversions is a critical determinant leading to highly degraded air quality for the SCAB in the summer and generally good air quality in the winter.

Air Pollutants of Concern

The air pollutants emitted into the ambient air by stationary and mobile sources are regulated by State and federal laws. These regulated air pollutants are known as "criteria air pollutants" and are categorized into primary and secondary pollutants.

Primary air pollutants are emitted directly from sources. Carbon monoxide (CO), reactive organic gases (ROG), nitrogen oxide (NO_X), sulfur dioxide (SO_2), coarse particulate matter (PM_{10}), fine particulate matter ($PM_{2.5}$), and lead are primary air pollutants. Of these, CO, NO_X, SO_2, PM_{10}, and $PM_{2.5}$ are primary criteria pollutants. ROG and NO_X are criteria pollutant precursors and form secondary criteria pollutants through chemical and photochemical reactions in the atmosphere. For example, the criteria pollutant ozone (O_3) is formed by a chemical reaction between ROG and NO_X in the presence of sunlight. O_3 and nitrogen dioxide (NO_2) are the principal secondary pollutants. Sources and health effects commonly associated

with criteria pollutants are summarized in **Table 4.2-3: Air Contaminants and Associated Public Health Concerns**.

Table 4.2-3: Air Contaminants and Associated Public Health Concerns

Pollutant	Major Man-Made Sources	Human Health Effects
Particulate Matter (PM_{10} and $PM_{2.5}$)	Power plants, steel mills, chemical plants, unpaved roads and parking lots, wood-burning stoves and fireplaces, automobiles and others.	Increased respiratory symptoms, such as irritation of the airways, coughing, or difficulty breathing; asthma; chronic bronchitis; irregular heartbeat; nonfatal heart attacks; and premature death in people with heart or lung disease. Impairs visibility.
Ozone (O_3)	Formed by a chemical reaction between reactive organic gases/volatile organic compounds (ROG or VOC)[1] and nitrogen oxides (NO_X) in the presence of sunlight. Motor vehicle exhaust industrial emissions, gasoline storage and transport, solvents, paints and landfills.	Irritates and causes inflammation of the mucous membranes and lung airways; causes wheezing, coughing, and pain when inhaling deeply; decreases lung capacity; aggravates lung and heart problems. Damages plants; reduces crop yield.
Sulfur Dioxide (SO_2)	A colorless gas formed when fuel containing sulfur is burned and when gasoline is extracted from oil. Examples are petroleum refineries, cement manufacturing, metal processing facilities, locomotives, and ships.	Respiratory irritant. Aggravates lung and heart problems. In the presence of moisture and oxygen, sulfur dioxide converts to sulfuric acid which can damage marble, iron and steel. Damages crops and natural vegetation. Impairs visibility. Precursor to acid rain.
Carbon Monoxide (CO)	An odorless, colorless gas formed when carbon in fuel is not burned completely; a component of motor vehicle exhaust.	Reduces the ability of blood to deliver oxygen to vital tissues, affecting the cardiovascular and nervous system. Impairs vision, causes dizziness, and can lead to unconsciousness or death.
Nitrogen Dioxide (NO_2)	A reddish-brown gas formed during fuel combustion for motor vehicles and industrial sources. Sources include motor vehicles, electric utilities, and other sources that burn fuel.	Respiratory irritant; aggravates lung and heart problems. Precursor to O_3. Contributes to global warming and nutrient overloading which deteriorates water quality. Causes brown discoloration of the atmosphere.
Lead (Pb)	Lead is a metal found naturally in the environment as well as in manufactured products. The major sources of lead emissions have historically been motor vehicles (such as cars and trucks) and industrial sources. Due to the phase out of leaded gasoline, metals processing is the major source of lead emissions to the air today. The highest levels of lead in air are generally found near lead smelters. Other stationary sources are waste incinerators, utilities, and lead-acid battery manufacturers.	Exposure to lead occurs mainly through inhalation of air and ingestion of lead in food, water, soil, or dust. It accumulates in the blood, bones, and soft tissues and can adversely affect the kidneys, liver, nervous system, and other organs. Excessive exposure to lead may cause neurological impairments such as seizures, mental retardation, and behavioral disorders. Even at low doses, lead exposure is associated with damage to the nervous systems of fetuses and young children, resulting in learning deficits and lowered IQ.

1. Volatile Organic Compounds (VOCs or Reactive Organic Gases [ROG]) are hydrocarbons/organic gases that are formed solely of hydrogen and carbon. There are several subsets of organic gases including ROGs and VOCs. Both ROGs and VOCs are emitted from the incomplete combustion of hydrocarbons or other carbon-based fuels. The major sources of hydrocarbons are combustion engine exhaust, oil refineries, and oil-fueled power plants; other common sources are petroleum fuels, solvents, dry cleaning solutions, and paint (via evaporation).

Source: **Appendix B**

Toxic Air Contaminants

Toxic air contaminants (TACs) are airborne substances that can cause short-term (acute) or long-term (i.e. chronic, carcinogenic or cancer causing) adverse human health effects (i.e. injury or illness). TACs include both organic and inorganic chemical substances. They may be emitted from a variety of common sources including gasoline stations, automobiles, dry cleaners, industrial operations, and painting operations. The current California list of TACs includes more than 200 compounds, including particulate emissions from diesel-fueled engines.

CARB identified DPM as a TAC. DPM differs from other TACs in that it is not a single substance but rather a complex mixture of hundreds of substances. Diesel exhaust is a complex mixture of particles and gases produced when an engine burns diesel fuel. DPM is a concern because it causes lung cancer; many compounds found in diesel exhaust are carcinogenic. DPM includes the particle-phase constituents in diesel exhaust. The chemical composition and particle sizes of DPM vary between different engine types (heavy-duty, light-duty), engine operating conditions (idle, accelerate, decelerate), fuel formulations (high/low sulfur fuel), and the year of the engine. Some short-term (acute) effects of diesel exhaust include eye, nose, throat, and lung irritation, and diesel exhaust can cause coughs, headaches, light-headedness, and nausea. DPM poses the greatest health risk among the TACs. Almost all diesel exhaust particle mass is 10 microns or less in diameter. Due to their extremely small size, these particles can be inhaled and eventually trapped in the bronchial and alveolar regions of the lung.

Ambient Air Quality

CARB monitors ambient air quality at approximately 250 air monitoring stations across the State. These stations usually measure pollutant concentrations ten feet above ground level; therefore, air quality is often referred to in terms of ground-level concentrations. Existing ambient air quality levels, historical trends, and projections near the Project are documented by measurements made by the South Coast Air Quality Management District (SCAQMD), the air pollution regulatory agency in the SCAB that maintains air quality monitoring stations which process ambient air quality measurements.

Pollutants of concern in the SCAB include O_3, PM_{10}, and $PM_{2.5}$. The closest air monitoring station to the Project that monitors ambient concentrations of these pollutants is the Rubidoux – Mission Boulevard Monitoring Station (located approximately 4.4 miles to the southwest). Local air quality data from 2019 to 2021 are provided in **Table 4.2-4: Ambient Air Quality Data**, which lists the monitored maximum concentrations and number of exceedances of state or federal air quality standards for each year.

Table 4.2-4: Ambient Air Quality Data

Criteria Pollutant[1]	2019	2020	2021
Ozone (O_3)			
1-hour Maximum Concentration (ppm)	0.123	0.143	0.117
8-hour Maximum Concentration (ppm)	0.096	0.115	0.097
Number of Days Standard Exceeded			
CAAQS 1-hour (>0.09 ppm)	24	46	20
NAAQS 8-hour (>0.070 ppm)	59	82	55
Carbon Monoxide (CO) [1]			
1-hour Maximum Concentration (ppm)	1.51	1.72	2.10
Number of Days Standard Exceeded			
NAAQS 1-hour (>35 ppm)	0	0	0
CAAQS 1-hour (>20 ppm)	0	0	0
Nitrogen Dioxide (NO_2) [1]			
1-hour Maximum Concentration (ppm)	56.0	66.4	52.0
Number of Days Standard Exceeded			
NAAQS 1-hour (>0.100 ppm)	0	0	0
CAAQS 1-hour (>0.18 ppm)	0	0	0
Particulate Matter Less Than 10 Microns (PM_{10}) [1]			
National 24-hour Maximum Concentration	132.5	142.1	76.5
State 24-hour Maximum Concentration	182.4	137.7	114.3
State Annual Average Concentration (CAAQS=20 µg/m^3)	40.9	--	33.2
Number of Days Standard Exceeded			
NAAQS 24-hour (>150 µg/m^3)	0	0	0
CAAQS 24-hour (>50 µg/m^3)	110	115	75
Particulate Matter Less Than 2.5 Microns ($PM_{2.5}$) [1]			
National 24-hour Maximum Concentration	55.7	59.9	82.1
State 24-hour Maximum Concentration	57.6	61.9	82.1
Number of Days Standard Exceeded			
NAAQS 24-hour (>35 µg/m^3)	5	12	11

NAAQS = National Ambient Air Quality Standards; CAAQS = California Ambient Air Quality Standards; ppm = parts per million. µg/m^3 = micrograms per cubic meter; – = not measured

1 Measurements taken at the Rubidoux - Mission Boulevard Monitoring Station at 5888 Mission Boulevard, Riverside, California 92509 (CARB# 33144), which is the closet monitoring station that measures O_3, CO, NO_2, PM_{10}, and $PM_{2.5}$.

Source: **Appendix B**

Sensitive Receptors

Sensitive populations are more susceptible to the effects of air pollution than is the general population. Sensitive receptors that are in proximity to localized sources of toxics are of particular concern. Land uses considered sensitive receptors include residences, schools, playgrounds, childcare centers, long-term health care facilities, rehabilitation centers, convalescent centers, and retirement homes. There are no sensitive receptors in the immediate vicinity of the project site. The nearest sensitive receptor to the project site is a single-family residential use located approximately 2,800 feet to the southwest of the project site.

4.2.4 Methodology

This analysis considers construction and operational impacts associated with the Project. Where criteria air pollutant quantification was required, emissions were modeled using the California Emissions Estimator Model (CalEEMod). CalEEMod is a Statewide land use emissions computer model designed to

quantify potential criteria pollutant emissions associated with both construction and operations from a variety of land use projects. Air quality impacts were assessed according to methodologies recommended by CARB and the SCAQMD.

Construction equipment, trucks, worker vehicles, and ground-disturbing activities associated with Project construction would generate emissions of criteria air pollutants and precursors. Daily regional construction emissions are estimated by assuming construction occurs at the earliest feasible date (i.e., a conservative estimate of construction activities) and applying off-road, fugitive dust, and on-road emissions factors in CalEEMod. This analysis assumes an Opening Year of 2024; however, emission factors for construction would decrease over time as emissions regulations become more stringent and equipment fleets turnover. Should construction commence at a later date than what was assumed in the model, the emissions presented herein is conservative.

Project operations would result in emissions of area sources (consumer products), energy sources (natural gas usage and off-site electrify generation), and mobile sources (motor vehicles from Project generated vehicle trips). Project-generated increases in operational emissions would be predominantly associated with motor vehicle use. The Project vehicle trip generation was obtained from the Traffic Study for the 249 Santa Ana Avenue Truck Terminal Project in the City of Rialto (Traffic Study; **Appendix O**), prepared by Kimley-Horn (April 2023). According to the Traffic Study, the Project would generate 951 total daily vehicle trips, which includes 574 daily truck trips.

As discussed above, the SCAQMD provides significance thresholds for emissions associated with proposed Project construction and operations. The Project's construction and operational emissions are compared to the daily criteria pollutant emissions significance thresholds in order to determine the significance of a Project's impact on regional air quality.

The localized effects from the Project's on-site emissions were evaluated in accordance with the SCAQMD's Localized Significance Thresholds (LST) Methodology, which uses on-site mass emissions rate look-up tables and Project-specific modeling. LSTs represent the maximum emissions from a project that are not expected to cause or contribute to an exceedance of the most stringent applicable federal or state ambient air quality standards and are developed based on the ambient concentrations of that pollutant for each source receptor area and distance to the nearest sensitive receptor.

4.2.5 Thresholds of Significance

The following significance criteria are from the City of Rialto Environmental Checklist. The Project would result in a significant impact related to air quality if it would:

- Conflict with or obstruct implementation of the applicable air quality plan.
- Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in nonattainment under an applicable State or federal ambient air quality standard.
- Expose sensitive receptors to substantial pollutant concentrations.
- Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.

SCAQMD Thresholds

The significance criteria established by SCAQMD may be relied upon to make the above determinations. According to the SCAQMD, an air quality impact is considered significant if the Project would violate any ambient air quality standard, contribute substantially to an existing or projected air quality violation, or expose sensitive receptors to substantial pollutant concentrations. The SCAQMD has established thresholds of significance for air quality during construction and operational activities of land use development projects, as shown in **Table 4.2-5: South Coast Air Quality Management District Emissions Thresholds**.

Table 4.2-5: South Coast Air Quality Management District Emissions Thresholds

Criteria Air Pollutants and Precursors	Construction-Related	Operational-Related
Reactive Organic Gases (ROG)	75	55
Carbon Monoxide (CO)	550	550
Nitrogen Oxides (NO_X)	100	55
Sulfur Oxides (SO_X)	150	150
Coarse Particulates (PM_{10})	150	150
Fine Particulates ($PM_{2.5}$)	55	55

Source: **Appendix B**

Localized Carbon Monoxide

In addition to the daily thresholds listed above, development associated with the Project would also be subject to the ambient air quality standards. These are addressed through an analysis of localized CO impacts. The significance of localized impacts depends on whether ambient CO levels near the project site are above the State and federal CO standards (the more stringent California standards are 20 ppm for 1-hour and 9 ppm for 8-hour). The SCAB has been designated as in attainment under the 1-hour and 8-hour standards.

Localized Significance Thresholds

In addition to the CO hotspot analysis, the SCAQMD developed LSTs for emissions of NO_2, CO, PM_{10}, and $PM_{2.5}$ generated at new development sites (off-site mobile source emissions are not included in the LST analysis). LSTs represent the maximum emissions that can be generated at a project without expecting to cause or substantially contribute to an exceedance of the most stringent state or federal ambient air quality standards. LSTs are based on the ambient concentrations of that pollutant within the project source receptor area (SRA), as demarcated by the SCAQMD, and the distance to the nearest sensitive receptor. LST analysis for construction is applicable for all projects that disturb 5 acres or less on a single day. The City of Rialto is located within SCAQMD SRA 34. The nearest sensitive receptor is a single-family residential use located approximately 2,800 feet (853 meters) to the southwest of the Project site. LSTs associated with the 500-meter threshold are provided in **Table 4.2-6: Local Significance Thresholds for Construction/Operations** for informational purposes and to demonstrate that the thresholds increase as acreages increase.

Table 4.2-6: Local Significance Thresholds for Construction/Operations

Project Size	Maximum Pounds Per Day			
	NO_X	CO	PM_{10}	$PM_{2.5}$
1 Acre	652/652	21,708/21,708	196/47	98/24
2 Acres	684/684	23,304/23,304	205/50	104/25
5 Acres	778/778	27,680/27,680	229/55	120/29

NO_X = Nitrogen Oxides; CO = Carbon Monoxide; PM_{10} = Particulate Matter 10 microns in diameter or less; $PM_{2.5}$ = Particulate Matter 2.5 microns in diameter or less

Note: Based on a receptor distance of 500 meters in SRA 34.

Source: **Appendix B**

4.2.6 Project Impacts and Mitigation

Impact 4.2-1: Would the project conflict with or obstruct implementation of the applicable air quality plan?

Level of Significance: Significant and Unavoidable Impact

As part of its enforcement responsibilities, the United States EPA requires each state with nonattainment areas to prepare and submit a State Implementation Plan (SIP) that demonstrates the means to attain the federal standards. The SIP must integrate federal, State, and local plan components and regulations to identify specific measures to reduce pollution in nonattainment areas, using a combination of performance standards and market-based programs. Similarly, under State law, the CCAA requires an air quality attainment plan to be prepared for areas designated as nonattainment regarding the state and federal ambient air quality standards. Air quality attainment plans outline emissions limits and control measures to achieve and maintain these standards by the earliest practical date.

The Project is located within the SCAB, which is under the jurisdiction of the SCAQMD. The SCAQMD is required, pursuant to the FCAA, to reduce emissions of criteria pollutants for which the SCAB is in nonattainment. To reduce such emissions, the SCAQMD drafted the 2016 and 2022 AQMPs. The AQMPs establish a program of rules and regulations directed at reducing air pollutant emissions and achieving CAAQS and NAAQS. The AQMPs are a regional and multi-agency effort including the SCAQMD, CARB, SCAG, and the EPA. The plan's pollutant control strategies are based on the latest scientific and technical information and planning assumptions, including SCAG's RTP/SCS, updated emission inventory methodologies for various source categories, and SCAG's latest growth forecasts. SCAG's latest growth forecasts were defined in consultation with local governments and with reference to local general plans. The Project is subject to the SCAQMD's AQMPs.

Criteria for determining consistency with the AQMPs are defined by the following indicators:

- **Consistency Criterion No. 1**: The Project will not result in an increase in the frequency or severity of existing air quality violations, or cause or contribute to new violations, or delay the timely attainment of air quality standards or the interim emissions reductions specified in the AQMP.
- **Consistency Criterion No. 2**: The Project will not exceed the assumptions in the AQMP or increments based on the years of the Project build-out phase.

According to the SCAQMD's *CEQA Air Quality Handbook*, the purpose of the consistency finding is to determine if a project is inconsistent with the assumptions and objectives of the regional air quality plans, and thus if it would interfere with the region's ability to comply with CAAQS and NAAQS.

The violations to which Consistency Criterion No. 1 refers are CAAQS and NAAQS. As shown below in **Table 4.2-7: Construction-Related Emissions**, the Project-generated construction emissions would not exceed construction emission standards. However, as shown in **Table 4.2-8: Operational Emissions**, the Project-generated mitigated operational emissions would exceed operational emission standards. Therefore, Project would potentially contribute to an existing air quality violation. Thus, the Project is not consistent with the first criterion.

Concerning Consistency Criterion No. 2, the AQMPs contains air pollutant reduction strategies based on SCAG's latest growth forecasts, and SCAG's growth forecasts were defined in consultation with local governments and with reference to local general plans. The Project proposes a truck terminal and maintenance shop in accordance with the City's General Plan. The project site has a General Plan land use designation of General Industrial. The General Industrial designation allows for a broad range of heavy industrial activities. The General Industrial designation permits manufacturing and distribution, heavy equipment operations, and similar uses.[6] The designation allows for a maximum Floor to Area Ratio (FAR)[7] of 1.0. The Project's proposed uses are allowed under the General Plan designation for the project site.

The Specific Plan serves as a comprehensive and strategic framework designed to guide the responsible and sustainable development of a designated industrial area. The project site has a General Plan land use designation of Heavy Industrial (H IND). Permitted uses within the Heavy Industrial land use zone include transit and transportation terminals, repairs, and storage facilities. The Project's proposed uses are permitted under the Specific Plan.

The population and employment forecasts, which are adopted by SCAG's Regional Council, are based on the local plans and policies applicable to the City. Additionally, as the SCAQMD has incorporated these same projections into the AQMPs, it can be concluded that the proposed Project would be consistent with the projections. Thus, no impact would occur, as the Project is also consistent with the second criterion.

Project implementation would result in air pollutant emissions that exceed SCAQMD's operational emission thresholds. The Project would incorporate Agua Mansa Specific Plan EIR Air Quality Mitigation Measure 2, which recommends that individual industrial users take all reasonable steps to encourage employees to car-pool rather than utilizing one vehicle per employee, and Mitigation Measure 4, which requires dust control measures during construction. Similar to Agua Mansa Specific Plan EIR Air Quality Mitigation Measure 2, Project Mitigation Measure (**MM**) **TRF-1** (see Section 4.17, *Transportation*) requires preparation of a Transportation Demand Management (TDM) plan to reduce single-occupancy commute trips and encourage alternative modes of transportation. Project **MM AIR-1** requires that all outdoor cargo handling equipment are zero emission, that each building include the necessary charging stations for cargo handling equipment, and that all standard emergency generators meet CARB Tier 4 Final emissions standards. Although these mitigation measures would reduce emissions by the greatest extent feasible, Project emission levels would remain significant and would contribute to the nonattainment designations

[6] City of Rialto. (2010). Rialto General Plan.https://www.yourrialto.com/DocumentCenter/View/1494/2010-General-Plan. Accessed August 2023.
[7] Floor Area Ratio is the measurement of a building's floor area in relation to the size of the parcel.

in the SCAB. Therefore, the Project would be inconsistent with the AQMP, resulting in a significant and unavoidable impact despite the implementation of mitigation measures.

The Project would incorporate Agua Mansa Specific Plan EIR Air Quality Mitigation Measures 2 and 4, Project **MM AIR-1**, and Project **MM TRF-1** (see Section 4.17, *Transportation*) to reduce the intensity of Project impacts. However, with the incorporation of mitigation, impacts would remain significant and unavoidable.

Mitigation Program

Standard Conditions

No standard conditions are applicable.

Mitigation Measures

Agua Mansa Industrial Corridor Specific Plan EIR Mitigation Measures: Climate and Air Quality

Mitigation Measures 1-4 are applicable. Mitigation Measure 1 and 3 are included above, under Impact 4.2-2; Mitigation Measures 2 and 4 are below:

Mitigation Measure 2: Individual industrial users should take all reasonable steps to encourage employees to car-pool rather than utilizing one vehicle per employee. Typical measures which can be taken by employers include:

a. Designation of preferential parking areas which may be used only by employees engaged in car-pooling.

b. Employers should be encouraged to institute van-pooing programs to reduce the number of vehicles driven by employees.

Mitigation Measure 4: To minimize dust during construction activities, periodic soil wetting should be utilized.

Project Mitigation Measures

MM AIR-1: Prior to the issuance of a tenant occupancy permit, the Planning Department shall confirm that the Project plans and specifications show the following:

- All outdoor cargo handling equipment (including yard trucks, hostlers, yard goats, pallet jacks, and forklifts) are zero emission/powered by electricity. Each building shall include the necessary charging stations for cargo handling equipment. Note that SCAQMD Rule 2305 (Warehouse Indirect Source Rule) Warehouse Actions and Investments to Reduce Emissions (WAIRE) points may be earned for electric/zero emission yard truck/hostler usage. This mitigation measure applies only to tenant improvements and not the building shell approvals.
- All standard emergency generators shall meet California Air Resources Board Tier 4 Final emissions standards. A copy of each unit's Best Available Control Technology (BACT) documentation (certified tier specification) and CARB or SCAQMD operating permit (if applicable) shall be provided to the City.

Impact 4.2-2: Would the project result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable state or federal ambient air quality standard?

Level of Significance: Significant and Unavoidable Impact

Construction Emissions

Construction associated with the Project would generate short-term emissions of criteria air pollutants. The criteria pollutants of primary concern within the Project area include O_3-precursor pollutants (i.e. ROG and NO_X) and PM_{10} and $PM_{2.5}$. Construction-generated emissions are short term and of temporary duration, lasting only as long as construction activities occur, but would be considered a significant air quality impact if the volume of pollutants generated exceeds the SCAQMD's thresholds of significance.

Construction results in the temporary generation of emissions resulting from site grading, motor vehicle exhaust associated with construction equipment and worker trips, and the movement of construction equipment, especially on unpaved surfaces. Emissions of airborne particulate matter are largely dependent on the amount of ground disturbance associated with site preparation activities as well as weather conditions and the appropriate application of water.

Construction activities associated with the Project are estimated to be completed within 18 months. Construction-generated emissions associated the Project were calculated using the CARB-approved CalEEMod computer program, which is designed to model emissions for land use development projects, based on typical construction requirements. See **Appendix B** for more information regarding the construction assumptions used in this analysis. Predicted maximum daily construction-generated emissions for the Project are summarized in **Table 4.2-7: Construction-Related Emissions**.

Table 4.2-7: Construction-Related Emissions

Construction Year	Maximum Pounds Per Day					
	ROG	NO_X	CO	SO_2	PM_{10}	$PM_{2.5}$
Unmitigated Emissions[1]						
Year 1 (2024)	3.76	42.94	36.45	0.10	6.94	4.15
Year 2 (2025)	52.16	19.33	27.91	0.04	1.79	0.98
Maximum Emissions	*53.48*	*42.94*	*36.45*	*0.10*	*6.94*	*4.15*
SCAQMD Thresholds	***75***	***100***	***550***	***150***	***150***	***55***
Exceed SCAQMD Threshold?	**No**	**No**	**No**	**No**	**No**	**No**

ROG = Reactive Organic Gases; NO_X = Nitrogen Oxides; CO = Carbon Monoxide; SO_2 = Sulfur Dioxide; PM_{10} = Particulate Matter 10 microns in diameter or less; $PM_{2.5}$ = Particulate Matter 2.5 microns in diameter or less

1. SCAQMD Rule 403 Fugitive Dust applied. The Rule 403 reduction/credits include the following: properly maintain mobile and other construction equipment; water exposed surfaces three times daily; and limit speeds on unpaved roads to 15 miles per hour. Reductions percentages from the SCAQMD CEQA Handbook (Tables XI-A through XI-E) were applied.

Source: **Appendix B**.

Fugitive dust emissions may have a substantial, temporary impact on local air quality. Additionally, fugitive dust may be a nuisance to those living and working in the Project vicinity. Uncontrolled dust from construction can become a nuisance and potential health hazard to those living and working nearby. SCAQMD Rules 402 and 403 (prohibition of nuisances, watering of inactive and perimeter areas, track out requirements, etc.), are applicable to the Project and were applied in CalEEMod to minimize fugitive dust emissions. Laws, Ordinances, and Regulations (**LOR**) **AQ-1** requires the implementation of Rule 402 and

403 dust control techniques to minimize PM_{10} and $PM_{2.5}$ concentrations and Agua Mansa Specific Plan EIR Air Quality Mitigation Measure 4 requires periodic soil wetting, although unmitigated emissions for $PM_{2.5}$ and PM_{10} are not exceeding SCAQMD's thresholds. The Project would be subject to SCAQMD Rules for reducing fugitive dust, described in the Regulatory Framework subsection above and identified in **LOR AQ-1**. **Table 4.2-7** shows the Project's unmitigated construction emissions would not exceed SCAQMD's daily thresholds and construction impacts would be less than significant.

Operational Emissions

The Project's operational emissions would be associated with area sources (e.g. landscape maintenance equipment, architectural coatings, etc.), energy sources, mobile sources (i.e., motor vehicle use), and off-road equipment. Primary sources of operational criteria pollutants are from motor vehicle use and area sources. Long-term operational emissions attributable to the Project are summarized in **Table 4.2-8: Operational Emissions**. The operational emissions sources are described below.

- *Area Source Emissions.* Area source emissions would be generated due to on-site equipment, architectural coatings, and landscape maintenance equipment.
- *Energy Source Emissions.* Energy source emissions would be generated due to electricity and natural gas usage associated with the Project. Primary uses of electricity and natural gas by the Project would be for miscellaneous warehouse equipment, space heating and cooling, water heating, ventilation, lighting, appliances, and electronics.
- *Mobile Source Emissions.* Mobile sources are emissions from motor vehicles, including tailpipe and evaporative emissions. Depending upon the pollutant being discussed, the potential air quality impact may be of either regional or local concern. For example, ROG, NO_X, PM_{10}, and $PM_{2.5}$ are all pollutants of regional concern. NO_X and ROG react with sunlight to form O_3, known as photochemical smog. Additionally, wind currents readily transport PM_{10} and $PM_{2.5}$. However, CO tends to be a localized pollutant, dispersing rapidly at the source.
    - Project-generated vehicle emissions are based on the trip generation within the Traffic Study and have been incorporated into CalEEMod, as recommended by the SCAQMD. Per the Traffic Study, the Project would generate 951 total daily vehicle trips, which includes 574 daily truck trips.
- *Off-Road Equipment Emissions.* Operational off-road emissions would be generated by off-road cargo handling equipment used during operational activities. Although the Project is a truck terminal facility, it has been assumed that off-road equipment would be utilized as a worst-case analysis. It was conservatively assumed that the Project would include 4 diesel forklifts and one diesel yard trucks per SCAQMD data.[8]
- *Emergency Backup Generators*. As the Project is a truck terminal facility with warehouse space, it is conservatively assumed that backup generators would be used in the event of a power failure. Generators would not be part of the Project's normal daily operations. Nonetheless, emissions associated with one emergency backup generator was included to be conservative. Emissions from an emergency backup generator was calculated separately from CalEEMod; refer to **Appendix B**. However, CalEEMod default emissions rates were used. If backup generators are

[8] SCAQMD. (2014). High Cube Warehouse Truck Trip Study White Paper Summary of Business Survey Results. Accessed September 2023.

required, the end user would be required to obtain a permit from the SCAQMD prior to installation. Emergency backup generators must meet SCAQMD's Best Available Control Technology (BACT) requirements and comply with SCAQMD Rule 1470 (Requirements for Stationary Diesel-Fueled Internal Combustion and Other Compression Ignition Engines), which would minimize emissions.

Table 4.2-8: Operational Emissions

Source	Maximum Pounds Per Day					
	ROG	**NO_X**	**CO**	**SO_2**	**PM_{10}**	**$PM_{2.5}$**
Unmitigated Emissions[1,2]						
Area	6.37	0.07	8.61	0.00	0.02	0.01
Energy	0.06	1.15	0.96	0.01	0.09	0.09
Mobile – Trucks	1.04	71.32	35.18	0.63	21.26	6.39
Mobile – Passenger Cars	1.06	0.83	15.20	0.04	4.15	1.06
Off-Road[2]	3.96	33.43	48.62	0.09	2.09	1.92
Emergency Generators	1.69	4.71	4.30	0.01	0.25	0.25
Total Emissions	*14.19*	*111.51*	*112.87*	*0.78*	*27.85*	*9.72*
SCAQMD Thresholds	***55***	***55***	***550***	***150***	***150***	***55***
Exceed SCAQMD Threshold?	**No**	**Yes**	**No**	**No**	**No**	**No**
Mitigated Emissions[1,2]						
Area	6.37	0.07	8.61	0.00	0.02	0.01
Energy	0.06	1.15	0.96	0.01	0.09	0.09
Mobile – Trucks	1.04	71.32	35.18	0.63	21.26	6.39
Mobile – Passenger Cars	1.06	0.83	15.20	0.04	4.15	1.06
Off-Road[3]	0.00	0.00	0.00	0.00	0.00	0.00
Emergency Generators[3]	1.69	0.83	4.30	0.01	0.03	0.03
Total Emissions	*8.48*	*72.22*	*58.99*	*0.67*	*25.43*	*7.46*
SCAQMD Thresholds	***55***	***55***	***550***	***150***	***150***	***55***
Exceed SCAQMD Threshold?	**No**	**Yes**	**No**	**No**	**No**	**No**

ROG = Reactive Organic Gases; NO_X = Nitrogen Oxides; CO = Carbon Monoxide; SO_2 = Sulfur Dioxide; PM_{10} = Particulate Matter 10 microns in diameter or less; $PM_{2.5}$ = Particulate Matter 2.5 microns in diameter or less

Note: Total values are from CalEEMod and may not add up 100% due to rounding.

1. The highest values between summer and winter results were used as a worst-case scenario.
2. Off-road emissions include one yard truck and four forklifts. Emissions were calculated with CARB OFFROAD 1.0.2.
3. Mitigated emissions include operation of electric forklifts and yard trucks, as well as Tier 4 certified standard emergency generators, pursuant to AIR-1 (unmitigated emissions assume diesel off-road equipment [i.e., forklifts and yard trucks]).

Source: **Appendix B**

As shown in **Table 4.2-8: Operational Emissions**, unmitigated operational (i.e., area, energy, mobile, off-road, and emergency generators) emissions would not exceed SCAQMD thresholds for all criteria pollutants, with the exception of NO_X. The majority of the Project's emission exceedances are from mobile sources and cannot feasibly be reduced below the SCAQMD threshold. Emissions from motor vehicles are

controlled by State and Federal standards and the Project has no control over these standards. However, numerous mitigation measures have been included to reduce emissions to the maximum extent feasible.

The Project would incorporate **MM AIR-1** to reduce operational emissions. Mitigation Measure **AIR-1** requires that all outdoor cargo handling equipment be zero emission/powered by electricity and standard emergency generators must be Tier 4 certified. Additionally, the Agua Mansa Specific Plan EIR Air Quality Mitigation Measure 2 recommends that employers take steps such as preferential parking to encourage car-pooling and van-pooling. Further, **MM TRF-1** (see Section 4.17, *Transportation*) requires the preparation of a TDM plan to reduce single-occupancy commute trips and encourage alternative modes of transportation. **Table 4.2-8** shows that despite the implementation of all feasible mitigation measures, NO_X emissions would remain above the SCAQMD's thresholds. Therefore, operational impacts would be significant and unavoidable.

Cumulative Construction Emissions

The SCAB is designated nonattainment for O_3, PM_{10}, and $PM_{2.5}$ for State standards and nonattainment for O_3 and $PM_{2.5}$ for federal standards. The SCAQMD's *White Paper on Potential Control Strategies to Address Cumulative Impacts from Air Pollution* notes that projects that result in emissions that do not exceed the project-specific SCAQMD regional thresholds of significance should result in a less than significant impact on a cumulative basis unless there is other pertinent information to the contrary.[9] The mass-based regional significance thresholds published by the SCAQMD are designed to ensure compliance with both NAAQS and CAAQS and are based on an inventory of projected emissions in the SCAB. Therefore, if a project is estimated to result in emissions that do not exceed the thresholds, the project's contribution to the cumulative impact on air quality in the SCAB would not be cumulatively considerable. As shown in **Table 4.2-7**, mitigated construction-related emissions would not exceed the SCAQMD significance thresholds for criteria pollutants. Therefore, the Project would not generate a cumulatively considerable contribution to air pollutant emissions during construction.

The SCAQMD has developed strategies to reduce criteria pollutant emissions outlined in the AQMP pursuant to the FCAA mandates. The analysis assumed fugitive dust controls would be utilized during construction, including frequent water applications. SCAQMD rules, mandates, and compliance with adopted AQMP emissions control measures would also be imposed on construction projects throughout the SCAB, which would include related projects. Compliance with SCAQMD rules and regulations would further reduce construction-related impacts. Therefore, Project-related construction emissions, combined with those from other projects in the area, would not substantially deteriorate local air quality. Construction emissions associated with the Project would not result in a cumulatively considerable contribution to significant cumulative air quality impacts.

Cumulative Operational Impacts

The SCAQMD has not established separate significance thresholds for cumulative operational emissions. The nature of air emissions is largely a cumulative impact. As a result, no single project is sufficient in size to, by itself, result in nonattainment of ambient air quality standards. Instead, individual project emissions contribute to existing cumulatively significant adverse air quality impacts. The SCAQMD developed the

[9] SCAQMD. (2003). White Paper on Potential Control Strategies to Address Cumulative Impacts from Air Pollution, Appendix D. https://www.aqmd.gov/docs/default-source/Agendas/Environmental-Justice/cumulative-impacts-working-group/cumulative-impacts-white-paper.pdf. Accessed September 2023.

operational thresholds of significance based on the level above which individual project emissions would result in a cumulatively considerable contribution to the SCAB's existing air quality conditions. Therefore, a project that exceeds the SCAQMD operational thresholds would also be a cumulatively considerable contribution to a significant cumulative impact.

As shown in **Table 4.2-8**, operational emissions (primarily mobile source emissions) would exceed the SCAQMD threshold despite the implementation of mitigation. As a result, operational emissions associated with the Project would result in a cumulatively considerable contribution to significant cumulative air quality impacts. Emissions of motor vehicles are controlled by State and federal standards and the Project has no control over these standards. LORs and implementation of **MM AIR-1** and **MM TRF-1** would reduce emissions, as summarized above. While the Project has some control over mobile source efficiencies, the majority of the mobile source emissions are beyond the Project's control. Therefore, no additional feasible mitigation measures beyond Agua Mansa Industrial Corridor Specific Plan EIR Air Quality Mitigation Measure 2, as well as **MM AIR-1** are available to further reduce emissions, and cumulative long-term impacts would remain significant and unavoidable.

Laws, Ordinances, and Regulations

Laws, Ordinances, and Regulations (LORs) are existing requirements that are based on local, state, or federal regulations or laws that are frequently required independently of CEQA review. Typical LORs include compliance with the provisions of the Building Code, SCAQMD Rules, etc. The City may impose additional conditions during the approval process, as appropriate. Because LORs are neither Project specific nor a result of development of the Project, they are not considered to be either Project Design Features or Mitigation Measures.

LOR AQ-1: Prior to the issuance of grading permits, the City Engineer shall confirm that the Grading Plan, Building Plans and Specifications require all construction contractors to comply with South Coast Air Quality Management District's (SCAQMD's) Rules 402 and 403 to minimize construction emissions of dust and particulates. The measures include, but are not limited to, the following:

- Portions of a construction site to remain inactive longer than a period of three months will be seeded and watered until grass cover is grown or otherwise stabilized.
- All on-site roads will be paved as soon as feasible or watered periodically or chemically stabilized.
- All material transported off site will be either sufficiently watered or securely covered to prevent excessive amounts of dust.
- The area disturbed by clearing, grading, earthmoving, or excavation operations will be minimized at all times.
- Where vehicles leave a construction site and enter adjacent public streets, the streets will be swept daily or washed down at the end of the work day to remove soil tracked onto the paved surface.

LOR AQ-2: Pursuant to SCAQMD Rule 1113, the Project Applicant shall require by contract specifications that the interior and exterior architectural coatings (paint and primer including parking lot paint) products used would have a volatile organic compound rating

of 50 grams per liter or less. It should be noted that 2016 RSPA EIR Mitigation Measure AQ-8 requires the volatile organic compound rating to be reduced to 10 g/L or less during construction.

LOR AQ-3: Require diesel powered construction equipment to turn off when not in use per Title 13 of the California Code of Regulations, Section 2449.

LOR AQ-4: Install water-efficient irrigation systems and devices, such as soil moisture-based irrigation controls and sensors for landscaping according to the City's Water Efficient Landscape requirements (Chapter 12.50 of the City's Municipal Code).

LOR AQ-5: In accordance with California Title 24 Standards, buildings will be designed to have 15 percent of the roof area "solar ready" that will structurally accommodate later installation of rooftop solar panels. If future building operators pursue providing rooftop solar panels, they will submit plans for solar panels prior to occupancy.

LOR AQ-6: The Project shall be designed in accordance with the applicable California Green Building Standards (CALGreen) Code (24 CCR, Part 11). The Building Official, or designee shall ensure compliance prior to the issuance of each building permit. These requirements include, but are not limited to:

- Design buildings to be water-efficient. Install water-efficient fixtures in accordance with Section 5.303 of the California Green Building Standards Code Part 11.
- Recycle and/or salvage for reuse a minimum of 65 percent of the nonhazardous construction and demolition waste in accordance with Section 5.408.1 of the California Green Building Standards Code Part 11.
- Provide storage areas for recyclables and green waste and adequate recycling containers located in readily accessible areas in accordance with Section 5.410 of the California Green Building Standards Code Part 11.
- To facilitate future installation of electric vehicle supply equipment (EVSE), nonresidential construction shall comply with Section 5.106.5.3 (nonresidential electric vehicle charging) of the California Green Building Standards Code Part 11.

Mitigation Program

Standard Conditions

No standard conditions are applicable.

Mitigation Measures

Agua Mansa Industrial Corridor Specific Plan EIR Mitigation Measures: Air Quality

Mitigation Measures 1-4 are applicable. Mitigation Measure 2 and 4 are included above, under Impact 4.2-1; Mitigation Measures 1 and 3 are below:

Mitigation Measure 1: Local bus lines should be encouraged to extend service into the Study Area to discourage the use of private automobiles by employees. Bus shelters and bus stops should be constructed as dictated by ridership demand.

Mitigation Measure 3: The local governmental entities should enforce emission standards on equipment used during the construction and operation of industrial facilities.

Project Mitigation Measures

Mitigation Measure **AIR-1** is included above, under Impact 4.2-1 and Mitigation Measure **TRF-1** is included in Section 4.17, *Transportation*.

Impact 4.2-3: Would the project expose sensitive receptors to substantial pollutant concentrations?

Level of Significance: Less than Significant Impact with Mitigation Incorporated

Localized Construction Significance Analysis

When the air quality analysis was conducted for the Project, the nearest sensitive receptor was a single-family residential use located approximately 1,350 feet to the west of the project site. That identified single-family use has since been demolished and the closest sensitive receptor is a single-family residential use located approximately 2,800 feet to the southwest of the project site. To identify impacts to sensitive receptors, the SCAQMD recommends addressing LSTs for construction. LSTs were developed in response to SCAQMD Governing Boards' Environmental Justice Enhancement Initiative (I-4). The SCAQMD provided the Final Localized Significance Threshold Methodology (dated June 2003 [revised 2008]) for guidance. The LST methodology assists lead agencies in analyzing localized impacts associated with project-specific emissions.

Since CalEEMod calculates construction emissions based on the number of equipment hours and the maximum daily soil disturbance activity possible for each piece of equipment, **Table 4.2-9: Equipment-Specific Site Preparation Rates**, is used to determine the maximum daily disturbed acreage for comparison to LSTs. The appropriate SRA for the localized significance thresholds is the Central San Bernardino Valley (SRA 34) since this area includes the Project. LSTs apply to CO, NO_2, PM_{10}, and $PM_{2.5}$. The SCAQMD produced look-up tables for projects that disturb areas less than or equal to 5 acres in size. Project construction is anticipated to disturb a maximum of 3.5 acres in a single day. As the LST guidance provides thresholds for projects disturbing 1-, 2-, and 5-acres in size and the thresholds increase with size of the site, the LSTs for a 3.5-acre threshold were interpolated and utilized for this analysis.

Table 4.2-9: Equipment-Specific Site Preparation Rates

Construction Phase	Equipment Type	Equipment Quantity	Acres Graded per 8-Hour Day	Operating Hours per Day	Acres Graded per Day
Site Preparation	Tractors	4	0.5	8	2
	Graders	0	0.5	8	0
	Dozers	3	0.5	8	1.5
	Scrapers	0	1.0	8	0
				Total Acres Graded per Day	**3.5**

Source: **Appendix B**

The SCAQMD's methodology states that "off-site mobile emissions from the Project should not be included in the emissions compared to LSTs." Therefore, only emissions included in the CalEEMod "on-site" emissions outputs were considered. This evaluation reflects the results of analysis based on a sensitive receptor located 2,800 feet (853 meters) southwest of the project site. LST thresholds are provided for distances to sensitive receptors of 25, 50, 100, 200, and 500 meters. Accordingly, LSTs for receptors located at 500 meters were conservatively utilized in this analysis. **Table 4.2-10: Localized Significance of Construction Emissions**, presents the results of unmitigated localized emissions during

each construction phase. **Table 4.2-10** shows that emissions of these pollutants on the peak day of construction would not result in significant concentrations of pollutants at nearby sensitive receptors. Therefore, localized construction emissions would be less than significant.

Table 4.2-10: Localized Significance of Construction Emissions

Construction Activity	Maximum Pounds Per Day			
	NO_X	CO	PM_{10}	$PM_{2.5}$
Site Preparation (2024)	35.95	32.93	6.71	4.10
Grading (2024)	34.29	30.17	3.85	2.28
Building Construction (2024)	11.22	13.12	0.50	0.46
Building Construction (2025)	10.44	13.04	0.43	0.40
Paving (2025)	7.45	9.98	0.35	0.32
Architectural Coating (2025)	0.88	1.14	0.03	0.03
Building Construction + Paving (2025)	17.90	23.02	0.78	0.72
Building Construction + Architectural Coating (2025)	11.33	14.18	0.46	0.42
Maximum Daily Emissions	*35.95*	*32.93*	*6.71*	*4.10*
SCAQMD Localized Screening Threshold (adjusted for 3.5 acres at 500 meters)	***731***	***25,492***	***217***	***112***
Exceed SCAQMD Threshold?	**No**	**No**	**No**	**No**

NO_X = Nitrogen Oxides; CO = Carbon Monoxide; PM_{10} = Particulate Matter 10 microns in diameter or less; $PM_{2.5}$ = Particulate Matter 2.5 microns in diameter or less

Source: **Appendix B**

Localized Operational Significance Analysis

According to the SCAQMD LST methodology, LSTs would apply to the operational phase of a project only if it includes stationary sources or attracts mobile sources that may spend long periods queuing and idling at the site (e.g. warehouse or transfer facilities). Since the Project includes development of an industrial use, the operational phase LST protocol is conservatively applied to both the area source and a portion of the mobile source emissions. The nearest sensitive receptor is a single-family residential use located approximately 2,800 feet (853 meters) to the southwest of the project site and the LST thresholds for 500 meters were utilized in this analysis. Additionally, the maximum LST threshold (5-acre) was utilized as the project site encompasses 45.7 acres.

The LST analysis only includes on-site sources. However, the CalEEMod model outputs do not separate on- and off-site emissions for mobile sources. For a worst-case scenario assessment, the emissions shown in **Table 4.2-11: Localized Significance of Operational Emissions**, conservatively include all on-site Project-related stationary sources, on-site off-road equipment (forklifts, yard trucks, and generators), and three percent of the Project-related mobile sources, since a portion of mobile sources could include trucks idling on-site.[10] **Table 4.2-11** shows that the maximum unmitigated daily emissions of these pollutants during Project operations would not result in significant concentrations of pollutants at nearby sensitive receptors. Therefore, localized operational emissions would be less than significant.

[10] The on-site one-way trip length is conservatively anticipated to be up to one mile, which is approximately three percent of the 33.2-mile truck trip length modeled in CalEEMod.

Table 4.2-11: Localized Significance of Operational Emissions

Activity	Maximum Pounds Per Day			
	NO_X	CO	PM_{10}	$PM_{2.5}$
On-Site and Mobile Source Emissions	36.81	59.70	2.96	2.05
SCAQMD Localized Screening Threshold (adjusted for 5 acres at 500 meters)	***778***	***27,680***	***55***	***29***
Exceed SCAQMD Threshold?	**No**	**No**	**No**	**No**

NO_X = Nitrogen Oxides; CO = Carbon Monoxide; PM_{10} = Particulate Matter 10 microns in diameter or less; $PM_{2.5}$ = Particulate Matter 2.5 microns in diameter or less

Source: **Appendix B**

Criteria Pollutant Health Impacts

Emissions from Project construction and operation would vary by time of day, month, and season, and the majority of Project-related emissions, being generated by mobile sources driving to and from the site, would be emitted throughout a wide area defined by the origins and destinations of people travelling to and from the project site.

Specifically, for extremely large regional projects, the SCAQMD states that it has been able to correlate potential health outcomes for very large emissions sources – as part of their rulemaking activity, specifically 6,620 pounds per day of NO_X and 89,180 pounds per day of VOC were expected to result in approximately 20 premature deaths per year and 89,947 school absences due to O_3. The Project would not generate 6,620 pounds per day of NO_X or 89,190 pounds per day of ROG (VOC) emissions, which SCAQMD stated was a large enough emission to quantify O_3-related health impacts. Therefore, the Project's emissions are not sufficiently high enough to use regional modeling program to correlate health effects on a basin-wide level.

Localized effects of on-site Project emissions on nearby receptors for the Project would be less than significant (refer to **Table 4.2-11** and **Table 4.2-12: Unmitigated Carcinogenic Risk Assessment**). The LSTs represent the maximum emissions from a project that are not expected to cause or contribute to an exceedance of the most stringent applicable state or federal ambient air quality standard. The LSTs were developed by the SCAQMD based on the ambient concentrations of that pollutant for each SRA and distance to the nearest sensitive receptor. The ambient air quality standards establish the levels of air quality necessary, with an adequate margin of safety to protect public health, including protecting the health of sensitive populations. However, as discussed above, neither the SCAQMD nor any other air district currently have methodologies that would provide Lead Agencies and CEQA practitioners with a consistent, reliable, and meaningful analysis to correlate specific health impacts that may result from a project's mass emissions. Information on health impacts related to exposure to ozone and particulate matter emissions published by the United States EPA and CARB have been summarized above and discussed in the Regulatory Framework section. Health studies are used by these agencies to set the NAAQS and CAAQS.

Although it may be misleading and unreliable to attempt to specifically and numerically quantify the Project's health risks, this analysis provides extensive information concerning the Project's potential health risks. While the Project is expected to exceed the SCAQMD's numeric regional mass daily operational thresholds for NO_X, this does not in itself constitute a significant health impact to the population adjacent to the Project and within the SCAB. The reason for this is that the mass daily thresholds are in pounds per day emitted into the air whereas health effects are determined based on the

concentration of emissions in the air at a particular receptor (e.g., parts per million by volume of air, or micrograms per cubic meter of air).

The NAAQS and CAAQS were developed to protect the most susceptible population groups from adverse health effects and were established in terms of parts per million or micrograms per cubic meter for the applicable emissions. As stated earlier, the mass emission thresholds were established primarily in conjunction with federal permitting "major source" thresholds. If emissions were below these "de minimis" emission rates, then the proposed Project is presumed to conform with the NAAQS.[11] While based on the status of an air basin level of attainment of the health-based NAAQS, emissions in excess of the mass emission thresholds from one project does not mean the air basin would experience measurably higher ground level concentrations, or more frequent occurrences of ground level concentrations in exceedance of standards, or delay timely attainment of a particular NAAQS.

Ozone concentrations are dependent upon a variety of complex factors, including the presence of sunlight and precursor pollutants, natural topography, nearby structures that cause building downwash, atmospheric stability, and wind patterns. Because of the complexities of predicting ground-level ozone concentrations in relation to the NAAQS and CAAQS, none of the health-related information can be directly correlated to the pounds/day or tons/year of emissions estimated from a single, proposed project. **Table 4.2-3** includes a list of criteria pollutants and summarizes common sources and effects. Thus, this analysis is reasonable and intended to foster informed decision making. Due to the uncertainty in the relationship between project-level mass emissions and regional ozone formation as well as limitations with currently available technical tools, the resulting health effects associated with the Project cannot be identified. Given this is speculative, no meaningful conclusion can be drawn with respect to potential health effects from the criteria pollutant emissions of the Project.

Carbon Monoxide Hotspots

The CO standard in California is a maximum of 3.4 grams per mile for passenger cars (requirements for certain vehicles are more stringent). With the turnover of older vehicles, introduction of cleaner fuels, and implementation of control technology on industrial facilities, CO concentrations have steadily declined. Accordingly, with the steadily decreasing CO emissions from vehicles, even very busy intersections do not result in exceedances of the CO standard.

The SCAB was re-designated as attainment in 2007 and is no longer addressed in the SCAQMD's AQMP. The 2003 AQMP is the most recent version that addresses CO concentrations. As part of the SCAQMD *CO Hotspot Analysis*, the Wilshire Boulevard/Veteran Avenue intersection, one of the most congested intersections in Southern California with an average daily traffic (ADT) volume of approximately 100,000 vehicles per day, was modeled for CO concentrations. This modeling effort identified a CO concentration high of 4.6 ppm, which is well below the 35-ppm federal standard. The Project considered herein would not produce the volume of traffic required to generate a CO hot spot in the context of SCAQMD's *CO Hotspot Analysis*. According to trip count data included in the Traffic Study, existing daily volumes in the Project vicinity are 33,990 trips along South Riverside Avenue and 1,430 trips along East Santa Ana Avenue. As the CO hotspots were not experienced at the Wilshire Boulevard/Veteran Avenue intersection even as it accommodates 100,000 vehicles daily, it can be reasonably inferred that CO hotspots would not be experienced at any vicinity intersections as the Project would result in 951 daily trips. Therefore, impacts would be less than significant.

[11] United States Environmental Protection Agency (EPA). (2023). Frequent Questions about General Conformity. Available: https://www.epa.gov/general-conformity/frequent-questions-about-general-conformity. Accessed April 2024.

Carcinogenic Hazard

A Health Risk Assessment (HRA) was prepared for the Project to evaluate potential health risks associated with Toxic Air Contaminants (TAC) including DPM resulting Project implementation**.** CARB identified DPM as a TAC in 1998. Mobile sources (including trucks, buses, automobiles, trains, ships, and farm equipment) are by far the largest source of diesel emissions. Diesel exhaust is emitted from a broad range of on- and off-road diesel engines. When the air quality analysis was conducted for the Project, the nearest sensitive receptor was a single-family residential use located approximately 1,350 feet to the west of the project site, beyond the 1,000-foot HRA buffer distance recommended by CARB. That identified single-family use has since been demolished and the closest sensitive receptor is a single-family residential use located approximately 2,800 feet (853 meters) to the southwest of the project site, which is further from the project site and well beyond the 1,000-foot HRA buffer distance recommended by CARB. Thus, the analysis of DPM performed using the EPA-approved AERMOD model results in findings that are conservative and identify impacts greater than what would result from the proposed Project. As shown in **Table 4.2-12**, combined construction and operation activities of the Project would exceed the SCAQMD significance threshold for both residential and worker receptors. The Project would implement **MM AIR- 1** which requires zero emission forklifts and yard trucks and Tier 4 certified emergency generators, and **MM TRF-1** (see Section 4.17, *Transportation*) which requires the preparation of a TDM plan to reduce single-occupancy commute trips and encourage alternative modes of transportation. With implementation of **MM AIR-1** and **MM TRF-1**, operational risk at residential and worker receptors would be 1.34 in one million and 0.71 in one million, respectively, and combined construction and operational risk at residential and worker receptors would be 1.10 in one million and 0.84 in one million, respectively. Therefore, the Project's cancer risk during construction, operations, and combined construction and operations would not exceed the SCAQMD's 10 in one million incremental threshold and impacts associated with carcinogenic risk would be less than significant with mitigation incorporated.

Table 4.2-12: Unmitigated Carcinogenic Risk Assessment

Exposure Scenario	Cancer Risk (Risk per Million)[1, 2]	Significance Threshold (Risk per Million)	Exceeds Significance Threshold?
Unmitigated			
Construction			
Residential	0.15	10	No
Worker	0.25		No
Operations			
Residential	382.81	10	Yes
Worker	2,940.84		Yes
Combined Construction + Operations			
Residential	273.02	10	Yes
Worker	2,764.64		Yes
Mitigated[1]			
Operations			
Residential	1.34	10	No
Worker	0.71		No
Combined Construction + Operations			
Residential	1.10	10	No
Worker	0.84		No

1. The mitigated exposure scenario accounts for implementation of Mitigation Measure AIR-1 in the Project's Air Quality Assessment. Mitigation Measure AIR-6 requires all outdoor cargo handling equipment to be zero emission/powered by electricity and standard emergency generators to be Tier 4 certified.
2. The reported annual pollutant concentration is at the closest maximally exposed individual receptor (MEIR) for residential and workers to the project site.

Source: **Appendix B**

Non-Carcinogenic Hazard

The significance thresholds for TAC exposure also require an evaluation of non-cancer risk stated in terms of a hazard index. A chronic hazard index of 1.0 is considered individually significant. As shown in **Table 4.2-13: Chronic Hazard Assessment**, The highest maximum chronic hazard index associated with DPM emissions from Project construction would be 0.0001 at the residential receptors and 0.0032 for worker receptors. Additionally, the highest maximum chronic hazard index associated with mitigated DPM emissions from Project operations would be 0.0004 at the residential receptors and 0.0005 at worker receptors. Therefore, non-carcinogenic hazards are calculated to be within acceptable limits and a less than significant impact would occur.

Table 4.2-13: Chronic Hazard Assessment

Exposure Scenario	Annual Concentration (µg/m^3)[1]	Chronic Hazard
Construction		
Residential	0.0007	0.0001
Worker	0.0159	0.0032
Operations[2]		
Residential	0.0018	0.0004
Worker	0.0027	0.0005
SCAQMD Threshold	*N/A*	*1.0*
Threshold Exceeded?	**N/A**	**No**

1. The reported pollutant concentration is at the closest receptor (maximally exposed individual receptor).
2. Represents mitigated concentrations pursuant to Mitigation Measure AIR-1.

Source: **Appendix B**

Mitigation Program

Standard Conditions

No standard conditions are applicable.

Mitigation Measures

Agua Mansa Industrial Corridor Specific Plan EIR Mitigation Measures

No mitigation measures are applicable.

Project Mitigation Measures

Mitigation Measure **AIR-1** is included above, under Impact 4.2-1 and Mitigation Measure **TRF-1** is included in Section 4.17, *Transportation*.

Impact 4.2-4: Would the project result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?

Level of Significance: Less Than Significant Impact

Construction

Odors that could be generated by construction activities are required to follow SCAQMD Rule 402 to prevent odor nuisances on sensitive land uses. SCAQMD Rule 402, Nuisance, states:

> *A person shall not discharge from any source whatsoever such quantities of air contaminants or other material which cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public, or which endanger the comfort, repose, health or safety of any such persons or the public, or which cause, or have a natural tendency to cause, injury or damage to business or property.*

Odors may be generated during construction activities such as equipment diesel exhaust, architectural coatings volatile organic compounds, and paving activities. However, these odors would be temporary are

not expected to affect a substantial number of people and would disperse rapidly. Therefore, impacts related to odors associated with the Project's construction-related activities would be less than significant.

Operations

The SCAQMD CEQA Air Quality Handbook identifies certain land uses as sources of odors. These land uses include agriculture (farming and livestock), wastewater treatment plants, food processing plants, chemical plants, composting facilities, refineries, landfills, dairies, and fiberglass molding. The Project would not include any of the land uses that have been identified by the SCAQMD as odor sources. Therefore, the Project would not create objectionable odors and no impact would occur.

Mitigation Program

Standard Conditions

No standard conditions are applicable.

Mitigation Measures

Agua Mansa Industrial Corridor Specific Plan EIR Mitigation Measures

No mitigation measures are applicable.

Project Mitigation Measures

No mitigation is required.

4.2.7 Cumulative Impacts

Cumulative Construction Emissions

The SCAB is designated nonattainment for O_3, PM_{10}, and $PM_{2.5}$ for State standards and nonattainment for O_3 and $PM_{2.5}$ for federal standards. Appendix D of the SCAQMD White Paper on Potential Control Strategies to Address Cumulative Impacts from Air Pollution (2003) notes that projects that result in emissions that do not exceed the project-specific SCAQMD regional thresholds of significance should result in a less than significant impact on a cumulative basis unless there is other pertinent information to the contrary. The mass-based regional significance thresholds published by the SCAQMD are designed to ensure compliance with both NAAQS and CAAQS and are based on an inventory of projected emissions in the SCAB. Therefore, if a project is estimated to result in emissions that do not exceed the thresholds, the Project's contribution to the cumulative impact on air quality in the SCAB would not be cumulatively considerable. Project construction-related emissions would not exceed the SCAQMD significance thresholds for criteria pollutants (**Table 4.2-10**). Therefore, the Project would not generate a cumulatively considerable contribution to air pollutant emissions during construction.

The SCAQMD has developed strategies to reduce criteria pollutant emissions outlined in the AQMP pursuant to the FCAA mandates. The analysis assumed fugitive dust controls would be utilized during construction, including frequent water applications. SCAQMD rules, mandates, and compliance with adopted AQMP emissions control measures would also be imposed on construction projects throughout the SCAB. Compliance with SCAQMD rules and regulations would further reduce the Project construction-related impacts. Therefore, project-related construction emissions, combined with those from other projects in the area, would not substantially deteriorate local air quality.

Construction emissions associated with the Project would not result in a cumulatively considerable contribution to significant cumulative air quality impacts.

Cumulative Operational Impacts

Operational emissions would exceed SCAQMD thresholds for NO_x of 55 maximum pounds per day. To reduce air quality emissions, the Project would implement Agua Mansa Industrial Corridor Air Quality Mitigation Measure 2, Project Mitigation Measure **AIR-1** and Project Mitigation Measure **TRF-1** (see Section 4.17, *Transportation*). However, impacts would remain significant with mitigation incorporated. With mitigation, NO_x emissions would be reduced from 111.51 to 72.22 maximum pounds per day, which exceeds the threshold of 55 maximum pounds per day. As such, the Project would result in a cumulatively considerable contribution to significant cumulative air quality impacts.

4.2.8 Level of Significance After Mitigation

Implementation of the Project would result in significant and unavoidable impacts associated with air quality. The Project would result in air pollutant emissions that exceed SCAQMD's operational emission standards of 55 for NO_x with mitigation. To reduce the significance of air quality impacts, the Project would implement Agua Mansa Industrial Corridor Air Quality Mitigation Measures 1 through 4 and Project mitigation measures **MM AIR-1** and **MM TRF-1** (see Section 4.17, *Transportation*). However, implementation of applicable mitigation would not reduce operational emissions to below the SCAQMD threshold. The Project would be inconsistent with the SCAQMD AQMP and impacts would remain significant and unavoidable.

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4.3 BIOLOGICAL RESOURCES

4.3.1 Introduction

This section of the Environmental Impact Report (EIR) identifies and evaluates potential impacts related to biological resources in the Project area. The analysis in this section is based in part on the Biological Technical Report prepared for the Santa Ana Truck Terminal Project (Project) by Rocks Biological Consulting (June 2024) which is included as **Appendix D** of this EIR.

4.3.2 Regulatory Setting

Federal Regulations

Federal Endangered Species Act

The Federal Endangered Species Act (FESA) provides for the listing of endangered and threatened species of plants and animals and the designation of critical habitat for these listed species. The FESA regulates the "taking" of any endangered fish or wildlife species, per Section 9 of the FESA. As development is proposed, the responsible agency or individual landowner is required to consult with the United States Fish and Wildlife Service (USFWS) to assess potential impacts on listed species (including plants) or the critical habitat of a listed species, pursuant to Section 7 and Section 10 of the FESA. The USFWS is required to determine the extent a project would impact a particular species. If USFWS determines that a project is likely to potentially impact a species, measures to avoid or reduce such impacts must be identified.

Following consultation and the issuance of a Biological Opinion, USFWS may issue an incidental take statement which allows for the take of a species if it is incidental to another authorized activity and will not adversely affect the existence of the species. Section 10 of the FESA provides for issuance of incidental take permits to non-federal parties in conjunction with the development of a habitat conservation plan (HCP). Section 7 of the FESA provides for permitting of projects where interagency cooperation is necessary to ensure that a federal action/decision does not jeopardize the existence of a listed species.

Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA; 16 USC Section 703 et seq.) is a federal statute that implements treaties with several countries on the conservation and protection of migratory birds. The number of bird species covered by the MBTA is extensive and is listed at 50 Code of Federal Regulations (CFR) 10.13. USFWS enforces the MBTA, which prohibits "by any means or in any manner, to pursue, hunt, take, capture, [or] kill" any migratory bird, or attempt such actions, except as permitted by regulation.

Rivers and Harbors Act of 1899

The Rivers and Harbors Act of 1899 (33 U.S.C. Section 401 et seq.) prohibits discharge of any material into navigable waters, or tributaries thereof, of the United States without a permit. The act also makes it a misdemeanor to excavate, fill, or alter the course, condition, or capacity of any port, harbor, or channel; or to dam navigable streams without a permit.

Many activities originally covered by the Rivers and Harbors Act are now regulated under the Clean Water Act of 1972 (CWA; 33 U.S.C. Section 1251 et seq.), discussed below. However, the 1899 act retains

relevance and created the structure under which the United States Army Corps of Engineers (Corps) oversees CWA Section 404 permitting.

Clean Water Act

Pursuant to Section 404 of the Clean Water Act (CWA), the United States Army Corps of Engineers (USACE) is authorized to regulate any activity that would result in the discharge of dredged or fill material into waters of the United States (including wetlands), which includes those waters listed in 33 CFR 328.3 (as amended at 80 Federal Register [FR] 37104, June 29, 2015). The USACE, with oversight from the United States Environmental Protection Agency (EPA), has the principal authority to issue CWA Section 404 permits. The USACE would require a Standard Individual Permit for more than minimal impacts to waters of the United States as determined by the USACE. Projects with minimal individual and cumulative adverse effects on the environment may meet the conditions of an existing Nationwide Permit or Regional General Permit.

A water quality certification or waiver pursuant to Section 401 of the CWA is required for all Section 404 permitted actions. The Regional Water Quality Control Board (RWQCB), divisions of the State Water Resources Control Board (SWRCB), provides oversight of the Section 401 certification process in California. The RWQCB is required to provide "certification that there is reasonable assurance that an activity that may result in the discharge to waters of the United States will not violate water quality standards." Water Quality Certification must be based on the finding that a proposed discharge will comply with applicable water quality standards.

The National Pollutant Discharge Elimination System (NPDES) is the permitting program for discharge of pollutants into surface waters of the United States under Section 402 of the CWA.

State Regulations

State of California Endangered Species Act and Natural Community Conservation Planning Act

The California Endangered Species Act (CESA), in combination with the California Native Plant Protection Act of 1977 (NPPA; CFGC Section 1900 et seq.), regulates the listing and take of plant and animal species designated as endangered, threatened, or rare within the State. California also lists species of special concern (SSC) based on limited distribution, declining populations, diminishing habitat, or unusual scientific, recreational, or educational value. CESA defines an endangered species as "a native species or subspecies of a bird, mammal, fish, amphibian, reptile, or plant which is in serious danger of becoming extinct throughout all, or a significant portion, of its range due to one or more causes, including loss of habitat, change in habitat, overexploitation, predation, competition, or disease." CESA defines a threatened species as "a native species or subspecies of a bird, mammal, fish, amphibian, reptile, or plant that, although not presently threatened with extinction, is likely to become an endangered species in the foreseeable future in the absence of the special protection and management efforts required by this chapter. Any animal determined by the California Fish and Game Commission (CFGC) as rare on or before January 1, 1985 is a threatened species." Candidate species are defined as "a native species or subspecies of a bird, mammal, fish, amphibian, reptile, or plant that the commission has formally noticed as being under review by the department for addition to either the list of endangered species or the list of threatened species, or a species for which the CFGC has published a notice of proposed regulation to add the species to either list." Candidate species may be afforded temporary protection as though they were

already listed as threatened or endangered at the discretion of the CFGC. Unlike FESA, CESA does not list invertebrate species.

Sections 2080 through 2085 of CESA address the take of threatened, endangered, or candidate species by stating "no person shall import into this state, export out of this state, or take, possess, purchase, or sell within this state, any species, or any part or product thereof, that the commission determines to be an endangered species or a threatened species, or attempt any of those acts, except as otherwise provided." Under CESA, "take" is defined as to "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill." Exceptions authorized by the State to allow "take" require permits or memoranda of understanding and can be authorized for endangered species, threatened species, or candidate species for scientific, educational, or management purposes and for take incidental to otherwise lawful activities. CFGC Sections 1901 and 1913 provide that notification is required prior to disturbance. The California Department of Fish and Wildlife (CDFW) is responsible for assessing development projects for their potential to impact listed species and their habitats. State-listed species are addressed through the issuance of a 2081 Permit (Memorandum of Understanding).

In 1991, the California Natural Community Conservation Planning (NCCP) Act (CFGC Section 2800 et seq.) was approved and the NCCP Coastal Sage Scrub program was initiated in Southern California. The NCCP program was established "to provide for regional protection and perpetuation of natural wildlife diversity while allowing compatible land use and appropriate development and growth." The NCCP Act encourages preparation of plans that address habitat conservation and management on an ecosystem basis rather than one species or habitat at a time.

California Environmental Quality Act

The California Environmental Quality Act (CEQA) was established in 1970 as California's counterpart to the National Environmental Policy Act (NEPA; 42 USC Section 4321 et seq.). This statute requires State and local agencies to identify significant environmental impacts related to their actions and to avoid or mitigate those impacts, where feasible.

A public agency must comply with CEQA when it undertakes an activity defined by CEQA as a "project." A project is an activity undertaken by a public agency or a private activity that must receive some discretionary approval (meaning that the agency has the authority to deny the requested permit or approval) from a government agency that may cause either a direct physical change in the environment or a reasonably foreseeable indirect change in the environment.

California Fish and Game Code Sections 1600-1602

Pursuant to Division 2, Chapter 6, Section 1602 of the CFGC, CDFW regulates all diversions, obstructions, or changes to the natural flow or bed, channel or bank of any river, stream, or lake that supports fish or wildlife. A Notification of Lake or Streambed Alteration must be submitted to CDFW for "any activity that may substantially divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream, or lake." CDFW has jurisdiction over riparian habitats associated with watercourses and wetland habitats supported by a river, lake, or stream. Jurisdictional waters are delineated by the outer edge of riparian vegetation (i.e., drip line) or at the top of the bank of streams or lakes, whichever is wider. CDFW jurisdiction does not extend to tidal areas or isolated resources. CDFW reviews the proposed actions and, if necessary, submits (to an applicant) a proposal that includes measures to protect affected

fish and wildlife resources. The final proposal that is mutually agreed upon by CDFW and an applicant is the Lake or Streambed Alteration Agreement.

California Fish and Game Code Sections 3503, 3511, 3513, 3800, 4700, 5050, and 5515

Within California, fish, wildlife, and native plant resources are protected and managed by CDFW. The California Fish and Game Commission and/or CDFW are responsible for issuing permits for the take or possession of protected species. The following sections of the CFGC address protected species: Section 3511 (birds), Section 4700 (mammals), Section 5050 (reptiles and amphibians), and Section 5515 (fish). In addition, the protection of birds of prey is provided for in Sections 3503, 3513, and 3800 of the CFGC.

California Desert Native Plant Act (California Food and Agriculture Code Sections 80001–80201)

The California Desert Native Plants Act prohibits the removal of certain species of California desert native plants on public and privately owned lands without a valid permit from the sheriff or commissioner of the county where collecting would occur. This act applies within the boundaries of Imperial, Inyo, Kern, Los Angeles, Mono, Riverside, San Bernardino, and San Diego Counties.

Porter-Cologne Water Quality Control Act

The Porter-Cologne Act provides for statewide coordination of water quality regulations. The SWRCB was established as the statewide authority and nine separate RWQCBs were developed to oversee water quality on a day-to-day basis. The SWRCB is the primary agency responsible for protecting water quality in California. As discussed above, the RWQCBs regulate discharges to surface waters under the CWA. In addition, the RWQCBs are responsible for administering the Porter-Cologne Act.

Pursuant to the Porter-Cologne Act, the State is given authority to regulate waters of the state, which are defined as any surface water or groundwater, including saline waters. As such, any person proposing to discharge waste into a water body that could affect its water quality must first file a Report of Waste Discharge if Section 404 of the CWA is not required for the activity. “Waste” is partially defined as any waste substance associated with human habitation, including fill material discharged into water bodies.

Regional and Local Regulations

County of San Bernardino Land Use Services, Planning Division

According to the County’s Biotic Resources Overlay Map, the project site is located within the County of San Bernardino’s Burrowing Owl Overlay Zone. The burrowing owl (*Athene cunicularia*) is listed as an SSC by CDFW.

Rialto General Plan 2010

The primary role of Chapter 2, Managing Our Land Supply, of the Rialto General Plan (General Plan) is to direct the use of the City of Rialto’s (City) land resources in the most equitable and productive manner possible, with the aim of providing a high quality of life for residents and the overall community. The General Plan notes that Rialto is predominately developed but some areas remain substantially

undisturbed. Most undisturbed areas are in the northern portion of the City. The General Plan Managing Our Land Supply Element indicates that the City will continue to protect local biological resources through careful land designation of resource areas, and by requiring development projects proximate to wildlife corridors to incorporate mitigation measures to minimize impacts to such biological resources.

Relevant General Plan policies for biological resources are noted below. Where inconsistencies exist, if any, they are addressed in the respective impact analysis below.

Goal 2-39 Conserve and enhance Rialto's biological resources.

Policy 2-39.2 Pursue open space, wildlife corridors, or conservation easements to protect sensitive species and their habitats.

Agua Mansa Industrial Corridor Specific Plan

The Agua Mansa Industrial Corridor Specific Plan (Specific Plan) serves as the zoning ordinance for properties within the Specific Plan area. Within the Specific Plan, project site has a land use designation of Heavy Industrial (H IND). The Specific Plan states that the majority of land within the Specific Plan area has been previously disturbed. The vegetative community within the Specific Plan area consists of Coastal Sage Scrub. Additionally, undisturbed riparian habitat is present along the bank of the Santa Ana River.

City of Rialto Municipal Code

Title 18 of the Rialto Municipal Code functions as the City's Zoning Ordinance, which identifies the permitted land uses on all parcels in the City through assigned land use designations and associated land use regulations and development standards. The project site is zoned Agua Mansa Industrial Corridor Specific Plan and has a land use designation of Heavy Industrial within the Specific Plan. As discussed above, the development guidelines for Heavy Industrial land use are identified in the Agua Mansa Industrial Corridor Specific Plan.

4.3.3 Environmental Setting

Biological resources include common plant and animal species, and special-status plants and animals, as designated by the USFWS, CDFW, and, with respect to plant species, the California Native Plant Society (CNPS). Biological resources also include waters of the United States and the State of California, as regulated by the USACE and RWQCB, and streambed resources regulated by CDFW.

Vegetation

The vegetation mapping was conducted within a 61.6-acre survey area, which includes the approximately 45.7-acre project site and a 100-foot survey buffer. The survey area consists of developed land (16.8 acres), disturbed habitat (13.4 acres), mulefat scrub (0.1 acres, non-native grassland (20.5 acres), Riversidean sage scrub (3 acres), Riversidean upland sage scrub (5.5 acres), and tamarisk scrub (2.1 acres). The vegetation communities/land uses that occur within the project site are described below and depicted in **Figure 4.3-1: Existing On-Site Biological Resources**.

Brittle Brush Scrub. Brittle bush scrub is a monotypic form of sage scrub dominated by brittle bush (*Encelia farinosa*) in the shrub strata. The brittle bush scrub within the survey area supports small to medium sized woody shrubs dominated by brittle bush with open space between the shrub cover (**Figure 4.3-1**).

This vegetation community is ranked as G5/S4, meaning it is globally secure and "uncommon but not rare" in California; there is "some cause for long-term concern due to declines or other factors." Due to its CNPS ranking, CDFW does not consider brittle bush scrub habitat as a sensitive natural community under CEQA.

Brittle Brush Scrub – Disturbed. Brittle bush scrub – disturbed is composed of the same vegetation as brittle bush scrub; however, the small to medium-sized woody shrubs are sparser and the open space is disturbed with litter and/or non-native vegetation (**Figure 4.3-1**).

This vegetation community is ranked as G5/S4, meaning it is globally secure and "uncommon but not rare" in California; there is "some cause for long-term concern due to declines or other factors." Due to its CNPS ranking, CDFW does not consider brittle bush scrub - disturbed habitat as a sensitive natural community under CEQA.

California Sagebrush – (Purple Sage) Scrub. The California sagebrush – (purple sage) scrub occurs in the southeast corner of the survey area and is composed of one to two-tiered shrub layers less than five meters tall. This vegetation community is co-dominated by California sagebrush (*Artemisia californica*) and brittle bush (**Figure 4.3-1**).

This vegetation community is ranked as G5/S5, meaning it is secure globally and throughout the state. Due to its CNPS ranking, CDFW does not consider California sagebrush – (purple sage) scrub habitat as a sensitive natural community under CEQA.

California Sagebrush – (Purple Sage) Scrub – Disturbed. The California sagebrush – (purple sage) scrub – disturbed is composed of the same vegetation layers as its undisturbed community; however, the small to medium-sized woody shrubs are sparser and the open space is disturbed with litter and/or non-native vegetation. This vegetation community occurs along the western portion of the survey area (**Figure 4.3-1**).

This vegetation community is ranked as G5/S5, meaning it is secure globally and throughout the state. Due to its CNPS ranking, CDFW does not consider California sagebrush – (purple sage) scrub habitat as a sensitive natural community under CEQA.

Developed. Developed land within the project site supports little to no native vegetation and is comprised of human-made structures (buildings, pavement, fencing, etc.). The area mapped as developed within the survey area is an active truck park with graded bare ground surfaces.

Developed habitat is not recognized by CDFW; therefore, it is not considered a sensitive natural community under CEQA.

Disturbed. Disturbed habitat on-site is dominated by non-native species such as castor bean (*Ricinus communis*), tree tobacco (*Nicotiana glauca*), tocalote (*Centaurea melitensis*), short-pod mustard (*Hirschfeldia incana*), ripgut grass (*Bromus diandrus*), Russian thistle (*Salsola tragus*), and stinknet (*Oncosiphon piluliferum*). There are a few scattered native species throughout the disturbed habitat such as doveweed (*Croton setiger*), telegraph weed (*Heterotheca grandiflora*), annual bur-sage (*Ambrosia acanthacarpa*), and deerweed (*Acmispon glaber*); however, they are isolated occurrences and do not function as separate vegetation communities or land cover types. The trash and footpaths observed throughout the project site suggest frequent disturbance, and previous earth-moving activities have resulted in earthen mounds piled in the eastern portion of the project site.

Disturbed land is not recognized by CDFW; therefore, it is not considered a sensitive natural community under CEQA.

Mulefat scrub. The mulefat (*Baccharis salicifolia*) scrub within the project site occur in two small areas in the western portion of the survey area. The southern portion of mulefat thickets occurs adjacent to tamarisk (*Tamarix ramosissima*) scrub but all mulefat scrub on-site are otherwise isolated from any other areas of riparian habitat and are surrounded by upland vegetation. Mulefat is an evergreen shrub with willow-like leaves. Mulefat scrub occurs in both seasonally or intermittently flooded habitat, and stands are variable depending on the amount of inundation and scouring. Stands usually form open shrublands or thickets in riparian corridors and along lake margins.

Mulefat scrub is ranked as G4/S4. The ranking indicates that globally and statewide the alliance is considered apparently secure and "uncommon but not rare; some cause for long-term concern due to declines or other factors" therefore, CDFW does not consider this vegetation community to be special-status under CEQA.

Upland Mustards or Star Thistle Fields. Upland mustards within the survey area supports stands of short-pod mustard amongst lower numbers of other non-native species including foxtail brome (*Bromus rubens*), ripgut brome, tocalote, and Russian thistle. Upland mustard habitat occurs in the southern half of the survey area. These areas were likely historically disturbed and subsequently colonized by ruderal mustard species.

CDFW does not consider any of semi-natural stands, including upland mustards, as special-status biological resources under CEQA.

Tamarisk scrub. Tamarisk thickets occur in the northern portion of the survey area. Tamarisk species are long-lived shrubs or trees with extensive and deep root systems. This species consumes large quantities of water and have invaded the native vegetation in riparian areas where they develop dense, monospecific stands across floodplains and wetlands throughout the western United States (CNPS 2022). This vegetation community can also occur in areas that receive an increased amount of runoff from surrounding land uses. Tamarisk thickets have a rank of High under the California Invasive Plant Council (Cal-IPC 2006) and are not recognized by CDFW as a special-status vegetation community.

4.3.4 Methodology

Vegetation mapping, a general biological survey, and habitat assessments for special-status species were conducted for the survey area. The vegetation mapping, general biological survey, and habitat assessments were conducted within an approximately 61.6-acre survey area, which includes the approximately 45.7-acre project site and a 100-foot survey buffer.

Additionally, a constraints-level aquatic resources assessment was conducted for the survey area followed by a formal aquatic resources delineation to determine is the features on-site could be considered jurisdictional under the Corps pursuant to Section 404 of the CWA, under the RWQCB pursuant to Section 401 of the CWA and the Porter-Cologne Water Quality Act, and under the CDFW pursuant to Section 1602 of the CFGC. Additionally, the project site was assessed for its functionality as a regional and local wildlife corridor.

Database Research

Prior to conducting the field survey, existing information regarding biological resources present or potentially present within the survey area was obtained through a review of pertinent literature and databases, including, but not limited to:

- CDFW California Natural Diversity Database (CNDDB; CDFW 2022a)
- California Native Plant Society (CNPS) Online Inventory of Rare and Endangered Plants (CNPS 2022)
- USFWS Special-Status Species Database (USFWS 2022a)
- USFWS IPaC Database (USFWS 2022b)
- USFWS National Wetlands Inventory (NWI) Database (USFWS 2022c)
- USGS National Hydrography Dataset (NHD) Database (USGS 2022)
- CDFW Biogeographic Information and Observation System (BIOS) Database (CDFW 2022b)
- Crown Enterprises Cross Dock Project Biotic Resources Report (RBC 2017)

The CNDDB and USFWS queries were conducted for the project site plus a one-mile radius. The CNPS Electronic Inventory search was conducted for the San Bernardino South USGS 7.5' quadrangle containing the project site and the eight surrounding USGS 7.5' quadrangles, within the project site's elevation range of 700 to 1,100 feet above mean sea level (amsl).

The potential for special-status species to occur within the survey area was refined by considering the habitat affinities of each species, field habitat assessments, vegetation mapping, and knowledge of local biological resources. Additionally, the potential for occurrence tables created for the Project include all federally and state-listed species, federal and state candidate species for listing, other state-designated special-status species that have been reported within one mile of the project site (CNDDB and USFWS special-status species databases), federally listed species identified as having potential to occur based on their known or expected ranges (IPaC), as well as all species with a California Rare Plant Rank (CRPR) that occur within the nine quadrangle search.

Vegetation Mapping and General Biological Surveys

On October 14, 2021 Rocks Biological Consulting biologists Ian Hirschler and Hannah Swarthout conducted vegetation mapping by walking throughout the project site and mapping vegetation communities on aerial photographs.

Habitats were classified based on the dominant and characteristic plant species in accordance with vegetation community classifications outlined in Holland's Preliminary Descriptions of the Terrestrial Natural Communities of California. The vegetation communities were also cross walked with A Manual of California Vegetation, 2nd Edition, and the equivalent classification is provided in **Table 4.3-3: Summary of Vegetation Communities/Land Covers within the Survey Area**, below.

Rocks Biological Consulting conducted a general biological survey for plants and wildlife concurrently with vegetation mapping. Photos taken during the general biological survey are provided in **Appendix D**. Plant species encountered during the field survey were identified and recorded in a field notebook. Plant

species that could not be identified were brought to the laboratory for identification using the dichotomous keys in the Jepson Manual. A list of the vascular plant species observed in the survey area is presented in **Appendix D**.

A list of the wildlife species observed in the survey area is presented in **Appendix D**. Twilight/nighttime surveys were not conducted, therefore crepuscular and nocturnal animals are likely under-represented in the project species list; however, habitat assessments were performed for all special-status species to ensure that any potentially present rare species are adequately addressed.

Aquatic Resources Delineation

A formal aquatic resources delineation on November 2, 2022 by Rocks Biological Consulting regulatory specialists Sarah Krejca and Kelsey Woldt, to identify areas that may be considered jurisdictional under the Corps pursuant to Section 404 of the CWA, the RWQCB pursuant to Section 401 of the CWA and the Porter-Cologne Water Quality Control Act, and the CDFW pursuant to Section 1602 of the CFGC. The review area included only the project site.

Staff evaluated all areas with depressions, drainage patterns, wetland vegetation, and/or riparian vegetation within the review area for potential jurisdictional status, with focus on the presence of defined channels and/or wetland vegetation, riparian vegetation, soils, and hydrology.

Wildlife Corridors

Rocks Biological Consulting assessed the project site for its potential to serve as a wildlife corridor. A wildlife corridor can be defined as a physical feature that links wildlife habitat, often consisting of native vegetation that joins two or more larger areas of similar wildlife habitat. Corridors enable migration, colonization, and genetic diversity through interbreeding and are therefore critical for the movement of animals and the continuation of viable populations. Corridors can consist of large, linear stretches of connected habitat (such as riparian vegetation) or as a sequence of stepping-stones across the landscape (discontinuous areas of habitat such as wetlands and ornamental vegetation), or corridors can be larger habitat areas with known or likely importance to local fauna.

Regional corridors are defined as those linking two or more large patches of habitat, and local corridors are defined as those allowing resident animals to access critical resources (food, cover, and water) in a smaller area that might otherwise be isolated by urban development. A viable wildlife migration corridor consists of more than an unobstructed path between habitat areas. Appropriate vegetation communities must be present to provide food and cover for both transient species and resident populations of less mobile animals. There must also be a sufficient lack of stressors and threats within and adjacent to the corridor for species to use it successfully.

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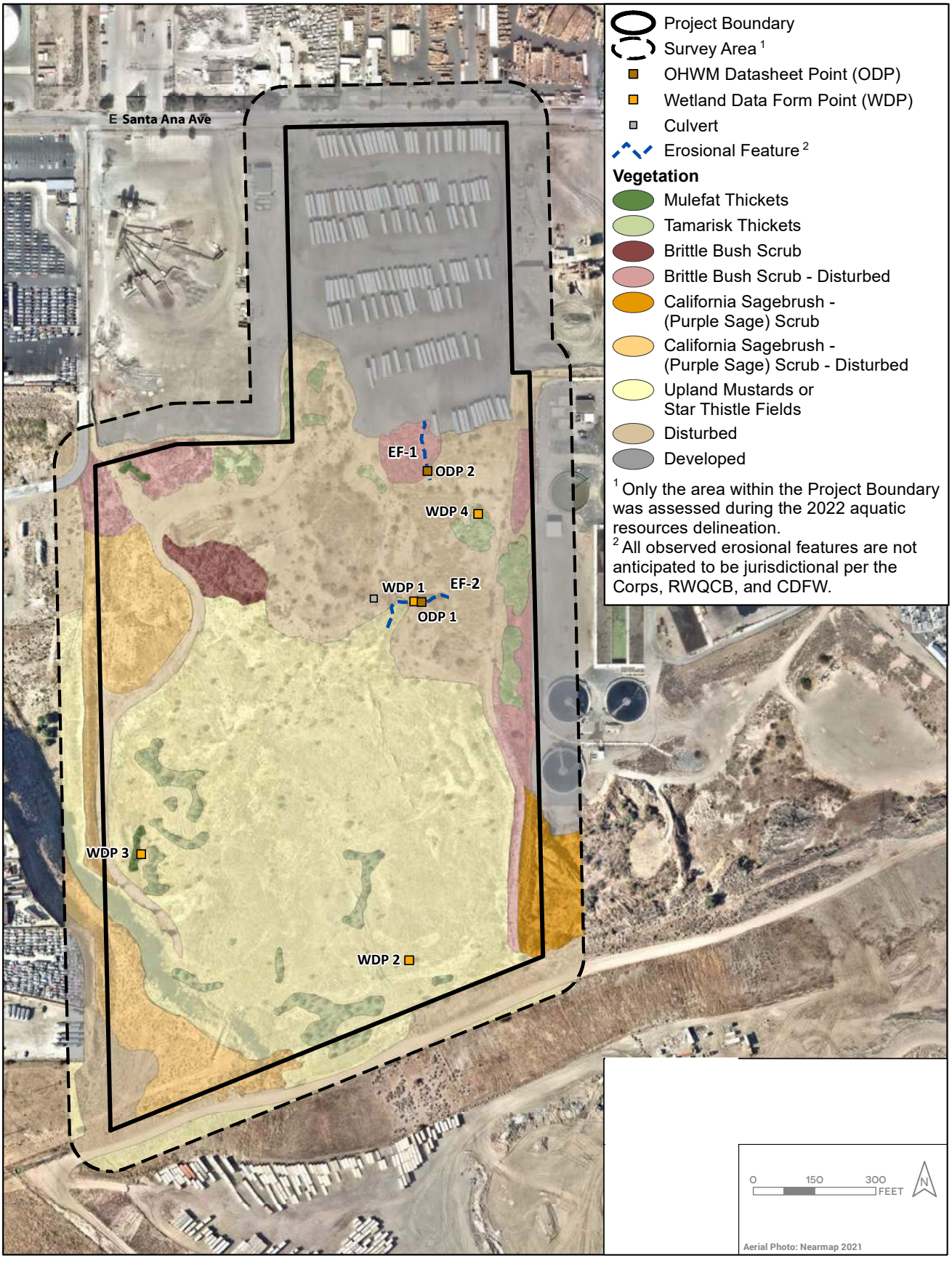

Source: Rocks Biological Consulting

Figure 4.3-1: Existing On-Site Biological Resources
Santa Ana Truck Terminal Project
Rialto, CA

Kimley»Horn

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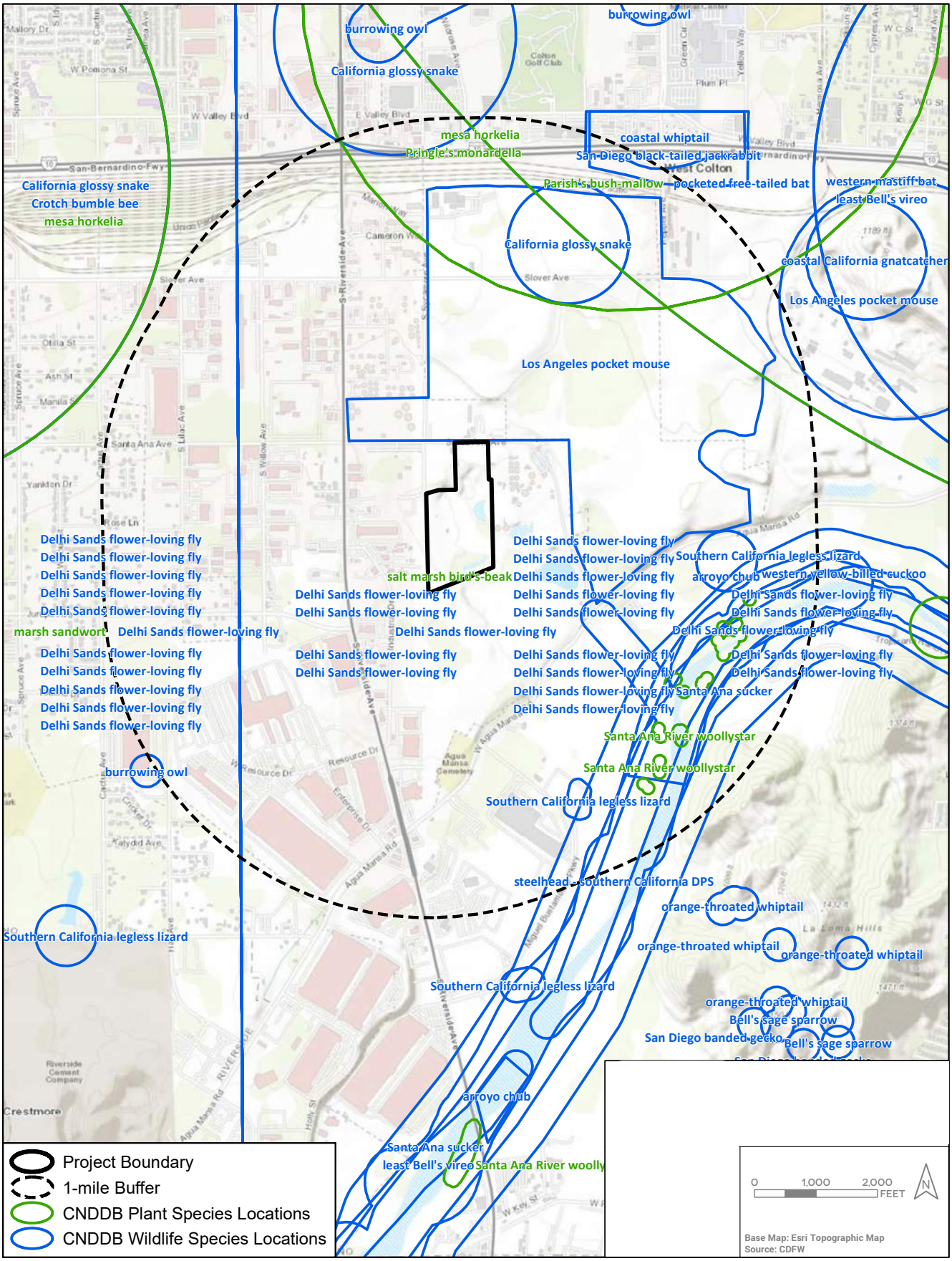

Source: Rocks Biological Consulting

Figure 4.3-2a: Existing On-Site Special Status Plants and Wildlife
Santa Ana Truck Terminal Project
Rialto, CA

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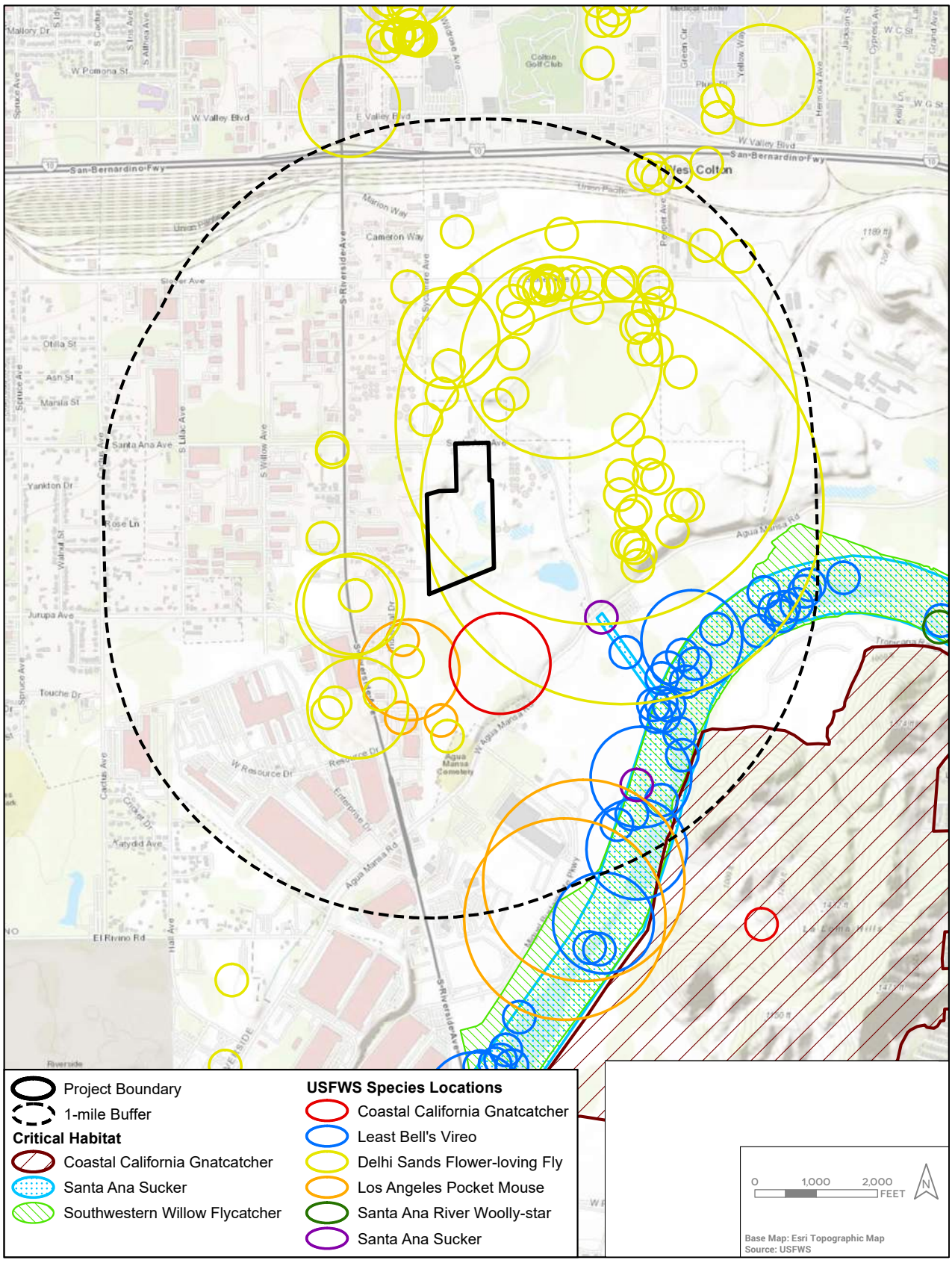

Source: Rocks Biological Consulting

Figure 4.3-2b: Existing On-Site Special Status Plants and Wildlife
Santa Ana Truck Terminal Project
Rialto, CA

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Based on database review results, habitat assessments and select focused species surveys, no CRPR listed plant or wildlife species have a moderate or high potential to occur on the project site. One CDFW species of special concern, the burrowing owl, and one CDFW watch list species, the horned lark (*Eremophila alpestris*), were observed on the project site. **Table 4.3-1: Special Status Plant and Wildlife Species – Potential for Occurrence***,* identifies the potential for special-status species to occur on the site. No federal- or state-listed endangered species were detected or have a moderate or high potential for occurrence on-site.

Table 4.3-1: Special Status Plant and Wildlife Species – Potential for Occurrence

Species	Status*	Habitat Description	Potential for Occurrence on Project Site
PLANTS			
Gambel's water cress (*Nasturtium gambelii*)	FE, ST, CRPR 1B.1	Perennial rhizomatous herb. Blooms April – October. Marshes and swamps. Elevation 15-1,085 feet.	**None.** No suitable habitat present on-site.
Marsh sandwort (*Arenia paludicola*)	FE, ST, CRPR 1B.1	Perennial herb. Blooms May – August. Freshwater marsh.	**None.** No suitable habitat present on-site.
Mesa horkelia (*Horkelia cuneata* var. *puberula*)	CRPR 1B.1	Perennial herb. Blooms February-September. Maritime chaparral, cismontane woodland, and coastal scrub. Elevation 230-2,657 feet.	**None.** The Disturbed scrub habitat and soils on-site are not suitable for this species.
Parish's bush-mallow (*Malacothamnus parishii*)	CRPR 1A	Perennial deciduous shrub. Blooms June-July. Chaparral and coastal scrub. Elevation 1,000-1,495 feet.	**None.** This perennial shrub would have been observed if present.
Parish's gooseberry (*Ribes divaricatum* var. *parishii*)	CRPR 1A	Perennial deciduous shrub. Blooms February – April. Riparian woodland. Elevation 215 – 985 feet.	**None.** No suitable habitat present on-site.
Peruvian dodder (*Cuscuta obtusiflora* var. *glandulosa*)	CRPR 2B.2	Parasitic annual vine. Blooms July – October. Marshes and swamps. Elevation 50-920 feet.	**None.** No suitable habitat present on-site.
Pringle's monardella (*Monardella pringlei*)	CRPR 1A	Annual herb. Blooms May-June. Coastal scrub (sandy). Elevation 985-1,310 feet.	**Very low.** Disturbed scrub habitat on-site is marginally suitable for this species.
Salt marsh bird's beak (*Chloropyron maritimum* ssp. *maritimum*)	FE, SE, 1B.2	Annual herb. Coastal dunes and coastal salt marshes and swamps. 0-98 feet. Blooming period: May – October.	**None.** No suitable habitat present on-site.
Santa Ana River woolystar (*Eriastrum densifolium* ssp. *sanctorum*)	FE, SE, 1B.1	Perennial herb. Blooms April-September. Chaparral and coastal alluvial fan scrub. Elevation 298-2,000 feet.	**None.** No suitable habitat present on-site.

Table 4.3-1: Special Status Plant and Wildlife Species – Potential for Occurrence

Species	Status*	Habitat Description	Potential for Occurrence on Project Site
INVERTEBRATES			
Delhi Sands flower-loving fly (*Rhaphiomidas terminatus abdominalis*)	FE	Found in sandy areas composed of Delhi fine sands, stabilized by sparse native vegetation.	**None.** No suitable Delhi fine sands soils present on site. Historically mapped Delhi fine sands soils are now eroded, compacted, and over-vegetated.
FISH			
Arroyo chub (*Gila orcuttii*)	SSC	Found in slow-flowing or backwater areas of streams or rivers with mud or sand substrates.	**None.** No suitable habitat present on-site.
Santa Ana sucker (*Catostomus santaanae*)	FT	Found in small permanent streams.	**None.** No suitable habitat present on-site.
Steelhead – Southern California DPS (*Oncorhynchus mykiss irideus* pop. 10)	FE	Inhabits small to moderately large, well-oxygenated, shallow rivers with gravel bottoms.	**None.** No suitable habitat present on-site.
REPTILES			
California glossy snake (*Arizona elegans occidentalis*)	SSC	Found in arid scrub, rocky washes, grasslands, and chaparral habitats. Prefers habitats containing open areas and loose soils for burrowing.	**Low.** Disturbed scrub habitat on-site is marginally suitable for this species.
Coastal whiptail (*Aspidoscelis tigris stejnegeri*)	SSC	A variety of rocky, sandy, dry, habitat including sage scrub, chaparral, woodlands on friable loose soil.	**Low.** Disturbed scrub habitat on-site is marginally suitable, and species typically occurs closer to the coast.
Southern California legless lizard (*Anniella stebbinsi*)	SSC	Found in a variety of habitats including coastal dunes, sandy washes, and alluvial fans, containing moist, loose soils.	**None.** No suitable habitat present on-site.
BIRDS			
Burrowing owl (*Athene cunicularia*)	SSC	Found in grasslands and open scrub from coast to foothills. Strongly associated with California ground squirrel and other fossorial mammal burrows.	**Low-moderate.** Very few suitable burrows observed on-site; however, this species is known to occur within the general area and frequently inhabits disturbed areas.
Coastal California gnatcatcher (*Polioptila californica californica*)	FT; SSC	Found in sage scrub and adjacent chaparral habitats often containing buckwheat or sagebrush.	**Low.** Disturbed scrub habitat on-site is relatively small and isolated from larger landscapes of natural habitat.
Least Bell's vireo (*Vireo bellii pusillus*)	FE (when nesting);	Riparian woodland with understory of dense young willows or mulefat and willow canopy.	**None.** No suitable habitat present on-site.

Table 4.3-1: Special Status Plant and Wildlife Species – Potential for Occurrence

Species	Status*	Habitat Description	Potential for Occurrence on Project Site
	SE (when nesting)	Nests often places along internal or external edges of riparian thickets.	
Western yellow-billed cuckoo (*Coccyzus americanus occidentalis*)	FT; SE	Exclusively inhabits large continuous riparian areas, typically near streambeds or other bodies of water.	**None.** No suitable habitat present on-site.
MAMMALS			
Los Angeles pocket mouse (*Perognathus longimembris brevinasus*)	SSC	Found in low elevation grassland, alluvial sage scrub and coastal sage scrub on sandy soils.	**Low.** Scrub habitat on site does not occur on sandy soils suitable for this species.
Pocketed free-tailed bat (*Nyctinomops femorosaccus*)	SSC	Rugged cliffs, rocky outcrops and slopes in desert scrub and pinyon-juniper woodlands.	**None.** No suitable habitat present on-site.

FE – Federally Endangered (USFWS); FT – Federally Threatened (USFWS); SE – State Endangered (CDFW); SSC – Species of Special Concern (CDFW)

*CRPR – California Rare Plant Rank
1B – Plants rare, threatened, or endangered in California and elsewhere
2B – Plants rare, threatened, or endangered in California but more common elsewhere
3 – Review List: Plants about which more information is needed
4 – Plants of limited distribution
Threat Ranks
0.1 – Seriously threatened in California (over 80% of occurrences threatened/high degree and immediacy of threat)
0.2 – Moderately threatened in California (20-80% of occurrences threatened/moderate degree and immediacy of threat)
0.3 – Not very threatened in California (less than 20% of occurrences threatened/low degree and immediacy of threat or no current threats known)

Source: **Appendix D**

Threatened and Endangered Wildlife Species

Although no focused wildlife surveys were conducted, no federally or state-listed as threatened or endangered wildlife species were observed during the general field survey.

Delhi Sands Flower-Loving Fly

The Delhi Sands Flower-Loving Fly (DSFLF) is a federally endangered species under the FESA. It is one of are more than 30 species of Rhaphiomidas distributed across the southwestern United States and northern Mexico. As with all species of Rhaphiomidas, DSFLF are associated with arid, sandy habitats. It is only found in the Colton Dunes of San Bernardino and Riverside Counties, with most occupied DSFLF habitat located within a limited area of southwestern San Bernardino County. The life history of the DSFLF is largely unknown, but the loose, sandy soils of the Delhi Sands appear to be required for oviposition. Larval stages develop completely underground and may remain subterranean for several years to emerge as adults in the summer. It is unknown what neonatal and larval flies eat or what subterranean conditions are required. Adults are most active during the warmest, sunniest parts of the day, and both males and females likely extract nectar from Eriogonum fasciculatum and other plants.

Though habitat loss is still the primary threat to the fly, the primary causes for the loss have shifted from degrading lands to a more permanent loss due to urban development. There are still various soil-

disturbing activities (i.e., disking, agriculture, development, off-road vehicles, dumping) causing degradation of DSFLF habitat as well as direct mortality of eggs, larvae, and pupae.

Delhi fine sands were historically mapped within the project site and DSFLF has been documented within one mile of the project site (**Figure 4.3-2a: Existing On-Site Special Status Plants and Wildlife** and **Figure 4.3-2b: Existing On-Site Special Status Plants and Wildlife Species**). However, the mapped Delhi fine sands in the southwestern section of the project site have been impacted by previous grading, the dumping of fill dirt, and trash, and the increase of non-native grasses and other invasive species. On February 13, 2024, RBC senior biologist Ian Hirschler and Amanda Swaller of the USFWS conducted a follow-up habitat assessment of the previously mapped Delhi fine sands on site. On February 23, 2024, the USFWS provided concurrence with RBC's assessment that there is no suitable habitat on site for DSFLF, and as such the species has no potential to occur on site.

Other Special-Status Wildlife Species

Burrowing Owl Habitat Assessment

Burrowing owl (BUOW) is a CDFW SSC at nesting sites and is federally protected by the MBTA. In California, suitable habitat for the burrowing owl is generally characterized by short, sparse vegetation with few shrubs, level to gentle topography, and well-drained soils, such as naturally occurring grassland, shrub steppe, and desert habitats. BUOW may also occur within agricultural areas, ruderal grassy fields, vacant lows, and pastures containing suitable vegetation structure and useable burrows with foraging habitat in proximity. BUOW usually use burrows dug by California ground squirrel and round-tailed ground squirrel and dens or holes dig by other fossorial species including badger and fox.

No BUOW of sign were documented in the survey area during the general biological survey and no California ground squirrels were documented on-site. However, multiple burrows/debris piles suitable for BUOW were observed throughout the survey that did not appear to be active but have the potential to support BUOW. Additionally, according to the San Bernadino County's Biotic Resources Overlay Map, the project site is located within the Burrowing Owl Overlay Zone; therefore, BUOW has a low to moderate potential to occur on-site.

This analysis of impacts on biological resources examines the Project's temporary (i.e., construction) and permanent (i.e., operational) effects-based significance criteria/threshold's application, outlined above. For each criterion, the analyses address both temporary (construction) and operational impacts, as applicable. The impact conclusions consider the potential for changes in environmental conditions, as well as compliance with the regulatory framework enacted to protect the environment.

4.3.5 Thresholds of Significance

The following significance criteria for biological resources were derived from the Environmental Checklist in State CEQA Guidelines Appendix G. An impact could be considered significant and may require mitigation if it meets one of the following criteria:

- 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 CDFW or USFWS.

- Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by the CDFW or USFWS.
- Have a substantial adverse effect on state or federal protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.
- Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.
- Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.
- Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

4.3.6 Project Impacts and Mitigation

Impact 4.3-1: Would the project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the CDFW or USFWS?

Level of Significance: Less than Significant Impact with Mitigation Incorporated

Candidate and Sensitive Plants and Wildlife Species

In the state of California, CNPS is a statewide resource conservation organization that has developed an inventory of California's sensitive plant species. The CRPR system is recognized by the CDFW and essentially serves as an early warning list of potential candidate species for threatened and endangered status. As shown in **Table 4.3-1**, one candidate species, Pringle's monardella (*Monardella pringlei*) has a very low potential to occur on-site, as habitat on-site is marginally suitable for this species.

Special-Status Plants

The Project will impact 42.4 acres of vegetation communities/land covers. No special-status plant species were observed within the project site with a moderate or high potential to occur. As such, Project implementation would not result in significant impacts to special-status plant species.

Special-Status Wildlife

Due to the heavily disturbed nature of the previously mapped Delhi fine sands on site, DSFLF has no potential to occur within the project site. Therefore, impacts on DSFLF are not anticipated.

Although the burrowing owl was not observed within the project site during the 2021 biological surveys, the species has the potential to occur on-site. As such, the Project would implement **MM BIO-1A** and **MM BIO-1B**, which would require pre-construction surveys and implementation of a Burrowing Owl Relocation and Mitigation Plan in the event avoidance is not possible. Additionally, the Project would implement **MM BIO-2**, which would require the removal of habitat that support nests located within the project site, to occur outside of breeding season.

With the implementation of mitigation measures **MM BIO-1A** through **MM BIO-2**, impacts to special status species would be less than significant.

Mitigation Program

Standard Conditions

No standard conditions are applicable.

Mitigation Measures

Agua Mansa Industrial Corridor Specific Plan EIR Mitigation Measures

No mitigation measures are applicable.

Project Mitigation Measures

MM BIO-1A Prior to the initiation of construction activities, a qualified biologist shall conduct pre-construction surveys for BUOW within suitable habitat to determine presence/absence of the species. The survey shall be conducted in accordance with the most current CDFW protocol within 30 days of site disturbance to determine whether the burrowing owl is present at the site. Pre-construction surveys shall include suitable BUOW habitat within the Project footprint and within 500 feet of the Project footprint (or within an appropriate buffer as required in the most recent guidelines and where legal access to conduct the survey exists). If BUOW are not detected during the clearance survey, no additional mitigation is required.

If BUOW is located, occupied BUOW burrows shall not be disturbed during the nesting season (February 1 through August 31) unless a qualified biologist approved by CDFW verifies through non-invasive methods that either the birds have not begun egg laying and incubation or the juveniles from the occurred burrows are foraging independently and capable of independent survival. A 500-foot non-disturbance buffer (where no work activities may be conducted) shall be maintained between Project activities and nesting BUOW during the nesting season, unless otherwise authorized by CDFW.

If BUOW is detected during the non-breeding season (September 1 through January 31) or confirmed to not be nesting, a 160-foot non-disturbance buffer shall be maintained between the Project activities and occupied burrow(s). Alternatively, a Burrowing Owl Relocation Plan may be prepared and submitted for approval by CDFW. Once approved, the Burrowing Owl Relocation Plan would be implemented to relocate non-breeding BUOW from the project site. The Burrowing Owl Relocation Plan shall detail methods and guidance for passive relocation of BUOW from the project site, provide monitoring and management of the replacement burrow sites reporting requirements, and ensure that a minimum of two suitable, unoccupied burrows are available off-site for every burrowing owl or pair of burrowing owls to be passively relocated. Compensatory mitigation of habitat would be required if occupied burrows or territories occur within the permanent impact footprints. Ratios typically include a minimum of 19.5 acres per nesting burrow lost; however, habitat compensation shall be approved by CDFW and detailed in the Burrowing Owl Relocation Plan.

MM BIO-1B If avoidance is not possible, either directly or indirectly, a Burrowing Owl Relocation and Mitigation Plan shall be prepared and submitted for approval by CDFW. Once approved, the Burrowing Owl Relocation and Mitigation Plan would be implemented to relocate non-breeding burrowing owls form the project site. the Burrowing Owl Relocation and Mitigation Plan shall detail methods for passive relocation of BUOW from the project site, provide guidance for the monitoring and management of the replacement burrow sites and associated reporting requirements, and ensure that a minimum of two suitable, unoccupied burrows are available off-site for every burrowing owl of pair of burrowing owls to be passively relocated. Compensatory mitigation of habitat would be required if occupied burrows of territories occur within the permanent impact footprint. Habitat compensation shall be approved by CDFW and detailed in the Burrowing Owl Relocation and Mitigation Plan.

MM BIO-2 To avoid direct impacts on raptors and/or native/migratory birds, removal of habitat that supports active nests in the proposed area of disturbance should occur outside of the breeding season for these species (generally February 1 to September 15). If removal of habitat in the proposed area of disturbance must occur during the breeding season, a qualified biologist shall conduct a pre-construction survey to determine the presence or absence of nesting birds in the proposed area of disturbance. The pre-construction survey shall be conducted within ten (10) calendar days prior to the start of construction activities (including removal of vegetation). If nesting birds are observed, a letter report or mitigation plan in conformance with applicable state and federal Law (i.e., appropriate follow up surveys, monitoring schedules, construction, and noise barriers/buffers, etc.) shall be prepared and include proposed measures to be implemented to ensure that take of birds or eggs or disturbance of breeding activities is avoided. The report or mitigation plan shall be submitted to the CDFW and/or USFWS, as applicable, for review and approval and implemented to the satisfaction of those agencies. The Project biologist shall verify and approve that all measures identified in the report or mitigation plan are in place prior to and/or during construction. If nesting birds are not detected during the pre-construction survey, no further mitigation is required.

Impact 4.3-2: Would the project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by the CDFW or USFWS?

Level of Significance: Less than Significant Impact

The Project would impact 42.4 acres of vegetation communities/land covers. The Project would result in impacts to non-native grassland, disturbed habitat, and developed land. The Project would impact nine vegetation communities as identified in **Table 4.3-2: Potential Project Impacts on Vegetation Communities/Land Uses**, including brittle bush scrub, California sagebrush, and mulefat thickets. However, these native vegetation communities are not considered sensitive natural communities by CDFW. Therefore, impacts on native communities would be less than significant.

Table 4.3-2: Potential Project Impacts on Vegetation Communities/Land Uses

Vegetation (Holland)[1]	Vegetation[2]	Global/State Rank	Survey Area (acres)
Developed	Developed/Disturbed	No Rank	16.8
Disturbed Habitat	Developed/Disturbed	No Rank	13.5
Mulefat Scrub	Mulefat Thickets	G5/S5	0.1
Non-native grassland	Upland Mustards or Star Thistle Fields	No Rank	20.5
Riversidean Sage Scrub	Brittle Bush Scrub	G5/S4	0.6
Riversidean Sage Scrub – Disturbed	Brittle Bush Scrub – Disturbed	G5/S4	2.4
Riversidean Upland Sage Scrub	California Sagebrush – (Purple Sage) Scrub	G5/S5	1.1
Riversidean Upland Sage Scrub – Disturbed	California Sagebrush – (Purple Sage) – Disturbed	G5/S5	4.4
Tamarisk Scrub	Tamarisk Thickets	No Rank	2.1
Total			**6.16**

1. Vegetation communities recognized by Holland
2. Vegetation Crosswalked to MCV2

Source: **Appendix D**

Mitigation Program

Standard Conditions

No standard conditions are applicable.

Mitigation Measures

Agua Mansa Industrial Corridor Specific Plan EIR Mitigation Measures

No mitigation measures are applicable.

Project Mitigation Measures

No mitigation is required.

Impact 4.3-3: Would the project have a substantial adverse effect on State or federal protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?

Level of Significance: No Impact

Project implementation is not anticipated to impact jurisdictional aquatic resources as no riparian areas, vernal pools, or other jurisdictional aquatic resources occur on the project site based on the initial aquatic resource assessment. Therefore, no impact would occur.

Mitigation Program

Standard Conditions

No standard conditions are applicable.

Mitigation Measures

Agua Mansa Industrial Corridor Specific Plan EIR Mitigation Measures

No mitigation measures are applicable.

Project Mitigation Measures

No mitigation is required.

Impact 4.3-4: Would the project interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?

Level of Significance: No Impact

The project site is not located within a known migratory wildlife corridor nor serves as wildlife nursery site. Due to the lack of regional connectivity to adjacent wildlife habitats, the Project area does not serve as a wildlife corridor; therefore, the Project would not result in significant impacts to wildlife corridors. No impact would occur.

Mitigation Program

Standard Conditions

No standard conditions are applicable.

Mitigation Measures

Agua Mansa Industrial Corridor Specific Plan EIR Mitigation Measures

No mitigation measures are applicable.

Project Mitigation Measures

No mitigation is required.

Impact 4.3-5: Would the project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

Level of Significance: Less Than Significant Impact

As previously discussed, the project site is within the Burrowing Owl Overlay Zone. As such, pre-construction surveys for burrowing owl should be conducted to determine the presence/absence within the project site. The Project would comply with the proposed avoidance and minimization measures included in the Biological Technical Report. Additionally, the project site is not located within an active HCP area or a NCCP area. The City does not have a tree preservation policy or ordinance. As such, with

the incorporation of the recommended avoidance and minimization measures, impacts would be less than significant and no mitigation is required.

Mitigation Program

Standard Conditions

No standard conditions are applicable.

Mitigation Measures

Agua Mansa Industrial Corridor Specific Plan EIR Mitigation Measures

No mitigation measures are applicable.

Project Mitigation Measures

No mitigation is required.

Impact 4.3-6: Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?

Level of Significance: Less Than Significant Impact

The project site is not located within an active HCP or NCCP. Therefore, no impact would occur and no mitigation is required.

Mitigation Program

Standard Conditions

No standard conditions are applicable.

Mitigation Measures

Agua Mansa Industrial Corridor Specific Plan EIR Mitigation Measures

No mitigation measures are applicable.

Project Mitigation Measures

No mitigation is required.

4.3.7 Cumulative Impacts

For purposes of biological resource impact analysis, cumulative impacts are considered for cumulative development according to the related projects; see **Table 4.0-1: Cumulative Projects List.** Past, present, and reasonably foreseeable future projects are required to implement measures, as set forth in their respective CEQA documents, consistent with federal, State, and local regulations to avoid adverse effects to existing biological resources or to mitigate for significant impacts to these resources. The types of measures required for projects impacting protected habitat, species, and regulated resources can include avoidance, project design features, regulatory approvals, best management practices, and mitigation measures. With mitigation, the Project would not cause a significant impact to biological resources. As discussed in this section, the project site does not contain riparian habitat or any other water resources.

Additionally, the project site does not contain waters, including wetland waters, that are subject to federal jurisdiction under Section 404 of the Clean Water Act. The project site is not located within a designated protected area, which may support species and habitats that are sensitive and rare within the region or may function as a migration corridor for wildlife. The Project would not contribute to a cumulative effect on biological resources including sensitive species, protected habitat, or wetland resources. Therefore, the Project would not contribute to a cumulatively considerable impact.

4.3.8 Level of Significance After Mitigation

With implementation of the Mitigation Program set forth in this section, potential impacts would be reduced to a level considered less than significant.

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4.4 CULTURAL RESOURCES

4.4.1 Introduction

This section provides contextual background information on resources on or near the project site for the Santa Ana Truck Terminal Project (Project), including the area's prehistoric, ethnographic, and historical settings. The extent to which development of the Project could impact existing historic or prehistoric resources is evaluated. The analysis in this section is based in part on the Cultural Resources Study Findings Memo (Cultural Resources Memo) prepared by ASM Affiliates in January 2022, which is included as **Appendix E** of this Environmental Impact Report (EIR).

State California Environmental Quality Act (CEQA) Guidelines Section 16064.5 refers to "historical resources" as being a resource listed in or eligible for listing as a significant resource in state or local registers of historical resources, or by determination of a lead agency which is supported by substantial evidence. The fact that a resource is not listed in, or determined to be eligible for listing in the California Register of Historical Resources (CRHR), not included in a local register of historical resources (pursuant to California Public Resources Code [PRC] Section 5020.1(k), or identified in an historical resources survey (meeting the criteria in PRC Section 5024.1(g) does not preclude a lead agency from determining that the resource may be an historical resource as defined in PRC Sections 5020.1(j) or 5024.1.

Tribal cultural resources as defined in PRC Section 21074 (sites, features, places, cultural landscapes, sacred places, and objectives with cultural value to a California Native American tribe) are addressed in Section 4.16, *Tribal Cultural Resources*, of this EIR. Paleontological resources are addressed in Section 4.6, *Geology and Soils*.

4.4.2 Regulatory Setting

Federal Regulations

National Historic Preservation Act of 1966

Pursuant to the National Historic Preservation Act (NHPA) of 1966, as amended, the federal government, acting through the United States Department of the Interior's National Park Service, maintains an inventory of historic and archaeological resources — referred to as the National Register of Historic Places (NRHP) — that are worthy of preservation based on meeting certain criteria. The NHPA established the Advisory Council on Historic Preservation and provided procedures for the agency to follow if a proposed action affects a property that is included or may be eligible for inclusion, on the NRHP. The NRHP was developed as a direct result of the NHPA.

The NRHP was established by the NHPA of 1966, as "an authoritative guide to be used by federal, state, and local governments, private groups, and citizens to identify the nation's cultural resources and to indicate what properties should be considered for protection from destruction or impairment" (*Code of Federal Regulations* [CFR] 36 Section 60.2). To be eligible for listing in the NRHP, a resource must be significant in American history, architecture, archaeology, engineering, or culture. A property (districts, sites, buildings, structures, and objects of potential significance) is eligible for the NRHP if it is significant under one or more of the following four established criteria:

- Criterion A: Associated with events that have made a significant contribution to the broad patterns of our history;
- Criterion B: Associated with the lives of persons significant in our past;
- Criterion C: Embody the distinctive characteristics of a type, period, or method of construction; represent the work of a master; possess high artistic values, represent a significant and distinguishable entity whose components may lack individual distinction;
- Criterion D: Have yielded, or may be likely to yield, information important in prehistory or history.

Eligible properties meet at least one of the criteria and exhibit integrity, measured by the degree to which the resource retains its historical properties and conveys its historical character, the degree to which the original fabric has been retained, and the reversibility of changes to the property.

State Regulations

California Register of Historic Resources (CRHR)

In 1992, Assembly Bill (AB) 2881 was signed into law establishing the CRHR. The CRHR is an authoritative guide in California to be used by State and local agencies, private groups, and citizens to identify the State's historical resources and to indicate what properties are to be protected, to the extent prudent and feasible, from substantial adverse change. Eligibility for the CRHR is determined by the California Office of Historic Preservation in a formal review process in which a resource is proposed for listing. A resource deemed eligible for the NRHP is typically deemed eligible for the CRHR. Certain resources are determined by the statute to be included in the CRHR, including California properties formally determined eligible for or listed in the NRHP, as well as State Landmarks and State Points of Interest. The CRHR is maintained by the Office of Historic Preservation's State Historic Preservation Officer.

For a historic resource to be listed, the resource must meet one or more of the following criteria:

A. Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;

B. Is associated with lives of persons important in our past;

C. Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values; or

D. Has yielded, or may be likely to yield, information important in prehistory or history.

California Public Resources Code

The PRC establishes the definition and criteria for historical resources. "Historical resources," according to PRC Section 5020.1(j), "includes, but is not limited to, any object, building, site, area, place, record, or manuscript which is historically or archaeologically significant, or is significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annuals of California." Section 15064.5(a) of the State CEQA Guidelines states that "generally, a resource shall be considered by the Lead Agency to be 'historically significant' if the resource meets the criteria for listing on the California Register of Historical Resources."

CEQA has established statutory requirements for the formal review and analysis of projects that fall under its jurisdiction. CEQA maintains that any property listed in, determined, or found eligible for listing in the CRHR is considered to be a "historical resource" and shall be considered historically significant. Pursuant to PRC Section 21084.1, a "project that may cause a substantial adverse change in the significance of a historical resource is a project that may have a significant effect on the environment." PRC Section 21083.2 additionally requires agencies to determine whether proposed projects would have effects on "unique archaeological resources."

Impacts to cultural resources are considered significant if a project (1) physically destroys or damages all or part of a resource; (2) changes the character of the use of the resource or physical feature within the setting of the resource that contributes to its significance; and/or (3) introduces visual, atmospheric, or audible elements that diminish the integrity of significant features of the resource.

The Lead Agency must concurrently determine whether a project will cause damage to a unique archaeological resource (as defined in PRC Section 21083.2[b]) and, if so, must make reasonable efforts to permit the resources to be preserved in place or left undisturbed. An archaeological resource must be determined to be "unique" or "historic" for an impact to the resource to be considered significant. Section 21083.2(g) of CEQA defines a unique archaeological resource as an archaeological artifact, object, or site about which it can be demonstrated that without merely adding to the existing body of archaeological knowledge, there is a high probability that it meets any of the following criteria:

1. Contains information needed to answer important scientific research questions and that there is a demonstrable public interest in that information.
2. Has a special and particular quality such as being the oldest of its type or the best available example of its type.
3. Is directly associated with a scientifically recognized important prehistoric or historic event or person.

If a resource is neither unique nor historical, the effects of a project on that resource will not be considered significant effects on the environment (CEQA Guidelines Section 15064(C)(4)).

Regional and Local Regulations

Rialto General Plan 2010

Project relevant Rialto General Plan (General Plan) policies for cultural resources are addressed below. Where inconsistencies exist, if any, they are addressed in the respective impact analysis below.

Goal 7-1 Preserve Rialto's significant historical resources as a source of community identity, stability, aesthetic character, and social value.

Policy 7-1.1 Protect the architectural, historical, agricultural, open space, environmental, and archaeological resources in Rialto.

Policy 7-1.2 Identify, through appropriate research and surveys, the historical resources in Rialto through documentation and photography.

Goal 7-3 Identify, document, and protect significant archaeological resources in Rialto.

Policy 7-3.1 Require archaeological surveys during the development review process for all projects in archaeologically sensitive areas where no previous surveys are recorded.

Policy 7-3.2 Avoid impacts to potentially significant prehistoric and historical archaeological resources and sites containing Native American human remains consistent with State law.

Policy 7-3.4 Actively pursue a comprehensive survey program to identify, document, and protect prehistoric and historical archaeological sites and sites containing Native American human remains.

City of Rialto Municipal Code

Chapter 2.20 of the Municipal Code establishes the Historical Preservation Commission. The commission is authorized to make recommendations, decisions and determinations concerning the designation, preservation, protection, enhancement, and perpetuation of these historical, and cultural resources which contribute to the culture and aesthetic values of the City. Government Code Section 37361 empowers cities to adopt regulations and incentives for the protection, enhancement, perpetuation and use of such places, buildings, structures and other objects. The adoption of reasonable and fair regulations is necessary as a means of recognition, documentation, preservation and maintenance of resources of cultural, aesthetic, or historical significance. Such regulation serves as a means to integrate the preservation of resources and the extraction of relevant data from such resources into public and private land management and development process, and to identify as early as possible and resolve conflicts between the preservation of cultural resources and alternative land uses. Chapter 2.20 is intended to carry out the goals and policies of the General Plan.

4.4.3 Environmental Setting

Natural Setting

The City is located approximately 40 miles east of the City of Los Angeles, situated at the foothills of the San Gabriel Mountains. The project site is located within the southeastern portion of the City. Elevations of the project site range from approximately 900 to 955 feet above mean seal level (amsl). The City is largely urbanized and surrounded by other developed cities; the surrounding area is similarly highly urbanized.

The project site currently features vacant, previously disturbed land. In addition, the project site is located on land previously known as the Rialto Plant (California Mine ID# 91-36-004). The State Surface Mining and Reclamation Act (SMARA) was enacted to establish State policy for the reclamation of mined lands and the conduct of surface mining operations throughout the State. As such, prior to the commencement of construction for the Project, the Rialto Plant Reclamation Plan (Reclamation Plan) must be implemented. Upon completion of implementation of the Reclamation Plan, the project site would have undergone mass grading and the project site would be relatively flat.

Prehistoric Setting

Paleoindian (Pre-6000 B.C.)

Paleoindian assemblages, referred to as the San Dieguito Complex by Kowta include large stemmed projectile points, high proportions of formal lithic tools, bifacial lithic reduction strategies, and relatively small proportions of ground stone tools. These tools suggest a reliance on hunting rather than gathering. In general, hunting-related tools are more common during this period and are replaced by processing tools during the early Holocene. However, evidence for Paleoindian habitation across southern California is rare. As the climate changed after the Pleistocene, the interior of southern California became dryer and inhabitants responded by exploiting a wider range of plant and animal species; this cultural period is often referred to as the Western Pluvial Lakes Tradition.

Milling Stone Horizon (6000 B.C. – 1000 B.C.)

The Milling Stone Horizon is characterized by the presence of hand stones, milling stones, choppers, and scrapers. These tools are thought to be associated with seed gathering and processing, as well as limited hunting activities. As such, the artifacts from this period show a major shift in the exploitation of natural resources from the hunting of large animals to a higher reliance on vegetable food sources and the hunting of smaller animals. Kowta attributed this shift to climatic change as warmer and dryer conditions prevailed. This period was marked by an increased diversification of exploited resources and economic specialization. Populations became more sedentary, often around the coastal bays and estuaries. It is believed that extensive estuarine silting caused a decline in the resources along the coast and major settlement moved inland along the river valleys within southern California. Trade between southern California area and the greater western region has been identified during this time period.

Sayles Complex (1000 B.C. – A.D. 1000)

Characteristic of the Sayles Complex (1000 B.C.-A.D. 1000) are an abundance of milling stones, hand stones, percussion-flaked core and flake tools, plano-convex scrapers and scraper planes, choppers, and hammerstones. Also present are cogstones, quartz crystals, and a variety of projectile points. Although there is a wide range of artifacts associated with the Sayles Complex, is it most commonly known for the abundance of scraper planes found in artifact collections during this time period and their use in the preparation of agave and yucca for fibers and food.

Late Prehistoric Horizon (A.D. 750 – 1750)

Like much of southern California, this horizon in the general project site is characterized by the presence of small projectile points associated with the use of bow and arrow. Steatite containers, asphaltum items, mortars and pestles, and bedrock mortars are also common artifacts. The use of bow and arrow technology and ceramics was adopted in southern California after A.D. 500 and A.D. 1000, respectively. Across southern California, mortuary practices switched from inhumations to cremations. Use of acorns as a major food staple allowed for surpluses of storable food. It is believed that social complexity increased during this time period. In general, populations focused on smaller food resources that occurred in greater quantities and the dietary importance of large mammals further declined.

Protohistoric/Ethnographic

The project site is within the ethnohistoric territory of the Gabrielino Indians, and along the border of the territory of the Serrano within the mountains. There is some disagreement regarding whether the Gabrielino or Serrano lived in the vicinity of the project site within the San Bernardino Valley during the ethnohistoric period). Both the Gabrielino and the Serrano spoke a variation of the Takic language subfamily part of the Uto-Aztecan language family.

Gabrielino

The name "Gabrielino" derived from this group's association with the San Gabriel Valley and the Mission San Gabriel de Archangel. However, in 1769, prior to Spanish contact, their territory included the watersheds of the Los Angeles, San Gabriel, and Santa Ana rivers, spanning most of the Los Angeles basin. Their southern border was at Aliso Creek, with Topanga Creek bounding their territory at the north. The project site is along the eastern border of Gabrielino territory near the base of the San Bernardino Mountains. Both permanent villages and satellite communities, occupied seasonally, were in use across their territory.

Within the interior of Gabrielino territory, the predominant food resources were acorns, sage, yucca, cacti and other plants, deer, small rodents, and other small animals. Bow and arrow were used in hunting larger animals, while snares, traps, nets, and clubs were used for smaller animals. Material culture included the use of flaked lithic tools along with mortars, metates, wooden items, baskets, and items made of shell and bone. Kroeber reports that pottery was used by the Gabrielino during the mission period but was not used prior and is not often found in archaeological sites. Many commonly used items were highly decorated by the Gabrielino, often using shell inlaid in asphaltum, rare minerals, carving, and paints.

The Gabrielino commonly used steatite which was acquired from Santa Catalina Island. Steatite was used for cooking vessels, baking slabs, mortars and pestles, beads, and decorative, ornamental, and ceremonial items. Steatite items that were used ceremonially, especially to drink tolache from, were inlaid with shell.

The Gabrielino lived in domed circular structures with a thatched roof. Much of the Gabrielino social structure was destroyed prior to the ethnographic period and remains unknown. It is believed that the Gabrielino had a hierarchical system of social classes. Villages were politically autonomous and were led by members of a dominant lineage. In addition to the political leadership, a shaman also had power over the village and was responsible for the management of ceremonies and the spiritual world. Trade with neighboring groups, especially the Serrano, Cahuilla, Chemehuevi, and Mohave was common. The Gabrielino exported steatite items in reciprocal trade relationships.

Serrano

Serrano territory encompassed the area east of the Gabrielino, generally across the San Bernardino Mountains. However, the boundaries of their territory are not as reliably defined due to a lack of historic records and a more mobile settlement pattern than the Gabrielino. The territory roughly encompassed the base of the San Bernardino Mountains from the Cajon Pass, approximately 5 miles east of the project site, north to present-day Victorville, east to Twentynine Palms, and south to the Yucaipa Valley. The name Serrano derived from the Spanish word for highland or mountain and is used to refer to the linguistic group in the Takic family. The Serrano people can be further divided into the Kitanemuk, who lived around

Tejon and Paso creeks, the Alliklik within the vicinity of the Santa Clara River, and the Vanyume along the Mohave River.

The Serrano were organized loosely into exogamous clans; however, their social structure is not well known. Each clan had a hereditary leader called a kika and a hereditary assistant chief that had ceremonial functions called a paha. Other spiritual leaders also had positions of power in the clan.

Serrano subsistence practices was largely based around gathering, hunting, and fishing. Depending on the environment, common food stables included acorns, piñon nuts, honey, mesquite, yucca, cactus, and chia seeds. Deer, mountain sheep, antelope, rabbits, other small rodents, and birds were also commonly hunted. Like the Gabrielino, bows and arrows were used to hunt for large game and curved throwing sticks, traps, snares, and deadfalls were used for smaller game.

Due to a lack of reliable year-round water sources, the Serrano lived in smaller villages than was common in the Gabrielino territory. They also largely lived in circular houses with a thatched roof; however, many of their daily activities took place within ramadas, which provided shade and blocked the wind. The house was primarily used for sleeping and storage only. The Serrano made tools from shell, wood, bone, stone, pottery, and plant fibers.

Historic Setting

In 1769, Spanish explorers established Mission San Gabriel in what is presently eastern Los Angeles County. The area that is now known as Rialto was under Spanish rule as part of the Mission San Gabriel lands until 1822, when Mexico gained its independence from Spain. After independence, Mexican land grants further divided the land into ranchos. Rancho San Bernardino (37,700 acres), granted to the Lugo family, encompassed present-day Rialto. In 1848, the United States took over the Mexican rancho land in California.

The project site is situated north of the historic community of Agua Mansa (Spanish for gentle waters), which originated from a large land grant owned by Juan Bandini which was located near the modern city of Riverside, called Rancho Jurupa. A portion of this land was donated to Spanish-speaking settlers from New Mexico and they named it Agua Mansa. The original settlement extended from Slover Mountain to the vicinity of the Riverside-San Bernardino county line. The Agua Mansa settlers subsisted on animal husbandry and farming, and at first were relatively successful. However, in 1862, a disastrous flood destroyed most of the community. New homes were built, but Agua Mansa never regained its former prosperity. The residents eventually lost control of the land to large property owners through court battles late in the nineteenth century.

Typical of many San Bernardino County towns, the area that would one day become Rialto was a fertile agricultural area, due to the warm, dry climate. The beginnings of southern California's citrus culture can be traced to the Mission San Gabriel; an orange grove encompassing 6 acres was planted on mission lands in 1804. In 1841, William Wolfskill used seedlings from the San Gabriel orchard to plant his own larger orchard. Wolfskill is credited with establishing citrus commercially. Small ranching operations were established in the Rialto area in the mid-nineteenth century. In 1887, the first railroad connection was established, and the land that now comprises Rialto was purchased by the Semi Tropic Land and Water Company. The company named the community Rialto and began development in the area. Shortly thereafter, a group of midwestern Methodists immigrated to Rialto and furthered its development. By the

late nineteenth century, Rialto was a typical small southern California agricultural community for which citrus was the main crop. In 1893, the community contained approximately 35 homes with 250 residents, a few local businesses, and a three-story Hotel del Rialto. The first citrus packing house was built in 1894, and a citrus association was established.

Rialto was officially incorporated in 1911 by the Chamber of Commerce, with 1,500 residents and 40 businesses comprising the small town. The area on South Riverside Avenue between Santa Fe station and First Street housed most businesses. Those businesses included the bank, four real estate agencies, a few grocery stores, two meat markets, two department stores, two barbershops, a weekly newspaper (Rialto Record), two garages, and two telephone companies. On the southeast corner of South Riverside Avenue and First Street stood the J. H. Crowder Building occupied by a grocery store, which has since been demolished. On the west side of South Riverside Avenue stood the offices of the Lytle Creek Water and Improvement Company. The First National Bank of Rialto opened its new building in February 1908 on the northwest corner of Riverside and Rialto avenues. In 1913, Rialto's Light and Power Company was sold to California Electric Power Company.

Citrus agriculture was the most important industry to Rialto in the twentieth century. Connections to improved transportation resulted in steady growth, as the small agricultural community was able to expand the markets for their local product. In addition to the Santa Fe railroad connection, in 1914 Los Angeles' Pacific Electric Railway completed the San Bernardino Line through the City of Rialto. Improved transportation through Rialto not only included the rail line but also the repaving of Foothill Boulevard (the main east-west transportation route) in 1913, which eventually became part of United States Highway 66, better known as the transnational Route 66. With these improved transportation connections, small local agricultural operations developed into a robust citrus packing industry with at least seven citrus packing houses located along the Santa Fe railroad tracks. A fire in the 1920s destroyed many of the buildings in downtown Rialto.

As a result of post-World War II expansion and the general population boom in southern California, Rialto also became a bedroom/commuter community to larger cities in the county and region. Between 1950 and 1980, the population of Rialto grew tenfold from 3,156 to 330,500. Today, with a population of around 100,000, only a few acres of the original citrus land are in active use, and Rialto is supported by several large retail distribution centers.

4.4.4 Methodology and Results

An archaeological and historical records search was conducted at the South Central Coastal Information Center (SCCIC) of the California Historic Resources Inventory by ASM and included the project site and a one-mile radius around the site (**Appendix E**). The search included a review of all recorded archaeological and built-environment resources as well as a review of cultural resource reports on file. Historic aerial photographs and historic USGS topographic maps of the project site were consulted.

A field survey was conducted on April 10, 2017, by ASM Senior Archaeologist, Sherri Andrews, and Assistant Archaeologist, Molly Earp-Escobar. Field methods consisted of a pedestrian survey of accessible areas on the project site using transects spaced at 15-meter intervals.

Two records searches were conducted for this Project by the SCCIC. The initial 2017 records search results identified 60 previous cultural resource studies that had been conducted within a 0.5-mile radius around

the project site. Two of the previous studies, SB-0058 and SB-009, crossed the southern portion of the project site. A supplemental records search was conducted in 2021 that encompassed a one-mile radius to determine if any additional reports or resources had been developed or documented since the time of the 2017 records search. This search resulted in the addition of 27 studies within the search radius, two of which, SB-03603 and SB-04334, were linear projects that passed along the northern portion of the project site. Additional information regarding the previous cultural resources reports is included in **Appendix E.**

The 2017 records search results indicated that a total of 13 cultural resources had been previously recorded within 0.5 miles of the project site. Three of the 13 were prehistoric, with the remaining 10 being historic, two of which were single-family residences. One of the prehistoric sites, SBR-1572, was recorded directly within the project site, with the other two prehistoric resources located to the east and the south. Prehistoric site SBR-1576, an extensive habitation site, is located approximately 0.35 miles to the east of the project site, on the same landform but separated from the project site by the wastewater treatment plant that borders the project site on the east. The 2021 records search resulted in the identification of 19 additional resources. Additional information regarding previously identified cultural resources is included in **Appendix E**.

Historical Research

Historic aerials from 1938, 1948, 1959, 1966, 1967, 1968, 1977, 1978, 1980, 1995, 2002, 2005, 2009, 2010, and 2012 were analyzed on historicaerials.com, as were historic topographic maps dated 1896, 1898, 1901, 1905, 1909, 1913, 1926, 1929, 1938, 1943, 1946, 1955, 1959, 1963, 1965, 1969, 1974, and 1981.

No structures or land use is depicted in proximity to the project site on any of the topographic maps from 1896 through 1946; however, one large and three smaller structures appear just to the northwest of the project site starting with the 1955 map. One additional structure just northeast of the larger structure appears on the 1969 map and all five structures appear through the 1974 map. On the 1981 map, the three structures at the northwest corner are no longer depicted. At no point did any structures appear directly within the project site.

The aerial photo from 1938 appears to show that the southern portion of the land had been used for agriculture, with the northwest corner 'outlined' by disturbance. The three structures at the northwest corner are already extant in the 1948 photo, but the larger structure to the east does not appear until the 1959 image. The structures at the northwest corner had already been removed as of the 1978 image. The smaller structure to the northeast of the large structure may appear on the 1967 aerial, but the image is rather blurry. It does appear from 1968 through 2012. The majority of the project site itself appears to have undergone various types of disturbances over the course of the years.

Native American Heritage Commission Sacred Lands File Search

On April 6, 2017, ASM sent a request to the Native American Heritage Commission (NAHC) to search their Sacred Lands File (SLF) to determine whether their files contained any information relating to the presence of Native American cultural resources within the project site. Response from the NAHC was received on April 10, 2017, indicating that no such resources were found as a result of the SLF search. However, the absence of specific site information in the SLF does not indicate the absence of Native American cultural

resources within the project site. A list of 25 tribal contacts who may have interest in the project site was provided with the NAHC response; this response and contact list is provided in **Appendix E**.

Pedestrian Survey Results

The project site is characterized by a large amount of disturbance from quarrying and related grading activities at the north end and a large basin at the south end. Virtually no undisturbed land surfaces remain within the project site. A small area that appears less disturbed on aerial photographs in the southwest corner of the project site was also revealed to be graded and disturbed. Two small clusters of modern refuse were found in this area near the south edge of the project site. Large amounts of twisted metal and some discarded equipment apparently related to quarrying activities were found in other portions of the parcel. There are many large vegetated 'hills' in the northern half of the parcel that are actually large push piles or piles of dirt displaced from the basin that characterizes the southern half of the project site.

Prehistoric site SBR-1542 was documented in 1956 within the central portion of the project site. It was described as "charcoal pits five to eight feet below present surface exposed in gravel pit operations" that had subsequently been destroyed by quarrying. No evidence of this site was visible during the current survey, nor were any other previously undocumented resources encountered.

4.4.5 Thresholds of Significance

State CEQA Guidelines Appendix G has been used as significance criteria in this section. A project would have a significant environmental impact if it:

- Would the project cause a substantial adverse change in the significance of a historical resource pursuant to Section 15064.5.
- Would the project cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5.
- Would the project disturb any human remains, including those interred outside of formal cemeteries.

4.4.6 Project Impacts and Mitigation

Impact 4.4-1: Would the project cause a substantial adverse change in the significance of a historical resource pursuant to Section 15064.5?

Impact 4.4-2: Would the project cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?

Level of Significance: Less than Significant Impact with Mitigation Incorporated

The records search identified 87 previous studies that had been conducted within a one-mile radius of the project site. Four previous cultural resources reports intersect the project site. Studies SB-03603 and SB-04334 intersect the northern portion of the project site, and studies SB-0058 and SB-009 intersect the southern portion of the project site.

The records search conducted for the Project found 32 cultural resources that have been previously recorded within a one-mile radius of the project site (**Appendix E**). Two previously identified cultural

resources are located within 0.5 miles of the project site. Site SBR-1572 is located within the project site and site SBR-1756 is located approximately 0.35 miles to the east of the project site.

According to the Cultural Resources Memo, the results to the records search indicate a high archaeological sensitivity for the project site. However, no cultural resources were identified within the project site during the current survey; as such, no historical resources were identified within the project site or surrounding area that would require further consideration under CEQA. Project construction would occur following implementation of the Rialto Plant Reclamation Plan, which would include mass grading and additional measures to stabilize the project site. Mass grading would include approximately 1,000 cubic yards (cy) of cut and approximately 840,000 cy of fill. Following mass grading, the project site would be relatively flat. Although historic aerial photographs and topographic maps indicate a significant amount of previous disturbance to the project site and a lack of historical habitation, the proximity of a potentially significant prehistoric site as well as the previously documented presence of a buried site within the project site indicate that there is a potential for unknown cultural resources to occur within the project site. Although the project site has been disturbed as a result of mass grading and implementation of the Rialto Plan Reclamation Plan, Mitigation Measure (**MM**) **CUL-1** and **MM CUL-2** are proposed to address the discovery of unknown cultural resources during construction activities. In the event unknown cultural resources are unearthed during Project implementation, work within a 60-foot buffer would cease until a qualified archaeologist can assess the find (**MM CUL-1**) and a Monitoring and Treatment Plan would be implemented in the event avoidance of the find cannot be ensured (**MM CUL-2**). Additionally, the Project would implement Archaeological/Historical Resource Mitigation Measures 2 and 3 of the Agua Mansa Industrial Corridor Specific Plan (Specific Plan) EIR. With incorporation of mitigation, potential impacts to historical and archaeological resources would be reduced to a less than significant level.

Mitigation Program

Standard Conditions

No standard conditions are applicable.

Mitigation Measures

Agua Mansa Industrial Corridor Specific Plan EIR Mitigation Measures: Archaeological/Historical Resources

Mitigation Measure 2: The San Bernardino County Museum Association recommends that at least some level of evaluation of potential impacts to cultural resources be undertaken by a qualified archaeologist for every proposed project within the Study Area due to the overall prehistoric and early historic significance of the region.

Mitigation Measure 3: In instances where earth movement uncovers potentially significant artifacts or fossils, work should be curtailed until a qualified specialist is retained to evaluate the significance of any finds.

Project Mitigation Measures

MM CUL-1: **Retain a Qualified Archaeologist.** Prior to the issuance of any grading permits, or any permit authorizing ground disturbance, the Project applicant shall, meeting Secretary of Interior standards and to the satisfaction of the City Planning Director, demonstrate that a qualified archaeologist has been retained to respond on an as-needed basis to address

unanticipated archaeological discoveries. In the event that cultural resources are discovered during Project activities, all work in the immediate vicinity of the find (within a 60-foot buffer) shall cease and the archaeologist shall assess the find. Work on the other portions of the project outside of the buffered area may continue during this assessment period. Additionally, the Yuhaaviatam of San Manuel Nation Cultural Resources Department (YSMN) shall be contacted, as detailed within **MM TCR-1** (refer to Section 4.16, *Tribal Cultural Resource,* of this EIR), regarding any pre-contact finds and be provided information after the archaeologist makes his/her initial assessment of the nature of the find, so as to provide Tribal input with regards to significance and treatment.

MM CUL-2: If significant pre-contact cultural resources, as defined by CEQA, are discovered and avoidance cannot be ensured, the archaeologist shall develop a Monitoring and Treatment Plan, the draft of which shall be provided to YSMN for review and comment, as detailed within **MM TCR-1** (Refer to Section 4.16, *Tribal Cultural Resource,* of this EIR). The archaeologist shall monitor the remainder of the Project and implement the Monitoring Treatment Plan accordingly.

Impact 4.4-3: Would the project disturb any human remains, including those interred outside of formal cemeteries?

Level of Significance: Less than Significant Impact with Mitigation Incorporated

The project site is not located within a known or suspected cemetery and there are no known human remains within the project site. Despite the applicable regulatory framework and the relatively low likelihood of discovery, it remains possible that the Project would discover human remains during subsurface activities, which could then result in the remains being inadvertently damaged. To reduce this potentially significant impact to a less than significant level, Standard Condition (**SC**) **CUL-1** and **MM CUL-3** would be implemented. Compliance with existing laws and the protocols described in the Mitigation Program would reduce potential impacts related to the discovery of human remains to a less than significant level.

Mitigation Program

Standard Conditions

SC CUL-1: California Health and Safety Code Section 7050.5, CEQA Section 15064.5, and Public Resources Code Section 5097.98 mandate the process to be followed in the event of an accidental discovery of any human remains in a location other than a dedicated cemetery. California Health and Safety Code Section 7050.5 requires that in the event that human remains are discovered within the project site, disturbance of the site shall be halted until the coroner has conducted an investigation into the circumstances, manner and cause of death, and the recommendations concerning the treatment and disposition of the human remains have been made to the person responsible for the excavation, or to his or her authorized representative, in the manner provided in Section 5097.98 of the Public Resources Code. If the coroner determines that the remains are not subject to his or her authority and if the coroner recognizes or has reason to believe the human remains to be those of a Native American, he or she shall contact, by telephone within 24 hours, the Native American Heritage Commission (NAHC). The NAHC will then identify the most

likely descendants (MLD) to be consulted regarding treatment and/or reburial of the remains. If an MLD cannot be identified, or the MLD fails to make a recommendation regarding the treatment of the remains within 48 hours after gaining access to the remains, the property owner shall rebury the Native American human remains and associated grave goods with appropriate dignity on the property in a location not subject to further subsurface disturbance.

Mitigation Measures

Agua Mansa Industrial Corridor Specific Plan EIR Mitigation Measures

No mitigation measures are applicable.

Project Mitigation Measures

MM CUL-3: If human remains or funerary object are encountered during any activities associated with the Project, work in the immediate vicinity (within a 100-foot buffer of the find) shall cease and the County Coroner shall be contacted pursuant to State Health and Safety Code Section 7050.5 and that code enforced for the duration of the Project.

4.4.7 Cumulative Impacts

The project site contains no known historical or archaeological resources. Despite the site-specific nature of the resources, mitigation required for the identification and protection of unknown or undocumented resources would reduce the potential for cumulative impacts. On a cumulative level, data recovered from a site, combined with data from other sites in the region, would allow for the examination and evaluation of the diversity of human activities in the region. As a result, development of the Project would not contribute to a significant cumulative impact on cultural resources.

4.4.8 Level of Significance After Mitigation

With implementation of the Mitigation Program set forth in this EIR, potential impacts to cultural resources would be reduced to a level less than significant level.

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4.5 ENERGY

4.5.1 Introduction

This section of the Environmental Impact Report (EIR) examines the existing setting as it relates to energy conservation, identifies associated regulatory conditions and requirements, and presents the criteria used to evaluate potential impacts related to use of fuel and energy upon implementation of the Santa Ana Truck Terminal Project (Project). Energy calculations for the Project are included in **Appendix F**.

4.5.2 Regulatory Setting

Federal Regulations

Energy Independence and Security Act of 2007

The Energy Independence and Security Act (EISA; Public Law 110-140) was signed into law by former President George W. Bush on December 19, 2007. The Act's goal is to achieve energy security in the United States by increasing renewable fuel production, improving energy efficiency and performance, protecting consumers, improving vehicle fuel economy, and promoting research on greenhouse gas (GHG) capture and storage. Under the EISA, the Renewable Fuel Standard (RFS2) program was expanded in several key ways:

- Expanded the RFS2 program to include diesel, in addition to gasoline;
- Increased the volume of renewable fuel required to be blended into transportation fuel from 9 billion gallons in 2008 to 36 billion gallons by 2022;
- Established new categories of renewable fuel and set separate volume requirements for each; and
- Required United States Environmental Protection Agency (EPA) to apply lifecycle GHG performance threshold standards to ensure that each category of renewable fuel emits fewer GHGs than the petroleum fuel it replaces.

The RFS2 lays the foundation for achieving significant reductions of GHG emissions from the use of renewable fuels, for reducing imported petroleum, and encouraging the development and expansion of our nation's renewable fuels sector.

The EISA also includes a variety of new standards for lighting and for residential and commercial appliance equipment. The equipment includes residential refrigerators, freezers, refrigerator-freezers, metal halide lamps, and commercial walk-in coolers and freezers.

State Regulations

California Building Energy Efficiency Standards: Title 24, Part 6 (California Energy Code)

Energy conservation standards for new residential and nonresidential buildings were adopted by the California Energy Resources Conservation and Development Commission (now the California Energy Commission) in June 1977 and are updated every three years (Title 24, Part 6, of the California Code of Regulations). Title 24 requires the design of building shells and building components to conserve energy.

The standards are updated periodically to allow for consideration and possible incorporation of new energy efficiency technologies and methods. On June 10, 2015, the CEC adopted the 2016 Building Energy Efficiency Standards, which went into effect on January 1, 2017. On May 9, 2018, the CEC adopted the 2019 Building Energy Efficiency Standards, which took effect on January 1, 2020. On August 11, 2021, the CEC adopted the 2022 Building Energy Efficiency Standards, which went into effect on January 1, 2023.

The 2016 Standards improved upon the previous 2013 Standards for new construction of and additions and alterations to residential and nonresidential buildings. Under the 2016 Standards, residential buildings are 28 percent more energy efficient and nonresidential buildings are 5 percent more energy efficient than under the 2013 Standards. Buildings that are constructed in accordance with the 2013 Building Energy Efficiency Standards are 25 percent (residential) to 30 percent (nonresidential) more energy efficient than the prior 2008 standards as a result of better windows, insulation, lighting, ventilation systems, and other features.

The 2019 Standards improve upon the 2016 Standards. Under the 2019 Title 24 standards, residential buildings are about 7 percent more energy efficient, and when the required rooftop solar is factored in for low-rise residential construction, residential buildings that meet 2019 Title 24 standards use about 53 percent less energy than those built to meet the 2016 standards.

On August 11, 2021, the CEC adopted the 2022 Title 24 standards (2022 Energy Code). Among other updates like strengthened ventilation standards for gas cooking appliances, the 2022 Energy Code includes updated standards in three major areas:

- New electric heat pump requirements for residential uses, schools, offices, banks, libraries, retail, and grocery stores.
- The promotion of electric-ready requirements for new homes including the addition of circuitry for electric appliances, battery storage panels, and dedicated infrastructure to allow for the conversion from natural gas to electricity.
- The expansion of solar photovoltaic and battery storage standards to additional land uses including high-rise multifamily residences, hotels and motels, tenant spaces, offices, (including medical offices and clinics), retail and grocery stores, restaurants, schools, and civic uses (including theaters auditoriums, and convention centers).

The California Green Building Standards Code (California Code of Regulations, Title 24, Part 11), commonly referred to as the CALGreen Code, is a statewide mandatory construction code that was developed and adopted by the California Building Standards Commission and the California Department of Housing and Community Development. CALGreen standards require new residential and commercial buildings to comply with mandatory measures under five topical areas: planning and design; energy efficiency; water efficiency and conservation; material conservation and resource efficiency; and environmental quality. CALGreen also provides voluntary measures (CALGreen Tier 1 and Tier 2) that local governments may adopt which encourage or require additional measures in the five green building topics. The most recent update to the CALGreen Code is the 2022 California Green Building Standards Code, which took effect

January 1, 2023. Projects whose permit applications are applied for on or after January 1, 2023, must comply with the 2022 Energy Code.[1]

California Public Utilities Commission Energy Efficiency Strategic Plan

The California Public Utilities Commission (CPUC) prepared an Energy Efficiency Strategic Plan in 2011 with the goal of promoting energy efficiency and a reduction in greenhouse gases. Assembly Bill 1109, adopted in 2007, also serves as a framework for lighting efficiency. This bill requires the State Energy Resources Conservation and Development Commission to adopt minimum energy efficiency standards as a means to reduce average Statewide electrical energy consumption by not less than 50 percent from the 2007 levels for indoor residential lighting and not less than 25 percent from the 2007 levels for indoor commercial and outdoor lighting by 2018. According to the Energy Efficiency Strategic Plan, lighting comprises approximately one-fourth of California's electricity use while non-residential sector exterior lighting (parking lot, area, walkway, and security lighting) usage comprises 1.4 percent of California's total electricity use, much of which occurs during limited occupancy periods.

Renewable Portfolio Standard

In 2002, California established its Renewable Portfolio Standard program with the goal of increasing the annual percentage of renewable energy in the state's electricity mix by the equivalent of at least 1 percent of sales, with an aggregate total of 20 percent by 2017. The CPUC subsequently accelerated that goal to 2010 for retail sellers of electricity (Public Utilities Code Section 399.15(b)(1)). Then-Governor Schwarzenegger signed Executive Order S-14-08 in 2008, increasing the target to 33 percent renewable energy by 2020. In September 2009, then-Governor Schwarzenegger continued California's commitment to the Renewable Portfolio Standard by signing Executive Order S-21-09, which directs the California Air Resources Board under its AB 32 authority to enact regulations to help the State meet its Renewable Portfolio Standard goal of 33 percent renewable energy by 2020. In September 2010, the California Air Resources Board adopted its Renewable Electricity Standard regulations, which require all of the State's load-serving entities to meet this target. In October 2015, then-Governor Brown signed into legislation Senate Bill 350, which requires retail sellers and publicly owned utilities to procure 50 percent of their electricity from eligible renewable energy resources by 2030. Signed in 2018, SB 100 revised SB 350's goal, revising it to achieve the 50 percent renewable resources target by December 31, 2026, and to achieve a 60 percent target by December 31, 2030. SB 100 also established a further goal to have an electric grid that is entirely powered by clean energy by 2045. Under the bill, the State cannot increase carbon emissions elsewhere in the western grid or allow resource shuffling to achieve the 100 percent carbon-free electricity target.

[1] California Energy Commission (CEC). (2023). 2022 Building Energy Efficiency Standards.https://www.energy.ca.gov/programs-and-topics/programs/building-energy-efficiency-standards/2022-building-energy-efficiency. Accessed April 2024.

Regional and Local Regulations

City of Rialto Climate Adaptation Plan

The City of Rialto Climate Adaptation Plan (Rialto CAP)[2] outlines goals to reduce energy consumption and greenhouse gas (GHG) emissions to become a more sustainable community. Goals include:

- Prevent truck routes from disproportionately impacting disadvantaged communities;
- Create a clean air checklist for new development of sensitive land uses;
- Increase use of low-emission and electric vehicles where feasible; and
- Adopt building and maintenance standards that reflect the regional best practices in reducing urban heat island effect.

Rialto General Plan 2010

The City of Rialto (City) developed and adopted the Rialto General Plan (General Plan) to include goals, policies and actions that, when implemented, provide the vision and framework for the physical development of the City. The goals and policies identified below include conservation techniques to reduce energy use and minimize depletion of energy resources. Chapter 2 of the General Plan describes the conservation goals and policies that the City of Rialto has identified for implementation to provide a high quality of life for residents and the overall community.

Goal 2-30	Incorporate green building and other sustainable building practices into development projects.
Policy 2.30.1	Explore and adopt the use of green building standards and Leadership in Energy and Environmental Design (LEED) or similar in both private and public projects.
Policy 2-30.2	Promote sustainable building practices that go beyond the requirements of Title 24 of the California Administrative Code, and encourage energy-efficient design elements, as appropriate.
Policy 2-30.3	Support sustainable building practices that integrate building materials and methods that promote environmental quality, economic vitality, and social benefit through the design, construction, and operation of the built environment.
Goal 2-31	Conserve energy resources.
Policy 2-31.1	Require the incorporation of energy conservation features into the design of all new construction and site development activities.

4.5.3 Environmental Setting

Energy consumption is analyzed in this technical memorandum due to the potential direct and indirect environmental Project impacts. Such impacts include the depletion of nonrenewable resources and emissions of pollutants during both construction and long-term operational phases.

[2] City of Rialto. (2021). Rialto Climate Adaptation Plan, https://www.yourrialto.com/DocumentCenter/View/1761/Rialto-Climate-Adaptation-Draft-Plan-July-2021. Accessed May 2024.

Electricity Services

Southern California Edison (SCE) provides electrical services to the City through State-regulated public utility contracts. Over the past 15 years, California's electricity generation has undergone a transition. Historically, California has relied heavily on oil- and gas-fired plants to generate electricity. Spurred by regulatory measures and tax incentives, California's electrical system has become more reliant on renewable energy sources (e.g., cogeneration, wind energy, solar energy, geothermal energy, biomass conversion, transformation plants, and small hydroelectric plants). Unlike petroleum production, electricity generation is not usually tied to the location of the fuel source and can be delivered great distances via the electrical grid. The generating capacity of a unit of electricity is expressed in megawatts (MW). Net generation refers to the gross amount of energy produced by a unit, minus the amount of energy the unit consumes. Generation is typically measured in megawatt-hours (MWh), kilowatt-hours (kWh), or gigawatt-hours (GWh).

Natural Gas Services

Southern California Gas Company (SoCalGas) provides natural gas services to the Project area. Natural gas is a hydrocarbon fuel found in reservoirs beneath the Earth's surface and is composed primarily of methane (CH_4). It is used for space and water heating, process heating and electricity generation, and as transportation fuel. Use of natural gas to generate electricity is expected to increase in coming years because it is a relatively clean alternative to other fossil fuels (e.g., oil and coal). In California and throughout the western United States, many new electrical generation plants fired by natural gas are being brought online. Thus, there is great interest in importing liquefied natural gas from other parts of the world. California's natural gas-fired electric generation increased by two percent in 2021, accounting for 50 percent of in-State generation.[3]

The City's ongoing development review process provides opportunities for privately owned utility companies to review, comment, and to provide input on all development proposals. The input facilitates a detailed project review by service purveyors to assess the potential demands for utility services on a project-by-project basis. The ability of utility providers to provide services concurrently with each project is evaluated during the development review process. Utility companies are bound by contract to update energy systems to meet any additional demand.

Energy Consumption

Energy consumption is typically quantified using the British Thermal Unit (BTU). Total energy consumption in California was 7,202.6 trillion BTUs in 2021 (the most recent year for which this specific data is available).[4] Of California's total annual energy consumption in 2021, the breakdown by sector is 37.8 percent transportation, 23.2 percent industrial, 19.0 percent commercial, and 20.0 percent residential.[5]

[3] CEC. (2021). 2021 Total System Electric Generation. https://www.energy.ca.gov/data-reports/energy-almanac/california-electricity-data/2021-total-system-electric-generation#:~:text=Total%20generation%20for%20California%20was,from%2090%2C208%20GWh%20in%2020. Accessed April 2024.

[4] United States Energy Information Administration (2020). Table F33: Total Energy Consumption, Price, and Expenditure Estimates, 2020. https://www.eia.gov/state/seds/sep_fuel/html/fuel_te.html. Accessed April 2024.

[5] United States Energy Information Administration. (2021). California State Profile and Energy Estimates, California Energy Consumption by End-Use Sector. https://www.eia.gov/state/?sid=CA#tabs-2. Accessed April 2024.

Electricity and natural gas in California are generally consumed by stationary users such as residences, commercial, and industrial uses, whereas petroleum consumption is generally accounted for by transportation-related energy use. In 2022, California's taxable gasoline sales (including aviation gasoline) accounted for 13,629,998,406 gallons of gasoline.[6]

The County's electricity consumption from 2012 to 2022 is shown in **Table 4.5-1: Electricity Consumption in San Bernardino County 2012-2022.** As indicated in **Table 4.5-1**, the County's energy consumption has steadily increased between 2012 and 2022.

Table 4.5-1: Electricity Consumption in San Bernardino County 2012-2022

Year	Electricity Consumption (in millions of kilowatt hours)
2012	14,308
2013	14,315
2014	14,680
2015	14,685
2016	14,902
2017	15,237
2018	15,325
2019	15,259
2020	15,910
2021	16,169
2022	16,630

Source: **Appendix F**

The County's natural gas consumption from 2012 to 2022 is shown in **Table 4.5-2: Natural Gas Consumption in San Bernardino County 2012-2022**. As shown in **Table 4.5-2**, the County's natural gas consumption relatively increased from 2012 to 2022.

Table 4.5-2: Natural Gas Consumption in San Bernardino County 2012-2022

Year	Natural Gas Consumption (in millions of therms)
2012	489
2013	511
2014	469
2015	485
2016	494
2017	493
2018	500
2019	547
2020	527
2021	561
2022	562

Source: **Appendix F**

[6] California Department of Tax and Fee Administration. (2022). 2022 – Motor Vehicle Fuel 10 Year Reports, https://www.cdtfa.ca.gov/taxes-and-fees/spftrpts.htm. Accessed April 2024.

The County's automotive fuel consumption from 2012 to 2022 is shown in **Table 4.5-3: Automotive Fuel Consumption in San Bernardino County 2012-2022**. As shown in **Table 4.5-3**, the County's on-road automotive fuel consumption relatively increased from 2012 to 2019, decreased in 2020, and increased again in 2021. Heavy-duty vehicle fuel consumption generally increased since 2012.

Table 4.5-3: Automotive Fuel Consumption in San Bernardino County 2012-2022

Year	On-Road Automotive Fuel Consumption (gallons)	Heavy-Duty Vehicle/Diesel Fuel Consumption (Construction Equipment) (gallons)
2012	823,824,155	221,468,396
2013	823,575,913	231,100,540
2014	833,908,390	233,757,358
2015	862,282,542	236,687,334
2016	886,951,688	251,535,041
2017	894,270,493	263,723,118
2018	894,127,745	259,783,109
2019	894,821,914	261,139,639
2020	763,765,305	265,477,739
2021	869,262,611	272,787,528
2022	867,249,837	276,240,473

Source: **Appendix F**

4.5.4 Methodology

This section analyzes energy use on three sources of energy that are relevant to the Project, including electricity, natural gas, and transportation fuel for vehicle trips associated with new development, as well as the fuel necessary for Project construction. The analysis of the Project's electricity and natural gas use is based on the California Emissions Estimator Model (CalEEMod), which quantifies energy use for occupancy. The results of CalEEMod are included in the Project's Air Quality Assessment (**Appendix B**), prepared by Kimley-Horn (2023). Modeling related to Project energy use was based primarily on the default settings in CalEEMod. The amount of operational fuel use was estimated using CalEEMod outputs for the Project and CARB Emissions Factor (EMFAC) 2021 computer program for typical daily fuel use in San Bernardino County. Construction fuel was calculated based on CalEEMod emissions outputs and conversion ratios from the Climate Registry. This analysis assumes an Opening Year of 2024; however, emission factors for construction would decrease over time as emissions regulations become more stringent and equipment fleets turnover. Should construction commence at a later date than what was assumed in the model, the emissions presented herein is conservative.

4.5.5 Thresholds of Significance

The following significance criteria for Energy were derived from the Environmental Checklist in State CEQA Guidelines Appendix G. An impact would be considered significant and would require mitigation if it would:

- Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation.
- Conflict with or obstruct a state or local plan for renewable energy or energy efficiency.

4.5.6 Project Impacts and Mitigation

Impact 4.5-1: Would the project result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?

Level of Significance: Less than Significant Impact

Construction-Related Energy

The energy associated with Project construction includes electricity use associated with water utilized for dust control; diesel fuel from on-road hauling trips, vendor trips, and off-road construction diesel equipment; and gasoline fuel from on-road worker commute trips. Because construction activities typically do not require natural gas, it is not included in the following discussion. The methodology for each category is discussed below. This analysis relies on the construction equipment list and operational characteristics from CalEEMod; refer to **Appendix F**. Energy consumption associated with the Project is summarized in **Table 4.5-4: Energy Use During Construction**.

Table 4.5-4: Energy Use During Construction

Project Source	Total Construction Energy[4]	San Bernardino County Annual Energy Consumption	Percentage of Countywide Consumption
Electricity Use			
Water[1]	0.0049 GWh	16,630 GWh	<0.00003%
Diesel Use			
On-Road Construction Trips[2]	32,907 gallons	280,907,070 gallons	0.0117%
Off-Road Construction Equipment[3]	55,955 gallons		0.0199%
Construction Diesel Total	88,863 gallons		0.0316%
Gasoline Use			
On-Road Construction Trips	9,250 gallons	846,846,001 gallons	0.0011%

1. Construction water use based on acres disturbed per day during grading and site preparation and estimated water use per acre.
2. On-road mobile source fuel use based on vehicle miles traveled (VMT) from CalEEMod and fleet-average fuel consumption in gallons per mile from EMFAC2021 in San Bernardino County for construction year 2024.
3. Construction fuel use was calculated based on CalEEMod emissions outputs and conversion ratios from the Climate Registry.
4. Total Construction Energy is the combined energy usage over approximately 18 months of construction.

Source: **Appendix F**

Electricity

Water for Construction Dust Control. Electricity use associated with water use for construction dust control is calculated based on total water use and the energy intensity for supply, distribution, and treatment of water. The total number of gallons of water used is calculated based on acreage disturbed during grading and site preparation, as well as the daily watering rate per acre disturbed.

- The total acres disturbed are calculated using the methodology described in Chapter 4.2 of Appendix C of the CalEEMod User's Guide, available at: http://www.caleemod.com/.
- The water application rate of 3,020 gallons per acre per day is from the Air and Waste Management Association's Air Pollution Engineering Manual (1992).

The energy intensity value is based on the CalEEMod default energy intensity per gallon of water for San Bernardino County. As summarized in **Table 4.5-4**, the total electricity demand associated with water use for construction dust control would be approximately 0.0049 GWh over the duration of construction.

Petroleum Fuel

On-Road Diesel Construction Trips. The diesel fuel associated with on-road construction mobile trips is calculated based on vehicle miles traveled (VMT) from vehicle trips (i.e., worker, vendor, and hauling), the CalEEMod default diesel fleet percentage, and vehicle fuel efficiency in miles per gallon (MPG). VMT for the entire construction period is calculated based on the number of trips multiplied by the trip lengths for each phase shown in CalEEMod. Construction fuel was calculated based on CalEEMod emissions outputs and conversion ratios from the Climate Registry. In summary, the total diesel fuel associated with on-road construction trips would be approximately 32,907 gallons over the duration of buildout of the Project; refer to **Table 4.5-4**.

Off-Road Diesel Construction Equipment. Similarly, the construction diesel fuel associated with the off-road construction equipment is calculated based on CalEEMod emissions outputs and conversion ratios from the Climate Registry. The total diesel fuel associated with off-road construction equipment is approximately 55,955 gallons for duration of buildout of the Project; refer to **Table 4.5-4**.

On-Road Gasoline Construction Trips. The gasoline fuel associated with on-road construction mobile trips is calculated based on VMT from vehicle trips (i.e., worker, vendor, and hauling), the CalEEMod default gasoline fleet percentage, and vehicle fuel efficiency in MPG using the same methodology as the construction on-road trip diesel fuel calculation discussed above. The total gasoline fuel associated with on-road construction trips would be approximately 9,250 gallons over the duration of buildout of the Project; refer to **Table 4.5-4**.

In total, construction of the Project would use approximately 0.0049 GWh of electricity, 9,250 gallons of gasoline, and 88,863 gallons of diesel. In 2022, San Bernardino County used 16,630 GWh of electricity. Project construction electricity use would represent less than 0.0001 percent of the current electricity use in San Bernardino County.

In 2024, the year Project construction is anticipated to commence, San Bernardino County is anticipated to use approximately 846,846,001 gallons of gasoline and approximately 280,907,070 gallons of diesel fuel. During construction, gasoline fuel consumption would constitute 0.0011 percent of average annual gasoline usage in the County and diesel fuel consumption would constitute 0.0316 percent of average annual diesel used in the County. Based on the Project's relatively low construction fuel use proportional to annual County use, the Project would not substantially affect existing energy fuel supplies or resources. New capacity or additional sources of construction fuel are not anticipated to be required.

Transportation fuels (gasoline and diesel) are produced from crude oil, which can be domestic or imported from various regions around the world. Based on current proven reserves, current crude oil production would be sufficient to meet 50 years of worldwide consumption.[7] As such, it is expected that existing and

[7] BP Global. (2021). Statistical Review of World Energy. https://www.bp.com/content/dam/bp/business-sites/en/global/corporate/pdfs/energy-economics/statistical-review/bp-stats-review-2021-full-report.pdf. Accessed April 2024.

planned transportation fuel supplies would be sufficient to serve the Project's temporary construction demand.

SCE's total energy sales are projected to be 101,958 GWh of electricity in 2024.[8] Therefore, the Project's construction-related annual electricity consumption of 0.0049 GWh would represent less than 0.0001 percent of SCE's projected annual sales. Thus, it is anticipated that SCE's existing and planned electricity capacity and electricity supplies would be sufficient to serve the Project's temporary construction electricity demand.

Furthermore, there are no unusual characteristics that would necessitate the use of construction equipment that would be less energy-efficient than at comparable construction sites in the region or State. In addition, some energy conservation would occur during construction through compliance with State requirements that equipment not in use for more than five minutes be turned off. Project construction equipment would also be required to comply with the latest EPA and CARB engine emissions standards. These engines use highly efficient combustion engines to minimize unnecessary fuel use.

The Project would have construction activities that would use energy, primarily in the form of diesel fuel (e.g., mobile construction equipment) and electricity (e.g., power tools). Contractors would be required to monitor air quality emissions of construction activities using applicable regulatory guidance such as from South Coast Air Quality Management District (SCAQMD) CEQA Guidelines. Additionally, construction is subject to and would comply with California regulations (e.g., California Code of Regulations, Title 13, Sections 2485 and 2449), which reduce diesel particulate matter and criteria pollutant emissions from in-use off-road diesel-fueled vehicles and limit the idling of heavy-duty construction equipment to no more than five minutes. This requirement indirectly relates to construction energy conservation because when air pollutant emissions are reduced from the monitoring and the efficient use of equipment and materials, energy use is reduced. There are no aspects of the Project that would foreseeably result in the inefficient, wasteful, or unnecessary use of energy during construction activities.

Due to increasing transportation costs and fuel prices, contractors and owners have a strong financial incentive to avoid wasteful, inefficient, and unnecessary use of energy during construction. There is growing recognition among developers and retailers that sustainable construction is not prohibitively expensive and that there is a significant cost-savings potential in green building practices. Substantial reduction in energy inputs for construction materials can be achieved by selecting building materials composed of recycled materials that require substantially less energy to produce than non-recycled materials. The Project-related incremental increase in the use of energy bound in construction materials such as asphalt, steel, concrete, pipes, and manufactured or processed materials (e.g., lumber and gas) would not substantially increase demand for energy compared to overall local and regional demand for construction materials. It is reasonable to assume that production of building materials such as concrete, steel, etc., would employ all reasonable energy conservation practices in the interest in minimizing the costs of business.

As described above, the Project's fuel from the entire construction period would increase fuel use in the County by less than one percent. It should be noted that the State CEQA Guidelines Appendix G and Appendix F criteria require the Project's effects on local and regional energy supplies and on the requirements for additional capacity to be addressed. A less than one percent increase in construction

[8] CEC. (2023). CED 2021 Baseline Forecast – SCE High Demand Case. Accessed April 2024.

fuel demand is not anticipated to trigger the need for additional capacity. Additionally, use of construction fuel would be temporary and would cease once the Project is fully developed. As such, Project construction would have a nominal effect on the local and regional energy supplies.

As stated above, there are no unusual characteristics that necessitate the use of construction equipment that would be less energy-efficient than at comparable construction sites in the region or State. Therefore, it is expected that construction fuel use associated with the Project would not be any more inefficient, wasteful, or unnecessary than other similar development projects of this nature. Therefore, potential impacts are considered less than significant.

Operational Energy

The energy consumption associated with Project operations would occur from building energy (electricity and natural gas) use, water use, and transportation-related fuel use. The Project is anticipated to be operational in 2026. The Project's annual energy use during operations is shown in **Table 4.5-5: Annual Energy Use During Operations**. The methodology for each category is discussed below.

Table 4.5-5: Annual Energy Use During Operations

Project Source	Project Annual Energy Consumption	San Bernardino County Annual Energy Consumption	Percentage of Countywide Consumption	Project Annual Energy Consumption	San Bernardino County Annual Energy Consumption	Percentage of Countywide Consumption
	Unmitigated			Mitigated		
Electricity Use						
Area[1,3]	2.3497 GWh	16,630 GWh	0.0141%	0 GWh	16,630 GWh	0.0000%
Water[1]	0.3222 GWh		0.0020%	0.3060 GWh		0.0018%
Total Electricity	2.6719 GWh		0.0161%	0.3060 GWh		0.0018%
Natural Gas Use						
Area[1,3]	42,663 therms	562,123,065 therms	0.0076%	42,663 therms	562,123,065 therms	0.0076%
Diesel Use						
Mobile[2]	1,105,527 gallons	281,589,289 gallons	0.3926%	1,105,527 gallons	281,589,289 gallons	0.3926%
Gasoline Use						
Mobile[2]	100,051 gallons	811,280,390 gallons	0.0123%	100,051 gallons	811,280,390 gallons	0.0123%

1. The electricity, natural gas, and water usage are based on Project-specific estimates and CalEEMod defaults.
2. Calculated based on the mobile source fuel use based on vehicle miles traveled (VMT) and fleet-average fuel consumption (in gallons per mile) from EMFAC2021 for operational year 2026.
3. Mitigated energy consumption includes implementation of Mitigation Measure GHG-1 requires the installation of photovoltaic solar panels to offset energy emissions and Mitigation Measure GHG-2 requires buildings to meet or exceed CALGreen Tier 2 standards (refer to the Projects Greenhouse Gas Emissions Assessment).

Source: **Appendix F.**

***Petroleum Fuel*.** The gasoline and diesel fuel associated with on-road vehicular trips is calculated based on total VMT calculated for the analyses within CalEEMod and average fuel efficiency from the EMFAC model. As summarized in **Table 4.5-5**, the Project's total unmitigated gasoline and diesel fuel would be approximately 1,105,527 gallons per year and 100,051 gallons per year, respectively.

***Electricity*.** The electricity use during Project operation is based on CalEEMod defaults. The Project's total unmitigated electricity consumption would be approximately 2.6719 GWh of electricity on-site per year; refer to **Table 4.5-5**. The electricity associated with operational water use is estimated based on the annual water use and the energy intensity factor is the CalEEMod default energy intensity per gallon of water for San Bernardino County. Project area water use is based on the CalEEMod default rates. The Project would use approximately 49 million gallons annually of water which would require approximately 0.3222 GWh per year for conveyance and treatment. The Project's Greenhouse Gas Emissions Assessment (**Appendix I**) includes Mitigation Measures (**MM**) **GHG-1** and **GHG-2**, which would also reduce electricity consumption. As discussed in the Greenhouse Gas Emissions Assessment, **MM GHG-1** requires the installation of photovoltaic solar panels to offset energy emissions and **MM GHG-2** requires buildings to meet or exceed CALGreen Tier 2 standards. With implementation of **MM GHG-1** and **MM GHG-2**, the total mitigated electricity consumption would be approximately 0.3060 GWh per year. Additionally, the Project would implement Public Services and Utilities Mitigation Measure 5 of the Agua Mansa Industrial Corridor Specific Plan EIR, which would require the Project to incorporate water conservation measures such as low-flow fixtures and installation of drought resistant vegetation and drip irrigation systems.

***Natural Gas*.** The methodology used to calculate the natural gas use associated with the Project is based on CalEEMod default rates. The Project's total unmitigated natural gas consumption would be approximately 42,663 therms per year; refer to **Table 4.5-5**.

As shown in **Table 4.5-5**, the Project's electricity, natural gas, and automotive fuel consumption over existing conditions is minimal (less than one percent). For the reasons described above, the Project would not place a substantial demand on regional energy supply or require significant additional capacity, or significantly increase peak and base period electricity demand. Thus, the Project would not cause a wasteful, inefficient, and unnecessary consumption of energy during Project operations or preempt future energy development or future energy conservation. Therefore, impacts associated with operational energy use would be less than significant.

Mitigation Program

Standard Conditions

No standard conditions are applicable.

Mitigation Measures

Agua Mansa Industrial Corridor Specific Plan EIR Mitigation Measures: Public Services and Utilities

Mitigation Measure 5: To assure adequate levels of water conservation, each specific development should be required to install water conservation measures, such as low-flow fixtures, drought resistant vegetation and drip irrigation systems.

Project Mitigation Measures

Additional details regarding Mitigation Measures **GHG-1** through **GHG-2** are included in Section 4.7, *Greenhouse Gas Emissions*.

Impact 4.5-2: Would the project conflict with or obstruct a State or Local plan for renewable energy or energy efficiency?

Level of Significance: Less than Significant Impact

Title 24 of the California Code of Regulations contains energy efficiency standards for residential and non-residential buildings based on a state mandate to reduce California's energy demand. Specifically, Title 24 addresses a number of energy efficiency measures that impact energy used for lighting, water heating, heating, and air conditioning, including the energy impact of the building envelope such as windows, doors, skylights, wall/floor/ceiling assemblies, attics, and roofs.

Part 6 of Title 24 specifically establishes energy efficiency standards for residential and nonresidential buildings constructed in the State of California in order to reduce energy demand and consumption. The Project would comply with Title 24, Part 6 per state regulations. In accordance with Title 24 Part 6, the Project would have: (a) sensor-based lighting controls— for fixtures located near windows, the lighting would be adjusted by taking advantage of available natural light; and (b) efficient process equipment— improved technology offers significant savings through more efficient processing equipment.

Title 24, Part 11, contains voluntary and mandatory energy measures that are applicable to the Project under the California Green Building Standards Code. As discussed above, the Project would result in an increased demand for electricity, natural gas, and petroleum. In accordance with Title 24 Part 11 mandatory compliance, the Applicant would have (a) 50 percent of its construction and demolition waste diverted from landfills; (b) mandatory inspections of energy systems to ensure optimal working efficiency; (c) low pollutant emitting exterior and interior finish materials, such as paints, carpets, vinyl flooring and particle boards; and (d) a 20% reduction in indoor water use. Compliance with all of these mandatory measures would decrease the consumption of electricity, natural gas, and petroleum.

The Project would not conflict with any of the federal, state, or local plans for renewable energy and energy efficiency. Because the Project would comply with Parts 6 and 11 of Title 24, no conflict with existing energy standards and regulations would occur. Therefore, impacts associated with renewable energy or energy efficiency plans would be considered less than significant.

Mitigation Program

Standard Conditions

No standard conditions are applicable.

Mitigation Measures

Agua Mansa Industrial Corridor Specific Plan EIR Mitigation Measures

No mitigation measures are applicable.

Project Mitigation Measures

No mitigation is required.

4.5.7 Cumulative Impacts

Construction and operations associated with implementation of the Project would result in the use of energy, but not in a wasteful manner. The use of energy would not be substantial in comparison to

statewide electricity, natural gas, gasoline, and diesel demand. As discussed above, the project-related construction electricity consumption would represent approximately 0.0001 percent of SCE generated electricity. Therefore, the Project's construction electricity consumption would be negligible relative to SCE's generated electricity and electricity supplies would be sufficient to serve the Project's temporary construction electricity demand.

SCE would review the Project's estimated electricity consumption in order to ensure that the estimated power requirement would be part of the total load growth forecast for their service area and accounted for in the planned growth of the power system. The Project's natural gas consumption would be approximately 42,663 therms per year. It should be noted that the planning projections of SCE and SoCalGas consider planned development for their service areas and are in and of themselves providing for cumulative growth. Therefore, it is likely that the cumulative growth associated with the related projects is already accounted for in the planning of future supplies to cover projected demand.

Furthermore, transportation fuels (gasoline and diesel) are produced from crude oil, which can be domestic or imported from various regions around the world. Based on current proven reserves, current crude oil production would be sufficient to meet 50 years of worldwide consumption.[9] As such, it is expected that existing and planned transportation fuel supplies would be sufficient to serve the Project's construction and operational demand. New capacity or supplies of energy resources would not be required. Additionally, the Project would be subject to compliance with all federal, State, and local requirements for energy efficiency.

The Project and new development projects located within the cumulative study area would also be required to comply with all the same applicable federal, State, and local measures aimed at reducing fossil fuel consumption and the conservation of energy. The anticipated Project impacts, in conjunction with cumulative development in the vicinity, would increase urbanization and result in increased energy use. Potential land use impacts are site-specific and require evaluation on a case-by-case basis. As noted above, the Project would not result in significant impacts to State or local plans for renewable energy or energy efficiency. Therefore, the Project and identified cumulative projects are not anticipated to result in a significant cumulative impact. Therefore, potential impacts are considered less than significant.

4.5.8 Level of Significance After Mitigation

The Project would incorporate **MM GHG-1** through **MM GHG-2**, to reduce impacts associated with petroleum during construction activities. Implementation of **MM GHG-1** through **MM GHG-2** would reduce potential impacts to a less than significant level.

[9] BP Global (2021). Statistical Review of World Energy. https://www.bp.com/content/dam/bp/business-sites/en/global/corporate/pdfs/energy-economics/statistical-review/bp-stats-review-2021-full-report.pdf. Accessed April 2024.

4.6 GEOLOGY AND SOILS

4.6.1 Introduction

This section of the Environmental Impact Report (EIR) describes the existing setting of the project site as it relates to geology and soils; identifies applicable regulatory conditions and requirements; presents the criteria used to evaluate potential impacts on geology and soils; and identifies measures to reduce or avoid significant impacts. Information used to prepare this section include the Preliminary Geotechnical Investigation (Geotechnical Investigation), prepared by LOR Geotechnical Group, Inc. and the Paleontological Resources Search Results, prepared by the Natural History Museum of Los Angeles County, which are provided as **Appendix G** and **Appendix H** to this EIR.[1]

4.6.2 Regulatory Setting

Federal Regulations

Alquist-Priolo Earthquake Fault Zoning Act of 1972

The Alquist-Priolo Earthquake Fault Zoning Act, Public Resources Code (PRC), Sections 2621–2630, regulates development and construction of buildings intended for human occupancy to avoid the hazard of surface fault rupture. The Alquist-Priolo Earthquake Fault Zoning Act categorizes faults as active, potentially active, and inactive. Historic and Holocene age faults are considered active, Late Quaternary and Quaternary age faults are considered potentially active, and pre-Quaternary age faults are considered inactive. These classifications are qualified by the conditions that a fault must be shown to be "sufficiently active" and "well defined" by detailed site-specific geologic explorations to determine whether building setbacks should be established.

Seismic Hazards Mapping Act

The Seismic Hazards Mapping Act of 1990, PRC Sections 2690–2699, directs the California Department of Conservation, California Geological Survey (CGS) to delineate Seismic Hazard Zones. The purpose of the Seismic Hazards Mapping Act is to reduce the threat to public health and safety and to minimize the loss of life and property by identifying and mitigating seismic hazards. Cities, counties, and State agencies are directed to use seismic hazard zone maps developed by CGS in their land-use planning and permitting processes. The act requires that site-specific geotechnical investigations be performed prior to permitting most urban development projects within seismic hazard zones.

Earthquake Hazards Reduction Act

The Earthquake Hazards Reduction Act of 1977 (Public Law 95-124) established the National Earthquake Hazards Reduction Program (Program) which is coordinated through the Federal Emergency Management Agency, the United States Geological Survey (USGS), the National Science Foundation, and the National Institute of Standards and Technology. The purpose of the Program is to establish measures for earthquake hazards reduction and promote the adoption of earthquake hazards reduction measures by federal, State, and local governments; national standards and model code organizations; architects and

[1] The Preliminary Geotechnical Investigation prepared for the Project was prepared in 2016. As such, the project site has undergone minor changes over the years. However, the nature of the Project has not changed significantly since the preparation of the Preliminary Geotechnical Investigation, and no additional impacts are anticipated to occur.

engineers; building owners; and others with a role in planning and constructing buildings, structures, and lifelines through (1) grants, contracts, cooperative agreements, and technical assistance; (2) development of standards, guidelines, and voluntary consensus codes for earthquake hazards reduction for buildings, structures, and lifelines; and (3) development and maintenance of a repository of information, including technical data, on seismic risk and hazards reduction. The Program is intended to improve the understanding of earthquakes and their effects on communities, buildings, structures, and lifelines through interdisciplinary research that involves engineering, natural sciences, and social, economic, and decisions sciences.

Clean Water Act Section 402

Section 402 of the Clean Water Act authorizes the State Water Resources Control Board (SWRCB), a department of the California Environmental Protection Agency (CalEPA), to issue National Pollutant Discharge Elimination System (NPDES) General Construction Storm Water Permit (Water Quality Order 99-08-DWQ), referred to as the "General Construction Permit." Construction activities can comply with and be covered under the General Construction Permit provided they:

- Develop and implement a Storm Water Pollution Prevention Plan (SWPPP) which specifies Best Management Practices (BMPs) that will prevent all construction pollutants from contacting storm water and with the intent of keeping all products of erosion from moving off-site into receiving waters;
- Eliminate or reduce non-storm water discharges to storm sewer systems and other waters of the nation; and
- Perform inspections of all BMPs.

The SWPPP must contain a visual monitoring program; a chemical monitoring program for "non-visible" pollutants to be implemented if there is a failure of BMPs; and a sediment monitoring plan if the construction site discharges directly to a water body listed on the 303(d) list for sediment. Increased compliance tasks under the adopted 2009 Construction General Permit include project risk evaluation, effluent monitoring, receiving water monitoring, electronic data submission of the SWPPP and all other permit registration documents, and a Rain Event Action Plan (REAP), which must be designed to protect all exposed portions of a project site within 48 hours prior to any likely precipitation event. The SWPPP would also include an Erosion Control Plan that would identify specific measures to control on-site and off-site erosion from the time ground disturbing activities are initiated through completion of grading. The Erosion Control Plan would be included with a project's grading plan and would be subject to approval by the City Engineer.

Standard Procedures for the Assessment and Mitigation of Adverse Impacts to Paleontological Resources

The Standard Procedures for the Assessment and Mitigation of Adverse Impacts to Paleontological Resources outlines methods for assessing potential impacts to fossils and mitigating impacts from development. Impact mitigation includes pre-project survey and salvage, monitoring and screen washing during excavation to salvage fossils, conservation and inventory, and final reports and specimen curation.

Measures for adequate protection or salvage of significant paleontological resources are applied to areas determined to contain rock units that have either a high or undetermined potential for containing

significant fossils. Specific mitigation measures generally need not be developed for areas of low paleontological potential. Developers (public and private) and contractors should be made aware, however, that if there is not an on-site monitor it will be necessary to contact a qualified professional paleontologist if fossils are unearthed in the course of excavation. This contingency should be planned for in advance. In order to save time and project delays, in the advance planning phases of a project, the developer should contact a qualified professional paleontologist and arrange for the salvage of any unanticipated fossils. The paleontologist will then salvage the fossils and assess the necessity for further mitigation measures, if applicable. Decisions regarding the intensity of the paleontological resource impact mitigation program will be made by the project paleontologist on the basis of the significance of the paleontological resources, and their biostratigraphic, biochronologic, paleoecologic, taphonomic, and taxonomic attributes, not on the ability of a project proponent to fund the paleontological resource impact mitigation program.

All phases of mitigation must be supervised by a qualified professional paleontologist who maintains the necessary paleontological collecting permits and repository agreements. All field teams will be supervised by a paleontologist qualified to deal with the significant resources that might be encountered. The lead agency must assure compliance with the measures developed to mitigate impacts of excavation. To assure compliance at the start of a project, a statement that confirms a site's paleontological potential, confirms the repository agreement with an established public institution, and describes the program for impact mitigation, must be deposited with the lead agency and contractor(s) before any ground disturbance begins. In many cases, it will be necessary to conduct a salvage program prior to grading to prevent damage to known paleontological resources and to avoid delays to construction schedules. The impact mitigation program must include preparation, identification, cataloging, and curation of any salvaged specimens. All field notes, photographs, stratigraphic sections, and other data associated with the recovery of the specimens must be deposited with the institution receiving the specimens. Since it is not professionally acceptable to salvage specimens without preparation and curation of specimens and associated data, costs for this phase of the program must be included in the project budget. The mitigation program must be reviewed and accepted by the lead agency. If a mitigation program is initiated early during the course of project planning, construction delays due to paleontological salvage activities can be minimized or even completely avoided.

State Regulations

2022 California Building Standards Code

The 2022 California Building Code (CBC) is based on the 2021 International Building Code (IBC). The purpose of the CBC is to establish uniform standards for the construction and maintenance of buildings, electrical systems, plumbing systems, mechanical systems, and fire and life safety systems. The CBC is another name for the body of regulations known as the California Code of Regulations (CCR), Title 24, Part 2, which is a portion of the California Building Standards Code and establishes minimum requirements for a building's structural strength and stability to safeguard the public health, safety, and general welfare and are updated every three years. Title 24 is assigned to the California Building Standards Commission, which, by law, is responsible for coordinating all building standards. Under State law, all building standards must be centralized in Title 24 or they are not enforceable.

California Health and Safety Code

Section 19100 et seq. of the California Health and Safety Code establishes the State's regulations for earthquake protection. This section of the code requires structural designs to be capable of resisting likely stresses produced by phenomena such as strong winds and earthquakes.

California Penal Code Section 622.5

2020 California Penal Code Part 1- Of Crimes and Punishments Title 14 – Malicious Mischief Section 622½ states "Every person, not the owner thereof, who willfully injures, disfigures, defaces, or destroys any object or thing of archeological or historical interest or value, whether situated on private lands or within any public park or place, is guilty of a misdemeanor."

Public Resources Code Section 5097.5

Requirements for paleontological resource management are included in PRC Division 5, Chapter 1.7, Section 5097.5, and Division 20, Chapter 3, Section 30244, which state:

> *No person shall knowingly and willfully excavate upon, or remove, destroy, injure or deface any historic or prehistoric ruins, burial grounds, archaeological or vertebrate paleontological site, including fossilized footprints, inscriptions made by human agency, or any other archaeological, paleontological or historical feature, situated on public lands, except with the express permission of the public agency having jurisdiction over such lands. Violation of this section is a misdemeanor.*

These statutes prohibit the removal, without permission, of any paleontological site or feature from lands under the jurisdiction of the state or any city, county, district, authority, or public corporation, or any agency thereof. Consequently, local agencies are required to comply with PRC Section 5097.5 for their own activities, including construction and maintenance, as well as for permit actions (e.g., encroachment permits) undertaken by others. Public Resources Code Section 5097.5 also establishes the removal of paleontological resources as a misdemeanor and requires reasonable mitigation of adverse impacts to paleontological resources from developments on public (State, county, city, and district) lands.

California Public Resource Code 5097.52020

California Public Resources Code Division 5 – Parks and Monuments Chapter 1.7 – Archaeological, Paleontological, and Historical Sites Section 5097.5 states:

> *A person shall not knowingly and willfully excavate upon, or remove, destroy, injure, or deface, any historic or prehistoric ruins, burial grounds, archaeological or vertebrate paleontological site, including fossilized footprints, inscriptions made by human agency, rock art, or any other archaeological, paleontological or historical feature, situated on public lands, except with the express permission of the public agency having jurisdiction over the lands.*

Seismic Hazards Mapping Act

The Seismic Hazards Mapping Act (SHMA) of 1990 requires the CGS to identify and map areas that are prone to earthquake hazards, including liquefaction, earthquake-induced landslides, and ground shaking.

The SHMA was implemented with the purpose of reducing and mitigating the potential threat of seismic hazards to the public.

Regional and Local Regulations

Rialto General Plan 2010

The Rialto General Plan (General Plan) Safety and Noise Element notes that the City of Rialto (City) emphasizes a proactive approach to planning which involves mitigating hazards present in the environment that may adversely affect property and threaten lives. Rialto recognizes the importance of providing a safe living environment for its residents. The City identifies policies to help minimize the effects of hazards.

Goal-5-1 Minimize hazards to public health, safety, and welfare associated with geotechnical hazards.

Policy 5-1.1 Require geotechnical investigations by certified engineering geologist or other qualified professionals for all grading and construction projects subject to geologic hazards, including fault rupture, severe ground shaking, liquefaction, landslides, and collapsible or expansive soils. Particular attention should be paid to areas within Alquist-Priolo Earthquake Fault Zones.

Policy 5-1.2 Require all construction to be in conformance with the Uniform Building Code (UBC) and the California Building Code (CBC), and to be consistent with the Municipal Code as it provides for earthquake resistant design, excavation and grading.

City of Rialto Municipal Code – Title 15: Building and Construction

Title 15 of the Rialto Municipal Code identifies the City's building and construction requirements and permitting process, including provisions related to seismic safety, soil erosion ,excavation, and grading.

4.6.3 Environmental Setting

Project Setting

The approximately 45.7-acre project site features previously disturbed land. Site elevations range from 900 to 955 feet above mean sea level (amsl). The Geotechnical Investigation notes that the project site previously featured sand and gravel mining operations. Current activities on-site are limited to mining reclamation, which is anticipated to be completed in 2024, prior to the commencement of Project construction. According to the Geotechnical Investigation, the maximum amount of cut below original grade of the project site is approximately 50 feet, located within the north-central portion of the project site. Therefore, given that reclamation activities would be completed prior to Project construction, the analysis assumes a projected future condition (i.e., Rialto Plant Reclamation Plan completion) as the baseline condition. These reclamation activities include changes to topography, soil disturbance, and other geologic conditions within the project site to justify the use of a future baseline condition.

Geologic Setting

The project site is near the northwestern boundary of the Peninsular Ranges Geomorphic Province of Southern California. The Peninsular Ranges Geomorphic Province consists of a series of topographical

features moving northwesterly that abuts the Transverse Ranges Province. Within the Transverse Ranges Province are the San Jacinto Mountains to the east and Santa Ana Mountains to the southwest of the project site.

Undocumented Fill

According to the Geotechnical Investigation, undocumented fill materials reach thickness of 43 feet, but may occur deeper. Undocumented fill materials present within the project site consist of sandy silt, silty sand, and gravelly sand. Man-made materials (i.e., broken or ground concrete and asphalt) are located within the north-central and eastern portions of the project site.

Alluvium

Alluvium is encountered beneath the undocumented fill materials. The alluvial materials within the project site generally consist of poorly to well graded sands. Alluvial materials located near the surface are damp and in a loose to medium dense state, becoming medium dense to dense at fairly shallow depths below contact with the overlying undocumented fill.

Groundwater

As described in the Geotechnical Investigation, exploratory tranches or borings that were drilled to a maximum depth of 51.5 feet below ground surface, did not encounter groundwater. Additionally, the groundwater investigation prepared for the project site determined the historic depth to groundwater within the project site ranges from 70 feet to 100 feet below the ground surface (**Appendix G**).

Faulting and Seismicity

No active or potentially active faults are known to intersect the project site. The nearest fault to the project site is the San Jacinto fault zone, located approximately 3.7 miles to the northeast of the project site. The San Jacinto fault zone is a sub-parallel branch of the San Andreas fault zone, extending from the northwestern San Bernadino area. The San Jacinto fault zone is capable of producing an earthquake magnitude of 6.5 or more. Active and potentially active faults proximate to the project site are identified on **Table 4.6-1: Regional Faults and Seismicity**.

Table 4.6-1: Regional Faults and Seismicity

Fault Segment	Approximate Distance from Truck Terminal (miles)	Direction From Site	Probable Moment Magnitudes (M_W)
San Jacinto	3.7	Northeast	6.5
Cucamonga	9.7	North	7.0
San Andreas	9.8	Northeast	7.5
Lake Elsinore	20.5	Southeast	6.5 to 7.5

Source: **Appendix G**

Surface Fault Rupture

Fault rupture is the surface displacement that occurs when movement on a fault deep within the earth breaks through to the surface. Fault rupture and displacement almost always follows preexisting faults,

which are zones of weakness; however, not all earthquakes result in surface rupture (i.e., earthquakes that occur on blind thrusts do not result in surface fault rupture. Rupture may occur suddenly during an earthquake or slowly in the form of fault creep). In addition to damage caused by ground shaking from an earthquake, fault rupture is also damaging to buildings and other structures due to the differential displacement and deformation of the ground surface that occurs from the fault offset. This leads to damage or collapse of structures across this zone. Fault rupture displacements in large earthquakes can range from several feet to greater than 15 feet. Surface fault rupture would not occur at the project site due to no known active or potentially active faults that cross the project site, including Alquist-Priolo Earthquake Fault Zones.

Ground Shaking

An earthquake is classified by the amount of energy released, which traditionally has been quantified using the Richter scale (M_L). However, seismologists most commonly use the Moment Magnitude (M_W) scale because it provides a more accurate measurement of the size of major and great earthquakes. For earthquakes of less than M_W 7.0, the Moment and Richter Magnitude scales are nearly identical. For earthquake magnitudes greater than M_W 7.0, readings on the Moment Magnitude scale are slightly greater than a corresponding Richter Magnitude.

The intensity of the seismic shaking, or strong ground motion, during an earthquake is dependent on the distance between a site and the epicenter of the earthquake, the magnitude of the earthquake, and the geologic conditions underlying and surrounding a site. Earthquakes occurring on faults closest to a project site would most likely generate the largest ground motion. However, in the case of the project site, there are no known active or potentially active faults that cross the project site, including Alquist-Priolo Earthquake Fault Zones.

Liquefaction

Liquefaction tends to occur in loose, saturated fine-grained sands, course silts, or clays with low plasticity. The liquefaction process typically occurs at depths less than 50 feet below the ground surface, although liquefaction can occur at deeper intervals, given the right conditions. The most susceptible zone occurs at depths shallower than 30 feet below the ground surface.

For liquefaction to occur, there must be proper soil type, soil saturation, and cyclic accelerations of sufficient magnitude to progressively increase the water pressures within the soil mass. Non-cohesive soil shear strength is developed by the point-to-point contact of the soil grains. As the water pressures increase in the void spaces surrounding the soil grains, soil particles become supported more by water than point-to-point contact. When water pressures increase sufficiently, soil grains lose the strength to hold to each other and the soils begin to liquefy.

Liquefaction can lead to several types of ground failure, depending on slope conditions and the geological and hydrological settings. The four most common types of ground failure are: (1) lateral spreads, (2) flow failures, (3) ground oscillation, and (4) loss of bearing strength.

The project site is not located within a designated liquefaction zone.[2] Additionally, because the groundwater at the project site lies greater than 50 feet below the ground surface, the potential for liquefaction to occur is considered low.

Landslides

Landslides are gravity-driven movements of earth materials that may include rock, soil, unconsolidated sediment, or combinations of such materials. The primary factors influencing the stability of a slope are the nature of the underlying soil or bedrock, the geometry of the slope (height and steepness), and rainfall. The presence of historic landslide deposits is a good indicator of future landslides. Landslides are commonly triggered by unusually high rainfall and the resulting soil saturation, by earthquakes, or a combination of these conditions. Due to the low relief of the project site and surrounding area, the potential for landslides to occur is considered low. Additionally, the project site is not located within a designated landslide zone.[3]

Lateral Spreading

Lateral spreading generally is a phenomenon where blocks of intact, non-liquefied soil moves downslope on a liquefied substrate of large areal extent. For lateral spreading to occur, a sloping site with an open face within or at some distance from the site typically exists and there is a potential for liquefaction to occur near the base of the open face. Because the potential for liquefaction to occur at the site is low, the potential for lateral spreading is also considered low.

Soil Expansion

Expansive soils can undergo significant volume change with changes in moisture content. In general, expansive soils shrink and harden when dried, and swell and soften when wetted. Such changes can cause distress to building foundations and structures, slabs on grade, pavements, and other surface improvements. According to the United States Department of Agriculture (USDA) web soil survey, soils present within the project site consist of Delhi fine sand and Quarries and Pits soils.[4] These soils are not considered to be expansive, and thus have a low expansion potential.

Paleontological Resources

Paleontological resources are the fossilized remains of organisms from prehistoric environments found in geologic strata. These resources are valued for the information they yield about the history of the Earth and its past ecological settings. The potential for fossil occurrence depends on the rock type exposed at the surface in a given area.

The City's General Plan does not identify areas of paleontological sensitivity within the City. A paleontological records search was conducted for the Project by the Natural History Museum of Los Angeles County in October 2023. Results of the records search request indicated three known fossil localities located within the same sedimentary deposits that occur within the Project area. The three

[2] DOC. (2023). Earthquake Zones of Required Investigation. https://maps.conservation.ca.gov/cgs/eqzapp/app/. Accessed September 2023.
[3] Ibid,
[4] USDA. (2023). Web Soil Survey. https://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx. Accessed August 2023.

closest localities to the project site are described below in **Table 4.6-2: Paleontological Resources within the Project Vicinity**. No known fossil localities are located within the project site.

Table 4.6-2: Paleontological Resources within the Project Vicinity

Locality Number	Location	Formation	Taxa	Depth
LACM VP 4619	Wineville Avenue, Eastvale, CA	Unknown formation (Pleistocene)	Mammoth (*Mammuthus*)	100 feet bgs
LACM VP 7811	West of Orchard Park, Chino Valley	Unknown formation (eolian, tan silt.; Pleistocene)	Whip snake (*Masticophis*)	9 – 11 feet bgs
LACM VP 1208	3 miles southwest of Crucero	Unnamed formation (Pleistocene lake beds)	Horse (Equs conversidens), Equiade camel (Camelops)	Unknown

Source: **Appendix H**

4.6.4 Methodology

The technical analyses supporting the geotechnical impact conclusions in the following section were completed by LOR Geotechnical Group, Inc.

The Project is evaluated against the significance criteria/thresholds, as the basis for determining the impact's level of significance concerning geology and soils. This analysis considers the existing regulatory framework (i.e., laws, ordinances, regulations, and standards) that avoid or reduce a potentially significant environmental impact. Where significant impacts remain despite compliance with the regulatory framework, feasible mitigation measures are recommended, to avoid or reduce the Project's potentially significant environmental impacts.

4.6.5 Thresholds of Significance

The following significance criteria for geology and soils were derived from the Environmental Checklist in State CEQA Guidelines Appendix G. An impact of a project would be considered significant if it would meet one of the following criteria:

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.

   ii. Strong seismic ground shaking.

   iii. Seismic-related ground failure, including liquefaction.

   iv. Landslides.

b) Result in substantial soil erosion or the loss of topsoil.

c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse.

d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property.

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 waste water.

f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.

4.6.6 Project Impacts and Mitigation

Impact 4.6-1: Would the project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving the 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 faults or strong seismic ground shaking?

Level of Significance: Less than Significant Impact

There are no known active or potentially active faults at the project site, and the site is not within an Alquist-Priolo Earthquake Fault Zone as designated by the USGS. Since there are no known active faults crossing the project site, the likelihood of primary ground rupture is low. While there are no known active or potentially active faults or Alquist-Priolo Earthquake Fault Zones at the project site, there are numerous faults in the region. Rupture of any of these faults or of an unknown fault in the region could cause seismic ground shaking. The closest fault to the project site is the San Jacinto fault, which is located approximately 3.7 miles to the northeast.

Construction of the Project would be required to conform to the most recent seismic design requirements of the CBC and California Health and Safety Code (or applicable adopted code at the time of plan submittal or grading and building permit issuance for construction). The building and safety standards established by these codes have been developed to address structural integrity during a seismic event. To further reduce potential impacts associated with seismic activity, the Project would implement Standard Condition (**SC**) **GEO-1**, which would require the Project applicant to provide a site-specific, design-level geotechnical investigation for review and approval to the City of Rialto Community Development Department and Public Works Department. Therefore, with the implementation of **SC GEO-1**, and considering the Project would comply with applicable seismic design requirements and the project site is not traversed by an active fault, impacts associated with strong seismic ground shaking would be less than significant.

Mitigation Program

Standard Conditions

SC GEO-1: The Applicant shall submit to the City of Rialto Community Development Department and Public Works Department for review and approval, a site-specific, design-level geotechnical investigation prepared for the project site by a registered geotechnical

engineer. The investigation shall comply with all applicable State and local code requirements[5] and:

a) Include an analysis of the expected ground motions at the site from known active faults using accepted methodologies;

b) Determine structural design requirements as prescribed by the most current version of the California Building Code, including applicable City amendments, to ensure that structures can withstand ground accelerations expected from known active faults; and

c) Determine the final design parameters for walls, foundations, foundation slabs, utilities, roadways, parking lots, sidewalks, and other surrounding related improvements.

Project plans for foundation design, earthwork, and site preparation shall incorporate all of the mitigation in the site-specific investigations. The structural engineer shall review the site-specific investigations, provide any additional necessary measures to meet Building Code requirements, and incorporate all applicable recommendations from the investigation in the structural design plans and shall ensure that all structural plans for the Project meet current Building Code requirements.

The City's registered geotechnical engineer or third-party registered engineer retained to review the geotechnical reports shall review each site-specific geotechnical investigation, approve the final report, and require compliance with all geotechnical requirements contained in the investigation in the plans submitted for the grading, foundation, structural, infrastructure and all other relevant construction permits.

The City shall review all Project plans for grading, foundations, structural, infrastructure and all other relevant construction permits to ensure compliance with the applicable geotechnical investigation and other applicable Code requirements.

Mitigation Measures

Agua Mansa Industrial Corridor Specific Plan EIR Mitigation Measures

No mitigation measures are applicable.

Project Mitigation Measures

No mitigation is required.

[5] Rialto, CA Municipal Code Section 11.12.070 (Ord. 1234 (part), 1995: Ord. 649 §1 (part), 1973: 1965 Code Title XIII, Ch. 11, §7). Accessed August 2023.

Impact 4.6-2: Would the project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving seismic-related ground failure involving seismic-related ground failure, including liquefaction?

Would the project be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?

Level of Significance: Less than Significant Impact

Seismic-Related Ground Failure – Liquefaction. The potential for liquefaction generally occurs during strong ground shaking within relatively loose sediments where the groundwater is less than 50 feet. As noted in the Geotechnical Investigation, the potential for liquefaction to occur on-site is considered low considering the depth of groundwater is greater than 50 feet and grading of the project site, in accordance with the Reclamation Plan, will remove any loose soils beneath proposed structural areas. Any buildings constructed on the project site would also be required to comply with CBC requirements, which require development projects to perform geotechnical investigations in accordance with State law, and to include engineer improvements to address potential seismic and ground failure issues as a result of liquefaction. Additionally, the project site is not located within a designated liquefaction zone.[6] Therefore, impacts from liquefaction are less than significant.

Landslides. Due to the low relief of the project site and surrounding area, the potential for landslides to occur is considered low. The mass grading is anticipated to mitigate existing stability concerns in areas of the existing, over-steepened fill/stockpile areas. Further, the project site is not located within a landslide zone.[7] Therefore, impacts associated with landslides are considered less than significant.

Subsidence. The subsidence of soils is characterized by sinking or descending soils that occur as the result of a heavy load being placed on underlying sediments and may be triggered by seismic events. Seismically-induced settlement is dependent on the relative density of the subsurface soils and generally occurs within relatively loose sediments where the groundwater is usually less than 50 feet. Settlements from collapsible soils can be relatively large and damaging to improvements. Because the groundwater at the project site is greater than 50 feet and mass grading of the project site would remove any loose soils beneath the proposed development, the potential for subsidence to occur is considered low. Impacts associated with subsidence are considered less than significant.

Lateral Spreading. Lateral spreading consists of the lateral movement of the ground, as a result of the liquefaction of underlying soils. Lateral spreading occurs as a result of ground shaking. As discussed above, the project site is not located within a liquefaction zone. As such, the potential for lateral spreading to occur on-site would be low and impacts would be less than significant.

Mitigation Program

Standard Conditions

No standard conditions are applicable.

[6] Department of Conservation (DOC). (2023). Earthquake Zones of Required Investigation. https://maps.conservation.ca.gov/cgs/eqzapp/app/. Accessed September 2023.

[7] Ibid.

Mitigation Measures

Agua Mansa Industrial Corridor Specific Plan EIR Mitigation Measures

No mitigation measures are applicable.

Project Mitigation Measures

No mitigation is required.

Impact 4.6-3: Would the project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving landslides?

Level of Significance: Less than Significant Impact

Project site elevations range from approximately 900 feet amsl to 955 feet amsl. The project site gently slopes towards the south with drainage occurring mainly as sheet flow. Due to the low relief of the project site and surrounding area, the potential for landslides to occur within the project site is considered low. Further, the project site is not located in a zone identified as being susceptible to landslides.[8] Therefore, no impact would occur.

Mitigation Program

Standard Conditions

No standard conditions are applicable.

Mitigation Measures

Agua Mansa Industrial Corridor Specific Plan EIR Mitigation Measures

No mitigation measures are applicable.

Project Mitigation Measures

No mitigation is required.

Impact 4.6-4: Would the project result in substantial soil erosion or the loss of topsoil?

Level of Significance: Less than Significant Impact

Soil erosion occurs when surface materials are worn away from the earth's surface due to land disturbance and/or natural factors such as wind and precipitation. The potential for soil erosion is determined by characteristics including texture and content, surface roughness, vegetation cover, and slope grade and length. Wind erosion typically occurs when fine-grained non-cohesive soils are exposed to high-velocity winds, while water erosion tends to occur when loose soils on moderate to steep slopes are exposed to high-intensity storm events.

Upon completion of mass grading, the project site would be relatively flat. The near surface natural soils consist predominantly of artificial fill, which is susceptible to erosion by running water. During grading and construction, topsoil would be exposed and the potential exists for wind and water erosion to occur. During construction, the Project would be required to comply with the NPDES permitting process.

[8] Ibid.

Section 4.9, *Hydrology and Water Quality*, identifies NPDES compliance requirements for the Project. The NPDES permitting process applies to projects involving disturbance of one acre or more. These projects are required to prepare and implement a SWPPP that specifies how water quality would be protected during construction activities. The SWPPP would include BMPs to protect the quality of stormwater runoff. Construction BMPs would include, but are not limited to, stabilization of construction entrances, straw wattles on embankments, and sediment filters on existing inlets. These measures would minimize erosion, protect exposed slope areas, control surface water flows over exposed soils, and implement a sediment monitoring plan.

Upon completion of construction, the project site is anticipated to be relatively flat and substantially covered with pavements, buildings, and landscaping, thereby reducing the potential for erosion. With site development, the project site would be primarily impervious surfaces. Pervious areas would be landscaped to prevent soil erosion; the remainder of the project site would be impervious and therefore not subject to soil erosion. Accordingly, the Project would not result in substantial soil erosion or loss of topsoil. As a result, impacts associated with soil erosion and loss of topsoil would be less than significant.

Mitigation Program

Standard Conditions

No standard conditions are applicable.

Mitigation Measures

Agua Mansa Industrial Corridor Specific Plan EIR Mitigation Measures

No mitigation measures are applicable.

Project Mitigation Measures

No mitigation is required.

Impact 4.6-5: Would the project be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?

Level of Significance: Less than Significant Impact

Soils that expand and contract in volume ("shrink-swell" pattern) are considered to be expansive and may cause damage to aboveground infrastructure as a result of density changes that shift overlying materials. Fine-grain clay sediments are most likely to exhibit shrink-swell patterns in response to changing moisture levels. According to the Geotechnical Investigation, the project site consists of fill materials, including sandy silt to large pieces of asphalt and concrete, alluvium materials consisting of poorly to well graded sands and gravel. These materials are not considered expansive. As previously discussed, the Project would be stabilized upon the completion of paving and landscaping throughout the project site. Therefore, impacts from expansive soils are less than significant.

Mitigation Program

Standard Conditions

No standard conditions are applicable.

Mitigation Measures

Agua Mansa Industrial Corridor Specific Plan EIR Mitigation Measures

No mitigation measures are applicable.

Project Mitigation Measures

No mitigation is required.

Impact 4.6-6: 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?

Level of Significance: No Impact

The Project would connect to existing sewer pipeline located within East Santa Ana Avenue. The Project would not include the use of septic tanks. Therefore, no impact would occur.

Mitigation Program

Standard Conditions

No standard conditions are applicable.

Mitigation Measures

Agua Mansa Industrial Corridor Specific Plan EIR Mitigation Measures

No mitigation measures are applicable.

Project Mitigation Measures

No mitigation is required.

Impact 4.6-7: Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

Level of Significance: Less than Significant Impact with Mitigation Incorporated

A paleontological records search was prepared for the Project, which indicates that no known fossil localities are present within the project site. Fossil localities have been identified within the sedimentary deposits within the surrounding area. The project site would feature disturbed land as a result of previous development and implementation of the reclamation plan for the prior Rialto Plant. Additionally, the City's General Plan does not identify areas with paleontological sensitivity. As such, it is considered unlikely that unknown paleontological resources will be unearthed during Project implementation. However, in the event known paleontological resources are unearthed during Project construction, significant impacts could occur. As such, the Project would implement Mitigation Measure **GEO-1**, which would reduce potential impacts to paleontological resources to less than significant. As such, with the implementation of **MM GEO-1**, impacts to paleontological resources would be less than significant.

Mitigation Program

Standard Conditions

No standard conditions are applicable.

Agua Mansa Industrial Corridor Specific Plan EIR Mitigation Measures

No mitigation measures are applicable.

Project Mitigation Measures

MM GEO-1: **Retain a Qualified Paleontologist.** Prior to the issuance of any grading permits, or any permit authorizing ground disturbance, the Project Applicant shall, to the satisfaction of the City Planning Director, demonstrate that a qualified paleontologist has been retained to respond on an as-needed basis to address unanticipated paleontological discoveries. In the event that fossils or fossil-bearing deposits are discovered during construction, excavations within 50 feet of the find shall be temporarily halted or diverted. The paleontologist shall document the discovery as needed in accordance with Society of Vertebrate Paleontology standards, evaluate the potential resource, and assess the significance of the find under the criteria set forth in CEQA Guidelines Section 15064.5. The paleontologist shall notify the appropriate agencies to determine procedures that would be followed before construction is allowed to resume at the location of the find. If in consultation with the paleontologist, City staff and the Project Applicant determine that avoidance is not feasible, the paleontologist shall prepare an excavation plan for reducing the effect of the Project on the qualities that make the resource important. The plan shall be submitted to the City for review and approval and the Project Applicant shall implement the approval plan.

4.6.7 Cumulative Impacts

Geology and Soils. Southern California is a seismically active region with a range of geologic and soil conditions. These conditions can vary widely within a limited geographical area due to numerous factors, including differences in landforms and proximity to fault zones, among others. Therefore, while geotechnical impacts may be associated with the cumulative development, by the very nature of the impacts (i.e., landslides and expansive and compressible soils), the constraints are typically site-specific and there is low, if any, cumulative relationship between the development of a proposed project and development within a larger cumulative area, such as citywide development. Additionally, while seismic conditions are regional in nature, seismic impacts on a given project site are site-specific. For example, development within the site or surrounding area would not alter geologic events or soil features/characteristics (such as ground-shaking, seismic intensity, or soil expansion); therefore, the Project would not affect the level of intensity at which a seismic event on an adjacent site is experienced. However, Project development and future development in the area may expose more persons to seismic hazards.

In accordance with the thresholds of significance, impacts associated with seismic events and hazards would be considered significant if the effects of an earthquake on a property could not be mitigated by an engineered solution. The significance criteria do not require elimination of the potential for structural damage from seismic hazards. Instead, the criteria require an evaluation of whether the seismic conditions on a site can be overcome through engineering design solutions that would reduce to less than significant the substantial risk of exposing people or structures to loss, injury, or death.

The project site is not in an Alquist-Priolo Earthquake Fault Zone, landslide, liquefaction, or preliminary fault rupture study area. In addition, the Project would be constructed in compliance with applicable

codes, which are designed to reduce the exposure of people or structures to substantial risk of loss, injury, or death related to geological conditions or seismic events.

Accordingly, the Project's contribution to any cumulative impact related to the exposure of people or structures to potential substantial adverse effects involving fault rupture, ground shaking, or ground failure, as well as unstable geologic units or expansive soil, would not be cumulatively considerable and the cumulative impact would be reduced to a level of less than significant.

Similar to the Project, future projects would be required to follow City of Rialto Building standards, SCAQMD's requirements for dust control, and Regional Water Quality Control Board (RWQCB) regulations pertaining to surface water runoff and water quality (which would require BMPs) for construction projects greater and smaller than one acre of disturbance, which would prevent significant cumulative impacts related to erosion and other geological impacts. Therefore, the Project's contribution to any cumulative impact related to soil erosion would not be cumulatively considerable and the cumulative impact would be reduced to a level of less than significant.

Paleontology. The potential cumulative impact related to paleontological resources is typically site-specific. The project site does not contain soils conducive for paleontological resources. However, significant impacts to paleontological resources would occur in the event unknown resources were unearthed during Project implementation. As such, the analysis herein determined that the Project would result in less than significant impacts to paleontological resources with the implementation of **MM GEO- 1**. Therefore, the impacts of the Project related to paleontological resources would be less than cumulatively considerable.

4.6.8 Level of Significance After Mitigation

The Project would result in significant impacts to paleontological resources in the event unknown paleontological resources are unearthed during Project implementation. The Project would implement **MM GEO-1** to reduce potential impacts. With the implementation of **MM GEO-1**, Project impacts associated with geology and soils would be less than significant.

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4.7 GREENHOUSE GAS EMISSIONS

4.7.1 Introduction

This section provides a discussion of existing regulations, plans, and policies pertaining to global climate change and the reduction of greenhouse gas (GHG) emissions, a quantified estimate of GHG emissions that will result from the Santa Ana Truck Terminal Project (Project), and an analysis of the significance of the impact of these GHGs. The Greenhouse Gas Emissions Assessment is summarized in this EIR section and provided as **Appendix I** of this Environmental Impact Report (EIR).

4.7.2 Regulatory Setting

Federal Regulations

To date, national standards have not been established for nationwide GHG reduction targets, nor have any regulations or legislation been enacted specifically to address climate change and GHG emissions reduction at the project level. Various efforts have been promulgated at the federal level to improve fuel economy and energy efficiency to address climate change and its associated effects.

Energy Independence and Security Act of 2007

The Energy Independence and Security Act of 2007 (December 2007), among other key measures, requires the following, which will aid in the reduction of national GHG emissions:

- Increase the supply of alternative fuel sources by setting a mandatory Renewable Fuel Standard requiring fuel producers to use at least 36 billion gallons of biofuel in 2022.
- Set a target of 35 miles per gallon (mpg) for the combined fleet of cars and light trucks by model year 2020 and direct the National Highway Traffic Safety Administration (NHTSA) to establish a fuel economy program for medium- and heavy-duty trucks and create a separate fuel economy standard for work trucks.
- Prescribe or revise standards affecting regional efficiency for heating and cooling products and procedures for new or amended standards, energy conservation, energy efficiency labeling for consumer electronic products, residential boiler efficiency, electric motor efficiency, and home appliances.

United States Environmental Protection Agency Endangerment Finding

The United States Environmental Protection Agency (EPA) authority to regulate GHG emissions stems from the United States Supreme Court decision in *Massachusetts v. EPA* (2007). The Supreme Court ruled that GHGs meet the definition of air pollutants under the existing Federal Clean Air Act (FCAA) and must be regulated if these gases could be reasonably anticipated to endanger public health or welfare. Responding to the Court's ruling, the United States EPA finalized an endangerment finding in December 2009. Based on scientific evidence it found that six GHGs (CO_2, CH_4, N_2O, HFCs, PFCs, and SF_6) constitute a threat to public health and welfare. Thus, it is the Supreme Court's interpretation of the existing FCAA and the United States EPA's assessment of the scientific evidence that form the basis for the United States EPA's regulatory actions.

Federal Vehicle Standards

In response to the United States Supreme Court ruling discussed above, Executive Order (EO) 13432 was issued in 2007 directing the United States EPA, the Department of Transportation, and the Department of Energy to establish regulations that reduce GHG emissions from motor vehicles, non-road vehicles, and non-road engines by 2008. In 2009, the NHTSA issued a final rule regulating fuel efficiency and GHG emissions from cars and light-duty trucks for model year 2011, and in 2010, the United States EPA and NHTSA issued a final rule regulating cars and light-duty trucks for model years 2012–2016.

In 2010, an Executive Memorandum was issued directing the Department of Transportation, Department of Energy, United States EPA, and NHTSA to establish additional standards regarding fuel efficiency and GHG reduction, clean fuels, and advanced vehicle infrastructure. In response to this directive, the United States EPA and NHTSA proposed stringent, coordinated federal GHG and fuel economy standards for model years 2017-2025 light-duty vehicles. The proposed standards projected to achieve 163 grams per mile of CO_2 in model year 2025, on an average industry fleet-wide basis, which is equivalent to 54.5 mpg if this level were achieved solely through fuel efficiency. The final rule was adopted in 2012 for model years 2017-2021, and NHTSA intends to set standards for model years 2022–2025 in a future rulemaking. On January 12, 2017, the United States EPA finalized its decision to maintain the current GHG emissions standards for model years 2022–2025 cars and light trucks. It should be noted that the United States EPA is currently proposing to freeze the vehicle fuel efficiency standards at their planned 2020 level (37 mpg), canceling any future strengthening (currently 54.5 mpg by 2026).

In addition to the regulations applicable to cars and light-duty trucks described above, in 2011, the United States EPA and NHTSA announced fuel economy and GHG standards for medium- and heavy-duty trucks for model years 2014–2018. The standards for CO_2 emissions and fuel consumption are tailored to three main vehicle categories: combination tractors, heavy-duty pickup trucks and vans, and vocational vehicles. According to the United States EPA, this regulatory program will reduce GHG emissions and fuel consumption for the affected vehicles by 6 to 23 percent over the 2010 baselines.

In August 2016, the United States EPA and NHTSA announced the adoption of the phase two program related to the fuel economy and GHG standards for medium- and heavy-duty trucks. The phase two program will apply to vehicles with model year 2018 through 2027 for certain trailers, and model years 2021–2027 for semi-trucks, large pickup trucks, vans, and all types and sizes of buses and work trucks. The final standards are expected to lower CO_2 emissions by approximately 1.1 billion metric tons and reduce oil consumption by up to 2 billion barrels over the lifetime of the vehicles sold under the program.

On September 27, 2019, the United States EPA and the NHTSA published the "Safer Affordable Fuel-Efficient (SAFE) Vehicles Rule Part One: One National Program." (84 Fed. Reg. 51,310 (Sept. 27, 2019.) The Part One Rule revokes California's authority to set its own GHG emissions standards and set zero-emission vehicle mandates in California. On March 31, 2020, the United States EPA and NHTSA finalized rulemaking for SAFE Part Two which sets CO2 emissions standards and corporate average fuel economy (CAFE) standards for passenger vehicles and light duty trucks, covering model years 2021-2026. The current United States EPA administration has repealed SAFE Rule Part One, effective January 28, 2022, and is reconsidering Part Two.

As of April 1, 2022, the CAFE standards require an industry-wide fleet average of approximately 49 mpg for passenger cars and light trucks in model year 2026. The new CAFE standards for model year 2024-2026

will reduce fuel use by more than 200 billion gallons through 2050, as compared to continuing under the old standards.

Presidential Executive Orders 13990 and 14008

On January 20, 2021, President Biden issued Executive Order 13990, "Protecting Public Health and the Environment and Restoring Science to Tackle the Climate Crisis". Executive Order 13990 directs federal agencies to immediately review and take action to address the promulgation of federal regulations and other actions that conflict with these important national objectives and to immediately commence work to confront the climate crisis. Executive Order 13990 directs the Council on Environmental Quality (CEQ) to review CEQ's 2020 regulations implementing the procedural requirements of the National Environmental Policy Act (NEPA) and identify necessary changes or actions to meet the objectives of Executive Order 13990.

On January 27, 2021, President Biden signed Executive Order 14008, "Tackling the Climate Crisis at Home and Abroad," to declare the Administration's policy to move quickly to build resilience, both at home and abroad, against the impacts of climate change that are already manifested and will continue to intensify according to current trajectories. In line with these Executive Order directives, CEQ is reviewing the 2020 NEPA regulations and plans to publish a notice of proposed rulemaking (NPRM) to identify necessary revisions in order to comply with the law; meet the environmental, climate change, and environmental justice objectives of Executive Orders 13990 and 14008; ensure full and fair public involvement in the NEPA process; provide regulatory certainty to stakeholders; and promote better decision making consistent with NEPA's statutory requirements. This phase 1 rulemaking will propose a narrow set of changes to the 2020 NEPA regulations to address these goals.

State Regulations

California Air Resources Board

The California Air Resources Board (CARB) is responsible for the coordination and oversight of State and local air pollution control programs in California. Various statewide and local initiatives to reduce California's contribution to GHG emissions have raised awareness about climate change and its potential for severe long-term adverse environmental, social, and economic effects. California is a significant emitter of CO_2 equivalents (CO_2e) in the world and produced 459 million gross metric tons of CO_2e in 2013. In the State, the transportation sector is the largest emitter of GHGs, followed by industrial operations such as manufacturing and oil and gas extraction.

The State of California legislature has enacted a series of bills that constitute the most aggressive program to reduce GHGs of any state in the nation. Some legislation, such as the landmark Assembly Bill (AB) 32, *California Global Warming Solutions Act of 2006*, was specifically enacted to address GHG emissions. Other legislation, such as Title 24 building efficiency standards and Title 20 appliance energy standards, were originally adopted for other purposes such as energy and water conservation, but also provide GHG reductions. This section describes the major provisions of the legislation.

Assembly Bill 32 (California Global Warming Solutions Act of 2006)

AB 32 instructs the CARB to develop and enforce regulations for the reporting and verification of statewide GHG emissions. AB 32 also directed CARB to set a GHG emissions limit based on 1990 levels, to be achieved

by 2020. It set a timeline for adopting a scoping plan for achieving GHG reductions in a technologically and economically feasible manner.

2017 CARB Scoping Plan

CARB adopted the Scoping Plan to achieve the goals of AB 32. The Scoping Plan establishes an overall framework for the measures that would be adopted to reduce California's GHG emissions. CARB determined that achieving the 1990 emissions level would require a reduction of GHG emissions of approximately 29 percent below what would otherwise occur in 2020 in the absence of new laws and regulations (referred to as "business-as-usual").[1] The Scoping Plan evaluates opportunities for sector-specific reductions, integrates early actions and additional GHG reduction measures by both CARB and the State's Climate Action Team, identifies additional measures to be pursued as regulations, and outlines the adopted role of a cap-and-trade program.[2] Additional development of these measures and adoption of the appropriate regulations occurred through the end of 2013. Key elements of the Scoping Plan include:

- Expanding and strengthening existing energy efficiency programs, as well as building and appliance standards.
- Achieving a statewide renewables energy mix of 33 percent by 2020.
- Developing a California cap-and-trade program that links with other programs to create a regional market system and caps sources contributing 85 percent of California's GHG emissions (adopted in 2011).
- Establishing targets for transportation-related GHG emissions for regions throughout California and pursuing policies and incentives to achieve those targets (several sustainable community strategies have been adopted).
- Adopting and implementing measures pursuant to existing State laws and policies, including California's clean car standards, heavy-duty truck measures, the Low Carbon Fuel Standard (amendments to the Pavley Standard adopted 2009; Advanced Clean Car standard adopted 2012), goods movement measures, and the Low Carbon Fuel Standard (adopted 2009).
- Creating targeted fees, including a public goods charge on water use, fees on gasses with high global warming potential, and a fee to fund the administrative costs of the State of California's long-term commitment to AB 32 implementation.
- The California Sustainable Freight Action Plan was developed in 2016 and provides a vision for California's transition to a more efficient, more economically competitive, and less polluting freight transport system. This transition of California's freight transport system is essential to supporting the State's economic development in coming decades while reducing pollution.

[1] CARB defines business-as-usual (BAU) in its Scoping Plan as emissions levels that would occur if California continued to grow and add new GHG emissions but did not adopt any measures to reduce emissions. Projections for each emission-generating sector were compiled and used to estimate emissions for 2020 based on 2002–2004 emissions intensities. Under CARB's definition of BAU, new growth is assumed to have the same carbon intensities as was typical from 2002 through 2004.

[2] The Climate Action Team, led by the secretary of the California Environmental Protection Agency, is a group of State agency secretaries and heads of agencies, boards, and departments. Team members work to coordinate statewide efforts to implement global warming emissions reduction programs and the State's Climate Adaptation Strategy.

- CARB's Mobile Source Strategy demonstrates how the State can simultaneously meet air quality standards, achieve GHG emission reduction targets, decrease health risk from transportation emissions, and reduce petroleum consumption over the next fifteen years. The mobile Source Strategy includes increasing ZEV buses and trucks.

In 2012, CARB released revised estimates of the expected 2020 emissions reductions. The revised analysis relied on emissions projections updated in light of current economic forecasts that accounted for the economic downturn since 2008, reduction measures already approved and put in place relating to future fuel and energy demand, and other factors. This update reduced the projected 2020 emissions from 596 million metric tons of CO_2e ($MMTCO_2e$) to 545 $MMTCO_2e$. The reduction in forecasted 2020 emissions means that the revised business-as-usual reduction necessary to achieve AB 32's goal of reaching 1990 levels by 2020 is now 21.7 percent, down from 29 percent. CARB also provided a lower 2020 inventory forecast that incorporated State-led GHG emissions reduction measures already in place. When this lower forecast is considered, the necessary reduction from business-as-usual needed to achieve the goals of AB 32 is approximately 16 percent.

CARB adopted the first major update to the Scoping Plan on May 22, 2014. The updated Scoping Plan summarizes the most recent science related to climate change, including anticipated impacts to California and the levels of GHG emissions reductions necessary to likely avoid risking irreparable damage. It identifies the actions California has already taken to reduce GHG emissions and focuses on areas where further reductions could be achieved to help meet the 2020 target established by AB 32.

In 2016, the Legislature passed Senate Bill (SB) 32, which codifies a 2030 GHG emissions reduction target of 40 percent below 1990 levels. With SB 32, the Legislature passed companion legislation, AB 197, which provides additional direction for developing the Scoping Plan. On December 14, 2017 CARB adopted a second update to the Scoping Plan.[3] The 2017 Scoping Plan details how the State will reduce GHG emissions to meet the 2030 target set by Executive Order B-30-15 and codified by SB 32. Other objectives listed in the 2017 Scoping Plan are to provide direct GHG emissions reductions; support climate investment in disadvantaged communities; and support other federal actions.

2022 CARB Scoping Plan

Adopted December 15, 2022, CARB's *2022 Scoping Plan for Achieving Carbon Neutrality* (2022 Scoping Plan) sets a path to achieve targets for carbon neutrality and reduce anthropogenic GHG emissions by 85 percent below 1990 levels by 2045 in accordance with AB 1279. To achieve the targets of AB 1279, the 2022 Scoping Plan relies on existing and emerging fossil fuel alternatives and clean technologies, as well as carbon capture and storage. Specifically, the 2022 Scoping Plan focuses on zero-emission transportation; phasing out use of fossil gas use for heating homes and buildings; reducing chemical and refrigerants with high GWP; providing communities with sustainable options for walking, biking, and public transit; displacement of fossil-fuel fired electrical generation through use of renewable energy alternatives (e.g., solar arrays and wind turbines); and scaling up new options such as green hydrogen. The 2022 Scoping Plan sets one of the most aggressive approaches to reach carbon neutrality in the world. Unlike the 2017 Scoping Plan, CARB no longer includes a numeric per capita threshold and instead

[3] California Air Resources Board (CARB). (2017). California's 2017 Climate Change Scoping Plan. https://ww2.arb.ca.gov/sites/default/files/classic/cc/scopingplan/scoping_plan_2017.pdf. Accessed April 2024.

advocates for compliance with a local GHG reduction strategy (i.e., Climate Action Plan) consistent with CEQA Guidelines section 15183.5.

The key elements of the 2022 CARB Scoping Plan focus on transportation. Specifically, the 2022 Scoping Plan aims to rapidly move towards zero-emission transportation (i.e., electrifying cars, buses, trains, and trucks), which constitutes California's single largest source of GHGs. The regulations that impact the transportation sector are adopted and enforced by CARB on vehicle manufacturers and are outside the jurisdiction and control of local governments. The 2022 Scoping Plan accelerates development of new regulations as well as amendments to strengthen regulations and programs already in place.

Included in the 2022 Scoping Plan is a set of Local Actions (2022 Scoping Plan Appendix D) aimed at providing local jurisdictions with tools to reduce GHGs and assist the state in meeting the ambitious targets set forth in the 2022 Scoping Plan. Appendix D to the 2022 Scoping Plan includes a section on evaluating plan-level and project-level alignment with the State's Climate Goals in CEQA GHG analyses. In this section, CARB identifies several recommendations and strategies that should be considered for new development in order to determine consistency with the 2022 Scoping Plan. Notably, this section is focused on Residential and Mixed-Use Projects.[4] CARB specifically states that Appendix D does not address other land uses (e.g., industrial).[5] However, CARB plans to explore new approaches for other land use types in the future.[6]

As such, it would be inappropriate to apply the requirements contained in Appendix D of the 2022 Scoping Plan to any land use types other than residential or mixed-use residential development.

CARB Advanced Clean Truck Regulation

CARB adopted the Advanced Clean Truck Regulation in June 2020 requiring truck manufacturers to transition from diesel trucks and vans to electric zero-emission trucks beginning in 2024. By 2045, every new truck sold in California is required to be zero-emission. This rule directly addresses disproportionate risks and health and pollution burdens and puts California on the path for an all zero-emission short-haul drayage fleet in ports and railyards by 2035, and zero-emission "last-mile" delivery trucks and vans by 2040. The Advanced Clean Truck Regulation accelerates the transition of zero-emission medium-and heavy-duty vehicles from Class 2b to Class 8. The regulation has two components including a manufacturer sales requirement, and a reporting requirement:

- Zero-Emission Truck Sales: Manufacturers who certify Class 2b through 8 chassis or complete vehicles with combustion engines are required to sell zero-emission trucks as an increasing percentage of their annual California sales from 2024 to 2035. By 2035, zero-emission truck/chassis sales need to be 55 percent of Class 2b – 3 truck sales, 75 percent of Class 4 – 8 straight truck sales, and 40 percent of truck tractor sales.
- Company and Fleet Reporting: Large employers including retailers, manufacturers, brokers and others would be required to report information about shipments and shuttle services. Fleet owners, with 50 or more trucks, would be required to report about their existing fleet operations.

[4] CARB. (2022). Scoping Plan for Achieving Carbon Neutrality. https://ww2.arb.ca.gov/sites/default/files/2023-04/2022-sp.pdf. Accessed April 2024.
[5] Ibid.
[6] Ibid.

This information would help identify future strategies to ensure that fleets purchase available zero-emission trucks and place them in service where suitable to meet their needs.

Senate Bill 32 (California Global Warming Solutions Act of 2006: Emissions Limit)

Signed into law in September 2016, SB 32 codifies the 2030 GHG reduction target in Executive Order B-30-15 (40 percent below 1990 levels by 2030). The bill authorizes CARB to adopt an interim GHG emissions level target to be achieved by 2030. CARB also must adopt rules and regulations in an open public process to achieve the maximum, technologically feasible, and cost-effective GHG reductions.

SB 375 (The Sustainable Communities and Climate Protection Act of 2008)

Signed into law on September 30, 2008, SB 375 provides a process to coordinate land use planning, regional transportation plans, and funding priorities to help California meet the GHG reduction goals established by AB 32. SB 375 requires metropolitan planning organizations to include sustainable community strategies in their regional transportation plans for reducing GHG emissions, aligns planning for transportation and housing, and creates specified incentives for the implementation of the strategies.

AB 1493 (Pavley Regulations and Fuel Efficiency Standards)

AB 1493, enacted on July 22, 2002, required CARB to develop and adopt regulations that reduce GHGs emitted by passenger vehicles and light duty trucks. Implementation of the regulation was delayed by lawsuits filed by automakers and by the EPA's denial of an implementation waiver. The EPA subsequently granted the requested waiver in 2009, which was upheld by the by the United States District Court for the District of Columbia in 2011. The regulations establish one set of emission standards for model years 2009–2016 and a second set of emissions standards for model years 2017 to 2025. By 2025, when all rules will be fully implemented, new automobiles will emit 34 percent fewer CO_2e emissions and 75 percent fewer smog-forming emissions. In 2018, the EPA proposed the SAFE Vehicles Rule, which would roll back fuel economy standards and revoke California's waiver. However, in December 2021, the NHTSA repealed the SAFE Vehicle Rule Part One.

SB 1368 (Emission Performance Standards)

SB 1368 is the companion bill of AB 32, which directs the California Public Utilities Commission (CPUC) to adopt a performance standard for GHG emissions for the future power purchases of California utilities. SB 1368 limits carbon emissions associated with electrical energy consumed in California by forbidding procurement arrangements for energy longer than 5 years from resources that exceed the emissions of a relatively clean, combined cycle natural gas power plant. The new law effectively prevents California's utilities from investing in, otherwise financially supporting, or purchasing power from new coal plants located in or out of the State. The CPUC adopted the regulations required by SB 1368 on August 29, 2007. The regulations implementing SB 1368 establish a standard for baseload generation owned by, or under long-term contract to publicly owned utilities, for 1,100 pounds of CO_2 per megawatt-hour.

SB 1078, SB 107, and SBX1-2 (Renewable Electricity Standards)

SB 1078 (2002) required California to generate 20 percent of its electricity from renewable energy by 2017. SB 107 (2006) changed the due date to 2010 instead of 2017. Executive Order S-14-08 was enacted on November 17, 2008, which established a Renewable Portfolio Standard target for California requiring

that all retail sellers of electricity serve 33 percent of their load with renewable energy by 2020. Executive Order S-21-09 also directed CARB to adopt a regulation by July 31, 2010, requiring the State's load serving entities to meet a 33 percent renewable energy target by 2020. CARB approved the Renewable Electricity Standard on September 23, 2010, by Resolution 10-23. SBX1-2 (2011) codified the 33 percent by 2020 goal.

SB 350 (Clean Energy and Pollution Reduction Act of 2015)

Signed into law on October 7, 2015, SB 350 implements the goals of Executive Order B-30-15. The objectives of SB 350 are to increase the procurement of electricity from renewable sources from 33 percent to 50 percent (with interim targets of 40 percent by 2024, and 25 percent by 2027) and to double the energy efficiency savings in electricity and natural gas end uses of retail customers through energy efficiency and conservation. SB 350 also reorganizes the Independent System Operator to develop more regional electricity transmission markets and improve accessibility in these markets, which will facilitate the growth of renewable energy markets in the western United States.

AB 398 (Market-Based Compliance Mechanisms)

Signed on July 25, 2017, AB 398 extended the duration of the Cap-and-Trade program from 2020 to 2030. AB 398 required CARB to update the Scoping Plan and for all GHG rules and regulations adopted by the State. It also designated CARB as the statewide regulatory body responsible for ensuring that California meets its statewide carbon pollution reduction targets, while retaining local air districts' responsibility and authority to curb toxic air contaminants and criteria pollutants from local sources that severely impact public health. AB 398 also decreased free carbon allowances over 40 percent by 2030 and prioritized Cap-and-Trade spending to various programs including reducing diesel emissions in impacted communities.

SB 150 (Regional Transportation Plans)

Signed on October 10, 2017, SB 150 aligns local and regional GHG reduction targets with State targets (i.e., 40 percent below their 1990 levels by 2030). SB 150 creates a process to include communities in discussions on how to monitor their regions' progress on meeting these goals. The bill also requires the CARB to regularly report on that progress, as well as on the successes and the challenges regions experience associated with achieving their targets. SB 150 provides for accounting of climate change efforts and GHG reductions and identify effective reduction strategies.

SB 100 (California Renewables Portfolio Standard Program: Emissions of Greenhouse Gases)

Signed into law in September 2018, SB 100 increased California's renewable electricity portfolio from 50 to 60 percent by 2030. SB 100 also established a further goal to have an electric grid that is entirely powered by clean energy by 2045.

AB 1346 (Air Pollution: Small Off-Road Engines)

Signed into law in October 2021, AB 1346 requires CARB, to adopt cost-effective and technologically feasible regulations to prohibit engine exhaust and evaporative emissions from new small off-road engines, consistent with federal law, by July 1, 2022. The bill requires CARB to identify and, to the extent feasible, make available funding for commercial rebates or similar incentive funding as part of any updates to existing applicable funding program guidelines to local air pollution control districts and air quality

management districts to implement to support the transition to zero-emission small off-road equipment operations.

AB 1279 (The California Climate Crisis Act)

AB 1279 establishes the policy of the State to achieve carbon neutrality as soon as possible, but no later than 2045; to maintain net negative GHG emissions thereafter; and to ensure that by 2045 statewide anthropogenic GHG emissions are reduced at least 85 percent below 1990 levels. The bill requires CARB to ensure that Scoping Plan updates identify and recommend measures to achieve carbon neutrality, and to identify and implement policies and strategies that enable CO^2 removal solutions and carbon capture, utilization, and storage technologies.

SB 1020 (100 Percent Clean Electric Grid)

Signed on September 16, 2022, SB 1020 provides additional goals for the path to the 2045 goal of 100 percent clean electricity retail sales. It creates a target of 90 percent clean electricity retail sales by 2035 and 95 percent clean electricity retail sales by 2040.

SB 905 (Carbon Sequestration Program)

Signed on September 16, 2022, SB 905 establishes regulatory framework and policies that involve carbon removal, carbon capture, utilization, and sequestration. It also prohibits the injecting of concentrated carbon dioxide fluid into a Class II injection well for the purpose of enhanced oil recovery.

AB 1757 (Nature-Based Solutions)

Signed on September 16, 2022, AB 1757 requires State agencies to develop a range of targets for natural carbon sequestration and nature-based climate solutions that reduce GHG emissions to meet the 2030, 2038, and 2045 goals which would be integrated into a scoping plan addressing natural and working lands.

Executive Orders Related to GHG Emissions

California's Executive Branch has taken several actions to reduce GHGs using executive orders. Although not regulatory, they set the tone for the State and guide the actions of state agencies.

Executive Order S-3-05. Executive Order S-3-05 was issued on June 1, 2005, which established the following GHG emissions reduction targets:

- By 2010, reduce GHG emissions to 2000 levels.
- By 2020, reduce GHG emissions to 1990 levels.
- By 2050, reduce GHG emissions to 80 percent below 1990 levels.

The 2050 reduction goal represents what some scientists believe is necessary to reach levels that will stabilize the climate. The 2020 goal was established to be a mid-term target. Because this is an executive order, the goals are not legally enforceable for local governments or the private sector.

Executive Order S-01-07. Issued on January 18, 2007, Executive Order S 01-07 mandates that a statewide goal shall be established to reduce the carbon intensity of California's transportation fuels by at least 10 percent by 2020. The executive order established a Low Carbon Fuel Standard (LCFS) and directed the

Secretary for Environmental Protection to coordinate the actions of the California Energy Commission, CARB, the University of California, and other agencies to develop and propose protocols for measuring the "life-cycle carbon intensity" of transportation fuels. CARB adopted the LCFS on April 23, 2009.

Executive Order S-13-08. Issued on November 14, 2008, Executive Order S-13-08 facilitated the California Natural Resources Agency development of the 2009 California Climate Adaptation Strategy. Objectives include analyzing risks of climate change in California, identifying and exploring strategies to adapt to climate change, and specifying a direction for future research.

Executive Order S-14-08. Issued on November 17, 2008, Executive Order S-14-08 expands the State's Renewable Energy Standard to 33 percent renewable power by 2020. Additionally, Executive Order S-21-09 (signed on September 15, 2009) directs CARB to adopt regulations requiring 33 percent of electricity sold in the State come from renewable energy by 2020. CARB adopted the Renewable Electricity Standard on September 23, 2010, which requires 33 percent renewable energy by 2020 for most publicly owned electricity retailers.

Executive Order S-21-09. Issued on July 17, 2009, Executive Order S-21-09 directs CARB to adopt regulations to increase California's RPS to 33 percent by 2020. This builds upon SB 1078 (2002), which established the California RPS program, requiring 20 percent renewable energy by 2017, and SB 107 (2006), which advanced the 20 percent deadline to 2010, a goal which was expanded to 33 percent by 2020 in the 2005 Energy Action Plan II.

Executive Order B-30-15. Issued on April 29, 2015, Executive Order B-30-15 established a California GHG reduction target of 40 percent below 1990 levels by 2030 and directs CARB to update the Climate Change Scoping Plan to express the 2030 target in terms of million metric tons of CO_2e (MMTCO2e). The 2030 target acts as an interim goal on the way to achieving reductions of 80 percent below 1990 levels by 2050, a goal set by Executive Order S-3-05. The executive order also requires the State's climate adaptation plan to be updated every three years and for the State to continue its climate change research program, among other provisions. With the enactment of SB 32 in 2016, the Legislature codified the goal of reducing GHG emissions by 2030 to 40 percent below 1990 levels.

Executive Order B-55-18. Issued on September 10, 2018, Executive Order B-55-18 establishes a goal to achieve carbon neutrality as soon as possible, and no later than 2045, and achieve and maintain net negative emissions thereafter. This goal is in addition to the existing statewide targets of reducing GHG emissions. The executive order requires CARB to work with relevant state agencies to develop a framework for implementing this goal. It also requires CARB to update the Scoping Plan to identify and recommend measures to achieve carbon neutrality. The executive order also requires state agencies to develop sequestration targets in the Natural and Working Lands Climate Change Implementation Plan.

Executive Order N-79-20. Signed in September 2020, Executive Order N-79-20 establishes as a goal that where feasible, all new passenger cars and trucks, as well as all drayage/cargo trucks and off-road vehicles and equipment, sold in California, will be zero-emission by 2035. The executive order sets a similar goal requiring that all medium and heavy-duty vehicles will be zero-emission by 2045 where feasible. It also directs CARB to develop and propose rulemaking for passenger vehicles and trucks, medium-and heavy-duty fleets where feasible, drayage trucks, and off-road vehicles and equipment "requiring increasing volumes" of new zero emission vehicles (ZEVs) "towards the target of 100 percent." The executive order directs the California Environmental Protection Agency, the California Geologic Energy Management

Division (CalGEM), and the California Natural Resources Agency to transition and repurpose oil production facilities with a goal toward meeting carbon neutrality by 2045. Executive Order N-79-20 builds upon the CARB Advanced Clean Trucks regulation, which was adopted by CARB in July 2020.

California Regulations and Building Codes

California has a long history of adopting regulations to improve energy efficiency in new and remodeled buildings. These regulations have kept California's energy consumption relatively flat even with rapid population growth.

Title 20 Appliance Efficiency Regulations. The appliance efficiency regulations (California Code of Regulations [CCR] Title 20, Sections 1601-1608) include standards for new appliances. Twenty-three categories of appliances are included in the scope of these regulations. These standards include minimum levels of operating efficiency, and other cost-effective measures, to promote the use of energy- and water-efficient appliances.

Title 24 Building Energy Efficiency Standards. California's Energy Efficiency Standards for Residential and Nonresidential Buildings (CCR Title 24, Part 6) was first adopted in 1978 in response to a legislative mandate to reduce California's energy consumption. The standards are updated periodically to allow consideration and possible incorporation of new energy efficient technologies and methods. Energy efficient buildings require less electricity; therefore, increased energy efficiency reduces fossil fuel consumption and decreases GHG emissions. The California Energy Commission (CEC) adopted the 2022 Energy Code on August 11, 2021, which was subsequently approved by the California Building Standards Commission for inclusion into the California Building Standards Code. The 2022 Title 24 standards will result in less energy use, thereby reducing air pollutant emissions associated with energy consumption across California. For example, the 2022 Title 24 standards require efficient electric heat pumps, establishes electric-ready requirements for new homes, expands solar photovoltaic and battery storage standards, and strengthens ventilation standards.

Title 24 California Green Building Standards Code. The California Green Building Standards Code (CCR Title 24, Part 11 code) commonly referred to as the CALGreen Code, is a statewide mandatory construction code developed and adopted by the California Building Standards Commission and the Department of Housing and Community Development. The CALGreen standards require new residential and commercial buildings to comply with mandatory measures under the topics of planning and design, energy efficiency, water efficiency/conservation, material conservation and resource efficiency, and environmental quality. CALGreen also provides voluntary tiers and measures that local governments may adopt that encourage or require additional measures in the five green building topics. The most recent update to the CALGreen Code went into effect January 1, 2023 (2022 CALGreen). The 2022 CALGreen standards continue to improve upon the existing standards for new construction of, and additions and alterations to, residential and nonresidential buildings.

Regional and Local Regulations

South Coast Air Quality Management District Rule 2305 (Warehouse Indirect Source Rule)

Rule 2305 was adopted by the South Coast Air Quality Management District (SCAQMD) Governing Board on May 7, 2021, to reduce NO_X and particulate matter emissions associated with warehouses and mobile

sources attracted to warehouses. However, Rule 2305 would also reduce GHG emissions. This rule applies to all existing and proposed warehouses over 100,000 square feet located in the SCAQMD. Rule 2305 requires warehouse operators to track annual vehicle miles traveled associated with truck trips to and from the warehouse. These trip miles are used to calculate the warehouses WAIRE (Warehouse Actions and Investments to Reduce Emissions) Points Compliance Obligation. WAIRE Points are earned based on emission reduction measures and warehouse operators are required to submit an annual WAIRE Report which includes truck trip data and emission reduction measures. Reduction strategies listed in the WAIRE menu include acquire zero emission (ZE) or near zero emission (NZE) trucks; require ZE/NZE truck visits; require ZE yard trucks; install on-site ZE charging/fueling infrastructure; install onsite energy systems; and install filtration systems in residences, schools, and other buildings in the adjacent community. Warehouse operators that do not earn a sufficient number of WAIRE points to satisfy the WAIRE Points Compliance Obligation would be required to pay a mitigation fee. Funds from the mitigation fee will be used to incentivize the purchase of cleaner trucks and charging/fueling infrastructure in communities nearby.

South Coast Air Quality Management District Thresholds

The SCAQMD formed a GHG California Environmental Quality Act (CEQA) Significance Threshold Working Group to provide guidance to local lead agencies on determining significance for GHG emissions in their CEQA documents. As of the last Working Group meeting (Meeting #15) held in September 2010, the SCAQMD is proposing to adopt a tiered approach for evaluating GHG emissions for development projects where SCAQMD is not the lead agency.

With the tiered approach, the Project is compared with the requirements of each tier sequentially and would not result in a significant impact if it complies with any tier. Tier 1 excludes projects that are specifically exempt from SB 97 from resulting in a significant impact. Tier 2 excludes projects that are consistent with a GHG reduction plan that has a certified final CEQA document and complies with AB 32 GHG reduction goals. Tier 3 excludes projects with annual emissions lower than a screening threshold. The SCAQMD has adopted a threshold of 10,000 metric tons of CO_2e ($MTCO_2e$) per year for industrial projects and a 3,000 $MTCO_2e$ threshold was proposed for non-industrial projects but has not been adopted. During Working Group Meeting #7 it was explained that this threshold was derived using a 90 percent capture rate of a large sampling of industrial facilities. During Meeting #8, the Working Group defined industrial uses as production, manufacturing, and fabrication activities or storage and distribution (e.g., warehouse, transfer facility, etc.). The Working Group indicated that the 10,000 $MTCO_2e$ per year threshold applies to both emissions from construction and operational phases plus indirect emissions (electricity, water use, etc.). The SCAQMD concluded that projects with emissions less than the screening threshold would not result in a significant cumulative impact.

Southern California Association of Governments

On September 3, 2020, Southern California Association of Governments' (SCAG's) Regional Council adopted *Connect SoCal (2020 – 2045 Regional Transportation Plan/Sustainable Communities Strategy* [2020 RTP/SCS]). The RTP/SCS charts a course for closely integrating land use and transportation so that the region can grow smartly and sustainably. The strategy was prepared through a collaborative, continuous, and comprehensive process with input from local governments, county transportation commissions, tribal governments, non-profit organizations, businesses and local stakeholders within the counties of Imperial, Los Angeles, Orange, Riverside, San Bernardino, and Ventura. The RTP/SCS is a long-

range vision plan that balances future mobility and housing needs with economic, environmental, and public health goals. The SCAG region strives toward sustainability through integrated land use and transportation planning. The SCAG region must achieve specific federal air quality standards and is required by state law to lower regional GHG emissions.

Rialto General Plan 2010

Chapter 2, Managing Our Land Supply, of the City of Rialto's (City) Rialto General Plan (General Plan) identifies goals related to greenhouse gas emissions within the City. Goals and policies that relate to air quality impacts include the following:

Goals 2-30 Incorporate green building and other sustainable building practices into development projects.

Policy 2-30.1 Explore and adopt the use of green building standards and Leadership in Energy and Environmental Design (LEED) or similar in both private and public projects.

Policy 2-30.2 Promote sustainable building practices that go beyond the requirements of Title 24 of the California Administrative Code, and encourage energy-efficient design elements, as appropriate.

Goal 2-31 Conserve energy resources.

Policy 2-31.1 Require the incorporation of energy conservation features into the design of all new construction and site development activities.

Goal 2-34 Achieve waste recycling levels that meet or exceed State mandates. Achieve maximum waste recycling in all sectors of the community: residential, commercial, industrial, institutional, and construction.

Policy 2-34.2 Utilize source reduction, recycling, and other appropriate measures to reduce the amount of solid waste generated in Rialto that is disposed of in landfills.

Policy 2-34.3 Encourage the maximum diversion from landfills of construction and demolition materials through recycling and reuse programs.

Goal 2-38 Mitigate against climate change.

Policy2-38.1 Consult with State agencies, SCAG, and the San Bernardino Associated Governments (SANBAG) to implement AB32 and SB375 by utilizing incentives to facilitate infill and transit-oriented development.

Policy 2-38.2 Encourage development of transit-oriented and infill development, and encourage a mix of uses that foster walking and alternative transportation in Downtown and along Foothill Boulevard.

Policy 2-38.3 Provide enhanced bicycling and walking infrastructure, and support public transit, including public bus service, the Metrolink, and the potential for Bus Rapid Transit (BRT).

City of Rialto Climate Adaption Plan

The City of Rialto Climate Adaptation Plan outlines goals to reduce energy consumption and GHG emissions to become a more sustainable community. Goals include:

- Prevent truck routes from disproportionately impacting disadvantaged communities;
- Create a clean air checklist for new development of sensitive land uses;
- Increase use of low-emission and electric vehicles where feasible;
- Adopt building and maintenance standards that reflect the regional best practices in reducing urban heat island effect.

4.7.3 Environmental Setting

The primary GHGs contributing to the greenhouse effect are carbon dioxide (CO_2), methane (CH_4), and nitrous oxide (N_2O). Fluorinated gases also make up a small fraction of the GHGs that contribute to climate change. Examples of fluorinated gases include chlorofluorocarbons (CFCs), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), sulfur hexafluoride (SF_6), and nitrogen trifluoride (NF_3); however, it is noted that these gases are not associated with typical land use development. Human-caused emissions of GHGs exceeding natural ambient concentrations are believed to be responsible for intensifying the greenhouse effect and leading to a trend of unnatural warming of the Earth's climate, known as global climate change or global warming.

GHGs are global pollutants, unlike criteria air pollutants and toxic air contaminants (TACs), which are pollutants of regional and local concern. Whereas pollutants with localized air quality effects have relatively short atmospheric lifetimes (about one day), GHGs have long atmospheric lifetimes (one to several thousand years). GHGs persist in the atmosphere for long enough time periods to be dispersed around the globe. Although the exact lifetime of a GHG molecule is dependent on multiple variables and cannot be pinpointed, more CO_2 is emitted into the atmosphere than is sequestered by ocean uptake, vegetation, or other forms of carbon sequestration. Of the total annual human-caused CO_2 emissions, approximately 55 percent is sequestered through ocean and land uptakes every year, averaged over the last 50 years, whereas the remaining 45 percent of human-caused CO_2 emissions remain stored in the atmosphere.[7] **Table 4.7-1: Description of Greenhouse Gases** describes the primary GHGs attributed to global climate change, including their physical properties.

Table 4.7-1: Description of Greenhouse Gases

Greenhouse Gas	Description
Carbon Dioxide (CO_2)	CO_2 is a colorless, odorless gas that is emitted naturally and through human activities. Natural sources include decomposition of dead organic matter; respiration of bacteria, plants, animals, and fungus; evaporation from oceans; and volcanic outgassing. Anthropogenic sources are from burning coal, oil, natural gas, and wood. The largest source of CO_2 emissions globally is the combustion of fossil fuels such as coal, oil, and gas in power plants, automobiles, and industrial facilities. The atmospheric lifetime of CO_2 is variable because it is readily exchanged in the atmosphere. CO_2 is the most widely emitted GHG and is the reference gas (Global Warming Potential of 1) for determining Global Warming Potentials for other GHGs.

[7] Intergovernmental Panel on Climate Change (2013). Carbon and Other Biogeochemical Cycles. In: Climate Change 2013: The Physical Science Basis, Contribution of Working Group I to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change. http://www.climatechange2013.org/ images/report/WG1AR5_ALL_FINAL.pdf. Accessed April 2024.

Table 4.7-1: Description of Greenhouse Gases

Greenhouse Gas	Description
Nitrous Oxide (N_2O)	N_2O is largely attributable to agricultural practices and soil management. Primary human-related sources of N_2O include agricultural soil management, sewage treatment, combustion of fossil fuels, and adipic and nitric acid production. N_2O is produced from biological sources in soil and water, particularly microbial action in wet tropical forests. The atmospheric lifetime of N_2O is approximately 120 years. The Global Warming Potential of N_2O is 298.
Methane (CH_4)	CH_4, a highly potent GHG, primarily results from off-gassing (the release of chemicals from nonmetallic substances under ambient or greater pressure conditions) and is largely associated with agricultural practices and landfills. Methane is the major component of natural gas, about 87 percent by volume. Human-related sources include fossil fuel production, animal husbandry, rice cultivation, biomass burning, and waste management. Natural sources of CH_4 include wetlands, gas hydrates, termites, oceans, freshwater bodies, non-wetland soils, and wildfires. The atmospheric lifetime of CH_4 is about 12 years and the Global Warming Potential is 25.
Hydrofluorocarbons (HFCs)	HFCs are typically used as refrigerants for both stationary refrigeration and mobile air conditioning. The use of HFCs for cooling and foam blowing is increasing, as the continued phase out of CFCs and HCFCs gains momentum. The 100-year Global Warming Potential of HFCs range from 124 for HFC-152 to 14,800 for HFC-23.
Perfluorocarbons (PFCs)	PFCs have stable molecular structures and only break down by ultraviolet rays about 60 kilometers above Earth's surface. Because of this, they have long lifetimes, between 10,000 and 50,000 years. Two main sources of PFCs are primary aluminum production and semiconductor manufacturing. Global Warming Potentials range from 6,500 to 9,200.
Chlorofluorocarbons (CFCs)	CFCs are gases formed synthetically by replacing all hydrogen atoms in methane or ethane with chlorine and/or fluorine atoms. They are nontoxic, nonflammable, insoluble, and chemically unreactive in the troposphere (the level of air at the earth's surface). CFCs were synthesized in 1928 for use as refrigerants, aerosol propellants, and cleaning solvents. The Montreal Protocol on Substances that Deplete the Ozone Layer prohibited their production in 1987. Global Warming Potentials for CFCs range from 3,800 to 14,400.
Sulfur Hexafluoride (SF_6)	SF_6 is an inorganic, odorless, colorless, and nontoxic, nonflammable gas. It has a lifetime of 3,200 years. This gas is manmade and used for insulation in electric power transmission equipment, in the magnesium industry, in semiconductor manufacturing, and as a tracer gas. The Global Warming Potential of SF_6 is 23,900.
Hydrochlorofluoro-carbons (HCFCs)	HCFCs are solvents, similar in use and chemical composition to CFCs. The main uses of HCFCs are for refrigerant products and air conditioning systems. As part of the Montreal Protocol, HCFCs are subject to a consumption cap and gradual phase out. The United States is scheduled to achieve a 100 percent reduction to the cap by 2030. The 100-year Global Warming Potentials of HCFCs range from 90 for HCFC-123 to 1,800 for HCFC-142b.
Nitrogen Trifluoride (NF_3)	NF_3 was added to Health and Safety Code section 38505(g)(7) as a GHG of concern. This gas is used in electronics manufacture for semiconductors and liquid crystal displays. It has a high global warming potential of 17,200.

Source: **Appendix I**

4.7.4 Methodology

The Project's construction and operational emissions were calculated using the California Emissions Estimator Model version 2022.1.1 (CalEEMod). Details of the modeling assumptions and emission factors are provided in **Appendix B**. For construction, CalEEMod calculates emissions from off-road equipment usage and on-road vehicle travel associated with haul, delivery, and construction worker trips. GHG emissions during construction were forecasted based on the proposed construction schedule and applying the mobile-source and fugitive dust emissions factors derived from CalEEMod. The Project's construction-related GHG emissions would be generated from off-road construction equipment, on-road hauling and vendor (material delivery) trucks, and worker vehicles. The Project's operations-related GHG emissions would be generated by vehicular traffic, area sources (e.g. landscaping maintenance and consumer products), electrical generation, natural gas consumption, water supply and wastewater treatment, and solid waste. The analysis assumes an Opening Year of 2024; however, emission factors for construction would decrease over time as emissions regulations become more stringent and equipment fleets turnover. Should construction commence at a later date than what was assumed in the model, the emissions presented herein is conservative.

4.7.5 Thresholds of Significance

Based upon the criteria derived from Appendix G of the CEQA Guidelines, a project normally will have a significant effect on the environment if it would:

- Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment, based on any applicable threshold of significance; or
- Conflict with any applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of GHGs.

Addressing GHG emissions generation impacts requires an agency to determine what constitutes a significant impact. The amendments to the CEQA Guidelines specifically allow lead agencies to determine thresholds of significance that illustrate the extent of an impact and are a basis from which to apply mitigation measures. This means that each agency is left to determine whether a project's GHG emissions will have a "significant" impact on the environment. The guidelines direct that agencies are to use "careful judgment" and "make a good-faith effort, based to the extent possible on scientific and factual data, to describe, calculate or estimate" the project's GHG emissions.[8]

South Coast Air Quality Management Thresholds

On December 5, 2008, the SCAQMD Governing Board adopted a 10,000 $MTCO_2e$ industrial threshold for projects where the SCAQMD is lead agency. During the GHG CEQA Significance Threshold Working Group Meeting #15, the SCAQMD noted that it was considering extending the industrial GHG significance threshold for use by all lead agencies. This working group was formed to assist SCAQMD's efforts to develop a GHG significance threshold and is composed of a wide variety of stakeholders including the State Office of Planning and Research, CARB, the Attorney General's Office, a variety of city and county planning departments in the SCAB, various utilities such as sanitation and power companies throughout the SCAB, industry groups, and environmental and professional organizations. However, the SCAQMD has

[8] California Code of Regulations, Title 14, Section 15064.4a. Accessed May 2024.

not announced when staff is expecting to present GHG thresholds for land use projects where the SCAQMD is not the lead agency to the governing board. During Meeting #8, the Working Group defined industrial uses as production, manufacturing, and fabrication activities or storage and distribution (e.g., warehouse, transfer facility, etc.). Additionally, the SCAQMD GHG Significance Threshold Stakeholder Working Group has specified that a warehouse is considered to be an industrial project.[9] Furthermore, the Working Group indicated that the 10,000 $MTCO_2e$ per year threshold applies to both emissions from construction and operational phases plus indirect emissions (electricity, water use, etc.).

Although the screening threshold for industrial projects is 10,000 $MTCO_2e$ per year, this analysis conservatively utilizes 3,000 $MTCO_2e$ per year as the Project GHG threshold.

4.7.6 Project Impacts and Mitigation

Impact 4.7-1: Would the project generate GHG emissions, either directly or indirectly, that could have a significant impact on the environment?

Level of Significance: Significant and Unavoidable Impact

Short-Term Construction Greenhouse Gas Emissions

The Project would result in direct emissions of GHGs from construction. The approximate quantity of daily GHG emissions generated by construction equipment utilized to build the Project is depicted in **Table 4.7-2: Construction-Related Greenhouse Gas Emissions**.

Table 4.7-2: Construction-Related Greenhouse Gas Emissions

Category	$MTCO_2e$
Construction	983.92
30-Year Amortized Construction	32.80
Source: **Appendix I**	

As shown in **Table 4.7-2**, the Project would result in the generation of approximately 983.92 $MTCO_2e$ over the course of construction. Construction GHG emissions are typically summed and amortized over a 30-year period, then added to the operational emissions.[10] The amortized Project construction emissions would be 32.80 $MTCO_2e$ per year. Upon completion of construction, the generation of these GHG emissions would cease.

[9] South Coast Air Quality Management District (SCAQMD). (2009).Minutes for the GHG CEQA Significance Threshold Stakeholder Working Group #8. https://www.aqmd.gov/docs/default-source/ceqa/handbook/greenhouse-gases-(ghg)-ceqa-significance-thresholds/year-2008-2009/ghg-meeting-8/ghg-meeting-8-minutes.pdf. Accessed September 2023.

[10] The amortization period of 30-years is based on the standard assumption of the South Coast Air Quality Management District (South Coast Air Quality Management District, Minutes for the GHG CEQA Significance Threshold Stakeholder Working Group #13, August 26, 2009). https://www.aqmd.gov/docs/default-source/ceqa/handbook/greenhouse-gases-(ghg)-ceqa-significance-thresholds/year-2008-2009/ghg-meeting-13/ghg-meeting-13-minutes.pdf. Accessed September 2023.

Long-Term Operational Greenhouse Gas Emissions

Operational or long-term emissions occur over the life of the Project. GHG emissions would result from direct emissions such as Project generated vehicular traffic, on-site combustion of natural gas, and operation of any landscaping equipment. Operational GHG emissions would also result from indirect sources, such as off-site generation of electrical power, solid waste generation, and the energy required to convey water to, and wastewater from the Project. Total GHG emissions associated with the Project are summarized in **Table 4.7-3: Project Greenhouse Gas Emissions**.

Table 4.7-3: Project Greenhouse Gas Emissions

Emissions Source	$MTCO_2e$ per Year	
	Unmitigated	**Mitigated**
Construction Amortized Over 30 Years	32.80	32.80
Area Source	4.03	4.03
Energy[1]	598.13	227.00
Mobile – Trucks	12,162.07	12,162.07
Mobile – Passenger Cars	608.38	608.38
Off-Road – Forklifts and Yard Trucks[2]	1,587.86	86.87
Emergency Generators[2]	19.56	19.56
Waste[3]	74.87	18.72
Water and Wastewater[4]	109.19	106.63
Refrigerants	641.86	641.86
Total Project Emissions	**15,838,75**	**13,907,91**
Threshold	*3,000*	*3,000*
Exceeds Threshold?	**Yes**	**Yes**

Notes:
1. Mitigation Measure GHG-1 requires the installation of photovoltaic solar panels to offset energy emissions and Mitigation Measure GHG-2 requires buildings to meet or exceed CALGreen Tier 2 standards.
2. Mitigated emissions include operation of electric forklifts and yard trucks, as well as Tier 4 certified standard emergency generators, pursuant to AIR-1 (refer to the Projects Air Quality Assessment).
3. Mitigation Measure GHG-3 requires a minimum of 75 percent solid waste diversion.
4. Mitigation Measure GHG-4 requires the installation of low-water use plants and drip irrigation.

Source: **Appendix I**

Below is a description of the primary sources of operational emissions:

- **Area Sources.** Area source emissions occur from architectural coatings, landscaping equipment, and consumer products. Landscaping is anticipated to occur throughout the project site. Additionally, the primary emissions from architectural coatings are volatile organic compounds, which are relatively insignificant as direct GHG emissions.
- **Energy Consumption.** Energy consumption consists of emissions from Project consumption of electricity and natural gas.

- **Off-Road Equipment.** Operational off-road emissions would be generated by off-road cargo handling equipment used during operational activities. Although the Project is a truck terminal facility, it has been assumed that off-road equipment would be utilized as a worst-case analysis. It was conservatively assumed that the Project would include four diesel forklifts and one diesel yard trucks per SCAQMD data.[11] The forklifts and yard trucks GHG emissions were based on CARB OFFROAD emissions data.
- **Emergency Backup Generators.** As the Project is a truck terminal facility with warehouse space, it is conservatively assumed that backup generators would be used in the event of a power failure. Generators would not be part of the Project's normal daily operations. Nonetheless, emissions associated with one emergency backup generator was included to be conservative. Emissions from an emergency backup generator was calculated separately from CalEEMod; refer to **Appendix I.** However, CalEEMod default emissions rates were used. If backup generators are required, the end user would be required to obtain a permit from the SCAQMD prior to installation. Emergency backup generators must meet SCAQMD's Best Available Control Technology (BACT) requirements and comply with SCAQMD Rule 1470 (Requirements for Stationary Diesel-Fueled Internal Combustion and Other Compression Ignition Engines), which would minimize emissions.
- **Mobile Sources.** Mobile sources are emissions from motor vehicles, including tailpipe and evaporative emissions. Depending upon the pollutant being discussed, the potential air quality impact may be of either regional or local concern. For example, ROG, NO_X, PM_{10}, and $PM_{2.5}$ are all pollutants of regional concern. NO_X and ROG react with sunlight to form O_3, known as photochemical smog. Additionally, wind currents readily transport PM_{10} and $PM_{2.5}$. However, CO tends to be a localized pollutant, dispersing rapidly at the source.
    - Project-generated vehicle emissions are based on the trip generation within the Traffic Study and have been incorporated into CalEEMod, as recommended by the SCAQMD. Per the Traffic Study, the Project would generate 951 total daily vehicle trips, which includes 574 daily truck trips.
- **Solid Waste.** Solid waste releases GHG emissions in the form of methane when these materials decompose.
- **Water and Wastewater.** GHG emissions from water demand would occur from electricity consumption associated with water conveyance and treatment.
- **Refrigerants.** Air conditioning and refrigerator equipment typically generate GHG emissions. The proposed Project would not include cold storage. Per 17 CCR 95371, new facilities with refrigeration equipment containing more than 50 pounds of refrigerant are prohibited from utilizing refrigerants with a GWP of 150 or greater as of January 1, 2022. Default CalEEMod assumption were utilized.

Table 4.7-3 shows that the Project's unmitigated emissions would be approximately 15,838.75 $MTCO_2e$ annually from operations with amortized construction. Project-related GHG emissions would exceed the 3,000 $MTCO_2e$ per year threshold. It should be noted that the majority of the unmitigated GHG emissions (81 percent) are associated with non-construction related mobile sources. Emissions of motor vehicles are controlled by State and federal standards, and the Project has no control over these standards.

[11] SCAQMD. (2014). High Cube Warehouse Truck Trip Study White Paper Summary of Business Survey Results. https://www.aqmd.gov/docs/default-source/ceqa/handbook/high-cube-warehouse-trip-rate-study-for-air-quality-analysis/business-survey-summary.pdf. Accessed September 2023. Accessed September 2023.

The Project's Air Quality Assessment includes Mitigation Measure (**MM**) **AIR-1** and **MM TRF-1** (see Section 4.17, *Transportation*) to reduce operational emissions. Mitigation Measure **AIR-1** requires all outdoor cargo handling equipment be zero emission/powered by electricity and standard emergency generators be Tier 4 certified. Mitigation Measure **TRF-1** requires preparation of a Traffic Demand Management (TDM) plan to reduce single-occupancy commute trips and encourage alternative modes of transportation. In addition, the Agua Mansa Industrial Corridor Specific Plan EIR Climate and Air Quality Mitigation Measure 2 recommends that employers take steps such as preferential parking to encourage car-pooling and van-pooling.

Further, the Project would implement **MM GHG-1** through **MM GHG-4**. Mitigation Measure **GHG-1** requires the installation of photovoltaic solar panels to offset energy emissions. Mitigation Measure **GHG-2** requires the Project to meet or exceed CALGreen Tier 2 standards to further improve energy efficiency. Mitigation Measure **GHG-3** requires the Project to divert 75 percent of waste from landfills. Mitigation Measure **GHG-4** requires the installation of low water use plants and drip irrigation. The Project would also be required to comply with Laws, Ordinances, and Regulations (**LOR**) **GHG-1** through **LOR GHG-8** which would be required by local, State, or federal regulations or laws.

Table 4.7-3 shows that implementation of these mitigation measures would reduce GHG emissions to 13,907.91 $MTCO_2e$. The majority of the Project's GHG emissions are generated by mobile emissions. Mitigation to reduce the Project's mobile emissions is not feasible due to the limited ability of the City to address emissions resulting from mobile sources and/or emissions generated by cars and trucks outside of the City's limits. As with all land use projects, the Project's mobile and transportation related GHG emissions are a function of two parameters: emissions control technology and vehicle miles traveled (VMT).

CARB is directly responsible for regulating mobile and transportation source emissions in the State. Regarding the first parameter, California addresses emissions control technology through a variety of legislation and regulatory schemes, including the State's Low Carbon Fuel Standard (Executive Order S-01-07) (LCFS), a regulatory program designed to encourage the use of cleaner low-carbon transportation fuels in California, encourage the production of those fuels, and therefore, reduce GHG emissions and decrease petroleum dependence in the transportation sector. The regulatory standards are expressed in terms of the "carbon intensity" of gasoline and diesel fuel and their substitutes. Different types of fuels are evaluated to determine their "life cycle emissions" which include the emissions associated with producing, transporting, and using the fuels. Each fuel is then given a carbon intensity score and compared against a declining carbon intensity benchmark for each year. Providers of transportation fuels must demonstrate that the mix of fuels they supply for use in California meets these declining benchmarks for each annual compliance period.

In 2018, CARB approved amendments to the LCFS, which strengthened the carbon intensity benchmarks through 2030 to ensure they are in-line with California's 2030 GHG emission reduction target enacted through SB 32. CARB is also implementing additional transportation sector regulations such as Advanced Clean Cars II, Advanced Clean Trucks, and Advanced Clean Fleets. This ensures that the transportation sector is meeting its obligations to achieve California's GHG reduction targets. The Project would be required to comply with these regulations through vehicle manufacturer compliance. The State is also implementing legislation and regulations to address the second parameter affecting transportation related GHG emissions by controlling for VMT. Examples of this include SB 375, which links land use and

transportation funding and provides one incentive for regions to achieve reductions in VMT, and SB 743, which discourages VMT increases for passenger car trips above a region-specific benchmark.

Additional mitigation to further reduce the Project's non-mobile emissions would be speculative. The Project's mitigation measures and Laws, Ordinances, and Regulations (LORs) address non-mobile emissions to the extent possible, by designing buildings to provide environmental design features, incorporate energy and water conservation measures, and provide electrical, heating, ventilation, lighting, and power systems that meet CALGreen Standards (**MM GHG-1** requires the installation of photovoltaic solar panels to offset energy emissions. Mitigation Measure **GHG-2** requires the Project to meet or exceed CALGreen Tier 2 standards, which exceeds code requirements). Further, the Project would be required to divert 75 percent of solid waste from landfills (**MM GHG-3**) and require low water use plants and drip irrigation (**MM GHG-4**). The State is addressing the remaining energy-related GHG emissions through SB 100 and SB 1020, which requires 100 percent clean electricity retail sales by 2045. Additionally, SB 905 requires the State to use carbon removal, carbon capture, utilization, and sequestration technologies and AB 1757 requires nature-based sequestration in natural working lands.

As shown in **Table 4.7-3**, mitigated GHG emissions would exceed the 3,000 $MTCO_2e$ per year threshold despite implementation of all feasible mitigation. Therefore, Project-related GHG emissions would be significant and unavoidable.

Laws, Ordinances, and Regulations:

LORs are existing requirements that are based on local, state, or federal regulations or laws that are frequently required independently of CEQA review. Typical LORs and requirements include compliance with the provisions of the Building Code, SCAQMD Rules, etc. The City may impose additional conditions during the approval process, as appropriate. Because LORs are neither Project specific nor a result of development of the Project, they are not considered to be either Project Design Features or Mitigation Measures.

Refer to **LOR AQ-3** and **LOR AQ-4** in the Air Quality Assessment prepared for the Project, which requires diesel-powered construction equipment to be turned off when not in use and the installation of water efficient irrigation systems and devices, respectively.

LOR GHG-1 Limit idling time for commercial vehicles to no more than five minutes per Title 13 of the California Code of Regulations, Section 2485.

LOR GHG-2 In accordance with California Title 24 Standards, buildings will be designed to have 15 percent of the roof area "solar ready" that will structurally accommodate later installation of rooftop solar panels. If future building operators pursue providing rooftop solar panels, they will submit plans for solar panels prior to occupancy.

LOR GHG-3 Install water-efficient irrigation systems and devices, such as soil moisture-based irrigation controls and sensors for landscaping, according to the City's Water Efficient Landscape requirements (Chapter 12.50 of the City's Municipal Code).

LOR GHG-4 Design buildings to be water-efficient. Install water-efficient fixtures in accordance with Section 5.303 of the California Green Building Standards Code Part 11.

LOR GHG-5 Recycle and/or salvage for reuse a minimum of 65 percent of the nonhazardous construction and demolition waste in accordance with Section 5.408.1 of the California Green Building Standards Code Part 11.

LOR GHG-6 Provide storage areas for recyclables and green waste and adequate recycling containers located in readily accessible areas in accordance with Section 5.410 of the California Green Building Standards Code Part 11.

LOR GHG-7 To facilitate future installation of electric vehicle supply equipment (EVSE), construction shall comply with Section 5.106.5.3 (nonresidential electric vehicle charging) of the California Green Building Standards Code Part 11.

Mitigation Program

Standard Conditions

No standard conditions are applicable.

Mitigation Measures

Agua Mansa Specific Plan EIR Mitigation Measures: Climate and Air Quality

Mitigation Measure 2: Individual industrial users should take all reasonable steps to encourage employees to car-pool rather than utilizing one vehicle per employee. Typical measures which can be taken by employers include:

a. Designation of preferential parking areas which may be used only by employees engaged in car-pooling.

b. Employers should be encouraged to institute van-pooing programs to reduce the number of vehicles driven by employees.

Project Mitigation Measures

Additional details regarding **MM AIR-1** and **MM TRF-1** are included in Section 4.2, *Air Quality* and Section 4.17, *Transportation*, respectively**.**

MM GHG-1: Prior to issuance of a building permit, the Project shall install solar photovoltaic (PV) panels or other source of renewable energy generation on-site, or otherwise acquire energy from the local utility that has been generated by renewable sources, that would provide 100 percent of the anticipated electricity demand (i.e., the Title 24 electricity demand and the plug-load, anticipated to be approximately 4.62 kilowatt hours per year [kWh/year] per square foot for warehouse uses, 17.53 kWh/year/sf for office uses, 9.54 kWh/year/sf for automobile care centers, and 38.16 kWh/year/acre for parking lots[12]).

With anticipated energy consumption at approximately 2.3 million kWh per year, a PV panel array covering approximately one third of the proposed truck terminal roof space would provide sufficient on-site renewable energy generation to offset consumption.[13] The final PV generation facility size requires approval by Southern California Edison (SCE).

[12] The expected electricity demand is based on CalEEMod; refer to **Appendix I**.

[13] Estimated solar generation potential estimated using the National Renewable Energy Laboratory PVWatt Calculator: https://pvwatts.nrel.gov/pvwatts.php. Accessed September 2023.

SCE's Rule 21 governs operating and metering requirements for any facility connected to SCE's distribution system. Should SCE limit the off-site export, the proposed Project may utilize a battery energy storage system (BESS) to lower off-site export while maintaining on-site renewable generation to off-set consumption.

MM GHG-2: Prior to the issuance of a building permit, the Project Applicant or successor in interest shall provide documentation to the City demonstrating the following:

- The Project shall be designed to achieve Leadership in Energy and Environmental Design (LEED) certification to meet or exceed CALGreen Tier 2 standards in effect at the time of building permit application in order to exceed 2022 Title 24 energy efficiency standards.
- The Project shall provide facilities to support electric charging stations per the Tier 2 standards in Section A5.106.5.3 (Nonresidential Voluntary Measures) of the 2022 CALGreen Code.

MM GHG-3: The development shall divert a minimum of 75 percent of landfill waste. Prior to issuance of certificate of tenant occupancy permits, a recyclables collection and load area shall be constructed in compliance with City standards for recyclable collection and loading areas. This mitigation measure applies only to tenant permits and not the building shell approvals. The diversion plan shall also comply with the established solid waste and recycling laws including AB 939 and AB 341.

MM GHG-4: Prior to the issuance of an occupancy permit, the Project Applicant or successor in interest shall provide documentation to the City demonstrating that low water use landscaping and water-efficient (e.g., drip irrigation) systems would are installed.

Impact 4.8-2: Would the project conflict with an applicable plan, policy, or regulation of an agency adopted for the purpose of reducing GHG emissions?

Level of Significance: Significant and Unavoidable Impact.

Consistency with the City of Rialto Climate Adaptation Plan

The Rialto Climate Adaptation Plan outlines goals to reduce energy consumption and GHG emissions to become a more sustainable community. The Project would be required to comply with all building codes in effect at the time of construction which include energy conservation measures mandated by Title 24 of the California Building Standards Code – Energy Efficiency Standards and the California Green Building Standards. Because Title 24 standards require energy conservation features in new construction (e.g., high-efficiency lighting, high-efficiency heating, ventilating, and air-conditioning [HVAC] systems, thermal insulation, double-glazed windows, water-conserving plumbing fixtures), these standards indirectly regulate and reduce GHG emissions. California's Building Energy Efficiency Standards are updated on an approximately three-year cycle. The most recent 2022 standards went into effect January 1, 2023.

Further, the Project would comply with the City's General Plan policies and State Building Code provisions designed to reduce GHG emissions. The Project would also comply with all SCAQMD applicable rules and regulations during construction and operation and would not interfere with the State's AB 32 goals.

Consistency with the 2022 CARB Scoping Plan

Adopted December 15, 2022, CARB's *2022 Scoping Plan for Achieving Carbon Neutrality* (2022 Scoping Plan) sets a path to achieve targets for carbon neutrality and reduce anthropogenic GHG emissions by 85 percent below 1990 levels by 2045 in accordance with AB 1279. To achieve the targets of AB 1279, the 2022 Scoping Plan relies on existing and emerging fossil fuel alternatives and clean technologies, as well as carbon capture and storage. Specifically, the 2022 Scoping Plan focuses on zero-emission transportation; phasing out use of fossil gas use for heating homes and buildings; reducing chemical and refrigerants with high GWP; providing communities with sustainable options for walking, biking, and public transit; displacement of fossil-fuel fired electrical generation through use of renewable energy alternatives (e.g., solar arrays and wind turbines); and scaling up new options such as green hydrogen. The 2022 Scoping Plan sets one of the most aggressive approaches to reach carbon neutrality in the world. Unlike the 2017 Scoping Plan, CARB no longer includes a numeric per capita threshold and instead advocates for compliance with a local GHG reduction strategy (i.e., Climate Action Plan) consistent with CEQA Guidelines section 15183.5.

The key elements of the 2022 CARB Scoping Plan focus on transportation. Specifically, the 2022 Scoping Plan aims to rapidly move towards zero-emission (ZE) transportation (i.e., electrifying cars, buses, trains, and trucks), which constitutes California's single largest source of GHGs. The regulations that impact the transportation sector are adopted and enforced by CARB on vehicle manufacturers and are outside the jurisdiction and control of local governments. The 2022 Scoping Plan accelerates development of new regulations as well as amendments to strengthen regulations and programs already in place. Statewide strategies to reduce GHG emissions in the latest 2022 Scoping Plan include:

- Implementing SB 100 (achieve 100 percent clean electricity by 2045);
- Achieving 100 percent zero emission vehicle sales in 2035 through Advanced Clean Cars II; and
- Implementing the Advanced Clean Fleets regulation to deploy zero-emission vehicle (ZEV) buses and trucks.

Additional transportation policies include the Off-Road Zero-Emission Targeted Manufacturer rule, Clean Off-Road Fleet Recognition Program, In-use Off-Road Diesel-Fueled Fleets Regulation, Clean Off-Road Fleet Recognition Program, and Amendments to the In-use Off-Road Diesel-Fueled Fleets Regulation. The 2022 Scoping Plan would continue to implement SB 375. GHGs would be further reduced through the Cap-and-Trade Program carbon pricing and SB 905. SB 905 requires CARB to create the Carbon Capture, Removal, Utilization, and Storage Program to evaluate, demonstrate, and regulate carbon dioxide removal projects and technology.

As shown in **Table 4.7-3**, approximately 9 percent of the Project's mitigated GHG emissions are from energy and mobile sources which would be further reduced by the 2022 Scoping Plan measures described above. It should be noted that the City has no control over vehicle emissions (approximately 92 percent of the Project's total emissions). However, these emissions would decline in the future due to Statewide measures discussed above, as well as cleaner technology and fleet turnover.

The Project would not impede the State's progress towards carbon neutrality by 2045 under the 2022 Scoping Plan. The Project would be required to comply with applicable current and future regulatory requirements promulgated through the 2022 Scoping Plan.

SCAG RTP/SCS Consistency

On September 3, 2020, the Southern California Association of Governments (SCAG) Regional Council adopted Connect SoCal (*2020-2045 Regional Transportation Plan/ Sustainable Communities Strategy* [RTP/SCS]). The RTP/SCS is a long-range visioning plan that balances future mobility and housing needs with economic, environmental, and public health goals. The RTP/SCS embodies a collective vision for the region's future and is developed with input from local governments, county transportation commissions, tribal governments, nonprofit organizations, businesses, and local stakeholders in the counties of Imperial, Los Angeles, Orange, Riverside, San Bernardino, and Ventura. SCAG's RTP/SCS establishes GHG emissions goals for automobiles and light-duty trucks for 2020 and 2035 as well as an overall GHG target for the Project region consistent with both the target date of AB 32 and the post-2020 GHG reduction goals of Executive Orders 5-03-05 and B-30-15.

The RTP/SCS contains over 4,000 transportation Projects, ranging from highway improvements, railroad grade separations, bicycle lanes, new transit hubs and replacement bridges. These future investments were included in county plans developed by the six county transportation commissions and seek to reduce traffic bottlenecks, improve the efficiency of the region's network, and expand mobility choices for everyone. The RTP/SCS is an important planning document for the region, allowing Project sponsors to qualify for federal funding.

The plan accounts for operations and maintenance costs to ensure reliability, longevity, and cost effectiveness. The RTP/SCS is also supported by a combination of transportation and land use strategies that help the region achieve state GHG emissions reduction goals and Federal Clean Air Act (FCAA) requirements, preserve open space areas, improve public health and roadway safety, support our vital goods movement industry, and utilize resources more efficiently. GHG emissions resulting from development-related mobile sources are the most potent source of emissions, and therefore Project comparison to the RTP/SCS is an appropriate indicator of whether the Project would inhibit the post-2020 GHG reduction goals promulgated by the State. The Project's consistency with the RTP/SCS goals is analyzed in detail in **Table 4.7-4: Regional Transportation Plan/Sustainable Communities Strategy Consistency**.

Table 4.7-4: Regional Transportation Plan/Sustainable Communities Strategy Consistency

SCAG Goals		Compliance	
GOAL 1:	Encourage regional economic prosperity and global competitiveness.	N/A:	This is not a Project-specific policy and is therefore not applicable.
GOAL 2:	Improve mobility, accessibility, reliability, and travel safety for people and goods.	N/A:	Although the Project is not a transportation improvement Project, the Project is located near existing transit routes and access to Interstate 10 (I-10).
GOAL 3:	Enhance the preservation, security, and resilience of the regional transportation system.	N/A:	As the Project is not a transportation improvement Project, Goal 3 is not applicable.
GOAL 4:	Increase person and goods movement and travel choices within the transportation system.	N/A:	As the Project is not a transportation improvement Project, Goal 4 is not applicable. However, the Project includes a use that would support goods movement.
GOAL 5:	Reduce greenhouse gas emissions and improve air quality.	Consistent:	The reduction of energy use, improvement of air quality, and promotion of more environmentally sustainable development are encouraged through the development of alternative transportation methods, green design techniques for buildings, and other energy-reducing techniques. The proposed Project is required to comply with the provisions of the California Building Energy Efficiency Standards and the Green Building Standards Code (CALGreen). Further, the Project is located within an urban area in proximity to existing truck routes and freeways. Location of the Project within a developed area would reduce trip lengths, which would reduce GHG and air quality emissions.
GOAL 6:	Support healthy and equitable communities.	Consistent:	Although the Project exceeds regional thresholds for criteria pollutants based on the Air Quality Assessment, the Project does not exceed localized thresholds. Based on the Friant Ranch decision, projects that do not exceed the SCAQMD's LSTs would not violate any air quality standards or contribute substantially to an existing or projected air quality violation and result in no criteria pollutant health impacts.
GOAL 7:	Adapt to a changing climate and support an integrated regional development pattern and transportation network.	N/A:	This is not a Project-specific policy and is therefore not applicable.
GOAL 8:	Leverage new transportation technologies and data-driven solutions that result in more efficient travel.	N/A:	As the Project is not a transportation improvement Project, Goal 8 is not applicable.
GOAL 9:	Encourage development of diverse housing types in areas that are	N/A:	As the Project is not a housing development Project, Goal 9 is not applicable.

Table 4.7-4: Regional Transportation Plan/Sustainable Communities Strategy Consistency

SCAG Goals		Compliance	
	supported by multiple transportation options.		
GOAL 10:	Promote conservation of natural and agricultural lands and restoration of habitats.	N/A:	The Project is not located on agricultural lands.
Source: **Appendix I**			

Compliance with applicable State standards would ensure consistency with State and regional GHG reduction planning efforts. The goals stated in the RTP/SCS were used to determine consistency with the planning efforts previously stated. As shown in **Table 4.7-4**, the Project would be consistent with the stated goals of the RTP/SCS. Therefore, the Project would not result in any significant impacts or interfere with SCAG's ability to achieve the region's post-2020 mobile source GHG reduction targets.

The Project would be consistent with the Rialto Climate Adaptation Plan, the CARB Scoping Plan, and SCAG's RTP/SCS, and would be required to comply with existing regulations, including applicable measures from the City's General Plan. The Project would be directly affected by the outcomes (vehicle trips and energy consumption would be less carbon intensive due to statewide compliance with future low carbon fuel standard amendments and increasingly stringent Renewable Portfolio Standards). As such, the Project would not conflict with any other State-level regulations pertaining to GHGs.

As shown in **Table 4.7-3**, approximately 93 percent of the Project's Buildout mitigated GHG emissions are from energy and mobile sources which would be further reduced by the 2022 Scoping Plan goals described above (including achieve 100 percent clean electricity by 2045 [SB 100], achieving 100 percent zero emission vehicle sales in 2035 [Advanced Clean Cars II], and implementing the Advanced Clean Fleets regulation [ZEV buses and trucks]). The City has no control over vehicle emissions (approximately 84 percent of the Project's total emissions), with the exception of land use decisions that could reduce VMT. However, these emissions would decline in the future due to statewide measures discussed above (including the reduction in fuels' carbon content, CARB's Advanced Clean Car Program, CARB's Mobile Source Strategy, fuel efficiency standards, etc.), as well as cleaner technology and fleet turnover. SCAG's 2020 RTP/SCS is also expected to help California reach its GHG reduction goals, with reductions in per capita transportation emissions of 19 percent by 2035.[14]

At this time it is not possible to quantify the emissions savings from future regulatory measures that have not yet been developed; nevertheless, it can be anticipated that Project operations would benefit from applicable measures are enacted to meet State GHG reduction goals. The Project would not impede the State's progress towards carbon neutrality by 2045 under the 2022 Scoping Plan. The Project would be required to comply with applicable current and future regulatory requirements promulgated through the 2022 Scoping Plan.

[14] CARB. (2023). SB 375 Regional Plan Climate Targets, https://ww2.arb.ca.gov/our-work/programs/sustainable-communities-program/regional-plan-targets. Accessed April 2024.

As discussed above, **MM AIR-1** and **MM TRF-1** would reduce emissions through the use of electric off-road equipment, the use of generators meeting CARB Tier 4 Final emissions standards, and implementation of a TDM plan. Furthermore, **MM GHG-1** requires the Project to install solar photovoltaic systems, **MM GHG-2** requires the Project to meet or exceed CALGreen Tier 2 standards to further improve energy efficiency; **MM GHG-3** requires the Project to divert 75 percent of waste from landfills; and **MM GHG-4** requires the installation of low water use plants and water-efficient irrigation systems.

In conclusion, the Project does not conflict with the applicable plans that are discussed above and therefore, with respect to this particular threshold, the Project does not have a significant impact. However, despite plan consistency, the Project's long-term operational GHG emissions would exceed the 3,000 $MTCO_2e$ per year threshold even with implementation of **MM AIR-1** and **MM TRF-1**, as well as **MM GHG-1** through **MM GHG-4**. As such, the Project could impede California's statewide GHG reduction goals for 2030 and 2045. A significant and unavoidable impact would occur as a result of the Project.

Mitigation Program

Standard Conditions

No standard conditions are applicable.

Mitigation Measures

Agua Mansa Industrial Corridor Specific Plan EIR Mitigation Measures

No mitigation measures are applicable.

Project Mitigation Measures

MM AIR-1 included in Section 4.2, *Air Quality*, is applicable. **MM TRF-1** included in Section 4.15, *Transportation*, is applicable. Mitigation Measures **GHG-1** through **GHG-4** included above, under Impact 4.7-1, are applicable.

4.7.7 Cumulative Impacts

It is generally the case that an individual project of this size and nature is of insufficient magnitude by itself to influence climate change or result in a substantial contribution to the global GHG inventory.[15] The State CEQA Guidelines generally address GHG emissions as a cumulative impact because of the global nature of climate change.[16] As the California Supreme Court explained, "because of the global scale of climate change, any one project's contribution is unlikely to be significant by itself".[17] As such, GHG impacts are recognized as exclusively cumulative impacts; there are no non-cumulative GHG emission impacts from a climate change perspective. The additive effect of Project-related GHGs would not result in a reasonably foreseeable cumulatively considerable contribution to global climate change. In addition, the Project as well as other cumulative related projects would also be subject to all applicable regulatory requirements, which would further reduce GHG emissions. As discussed above, Project-related GHG emissions would exceed the 3,000 $MTCO_2e$ threshold of significance despite implementation of **MM AIR-1** and **MM TRF-1**,

[15] California Air Pollution Control Officers Association. (2008). CEQA and Climate Change White Paper. https://www.counties.org/resource-document/capcoa-white-paper-ceqa-and-climate-change. Accessed September 2023.
[16] Pub. Resources Code, Section 21083, subd. (b)(2)
[17] Cleveland National Forest Foundation v. San Diego Assn. of Governments (2017) 3 Cal.5th 497, 512.

as well as **MM GHG-1** through **MM GHG-4** and could impede statewide 2030 and 2045 GHG emission reduction targets. As such, the Project would result in a potentially significant cumulative GHG impact.

4.7.8 Level of Significance After Mitigation

The Project would implement **MM AIR-1**, **MM TRF-1**, and **MM GHG-1** through **MM GHG-4** to reduce potential impacts regarding GHGs. However, the Project would result in significant and unavoidable impacts associated with GHGs with the implementation of mitigation.

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4.8 HAZARDS AND HAZARDOUS MATERIALS

4.8.1 Introduction

This section of the Environmental Impact Report (EIR) describes the potential hazards (other than geologic and flood hazards) associated with the Santa Ana Truck Terminal Project (Project) that could impact human health and the environment. The analysis in this section is based on the Phase II Soil and Groundwater Investigation Report, 249 East Santa Ana Avenue, Rialto, California (Phase II Report), prepared by Environ (2010) for a portion of the project site, and the Environmental Data Resources Inc. (EDR) Radius Map Report, which are included as **Appendix J** and **Appendix K**, respectively. In addition, a regulatory database search of the Department of Toxic Substances Control Envirostor website and the State Water Resources Control Board Geotracker website was completed for the Project.

4.8.2 Regulatory Setting

The management of hazardous materials and hazardous wastes is regulated at the federal, State, and local levels, including, among others, through programs administered by the United States Environmental Protection Agency (EPA); agencies within the California Environmental Protection Agency (CalEPA), such as the Department of Toxic Substances Control (DTSC); federal and State occupational safety agencies; and the San Bernardino County Department of Environmental Health (DEH).

At the federal level, the United States EPA is the principal regulatory agency, while at the State level, DTSC is the primary agency governing the storage, transportation, and disposal of hazardous wastes. The Santa Ana Regional Water Quality Control Board (RWQCB) has jurisdiction over discharges into Waters of the State. The federal Occupational Safety and Health Administration (OSHA) and the State Cal/OSHA regulate many aspects of worker safety.

Federal Regulations

Disaster Mitigation Act of 2000

The Disaster Mitigation Act of 2000 is a United States federal law that aims to reduce the impact of disasters on communities and promote preparedness. It focuses on several key areas, including hazard mitigation planning, grants for mitigation projects, and the establishment of a National Mitigation Framework. The act encourages local communities to develop and implement hazard mitigation plans to identify and reduce risks. It also provides funding for projects that aim to mitigate the effects of disasters, such as flood control measures or building retrofits. Additionally, the act establishes the National Mitigation Framework, which serves as a guide for federal agencies and stakeholders to coordinate and collaborate on mitigation efforts.

Federal Emergency Management Act

The Federal Emergency Management Act establishes and outlines the responsibilities and authorities of the Federal Emergency Management Agency (FEMA). The act aims to coordinate and support the nation's preparedness, response, recovery, and mitigation efforts for all types of disasters, including natural disasters and emergencies caused by terrorism. FEMA is tasked with providing assistance and resources to state, local, tribal, and territorial governments, as well as to individuals and communities affected by disasters. The act also authorizes FEMA to administer various programs, such as the National Flood

Insurance Program and the Hazard Mitigation Assistance Program, which provide funding and support for disaster preparedness and mitigation initiatives. Additionally, the act establishes the National Incident Management Assistance Teams to assist with coordination during large-scale incidents and authorizes the president to declare a major disaster or emergency, enabling the release of federal resources and assistance to affected areas.

Toxic Substances Control Act/Resource Conservation and Recovery Act/Hazardous and Solid Waste Act

The federal Toxic Substances Control Act of 1976 and Resource Conservation and Recovery Act (RCRA) established a program administered by the United States EPA for the regulation of the generation, transportation, treatment, storage, and disposal of hazardous waste. RCRA was amended in 1984 by the Hazardous and Solid Waste Act, which affirmed and extended the "cradle to grave" system of regulating hazardous wastes.

Underground Storage Tanks (USTs) are regulated under Subtitle I of RCRA and its regulations, which established construction standards for USR installations installed after December 22, 1988, as well as standards for upgrading existing USRs and associated piping. Since 1998, all non-conforming tanks were required to be either upgraded or closed.

Comprehensive Environmental Response, Compensation, and Liability Act/Superfund Amendments and Reauthorization Act

The Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), commonly known as Superfund, was enacted by Congress on December 11, 1980. This law (United States Code Title 42, Chapter 103) provides broad federal authority to respond directly to releases or threatened releases of hazardous substances that may endanger public health or the environment. CERCLA establishes requirements concerning closed and abandoned hazardous waste sites; provides for liability of persons responsible for releases of hazardous waste at these sites; and establishes a trust fund to provide for cleanup when no responsible party can be identified. CERCLA also enables the revision of the National Contingency Plan (NCP). The NCP (Title 40, Code of Federal Regulation [CFR], Part 300) provides the guidelines and procedures needed to respond to releases and threatened releases of hazardous substances, pollutants, and/or contaminants. The NCP also established the National Priorities List. CERCLA was amended by the Superfund Amendments and Reauthorization Act on October 17, 1986.

Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS) and the National Priorities List

The United States EPA also maintains the Comprehensive Environmental Response Compensation (CERCLIS) and Liability Information System list. This list contains sites that are either proposed to be or on the National Priorities List (NPL), as well as sites that are in the screening and assessment phase for possible inclusion on the NPL. The NPL is a list of the worst hazardous waste sites that have been identified by Superfund. There are no NPL sites on the project site.

Emergency Planning and Community Right-to-Know Act

The federal Emergency Planning and Community Right-To-Know Act (EPCRA) was enacted to inform communities and residents of chemical hazards in their area. Businesses are required to report the

locations and quantities of chemicals stored on-site to both State and local agencies. EPCRA requires the United States EPA to maintain and publish a digital database list of toxic chemical releases and other waste management activities reported by certain industry groups and federal facilities. This database, known as the Toxic Release Inventory, gives the community more power to hold companies accountable for their chemical management.

Hazardous Materials Transportation Act

The United States Department of Transportation (DOT) receives authority to regulate the transportation of hazardous materials from the Hazardous Materials Transportation Act (HMTA), as amended and codified (49 U.S.C. 5101 et seq.). The DOT is the primary regulatory authority for the interstate transport of hazardous materials and establishes regulations for safe handling procedures (i.e., packaging, marking, labeling and routing).

The Pipeline and Hazardous Material Safety Administration (PHMSA) was delegated the responsibility to prepare the hazardous material regulations, which are contained in Title 49 of the Code of Federal Regulations (CFR) Parts 100-180. Title 49 of the CFR, which contains the regulations set forth by the HMTA, specifies requirements and regulations with respect to the transport of hazardous materials. It required that every employee who transports hazardous materials receive training to recognize and identify hazardous materials and become familiar with hazardous material requirements. Under the HMTA, the Secretary of Transportation *"may authorize any officer employee, or agent to enter upon, inspect, and examine, at reasonable times and in a reasonable manner, the records and properties of persons to the extent such records and properties related to (1) the manufacture, fabrication, marking, maintenance, reconditioning, repair, testing, or distribution of packages or containers for use by any "persons" in the transportation of hazardous materials in commerce; or (2) the transportation or shipment by any "person" of hazardous materials in commerce."*

Clean Water Act/ Spill Prevention, Control and Countermeasure (SPCC) Rule

The Clean Water Act (CWA) (33 U.S.C. Section 1251 et seq. was enacted with the intent of restoring and maintaining the chemical, physical, and biological integrity of the waters of the United States. The CWA requires states to set standards to protect, maintain, and restore water quality through the regulation of point source and certain non-point source discharges to surface water. Those discharges are regulated by the National Pollutant Discharge Elimination System (NPDES) permit process (CWA Section 402). In California, NPDES permitting authority is delegated to, and administered by, the nine Regional Water Quality Control Boards (RWQCBs). The project site is within the jurisdiction of the Santa Ana RWQCB.

Section 402 of the Clean Water Act authorizes the California State Water Resources Control Board (SWRCB) to issue NPDES General Construction Storm Water Permit (Water Quality Order 99-08-DWQ), referred to as the "General Construction Permit".

Construction activities can comply with and be covered under the General Construction Permit provided that they:

- Develop and implement a Storm Water Pollution Prevention Plan (SWPPP) which specifies Best Management Practices (BMPs) that will prevent all construction pollutants from contacting stormwater and with the intent of keeping all products of erosion from moving off-site into receiving waters;

- Eliminate or reduce non-stormwater discharges to storm sewer systems and other waters of the nation; and
- Perform inspections of all BMPs.

NPDES regulations are administered by the RWQCB. Projects that disturb one or more acres are required to obtain NPDES coverage under the Construction General Permits.

Occupational Safety and Health Administration (OSHA)

Congress passed the Occupational and Safety Health Act (OSHA) to ensure worker and workplace safety. Their goal was to make sure employers provide their workers a place of employment free from recognized hazards to safety and health, such as exposure to toxic chemicals, excessive noise levels, mechanical dangers, heat or cold stress, or unsanitary conditions. To establish standards for workplace health and safety, OSHA also created the National Institute for Occupational Safety and Health as the research institution for OSHA. The Administration is a division of the United States Department of Labor that oversees the administration of OSHA and enforces standards in all states. OSHA standards are listed in Title 29 CFR Part 1910.

OSHA's Hazardous Waste Operations and Emergency Response Standard applies to five groups of employers and their employees. This includes any employees who are exposed or potentially exposed to hazardous substances (including hazardous waste) and who are engaged in clean-up operations; corrective actions; voluntary clean-up operations; operations involving hazardous wastes treatment, storage, and disposal facilities; and emergency response operations.

State Regulations

California Code of Regulations, Title 17, Section 35000 et seq.

Title 17, Section 35000 et seq. of the California Code of Regulations specifically addresses lead-based paint activities. This regulation sets standards and requirements for individuals and firms engaged in various lead-based paint activities, including inspection, risk assessment, abatement, and clearance testing.

The regulation outlines the qualifications and certification requirements for individuals conducting lead-based paint activities. It also establishes procedures for conducting inspections and risk assessments to identify lead hazards in buildings. Additionally, it provides guidelines for the safe and effective removal or containment of lead-based paint during abatement activities.

The regulation also specifies the requirements for clearance testing, which is conducted after lead-based paint abatement to ensure that the area is free from lead hazards. It outlines the sampling and analysis methods to be used during clearance testing and the acceptable clearance levels for different surfaces.

Furthermore, Title 17, Section 35000 et seq. of the California Code of Regulations includes provisions related to record keeping, notification requirements, and enforcement mechanisms to ensure compliance with the regulations.

California Environmental Protection Agency

CalEPA has jurisdiction over hazardous materials and wastes at the State level. DTSC is the department of CalEPA responsible for implementing and enforcing California's own hazardous waste laws, which are known collectively as the Hazardous Waste Control Law. DTSC regulates hazardous waste in California

primarily under the authority of the federal and the California Health and Safety Code (primarily Division 20, Chapters 6.5 through 10.6, and Title 22, Division 4.5). Although similar to RCRA, the California Hazardous Waste Control Law and its associated regulations define hazardous waste more broadly and regulate a larger number of chemicals. Hazardous wastes regulated by California but not by the United States EPA are called "non-RCRA hazardous wastes". Other laws that affect hazardous waste are specific to handling, storage, transportation, disposal, treatment, reduction, cleanup, and emergency planning. Government Code Section 65962.5 (commonly referred to as the Cortese List) includes DTSC-listed hazardous waste facilities and sites, Department of Health Services lists contaminated drinking water wells, sites listed by the SWRCB as having UST leaks and have had a discharge of hazardous wastes or materials into the water or groundwater, and lists from local regulatory agencies of sites that have had a known migration of hazardous waste/material.

Enforcement of directives from DTSC is handled at the local level, in this case the San Bernardino County DEH. The RWQCB also has the authority to implement regulations regarding the management of soil and groundwater investigation.

CalFire Strategic Fire Plan 2019

CalFire uses this plan to direct and guide its fire management activities for the State Responsibility Area throughout California. CalFire's mission is to serve and safeguard the people and protect the property and resources of California. CalFire responds to emergencies such as fires of all types, vehicle accidents, floods, earthquakes, hazardous material spills, and others within the State Responsibility Area. CalFire provides direction for fire prevention using fire resource assessments, a variety of available data, mapping and other tools. The plan emphasizes "pre-fire" management, which is a process to assess alternatives to protect assets from unacceptable risk of wildland fire damage and focus on those actions that can be taken in advance of a wildland fire to potentially reduce the severity of the fire and ensure safety. Pre-fire management activities include prescribed burning, fuel breaks, forest health treatments and removal of hazardous vegetation.

CalFire has mapped fire threat potential throughout California. It ranks fire threats based on the availability of fuel and the likelihood of an area burning (based on topography, fire history, and climate). The rankings include no fire threat, moderate, high, and very high fire threat.

California Fire Code

California Code of Regulations, Title 24, also known as the California Building Standards Code, contains the California Fire Code (CFC), included as Title 24, Part 9. The CFC includes provisions and standards for emergency planning and preparedness, fire service features, fire protection systems, hazardous materials, fire flow requirements, and fire hydrant locations and distribution.

The CFC, Chapter 9 of Title 24 of the CCR, was created by the California Building Standards Commission based on the International Fire code and is updated every three years. The overall purpose of the CFC is to establish the minimum requirements to safeguard the public health, safety, and general welfare from the hazards of fire, explosion, or dangerous conditions in new and existing buildings, structures, and premises, and to provide safety and assistance to firefighters and emergency responders during emergency operations. Chapter 49 of the CFC contains minimum standards for development in the wildland–urban interface and fire hazard areas. The CFC also provides regulations and guidance for local agencies in the development and enforcement of fire safety standards.

California Water Code

The California Water Code is a collection of laws and regulations that govern the management and use of water resources within the State of California. It covers various aspects related to water rights, water quality, water supply, water conservation, and water infrastructure. The code outlines the responsibilities of State agencies, local governments, and water districts in managing and protecting California's water resources. Additionally, it addresses issues such as groundwater management, water pollution control, flood control, and water infrastructure development. The California Water Code plays a crucial role in ensuring the sustainable and efficient use of water in the California.

Emergency Management Mutual Aid System

The Emergency Management Mutual Aid System (EMMAS) is a collaborative framework that enables jurisdictions and agencies to request and provide assistance during emergencies. It facilitates the sharing of resources, such as personnel, equipment, and expertise, to enhance the overall effectiveness of emergency response and recovery efforts. EMMAS operates through mutual aid agreements, promoting interoperability, coordination, and a seamless integration of resources from different jurisdictions. Its main goal is to ensure a coordinated and efficient response to emergencies that surpass the capabilities of a single jurisdiction.

Hazardous Materials Release Response Plans and Inventory Act of 1985

The California Health and Safety Code, Division 20, Chapter 6.95, known as the Hazardous Materials Release Response Plans and Inventory Act or the Business Plan Act, requires businesses using hazardous materials to prepare a plan that describes their facilities, inventories, emergency response plans, and training programs. Businesses must submit this information to the County DEH. The Environmental Health Division verifies the information and provides it to agencies responsible for protection of public health and safety and the environment. Business Plans are required to include emergency response plans and procedures in the event of a reportable release or threatened release of a hazardous material, including, but not limited to, all of the following:

- Immediate notification to the administering agency and to the appropriate local emergency rescue personnel.
- Procedures for the mitigation of a release or threatened release to minimize any potential harm or damage to persons, property, or the environment.
- Evacuation plans and procedures, including immediate notice, for the business site.

Business Plans are also required to include training for all new employees, and annual training, including refresher courses, for all employees in safety procedures in the event of a release or threatened release of a hazardous material.

Hazardous Waste Control Act

The Hazardous Waste Control Act created the State hazardous waste management program, which is similar to but more stringent than the federal RCRA program. The act is implemented by regulations contained in Title 26 of the California Code of Regulations (CCR), which describes the following required aspects for the proper management of hazardous waste: identification and classification; generation and transportation; design and permitting of recycling, treatment, storage, and disposal facilities; treatment

standards; operation of facilities and staff training; and closure of facilities and liability requirements. These regulations list more than 800 materials that may be hazardous and establish criteria for identifying, packaging, and disposing of such waste. Under the Hazardous Waste Control Act and Title 26, the generator of hazardous waste must complete a manifest that accompanies the waste from generator to transporter to the ultimate disposal location. Copies of the manifest must be filed with the DTSC.

Safe Drinking Water and Toxic Enforcement Act of 1986

The Safe Drinking Water and Toxic Enforcement Act of 1986, commonly referred to as Proposition 65, requires businesses to provide warnings to individuals about potential exposure to chemicals known to cause cancer, birth defects, or other reproductive harm. Proposition 65 mandates that businesses notify consumers if their products or environments contain any of the listed chemicals above certain threshold levels. The goal of Proposition 65 is to inform individuals about potential risks and allow them to make informed decisions regarding their exposure to these chemicals.

Unified Hazardous Waste and Hazardous Materials Management Regulatory Program

The Unified Hazardous Waste and Hazardous Materials Management Regulatory Program (Unified Program) required the administrative consolidation of six hazardous materials and waste programs (Program Elements) under one agency, a Certified Unified Program Agency (CUPA). The Program Elements consolidated under the Unified Program are Hazardous Waste Generator and On-site Hazardous Waste Treatment Programs ("Tiered Permitting"); Aboveground Petroleum Storage Tank SPCC; Hazardous Materials Release Response Plans and Inventory Program (a.k.a. Hazardous Materials Disclosure or "Community-Right-To-Know"); California Accidental Release Prevention Program (Cal ARP); Underground Storage Tank Program; and Uniform Fire Code Plans and Inventory Requirements.

The Unified Program is intended to provide relief to businesses complying with the overlapping and sometimes conflicting requirements of formerly independently managed programs. The Unified Program is implemented at the local government level by CUPAs. Most CUPAs have been established as a function of a local environmental health or fire department. Some CUPAs have contractual agreements with another local agency, a participating agency, which implements one or more Program Elements in coordination with the CUPA. The project site is in San Bernardino County. (The CUPA designated for San Bernardino County is the Hazardous Materials Division of the San Bernardino County Fire Department.)

The Underground Storage Tank Program ensures the regulation of USTs within the County and prevents the release of hazardous substances into the groundwater and environment from USTs. In compliance with the program, USTs and any associated monitoring equipment are annually inspected to ensure the use of active USTs comply with applicable regulations.

Department of Toxic Substance Control

The DTSC is a department of CalEPA and is the primary agency in California that regulates hazardous waste, cleans up existing contamination, and looks for ways to reduce the hazardous waste produced in California. DTSC regulates hazardous waste in California primarily under the authority of the federal RCRA and the California Health and Safety Code (primarily Division 20, Chapters 6.5 through 10.6, and Title 22, Division 4.5). Other laws that affect hazardous waste are specific to handling, storage, transportation, disposal, treatment, reduction, cleanup, and emergency planning. Government Code Section 65962.5 (commonly referred to as the Cortese List) includes DTSC-listed hazardous waste facilities and sites;

Department of Health Services lists of contaminated drinking water wells; sites listed by the SWRCB as having UST leaks and have had a discharge of hazardous wastes or materials into the water or groundwater; and lists from local regulatory agencies of sites that have had a known migration of hazardous wastes and/or materials.

California Office of Emergency Services

To protect the public health and safety and the environment, the California Office of Emergency Services is responsible for establishing and managing statewide standards for business and area plans relating to the handling and release or threatened release of hazardous materials. Basic information on hazardous materials handled, used, stored, or disposed of (including location, type, quantity, and health risks) needs to be available to fire fighters, public safety officers, and regulatory agencies. The information must be included in these institutions' business plans to prevent or mitigate the damage to the health and safety of persons and the environment from the release or threatened release of these materials into the workplace and environment.

These regulations are covered under Chapter 6.95 of the California Health and Safety Code Article 1 – Hazardous Materials Release Response and Inventory Program (Sections 25500 to 25520) and Article 2 – Hazardous Materials Management (Sections 25531 to 25543.3). CCR Title 19, Public Safety, Division 2, Office of Emergency Services, Chapter 4 – Hazardous Material Release Reporting, Inventory, and Response Plans, Article 4 (Minimum Standards for Business Plans) establishes minimum statewide standards for Hazardous Materials Business Plans (HMBP). These plans shall include the following: (1) a hazardous material inventory in accordance with Sections 2729.2 to 2729.7; (2) emergency response plans and procedures in accordance with Section 2731; and (3) training program information in accordance with Section 2732. Business plans contain basic information on the location, type, quantity, and health risks of hazardous materials stored, used, or disposed of in the State. Each business shall prepare a HMBP if that business uses, handles, or stores a hazardous material or an extremely hazardous material in quantities greater than or equal to the following: 500 pounds of a solid substance, 55 gallons of a liquid, 200 cubic feet of compressed gas, a hazardous compressed gas in any amount, or hazardous waste in any quantity.

California Occupational Safety and Health Administration

The California Occupational Safety and Health Administration (Cal/OSHA) is the primary agency responsible for worker safety in the handling and use of chemicals in the workplace. Cal/OSHA standards are generally more stringent than federal regulations. The employer is required to monitor worker exposure to listed hazardous substances and notify workers of exposure (8 CCR Sections 337-340). The regulations specify requirements for employee training, availability of safety equipment, accident-prevention programs, and hazardous substance exposure warnings. In addition, Cal/OSHA regulates medical and/or infectious waste.

Division of Oil, Gas and Geothermal Resources Map

To evaluate the presence of oil or gas wells on-site and in the immediate site vicinity, maps available online at the California Department of Conservation, Geologic Energy Management Division (CalGEM)

(https://maps.conservation.ca.gov/doggr/wellfinder/#/) were reviewed. No abandoned/plugged oil/gas wells are located on the project site.[1]

Radon

Radon is a colorless, odorless, naturally occurring, radioactive, inert, gaseous element formed by radioactive decay of radium (Ra) atoms. The United States EPA has prepared a map to assist national, State, and local organizations to target their resources and to implement radon-resistant building codes. Review of the United States EPA Map of Radon Zones places the project site in Zone 2. Zone 2 has a moderate potential for radon levels between 2.0 and 4.0 picocuries per liter (pCi/L). Based upon the radon zone classification, radon is not considered to be a significant environmental concern for the project site.[2]

License to Transport Hazardous Materials – California Vehicle Code, Section 32000.5 et seq

In California, Section 31303 of the California Vehicle Code states that any hazardous material being moved from one location to another must use the route with the least travel time. This, in practice, means major roads and highways, although secondary roads are permitted to be used for local delivery. These policies are enforced by both the California Highway Patrol and the California Department of Transportation (Caltrans).

Regional and Local Regulations

South Coast Air Quality Management District

San Bernadino County lies within the jurisdiction of the SCAQMD. The agency's primary responsibility is ensuring that State and federal ambient air quality standards are attained and maintained in the Southern California Air Basin (SCAB). The SCAQMD is also responsible for adopting and enforcing rules and regulations concerning air pollutant sources, issuing permits for stationary sources of air pollutants, inspecting stationary sources of air pollutants, responding to citizen complaints, monitoring ambient air quality and meteorological conditions, awarding grants to reduce motor vehicle emissions, conducting public education campaigns, and many other activities. All projects are subject to SCAQMD rules and regulations in effect at the time of construction.

The following is a list of SCAQMD rules that are required of construction activities associated with the Project:

Rule 403 (Fugitive Dust) – This rule requires fugitive dust sources to implement best available control measures for all sources, and all forms of visible particulate matter are prohibited from crossing any property line. This rule is intended to reduce PM_{10} emissions from any transportation, handling, construction, or storage activity that has the potential to generate fugitive dust. PM_{10} suppression techniques are summarized below.

a) Portions of a construction site to remain inactive longer than a period of three months will be seeded and watered until grass cover is grown or otherwise stabilized.

[1] Department of Conservation (DOC). (2023). CalGEM GIS Well Finder. https://maps.conservation.ca.gov/doggr/wellfinder/. Accessed September 2023.

[2] United States Environmental Protection Agency (EPA). (2018). Radon Zones Map. https://www.epa.gov/sites/default/files/2018-12/documents/radon-zones-map.pdf. Accessed September 2023.

b) All on-site roads are paved as soon as feasible, watered regularly, or chemically stabilized.

c) All material transported off-site will be either sufficiently watered or securely covered to prevent excessive amounts of dust.

d) The area disturbed by clearing, grading, earthmoving, or excavation operations will be minimized at all times.

e) Where vehicles leave a construction site and enter adjacent public streets, the streets will be swept daily or washed down following the workday to remove soil from pavement.

Rule 1166 – This rule sets requirements to control the emission of volatile organic compounds (VOC) from excavating, grading, handling and treating VOC-contaminated soil as a result of leakage from storage or transfer operations, accidental spillage, or other deposition.

Rialto General Plan 2010

The Rialto General Plan (General Plan) policies for hazards and hazardous materials that are relevant to the Project are addressed below. The goals and policies are from the Rialto 2010 General Plan Safety and Noise Element. Where inconsistencies exist, if any, they are addressed in the respective impact analysis.

Goal 5-4 Protect the health and welfare of the public, environment, and economy by providing for the safe and responsible management of hazardous materials and wastes.

Policy 5-4.1 Continue to identify hazardous material users and generators within the City through the use of field surveys, inspection programs, and licensing requirements.

Policy 5-4.4 Require all hazardous waste generators and hazardous materials handlers to report to City officials, including the Fire Department any equipment malfunction or upset which may cause hazardous waste to be emitted.

Goal 5-5 Minimize the generation of hazardous waste in Rialto.

Policy 5-5.2 Encourage and promote practices that will reduce the use of hazardous materials and the generation of hazardous waste at their source, recycle the remaining hazardous wastes for reuse, and treat those wastes which cannot be reduced at the source or recycled.

Policy 5-5.3 Prohibit businesses from storing hazardous materials for commercial use or commercially generated hazardous wastes in residential areas.

Goal 5-7 Maintain a high level of emergency response capability.

Policy 5-7.3 Increase the City's ability to coordinate and control its resources in an emergency situation by improving the operational capacity of the Emergency Operating Center, by identifying local resources available, and by developing contracts and agreements for utilizing these resources in an emergency.

City of Rialto Standardized Emergency Management System (SEMS)/National Incident Management System (NIMS) Multi-Hazard Functional Plan (MHFP)

The City of Rialto (City) provides fire and emergency response services to residents and businesses in the City. The City has adopted the Multi-Hazard Functional Plan (MHFP) to address the City's planned response to extraordinary emergency situations associated with natural disasters, technological incidents,

and national security emergencies. The objective of the MHFP is to incorporate and coordinate all the facilities and personnel of the City into an efficient organization capable of responding to any emergency.

City of Rialto Fire Code

The California Fire Code sets forth requirements including those for building materials and methods pertaining to fire safety and life safety, fire protection systems in buildings, emergency access to buildings, and handling and storage of hazardous materials. The City adopted the California Fire Code with certain amendments, additions, and deletions, as Chapters 15.28 of the Rialto Municipal Code.

4.8.3 Environmental Setting

Current Use

The project site is currently unoccupied, vacant land zoned for industrial use. No on-site operations exist. Current activities on-site are limited to mining reclamation, which is anticipated to be completed in 2024, prior to the commencement of Project construction. Therefore, given that reclamation activities would be completed prior to Project construction, the analysis assumes a projected future condition (i.e., Rialto Plant Reclamation Plan completion) as the baseline condition. These reclamation activities include changes to topography, soil disturbance, and other geologic conditions within the project site to justify the use of a future baseline condition.

Current Use of Adjacent Properties

The project site is in an area of the City which primarily features industrial land uses. **Table 4.8-1: Adjacent Properties**, lists the land uses adjacent to the project site.

Table 4.8-1: Adjacent Properties

Direction Relative to Project Site	Description
North	Industrial land uses north on the northern side of East Santa Ana Avenue
South	Industrial land uses; Santa Ana River; La Loma Hills
East	Veolia Water North America (501 East Santa Ana Avenue)
West	Industrial land uses; South Riverside Avenue

Historical Use of Site

According to the Phase II Report, gravel mining activities began within the project site during the 1950's. In 1978, an approximately 40-acre property, which included the project site, was permitted as a Class III landfill. Wastes permitted to be received at the landfill included construction and demolition wastes, asphalt and concrete, tree stumps, and tires. At the time of the Phase II Report, the only active areas of the project site included the northern portion, which was used to store abandoned vehicles and process equipment. Following implementation of the Rialto Plant Reclamation Plan, the project site would not pose any environmental concerns in association with the project site.

Rialto Plant Reclamation Plan

The project site includes land of the previous Rialto Plant (California Mine ID # 91-36-004), which was used for sand and gravel surface mining. Operations at the Rialto Plant ceased in 1990 and there are no plans to resume mining activity at the site. Certification of the Rialto Plant Reclamation Plan (Reclamation Plan) is required by Municipal Code 18.76, which implements the State Surface Mining and Land Reclamation Act (SMARA). Recommended mitigation provided in the Reclamation Plan included dust-control practices and reclamation of the barrow pit.

Phase II Soil and Groundwater Investigation Report

The Phase II Report was prepared by ENVIRON in October 2010. Investigation activities included subsurface soil and groundwater investigation, monitoring well installations, surface soil samples, and groundwater sampling.

Soil samples identified minor impacts to subsurface soils as a result of previously placed artificial fill or from wastewater. The Phase II Report states that considering the low reported concentrations of total petroleum hydrocarbons, bis (2-ethylhexyphthalate), and metals, as well as the random distribution of metals concentrations above screening criteria and background concentrations, results from the soil samples are unlikely to result in risk of harm to public health or the environment.

Groundwater sampling identified minor impacts to groundwater below the project site. As a result of the low reported concentrations of extractable fuel hydrocarbons, chloroform, and metals, it is unlikely that results of the groundwater sampling would result in risk to public health or the environment.

It is noted that prior to construction of the Project, implementation of the Rialto Plant Reclamation Plan and mass grading would be complete.

Database Review

Kimley-Horn and Associates completed a review of referenced databases and considered the potential and likelihood of contamination from adjoining and nearby sites. The project site is not listed on the GeoTracker database or the Envirostor website.[3][4] The project site is not identified on the Cortese List, which is the list of hazardous materials sites that is compiled pursuant to Section 65962.5 of the California Government Code (https://dtsc.ca.gov/dtscs-cortese-list; accessed January 2024). To evaluate which of the adjoining and nearby sites identified in the regulatory database present an environmental concern to the project site, several factors are considered, including the type of database on which the adjoining/nearby property is identified, the topographic position of the property relative to the project site, the direction and distance of the identified facility from the project site, the known and/or inferred groundwater flow direction in the Project area, and the status of the respective regulatory agency-required investigations and/or cleanup associated with the identified facility. Only those nearby sites that are judged to warrant additional clarification are further evaluated. Using the referenced criteria, and based upon a review of readily available information contained within the regulatory database review, Kimley-Horn did not identify adjoining (i.e., bordering) or nearby sites (e.g., properties within a ¼-mile

[3] State Water Resources Control Board. (2024). GeoTracker. http://geotracker.waterboards.ca.gov. Accessed January 2024.
[4] Department of Toxic Substances Control (DTSC). Envirostor. https://www.envirostor.dtsc.ca.gov/public/map/?global_id=60003205. Accessed January 2024.

radius) identified in the regulatory database review that were judged to present a potential environmental risk to the subject property with the exception of the following:

> **Ecology Auto Wrecking:** located at 221 East Santa Ana Avenue, Rialto, CA (cross-gradient, adjacent to the project site). This facility is listed in the GeoTracker database (0607133526; http://geotracker.waterboards.ca.gov/ accessed January, 2024) as a closed Leaking Underground Storage Tank (LUST) case. In October 2005, the 10,000-gallon UST and associated piping were removed from the site. Total petroleum hydrocarbons as gasoline (TPHg) were detected at concentrations of 770 and 1,500 milligrams per kilogram (mg/kg) in samples collected 3 and 14 feet below ground surface (bgs) in the drain area (remote fill) west of the UST. From October 2006 until July 2013, site investigation activities included the installation of six groundwater monitoring wells and eight vapor extraction wells at the site. From October 2006 through June 2016, groundwater sampling was conducted at the site. Concentrations of petroleum hydrocarbons in groundwater decreased with time and have not been detected since August 2013. The most recent quarterly groundwater monitoring and sampling event was conducted on June 16, 2016. The depth to groundwater was approximately 75.25 feet below the top of casing (btoc) and the average groundwater elevation was approximately 887 feet above mean sea level (amsl). Groundwater flow direction at the site is generally to the south-southwest. The case was closed by the State Water Resources Control Board on May 13, 2019. Given that the case has been closed, this facility is not considered an environmental concern for the project site.

In addition to the Cortese List, federal, State, and local governmental agencies maintain other lists of sites where hazardous materials may be present or used. Further, the EDR Radius Report includes current regulatory database information compiled by a variety of federal and State regulatory agencies. The EDR Radius Map Report included a review of the referenced databases and considered the potential or likelihood of contamination from adjoining and nearby sites. The project site was not listed in the databases reviewed by the regulatory database report for lists of sites where hazardous materials may be present or used; however, the project site was identified as an abandoned mine. As discussed above, mining operations on the project site ceased in 1990 and the certification of the Reclamation Plan is required by Municipal Code 18.76, which implements recommended mitigation including the mass grading of the project site. In addition, properties that were found in EDR's search of government records within the one-mile search radius did not include any record of leaks, spills, or other hazardous waste violations at facilities considered to be an environmental concern. The project site is surrounded by existing industrial uses and Veolia Water North America to the east. The surrounding properties are not included on the GeoTracker database or Envirostor website. As such, the project site and adjoining/nearby properties are not environmental concerns for the Project.

4.8.4 Methodology

In determining whether implementation of the Project would result in hazards or hazardous materials, this analysis considers the recommendations of Appendix G to the State California Environmental Quality Act (CEQA) Guidelines as described below. The evaluation was based on a review of regulations and a determination of the applicability of the regulations within the Project area. The baseline conditions and impact analyses are based on the Radius Map Report prepared by EDR and the Rialto Plant Reclamation Plan. The determination that the Project will or will not result in a significant impact with respect to

hazards and hazardous materials considers the type of development proposed and whether or not past or current uses on the site have the potential to pose a risk to the proposed development.

4.8.5 Thresholds of Significance

The following significance criteria for hazards and hazardous materials were derived from the Environmental Checklist in the State CEQA Guidelines, Appendix G. An impact of a project could be considered significant and may require mitigation if it meets one of the following criteria.

- Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials.
- 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.
- Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school.
- 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, create a significant hazard to the public or the environment.
- 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, result in a safety hazard or excessive noise for people residing or working in the project area.
- Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.
- Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires.

4.8.6 Project Impacts and Mitigation

Impact 4.8-1: Would the project create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?

Level of Significance: Less than Significant Impact

Construction

The Project consists of the construction of a truck terminal and maintenance shop. Construction of the Project would involve the transport, use, and disposal of hazardous materials on and off the project site, which include fuels, paints, mechanical fluids, and solvents, but would not be present in such a quantity or used in such a manner that would pose a significant hazard to the public. In addition, should a spill or other hazardous materials incident occur, construction staff would be well versed in how to handle such a situation, including containment and who to contact if such a situation occurs.

The routine transport, use, and disposal of hazardous materials can result in hazards to people and the environment, due to the potential for accidental release. Such hazards are typically associated with certain types of land uses, such as chemical manufacturing facilities, industrial processes, waste disposal, and hazardous material storage and distribution facilities. At full buildout, the Project would include one truck

terminal and one maintenance shop. Following implementation of the Rialto Plant Reclamation Plan, this land use is not expected to use significant quantities of hazardous materials or to generate significant quantities of hazardous materials requiring transport. The routine transport, use, and disposal of these materials must adhere to federal, State, and local regulations for transport, handling, storage, and disposal of hazardous substances; such as the Hazardous Materials Transportation Act and Hazardous Materials Release Response Plans and Inventory Act, which address safe handling procedures and emergency response procedures in the event of an accidental release. Compliance with the regulatory framework would ensure Project construction would not create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials during construction. Impacts would be less than significant.

Operations

The Project includes one truck terminal and one maintenance shop and is not anticipated to result in the release of hazardous materials into the environment. The proposed development would be expected to use limited hazardous materials and substances which would include fuels, paints, mechanical fluids, cleaners, solvents, and fertilizers and pesticides for site landscaping. Project operation would not create a significant impact through the transport, use, or disposal of hazardous materials since the facilities are required to comply with all applicable federal, State, and regional regulations which are intended to avoid impacts to the public and environment. These regulations ensure that hazardous materials/waste users, generators and transporters provide operational safety and measures to reduce threats to public health and safety. In addition, the Project would incorporate Mitigation Measure 3 of the Agua Mansa Industrial Corridor Specific Plan (Specific Plan) EIR, which would require any toxic or hazardous wastes which are transported, processed, generated or stored shall be handled consistent with the regulations of the United States EPA, the State Department of Health Services, and the SCAQMD. With compliance with all applicable federal, State, and regional regulations regarding hazardous material generation and usage on the site, potential impacts related to transport, use, or disposal of hazardous materials would be less than significant.

Mitigation Program

Standard Conditions

No standard conditions are applicable.

Mitigation Measures

Agua Mansa Industrial Corridor Specific Plan EIR Mitigation Measures: Land Use

Mitigation Measure 3: Any toxic or hazardous wastes which are transported, processed, generated or stored shall be handled consistent with the regulations of the Environmental Protection Agency, the State Department of Health Services, and the South Coast Air Quality Management District. The transportation of any toxic or hazardous substances through residential areas shall be prohibited.

Project Mitigation Measures

No mitigation is required.

Impact 4.8-2: Would the project create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?

Level of Significance: Less than Significant Impact

Construction

The EDR Radius Map Report investigation included a review of local, State, and federal environmental record sources to check for the storage, use, production or disposal of hazardous or potentially hazardous materials that may impact the project site. The results of the EDR Radius Map Report did not identify any environmental concerns associated with the project site. Upon completion of implementation of the Rialto Plant Reclamation Plan and mass grading, no known hazardous materials would be located on the project site, the risk of a release of hazardous materials into the environmental is less than significant.

Operations

Project operations would involve typical hazardous materials/chemicals associated with truck terminal uses such as fuels, paints, mechanical fluids, cleaners, solvents, and fertilizers and pesticides for landscaping. As previously discussed, any routine transport, use, and disposal of these materials during Project operations must adhere to federal, State, and local regulations for transport, handling, storage, and disposal of hazardous substances. Hazardous materials/chemicals such as fuels, cleaners, paints, solvents and fertilizers in low quantities do not pose a significant threat related to the release of hazardous materials into the environment. Additionally, the Project would include two 20,000-gallon diesel underground storage tanks, and one 8,000-gallon diesel exhaust fluid tank, which would be regulated by the San Bernardino County Fire Protection District, which has been designated as the CUPA for San Bernardino County. As required under the San Bernardino County Fire Protection District's Underground Storage Tank Program, the Project's UST would be inspected annually to ensure compliance with applicable regulations. Impacts would be less than significant, and no mitigation is required.

Mitigation Program

Standard Conditions

No standard conditions are applicable.

Mitigation Measures

Agua Mansa Industrial Corridor Specific Plan EIR Mitigation Measures

No mitigation measures are applicable.

Project Mitigation Measures

No mitigation is required.

Impact 4.8-3: Would the project emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?

Level of Significance: Less than Significant Impact

The nearest school to the project site is Crestmore Elementary (1060 W Etiwanda Avenue), located approximately 1.6 miles to the west. The Project does not propose any industrial uses which would generate hazardous emissions or involve the handling of hazardous materials, substances or waste in significant quantities that would have an impact to surrounding schools. The types of hazardous materials that would be routinely handled would include fuels, paints, mechanical fluids, cleaners, solvents, and fertilizers and pesticides for landscaping. The Project would be required to adhere to all applicable federal, State, and regional regulations regarding handling, transport, and disposal of hazardous materials. Therefore, the impacts would be less than significant.

Mitigation Program

Standard Conditions

No standard conditions are applicable.

Mitigation Measures

Agua Mansa Industrial Corridor Specific Plan EIR Mitigation Measures

No mitigation measures are applicable.

Project Mitigation Measures

No mitigation is required.

Impact 4.8-4: Would the project be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?

Level of Significance: Less than Significant Impact

California Government Code Section 65962.5 requires DTSC to compile a list of hazardous waste facilities that are subject to corrective action. As discussed in the Environmental Setting, the project site is not included on the hazardous sites list compiled pursuant to California Government Code Section 65962.5.[5] Further, as previously discussed, the results of the database review did not identify any hazardous site within the project site or the search radius that would be of concern to the Project. Accordingly, the project site does not consist of a hazardous material site pursuant to Government Code Section 65962.5, and the Project would not create a significant hazard to the public or the environment. Therefore, the Project would have a less-than-significant impact with respect to exacerbating environmental conditions due to existing hazardous materials. Impacts would be less than significant.

[5] DTSC. (2024). Hazardous Waste and Substances Site List - Site Cleanup (Cortese List). https://dtsc.ca.gov/dtscs-cortese-list/. Accessed January 2024.

Mitigation Program

Standard Conditions

No standard conditions are applicable.

Mitigation Measures

Agua Mansa Industrial Corridor Specific Plan EIR Mitigation Measures

No mitigation measures are applicable.

Project Mitigation Measures

No mitigation is required.

Impact 4.8-5: 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, result in a safety hazard or excessive noise for people residing or working in the project area?

Level of Significance: Less than Significant Impact

The nearest airport to the project site is the San Bernardino International Airport, located approximately 6.3 miles to the northeast. The project site is not located within an airport land use plan. As such, Project implementation would not result in a safety hazard or excessive noise for people at the project site. Impacts would be less than significant.

Mitigation Program

Standard Conditions

No standard conditions are applicable.

Mitigation Measures

Agua Mansa Industrial Corridor Specific Plan EIR Mitigation Measures

No mitigation measures are applicable.

Project Mitigation Measures

No mitigation is required.

Impact 4.8-6: Would the project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

Level of Significance: Less than Significant Impact

The City has adopted an Emergency Operations Plan (EOP), which provides comprehensive policy and guidance for emergency and response operations to natural and manmade hazards. The Project would require the temporary partial closure of East Santa Ana Avenue during construction of the proposed improvements. Improvements would require full depth reconstruction of East Santa Ana Avenue, including mill and overlay, along the Project frontage to South Riverside Avenue. However, emergency access to the project site and surrounding area would be maintained. Impacts would be less than significant.

Mitigation Program

Standard Conditions

No standard conditions are applicable.

Mitigation Measures

Agua Mansa Industrial Corridor Specific Plan EIR Mitigation Measures

No mitigation measures are applicable.

Project Mitigation Measures

No mitigation is required.

Impact 4.8-7: Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?

Level of Significance: Less than Significant Impact

According to the CalFire *Fire Hazard Severity Zone Viewer*, the project site is located within a Non-Very High Fire Hazard Severity Zone (VHFHSZ) within a Local Responsibility Area.[6] The nearest VHFHSZ is located 0.9 miles to the southeast. Project implementation would comply with Chapter 15.28 of the City's Municipal Code, which adopts the California Fire Code. Impacts would be less than significant.

Mitigation Program

Standard Conditions

No standard conditions are applicable.

Mitigation Measures

Agua Mansa Industrial Corridor Specific Plan EIR Mitigation Measures

No mitigation measures are applicable.

Project Mitigation Measures

No mitigation is required.

4.8.7 Cumulative Impacts

Impacts associated with hazardous materials are often site-specific and localized. The EIR evaluates potential environmental concerns in connection with the project site and surrounding area. The database reviews the findings of various governmental database searches regarding properties with known or suspected releases of hazardous materials or petroleum hydrocarbons within a search radius of up to one mile from the project site and serves as the basis for defining the cumulative impacts study area.

Although some of the cumulative projects and other future projects associated with buildout of the surrounding communities also have potential impacts associated with hazardous materials, the environmental concerns associated with hazardous materials are typically site-specific. Each project is required to address any issues related to hazardous materials or wastes. Cumulative development

[6] Cal Fire. (2023). Fire Hazard Severity Zone Viewer. https://egis.fire.ca.gov/FHSZ/. Accessed January 2024.

projects would be required to assess potential hazardous materials impacts on the development site prior to grading. The Project and other cumulative projects would be required to comply with laws and regulations governing hazardous materials and hazardous wastes used and generated as described previously.

Projects must adhere to applicable regulations for the use, transport, and disposal of hazardous materials and implement mitigation in compliance with federal, State, and local regulations to protect against site contamination by hazardous materials. Compliance with all applicable federal, State, and local regulations related to hazardous materials would ensure that the routine transport, use, or disposal of hazardous materials would not result in adverse impacts. Additionally, site-specific investigations would be conducted at sites where contaminated soils or groundwater could occur to minimize the exposure of workers and the public to hazardous substances.

With adherence to applicable federal, State, and local regulations governing hazardous materials, the potential risks associated with hazardous wastes would be reduced to a level of less than significant. The incremental effects of the Project related to hazards and hazardous materials, are anticipated to be minimal, and any effects would be site-specific. Therefore, the Project would not result in incremental effects to hazards with respect to hazardous materials that could be compounded or increased when considered together with similar effects from other past, present, and reasonably foreseeable probable future projects. Therefore, the Project would not result in cumulatively considerable impacts to or from hazards or hazardous materials.

4.8.8 Level of Significance After Mitigation

The Project would result in less than significant impacts associated with hazards and hazardous materials. No mitigation is required. However, the Project would include Agua Mansa Industrial Corridor Specific Plan EIR Land Use Mitigation Measure 3 to further reduce less than significant impacts.

4.9 HYDROLOGY AND WATER QUALITY

4.9.1 Introduction

This section of the Environmental Impact Report (EIR) identifies and analyzes the potential impacts on hydrology (drainage flows), surface water quality, groundwater levels and groundwater quality available to the Santa Ana Truck Terminal Project (Project), while assessing the potential impacts the Project could have on those resources.

Information used in the preparation of this section include the following: the Final Drainage Report and the Water Quality Management Plan, prepared by Kimley-Horn and Associates, Inc. The Final Drainage Report and the Water Quality Management Plan (WQMP) are included as **Appendix L** and **Appendix M**, respectively.

4.9.2 Regulatory Setting

Federal Regulations

Clean Water Act

The Clean Water Act (CWA), as amended by the Water Quality Act of 1987, is the major federal legislation governing water quality. The objective of the CWA is "to restore and maintain the chemical, physical, and biological integrity of the Nation's waters." Important applicable sections of the CWA are as follows:

- Section 301 prohibits the discharge of any pollutant by any person, except as in compliance with Sections 302, 306, 307, 318, 402, and 404 of the CWA. Sections 303 and 304 provide for water quality standards, criteria, and guidelines.
- Section 401 requires an applicant for any federal permit that proposes an activity which may result in a discharge to "waters of the United States" to obtain certification from the State that the discharge will comply with other provisions of the CWA. The Regional Water Quality Control Board (RWQCB) provides certification.
- Section 402 establishes the National Pollution Discharge Elimination System (NPDES) a permitting system for the discharge of any pollutant (except for dredge or fill material) into waters of the United States. This permit program is administered by the RWQCB and is discussed later in this section.
- Section 404 establishes a permit program for the discharge of dredge or fill material into waters of the United States. This permit program is administered by the United States Army Corps of Engineers (USACE).

Federal Antidegradation Policy

The Federal Antidegradation Policy aims to protect and preserve the quality of water resources. It establishes guidelines to prevent the degradation of water bodies, including lakes, rivers, and streams. The policy requires states to implement measures that maintain or improve the existing water quality in areas designated as "high quality" or "outstanding national resource waters." Any proposed activities or projects that could potentially degrade the water quality must be carefully evaluated and limited to

minimize their impact. The goal of the federal antidegradation policy is to ensure the long-term sustainability and health of the nation's water resources for future generations.

National Flood Insurance Program

The purpose of the National Flood Insurance Program (NFIP) is to provide affordable flood insurance to property owners and communities that are at risk of flooding. The program was established by the federal government in 1968 to help mitigate the financial impact of flood damage and to encourage the adoption of floodplain management practices. The National Flood Insurance Policy enables property owners in participating communities to purchase flood insurance, which is not typically covered by standard homeowners' insurance policies. By offering flood insurance, the program aims to reduce the costs of recovery from flood events and promote the use of floodplain management regulations that help to minimize future flood damage. The NFIP also works to map flood risk areas and provide floodplain management assistance to communities to help them better understand and prepare for flooding.

National Pollution Discharge Elimination System

The NPDES was implemented under the Clean Water Act in the United States. Compliance with the NPDES requires permits for any point source discharges of pollutants into the country's water bodies. The objective of the program is to protect water quality and prevent harm to the environment and human health from these discharges. The program is overseen by the Environmental Protection Agency (EPA) and delegated to State agencies. NPDES permits establish specific requirements and limitations for entities that discharge pollutants.

Safe Drinking Water Act

The Safe Drinking Water Act was enacted in 1974 to ensure the safety of drinking water within the United States. It is administered by the EPA. The act sets standards for drinking water quality and establishes regulations for public water systems to follow. It includes provisions for monitoring and testing water for contaminants, such as bacteria, chemicals, and pollutants. The act also requires public water systems to treat water to meet these standards and provide information to consumers about the quality of their drinking water. Overall, the Safe Drinking Water Act aims to protect public health by ensuring access to safe and clean drinking water for all Americans.

State Regulations

California Porter-Cologne Water Quality Control Act

The State of California’s Porter-Cologne Water Quality Control Act (California Water Code Section 13000, et seq.) provides the basis for water quality regulation within California. The Act requires a “Report of Waste Discharge” for any discharge of waste (liquid, solid, or otherwise) to land or surface waters that may impair a beneficial use of surface or groundwater of the State. Waste discharge requirements (WDR) resulting from the report are issued by the RWQCB, as discussed below. In practice, these requirements are typically integrated within the NPDES permitting process. The State Water Resources Control Board (SWRCB) carries out its water quality protection authority through the adoption of specific Water Quality Control Plans (Basin Plans). These plans establish water quality standards for particular bodies of water. California water quality standards are composed of three parts: the designation of beneficial uses of

water, water quality objectives to protect those uses, and implementation programs designed to achieve and maintain compliance with the water quality objectives.

Clean Water Act Section 402

Section 402 of the Clean Water Act authorizes the SWRCB, a department of the California Environmental Protection Agency (CalEPA), to issue NPDES General Construction Storm Water Permit (Water Quality Order 99-08-DWQ), referred to as the "General Construction Permit." Construction activities can comply with and be covered under the General Construction Permit provided they:

- Develop and implement a Storm Water Pollution Prevention Plan (SWPPP) which specifies Best Management Practices (BMPs) that will prevent all construction pollutants from contacting storm water and with the intent of keeping all products of erosion from moving off-site into receiving waters;
- Eliminate or reduce non-storm water discharges to storm sewer systems and other waters of the nation; and
- Perform inspections of all BMPs.

The SWPPP must contain a visual monitoring program; a chemical monitoring program for "non-visible" pollutants to be implemented if there is a failure of BMPs; and a sediment monitoring plan if the construction site discharges directly to a water body listed on the 303(d) list for sediment. Increased compliance tasks under the adopted 2022 Construction General Permit include project risk evaluation, effluent monitoring, receiving water monitoring and electronic data submission of the SWPPP and all other permit registration documents. The SWPPP shall also include an Erosion Control Plan that would identify specific measures to control on-site and off-site erosion from the time ground disturbing activities are initiated through completion of grading. The Erosion Control Plan would be included with a project's Grading Plan and would be subject to approval by the City Engineer.

Sustainable Groundwater Management Act of 2014

The Sustainable Groundwater Management Act (SGWMA) aims to ensure long-term sustainability of groundwater resources. Under this act, local groundwater management agencies are required to develop and implement groundwater sustainability plans for priority groundwater basins. The SGMA includes various objectives and requirements to establish a framework for sustainable groundwater management, which include avoiding significant and unreasonable groundwater level declines, preventing undesirable impacts on water quality, and achieving long-term groundwater sustainability within 20 years of implementing the ground sustainability plans. The act also emphasizes the importance of local control and provides opportunities for stakeholder involvement in the development and implementation of groundwater sustainability plans.

Regional and Local Regulations

Santa Ana Regional Water Quality Control Board

The Santa Ana Regional Water Quality Control Board (SARWQCB) regulates State water quality standards in the City of Rialto. Beneficial uses and water quality objectives for surface water and groundwater

resources in the Project area are established in the water quality control plans of each RWQCB and mandated by the State Porter-Cologne Act and CWA. The RWQCB also implements the CWA Section 303(d) total maximum daily load (TMDL) process, which consists of identifying candidate water bodies where water quality is impaired by the presence of pollutants. The TMDL process is implemented to determine the assimilative capacity of the water body for the pollutants of concern and to establish equitable allocation of the allowable pollutant loading within the watershed. CWA Section 401 requires an applicant pursuing a federal permit to conduct any activity that may result in a discharge of a pollutant to obtain a water quality certification (or waiver) from the applicable RWQCB.

The RWQCB primarily implements basin plan policies through issuing waste discharge requirements for waste discharges to land and water. The RWQCB is also responsible for administering the NPDES permit program, which is designed to manage and monitor point and non-point source pollution. NPDES stormwater permits for general construction activity are required for projects that disturb more than one acre of land. Municipal NPDES stormwater permits are required for urban areas with populations greater than 100,000 persons. In addition, projects that involve the California Department of Transportation (Caltrans) are required to comply with the Caltrans statewide NPDES permit and associated Stormwater Management Plan (SEMP). Caltrans implements the SEMP in coordination with the RWQCB.

Rialto Municipal Code – Section 12.60.260 Stormwater Quality Management Plan (SWQMP)

Section 12.60.260 of the City's Municipal Code requires all qualifying development projects to submit an approved Storm Water Quality Management Plan (SWQMP) to the City prior to the issuance of any grading or building permit. The SWQMP applies to construction projects covered by the NPDES general construction permit. The purpose of the SWQMP is to establish measures included as BMPs to effectively manage and reduce pollutants carried by stormwater runoff and minimize impacts to water bodies.

Rialto General Plan 2010

During project review, approval and permitting, the City requires new development projects to address the quality and quantity of stormwater runoff through the incorporation of permanent (post-construction) BMPs into the Project's design.

The Rialto General Plan (General Plan) includes the following applicable policies related to flooding:

Goal 5-2 Minimize the risk and damage from flood hazards.

Policy 5-2.2 Require the implementation of adequate erosion control measures for development projects to minimize sedimentation damage to drainage facilities.

Policy 5-2.4 Require water retention devices in new developments to minimize flooding of the surface drainage system by peak flows.

4.9.3 Environmental Setting

Existing Conditions

Hydrology

The United States is divided into successively smaller hydrological areas, or units, which are then nested within each other. These regions are labeled from largest to smallest as regions (HUC 2), subregions

(HUC 4), basins (HUC 6), subbasins (HUC 8), watersheds (HUC 10), and subwatersheds (HUC 12).[1] Hydrological unit boundaries of each designation are delineated based on surface features of their geographic locations. The project site is located within the Santa Ana, Middle Santa Ana River, and East Etiwanda Creek-Santa Ana River watersheds. Each watershed is classified with a Hydrologic Unit Code (HUC) of HUC 8, HUC 10, and HUC 12, respectively.

The project site is located within the Santa Ana Basin. The Santa Ana Basin is the largest watershed in Southern California. The basin is home to over six million people and covers an approximately 2,700-square mile area of Orange, Riverside, San Bernardino, and Los Angeles counties. The quality of surface and groundwater is highest within the tributaries that flow from the surrounding mountains as well as groundwater recharge by these streams. Water quality decreases as it moves along hydraulic flow paths, as a result of various factors including consumptive use, importation of water high in dissolved solids, runoff from urban and agricultural areas, and the recycling of water within the basin.[2]

The project site was previously used for mining. The disturbance area of the former uses totals the entirety of the project site. Current activities on-site are limited to mining reclamation, which is anticipated to be completed in 2024, prior to the commencement of Project construction. Therefore, given that reclamation activities would be completed prior to Project construction, the analysis assumes a projected future condition (i.e., Rialto Plant Reclamation Plan completion) as the baseline condition. These reclamation activities include changes to topography, soil disturbance, and other geologic conditions within the project site to justify the use of a future baseline condition.

Precipitation frequency data for the Project area was retrieved from the National Oceanic and Atmospheric Administration's Atlas 14 (Rialto, California area). The National Weather Service data indicated that in 2023, the Project area experienced above-average precipitation of two to four inches.[3]

Soil and soil conditions affect infiltration and stormwater runoff of a site. Soils encountered on-site during the field investigation performed for the Final Drainage Report are considered "very low" expansive and are considered to be in hydrologic Group A. Group A soils having high infiltration rates even when thoroughly wetted consisting chiefly of deep, well to excessively drained sand and/or gravel. These soils have a high rate of water transmission and would result in a low runoff potential.

Under existing conditions, the project site has undergone mass grading and runoff generally flows southeast to a desilting basin, which discharges to the low-lying area located at the south side of the project site, where the water infiltrates into the soil.

[1] United States Geological Survey. (2013). Federal Standards and Procedures for the National Watershed Boundary Dataset (WBD). Pages 14 and 19. Reston, Virginia: United States Geological Survey. https://pubs.usgs.gov/tm/11/a3/pdf/tm11-a3_4ed.pdf. Accessed October 2023.

[2] United States Geological Survey (USGS). (2018). Santa Ana Basin, National Water Quality Assessment Program.https://www.waterboards.ca.gov/waterrights/water_issues/programs/enforcement/complaints/docs/investigation/40_usgs_santa_ana_basin_national_water_quality_assessment_program.pdf. Accessed October 2023.

[3] National Oceanic and Atmospheric Administration: National Weather Prediction Service. (2023). Advanced Hydrologic Prediction Service. https://water.weather.gov/precip/index.php?analysis_date=1546300800&lat=34.1204394164&location_name=sgx&location_type=wfo&lon=-117.3842106189&precip_layer=0.75&product=departure&recent_type=false&rfc_layer=-1&state_layer=-1&hsa_layer=-1&county_layer=-1&time_frame=year2date&time_type=year&units=eng&zoom=14&domain=current#. Accessed October 2023.

Groundwater

As described in the Geotechnical Investigation, exploratory borings were drilled to a maximum depth of 51.5 feet below ground surface and did not encounter groundwater. Two monitoring wells are located within the southern portion of the project site and were reported with groundwater depths of 73 feet and 68 feet below ground surface at the time of drilling. The historic minimum depth to groundwater within the project site ranges from 70 feet to 100 feet below the ground surface.

Flood Hazard

Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM) shows the project site being covered by one map panel, 06071C8686H.[4] No part of the project site is within a FEMA-mapped special flood hazard area. The project site is classified as Zone X, which identifies areas of minimal flooding. In addition, there are no dams, reservoirs or large water bodies near the project site. The Santa Ana River is approximately 0.7 miles southeast of the project site and is classified as Zone AE, which identifies regulatory floodways within a Special Flood Hazard Area.[5]

Water Quality

The amount of pollutants in the surface runoff is determined by the quantity of a material in the environment and its characteristics. In an urban environment, the quantity of certain pollutants in the stormwater systems is generally associated with the intensity of the land use. Within the middle Santa Ana River watershed, pathogens, harmful bacteria, and nitrates are pollutants of concern.[6]

4.9.4 Methodology

Hydrologic modeling was prepared using the Modified Rational Method and the methodology described in the San Bernardino County Hydrology Manual. Modeling assumptions are addressed in **Appendix L**.

The WQMP was prepared to comply with the requirements of the City of Rialto, San Bernardino County Municipal Storm Water Management Program and the NPDES Areawide Stormwater Program requiring the preparation of a WQMP. The WQMP is included as **Appendix M**.

4.9.5 Thresholds of Significance

State CEQA Guidelines Appendix G contains the Environmental Checklist Form, which includes questions concerning Hydrology and Water Quality. The questions presented in the Environmental Checklist Form have been used as significance criteria in this section. Accordingly, the Project would have a significant effect on the environment if it would:

a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality.

[4] United States Department of Homeland Security: Federal Emergency Management Agency (FEMA). (2023). National Flood Hazard Layer Viewer. https://hazards-fema.maps.arcgis.com/apps/webappviewer/index.html?id=8b0adb51996444d4879338b5529aa9cd&extent=-117.3667679130852,34.04522156648235,-117.32522585986149,34.06299944290883. Accessed October 2023.

[5] Ibid.

[6] State Water Resources Control Board (SWRCB). (2019). Santa Ana Region – Total Maximum Daily Loads (TMDLs). https://www.waterboards.ca.gov/santaana/water_issues/programs/tmdl/. Accessed October 2023.

b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin.

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;

   ii Substantially increase the rate or amount of surface 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;

   iv Impede or redirect flood flows.

d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation.

e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan.

4.9.6 Project Impacts and Mitigation

Impact 4.9-1: Would the project violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality?

Level of Significance: Less than Significant Impact

Construction

Construction activities associated with the development of the Project would be typical of those used in comparable truck terminal developments. Grading and earthmoving activities conducted during the Project's construction period may require the use of water for dust mitigation. Water from dust control and other liquids such as fuels, lubricants, and liquid wastes can create runoff that would temporarily affect water quality.

Construction activities for the lot, infrastructure, and the storm drain system would require a NPDES Construction General Permit, obtained from the CalEPA, SWRCB.[7] Prior to the issuance of a Construction General Permit, an approved SWPPP would need to be prepared for the Project. The SWPPP would identify site-specific construction BMPs to reduce or eliminate sediment and other pollutants in stormwater and non-stormwater runoff from the project site. BMPs are designed to control and prevent discharges of pollutants that can adversely impact the downstream surface water quality. Additionally, sedimentation and erosion control BMPs would protect groundwater quality. Construction BMPs would include, but not be limited to, the following:

Minimization of disturbed areas to the portion of the project site necessary for construction;

- Stabilization of exposed or stockpiled soils and cleared or graded slopes;

[7] SWRCB. (2023). Construction Stormwater Program. https://www.waterboards.ca.gov/water_issues/programs/stormwater/construction.html. Accessed October 2023.

- Establishment of permanent re-vegetation or landscaping as early as is feasible;
- Removal of sediment from surface runoff before it leaves the project site by silt fences or other similar devices around the site perimeter;
- Diversion of upstream runoff around disturbed areas of the project site;
- Protection of all storm drain inlets on-site or downstream of the project site to eliminate entry of sediment;
- Prevention of tracking soils and debris off-site through use of a gravel strip or wash facilities, which will be located at all construction exits from the project site;
- Proper storage, use, and disposal of construction materials, such as solvents, wood, and gypsum; and
- Continual inspection and maintenance of all BMPs through the duration of construction.

As identified in Standard Condition (**SC**) **HYD-1**, preparation, implementation, and participation with the Construction General Permit, including preparation of a SWPPP containing site-specific BMPs, would reduce Project construction impacts on water quality to acceptable levels. Compliance with **SC HYD-2** would require the Project provide a SWQMP specifically identifying BMPs that will be incorporated into the Project to control stormwater and non-stormwater pollutants during and after construction. Compliance with **SC HYD-3** would require preparation of an Erosion Control Plan that identifies specific measures to control on-site and off-site erosion. Therefore, **SC HYD-1** through **SC HYD-3** are proposed to preclude the violation of water quality standards during and after construction. Thus, impacts would be less than significant.

Operations

The City of Rialto requires a SWQMP be prepared for any industrial/warehouse/commercial development of 100,000 square feet (sf) or more. The SWQMP must be approved by the City Engineer prior to the issuance of any grading or building permit. The Project's WQMP included as **Appendix M**, addresses post-construction water quality. Stormwater generated by the Project would be captured and conveyed to an underground detention vault through a network of proposed catch basins, inlets, and underground piping. The underground detention basin would serve as a storage facility with a modular wetland unit attached to the outflow pipe which would allow treatment of water, which would then be pumped to an on-site dry well. To address the 100 -year storm event and meet the capacity needs of the upstream dry well, the pump would be sized to achieve a 48-hour draw down time in the underground basin. Any on-site area that flows away from the project site and off-site area that drains towards the project site would be collected in a series of brow ditches and storm drain pipes, and is ultimately dispersed at the southern portion of the project site to match the existing drainage condition of the project site. Similar to existing conditions, during operation water would infiltrate into the ground over a duration of time. With implementation of the SWQMP, Project operation would not result in significant impacts to surface or groundwater quality. Operation impacts would be less than significant.

Mitigation Program

Standard Conditions

SC HYD-1: The Applicant or his/her designees shall obtain a General Permit for Stormwater Discharge Associated with Construction Activity (Construction Activity General Permit). The Applicant or his/her designees shall provide a copy of this permit to the City Public Works Department prior to the issuance of the first grading permit.

SC HYD-2: Prior to issuance of the first grading permit, the Applicant shall submit to the City Engineer for approval, a SWQMP specifically identifying BMPs that will be incorporated into the Project to control stormwater and non-stormwater pollutants during and after construction. To ensure compliance, a legal and fiduciary enforcement mechanism in the form of a Storm Water Quality Management Plan Agreement shall be executed with the City of Rialto. This agreement shall additionally be recorded in the office of the County Recorder for the County of San Bernardino. The SWQMP shall specify best management practices specific to the project site, which shall be integrated into the stormwater conveyance plan. The plan shall identify specific strategies, including the following.

- Site design features, including maximizing open space, preservation of natural drainages, and minimization of impervious surfaces.
- Source control features, including leveraging public outreach and education, use of appropriate landscaping, and covering trash storage areas.
- Treatment controls, including the use of underground chambers.

SC HYD-3: An Erosion Control Plan shall be prepared, and included with the Project's grading plan, and implemented for the Project that identifies specific measures to control on-site and off-site erosion from the time ground disturbing activities are initiated through completion of grading. The Erosion Control Plan shall include the following measures at a minimum:

- Specify the timing of grading and construction to minimize soil exposure to rainy periods experienced in Southern California; and
- An inspection and maintenance program shall be included to ensure that any erosion which does occur either on-site or off-site as a result of this Project will be corrected through a remediation or restoration program within a specified time frame.

Mitigation Measures

Agua Mansa Industrial Corridor Specific Plan EIR Mitigation Measures

No mitigation measures are applicable.

Project Mitigation Measures

No mitigation is required.

Impact 4.9-2: Would the project substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?

Level of Significance: Less Than Significant Impact

The project site is within the service area of the West Valley Water District. The Project does not propose to use groundwater. According to the Geotechnical Investigation the minimum depth to groundwater within the project site ranges from 70 feet to 100 feet below the ground surface. Excavation during Project construction would reach a maximum depth of 22 feet. Therefore, construction activities would not significantly impact groundwater at the project site. The proposed underground detention facility would serve as a storage facility with a modular wetland unit attached to the outflow pipe, which will then pump water to an on-site drywell. The proposed dry well would allow stormwater to reach soils with favorable infiltration rates. Additionally, the Project would include approximately 10.8 acres of landscaping (23.6 percent of the project site), which would allow stormwater to infiltrate. Therefore, the Project would not significantly impact local groundwater recharge or impede sustainable groundwater management of the basin. Impacts would be less than significant.

Mitigation Program

Standard Conditions

No standard conditions are applicable.

Mitigation Measures

Agua Mansa Industrial Corridor Specific Plan EIR Mitigation Measures

No mitigation measures are applicable.

Project Mitigation Measures

No mitigation is required.

Impact 4.9-3i: Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would result in substantial erosion or siltation on- or off-site?

Level of Significance: Less Than Significant Impact

Project implementation would alter the project site's existing drainage pattern. The project site currently consists of previously disturbed land. Following implementation of the Rialto Plant Reclamation Plan, the project site would have undergone mass grading and the site would be 100 percent pervious. As such, Project implementation would result in an increase in impervious surfaces on-site. To mitigate potential impacts as a result of an increase in impervious surfaces, the Project would implement Hydrology and Flood Control Mitigation Measure 2 of the Agua Mansa Industrial Corridor Specific Plan (Specific Plan) EIR, which requires the Project to minimize the amount of impervious surfaces on-site where feasible. As such, the project site would include approximately 10.8 acres of landscaping (23.6 percent of the project site) to minimize the amount of impervious surfaces on-site.

Further, the proposed drainage facilities have been sized to adequately treat runoff water from the project site, and the project site does not include discharge to any streams or rivers. The Project would be required to prepare an Erosion Control Plan and SWPPP, which would implement BMPs to minimize on-site and off-site erosion and siltation. Additionally, to further reduce potential impacts, the Project would implement Hydrology and Flood Control Mitigation Measure 2 of the Specific Plan EIR. Impacts would be less than significant.

Mitigation Program

Standard Conditions

No standard conditions are applicable.

Mitigation Measures

Agua Mansa Industrial Corridor Specific Plan Mitigation Measures: Hydrology and Flood Control

Mitigation Measure 2: Where feasible, the extent of impervious surfaces on individual industrial sites should be limited to minimize the quantity of storm run-off.

Project Mitigation Measures

No mitigation is required.

Impact 4.9-3ii: Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?

Impact 4.9-3iii: Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would 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?

Impact 4.9-3iv: Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would impede or redirect flood flows?

Level of Significance: Less than Significant Impact

The Project would include the development of a truck terminal, maintenance shop, and associated on- and off-site improvements. Following implementation of the Rialto Plant Reclamation Plan, the project site would have undergone mass grading and the site would be 100 percent pervious. As such, Project implementation would result in an increase in impervious surfaces on-site. The proposed development may cause changes in absorption rates, drainage patterns, and the rate and amount of surface water runoff.

The Project would capture and convey stormwater generated by the Project to an underground detention vault through a network of proposed catch basins, inlets, and underground piping. The proposed underground detention vault would serve as a storage facility and would include a modular wetland unit attached to the outflow pipe to allow treatment of water. Following treatment, runoff would be pumped to an on-site dry well. Any on-site area that flows away from the project site and off-site area that drains towards the project site will be collected in a series of brow ditches and storm drain pipes and would be dispersed at the south side of the project site to match the existing drainage condition. Further, similar to existing drainage conditions, water would infiltrate into the ground over a duration of time. With

implementation and maintenance of the proposed drainage system, impacts would be less than significant.

Mitigation Program

Standard Conditions

No standard conditions are applicable.

Mitigation Measures

Agua Mansa Industrial Corridor Specific Plan EIR Mitigation Measures

No mitigation measures are applicable.

Project Mitigation Measures

No mitigation is required.

Impact 4.9-4 Would the project in flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?

Level of Significance: Less than Significant Impact

As previously discussed, the project site is not located within a FEMA-mapped special flood hazard area.[8] The nearest body of water to the project site is the Santa Ana River, located approximately 0.7 miles to the southeast. No lakes, ponds, or partially closed standing bodies of water are located within or near the project site. The project site is located approximately 45.9 miles east of the Pacific Ocean. Therefore, the project site is not located within an area with risk of seiche or tsunami. Further, the WQMP and SWPPP prepared for the Project, would limit pollution rates from stormwater conveyance. The application of stormwater plans in the SWQMP and SWPPP as well as the minimal flood risk of the surrounding area would result in a less than significant impact.

Mitigation Program

Standard Conditions

No standard conditions are applicable.

Mitigation Measures

Agua Mansa Industrial Corridor Specific Plan EIR Mitigation Measures

No mitigation measures are applicable.

Project Mitigation Measures

No mitigation is required.

[8] United States Department of Homeland Security: Federal Emergency Management Agency (FEMA). (2023). National Flood Hazard Layer Viewer. https://hazards-fema.maps.arcgis.com/apps/webappviewer/index.html?id=8b0adb51996444d4879338b5529aa9cd&extent=-117.3667679130852,34.04522156648235,-117.32522585986149,34.06299944290883. Accessed October 2023.

4.9.7 Cumulative Impacts

The potential for hydrology and water quality impacts are the areas immediately upstream and downstream of the project site. This area is defined under the Agua Mansa Industrial Corridor Specific Plan as High Industrial. As development occurs within the Specific Plan area, local surface and groundwater resources will be incrementally impacted as native soils are covered over, which will decrease percolation and increase runoff and urban pollutants. Similar to the Project, the cumulative projects will be required to prepare SWPPPs, which will prevent construction-related pollutants from contaminating stormwater. Larger, future development projects, including the Project, will be required to prepare WQMPs.

4.9.8 Level of Significance After Mitigation

The Project would result in less than significant impacts associated with hydrology and water quality. No mitigation is required. However, the Project would implement Agua Mansa Industrial Corridor Specific Plan EIR Hydrology and Flood Control Mitigation Measure 2 to further reduce less than significant impacts.

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4.10 LAND USE AND PLANNING

4.10.1 Introduction

This section of the Environmental Impact Report (EIR) describes the land use conditions for the project site and discusses potential land use impacts that could result from implementation of the Santa Ana Truck Terminal Project (Project). The pre-development condition of the project site and surrounding area was used as the baseline which to compare potential impacts associated with the Project. The baseline with which to compare potential impacts associated with the Project are based on conditions following implementation of the Rialto Plant Reclamation Plan.

4.10.2 Regulatory Setting

State Regulations

Senate Bill 375

Senate Bill 375 is a legislation that aims to address climate change by promoting sustainable land use and transportation planning by reducing vehicle miles traveled and promote more sustainable and efficient transportation systems within California. The bill requires regional agencies to develop and implement a Sustainable Communities Strategy (SCS) as part of their regional transportation plans. The purpose SCS is to reduce greenhouse gas emissions, promoting compact development, and increasing transportation options. The bill encourages collaboration between local governments, transportation agencies, and other stakeholders to achieve these goals.

Regional Regulations

Southern California Association of Governments

Southern California Association of Governments (SCAG) is a council of governments representing Los Angeles, Orange, San Bernardino, Riverside, Ventura, and Imperial counties. SCAG is the federally recognized Metropolitan Planning Organization (MPO) for this region. SCAG is a regional planning agency and a forum for addressing regional issues concerning transportation, the economy, community development, and the environment. SCAG is also the regional clearinghouse for projects requiring environmental documentation under federal and State law. In this role, SCAG reviews proposed development and infrastructure projects to analyze their impacts on regional planning programs. As the Southern California region's MPO, SCAG cooperates with the South Coast Air Quality Management District (SCAQMD), Caltrans, and other agencies in preparing regional planning documents. SCAG has developed the Regional Comprehensive Plan, the Regional Housing Needs Assessment, and the Regional Transportation Plan/Sustainability Communities Strategy.

Regional Comprehensive Plan

SCAG's 2008 Regional Comprehensive Plan (RCP) is a comprehensive, integrated policy plan that addresses regional issues related to growth management and development. The RCP provides a policy framework for preparing local plans and handling issues of regional significance, such as land use and housing, open space and biological habitats, water, energy, air quality, solid waste, transportation, security and emergency preparedness, economy, and education. The RCP advances regional planning by incorporating

an integrated approach between SCAG, State and local governments, transportation commissions, resources agencies and conservation groups, the private sector, and the general public.

The RCP aims to successfully integrate land and transportation planning and achieve land use and housing sustainability by implementing Compass Blueprint and 2% Strategy. Adopted goals related to implementation of the Compass Blueprint and 2% Strategy are contained primarily in the Land Use and Housing chapter of the RCP. Goals applicable to the Project include:

- Focusing growth in existing and emerging centers and along major transportation corridors
- Injecting new life into under-used areas by creating vibrant new business districts, redeveloping old buildings and building new businesses and housing on vacant lots

The Regional Housing Needs Assessment is discussed in Section 4.13*, Population and Housing,* and the Regional Transportation Plan/Sustainable Communities Strategy is discussed in Section 4.2, *Air Quality*, Section 4.7, *Greenhouse Gas Emissions*, 4.13, *Population and Housing*, and Section 4.15, *Transportation,* of this EIR.

Regional Transportation Plan/Sustainable Communities Strategy

The Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) is a long-range visioning plan that builds upon and expands land use and transportation strategies established over several planning cycles to increase mobility options and achieve a more sustainable growth pattern. Section 4.9.2 of the 2020-2045 RTP/SCS identifies ten goals that fall into four categories: economy, mobility, environment and healthy/complete communities.

1. The goals include the following: Encourage regional economic prosperity and global competitiveness;
2. Improve mobility, accessibility, reliability, and travel safety for people and goods;
3. Enhance the preservation, security, and resilience of the regional transportation system;
4. Increase person and goods movement and travel choices within the transportation system;
5. Reduce greenhouse gas emissions and improve air quality;
6. Support healthy and equitable communities;
7. Adapt to a changing climate and support an integrated regional development pattern and transportation network;
8. Leverage new transportation technologies and data-driven solutions that result in more efficient travel;
9. Encourage development of diverse housing types in areas that are supported by multiple transportation options; and
10. Promote conservation of natural and agricultural lands and restoration of habitats.

The Regional Housing Needs Assessment is discussed in Section 4.13*, Population and Housing.*

Local Regulations

City of Rialto General Plan 2010

A general plan functions as a guide for the type of community that is desired for the future and provides the means to achieve it. The Rialto General Plan (General Plan) contains the following chapters related to the State mandated elements required for a General Plan: Managing Our Land Supply; Investing in Our Future; Making the Connections: the Circulation Chapter; Safety and Noise; Housing Element; Our Roots: Cultural and Historic Preservation; and Implementation Plan, which are described below. The General Plan Land Use Plan Map visually represents the physical relationship of all portions of the text, including development densities.

Chapter 2: Managing Our Land Supply. The Managing Our Land Supply Chapter combines the elements of Land Use, Community Design, Open Space, and Conservation. Its purpose is to guide long-term physical changes while providing and conserving community and natural resources. The chapter establishes the City's preferred land use patterns, guides the visual character of public places and private development, and creates conservation and protection plans for natural resources and open space. Its primary goal is to direct the use of the City's land resources in an equitable and productive manner to enhance the quality of life for residents and the overall community.

Chapter 3: Investing In Our Future. The Investing In Our Future Chapter discusses the economic development, redevelopment, and infrastructure plans. With the goals and policies set forth in this Chapter, the City aims to address the economic needs of the community, focus on redevelopment of project areas within the City, and maintain reliable public utility infrastructure.

Chapter 4: Making the Connections: The Circulation Element. The Circulation Element is a required part of the General Plan, and is designed to guide the development of the City's transportation system in line with the land use plan. Its purpose is to ensure that major roadways, transportation routes, and public utilities are coordinated with land use. The Circulation Element for the City of Rialto considers the increasing demand for travel due to development and the growth of its logistics industry. The Circulation Element aims to create a system of Complete Streets that accommodates the needs of all users, including pedestrians, cyclists, motorists, and public transportation users.

Chapter 5: The Safety and Noise Chapter. The City takes a proactive approach to planning by addressing hazards that may pose a threat to property and lives. These hazards include seismic and geologic hazards, flood hazards, fire hazards, hazardous materials, gangs, emergency response, and wind hazards. Although the City cannot prevent these hazards, it aims to minimize their effects through the goals and policies included in this chapter. Additionally, by addressing issues such as crime and hazardous materials use, Rialto can better respond to emergency situations and protect the community.

Chapter 6: Housing Element. The Housing Element is a required element of the General Plan. The City is currently under its sixth cycle Housing Element 2021 – 2029. The Housing Element serves as a comprehensive and coordinated strategy for promoting the development of safe, decent, and affordable housing for all members of the community.

Chapter 7: Our Roots: Cultural and Historic Resources. The City recognizes the significance of its cultural and historical resources in shaping its identity and development. Through the goals and policies provided

within this chapter, the City aims is to provide direction for preserving the City's cultural and historic resources.

Chapter 8: Implementation Plan. The Implementation Plan serves as a guide for City officials, staff, and the public to implement the goals and policies outlined in the General Plan. It translates the general terms of the General Plan into specific actions and measures. These measures can be existing processes or new programs that require City action and may be subject to funding availability. The measures are organized by General Plan elements and are intended to be used for the Annual Report on the City's progress in implementing the General Plan.

The City of Rialto General Plan is the comprehensive planning document governing development in the City, and contains goals, policies, and actions describing the community's vision for economic viability, livable neighborhoods, and environmental protection. The General Plan establishes land use designations for land in the City and policies for the orderly growth and development of the City of Rialto. Among other purposes, the General Plan identifies policies necessary to protect and enhance those features and services which contribute to the quality of life of the community in which it serves.

The project site has a General Plan land use designation of General Industrial. The General Industrial designation allows for a broad range of heavy industrial activities. The General Industrial designation permits manufacturing and distribution, heavy equipment operations, and similar uses.[1] The designation allows for a maximum Floor to Area Ratio (FAR)[2] of 1.0. The Project's proposed uses are allowed under the General Plan designation for the project site.

Agua Mansa Industrial Corridor Specific Plan

The Agua Mansa Industrial Corridor Specific Plan (Specific Plan) serves as a comprehensive and strategic framework designed to guide the responsible and sustainable development of a designated industrial area. Its primary purpose is to facilitate the growth and enhancement of economic activity, job opportunities, and infrastructure within the corridor, while simultaneously ensuring the protection of natural resources and the overall well-being of the community. By outlining land use regulations, zoning guidelines, transportation improvements, the Specific Plan seeks to create a cohesive and harmonious environment that supports both industrial growth and the quality of life for residents. The Specific Plan aims to establish a thriving and resilient industrial hub that benefits the local economy and maintains a high standard of living for the Rialto community. Requirements of the Specific Plan that are applicable to the Project supersede the requirements of the General Plan and the City's Zoning Code.

The project site has a Heavy Industrial (H IND) land use designation within the Specific Plan. The H IND land use is identified as an industrial land use designation. Permitted uses within the H IND land use designation include transit and transportation terminals, repairs, and storage facilities.

City of Rialto Municipal Code – Title 18: Zoning

Title 18 of the Rialto Municipal Code functions as the City's Zoning Ordinance, which identifies the permitted land uses on all parcels in the City through assigned land use designations and associated land use regulations and development standards. According to the City's zoning map, the project site is located

[1] City of Rialto. (2010). Rialto General Plan. https://www.yourrialto.com/653/General-Plan.
[2] Floor Area Ratio is the measurement of a building's floor area in relation to the size of the parcel.

within the Agua Mansa Industrial Corridor Specific Plan area. As such, applicable requirements of the Specific Plan supersede requirements of the Zoning Code.

4.10.3 Environmental Setting

Existing and Surrounding Land Uses

The project site is approximately 45.7 acres located directly south of East Santa Ana Avenue and approximately 0.4 miles east of Riverside Avenue. Current activities on-site are limited to mining reclamation, which is anticipated to be completed in 2024, prior to the commencement of Project construction. The project site is surrounded by existing industrial uses; the Santa Ana River and Loma Hills are located approximately 0.9 miles to the south.

General Plan and Zoning Designations

The project site has a General Plan designation of General Industrial and a land use designation of Heavy Industrial (H IND) within the Specific Plan. The project site is zoned Agua Mansa Industrial Corridor Specific Plan within the City of Rialto (City).

4.10.4 Methodology

The baseline with which to compare potential impacts associated with the Project are based on conditions following implementation of the Rialto Plant Reclamation Plan. The analysis of the project site is based on the conditions of the site when the Notice of Preparation (NOP) was published. The Project is evaluated against the significance criteria below, as the basis for determining the level of impacts related to land use and planning. This analysis considers existing regulations, laws and standards that serve to avoid or reduce potential environmental impacts. Where significant impacts remain, feasible mitigation measures are recommended, where warranted, to avoid or lessen the Project's significant adverse impacts.

4.10.5 Thresholds of Significance

The following significance criteria for land use and planning were derived from the Environmental Checklist in the State CEQA Guidelines, Appendix G. An impact of a project could be considered significant and may require mitigation if it meets one of the following criteria:

- Physically divide an established community.
- Cause a significant environmental impact due to a conflict with any plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect.

4.10.6 Project Impacts and Mitigation

Impact 4.10-1: Would the project physically divide an established community?

Level of Significance: No Impact

The Project could have a significant environmental impact if it were sufficiently large or otherwise configured in such a way as to create a physical barrier or other physical division within an established community. For example, the construction of a highway through an existing community could constrain travel from one side of the community to another, as well as the cohesiveness of that community.

As proposed, the Project would include the construction of a truck terminal. The Project would include 679 trailer parking spaces, 100 tractor parking spaces, and 149 passenger vehicle parking spaces. Additionally, the Project would include a maintenance shop with 8 bays. The project site does not currently provide any connection to existing neighborhoods in the general area, nor does it provide connectivity or accessibility to other neighboring uses. The Project would not include the construction or alteration of roadways that would disrupt adjacent land uses. Additionally, the Project does not propose features such as a highway or above-ground infrastructure that preclude or impede movements through the project site, such that a permanent disruption in the physical arrangement of the surrounding community or isolation of that community would occur. Therefore, the Project would not physically divide an established community and no impact would occur.

Mitigation Program

Standard Conditions

No standard conditions are applicable.

Mitigation Measures

Agua Mansa Industrial Corridor Specific Plan EIR Mitigation Measures

No mitigation measures are applicable.

Project Mitigation Measures

No mitigation is required.

Impact 4.10-2: Would the project cause a significant environmental impact due to a conflict with any plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?

Level of Significance: Less than Significant Impact

Regional Comprehensive Plan Analysis

Consistent with the RCP, the Project would bring new business to a vacant lot with the construction of the proposed truck terminal on land zoned for industrial land uses. The Project would be consistent with the existing zoning and land use designation of the project site. The project site is zoned High Industrial (H IND) within the Specific Plan, which accommodates the proposed uses of the Project. Further, the project site is surrounded by existing industrial land uses and is not located adjacent to residential land uses. As such, Project implementation is consistent with the RCP.

Regional Transportation Plan/Sustainable Communities Strategy Analysis

Project relevant RTP/SCS goals and policies for land use and planning are addressed below.

1. Encourage regional economic prosperity and global competitiveness
4. Increase person and goods movement and travel choices within the transportation system
7. Adapt to a changing climate and support an integrated regional development pattern and transportation network

Consistent with Goal 1, implementation of the Project would result in the development of a truck terminal on vacant land and provide additional employment opportunities within the community. Additionally, consistent with Goals 4 and 7, the Project would address the increase in demand for truck terminals, supporting an increase in the movement of goods. Additionally, the Project would include on-site and pedestrian access to the project site (i.e., sidewalks). Further, as discussed in Section 4.15, Transportation, the Project would implement project Mitigation Measure **MM TRF-1**, which would require the preparation of a Transportation Demand Management (TDM) plan using feasible reduction strategies such as providing a rideshare program and end of trip bicycle facilities to further the goals of the RTP/SCS. Therefore, the Project is consistent with applicable goals of the 2020-2045 RTP/SCS.

The RTP/SCS is discussed further in Section 4.2, *Air Quality*, Section 4.7, *Greenhouse Gas Emissions*, 4.13, *Population and Housing*, and Section 4.15, *Transportation,* of this EIR.

General Plan Consistency Analysis

Project-relevant General Plan goals and policies for land use and planning are addressed in **Table 4.10-1: General Plan Consistency Analysis**, below.

Table 4.10-1: General Plan Consistency Analysis

General Plan Policy	Project Consistency
Chapter 2: Managing Our Land Supply	
Goal 2-9: Protect residential, schools, parks, and other sensitive land uses from the impacts associated with industrial and trucking-related land uses, as well as commercial and retail areas.	**Consistent.** The project site is zoned High Industrial within the Agua Mansa Industrial Corridor Specific Plan and is surrounded by existing industrial uses. The nearest sensitive receptor is a single-family residence located approximately 2,800 feet to the southwest of the project site. As discussed throughout the EIR, Project implementation would not result in significant impacts to sensitive land uses.
Policy 2-9.1: Require mitigation and utilize other techniques to protect residential development and other sensitive land uses near industrial land uses or within identifiable health risk areas from excessive noise, hazardous materials and waste releases, toxic air pollutant concentrations and other impacts.	**Consistent**. The nearest residential development to the project site is located approximately 2,800 feet to the southwest. Project implementation would not result in significant impacts to sensitive land uses. As discussed in Section 4.2, *Air Quality*, to reduce potential health impacts, the Project would implement **MM AIR-1**, which would require emergency generators to meet California Resources Board standards and the Project to use zero emissions outdoor cargo handling equipment. To reduce potential hazards and hazardous materials impacts, the Project would implement Agua Mansa Industrial Corridor Specific Plan Land Use Mitigation Measure 3, which would require the transportation, generation, processing, and storage of hazardous materials to be handled consistent with the regulations of the Environmental Protection Agency, the State Department of Health Services, and the South Coast Air Quality Management District. Lastly, to reduce potential hazards and hazardous materials impacts, the Project would implement Agua Mansa Industrial Corridor Specific Plan EIR Environmental Health and Hazards Mitigation Measures 1 through 4, which would require Project implementation to adhere to noise level standards and the use of noise retardant measures.
Policy 2-9.2: Require all industrial development to front on an improved street with appropriate from yard setbacks, landscaping and façade and entrance treatments.	**Consistent**. The Specific Plan development standards require a minimum 25-foot front setback. The proposed truck terminal would be set back more than 44 feet from the property line along East Santa Ana Avenue. The Specific Plan does not require side or rear setbacks; however, the Project would include a landscaped perimeter, including the 105-foot pole line easement on the southern portion of the project site. In addition, the Project would include improvements to the segment of East Santa Ana Avenue located north of the project site. Improvements would include paving and the undergrounding of overhead utilities.
Goal 2-11: Design streetscapes in Rialto to support and enhance the City's image as a desirable place to live, work, shop, and dine.	**Consistent.** The Project would include a sidewalk and landscaping along the Project frontage on East Santa Ana Avenue.
Policy 2-11.1: Require the screening of commercial or industrial parking areas, storage yards, stockpiles, and other collections of equipment from the public right-of-way.	**Consistent**. The Project would include a retaining wall along the eastern boundary of the project site, screening views of parking areas from the adjacent parcels. Additionally, the Project would include landscaping along the boundaries of the project site.
Goal 2-14: Protect scenic vistas and scenic resources.	**Consistent.** As discussed in Section 4.1, *Aesthetics*, the project site is surrounded by existing industrial uses and is not located within an area designated by the City as a scenic vista. Further, views of designated scenic resources from the project site are limited and interrupted.

Table 4.10-1: General Plan Consistency Analysis

General Plan Policy	Project Consistency
Policy 2-14.1: Protect views of the San Gabriel and San Bernardino Mountains by ensuring that building heights are consistent with the scale of surrounding, existing development.	**Consistent**. The San Gabriel Mountains are located approximately 10 miles to the northwest and the San Bernardino Mountains are located approximately 14 miles to the east. The Specific Plan does not have a height building limit. As discussed in Section 4.1, *Aesthetics*, although Project implementation would result in the partial obstruction of designated scenic vistas, these views are currently obstructed by existing urban development.
Policy 2-14.2: Protect views of the La Loma Hills, Jurupa Hills, Box Spring Mountains, Moreno Valley, and Riverside by ensuring that building heights are consistent with the scale of surrounding, existing development.	**Consistent.** The La Loma Hills are located approximately 0.9 miles to the southeast, Jurupa Hills are located approximately 3.1 miles to the west, Box Springs Mountains are located approximately 7 miles to the southeast, the City of Moreno Valley is located approximately 8 miles to the southeast, and the City of Riverside is located approximately 2.1 miles to the south. The Specific Plan does not identify a maximum height requirement for Heavy Industrial land uses. As discussed in Section 4.1, *Aesthetics*, although Project implementation would result in the partial obstruction of designated scenic vistas, these views are currently obstructed by existing urban development.
Policy 2-14.3: Ensure use of building materials that do not produce glare, such as polished metals or reflective windows.	**Consistent.** The proposed building materials include metal wall panels, concrete, galvalume metal roofing, and a glass curtain wall. The proposed building materials are not reflective and do not produce substantial glare.
Goal 2-17: Provide high-quality and environmentally sustainable landscaping.	**Consistent.** The Project would include approximately 10.8 acres of landscaping throughout the project site. The proposed landscaping would include native plant species and drought-tolerant plant species.
Policy 2-17.1: Require the planting of street trees along public streets and inclusion of trees and landscaping for private developments to improve airshed, minimize urban heat island effect, and lessen impacts of high winds.	**Consistent.** The Project would include approximately 10.8 acres of landscaping throughout the project site. The proposed landscaping would include the planting of various trees along the Project's frontage on East Santa Ana Avenue and within the passenger vehicle parking area.
Policy 2-17.3: Require use of drainage improvements designed, with native vegetation where possible, to retain or detain water runoff and minimize pollutants into drainage system.	**Consistent.** Landscaping would be included throughout the project site to retain runoff. The proposed landscaping would include native plant species. The proposed drainage improvements would include a modular wetland unit to improve water quality of runoff.
Goal 2-22: Promote commercial and/or industrial development that is well designed, people-oriented, environmentally sustainable, sensitive to the needs of the visitor or resident, and functionally efficient for its purpose.	**Consistent.** The Project would include the development of one truck terminal and one maintenance shop. The design of the proposed development would require City approval prior to construction. Project implementation would provide employment opportunities and new truck and trailer parking to respond to current market demands.

Table 4.10-1: General Plan Consistency Analysis

General Plan Policy	Project Consistency
Policy 2-22.2: Encourage architecture which disaggregates massive buildings into smaller parts with greater human scale.	**Consistent.** The proposed truck terminal and maintenance shop would both be one story buildings. The proposed truck terminal would be approximately 24 feet in height, and the maintenance shop would be approximately 22 feet in height. Materials used would include metal wall panels, concrete, galvalume metal roofing, and a glass curtain wall as well as various colors to reduce the overall sense of perceived mass. As discussed in Section 4.1, *Aesthetics*, the Project would not result in significant visual impacts.
Policy 2-22.3: Require that landscaping be incorporated into commercial and industrial projects to define and emphasize entrances, inclusive of those areas along the front of a building facing a parking lot.	**Consistent.** Landscaping would be included throughout the project site. Landscaping would include various trees, shrubs, and groundcovers. To emphasize the entrance of the site, landscaping would include pedestrian walkways, plantings, and lighting to create a visually appealing entrance.
Policy 2-22.5: Require developments to provide pedestrian and vehicle connections and pathways between parking lots at the rear and front of buildings.	**Consistent.** Vehicle access to the project site would be provided via one full-access driveway located on East Santa Ana Avenue. One additional emergency vehicle only driveway would be located at the northeastern corner of the project site, along East Santa Ana Avenue. Pedestrian access to the project site would be provided via the proposed sidewalk along East Santa Ana Avenue. As shown in **Figure 3-4a** and **Figure 3-4b**, Pedestrian ramps would be to the proposed Truck Terminal would be separated from truck areas by handrails.
Goal 2-23: Minimize the visual impact of parking lots	**Consistent.** The Project would include landscaping along the property boundaries and within passenger vehicle parking area to screen views of parking areas from adjacent land uses and roadway users.
Policy 2-23.1: Require the use of drainage improvements designed, with native vegetation where possible, to retain or detain water runoff and minimize pollutants into drainage system.	**Consistent.** As discussed under consistency to **Policy 2-17.3**, Landscaping would be included throughout the project site to retain runoff. The proposed drainage improvements would include a modular wetland unit to improve water quality of runoff.
Goal 2-28: Protect and enhance Rialto's surface waters and groundwater basins.	**Consistent.** As discussed in Section 4.9, *Hydrology and Water Quality*, to protect the City's surface waters and groundwater basins, the Project has prepared a project-specific Storm Water Pollution Prevention Plan (SWPPP) and Water Quality Management Plan (WQMP). Both the SWPPP and WQMP would include measures to protect water quality during Project construction and operation.
Policy 2-28.3: Design sidewalks, roads, and driveways to minimize impervious surfaces; provide flood control channels with permeable bottoms to help restore groundwater aquifers.	**Consistent.** The Project site would include 10.8 acres of landscaping (23.6% of the project site). The remaining 34.9 acres of the project site would be pervious, which would include pedestrian walkways, driveways, and surface parking. The proposed driveways and sidewalks would be designed in accordance with City code.

Table 4.10-1: General Plan Consistency Analysis

General Plan Policy	Project Consistency
Goal 2-29: Conserve water resources.	**Consistent.** As discussed in Section 4.17, *Utilities and Service Systems*, the West Valley Water District is anticipated to have water supply capacity to serve the Project during normal, dry, and multiple dry years. The proposed industrial uses would require minimal water consumption during operation.
Policy 2-29.1: Require new development to use features, equipment, technology, landscaping, and other methods to reduce water consumption.	**Consistent.** Landscaping would be included throughout the project site and a modular wetland unit would be included to retain stormwater runoff. The proposed landscaping would include native vegetation. The proposed industrial use would require minimal water consumption during operation. As discussed in Section 4.9, *Hydrology and Water Quality*, the Project would be consistent with the existing land use and zoning. As such, the proposed water usage has been accounted for.
Goal 2-30: Incorporate green building and other sustainable building practices into development projects.	**Consistent.** The Project would comply with the requirements of the 2022 Green Building Standards, which includes requirements for construction waste reduction, selection of construction material and conservation.
Policy 230-1: Explore and adopt the use of green building standards and Leadership in Energy and Environmental Design (LEED) or similar in both private and public projects.	**Consistent.** See consistency with **Goal 2-30**.
Policy 2-30.2: Promote sustainable building practices that go beyond the requirements of Title 24 of the California Administrative Code, and encourage energy-efficient design elements, as appropriate.	**Consistent.** The Project would comply with Parts 6 and 11 of Title 24. The Project would have: (a) sensor-based lighting controls— for fixtures located near windows, the lighting would be adjusted by taking advantage of available natural light; and (b) efficient process equipment—improved technology offers significant savings through more efficient processing equipment.
Policy 2-30.3: Support sustainable building practices that integrate building materials and methods that promote environmental quality, economic vitality, and social benefit through the design, construction, and operation of the built environment.	**Consistent.** The Project Applicant would have (a) 50 percent of its construction and demolition waste diverted from landfills; (b) mandatory inspections of energy systems to ensure optimal working efficiency; (c) low pollutant emitting exterior and interior finish materials, such as paints, carpets, vinyl flooring and particle boards; and (d) a 20% reduction in indoor water use.
Goal 2-31: Conserve energy resources.	**Consistent.** See consistency with **Policy 2-30.2.** To conserve energy resources, the Project would comply with Parts 6 and 11 of Title 24.
Policy 2-31.1: Require the incorporation of energy conservation features into the design of all new construction and site development activities.	**Consistent.** See consistency with **Policy 2-30.2.** The Project would comply with Parts 6 and 11 of Title 24. In addition, the Project would include drought tolerant landscaping.

Table 4.10-1: General Plan Consistency Analysis

General Plan Policy	Project Consistency
Goal 2-32: Balance the provisions of the California Surface Mining and Reclamation Act with City objectives to minimize negative impacts of mining activities on the Rialto community.	**Consistent.** The project site includes land of the previous Rialto Plant. Operation of the Rialto Plant ceased in 1990, with no future plans for mining activities at the site. Impacts to mineral resources are further discussed in Section 4.11, *Mineral Resources*.
Policy 2-32.1: Allow the phasing of planned land uses on large mineral resource sites on that part of the site on which mining is not anticipated, or on that part of the site which mining is completed and reclamation has been established.	**Consistent.** Prior to the Project, implementation of the Rialto Plant Reclamation Plan, including mass grading, would be complete. The Project would be consistent with the existing zoning and land use designation.
Goal 2-34: Achieve waste recycling levels that meet or exceed State mandates. Achieve maximum waste recycling in all sectors of the community: residential, commercial, industrial, institutional, and construction.	**Consistent.** The Project would include recyclables collection on-site during construction and operation activities.
Policy 2-34.2: Utilize source reduction, recycling, and other appropriate measures to reduce the amount of solid waste generated in Rialto that is disposed of in landfills.	**Consistent.** The Project would include measures to recycle during construction and operation when feasible.
Policy 2-34.3: Encourage the maximum diversion from landfills of construction and demolition materials through recycling and reuse programs.	**Consistent.** Approximately 50 percent of Project construction and demolition waste will be diverted from landfills.
Goal 2-35: Reduce air pollution emissions from both mobile and stationary sources in the City.	**Consistent.** As discussed in Section 4.2, *Air Quality*, to reduce potential impacts to air quality, the Project would implement Laws, Ordinances, and Regulations (**LORS**) **LOR AQ-1** through **LOR AQ-6**, Project mitigation measures **MM AIR-1** and **MM TRF-1**, and Agua Mansa Industrial Corridor Air Quality and Climate Change Mitigation Measures 1 through 4.
Policy 2-35.2: Require that new development projects incorporate design features that encourage ridesharing, transit use, park and ride facilities, and bicycle and pedestrian circulation.	**Consistent.** The Project would include a sidewalk along the Project frontage on East Santa Ana Avenue to provide pedestrian access to the project site. The Project would result in significant and unavoidable transportation impacts. To reduce the significance of impacts, the Project would implement **MM TRF-1**, which would result in the development of a TDM Plan incorporating feasible trip reduction strategies that would encourage ridesharing, transit use, park and ride facilities, and bicycle and pedestrian circulation.

Table 4.10-1: General Plan Consistency Analysis

General Plan Policy	Project Consistency
Policy 2-35.3: Establish a balanced land use pattern, and facilitate developments that provide jobs for City residents in order to reduce vehicle trips citywide.	**Consistent.** The proposed development would be consistent with the High Industrial land use designation in which the project site is located. Project implementation would create employment opportunities within the City.
Policy 2-35.4: Require new development and significant redevelopment proposals to incorporate sufficient design and operational controls to prevent release of noxious odors beyond the limits of the development site.	**Consistent.** The project site and surrounding parcels are located within land zoned for industrial uses. The nearest sensitive receptors to the project site include residential land use approximately 2,800 feet to the southwest. Project operation is not anticipated to result in a substantial amount of noxious odors beyond the limits of the project site.
Goal 2-36: Reduce the amount of fugitive dust released into the atmosphere.	**Consistent.** To reduce fugitive dust, the Project would implement LORs AQ-1, which requires the implementation of Rule 402 and 403 dust control techniques to minimize PM_{10} and $PM_{2.5}$ concentrations.
Policy 2-36.1: Put conditions on discretionary permits to require fugitive dust controls.	**Consistent.** See consistency with **Goal 2-36**.
Policy 2-36.3: Enforce regulations that do not allow vehicles to transport aggregate or similar material upon a roadway unless the material is stabilized or covered.	**Consistent.** The Project would include the development of a truck terminal for layover activities. Trucks transporting aggregate or similar material would be required to comply with applicable requirements for transportation of aggregate materials.
Goal 2-38: Mitigate against climate change.	**Consistent.** To mitigate against climate change, the Project would include mitigation measures **MM GHG-1** through **MM GHG-4**, which would require solar panels, LEED certification, recyclable collection, and low-water use landscaping.
Policy 2-38.1: Consult with State agencies, SCAG, and the San Bernardino Associated Governments (SANBAG) to implement AB32 and SB375 by utilizing incentives to facilitate infill and transit-oriented development.	**Consistent.** As further discussed in Section 4.7, *Greenhouse Gas Emissions*, the Project would comply with applicable regulations, including SB 32 and SB 375. The Project would implement standard mitigation measures and LORs, to reduce impacts associated with GHGs.
Policy 2-38.3: Provide enhanced bicycling and walking infrastructure, and support public transit, including public bus service, the Metrolink, and the potential for Bus Rapid Transit (BRT).	**Consistent. A**s discussed in Section 4.15, *Transportation*, the Project would implement project Mitigation Measure **MM TRF-1**, which would require the preparation of TDM plan using feasible reduction strategies such as providing a rideshare program, end of trip bicycle facilities. Further, the Project would provide sidewalks along the Project frontage on the southern side of East Santa Ana Avenue to provide pedestrian access to the project site.
Goal 2-39: Conserve and enhance Rialto's biological resources.	**Consistent.** As discussed in Section 4.3, *Biological Resources*, **MM BIO-1a** through **MM BIO-2,** which require pre-construction surveys, implementation of a Burrowing Owl Relocation and Mitigation Plan in the event avoidance is not possible, and the removal of habitat that supports nests to occur outside of breeding season.

Table 4.10-1: General Plan Consistency Analysis

General Plan Policy	Project Consistency
Policy 2-39.1: Protect endangered, threatened, rare, and other special status habitat and wildlife species within and along Lytle Creek by working with the United States Wildlife Service and the California Department of Fish and Game to establish Natural Community Conservation Plans, Habitat Conservation Plans (HCP), or other established biological resource protection mechanisms within this sensitive area.	**Consistent.** As discussed in Section 4.3, *Biological Resources*, **MM BIO-1a** through **MM BIO-2**, require pre-construction surveys, implementation of a Burrowing Owl Relocation and Mitigation Plan in the event avoidance is not possible, and the removal of habitat that supports nests to occur outside of breeding season.
Policy 2-39.2: Pursue open space, wildlife corridors, or conservation easements to protect sensitive species and their habitats.	**Consistent.** See consistency with **Policy 2.39-1.** Although the Project would result in impacts to Delhi fine sands, which provides habitat to DSFLF, existing Delhi fine sands on-site have been disturbed by previous grading and would not provide suitable habitat to DSFLF. As such, the Project would not result in impacts to DSFLF and mitigation is not required.
Chapter 3: Investing in Our Future: Economic Development, Redevelopment, and Infrastructure	
Goal 3-8: Promote affordable and quality water service capable of adequately meeting normal and emergency water demands to all areas in Rialto.	**Consistent.** Water services would be provided by West Valley Water District (WVWD), which is anticipated to have adequate supplies to serve the project site during normal, dry, and multiple dry years.
Policy 3-8.1: Require that all new development or expansion of existing facilities bear the cost of expanding the water system to handle the increased demands which they are expected to generate.	**Consistent.** Water services to the project site would be provided by WVWD. The Project would include connections to existing facilities located within East Santa Ana Avenue. The Project would not require the expansion of existing facilities.
Policy 3-8.9: Conserve potable water and utilize reclaimed water for meeting landscaping and irrigation demands as much as possible.	**Consistent.** The Project would include new connections to water facilities located within East Santa Ana Avenue. The City's General Plan EIR evaluated water usage for the City and it is anticipated that the City has an adequate water supply to serve the Project.
Policy 3-8.10: Support water conservation through requirements for landscaping with drought-tolerant plants and efficient irrigation for all new development and City projects.	**Consistent.** The Project would include approximately 10.8 acres of landscaping. The proposed landscaping plans would include the incorporation of drought-tolerant plants.

Table 4.10-1: General Plan Consistency Analysis

General Plan Policy	Project Consistency
Goal 3-9: Upgrade and maintain an improved wastewater system with adequate plant efficiency and capacity to protect the health and safety of Rialto residents, businesses, and institutions.	**Consistent.** The Project would include the connections to existing wastewater system and would not require the construction or expansion of existing wastewater facilities.
Policy 3-9.1: Require that all new development or expansion of existing facilities bear the cost of expanding the wastewater disposal system to handle the increased loads which they are expected to generate.	**Consistent.** Wastewater services would be provided by Rialto Water Services. The Project proposes to connect to existing wastewater facilities located within East Santa Ana Avenue. As discussed in Section 4.17, *Utilities and Service Systems*, the Project would result in a minimal increase in wastewater and the existing facilities of the Rialto Water Services would adequately serve the project site.
Policy 3-9.2: Evaluate the wastewater disposal system routinely to ensure its adequacy to meet changes in demand and changes in types of waste.	**Consistent.** Wastewater produced by the Project would be treated at the Wastewater Treatment Plant (WWTP). As further discussed in Section 4.17, *Utilities and Service Systems*, the Project would not require the expansion of wastewater facilities.
Goal 3-10: Minimize the volume of solid waste that enters local and regional landfills.	**Consistent.** Solid waste services would be provided by the Mid-Valley Sanitary Landfill, which is anticipated to have adequate capacity to serve the Project. The Project would include recyclable collection to reduce solid waste volume of Project implementation.
Policy 3-10.2: Encourage the recycling of construction and demolition materials in an effort to divert these items from entering landfills.	**Consistent.** The Project would recycle construction materials when feasible to minimize solid waste entering landfills.
Chapter 4: Making the Connections: The Circulation Chapter	
Goal 4-2: Protect residential neighborhoods from through traffic impacts.	**Consistent.** The residential land use to the project site is located 2,800 feet to the southwest. Traffic to and from the project site would not travel along roads within residential neighborhoods.
Policy 4-2.1: Locate new development and their access points in such a way that traffic is not encouraged to utilize local residential streets for access to the development and its parking.	**Consistent.** Access to the project site would be provided via one full access drive located on East Santa Ana Avenue. Trucks would travel along Riverside Avenue and East Santa Ana Avenue, and would not cause traffic on residential streets
Policy 4-2.2: Discourage non-local traffic from using neighborhood streets.	**Consistent.** See consistency analysis for **Policy 4-2.1**. The Project and surrounding area is located on land zoned for industrial uses. The Project would not result in a significant increase in the use of neighborhood streets.
Goal 4-9: Promote Walking.	**Consistent.** The Project would include sidewalks along the Project frontage on East Santa Ana Avenue to provide pedestrian access to the project site.

Table 4.10-1: General Plan Consistency Analysis

General Plan Policy	Project Consistency
Policy 4-9.2: Require sidewalks and parkways on all streets in new development.	**Consistent.** The Project would include a sidewalk along East Santa Ana Avenue to provide pedestrian access to the project site.
Policy 4-9.4: Accommodate pedestrians and bicyclists — in addition to automobiles — when considering new development projects.	**Consistent.** As discussed in Section 4.15, *Transportation*, the Project would implement project Mitigation Measure **MM TRF-1**, which would require the preparation of a TDM plan using feasible reduction strategies such as providing a rideshare program and end of trip bicycle facilities. Further, the Project would provide pedestrian access to the project site with the inclusion of sidewalks along the Project's frontage on East Santa Ana Avenue.
Policy 4-9.6: Encourage new development to provide pedestrian paths through projects, with outlets to adjacent collectors, secondaries, and arterial roadways.	**Consistent.** See consistency analysis for **Policy 4-9.4.** The Project would provide parking along the Project frontage on East Santa Ana Avenue. Pedestrian pathways would not be included throughout the surface parking to optimize vehicle circulation.
Policy 4-9.7: Require ADA compliance on all new or modified handicap ramps.	**Consistent.** Handicap ramps located on-site would comply with ADA requirements.
Policy 4-10.1: Designate and enforce truck routes for use by commercial trucking as part of the project approval process.	**Consistent.** Trucks travelling to and from the project site would travel along Riverside Avenue and East Santa Ana Avenue, which are designated truck routes within the City.
Policy 4-10.3: Develop appropriate noise mitigation along truck routes to minimize noise impacts on nearby sensitive land uses.	**Consistent.** The nearest sensitive receptor to the project site includes residential land uses located approximately 2,800 feet to the southwest. As further discussed in Section 4.12, *Noise*, due to distance from the nearest sensitive receptor, noise impacts would be less than significant.
Policy 4-10.4: Encourage the development of adequate on-site loading areas to minimize interference of truck loading activities with efficient traffic circulation on adjacent roadways.	**Consistent.** The Project would include a total of 292 dock doors, which exceeds the required 8 under the Agua Mansa Industrial Corridor Specific Plan development standards.
Chapter 5: The Safety and Noise Chapter	
Goal 5-1: Minimize hazards to public health, safety, and welfare associated with geotechnical hazards.	**Consistent.** The Project has prepared a Preliminary Geotechnical Investigation, which includes recommendation to minimize potential geologic impacts. Geological hazards and potential impacts associated with the Project are further discussed in Section 4.6, *Geology and Soils*.

Table 4.10-1: General Plan Consistency Analysis

General Plan Policy	Project Consistency
Policy 5-1.1: Require geotechnical investigations by certified engineering geologist or other qualified professionals for all grading and construction projects subject to geologic hazards, including fault rupture, severe ground shaking, liquefaction, landslides, and collapsible or expansive soils. Particular attention should be paid to areas within Alquist-Priolo Earthquake Fault Zones.	**Consistent.** A Project-specific Preliminary Geotechnical Investigation was prepared for the Project by LOR Geotechnical Group, Inc., and is included as **Appendix G.**
Policy 5-1.2: Require all construction to be in conformance with the Uniform Building Code (UBC) and the California Building Code (CBC), and to be consistent with the Municipal Code as it provides for earthquake resistant design, excavation, and grading.	**Consistent.** A Geotechnical Investigation was prepared for the Project by LOR Geotechnical Group, inc. in February 2016. Project implementation would adhere to requirements of the Uniform Building Code (UBC), California Building Code (CBC), and the Rialto Municipal Code.
Goal 5-2: Minimize the risk and damage from flood hazards.	**Consistent.** As discussed in Section 4.9, *Hydrology and Water Quality*, the project site is located within Zone X, which identifies areas of minimal flooding. The Project would implement Hydrology and Flood Control Mitigation Measure 2 of the Specific Plan EIR, which would require installation of impervious surfaces on individual industrial sites be limited to minimize the quantity of storm run-off, which would require limiting the installation of impervious surfaces on individual industrial sites to minimize the quantity of storm run-off.
Policy 5-2.2: Require the implementation of adequate erosion control measures for development projects to minimize sedimentation damage to drainage facilities.	**Consistent.** The Project has prepared a SWPPP and WQMP, which would include erosion control Best Management Practices (BMPs) to minimize potential impacts associated with erosion.
Policy 5-2.4: Require water retention devices in new developments to minimize flooding of the surface drainage system by peak flows.	**Consistent.** As discussed in Section 4.9, *Hydrology and Water Quality*, the Project site's 100-year peak volume will be stored in an underground detention vault. Stormwater generated by the Project would be captured and conveyed to an underground detention vault through a network of proposed catch basins, inlets, and underground piping.
Goal 5-3: Increase the City's fire protection capabilities and implement fire prevention regulations and standards that minimize potential fire hazards and fire losses.	**Consistent.** Project implementation would adhere to requirements of the California Fire Code (CFC). Project implementation would result in a minimal increase in fire protection demand, and it is anticipated the Project would be adequately served by the Rialto Fire Department for fire protection services.

Table 4.10-1: General Plan Consistency Analysis

General Plan Policy	Project Consistency
Policy 5-3.3: Require that development be phased in relation to the City's ability to provide an adequate level of fire protection, as per the City standards.	**Consistent.** On-site, the Project would include 31 fire hydrants and one emergency access driveway. The proposed buildings would be designed to comply with the current CFC. As determined in Section 4.14, *Public Services*, Project implementation would result in a minimal increase in service calls. It is expected that the Rialto Fire Department would adequately serve the site and does not require the construction or expansion of existing fire services facilities.
Policy 5-3.4: Require that all site plans, subdivision plans, and building plans be reviewed by the Fire Department to ensure compliance with appropriate fire regulations.	**Consistent.** See consistency analysis for **Policy 5-3.3**. Project implementation would result in a minimal increase in fire service calls. The Rialto Fire Department is anticipated to have the capacity to adequately serve the project site. Additionally, the Rialto Fire Department would review the building plans for compliance.
Goal 5-4: Protect the health and welfare of the public, environment, and economy by providing for the safe and responsible management of hazardous materials and wastes.	**Consistent.** As further discussed in Section 4.8, *Hazards and Hazardous Materials*, to reduce potential impacts associated with the management of hazardous materials, the Project would implement Agua Mansa Industrial Corridor Specific Plan Land Use Mitigation Measure 3, which would require hazardous wastes that are transported, processed, generated, or stored to be handled consistent with the regulations of the Environmental Protection Agency, the State Department of Health Service, and the South Coast Air Quality Management District.
Policy 5-4.4: Require all hazardous waste generators and hazardous materials handlers to report to City officials, including the Fire Department any equipment malfunction or upset which may cause hazardous waste to be emitted.	**Consistent.** During operation, the Project would include two 20,000-gallon diesel underground storage tanks, and one 8,000-gallon diesel exhaust fluid tank, which would be regulated by the City.
Goal 5-5: Minimize the generation of hazardous waste in Rialto.	**Consistent.** The Project would include the construction and operation of the proposed truck terminal and maintenance shop, and would not generate hazardous waste.
Policy 5-5.2: Encourage and promote practices that will reduce the use of hazardous materials and the generation of hazardous waste at their source, recycle the remaining hazardous wastes for reuse, and treat those wastes which cannot be reduced at the source or recycled.	**Consistent.** The Project would include the two 20,000-gallon diesel underground storage tanks, and one 8,000-gallon diesel exhaust fluid tank, which would be regulated by the City.

Table 4.10-1: General Plan Consistency Analysis

General Plan Policy	Project Consistency
Goal 5-8: Provide effective and comprehensive policing services that meet the safety needs of Rialto.	**Consistent.** Police protection services for the Project would be provided by the Rialto Police Department. The Project would result in a minimal increase in police protection demand, and it is anticipated that the Rialto Police Department would adequately serve the Project. Additionally, the Project would include Crime Prevention Through Environmental Design (CPTED) measures (such as lighting and fencing) to reduce the potential of criminal activity on-site.
Policy 5-8.3: Continue to encourage design concepts that inhibit and discourage criminal behavior such as Crime Prevention Through Environmental Design (CPTED) techniques.	**Consistent.** See consistency analysis for **Goal 5-8**. The Project would include lighting on-site for security purposes. In addition, it is anticipated the Rialto Police Department would have adequate resources to serve the Project.
Goal 5-10: Minimize the impact of point source and ambient noise levels throughout the community.	**Consistent.** The nearest sensitive receptor to the project site is located approximately 2,800 feet to the southwest. As discussed in Section 4.12, *Noise*, the Project would not exceed the applicable Federal Transit Administration (FTA) construction thresholds during construction, and Project operation would generate ambient noise levels below the City's normally acceptable exterior noise standard.
Policy 5-10.2: Consider noise impacts as part of the development review process, particularly the location of parking, ingress/egress/loading, and refuse collection areas relative to surrounding residential development and other noise-sensitive land uses.	**Consistent.** The nearest sensitive receptor to the project site is residential land use located approximately 2,800 feet to the southwest. As discussed in Section 4.12, *Noise*, the Project would result in less than significant noise impacts. Additionally, the Project would implement Agua Mansa Industrial Corridor Specific Plan EIR Environmental Health and Hazards Mitigation Measures 1 through 4 to further reduce potential impacts.
Policy 5-10.3: Ensure that acceptable noise levels are maintained near schools, hospitals, and other noise sensitive areas in accordance with the Rialto Municipal Code (Municipal Code) and noise standards contained in Exhibit 5.5 (**Table 4.12-2: Rialto Noise Guidelines for Land Use Planning**).	**Consistent.** See consistency analysis for **Policy 5-10.2.**
Policy 5-10.4: Limit the hours of operation at all noise generation sources that are adjacent to noise-sensitive areas.	**Consistent.** During operation, the Project would operate Monday through Friday from 8:00am to 5:00pm. The nearest sensitive receptor to the project site includes residential land uses located approximately 2,800 feet to the southwest. As further discussed in Section 4.12, *Noise*, due to distance from the nearest sensitive receptor, noise impacts would be less than significant.

Table 4.10-1: General Plan Consistency Analysis

General Plan Policy	Project Consistency
Policy 5-10.5: Require all exterior noise sources (construction operations, air compressors, pumps, fans and leaf blowers) to use available noise suppression devices and techniques to reduce exterior noise to acceptable levels that are compatible with adjacent land uses.	**Consistent.** See consistency analysis for **Policy 5-10.2.** The majority of Project construction would occur within the City's restrictions for construction hours. However, it is noted that nighttime construction would be limited to brief periods of construction activity and would not endure during the entire construction period.
Goal 5-11: Minimize the impacts of transportation-related noise.	**Consistent.** As discussed in Section 4.12, *Noise*, the Project would result in additional traffic on adjacent roadways from daily activities, resulting in an increase in vehicular noise in the Project area. Although off-site traffic during Project operation would result in a noise increase that exceeds the 3.0 dBA increase significance threshold, the nearest sensitive receptor to the project site is 2,800 feet to the southwest and would thus not be impacted by traffic noise impacts.
Policy 5-11.3: Require development of truck-intensive uses to minimize noise impacts on adjacent uses through appropriate site design.	**Consistent.** See consistency analysis for **Policy 5-10.2.** Heavy truck and loading dock noise levels would be 32.4 dBA for the residential land use to the southwest, which would not exceed the City's normally acceptable residential exterior noise standard (60 dBA). Additionally, an industrial use would be located approximately 100 feet east of the loading area of the terminal building. At this distance, heavy truck and loading dock noise levels would be approximately 57.3 dBA, which is well below the City's normally acceptable exterior noise standard (75 dBA) for industrial use.
Chapter 7: Our Roots: Cultural and Historical Resources	
Goal 7-1: Preserve Rialto's significant historical resources as a source of community identity, stability, aesthetic character, and social value.	**Consistent.** The Project would implement **MM CUL-1** and **MM CUL-2**, and Agua Mansa Industrial Corridor Specific Plan EIR Archaeological/Historical Mitigation Measures 2 and 3 to reduce potential impacts to historical resources. Requirements of these mitigation measures include retaining a qualified archaeologist to evaluate the significance of the find and preparation of a Monitoring and Treatment Plan if applicable.
Policy 7-1.1: Protect the architectural, historical, agricultural, open space, environmental, and archaeological resources in Rialto.	**Consistent.** As discussed in Section 4.4*, Cultural Resources*, the Project would have a less than significant impact with mitigation. The Project would implement **MM CUL-1**, **MM TCR-1** through **MM TCR-3**, as well as Agua Mansa Industrial Corridor Specific Plan EIR Archaeological/Historical Resources Mitigation Measures 2 and 3, which would require a qualified archaeologist to be retained to evaluate the significance of finds.
Goal 7-3: Identify, document, and protect significant archaeological resources in Rialto	**Consistent.** To reduce potential impacts to unknown archaeological resources, the Project would implement Project mitigation measures **MM CUL-1** through **MM CUL-2** and Agua Mansa Industrial Corridor Specific Plan Archaeological/Historical Resources Mitigation Measures 2 and 3.

Table 4.10-1: General Plan Consistency Analysis

General Plan Policy	Project Consistency
Policy 7-3.1: Require archaeological surveys during the development review process for all projects in archaeologically sensitive areas where no previous surveys are recorded.	**Consistent.** As further discussed, in Section 4.4 *Cultural Resources*, a Project-specific Cultural Resources Memorandum has been prepared for the Project. The Cultural Resources Memorandum did not identify any known cultural resources on-site.
Policy 7-3.2: Avoid impacts to potentially significant prehistoric and historical archaeological resources and sites containing Native American human remains consistent with State law.	**Consistent.** See consistency with **Policy 7-1.1**.
Policy 7-3.3: Avoid impacts to potentially significant prehistoric and historical archaeological resources and sites containing Native American human remains consistent with State law.	**Consistent.** See consistency with **Policy 7-1.1.**

Source: City of Rialto. (2010). Rialto General Plan. https://www.yourrialto.com/653/General-Plan.

Specific Plan Consistency Analysis

The Project would include the development of a truck terminal and maintenance shop, which is consistent with the permitted uses identified within the Specific Plan for the H IND zone. As shown in **Table 4.10-2: Specific Plan Consistency**, the Project would comply with Section 4.2.2 of the Specific Plan, which describes the development standards for the H IND land use designation.

Table 4.10-2: Specific Plan Consistency

	Required per Heavy Industrial Land Use Designation[1]	Proposed Project
Minimum Lot Size	15,000 sf	1,990,692 sf (45.7 acres)
Minimum Lot Width and Depth	100 ft	Width: 550 ft Depth: 1,567 ft
Minimum Front Setback	25 ft	69 ft
Minimum Side Setback	None	15 ft
Minimum Rear Setback	None	20 feet
Minimum Site Landscaping	20 ft of landscaping shall be provided along public street frontages measured from face and curb	Approximately 23.6% of the project site would be landscaped. Landscaping would be included along the boundaries of the site as well as within parking areas.

Table 4.10-2: Specific Plan Consistency

	Required per Heavy Industrial Land Use Designation[1]	Proposed Project
Maximum Building Height	No limit	Truck Terminal: 24 feet Maintenance Shop: 22 feet
Outdoor Storage	Permitted	The Project does not propose outdoor storage.

1. Development Standards are derived from the Agua Mansa Industrial Corridor Specific Plan, Section 4.

The Project would comply with Section 4.2.2 of the Specific Plan which identifies landscaped areas should consist predominantly of native, drought tolerant, low maintenance plant materials. Approximately 10.8 acres (or approximately 23.6 percent) of the project site would be landscaped. Additionally, the Project would incorporate Agua Mansa Industrial Corridor Specific Plan EIR Land Use Mitigation Measure 1 and Mitigation Measure 3 to ensure compliance with the Specific Plan. Mitigation Measure 1 would require adherence with the development and performance standards of the Specific Plan. Mitigation Measure 3 would require the transportation, generation, processing, and storage of hazardous materials to be handled consistent with the regulations of the Environmental Protection Agency, the State Department of Health Services, and the South Coast Air Quality Management District.

Municipal Code Consistency Analysis

Title 18 of the Rialto Municipal Code functions as the City's Zoning Ordinance, which identifies the permitted land uses on all parcels in the City through assigned land use designations and associated land use regulations and development standards. The project site is designated Heavy Industrial within the Specific Plan. Development standards of the Specific Plan would supersede the requirements of the General Plan and Zoning Code.

The Project would provide signage in accordance with Section 18.102.060 of the City Zoning Ordinance. The Project would comply with the City's vehicle and truck trailer parking requirements as identified in Section 18.58 of the City's Zoning Ordinance. Further, in accordance with Section 18.61 of the Rialto Municipal Code, the Project would incorporate building design standards for industrial development such as well-defined main entrance, office space located in the front of the building, and desirable exterior building colors.

In accordance with the City's Municipal Code, the Project includes a Precise Plan of Design for the development of the Project. Further, although the Project is consistent with the existing land use designation and zoning designation, as required by section 18.106.040, the Project has acquired a Conditional Development Permit (CDP). A CDP is required for Project implementation as the proposed truck terminal is considered a conditionally permitted use in industrial zones within the City.

The Project is consistent with the pertinent land use planning and policy documents, including the General Plan, Specific Plan, and the City's Municipal Code. The Project would have a less than significant impact on a plan, policy, or regulation.

Mitigation Program

Standard Conditions

No standard conditions are applicable.

Mitigation Measures

Agua Mansa Industrial Corridor Specific Plan EIR Mitigation Measures

Mitigation Measure 1: The site development standards and performance standards contained in Section 4.2.2 of the Specific Plan shall be adhered to in reviewing proposed specific developments. Adherence to these standards, especially the specific criteria for industrial uses in proximity to residential and other sensitive uses, will minimize any potential impacts.

Mitigation Measure 3 is further discussed in Section 4.8, *Hazards and Hazardous Materials*.

Project Mitigation Measures

No mitigation is required.

4.10.7 Cumulative Impacts

The geographic area for the analysis of cumulative impacts to land use and planning includes the jurisdiction of local and regional agencies including the City of Rialto, San Bernardino County, and SCAG, where land use changes could interact with land use changes under the Project to result in cumulative effects. **Table 4.0-1: Cumulative Projects List** represents past, present, and potential future projects that could lead to cumulative impacts once combined with the Project.

The Project is consistent with applicable land use goals and policies. Although other changes in land use plans and regulations may have occurred with past and present projects in the area and may be necessary for individual future projects, such changes have been, and would be, required to demonstrate consistency with General Plan and other City policies such that no significant adverse cumulative impact has occurred or would occur from such changes. Given that the Project would be consistent with the land use policies of the applicable plans, the Project would not combine with any past, present, or reasonably foreseeable future projects to cause a significant adverse cumulative land use impact based on a conflict with a plan or policy. Any associated physical impacts are covered in the individual topic sections. It is also anticipated that regional growth would be subject to review for consistency with adopted land use plans and policies by the County of San Bernardino, City of Rialto, and other cities in the County, in accordance with the requirements of California Environmental Quality Act (CEQA), the State Zoning and Planning Law, and the State Subdivision Map Act, all of which require findings of plan and policy consistency prior to approval of entitlements for development. Therefore, no significant cumulative impacts associated plans and policies are anticipated. In addition, the contribution of the Project to any such cumulative impacts would be less than significant because present and probable future projects are consistent with applicable plans, policies, and regulations. The Project would not contribute to any cumulative impacts associated with plan or policy inconsistency.

4.10.8 Level of Significance After Mitigation

The Project would result in less than significant impacts regarding land use and planning. No mitigation is required.

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4.11 MINERAL RESOURCES

4.11.1 Introduction

This section of the Environmental Impact Report (EIR) identifies and analyzes the mineral resources currently present on-site and near the Santa Ana Truck Terminal Project (Project) project site while assessing the potential impact the Project could have on those resources. Impacts in this section are assessed regarding their effects on valuable mineral resources and mineral resource recovery sites.

4.11.2 Regulatory Setting

Federal Regulations

United States Code Title 30: Mineral Lands and Mining

Title 30 of the United States Code discusses mineral lands and mining, covering regulations and laws related to mineral resources on federal lands, such as coal, oil, gas, and other minerals. The United States Code Title §30.21a defines the national mining and minerals policy of the United States. This policy dictates that the United States will encourage the development of rational domestic mining reclamation practices, the sustainable development of domestic mineral resources, mining and mineral research, and the advancement of mineral waste disposal and reclamation methods. Title 30 also describes the federal regulations involving the sale of mineral lands.[1]

State Regulations

Surface Mining and Reclamation Act

The Surface Mining and Reclamation Act of 1975 (SMARA) provides regulations and policy regarding surface mining and reclamation operations in California. The SMARA ensures that adverse environmental impacts are minimized, and mined lands are restored to a usable condition. SMARA also encourages the production, conservation, and protection of California's mineral resources. Section 2207 of the California Public Resources Code provides annual reporting requirements for all mines in the State, and the State Mining and Geology Board is granted authority and obligations under this section.

The State Mining and Geology Board has classified land in California based on the availability of mineral resources. Four mineral resources zone (MRZ) designations have been established for classifying sand, gravel, and crushed rock resources:

- MRZ-1: Adequate information indicates that no significant mineral deposits are present or likely to be present, or where it is judged that little likelihood exists for their presence.
- MRZ-2: Adequate information indicates that significant mineral deposits are present or there is a high likelihood for their presence, and development should be controlled.
- MRZ-3: The significance of mineral deposits cannot be determined from the available data.

[1] United States of America. (1996). United States Code Title 30. https://uscode.house.gov/browse/prelim@title30&edition=prelim. Accessed April 2024.

- MRZ-4: There is insufficient data to assign any other MRZ designation.

Under SMARA, aggregate materials are classified as reserves or resources. Reserves are defined as aggregate materials believed to be acceptable for commercial use that exist within property boundaries owned or leased by an aggregate-producing company, and for which permission allowing extraction and processing has been granted by the proper authorities. Aggregate resources include reserves and similar potentially usable aggregate materials that have been granted. Mineral lands are locally reviewed in an effort to ensure that significant mineral deposits are identified and protected. The State Geologist produces an annual report of the disturbed and reclaimed land totals and any amendments to the reclamation plan.

Mineral Resources and Mineral Hazards Mapping Program

The California Geological Survey Mineral Resources Program (MRP) provides data about California's varied non-fuel mineral resources (such as metals and industrial minerals), mineral hazards (such as radon, mercury, and naturally occurring asbestos), and information about active and historic mining activities throughout the state. The MRP divides its efforts primarily into two areas: Mineral Resources, and Mineral Hazards.

Division of Oil, Gas and Geothermal Resources Map

The California Geologic Energy Management Division (CalGEM, formerly DOGGR) prioritizes protecting public health, safety, and the environment in its oversight of the oil, natural gas, and geothermal industries, while working to help California achieve its climate change and clean energy goals. To evaluate the presence of oil or gas wells on-site and in the immediate site vicinity, maps available online at the California Department of Conservation, Geologic Energy Management Division (CalGEM) (https://maps.conservation.ca.gov/doggr/wellfinder/#/) were reviewed. No abandoned/plugged oil/gas wells are located on the project site.[2]

Senate Bill 4 and Interim Well Stimulation

On September 20, 2013, Governor Brown signed into law Senate Bill 4. On November 15, 2013, CalGEM, began the formal rulemaking process for Well Stimulation Treatment Regulations, which went into effect on July 1, 2015. Effective January 1, 2014 and continuing until permanent regulations are adopted, Senate Bill 4 requires that oil and gas operators certify certain information and actions prior to any well stimulation activity.

Local Regulations

Rialto General Plan 2010

The primary role of the Managing Our Land Supply Element of the Rialto General Plan (General Plan) is to direct the use of the City's land resources in the most equitable and productive manner possible, with the aim of providing a high quality of life for residents and the overall community. The General Plan notes that Rialto is predominately developed but some areas remain substantially undisturbed. Most undisturbed areas are in the northern portion of the City. The General Plan provides guidance regarding

[2] Department of Conservation (DOC). (2023). CalGEM GIS Well Finder. https://maps.conservation.ca.gov/doggr/wellfinder/. Accessed September 2023.

the City's natural resources and their preservation, including mineral resources. The following policies are applicable to the Project.

Goal 2-32 Balance the provisions of the California Surface Mining and Reclamation Act with City objectives to minimize negative impacts of mining activities on the Rialto community.

Policy 2-32.1 Allow the phasing of planned land uses on large mineral resource sites on that part of the site on which mining is not anticipated, or on that part of the site which mining is completed and reclamation has been established.

Agua Mansa Industrial Corridor Specific Plan

The Agua Mansa Industrial Corridor Specific Plan (Specific Plan) serves as a comprehensive and strategic framework designed to guide the responsible and sustainable development of a designated industrial area. Its primary purpose is to facilitate the growth and enhancement of economic activity, job opportunities, and infrastructure within the corridor, while simultaneously ensuring the protection of natural resources and the overall well-being of the community. By outlining land use regulations, zoning guidelines, transportation improvements, the Specific Plan seeks to create a cohesive and harmonious environment that supports both industrial growth and the quality of life for residents. The Specific Plan aims to establish a thriving and resilient industrial hub that benefits the local economy and maintains a high standard of living for the Rialto community. Requirements of the Specific Plan that are applicable to the Project supersede the requirements of the General Plan and the City's Zoning Code.

The project site has a land use designation of Heavy Industrial (H IND) within the Specific Plan. The H IND land use designation is identified as an industrial land use designation. Permitted uses within the H IND land use designation include transit and transportation terminals, repairs, and storage facilities.

Rialto Plant Reclamation Plan

The project site includes land of the previous Rialto Plant (California Mine ID # 91-36-004), which was used for sand and gravel surface mining. Operations at the Rialto Plant ceased in 1990 and there are no plans to resume mining activity at the site. Certification of the Rialto Plant Reclamation Plan (Reclamation Plan) is required by Municipal Code 18.76, which implements the SMARA. Recommended mitigation provided in the Reclamation Plan included dust-control practices and reclamation of the barrow pit.

4.11.3 Environmental Setting

Project Location

The Project would occupy approximately 45.7 acres of previously disturbed land. Specifically, the project site is located at 249 East Santa Ana Avenue. The City is largely urbanized and the project site is surrounded by existing industrial land uses.

Existing Conditions

The project site is located on land previously known as the Rialto Plant (California Mine ID# 91-36-004). The SMARA was enacted to establish State policy for the reclamation of mined lands and the conduct of surface mining operations throughout the State. Current activities on-site are limited to mining reclamation, which is anticipated to be completed in 2024, prior to the commencement of Project

construction. As such, prior to the commencement of construction for the Project, the Rialto Plant Reclamation Plan (Reclamation Plan) must be implemented. The Reclamation Plan states that once the property has been reclaimed, the property should be utilized for heavy industrial uses, as provided by the Specific Plan.

Regional Conditions

The Project is located within the San Bernardino Production-Consumption (P-C) Region according to the California Geological Survey. The San Bernardino P-C Region is the largest of the seven P-C regions within the greater Los Angeles area. The San Bernardino P-C Region includes portions of the County of Riverside and the County of San Bernardino. Aggregate resources present within this region are primarily located within existing stream channels and their respective flood plains and alluvial fans.[3] This region consists of three MRZs. According to Exhibit 2.7: Mineral Resource Zones, within the General Plan, the Project would be within both an MRZ-2 and MRZ-3 region.[4]

4.11.4 Methodology

Information in the Section of the EIR is based on the Rialto Plant Reclamation Plan (1990) and existing data produced by government agencies, such as the federal government, State government, and City of Rialto (Rialto General Plan and Agua Mansa Industrial Corridor Specific Plan).

4.11.5 Thresholds of Significance

The following significance criteria for mineral resources were derived from the Environmental Checklist in State CEQA Guidelines Appendix G. An impact of the Project would be considered significant and would require mitigation if it would meet one of the following criteria:

- 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.
- 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.

4.11.6 Project Impacts and Mitigation

Impact 4.11-1: Would the project result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?

Level of Significance: Less than Significant Impact

According to the Exhibit 2.7: Mineral Resource Zones of the General Plan, the project site is within both an MRZ-2 and MRZ-3 region.[5] Additionally, the project site is located on the previous Rialto Plant property (California Mine ID# 91-36-004), which was used for sand and gravel surface mining. However, mining

[3] California Geological Survey (CGS). (2017). State Mining and Geology Board. https://www.conservation.ca.gov/smgb/reports/Documents/Designation_Reports/San_Bernardino_Designation_Report_No.14.pdf. Accessed October 2023.
[4] City of Rialto. (2010). Rialto General Plan. https://www.yourrialto.com/653/General-Plan.
[5] California Department of Conservation. (2023). Mineral Lands Classification. https://maps.conservation.ca.gov/cgs/informationwarehouse/index.html?map=mlc. Accessed October 2023.

operations at the Rialto Plant ceased in 1990 and there are no plans to resume mining activity at the project site. The Project would include the construction and operation of a truck terminal and maintenance shop, which is permitted within the H IND land use designation of the Specific Plan.

Despite the project site's location within an MRZ-2 and MRZ-3, the project site consists of previously disturbed land from prior mining activities that formerly occurred on-site, but have since ceased. Although the project site is identified as a mineral resource of significance, previous mining operations have no longer made the project site a viable source for mineral resources. The project site and surrounding area are zoned for industrial uses, which do not permit mining activities. Further, the surrounding area is urbanized with industrial uses. Implementation of the Project would result in less than significant impacts.

Mitigation Program

Standard Conditions

No standard conditions are applicable.

Mitigation Measures

Agua Mansa Industrial Corridor Specific Plan EIR Mitigation Measures

No mitigation measures are applicable.

Project Mitigation Measures

No mitigation is required.

Impact 4.11-2: Would the project result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?

Level of Significance: Less Than Significant Impact

The project site is located on the previous Rialto Plant property. According to the Reclamation Plan, the Rialto Plant was used for sand and gravel surface mining from 1948 to 1990 with no plans to resume activity. Prior to commencement of Project construction, the implementation of the Reclamation Plan must be complete. Implementation of the Reclamation Plan includes mitigation measures to properly close the Rialto Plant including, but not limited, to dust-control practices during mining reclamation activities and preparation of a soils report. Upon implementation of the Reclamation Plan, the Project would not impact a locally important mineral resource recovery site as the prior Rialto Plant has ceased operations since 1990. The project site's mineral resources are no longer being actively recovered and its status as a locally important mineral resource recovery site has diminished over the past decades. Impacts would be less than significant.

Mitigation Program

Standard Conditions

No standard conditions are applicable.

Mitigation Measures

Agua Mansa Industrial Corridor Specific Plan EIR Mitigation Measures

No mitigation measures are applicable.

Project Mitigation Measures

No mitigation is required.

4.11.7 Cumulative Impacts

As concluded above, Project implementation would have a less than significant impact on the availability of a mineral resource. Considering the lack of an active mineral recovery site near the project site or within the City boundary or sphere of influence, implementation of the Project would not impact such facilities. Therefore, the Project's incremental effects involving mineral resources are not cumulatively considerable.

4.11.8 Significance of Impacts After Mitigation

The Project would result in less than significant impacts associated with mineral resources. No mitigation is required.

4.12 NOISE

4.12.1 Introduction

This section evaluates pre- and post-construction noise impacts associated with the implementation of the Santa Ana Truck Terminal Project (Project) and describes the affected environment and regulatory setting for noise. The Acoustical Assessment is summarized in this section and is provided as **Appendix N** to this Environmental Impact Report (EIR).

4.12.2 Noise Criteria and Definitions

Sound. Sound is a vibratory disturbance created by a moving or vibrating source and that is capable of being detected by the hearing organs. Noise is defined as sound that is loud, unpleasant, unexpected, or undesired and may be classified as a more specific group of sounds. The effects of noise on people can include general annoyance, interference with speech communication, sleep disturbance and, in the extreme, hearing impairment. Excessive noise levels may also affect performance and learning processes through distraction, reduced accuracy and increase fatigue, annoyance and irritability, and the ability to concentrate.

Decibels and Frequency. In its most basic form, a continuous sound can be described by its frequency or wavelength (pitch) and its amplitude (loudness). Sound pressure levels are described in units called the decibel (dB). Decibels are measured on a logarithmic scale that quantifies sound intensity in a manner similar to the Richter scale used for earthquake magnitudes. Therefore, a doubling of the energy of a noise source, such as doubling of traffic volume, would increase the noise level by 3 dB; a halving of the energy would result in a 3 dB decrease.

Groundborne vibration consists of oscillatory waves that propagate from the source through the ground to adjacent structures. The frequency of a vibrating object describes how rapidly it is oscillating. The number of cycles per second of oscillation is the vibration frequency, which is described in terms of hertz (Hz). The normal frequency range of most groundborne vibration that can be felt generally starts from a low frequency of less than 1 Hz to a high of about 200 Hz.

Perception of Noise. The human ear is not equally sensitive to all frequencies within the sound spectrum. To accommodate this phenomenon, the A-scale, which approximates the frequency response of the average young ear when listening to most ordinary everyday sounds, was devised. When people make relative judgments of the loudness or annoyance of a sound, their judgments correlate well with the A-scale sound levels of those sounds. Therefore, the “A-weighted” noise scale is used for measurements and standards involving the human perception of noise. Noise levels using A-weighted measurements are written dB(A) or dBA.

Human perception of noise has no simple correlation with acoustical energy. The perception of noise is not linear in terms of dBA or in terms of acoustical energy. Two noise sources do not “sound twice as loud” as one source. It is widely accepted that the average healthy ear can barely perceive changes of a 3 dBA increase or decrease; that a change of 5 dBA is readily perceptible; and that an increase or decrease of 10 dBA sounds twice or half as loud, respectively.

As noise travels from the source to the receiver, noise changes both in level and frequency. The most obvious change is the decrease in noise as the distance from the source increases. The manner in which noise reduces with distance (noise attenuation) depends on a number of factors. Ground absorption, atmospheric effects, and shielding (as by natural and man-made barriers) also affect the rate of noise attenuation.

Perception of Vibration. While people have varying sensitivities to vibrations at different frequencies, in general they are most sensitive to low-frequency vibration. Vibration in buildings caused by construction activities may be perceived as motion of building surfaces or rattling of windows, items on shelves, and pictures hanging on walls. Vibration of building components can also take the form of an audible low-frequency rumbling noise, which is referred to as groundborne noise. Groundborne noise is usually only a problem when the originating vibration spectrum is dominated by frequencies in the upper end of the range (60 to 200 Hz), or when the structure and the construction activity are connected by foundations or utilities, such as sewer and water pipes.

The primary concern from vibration is the ability to be intrusive and annoying to nearby residents and other vibration-sensitive land uses. Vibration energy spreads out as it travels through the ground, causing the vibration level to diminish with distance away from the source. High-frequency vibrations reduce much more rapidly than low frequencies, so that low frequencies tend to dominate the spectrum at greater distances from the source.

Noise and Vibration Rating Scales. Several rating scales exist to analyze effects of noise on a community. These scales include the equivalent noise level (L_{eq}), the community noise equivalent level (CNEL), and the day-night average sound level (L_{dn}). Average noise levels over a period of minutes or hours are usually expressed as dBA L_{eq}, which is the equivalent noise level for that period of time. The period of time averaging may be specified; for example, $L_{eq(3)}$ would be a three-hour average. When no period is specified, a one-hour average is assumed. It is important to understand that noise of short duration (i.e., a time period substantially less than the averaging period) is averaged into ambient noise during the period of interest. Therefore, a loud noise lasting many seconds or a few minutes may have minimal effect on the measured sound level averaged over a one-hour period.

To evaluate community noise impacts, a descriptor was developed that accounts for human sensitivity to nighttime noise. The descriptor is called the L_{dn}, which represents the 24-hour average sound level with a penalty for noise occurring at night. The L_{dn} computation divides the 24-hour day into two periods: daytime (7:00 AM to 10:00 PM) and nighttime (10:00 PM to 7:00 AM). The nighttime sound levels are assigned a 10 dBA “penalty” prior to averaging with daytime hourly sound levels. CNEL is similar to Ldn except that it separates a 24-hour day into 3 periods: daytime (7:00 AM to 7:00 PM), evening (7:00 PM to 10:00 PM), and nighttime (10:00 PM to 7:00 AM). The evening and nighttime sound levels are assigned a 5 and 10 dBA penalty respectively, prior to averaging with daytime hourly sound levels. Several statistical descriptors are also often used to describe noise, including Lmax, Lmin, and Lx. Lmax and Lmin are respectively the highest and lowest A-weighted sound levels that occur during a noise event. The Lx signifies the noise level that is exceeded X percent of the time; for example, L10 denotes the level that was exceeded 10 percent of the time.

Vibration levels are usually expressed as single-number measure of vibration magnitude, in terms of velocity or acceleration, which describes the severity of the vibration without the frequency variable. The peak particle velocity (ppv) is defined as the maximum instantaneous positive or negative peak of the

vibration signal, usually measured in inches per second (in/sec). Since it is related to the stresses that are experienced by buildings, ppv is generally used to assess vibration to structures.

4.12.3 Regulatory Setting

Federal Regulations

Federal Transit Administration Noise and Vibration Guidance

The Federal Transit Administration (FTA) has published the Transit Noise and Vibration Impact Assessment Manual to provide guidance on procedures for assessing impacts at different stages of transit project development. The report covers both construction and operational noise impacts and describes a range of measures for controlling excessive noise and vibration. In general, the primary concern regarding vibration relates to potential damage from construction. The guidance document establishes criteria for evaluating the potential for damage for various structural categories from vibration.

State Regulations

California Government Code

California Government Code Section 65302(f) mandates that the legislative body of each county and city adopt a noise element as part of its comprehensive general plan. The local noise element must recognize the land use compatibility guidelines established by the State Department of Health Services. The guidelines rank noise land use compatibility in terms of "normally acceptable," "conditionally acceptable," "normally unacceptable," and "clearly unacceptable" noise levels for various land use types. Single-family homes are "normally acceptable" in exterior noise environments up to 60 CNEL and "conditionally acceptable" up to 70 CNEL. Multiple-family residential uses are "normally acceptable" up to 65 CNEL and "conditionally acceptable" up to 70 CNEL. Schools, libraries, and churches are "normally acceptable" up to 70 CNEL, as are office buildings and business, commercial, and professional uses.

Title 24 – Building Code

The State's noise insulation standards are codified in the California Code of Regulations, Title 24: Part 1, Building Standards Administrative Code, and Part 2, California Building Code. These noise standards are applied to new construction in California for interior noise compatibility from exterior noise sources. The regulations specify that acoustical studies must be prepared when noise-sensitive structures, such as residential buildings, schools, or hospitals, are located near major transportation noise sources, and where such noise sources create an exterior noise level of 65 dBA CNEL or higher. Acoustical studies that accompany building plans must demonstrate that the structure has been designed to limit interior noise in habitable rooms to acceptable noise levels. For new multi-family residential buildings, the acceptable interior noise limit for new construction is 45 dBA CNEL.

Regional and Local Regulations

Rialto General Plan 2010

The Rialto General Plan (General Plan) is a roadmap that encompasses the hopes, aspirations, values, and dreams of the community. The General Plan specifies exterior noise guidelines for land uses in the Safety

and Noise chapter. The City requires that new developments be designed to meet these guidelines.[1] Noise compatibility can be achieved by avoiding the location of conflicting land uses adjacent to one another, incorporating buffers and noise control techniques including setbacks, landscaping, building transitions, site design, and building construction techniques. Selection of the appropriate noise control technique would vary depending on the level of noise that needs to be reduced as well as the location and intended land use. General Plan policies that directly address reducing and avoiding noise or vibration impacts include the following:

Goal 2-9 Protect residential, schools, parks, and other sensitive land uses from the impacts associated with industrial and trucking-related land uses, as well as commercial and retail areas.

Policy 2-9.1 Require mitigation and utilize other techniques to protect residential development and other sensitive land uses near industrial land uses or within identified health risk areas from excessive noise, hazardous materials and waste releases, toxic air pollutant concentrations, and other impacts.

Goal 5-10 Minimize the impact of point source and ambient noise levels throughout the community.

Policy 5-10.2 Consider noise impacts as part of the development review process, particularly the location of parking, ingress/egress/loading, and refuse collection areas relative to surrounding residential development and other noise-sensitive land uses.

Policy 5-10.3 Ensure that acceptable noise levels are maintained near schools, hospitals, and other noise sensitive areas in accordance with the Rialto Municipal Code (Municipal Code) and noise standards contained in Exhibit 5.5 (**Table 4.12-1: Rialto Noise Guidelines for Land Use Planning**).

Policy 5-10.4 Limit the hours of operation at all noise generation sources that are adjacent to noise-sensitive areas.

Policy 5-10.5 Require all exterior noise sources (construction operations, air compressors, pumps, fans and leaf blowers) to use available noise suppression devices and techniques to reduce exterior noise to acceptable levels that are compatible with adjacent land uses.

Goal 5-11 Minimize the impacts of transportation-related noise.

Policy 5-11.3 Require development of truck-intensive uses to minimize noise impacts on adjacent uses through appropriate site design.

The City of Rialto (City) is largely built out and the street system is well established, creating challenges for separating noise-sensitive land uses from primary noise sources. Thus, the Safety and Noise chapter of the General Plan establishes policies guarding against new noise or land use conflicts to minimize the impact of existing noise sources on the community. **Table 4.12-1: Rialto Noise Guidelines for Land Use Planning** presents the City's exterior noise guidelines for land use planning. It should also be noted that the Safety and Noise chapter of the General Plan mentions sound levels exceeding 40 to 45 dBA are generally considered to cause sleep interference within a residence. The General Plan also references Title 24 of the California Health and Safety Code stipulating a maximum of 45 dBA for interior residential noise levels.

[1] City of Rialto. (2010). Rialto General Plan. https://www.yourrialto.com/653/General-Plan. Accessed August 2023.

Table 4.12-1: Rialto Noise Guidelines for Land Use Planning

Land Use Category	Community Noise Exposure (L_{dn} or CNEL, dBA)			
	Normally Acceptable	Conditionally Acceptable	Normally Unacceptable	Clearly Unacceptable
R2 - Residential 2, R6 - Residential 6	50 – 60	60 – 65	65 – 70	70 – 85
R12 - Residential 12	50 – 60	60 – 65	65 – 70	70 – 85
R21 - Residential 21, R45 - Residential 45	50 – 60	60 – 70	70 – 75	75 – 85
DMU - Downtown Mixed-Use	50 – 60	60 – 75	75 – 80	80 – 85
CC - Community Commercial	50 – 65	65 – 75	75 – 80	80 – 85
GC - General Commercial	50 – 65	65 – 75	75 – 80	80 – 85
BP - Business Park, O - Office	50 – 65	65 – 75	75 – 80	80 – 85
LI - Light Industrial	50 – 70	70 – 75	75 – 80	80 – 85
GI - General Industrial	50 – 75	75 – 85	NA	NA
P - Public Facility, P - School Facility	50 – 60	60 – 65	65 – 70	70 – 85
OSRC - Open Space - Recreation	50 – 75	NA	75 – 80	80 – 85
OSRS - Open Space - Resources	50 – 75	NA	75 – 80	80 – 85

NA: Not Applicable; dBA: Decibel

Notes:
Normally Acceptable – Specified land use is satisfactory, assuming buildings are of conventional construction.
Conditionally Acceptable – New development should be undertaken only after detailed analysis of noise reduction requirements are made.
Normally Unacceptable – New development should be discouraged, or a detailed analysis of noise reduction requirements must be made.
Clearly Unacceptable – New development should generally not be undertaken.

Source: City of Rialto. (2010). Rialto General Plan.

City of Rialto Municipal Code

A noise ordinance is intended to control unnecessary, excessive, and annoying sounds from stationary, non-transportation noise sources. Noise ordinance requirements are not applicable to mobile noise sources such as heavy trucks traveling on public roadways. Federal and State laws preempt control of mobile noise sources on public roads. Noise ordinance standards generally apply to industrial and commercial noise sources, as well as parks and schools affecting residential areas. The Municipal Code prohibits the production of excessive noise, and is applied to future development within the City to determine potential noise impacts.

The City has also instated permitted hours for disturbances specifically from construction activity under Municipal Code Section 9.50.070. This code states that no person shall be engaged in any type of work relating to construction, alteration, repair, addition, movement, demolition, or improvement to any building or structure except within the hours provided in **Table 4.12-2: Permitted Hours of Construction Work**, below. However, Section 9.50.060 of the Municipal Code indicates exclusions from the provisions of this specific chapter of the Municipal Code. As described in Section 9.50.060(L) of the Municipal Code, noise sources associated with construction, repair, or excavation, are exempt so long as there is a valid written agreement with the City or any of its political subdivisions that provides for noise mitigation measures.

Table 4.12-2: Permitted Hours of Construction Work	
Days of Week	**Time[1,2]**
October 1st through April 30th	
Monday – Friday	7:00 a.m. to 5:30 p.m.
Saturday	8:00 a.m. to 5:00 p.m.
Sunday	No Permissible Hours
State Holidays	No Permissible Hours
May 1st through September 30th	
Monday – Friday	6:00 a.m. to 7:00 p.m.
Saturday	8:00 a.m. to 5:00 p.m.
Sunday	No Permissible Hours
State Holidays	No Permissible Hours
For purposes of this section, the following exceptions shall apply: 1. Emergency repair of existing installations, equipment, or appliances; and 2. Such work that complies with the terms and conditions of a written early work permit issued by the city manager or his or her designee upon a showing of a sufficient need and justification for the permit due to hot or inclement weather, the use of an unusually long process material, or other circumstances of an unusual and compelling nature.	
Source: **Appendix N**	

The Project would be subject to the limitations imposed by the City regarding construction noise as depicted in **Table 4.12-2**.

The following section of the Municipal Code noise ordinance is relevant for operational noise.

Section 9.50.050: Controlled hours of operation

It is unlawful for any person to engage in the following activities other than between the hours of 7:00 a.m. and 8:00 p.m. in all zones.

A. Operate or permit the use of powered model vehicles and planes;

B. Load or unload any vehicle, or operate or permit the use of dollies, carts, forklifts, or other wheeled equipment that causes any impulsive sound, raucous or unnecessary noise within one thousand feet of a residence;

C. Operate or permit the use of domestic power tools, or machinery or any other equipment or tool in any garage, workshop, house or any other structure;

D. Operate or permit the use of gasoline or electric powered leaf blowers, such as commonly used by gardeners and other persons for cleaning lawns, yards, driveways, gutters and other property;

E. Operate or permit the use of privately operated street/parking lot sweepers or vacuums, except that emergency work and/or work necessitated by unusual conditions may be performed with the written consent of the city manager;

F. Operate or permit the use of pile driver, steam or gasoline shovel, pneumatic hammer, steam or electric hoist or other similar devices;

G. Operate or permit the use of electrically operated compressor, fan, and other similar devices;

H. Perform ground maintenance on golf course grounds and tennis courts contiguous to golf courses that creates a noise disturbance across a residential or commercial property line;

I. Operate or permit the use of any motor vehicle with a gross vehicle weight rating in excess of ten thousand pounds, or of any auxiliary equipment attached to such a vehicle, including but not limited to refrigerated truck compressors, for a period longer than fifteen minutes in any hour while the vehicle is stationary and on a public right-of-way or public space except when movement of the vehicle is restricted by other traffic;

J. Repair, rebuild, reconstruct or dismantle any motor vehicle or other mechanical equipment or devices in a manner so as to be plainly audible across property lines.

Additionally, Section 9.50.060(O) of the Municipal Code states that sounds generated in commercial and industrial zones that are necessary and incidental to the uses permitted therein are exempt from the Controlled Hours of Operation.

4.12.4 Environmental Setting

Existing Noise Levels

The City is impacted by various noise sources. Mobile sources of noise, especially cars, trucks, and trains are the most common and significant sources of noise. Other noise sources are the various land uses (e.g., residential, commercial, institutional, and recreational and parks activities) throughout the City that generate stationary-source noise. The existing mobile noise sources in the Project area are generated by motor vehicles traveling on East Santa Ana Avenue. The primary sources of stationary noise in the Project vicinity are those associated with the industrial processes to the north, east, and west. Industrial stationary noise sources may include mechanical equipment (use of heating, ventilation, and air conditioning [HVAC] units, etc.) and parking lot activities (cars parking, open and closing doors, etc.). The noise associated with these sources may represent a single-event noise occurrence, short-term, or long-term/continuous noise.

Mobile Traffic Noise

Existing roadway noise levels were calculated for the roadway segments in the Project vicinity. This task was accomplished using the Federal Highway Administration (FHWA) Highway Traffic Noise Prediction Model (FHWA-RD-77-108) and existing traffic volumes from the *Traffic Study for the 249 Santa Ana Avenue Truck Terminal Project in the City of Rialto* (Traffic Study), prepared by Kimley-Horn (April 2023). The noise prediction model calculates the average noise level at specific locations based on traffic volumes, average speeds, roadway geometry, and site environmental conditions. The average vehicle noise rates (also referred to as energy rates) used in the FHWA model have been modified to reflect average vehicle noise rates identified for California by the California Department of Transportation (Caltrans). The Caltrans data indicates that California automobile noise is 0.8 to 1.0 dBA higher than

national levels and that medium and heavy truck noise is 0.3 to 3.0 dBA lower than national levels.[2] The average daily noise levels along roadway segments in proximity to the project site are included in **Table 4.12-3: Existing Traffic Noise Levels**.

Table 4.12-3: Existing Traffic Noise Levels

Roadway Segment	Existing Conditions	
	ADT	dBA CNEL at 100 feet from Roadway Centerline
South Riverside Avenue		
I-10 EB Ramps to Slover Avenue	33,990	71.9
Slover Avenue to East Santa Ana Avenue	27,760	71.1
Santa Avenue to Jurupa Avenue	23,930	70.4
East Santa Ana Avenue		
East of South Riverside Avenue	1,430	56.4
ADT = average daily traffic; dBA = A-weighted decibels; CNEL = day-night noise level;		
Source: **Appendix N**		

Sensitive Receptors

Noise exposure standards and guidelines for various types of land uses reflect the varying noise sensitivities associated with each of these uses. Residences, hospitals, schools, guest lodging, libraries, and churches are treated as the most sensitive to noise intrusion and therefore have more stringent noise exposure targets than do other uses, such as manufacturing or agricultural uses that are not subject to impacts such as sleep disturbance. When the air noise analysis was conducted for the Project, the nearest sensitive receptor was a single-family residential use located approximately 1,350 feet to the west of the project site at the southwest corner of South Riverside Avenue and East Santa Ana Avenue. That identified single-family use has since been demolished and the closest sensitive receptor is a single-family residential use located approximately 2,800 feet to the southwest of the project site.

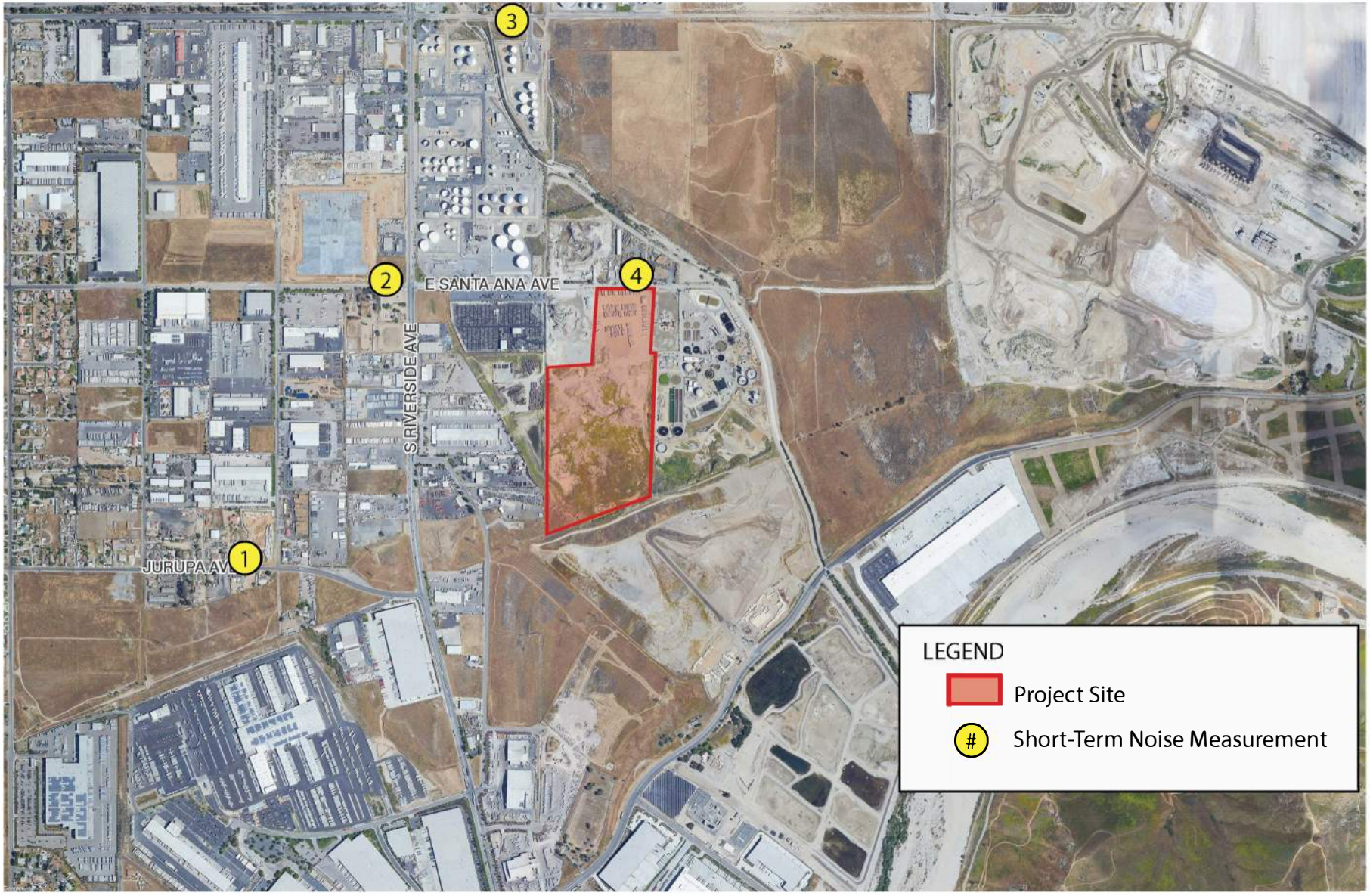
Noise Measurements

To quantify existing ambient noise levels in the Project area, Kimley-Horn conducted four short-term noise measurements on September 28, 2023. The noise measurement sites were representative of typical existing noise exposure within and immediately adjacent to the project site. The 10-minute measurements were taken between 12:23 p.m. and 1:17 p.m. Short-term L_{eq} measurements are considered representative of the noise levels throughout the day. The average noise levels and measurement location are listed in **able 4.12-4: Existing Noise Measurements**. Location of the noise measurements are shown in **Figure 4.12-1: Noise Measurement Locations**.

able 4.12-4: Existing Noise Measurements

Site #	Location	L_{eq} (dBA)	Time
1	West of the Jurupa Avenue and Willow Avenue intersection	68.4	12:44 PM
2	West of the East Santa Ana Avenue and South Riverside Avenue Intersection	69.6	1:00 PM
3	Slover Avenue East of South Riverside Avenue	60.8	12:23 PM
4	East Santa Ana Avenue east of South Riverside Avenue	65.6	1:17 PM
Source: **Appendix N**			

[2] Hendriks, Rudolf W., California Vehicle Noise Emission Levels. 1985. https://onlinepubs.trb.org/Onlinepubs/trr/1985/1033/1033-010.pdf. Accessed May 2024.



Source: Google Earth Pro, 2023

Figure 4.12-1: Noise Measurement Locations
Santa Ana Truck Terminal Project
Rialto, CA

Kimley»Horn

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4.12.5 Methodology

Construction Noise

Construction noise levels were based on typical noise levels generated by construction equipment published by the Federal Transit Administration (FTA) and FHWA. Construction noise is assessed in dBA L_{eq}. This unit is appropriate because L_{eq} can be used to describe noise level from operation of each piece of equipment separately, and levels can be combined to represent the noise level from all equipment operating during a given period.

Construction noise modeling was conducted using the FHWA Roadway Construction Noise Model (RCNM). Reference noise levels are used to estimate operational noise levels at nearby sensitive receptors based on a standard noise attenuation rate of 6 dB per doubling of distance (line-of-sight method of sound attenuation for point sources of noise). Noise level estimates do not account for the presence of intervening structures or topography, which may reduce noise levels at receptor locations. Therefore, the noise levels presented herein represent a conservative, reasonable worst-case estimate of actual temporary construction noise. The City does not establish quantitative construction noise standards. Therefore, this analysis conservatively uses the FTA's threshold of 80 dBA (8-hour L_{eq}) for residential uses and 90 dBA (8-hour L_{eq}) for non-residential uses to evaluate construction noise impacts.

Operational Noise

Reference noise level data are used to estimate the Project operational noise impacts from stationary sources. Noise levels are collected from field noise measurements and other published sources from similar types of activities are used to estimate noise levels expected with the Project's stationary sources. The reference noise levels are used to represent a worst-case noise environment as noise level from stationary sources can vary throughout the day. Operational noise is evaluated based on the standards within the Municipal Code and General Plan.

An analysis was conducted of the Project's effect on traffic noise conditions at off-site land uses. Without Project traffic noise levels were compared to With Project traffic noise levels. The environmental baseline is the Without Project condition. The Without Project and With Project traffic noise levels in the Project vicinity were calculated using the FHWA Highway Noise Prediction Model (FHWA-RD-77-108). The actual sound level at any receptor location is dependent upon such factors as the source-to-receptor distance and the presence of intervening structures (walls and buildings), barriers, and topography. The noise attenuating effects of changes in elevation, topography, and intervening structures were not included in the model. Therefore, the modeling effort is considered a worst-case representation of the roadway noise. In general, a 3-dBA increase in traffic noise is barely perceptible to people, while a 5-dBA increase is readily noticeable.

Vibration

Ground-borne vibration levels associated with construction activities for the Project were evaluated utilizing typical ground-borne vibration levels associated with construction equipment, obtained from FTA published data for construction equipment. Potential ground-borne vibration impacts related to building/structure damage and interference with sensitive existing operations were evaluated,

considering the distance from construction activities to nearby land uses and typically applied criteria for structural damage and human annoyance.

4.12.6 Thresholds of Significance

Based upon the criteria derived from Appendix G of the CEQA Guidelines, a project normally will have a significant effect on the environment if it would:

- Generate 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.
- Generate excessive groundborne vibration or groundborne noise levels.
- For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?

4.12.7 Project Impacts and Mitigation

Impact 4.12-1: Would the project generate 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?

Level of Significance: Less than Significant Impact

Construction

Construction noise typically occurs intermittently and varies depending on the nature or phase of construction (e.g., land clearing, grading, excavation, paving). Noise generated by construction equipment, including earth movers, material handlers, and portable generators, can reach high levels. During construction, exterior noise levels could affect the residential neighborhoods near the construction site. This evaluation conservatively reflects the results of analysis based on a sensitive receptor located 1,350 feet west of the project site; however, that use has since been demolished and the nearest sensitive receptor is located approximately 2,800 feet to the southwest of the project site. Further, it is acknowledged that construction activities would occur throughout the project site and would not be concentrated at the point closest to the sensitive receptors.

Construction activities would include site preparation, grading/infrastructure improvements, building construction, paving, and architectural coating applications. Such activities would require dozers and tractors during site preparation; excavators, graders, dozers, scrapers, and tractors during grading/infrastructure improvements; cranes, forklifts, generators, tractors, and welders during building construction; pavers, rollers, and paving equipment during paving; and air compressors during architectural coating applications. Typical operating cycles for these types of construction equipment may involve 1 or 2 minutes of full power operation followed by three to four minutes at lower power settings. Construction noise was calculated accounting for each piece of equipment's usage factor, or fraction of

time that the equipment would be in use at full power over a specific period of time.[3] Other primary sources of acoustical disturbance would be random incidents, which would last less than one minute (such as dropping large pieces of equipment or the hydraulic movement of machinery lifts). Noise generated by construction equipment, including earth movers, material handlers, and portable generators, can reach high levels. Typical noise levels associated with individual construction equipment when operating at full power are listed in **Table 4.12-5: Typical Construction Noise Levels**.

Table 4.12-5: Typical Construction Noise Levels

Equipment	Typical Noise Level (dBA L_{max}) at 50 feet from Source
Air Compressor	80
Backhoe	80
Compactor	82
Concrete Mixer	85
Concrete Pump	82
Concrete Vibrator	76
Crane, Derrick	88
Crane, Mobile	83
Dozer	85
Generator	82
Grader	85
Impact Wrench	85
Jack Hammer	88
Loader	80
Paver	85
Pneumatic Tool	85
Pump	77
Roller	85
Saw	76
Scraper	85
Shovel	82
Truck	84

Source: **Appendix N**

The FHWA RCNM was used to calculate the worst-case construction noise levels at nearby sensitive receptors surrounding the project site during construction. The modeled receptor locations represent the closest existing receiving land use to Project construction activities. Noise levels at other sensitive receptors surrounding the project site would be located further away and would experience lower construction noise levels than the closest receptors modeled.

The Municipal Code does not establish quantitative exterior construction noise standards. While the Municipal Code does not establish quantitative construction noise standards, this analysis conservatively uses the FTA's threshold of 80 dBA (8-hour L_{eq}) for residential uses and 90 dBA (8-hour L_{eq}) for non-residential uses to evaluate construction noise impacts.[4]

[3] United States Department of Transportation: Federal Transit Administration (2018). Transit Noise and Vibration Impact Assessment Manual.https://www.transit.dot.gov/sites/fta.dot.gov/files/docs/research-innovation/118131/transit-noise-and-vibration-impact-assessment-manual-fta-report-no-0123_0.pdf. Accessed May 2024.

[4] Ibid.

The noise levels calculated in **Table 4.12-6: Project Construction Noise Levels** show estimated exterior noise levels for the worst-case construction noise scenario without accounting for attenuation from intervening barriers, structures, or topography. The nearest noise sensitive receptor to the project site is the residence located approximately 2,800 feet to the southwest and the nearest non-residential receptors are the industrial uses located adjacent to the west and east of the project site. Noise levels at other receptors in the Project vicinity would be located further away and would experience lower construction noise levels than the closest receptors modeled. Because the building construction and paving phases are anticipated to overlap, the equipment from overlapping phases have been combined. All construction equipment for each individual phase was assumed to operate simultaneously to represent a worst-case noise scenario as construction activities would routinely be spread throughout the project site and would operate at different intervals.

As shown in **Table 4.12-6**, the worst-case scenario construction noise levels would not exceed the applicable FTA construction thresholds. The highest exterior noise level at the nearest residential receptor would occur during the overlap of the building construction and paving phases and would be 58.5 dBA which is below the FTA's 80 dBA threshold. Additionally, the highest exterior noise level at non-residential (industrial) receptors would also occur during the building construction/paving overlap and would be 75.5 dBA which is below the FTA's 90 dBA threshold. Although sensitive uses may be exposed to elevated noise levels during Project construction, these noise levels would be acoustically dispersed throughout the project site and not concentrated in one area near surrounding sensitive uses. Therefore, per the methodology described in the FTA Transit Noise and Vibration Impact Assessment Manual (September 2018), distances are measured from the nearby buildings to the center of the project site.

The City has set restrictions on construction hours to control noise impacts from construction activities. Municipal Code Section 9.50.070 states that construction activities may only take place between the hours of 7:00 a.m. and 5:30 p.m. on weekdays and between the hours of 8:00 a.m. and 5:00 p.m. on Saturdays from October 1 through April 30 and shall only occur between 6:00 a.m. and 7:00 p.m. on weekdays and between the hours of 8:00 a.m. and 5:00 p.m. on Saturdays from May 1 through September 30. It is noted that nighttime construction would be limited to brief periods of construction activity and would not endure during the entire construction period. Although the Municipal Code limits the hours of construction, it does not provide specific noise level performance standards for construction. By following the City's standards, construction noise Impacts would be less than significant.

Table 4.12-6: Project Construction Noise Levels

Construction Phase	Land Use	Receptor Location			Noise Threshold (dBA L_{eq})[2]	Exceeded?
		Direction	Distance to Center of Site (feet)[1]	Worst Case Modeled Exterior Noise Level (dBA L_{eq})		
Site Preparation	Residential	West	2,130	55.0	80	**No**
	Commercial/ Industrial	West	300	72.1	90	**No**
	Commercial/ Industrial	East	400	69.6	90	**No**
Grading	Residential	South	2,130	55.6	80	**No**
	Commercial/ Industrial	North	300	72.7	90	**No**
	Commercial/ Industrial	South	400	70.2	90	**No**
Building Construction	Residential	South	2,130	56.8	80	**No**
	Commercial/ Industrial	North	300	73.8	90	**No**
	Commercial/ Industrial	South	400	71.3	90	**No**
Paving	Residential	South	2,130	53.5	80	**No**
	Commercial/ Industrial	North	300	70.6	90	**No**
	Commercial/ Industrial	South	400	68.1	90	**No**
Architectural Coating	Residential	South	2,130	41.1	80	**No**
	Commercial/ Industrial	North	300	58.2	90	**No**
	Commercial/ Industrial	South	400	55.7	90	**No**
Building Construction/Paving	Residential	South	2,130	58.5	80	**No**
	Commercial/ Industrial	North	300	75.5	90	**No**
	Commercial/ Industrial	South	400	73.0	90	**No**

1. Per the methodology described in the FTA Transit Noise and Vibration Impact Assessment Manual (September 2018), distances are measured from the nearby buildings to the center of the Project construction site. The closest residential use is now 2,800 feet from the project site and the results shown in the table are conservatively based on the previous residential use (now demolished) that was closer.
2. The City does not have a quantitative noise threshold for construction and only limits the hours of the construction activities. Therefore, FTA's construction noise threshold are conservatively used for this analysis (FTA, Transit Noise and Vibration Impact Assessment Manual, September 2018).

Source: **Appendix N**

Operations

Implementation of the Project would create new sources of noise in the Project area. The major noise sources associated with the Project that would potentially impact existing and future nearby residences include the following:

- Mechanical equipment;
- Slow moving trucks on the Project site, approaching and leaving the loading areas;
- Activities at the loading areas (i.e., maneuvering and idling trucks, equipment noise);
- Parking areas (i.e., car door slamming, car radios, engine start-up, and car pass-by); and
- Off-site traffic.

Mechanical Equipment

Mechanical equipment (e.g., heating, ventilation, and air conditioning [HVAC] equipment) typically generates noise levels of approximately 52 dBA at 50 feet. HVAC units would be installed on the roof of the proposed buildings. Sound levels decrease by 6 dBA for each doubling of distance from the source. The nearest residential sensitive receptor (residential use to the southwest) would be located as close as 2,800 feet from the HVAC equipment (the nearest proposed building) at the project site. At this distance, mechanical equipment noise levels would be approximately 20.4 dBA, which is well below the City's normally acceptable residential exterior noise standard (60 dBA). Additionally, the adjacent industrial receptor to the east would be located as close as 160 feet from the HVAC equipment at the project site. At this distance, mechanical equipment noise levels would be approximately 41.9 dBA, which is well below the City's normally acceptable exterior noise standard (75 dBA) for industrial use. Operation of mechanical equipment would not increase ambient noise levels beyond the acceptable compatible land use noise levels. Therefore, the Project would result in a less than significant impact related to mechanical equipment noise levels.

Truck and Loading Dock Noise

During loading and unloading activities, noise would be generated by the trucks' diesel engines, exhaust systems, and brakes during low gear shifting/braking activities; backing up toward the docks; dropping down the dock ramps; and maneuvering away from the docks. Loading/unloading activities would occur throughout the project site.

Typically, heavy truck and loading dock operations generate a noise level of 68 dBA at a distance of 30 feet. The closest residential sensitive receptor at the time of the noise analysis was the single-family residence located approximately 1,350 feet west of the project site. That single family residence has since been demolished and the closest sensitive receptor is located approximately 2,800 feet southwest of the project site. The analysis conservatively reflects the impacts to a residence located 1,350 feet from the project site. At this distance, heavy truck and loading dock noise levels would be 32.4 dBA, which would not exceed the City's normally acceptable residential exterior noise standard (60 dBA). Additionally, an industrial use would be located approximately 100 feet east of the loading area of the terminal building. At this distance, heavy truck and loading dock noise levels would be approximately 57.3 dBA, which is well below the City's normally acceptable exterior noise standard (75 dBA) for industrial use. Noise levels

associated with trucks and loading/unloading activities would not exceed the City's standards and impacts would be less than significant.

Back-Up Alarms

Medium and heavy-duty trucks reversing into loading docks would produce noise from back-up alarms. Back-up alarms produce a typical volume of 97 dBA at one meter (3.28 feet) from the source. The property line of the nearest residential sensitive receptor, at the time of this analysis was approximately 1,350 feet west of the project site. At this distance, exterior noise levels from back-up alarms would be approximately 44.7 dBA, which is below the City's normally acceptable residential exterior noise standard (60 dBA). Additionally, the industrial use to the east would be located approximately 100 feet east of the truck terminal building where trucks could be reversing and maneuvering. At this distance, exterior noise levels from back-up beepers would be approximately 67.3 dBA, which is well below the City's normally acceptable exterior noise standard (75 dBA) for industrial use. Moreover, the closest sensitive receptor is located is located approximately 2,800 feet southwest of the project site, further from the project site than is reflected in the analysis. Therefore, back-up alarm noise impacts would be less than significant.

Parking Noise

The Project would provide 149 surface parking spaces for passenger vehicles. Traffic associated with parking lots is typically not of sufficient volume to exceed community noise standards, which are based on a time-averaged scale such as the CNEL scale. The instantaneous maximum sound levels generated by a car door slamming, engine starting up, and car pass-bys range from 60 to 63 dBA at 50 feet and may be an annoyance to adjacent noise-sensitive receptors. It should be noted that parking lot noises are instantaneous noise levels compared to noise standards in the hourly L_{eq} metric, which are averaged over the entire duration of a time period.

Actual noise levels over time resulting from parking lot activities would be far lower than the reference levels identified above. Parking lot noise would occur within the surface parking lot on-site. It is also noted that parking lot noise occurs at the project site and surrounding commercial/industrial uses under existing conditions. Parking lot noise would be consistent with the existing noise in the vicinity and would be partially masked by background noise from traffic along surrounding roadways. The passenger vehicle parking area would be located approximately 2,800 feet from the residential sensitive receptor to the southwest. Noise attenuation based strictly on distance and not taking into account intervening barriers or structures would reduce parking lot noise to 33.5 dBA, which is below the City's normally acceptable residential exterior noise standard (60 dBA). Additionally, the industrial use to the east of the project site would be located approximately 450 feet from the passenger vehicle parking area.[5] At this distance, parking lot exterior noise levels would be approximately 37.5 dBA, which is below the City's normally acceptable exterior noise standard (75 dBA) for industrial uses. Noise associated with parking lot activities is not anticipated to exceed the City's noise standards during operation. Therefore, noise impacts from parking lots would be less than significant.

[5] The boundary of the industrial use to the east of the Project site is adjacent to the proposed passenger vehicle parking area. However, this use is a concrete supplier the area adjacent to the Project site is open, unoccupiable space. The office building is located approximately 940 feet to the north.

Off-Site Traffic Noise

The Project would result in additional traffic on adjacent roadways from daily activities, thus increasing vehicular noise in the vicinity of existing and proposed land uses. Based on the Traffic Study for the 249 Santa Ana Avenue Truck Terminal Project in the City of Rialto (Traffic Study) (**Appendix O**), typical daily activities are forecast to generate 951 daily trips, consisting of 377 daily passenger vehicle trips and 574 daily truck trips. In general, traffic noise level increases of less than 3 dBA is barely perceptible to people, while a 5-dBA increase is readily noticeable. Generally, traffic volumes on Project area roadways would have to approximately double for the resulting traffic noise levels to increase by 3 dBA. Therefore, permanent increases in ambient noise levels of less than 3 dBA are considered to be less than significant.

Traffic noise levels for roadways primarily affected by the Project were calculated using the FHWA's Highway Noise Prediction Model (FHWA-RD-77-108). Traffic noise modeling was conducted for conditions with and without the Project, based on traffic volumes obtained from the Traffic Study. The calculated traffic noise levels for the "Opening Year Without Project" and "Opening Year With Project" scenarios are compared in **Table 4.12-7: Opening Year Traffic Noise Levels**. As depicted in **Table 4.12-7**, under the "Opening Year Without Project" scenario, noise levels would range from approximately 58.1 dBA to 72.7 dBA, with the highest noise levels occurring along South Riverside Avenue from the I-10 eastbound ramps to Slover Avenue. The "Opening Year With Project" scenario noise levels would range from approximately 65.3 dBA to 72.7 dBA, with the highest noise levels also occurring along South Riverside Avenue from the I-10 eastbound ramps to Slover Avenue.

Table 4.12-7: Opening Year Traffic Noise Levels

	Opening Year Without Project		Opening Year With Project			
Roadway Segment	ADT	dBA CNEL at 100 feet from Roadway Centerline	ADT	dBA CNEL at 100 feet from Roadway Centerline	Change	Significant Impacts
South Riverside Avenue						
I-10 EB Ramps to Slover Avenue	40,163	72.7	35,455	72.7	0.0	**No**
Slover Avenue to East Santa Ana Avenue	33,303	71.8	29,135	71.9	0.1	**No**
East Santa Avenue to Jurupa Avenue	24,409	70.5	24,505	70.5	0.0	**No**
East Santa Ana Avenue						
East of South Riverside Avenue	2,106	58.1	2,415	65.3	7.2	**No**

ADT = average daily trips; dBA = A-weighted decibels; CNEL = community noise equivalent level.

Source: **Appendix N**

As depicted in **Table 4.12-7**, the "Opening Year With Project" scenario traffic noise levels would not exceed the 3.0 dBA increase significance threshold along South Riverside Avenue. Traffic noise increases along East Santa Ana Avenue east of South Riverside Avenue would result in an approximate 7.2 dBA increase. However, there are no sensitive receptors located along this roadway segment and the With Project noise level would remain within acceptable noise levels for industrial uses. As a result, Project impacts would be less than significant.

As discussed above, the Project would result in less than significant operational and construction noise impacts. However, the Project would incorporate Agua Mansa Specific Plan EIR Noise Mitigation Measures 1 through 4 to further reduce noise impacts. Impacts would be less than significant.

Mitigation Program

Standard Conditions

No standard conditions are applicable.

Mitigation Measures

Agua Mansa Industrial Corridor Specific Plan EIR Mitigation Measures: Environmental Health and Hazards

Mitigation Measure 2: Interior noise levels in residential and office structures shall not exceed 45 dBA.

Mitigation Measure 3: Where necessary, noise retardant measures should be incorporated into the design of industrial structures. Such measures include, but are not limited to, berms, noise attenuation walls, building insulation and the limitation of processing/manufacturing activities to enclosed buildings.

Mitigation Measure 4: The noise standards promulgated by the local jurisdictions shall be adhered to. Each proposed use shall be reviewed for noise generation potential prior to approval.

Project Mitigation Measures

No mitigation is required.

Impact 4.12-2: Would the project expose persons to or generate excessive ground borne vibration or ground borne noise levels?

Level of Significance: Less than Significant Impact

Upon completion of construction, the Project would not be a source of groundborne vibration. Increases in groundborne vibration levels attributable to the Project would be primarily associated with short-term construction-related activities. Construction on the project site would have the potential to result in varying degrees of temporary groundborne vibration, depending on the specific construction equipment used and the operations involved.

The types of construction vibration impacts include human annoyance and building damage. Human annoyance occurs when construction vibration rises significantly above the threshold of human perception for extended periods of time. Building damage can be cosmetic or structural. Ordinary buildings that are not particularly fragile would not experience any cosmetic damage (e.g., plaster cracks) at distances beyond 30 feet. This distance can vary substantially depending on the soil composition and underground geological layer between vibration source and receiver. In addition, not all buildings respond similarly to vibration generated by construction equipment. The City does not provide numerical vibration standards for construction activities. Therefore, this impact discussion uses the FTA and Caltrans standard of 0.20 in/sec PPV with respect to the prevention of structural damage for normal buildings and human annoyance.

The FTA has published standard vibration velocities for construction equipment operations. **Table 4.12-8: Typical Construction Equipment Vibration Levels**, lists vibration levels for typical construction equipment. It should be noted that the Project would not require the use of pile drivers. Groundborne vibration generated by construction equipment spreads through the ground and diminishes in magnitude with increases in distance. As indicated in **Table 4.12-8**, based on FTA data, vibration velocities from typical heavy construction equipment operations that would be used during Project construction range from 0.003 to 0.210 in/sec PPV at 25 feet from the source of activity.

Table 4.12-8: Typical Construction Equipment Vibration Levels

Equipment	Peak Particle Velocity at 25 Feet (in/sec)	Peak Particle Velocity At 60 Feet (in/sec)[1]
Vibratory Roller	0.210	0.056
Large Bulldozer	0.089	0.024
Loaded Trucks	0.076	0.020
Jackhammer	0.035	0.009
Small Bulldozer/Tractors	0.003	0.001

Notes:
1. Calculated using the following formula: $PPV_{equip} = PPV_{ref} \times (25/D)^{1.5}$
where: PPV_{equip} = the peak particle velocity in in/sec of the equipment adjusted for the distance
PPV_{ref} = the reference vibration level in in/sec from Table 7-4 of the Federal Transit Administration, *Transit Noise and Vibration Impact Assessment Manual*, 2018.
D = the distance from the equipment to the receiver

Source: **Appendix N**

The nearest structures to any construction activity are the industrial buildings located approximately 60 feet to the east. Vibration velocities from construction equipment would range from 0.001 to 0.056 in/sec PPV at the nearest structure, which would not exceed the structural damage or human annoyance criteria of 0.2 in/sec PPV; refer to **Table 4.12-8**. It is also acknowledged that construction activities would occur throughout the project site and would not be concentrated at the point closest to the nearest structure or sensitive receptor. Therefore, vibration impacts associated with the Project would be less than significant.

Mitigation Program

Standard Conditions

No standard conditions are applicable.

Mitigation Measures

Agua Mansa Industrial Corridor Specific Plan EIR Mitigation Measures

No mitigation measures are applicable.

Project Mitigation Measures

No mitigation is required.

Impact 4.12-3: 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?

Level of Significance: Less than Significant Impact

The public airport nearest to the project site is the San Bernardino International Airport, located approximately 6.3 miles to the northeast. As such, the Project would not be located within two miles of a public airport or within an airport land use plan. Additionally, there are no private airstrips located within the Project vicinity. Therefore, the Project would not expose people residing or working in the Project area to excessive airport- or airstrip-related noise levels and no impact would occur.

Mitigation Program

Standard Conditions

No standard conditions are applicable.

Mitigation Measures

Agua Mansa Industrial Corridor Specific Plan EIR Mitigation Measures

No mitigation is applicable to the Project.

Project Mitigation Measures

No mitigation is required.

4.12.8 Cumulative Noise Impacts

For purposes of noise resource impact analysis, cumulative impacts are considered for cumulative development according to the related Projects; see **Table 4.0-1: Cumulative Projects List**. Construction-related noise is a localized activity and would only affect land uses that are immediately adjacent to the construction areas due to the fact that noise dissipates as it travels away from its source.

Noise by definition is a localized phenomenon, and drastically reduces as distance from the source increases. Cumulative noise impacts involve development of the Project in combination with ambient growth and other related development projects. As noise levels decrease as distance from the source increases, only projects in the nearby area could combine with the Project to potentially result in cumulative noise impacts.

Cumulative Construction Noise

The Project's construction activities would not result in a substantial temporary increase in ambient noise levels. Construction noise would be periodic and temporary noise impacts that would cease upon completion of construction. The Project would contribute to other proximate construction project noise impacts if construction activities were conducted concurrently. However, based on the noise analysis above, the Project's construction-related noise impacts would be less than significant following the Municipal Code.

Construction activities at other planned and approved projects near the project site would be required to comply with applicable City rules related to noise and would take place during daytime hours on the days permitted by the applicable Municipal Code, and projects requiring discretionary City approvals would be required to evaluate construction noise impacts, comply with the City's standard conditions of approval, and implement mitigation, if necessary, to minimize noise impacts. Construction noise impacts are by

nature localized. Based on the fact that noise dissipates as it travels away from its source, noise impacts would be limited to the project site and vicinity. Therefore, Project construction would not result in a cumulatively considerable contribution to significant cumulative impacts, assuming such a cumulative impact existed, and impacts in this regard are not cumulatively considerable.

Cumulative Operational Noise

Cumulative noise impacts describe how much noise levels are projected to increase over existing conditions with the development of the Project and other foreseeable projects. Cumulative noise impacts would occur primarily as a result of the Project-generated traffic on local roadways in combination with cumulative projects in the vicinity. However, noise from generators and other stationary sources could also generate cumulative noise levels.

Cumulative Stationary Noise

As discussed above, impacts from the Project's operational stationary noise would be less than significant. Due to site distance, intervening land uses, and the fact that noise dissipates as it travels away from its source, noise impacts from on-site activities and other stationary sources would be limited to the project site and vicinity. No known past, present, or reasonably foreseeable projects would compound or increase the operational noise levels generated by the Project. Thus, cumulative operational noise impacts from related projects, in conjunction with Project-specific noise impacts, would not be cumulatively significant.

Cumulative Traffic Noise

The cumulative mobile noise analysis is conducted in a two-step process. First, the combined effects from both the Project and other projects are compared. Second, for combined effects that are determined to be cumulatively significant, the Project's incremental effects are then analyzed. A project's contribution to a cumulative traffic noise increase would be considered significant when the combined effect exceeds perception level (i.e., auditory level increase) threshold. The combined effect compares the "Cumulative With Project" condition to "Existing" conditions. This comparison accounts for the traffic noise increase generated by the Project combined with the traffic noise increase generated by cumulative projects. The following criteria is used to evaluate the combined effect of the cumulative noise increase.

- Combined Effect. The cumulative with Project noise level ("Cumulative With Project") would cause a significant cumulative impact if a 3.0 dB increase over "Existing" conditions occurs and the resulting noise level exceeds the applicable exterior standard at a sensitive use.

Although there may be a significant noise increase due to the Project in combination with identified cumulative projects (combined effects), it must also be demonstrated that the Project has an incremental effect. In other words, a significant portion of the noise increase must be due to the Project. The following criteria have been utilized to evaluate the incremental effect of the cumulative noise increase.

- Incremental Effects. The "Cumulative With Project" causes a 1.0 dBA increase in noise over the "Cumulative Without Project" noise level.

A significant impact would result only if both the combined and incremental effects criteria have been exceeded and if noise levels exceed acceptable noise levels. Noise by definition is a localized phenomenon and reduces as distance from the source increases. Consequently, only the Project and growth due to

occur in the general area would contribute to cumulative noise impacts. **Table 4.12-9: Cumulative Plus Project Buildout Conditions Traffic Noise Levels** identifies the traffic noise effects along roadway segments in the vicinity of the Project site for "Existing," "Cumulative Without Project," and "Cumulative With Project," conditions, and net cumulative impacts.

Table 4.12-9: Cumulative Plus Project Buildout Conditions Traffic Noise Levels

Roadway Segment	CNEL @ 100 feet from Centerline			Combined Effects	Incremental Effects	Cumulatively Significant Impact?
	Existing	Cumulative Without Project	Cumulative With Project	dBA Difference: Existing and Cumulative With Project	dBA Difference: Cumulative Without and With Project	
South Riverside Avenue						
I-10 EB Ramps to Slover Avenue	71.9	72.6	73.2	1.3	0.6	No
Slover Avenue to East Santa Ana Avenue	71.1	71.6	72.3	1.2	0.7	No
East Santa Avenue to Jurupa Avenue	70.4	70.8	70.8	0.4	0.0	No
East Santa Ana Avenue						
East of South Riverside Avenue	56.4	58.5	65.2	8.8	6.7	No

ADT = average daily trips; dBA = A-weighted decibels; CNEL = day-night noise level
1. Traffic noise levels are at 100 feet from the roadway centerline.

Source: **Appendix N**

First, it must be determined whether the "Cumulative With Project" 3.0 dB increase above existing conditions (*Combined Effects*) is exceeded. Next, under the *Incremental Effects* criteria, cumulative noise impacts are defined by determining if the forecast ambient ("Cumulative Without Project") noise level is increased by 1.0 dB or more. Although the Combined Effects criteria (3.0 dBA) and the Incremental Effects criteria (1.0 dB) is exceeded along East Santa Ana Avenue east of South Riverside Avenue, cumulative noise levels would remain within acceptable noise levels for industrial uses; refer to **Table 4.12-9**. Thus, the Project, in combination with cumulative background traffic noise levels, would result in a less than significant cumulative impact. The Project's contribution to traffic noise would not be cumulatively considerable.

4.12.9 Level of Significance After Mitigation

The Project would not result in significant impacts associated with noise. However, the Project would incorporate Agua Mansa Industrial Corridor Specific Plan EIR Noise Mitigation Measures 1 through 4 to further reduce potential noise impacts. Implementation of the Project would result in less than significant noise impacts.

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4.13 POPULATION AND HOUSING

4.13.1 Introduction

This section of the Environmental Impact Report (EIR) provides contextual background information on potential impacts on population growth and housing (either directly or indirectly) resulting from implementation of the Santa Ana Truck Terminal Project (Project) within the City of Rialto (City). The analysis is based on data in the City of Rialto General Plan and available from the California Department of Finance (DOF) and Southern California Association of Governments (SCAG).

4.13.2 Regulatory Setting

State Regulations

California Housing Element Law

The Housing Element is one of the seven General Plan elements that are mandated by the State of California (California Government Code §§65580 to 65589.8). California State law requires that the Housing Element provides "an identification and analysis of existing and projected housing needs and a statement of goals, policies, quantified objectives, financial resources, and scheduled programs for the preservation, improvement, and development of housing" (Government Code §65580).

State law requires that each city and county identify and analyze existing and forecasted housing needs within its jurisdiction and prepare goals, policies, and programs to further the development, improvement, and preservation of housing for all economic segments of the community, commensurate with local housing needs.

Regional and Local Regulations

Southern California Association of Governments

SCAG is a Joint Powers Agency established under Sections 6502 et seq. of the California Government Code. SCAG is designated as a Council of Governments (COG), a Regional Transportation Planning Agency (RTPA), and a Metropolitan Planning Organization (MPO) for the six-county region of San Bernardino, Los Angeles, Ventura, Orange, Riverside, and Imperial counties. The region encompasses a population exceeding 18 million persons in an area comprised of more than 38,000 square miles. As the designated MPO, SCAG is the responsible agency for developing and adopting regional housing, population, and employment growth forecasts for local governments. Rialto is a member of the SCAG Regional Council District 8 which also includes the City of Fontana.

SCAG's demographic data is developed to enable the proper planning of infrastructure and facilities to adequately meet the needs of anticipated growth in the region. In September 2020, SCAG adopted Connect SoCal, its 2020 - 2045 *Regional Transportation Plan/Sustainable Communities Strategy* (RTP/SCS). Major themes in the RTP/SCS include integrating strategies for land use and transportation; striving for sustainability; protecting and preserving existing transportation infrastructure; increase capacity through improved systems managements; providing more transportation choices; leveraging technology; responding to demographic and housing market changes; supporting commerce, economic growth and opportunity; promoting the links between public health, environmental protection and economic opportunity; and incorporating the principles of social equity and environmental justice into the plan.

Growth forecasts contained in the RTP/SCS for San Bernardino County and the City are used as the basis of analysis for housing, population and employment forecasts in this section.

Regional Housing Needs Assessment

The Regional Housing Needs Assessment (RHNA) is an assessment process performed periodically as part of General Plan Housing Element updates at the local level. The RHNA process begins with the California Department of Housing and Community Development's projection of future statewide housing growth need, and the apportionment of this need to regional Council of Governments (COGs) throughout the State. SCAG is the COG responsible for developing "fair share" allocation methodology to distribute the region's assigned share of statewide need to cities and counties in the region.[1] California Government Code Section 65583 sets forth the specific content requirements of a jurisdiction's Housing Element. Included in these requirements are obligations on the part of local jurisdictions to provide their "fair share" of regional housing needs (its RHNA allocation) at all income levels. Regional growth needs are defined as the number of units that would have to be added in each jurisdiction to accommodate the forecasted number of households, as well as the number of units that need to be added to compensate for anticipated demolitions and changes to achieve an ideal vacancy rate. SCAG defines a "household" as an occupied dwelling unit.

The current RHNA 6th Cycle planning period is 2021-2029. The housing construction need is determined for four broad household income categories: very low (households making less than 50 percent of area median income), low (50 to 80 percent of area median income), moderate (80 to 120 percent of area median income), and above moderate (more than 120 percent of area median income). The intent of the future needs allocation by income groups is to relieve the undue concentrations of very low-income and low-income households in a single jurisdiction and to help allocate resources in a fair and equitable manner.[2] For the 2021-2029 planning period, the City of Rialto is required to meet the RHNA number of 8,272 housing units. The Housing Element is required to identify potential candidate housing sites by income category to meet the City's RHNA allocation.

Rialto General Plan 2010

Project relevant City of Rialto General Plan (General Plan) policies for population and housing are addressed below. Where inconsistencies exist, if any, they are addressed in the respective impact analysis.

Goal 6	Maintain and improve the quality of existing housing and neighborhoods in Rialto.
Policy 6-1.5	Preserve the existing character and quality of established single-family neighborhoods and communities.

4.13.3 Environmental Setting

Existing Regional and Local Population

Table 4.13-1: Population Projections for San Bernardino County and City of Rialto, identifies the increase of population growth within the County of San Bernadino and the City of Rialto, between 2018 and 2024.

[1] SCAG. (2021). 6th Cycle Regional Housing Needs Assessment Allocation Methodology. https://scag.ca.gov/sites/main/files/file-attachments/6th-cycle-rhna-proposed-final-allocation-plan.pdf?1614911196. Accessed October 2023.

[2] Ibid.

According to the DOF's Cities, Counties, and State Population Estimates with Annual Percent Change (2023) data and SCAG's 2020 – 2045 RTP/SCS, San Bernardino County currently has a population of approximately 2,182,056 residents. As of 2023, the City of Rialto has a population of approximately 102,985 residents.

Table 4.13-1: Population Projections for San Bernardino County and City of Rialto

Location	2018 Population[1]	2023 Population[2]	2035 Population[3]	2040 Population[3]	2045 Population[4]	Projected population increase (2023-2045)	% Change
San Bernardino County	2,150,017	2,182,056	2,637,400	2,731,300	2,815,000	632,944	29%
City of Rialto	102,373	102,985	111,400	112,000	139,100	36115	35%

1. California Department of Finance (DOF). (2021). *Population and Housing Estimates for Cities, Counties, and the State, January 1, 2011-2020.* https://dof.ca.gov/forecasting/demographics/estimates/estimates-e5-2010-2020/.Accessed January 2024.
2. DOF. (2023). *Population and Housing Estimates for Cities, Counties, and the State, January 1, 2020-2023.* https://dof.ca.gov/forecasting/demographics/estimates/e-5-population-and-housing-estimates-for-cities-counties-and-the-state-2020-2023/. Accessed January 2024.
3. SCAG. (2020a). 2016-2040 RTP/SCS Final Growth Forecast by Jurisdiction. https://scag.ca.gov/sites/main/files/file-attachments/2016_2040rtpscs_finalgrowthforecastbyjurisdiction.pdf?1605576071.Accessed. October 2023.
4. SCAG. (2020b). Connect SoCal: Demographics and Growth Forecast Technical Report. Accessed October 2023.

Existing Regional and Local Housing

According to the DOF's City/County Population and Housing Estimates data, San Bernardino County and the City of Rialto have seen an increase in total and occupied housing units and a decrease in housing vacancy and population household numbers. **Table 4.13-2: Housing for San Bernardino County and the City of Rialto** identifies the total housing units (Total/Occupied) plus vacancy rate and person per household.

Table 4.13-2: Housing for San Bernardino County and the City of Rialto

	Total Units		Occupied Units		Vacancy Rate		Persons/ Household	
Location	2018	2023	2018	2023	2018	2023	2018	2023
San Bernardino County	719,911	747,011	638,633	681,556	11.3%	8.8%	3.31	3.15
City of Rialto	27,460	28,230	25,662	27,560	6.5%	2.4%	3.97	3.72

1. DOF. (2023). Population and Housing Estimates for Cities, Counties, and the State, January 1, 2011-2023, with 2020 Benchmark. Retrieved from: Retrieved from: https://dof.ca.gov/Forecasting/Demographics/Estimates/e-5/. Accessed October 2023.
2. DOF. (2011). Population and Housing Estimates for Cities, Counties, and the State, January 1, 2011-2020, with 2010 Benchmark. Retrieved from: Retrieved from: https://dof.ca.gov/Forecasting/Demographics/Estimates/e-5/. Accessed October 2023.

City of Rialto

SCAG determines total housing needs for each community in Southern California based on three general factors: (1) the number of housing units needed to accommodate future population and employment growth; (2) the number of additional units needed to allow for housing vacancies; and (3) the number of very low, low, moderate, and above moderate-income units needed in the community. Additional factors used to determine the RHNA include tenure, the average rate of units needed to replace housing units demolished, and other factors. Based on DOF data (2023), the City has 28,230 housing units with an average of 3.72 persons per household. The vacancy rate was 2.4 percent. There is no existing residential development on the project site.

Existing Regional and Local Employment

Table 4.13-3: Labor Force Data for San Bernardino County and the City of Rialto identifies the total labor force and employment and unemployment rates for the County and the City for 2021 and 2023. Because Covid-19 resulted in decreased employment for both the County and the City, statistical information for 2020 was not used. According to the State of California Employment Development Department (EDD), between 2021 and 2023, the labor force and the number of employed persons increased in both the County and the City of Rialto.

Table 4.13-3: Labor Force Data for San Bernardino County and the City of Rialto

Location	Labor Force		Employment		Unemployment		Employment Change
	2021	2023	2021	2023	2021	2023	
San Bernardino County	992,200	999,200	918,600	951,000	73,600	48,200	35%
City of Rialto	46,300	46,200	42,300	43,800	4,000	2,400	35%

Source: California Employment Development Department (2023). Labor Force and Unemployment Rate For Cities and Counties. https://www.labormarketinfo.edd.ca.gov/data/labor-force-and-unemployment-for-cities-and-census-areas.html. Accessed October 2023.

Jobs to Housing Balance

The economic analysis conducted for SCAG's RTP/SCS shows that 168,400 new jobs were supported by transportation investments and 264,500 new jobs were created by improved competitiveness.

In terms of the jobs housing balance, the SCAG Rialto 2019 Local Profiles Report identified that 7.6 percent of Rialto residents work within the City, while 92.4 percent commute to places of employment outside the City. The RTP/SCS aims to balance the region's future mobility and housing needs with economic, environmental and public health goals. Consistent with the strategies identified in the RTP/SCS, the increased job opportunities in the City resulting from implementation of the Project would minimize commutes for employees living within the City.

4.13.4 Methodology

The Project is evaluated against the significance criteria below, as the basis for determining the impact's level of significance concerning population and housing. In addition, this analysis considers the existing regulatory framework (i.e., laws and standards) that avoid or reduce the potentially significant environmental impact. Where significant impacts remain despite compliance with the regulatory framework, feasible mitigation measures are recommended, to avoid or reduce the Project's potentially significant environmental impacts.

4.13.5 Thresholds of Significance

State CEQA Guidelines Appendix G has been used as significance criteria in this section. An impact of a project could be considered significant and may require mitigation if it meets one of the following criteria:

- Would Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure).
- Would displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere.

4.13.6 Project Impacts and Mitigation

Impact 4.13-1: Would the project induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?

Level of Significance: Less than Significant Impact

The project site is consistent with the General Industrial land use designation of the General Plan and the Heavy Industrial (H IND) land use designation within the Agua Mansa Industrial Corridor Specific Plan (Specific Plan). The Project proposes the construction of one truck terminal and one maintenance shop, that would employ an estimated 140 employees. As discussed above, approximately 92.4 percent of Rialto residents travel outside of the City for work. Consistent with the strategies identified in the RTP/SCS, the increased job opportunities in the City resulting from implementation of the Project would minimize commutes for employees living within the City. As the population trends upward (**Table 4.13-1**), residents within the City would be able to fill those positions. Because there is a surplus of homes in the City (**Table 4.13-2**), the Project would not require the construction of additional residential units that could induce substantial unplanned population growth not analyzed with the City's General Plan Housing Element. It is also reasonable to assume that many employees may already reside in the City and local region and commute to the project site.

The Project would include off-site improvements to East Santa Ana Avenue to underground existing aboveground utilities along the project site frontage. However, these improvements would not provide an extension of infrastructure that would directly or indirectly induce unplanned population growth on or near the project site. Additionally, the Project does not include development of any housing. Therefore, the Project would not induce substantial unplanned population. Impacts would be less than significant and mitigation is not required.

Mitigation Program

Standard Conditions

No standard conditions are applicable.

Mitigation Measures

Agua Mansa Industrial Corridor Specific Plan EIR Mitigation Measures

No mitigation measures are applicable.

Project Mitigation Measures

No mitigation is required.

Impact 4.13-2: Would the project displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?

Level of Significance: No Impact

The project site consists of disturbed land as a result of previous industrial uses on-site; the project site does not feature existing housing. Therefore, construction and operations of the Project would not create an impact that would displace a substantial amount of people or housing. No impact would occur.

Mitigation Program

Standard Conditions

No standard conditions are applicable.

Mitigation Measures

Agua Mansa Industrial Corridor Specific Plan EIR Mitigation Measures

No mitigation measures are applicable.

Project Mitigation Measures

No mitigation is required.

4.13.7 Cumulative Impacts

Potential cumulative population and housing impacts are assessed relative to the Specific Plan, General Plan, and regional plans, including SCAG's Connect SoCal 2020-2045 RTP/SCS population, housing, and employment projections. SCAG's regional growth projections reflect recent and past trends, key demographic and economic assumptions and include local and regional policies. Local jurisdictions participate in the growth forecast development process.

Cumulative impacts would occur if development on the project site, together with other cumulative projects would induce substantial unplanned population growth or displace substantial numbers of existing people or housing. As discussed above, the Project is consistent with the General Industrial land use designation and the (H IND) zoning designation within the Specific Plan, and therefore does not conflict with the City's General Plan or the City's Housing Element. Further, the Project would not result in significant direct or indirect permanent or temporary impacts related to population or housing because the Project is consistent with the City's land use and zoning designation, there is an existing housing surplus in the City, and the off-site improvements that would be implemented as a part of the Project would not extend existing infrastructure that would directly or indirectly induce unplanned population growth on or near the project site. Other projects under development would also be subject to project-level review and project-specific measures would be required, as needed, to reduce significant impacts. Therefore, the Project would not result in incremental significant effects to population or housing that

could be compounded or increased when considered together with similar effects from other cumulative present and reasonably foreseeable probable future projects. Given the Project's consistency, as well as the potential for other projects to be generally consistent with the City's population and housing policies, the Project would not result in significant population and housing impacts, and therefore, taken with past, present, and reasonably foreseeable future projects, Project impacts are not considered cumulatively considerable and no mitigation is required.

4.13.8 Level of Significance After Mitigation

The Project would not result in significant impacts associated with population and housing. No mitigation is required.

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4.14 PUBLIC SERVICES

4.14.1 Introduction

This section of the Environmental Impact Report (EIR) describes existing public services for the Project area and identifies and addresses potential impacts of the Santa Ana Truck Terminal Project (Project), related to fire and police protection services provided by the City of Rialto (City).

4.14.2 Regulatory Setting

Federal Regulations

Federal Emergency Management Act (FEMA)

In March 2003, FEMA became part of the United States Department of Homeland Security. FEMA's continuing mission is to lead the effort to prepare the nation for all hazards and effectively manage federal response and recovery efforts following any national incident. FEMA also initiates proactive mitigation activities, trains first responders, and manages the National Flood Insurance Program and the United States Fire Administration.

Federal Fire Safety Act (FFSA)

The 1992 Federal Fire Safety Act (FFSA) is different from other laws affecting fire safety as the law applies to federal operations, and there is no requirement for local action unless a private building owner leases space to the federal government. The FFSA requires federal agencies to provide sprinkler protection in any building, whether owned or leased by the federal government, that has at least 25 federal employees during the course of their employment.

Occupational Safety and Health Administration (OSHA)

OSHA's mission is to assure safe and healthy working conditions for workers through enforcing standards and providing training and educational tools. The agency is also charged with enforcing a variety of whistleblower statutes and regulations.

OSHA: Emergency Action Plan. Developments are required under OSHA standards to prepare an emergency action plan (EAP) kept in the workplace that provides procedures for reporting a fire or other emergency, emergency evacuation, including type of evacuation and exit route assignments, and to be followed by all employees. Employers are required to have and maintain an employee alarm system, provide training, and review the emergency action plan with each employee covered by the plan.

OSHA: Fire Prevention Plan. Developments are required under OSHA standards to prepare a fire prevention plan that at minimum must include procedures to control accumulations of flammable and combustible waste materials, and for regular maintenance of safeguards installed on heat-producing equipment to prevent the accidental ignition of combustible materials. Furthermore, the fire prevention plan must contain the names and/or job titles of employees responsible for maintaining equipment to prevent or control sources of ignition or fires, and for the control of fuel source hazards.

Disaster Mitigation Act of 2000

The Disaster Mitigation Act (DMA) of 2000 is a federal law that amended the Robert T. Stafford Disaster Relief and Emergency Assistance Act (Stafford Act). The DMA was signed into law on October 30, 2000, after being introduced by Representative Tillie Fowler (R-FL-4) on February 11, 1999. The DMA's goals include reducing injuries, loss of life, and property damage; helping communities understand and reduce their vulnerability to natural hazards; using a more proactive planning process; and developing more effective hazard mitigation plans.

State Regulations

California Public Resources Code 4290 and 4291

These regulations, which implement minimum fire safety standards related to defensible space, apply to the perimeters and access to all commercial, industrial, and residential building construction within a State Responsibility Area (approved after January 1, 1991), and within lands classified and designated as Very High Fire Hazard severity Zone (VHFHSZ) (after July 1, 2021). The person(s) who control, lease, maintain, operate, or own said building in, upon, or adjoining a mountainous area, forest-covered lands, brush-covered lands, grass-covered lands, or land that is covered with flammable materials is required to preserve a defensible space of 100 feet from the perimeter of the building. The regulations shall include the following:

1. Road standards for fire equipment access.
2. Standards for signs identifying streets, roads, and buildings.
3. Minimum private water supply reserves for emergency fire use.
4. Fuel breaks and greenbelts.

These regulations do not supersede local regulations which equal or exceed minimum regulations adopted by the state.

California Building Code

The State of California provides a minimum standard for building design through the California Building Code (CBC), which is located in Part 2 of Title 24 of the California Code of Regulations (CCR). The CBC is based on the International Building Code but has been modified for California conditions. It is generally adopted on a jurisdiction-by-jurisdiction basis, subject to further modification based on local conditions. Industrial buildings are plan checked by local city and county building officials for compliance with the CBC. Typical fire safety requirements of the CBC include the installation of sprinklers in all industrial buildings; the establishment of fire resistance standards for fire doors, building materials, and particular types of construction; and the clearance of debris and vegetation within a prescribed distance from occupied structures in wildfire hazard areas.

California Fire Code

The California Code of Regulations (CCR) Title 24, Part 9 (California Fire Code) contains regulations for the construction and maintenance of buildings, the use of premises, and the management of Wildland-Urban Interface areas, among other issues. The California Fire Code (CFC) is updated every three years by the

California Building Standards Commission and was last updated in 2022 (effective January 1, 2023). The CFC sets forth regulations regarding building standards, fire protection and notification systems, fire protection devices such as fire extinguishers and smoke alarms, high-rise building standards, and fire suppression training. It contains regulations relating to construction, maintenance, and use of buildings. Topics addressed in the code also include fire department access, fire hydrants, automatic sprinkler systems, fire alarm systems, fire and explosion hazards safety, hazardous materials storage and use, provisions intended to protect and assist fire responders, industrial processes, and many other general and specialized fire safety requirements for new and existing buildings and the surrounding premises. Emergency Mutual Aid Agreements

The Emergency Mutual Aid Agreements (EMAA) system is a collaborative effort between city and county emergency managers in the Office of Emergency Services (OES) in the coastal, southern, and inland regions of the state. EMAA provides service in the emergency response and recovery efforts at the Southern Regional Emergency Operations Center, local Emergency Operations Centers, the Disaster Field Office, and community service centers. The purpose of EMAA is to support disaster operations in affected jurisdictions by providing professional emergency management personnel. In accordance with the EMAA, local and State emergency managers have responded in support of each other under a variety of plans and procedures. San Bernardino County, including the City of Rialto, is in Region VI, which also includes San Diego, Imperial, Inyo, Mono, and Riverside counties.

California Vehicle Code

The California Vehicle Code is the section of the California Codes which contains almost all statutes relating to the operation, ownership and registration of vehicles. The Vehicle Code also contains statutes concerning the California Department of Motor Vehicles and the California Highway Patrol.

California Senate Bill 50 and California Government Code (Section 65995(b)) and Education Code (Section 17620)

California Senate Bill (SB) 50 places limitations on the power of local governments to require mitigation of school facilities by developers. Under the provisions of SB 50, school districts can collect fees to offset the cost of expanding school capacity, which becomes necessary as development occurs. These fees are determined based on the square footage of proposed uses. As a part of SB 50, school districts must base their long-term facilities needs and costs on long-term population growth in order to qualify for this source of funding. Payment of statutory school fees is deemed to be adequate mitigation of school impacts under the California Environmental Quality Act (CEQA). Prior to SB 50, case law allowed cities to consider and impose conditions to mitigate impacts of new development on school facilities.

SB 50 amended California Government Code (CGC) Section 65995, which contains limitations on Education Code Section 17620, the statute that authorizes school districts to assess development fees within school district boundaries. CGC Section 65995(b)(3) requires the maximum square footage assessment for development to be increased every two years, according to inflation adjustments. Currently, the maximum impact fees allowed by SB 50 are as follows:

- In the case of residential construction, one dollar and ninety-three cents ($1.93) per square foot of assessable space.

- In the case of any commercial or industrial construction, thirty-one cents ($0.31) per square foot of chargeable covered and enclosed space. (Gov. Code Section 65995, subd. (b)).

According to CGC Section 65995(3)(h), the payment of statutory fees is "deemed to be full and complete mitigation of the impacts of any legislative or adjudicative act, or both, involving, but not limited to, the planning, use, or development of real property, or any change in governmental organization or reorganization...on the provision of adequate school facilities." The school district is responsible for implementing the specific methods for mitigating school impacts under the CGC.

California State Assembly Bill 2926: Facilities Act of 1986

To assist in providing school facilities to serve students generated by new development, Assembly Bill (AB) 2926 was enacted in 1986 and authorizes a levy of impact fees on new residential, commercial, and industrial development. The bill was expanded and revised in 1987 through the passage of AB 1600, which added Section 66000 et seq. to the CGC. Under this statute, payment of school impact fees by developers serves as CEQA mitigation to satisfy the impact of development on school facilities.

Mitigation Fee Act (California Government Code (Sections 66000 through 66008))

Enacted as AB 1600, the Mitigation Fee Act requires a local agency, such as the City of Rialto, establishing, increasing, or imposing an impact fee as a condition of development to identify the purpose of the fee and the use to which the fee is to be put. The agency must also demonstrate a reasonable relationship between the fee and the purpose for which it is charged, and between the fee and the type of development project on which it is to be levied. This Act became enforceable on January 1, 1989.

California State Assembly Bill 97

Approved in July 2013, AB 97 revises existing regulations related to financing for public schools, by requiring state funding for county superintendents and charter schools that previously received a general-purpose entitlement. AB 97 authorizes local educational agencies to spend, for any local educational purpose, the funds previously required to be spent for specified categorical education programs, including, among others, programs for teacher training and class size reduction.

Section 35 of Article XIII of the California Constitution subdivision (a)(2)

Section 35 of Article XIII of the California Constitution subdivision (a)(2) identifies that the protection of the public safety is the first responsibility of local government and local officials have an obligation to give priority to the provision of adequate public safety services.

Local Regulations

Rialto General Plan 2010

The City of Rialto developed and adopted the City of Rialto General Plan (General Plan) to include goals, policies and actions that, when implemented, provide the vision and framework for the physical development of the City. The Safety and Noise chapter of the General Plan describes hazards that exist in the City and the measures that the City is taking to address them.

Goal 5-3 Increase the City's fire protection capabilities, and implement fire prevention regulations and standards that minimize potential fire hazards and fire losses.

Policy 5-3.1 Provide for fire personnel, equipment, and fire stations to have adequate and appropriate resources to meet the needs and serve all areas of Rialto.

Policy 5-3.3 Require that development be phased in relation to the City's ability to provide an adequate level of fire protection, as per the City standards.

Policy 5-3.4 Require that all site plans, subdivision plans, and building plans be reviewed by the Fire Department to ensure compliance with appropriate fire regulations.

Policy 5-3.7 Add service level capability and infrastructure to meet increasing demand of new development.

Goal 5-8 Provide effective and comprehensive policing services that meet the safety needs of Rialto.

Policy 5-8.1 Provide timely responses to emergency and non-emergency call for service 24 hours a day, per the City standards.

Policy 5-8.3 Continue to encourage design concepts that inhibit and discourage criminal behavior such as Crime Prevention Through Environmental Design (CPTED) techniques.

City of Rialto Municipal Code

Title 3: Revenue and Finance

The California Mitigation Fee Act (California Government Code, Section 66000 et seq.) mandates procedures for administration of impact fee programs, including collection and accounting, reporting, and refunds. A development impact fee is a monetary exaction other than a tax or special assessment that is charged by a local governmental agency to an applicant in connection with approval of a development project for the purpose of defraying all or a portion of the cost of public facilities related to the development project.

The City has adopted development impact fee programs for various public facilities, which are outlined in the City's Municipal Code. Title 3 of City's Municipal Code establishes every fee that every person or development must comply with if applicable regarding utility, community and recreation center impacts, library, animal center impacts, police impacts, park in-lieu/park impacts, and fire protection fees, etc.

Title 18: Zoning

The purpose and intent of the Title 18 Zoning Code is to set standards and guidelines for the City to lessen congestion in the streets; to secure safety from fire, panic and other dangers; to promote health and the general welfare; to provide adequate light and air; to prevent the overcrowding of land; to avoid undue concentration of population; to facilitate the adequate provision of transportation, water, sewerage, schools, parks and other public requirements.

Title 15, Chapter 15.28: Fire Code

The City of Rialto Fire Code is described in Chapter 15.28 of the City's Municipal Code. As discussed in Chapter 15.28 and identified in Ordinance 1491, the City has adopted and amended the CFC as permitted by Health and Safety Code Section 17958 and Government Code 50022. The City's Fire Code identifies

methods for calculating required fire flow, hydrant placement and other requirements considered in building and site design. The Rialto Fire Department reviews Plot Plans for proposed development projects to ensure compliance with the City's Fire Code.

Emergency Response

Procedures for mitigating emergency events, such as such wildfires, floods, windstorms, hazardous materials releases, civil disturbance, and earthquakes are outlined in the City's Standard Emergency Management System (SEMS) Multi-Hazard Functional Plan (MHFP). The MHFP incorporates and coordinates all the facilities and personnel of the City into an efficient organization capable of responding to any emergency.

4.14.3 Environmental Setting

Fire Protection

FHSZs are mapped by the California Department of Forestry and Fire Protection (CAL FIRE) as set forth in PRC 4201-4204 and Government Code 51175-89. FHSZs are categorized as fire protection within a Federal Responsibility Area under the jurisdiction of a federal agency, a State Responsibility Area under the jurisdiction of CAL FIRE, or within a Local Responsibility Area under the jurisdiction of a local agency. CAL FIRE is responsible for fire protection within State Responsibility Areas, found in 56 counties in California, and provides a variety of emergency services in 36 counties.

CAL FIRE defines a State Responsibility Area as land that is not federally owned, not incorporated, does not exceed a housing density of three units per acre, contains wildland vegetation as opposed to agriculture or ornamentals, and has watershed value and/or has range/forage value (this effectively eliminates most desert lands). Where local fire protection agencies, such as the Rialto Fire Department, are responsible for wildfire protection, the land is classified as a Local Responsibility Area. The project site and adjacent areas are classified as a Non-Very High Fire Hazard Severity Zone (Non-VHFHSZ).

The Rialto Fire Department provides fire protection services for the City of Rialto. The Fire Department provides services for over 100,000 residents in a 22-square-mile area and is led by a Fire Chief, Division Fire Chief, four Battalion Chiefs, an Emergency Medical Services Coordinator, and an Assistant Fire Marshall.[1] The Rialto Fire Department deploys from five fire stations staffed 24 hours per day by career firefighters, non-safety ambulance operators and one administrative office. Daily emergency medical service and fire/rescue staffing consists of one Battalion Chief, four engine companies, one truck company, and four paramedic ambulances. The closest fire stations to the project site are Fire Station 205 (1485 Willow Avenue), located approximately 1.5 miles to the north, and Fire Station 201 (131 Willow Avenue), located approximately 3.2 miles to the north. The project site is currently served by one fire hydrant located on East Santa Ana Avenue.

Administration. Fire Department Administration provides oversight to all department operations including project development, budgeting, development of policy and protocol, personnel development, and strategic planning to ensure highly effective fire and life safety services. Fire Administration is staffed

[1] City of Rialto (2023). Rialto Fire Department. https://www.yourrialto.com/233/Fire-Department. Accessed August 2023.

by the Fire Chief with an Executive Assistant, a Division Chief of Operations, Administrative Battalion Chief, and one office specialist.

Rialto Fire Prevention Division. The Fire Prevention Division engages in community risk reduction services through code compliance, plan review, public education, inspection, emergency preparedness and targeted risk-specific programs.

Ambulance Operator Program. The Rialto Fire Department has provided ambulance transportation services since 1971 using a model of deployment that includes staffing of ambulances with firefighters that are cross-trained as Paramedics and Emergency Medical Technicians. Based on service demand and cost of deployment, the current ambulance staffing model is being retooled to include single function, paramedic and Ambulance Operators to staff City-owned ambulances.

Rialto Fire Department Emergency Medical Service. The Emergency Medical Service is responsible for the planning, compliance, review, and oversight for the provisions of clinical medical care provided by the Rialto Fire Department. The Fire Department staffs one paramedic for all fire engines, trucks, and ambulances; all other positions are staffed by Emergency Medical Technicians.

Incident Response. Fire service deployment is about the speed and weight of the response. Speed refers to initial response (first due) of all-risk intervention resources (engines, ladder trucks, and squads) strategically deployed across a jurisdiction for response to emergencies within a time interval to facilitate desired outcomes. Weight refers to multiple-unit Effective Response Force (commonly referred to as a First Alarm) responses to more serious emergencies, such as building fires, multiple-patient medical emergencies, vehicle collisions with extrication required, or technical rescue incidents. In these situations, a sufficient number of firefighters must be assembled within a reasonable time interval to safely control the emergency and prevent it escalating into a more serious event.

Law Enforcement Protection

The Rialto Police Department provides law enforcement and police protection services throughout the City. The Rialto Police Department headquarters at 128 North Willow Avenue, is located approximately 3.2 miles north of the project site. With 176 employees, the Rialto Police Department is a full-service law enforcement agency that is charged with the enforcement of local, State, and federal laws, and with providing 24-hour protection. Operations within the Rialto Police Department are organized within divisions — Operations, Support Services, and Professional Standards — with bureaus, teams and units, and programs within each division.[2]

The Rialto Police Department participates in the California Law Enforcement Mutual Aid Plan administrated by the Governor's OES. The law enforcement mutual aid system is an ongoing cooperative effort among law enforcement agencies to ensure an effective and organized response to a wide range of emergencies. Under the Law Enforcement Mutual Aid Plan, the City of Rialto can both provide and request law enforcement resources to and from neighboring jurisdictions. There are seven mutual aid regions in the State and each region is comprised of multiple Operational Areas and has a Regional Law Enforcement Mutual Aid Coordinator. The City is located in mutual aid Region VI, which includes the counties of San Bernardino, Mono, Inyo, Riverside, imperial, and San Diego.

[2] Rialto Police Department. (2023). Our Department. https://rialtopolice.com/our-department/. Accessed August 2023.

Schools

The project site is within the boundaries of the Colton Joint Unified School District.[3] Schools closest to the project site include Crestmore Elementary School located at 18870 Jurupa Avenue, located approximately 1.5 miles west; Slover Mountain High School located at 18829 Orange Street, located approximately 1.7 miles northwest; and Bloomington High School located at 10750 Laurel Avenue, located 2.9 miles west.

Parks and Recreation

Available for public use in the City of Rialto are 9 City-owned parks. The closest park to the project site is Rialto City Park located at 130 East San Bernardino Avenue, approximately 1.5 mile north of the project site.[4]

Other Public Facilities

Other public facilities present in the City include a Racquet and Fitness Center (1243 South Riverside Avenue), located approximately 1.5 miles north; a Community Center (214 North Palm Avenue), located approximately 3.2 miles north; Tom Sawyer Pool (152 East San Bernardino Avenue), located approximately 1.5 miles north; a Senior Center (1411 South Riverside Avenue), located approximately 1.4 miles north; and the Rialto Branch Library (1 West 1st Street), located approximately 3.2 miles north.[5,6]

4.14.4 Methodology

The Rialto Fire Department and Police Department were contacted to determine if the Project would significantly impact the departments' ability to provide fire protection and law enforcement services. The following analysis considers the existing regulatory framework and available information published by the Rialto Fire Department and Police Department.

4.14.5 Thresholds of Significance

The following significance criteria for public services were derived from the Environmental Checklist in State CEQA Guidelines Appendix G. An impact would be considered significant and would require mitigation if it would:

- Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for fire protection.
- Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the

[3] Colton Unified School District Schools and Communities. (2014). https://www.cjusd.net/cms/lib/CA02218339/Centricity/Domain/89/CJUSD_Schools_Map_10-20-14.pdf. Accessed September 2023.
[4] City of Rialto Parks and Facilities (2024). https://www.yourrialto.com/ImageRepository/Document?documentId=141. Accessed September 2023.
[5] Ibid.
[6] City of Rialto Facilities. (2024). https://www.yourrialto.com/Facilities/Facility/Details/Rialto-Branch-Library-22. Accessed October 2023.

construction of which would cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for police protection.

- Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which would cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for schools.
- Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which would cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for parks and other public facilities.

4.14.6 Project Impacts and Mitigation

Impact 4.13-1: Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for fire protection?

Level of Significance: Less than Significant Impact

Construction

Impacts related to fire protection services are assessed by the Rialto Fire Department on a project-by-project basis. A project's land use, fire-protection-related needs, and a project site's recommended response distance and time and fire safety requirements, as well as project design features that would reduce the demand for fire protection services, are taken into consideration. The Project does not include or require construction of any new or physically altered fire station facilities, the construction of which would cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for fire protection. The Project would not cause any direct or indirect significant impacts resulting from the construction/reconstruction of emergency access roads as construction would not require road closures, but would result in temporary partial lane closures during specific construction phases such as connection to utilities in East Santa Ana Avenue. Construction of the buildings would not create a temporary incremental increased demand for fire protection services because the project site is currently served by the Rialto Fire Department. A Public Service Questionnaire was sent to the Rialto Fire Department on December 27, 2023, requesting information on the capacity of the fire department. No response has been received. Further, the project site is located within a Non-VHFHSZ[7]. Prior to commencement of construction activities, the Project plans would be reviewed by applicable local agencies to ensure compliance with the City's Municipal Code and General Plan as well as all applicable emergency response and fire safety requirements of the Rialto Fire Department and the CFC. Further, the Project is required to pay all required impact fees as adopted by City Ordinance No. 1532. Therefore, compliance with the mentioned codes and regulations would ensure that Project

[7] Cal FIRE. (2023). https://egis.fire.ca.gov/FHSZ/. Fire Hazard Severity Zone Viewer. Accessed January 2024.

construction would result in less than significant impacts in regards to performance objectives for fire protection services.

Operations

The proposed buildings on-site would have fire sprinklers and would comply with applicable uniform building and fire codes that must be continually enforced through a proactive inspection program. As discussed previously, the City's Fire Code identifies standards for building and site design and fire protection and notification systems such as fire flow requirements, building standards, hydrant placement and other requirements considered in building and site design. It also contains regulations relating to construction, maintenance, and use of buildings including fire department access, automatic sprinkler systems, fire alarm systems, fire and explosion hazards safety, hazardous materials storage and use, provisions intended to protect and assist fire responders, industrial processes, and many other general and specialized fire safety requirements for new and existing buildings and the surrounding premises.

The Project would include 31 fire hydrants serving the project site. The fire hydrants would be placed incrementally around the project site. The fire hydrants are served by 12-inch fire water mains and connect to an off-site 24-inch water main. A 26-foot-wide emergency access driveway would be located at the northeastern corner of the project site. In accordance with the City's entitlement process, the Rialto Fire Department is to review the plot plan to ensure compliance with the City's Fire Code.

Development of the Project would result in a minimal increase in the demand for fire protection services. The Project would not require the construction of new or physically altered facility which would cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for fire protection. Further, development impact fees are paid on a project-by-project basis to ensure a proportionate fair share is contributed toward facilities, equipment, and personnel that would be needed overtime to accommodate the additional demand from the Project. The Project is required to pay all required impact fees as required by Chapter 3.33 of the City's Municipal Code. Therefore, upon payment of fees, impacts would be considered less than significant. In addition, the Project would implement Public Services and Utilities Mitigation Measure 5 of the Agua Mansa Industrial Corridor Specific Plan EIR, which would require the proposed site plan to be submitted to the fire department for review.

Mitigation Program

Standard Conditions

No standard conditions are applicable.

Mitigation Measures

Agua Mansa Industrial Corridor Specific Plan EIR Mitigation Measures: Public Services and Utilities

Mitigation Measure 5: All Project specific site plans should be subject to review by the Fire Department in each jurisdiction to determine whether the Project design includes adequate site access provisions and does not exceed the protection abilities of the various departments.

Project Mitigation Measures

No mitigation is required.

Impact 4.13-2: Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for police protection?

Level of Significance: Less than Significant Impact

Construction

Impacts to police protection services are assessed on the ability of police personnel to adequately serve the existing and future population, including residents, workers, and daytime and nighttime visitors and the Rialto Police Department's ability to meet the additional demand for protection services with the Project. The project site is in a developed area and is adjacent to existing industrial uses.

During development, construction may require services from the Police Department in the cases of trespassing, theft, or vandalism. Construction would occur during the hours defined in the construction permit, most likely during off-peak periods, and would not require full road closures. Prior to commencement of construction activities, Project plans would be reviewed by the City to ensure compliance with the City's Municipal Code and General Plan as well as all applicable regulations associated with site signage, lighting, perimeter control, and other crime safety preventative measures. Standard Conditions (**SC**) **PS-1** and **PS-2** related to project site security, and building and site safety design recommendations would be required. **SC PS-1** requires that all development plans, including the Project, be evaluated by the Rialto Police Department to ensure that public safety design measures be incorporated into the Project plans. **SC PS-2** requires that the Project Applicant contract with a security service to provide security during construction and may include additional security measures, such as the installation of temporary fencing. With implementation of the Standard Conditions PS-1 and PS-2, impacts to police protection would be less than significant.

Operations

Development of the Project would result in a minimal increase in the demand for police protection services. Project implementation would result in an increase in employment opportunities resulting in an estimated 140 new employees to the project site and surrounding area. Because the project site is in a developed area of the City that is adequately served and the Project does not include residential uses, the Project is not expected to substantially increase service demand such that a new police station would need to be constructed. It is not anticipated that the addition of the Project would substantially alter the ability of the Rialto Police Department to provide police protection services. Therefore, a substantial increase in population, property, or calls for service requiring substantial increase in police patrol is not anticipated.

The Project is required to pay all required impact fees as adopted by City Ordinance No. 1532. Accordingly, development impact fees are paid on a project-by-project basis to ensure a proportionate fair share is contributed toward facilities, equipment, and personnel that would be needed over time to accommodate the additional demand from the Project. Given the Project does not propose any residential uses and is required to pay fees, impacts on service demand and response times for police would be less than significant.

Mitigation Program

Standard Conditions

SC PS-1: Prior to issuance of building permits, the City of Rialto Police Department shall review development plans for the incorporation of defensible space concepts to reduce demands on police services. Public safety planning recommendations shall be incorporated into the Project plans. The Applicant shall prepare a list of Project features and design components that demonstrate responsiveness to defensible space design concepts. The Police Department shall review and approve all defensible space design features incorporated into the Project prior to initiating the building plan check process.

SC PS-2: Prior to the issuance of the first grading permit and/or action that would permit site disturbance, the Applicant shall provide evidence to the City of Rialto Police Department that a construction security service or equivalent service shall be established at the construction site along with other measures, as identified by the Police Department and the Public Works Department, to be instituted during the grading and construction phase of the Project.

Mitigation Measures

Agua Mansa Industrial Corridor Specific Plan EIR Mitigation Measures

No mitigation measures are applicable.

Project Mitigation Measures

No mitigation is required.

Impact 4.13-3: Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for schools?

Level of Significance: Less than Significant Impact

As discussed above, Section 4.13, *Population and Housing*, the Project would allow for the construction of one truck terminal and maintenance shop and would not result in substantial unplanned population growth within the City. Project implementation would not result in a direct increase in demand for school services. Construction workers and future employees are anticipated to commute to the project site from within the City or surrounding areas. Therefore, the Project would not indirectly increase the demand for school services. Although the Project would not require the construction or expansion of existing school facilities, the Project would be required to pay development impact fees to the Colton Joint Unified School District in compliance with Senate Bill 50, which allows school districts to collect fees from development projects to fund the costs associated with an increase in demand for school services. With the payment of the development impact fees, impacts would be less than significant.

Standard Conditions

No standard conditions are applicable.

Mitigation Measures

Agua Mansa Industrial Corridor Specific Plan EIR Mitigation Measures

No mitigation measures are applicable.

Project Mitigation Measures

No mitigation is required.

Impact 4.13-4: Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for parks and other public facilities?

Level of Significance: No Impact

As discussed above, the Project would include the construction of one truck terminal and maintenance shop and would not result in substantial unplanned population growth within the City. As such, the Project is not anticipated to result in an increase demand for other public facilities, such as parks or libraries. Project implementation would not adversely affect other public facilities or require the construction of new of altered public facilities. No impact would occur.

Mitigation Program

Standard Conditions

No standard conditions are applicable.

Mitigation Measures

Agua Mansa Industrial Corridor Specific Plan EIR Mitigation Measures

No mitigation measures are applicable.

Project Mitigation Measures

No mitigation is required.

4.14.7 Cumulative Impacts

For purposes of public services, cumulative impacts are considered for projects located within the City. The Project assumes the provision of fire protection services is based on a combination of existing fire services and the use of mutual aid agreements. Additionally, all present and reasonably foreseeable future projects would be required to pay impact fees as adopted by City Ordinance 1532. As previously addressed, development impact fees are paid on a project-by-project basis to ensure a proportionate fair share is contributed toward facilities, equipment, and personnel that would be needed over time to accommodate the additional demand caused by development. The payment of fees and compliance with applicable regulatory requirements would preclude the Project's cumulative contribution to fire protection impacts.

The Rialto Police Department's operating budget is primarily generated through tax revenues and fees collected from penalties and requested services, and impact fees as adopted by City Ordinance 1532.

Increased property and sales tax from cumulative projects would increase the City's General Fund in rough proportion to population increases, providing funding for any improvements necessary to maintain adequate police protection facilities, equipment, and/or personnel. The payment of fees and compliance with applicable regulatory requirements would preclude the Project's cumulative contribution to police protection impacts. Moreover, should any new or altered facilities be required in the future, these facilities would be subject to separate California Environmental Quality Act (CEQA) review. The Project would not cumulatively contribute to an impact to police protection services.

The Project would not result in an increase in demand for schools, parks, or other public services. However, payment of the development impact fees would be appropriately allocated to all public services to fund future expansion or maintenance of public services.

4.14.8 Level of Significance After Mitigation

Implementation of the Project would result in less than significant impacts associated with public services. No mitigation is required.

4.15 TRANSPORTATION

4.15.1 Introduction

This section of the Environmental Impact Report (EIR) summarizes the findings of the SB 743 VMT Analysis prepared by Kimley-Horn and Associates, Inc. to evaluate the potential traffic impacts associated with the Santa Ana Truck Terminal Project (Project). This study has been prepared in accordance with California Environmental Quality Act (CEQA) requirements to evaluate potential transportation impacts based on vehicle miles traveled (VMT). The SB 743 VMT Analysis is included as **Appendix P** of this EIR.

4.15.2 Regulatory Setting

Federal Regulations

Manual on Uniform Traffic Control Devices

The Federal Highway Administration's (FHWA) Manual on Uniform Traffic Control Devices (MUTCD) is contained in the Code of Federal Regulations (CFR, Title 23, Part 655, Subpart F). The FHWA requires that the most recent MUTCD be adopted by individual states as their legal state standard for traffic-control devices within two years of the update. The MUTCD identifies the standards that should be used to install and maintain traffic-control devices on all public streets, highways, bikeways, and private roads that are open to public traffic. The City of Rialto (City) uses the MUTCD for determining the necessary traffic-control devices (e.g., signs, barricades, gates, warning signs, object markers, guide signs, pavement and curb markings, traffic-control signs, pedestrian control signs, in-roadway lights, and flagger control) on public streets, highways, bikeways, and school areas in the City, including temporary traffic-control devices in and near construction work areas.

State Regulations

Sustainable Communities Strategies: Senate Bill 375 – Land Use Planning

Senate Bill (SB) 375 provides for a planning process to coordinate land use planning and Regional Transportation Plans (RTP)s and funding priorities in order to help California meet the greenhouse gas (GHG) reduction goals established in Assembly Bill (AB) 32. SB 375 requires that RTPs developed by metropolitan planning organizations (MPO) (e.g., Southern California Association of Governments [SCAG]) incorporate a "sustainable communities strategy" in their RTPs that will achieve GHG emission reduction targets set by the California Air Resources Board (CARB). SB 375 also includes provisions for streamlined CEQA review for some infill projects, such as Transit-Oriented Developments (TODs).

Senate Bill 743 – Update to the CEQA Guidelines for Transportation Impacts

The Steinberg Act (SB 743) (also known as the Environmental Act) was enacted in 2013 to shift the focus of transportation analysis from driver delay to reducing GHG emissions, creating multimodal networks, and promoting mixed land uses. SB 743 required the Governor's Office of Planning and Research (OPR) to amend the CEQA Guidelines to provide alternative level of service metrics for transportation impact evaluations. In January 2019, the Natural Resources Agency finalized updates to the CEQA Guidelines including the incorporation of the SB 743 modifications. The CEQA Guidelines shift traffic analysis from delay and operations to vehicle miles traveled (VMT) when evaluating transportation impacts under CEQA. VMT refers to the amount and distance of automobile travel attributable to a project.

Measurements of transportation impacts may include VMT, VMT per capita, automobile trip generation rates, or automobile trips generated. According to SB 743, projects should aim to reduce VMT and mitigate potential VMT impacts through the implementation of Transportation Demand Management (TDM) strategies. By July 1, 2020, all CEQA lead agencies were required to analyze a project's transportation impacts using VMT.

Regional and Local Regulations

Regional Transportation Plan/Sustainable Communities Strategy

On September 3, 2020, the SCAG Regional Council adopted Connect SoCal, the 2020-2045 Regional Transportation Plan/Sustainable Communities Strategy. This RTP/SCS is a long-range visioning plan that balances future mobility and housing needs with economic, environmental and public health goals. Connect SoCal embodies a collective vision for the region's future and is developed with input from local governments, county transportation commissions, tribal governments, non-profit organizations, businesses and local stakeholders within the counties of San Bernardino, Imperial, Los Angeles, Orange, Riverside, and Ventura. The SCAG region strives toward sustainability through integrated land use and transportation planning. The SCAG region must achieve specific federal air quality standards and is required by State law to lower regional GHG emissions.

San Bernardino County Congestion Management Program

The San Bernardino County Transportation Authority (SBCTA) is San Bernardino's congestion management agency. SBCTA prepares, monitors and periodically updates the County Congestion Management Program (CMP) to meet federal Congestion Management Process requirement and the County's Measure I Program. The San Bernardino County CMP defines a network of state highways and arterials, level of service standards and related procedures; the process for mitigation of impacts of new development on the transportations system' and technical justification for the approach.

Measure I Strategic Plan

Measure I authorizes a half-cent sales tax in San Bernardino County until March 2040 for use exclusively on transportation improvement and traffic management programs. Measure I includes language mandating development to pay its fair share for transportation improvements in San Bernardino County. The Measure I Strategic Plan is the official guide for the allocation and administration of the combination of local transportation sales tax, State and federal transportation revenues, and private fair-share contributions to regional transportation facilities to fund the Measure I 2010–2040 transportation programs. The Strategic Plan identifies funding categories and allocations and planned transportation improvement projects in the County for freeways, major and local arterials, bus and rail transit, and traffic management systems. The City has adopted a Development Impact Fee (DIF) program that is consistent with Measure I requirements.

Rialto General Plan 2010

The Rialto General Plan (General Plan) Circulation Element governs the long-term mobility system in the City. The Circulation Element includes goals and policies that are closely correlated with the Land Use Element and are intended to provide the best possible balance between the City's future growth and land use development, roadway size, traffic service levels, and community character. The following goals and policies apply to the Project.

Goal 4-2 Protect residential neighborhoods from through traffic impacts.

Policy 4-2.1 Locate new development and their access points in such a way that traffic is not encouraged to utilize local residential streets for access to the development and its parking.

Policy 4-2.2 Discourage non-local traffic from using neighborhood streets.

Policy 4-9.1 Install sidewalks where they are missing, and make improvements to existing sidewalks for accessibility purposes. Priority should be given to needed sidewalk improvement near schools and activity centers. Provide wider sidewalks in areas with higher pedestrian volumes.

Policy 4-9.2 Require sidewalks and parkways on all streets in new development.

Policy 4-9.4 Accommodate pedestrians and bicyclists — in addition to automobiles — when considering new development projects.

Policy 4-9.6 Encourage new development to provide pedestrian paths through projects, with outlets to adjacent collectors, secondaries, and arterial roadways.

Policy 4-9.7 Require ADA compliance on all new or modified handicap ramps.

Policy 4-10.1 Designate and enforce truck routes for use by commercial trucking as part of the project approval process.

Policy 4-10.3 Develop appropriate noise mitigation along truck routes to minimize noise impacts on nearby sensitive land uses.

Policy 4-10.4 Encourage the development of adequate on-site loading areas to minimize interference of truck loading activities with efficient traffic circulation on adjacent roadways.

Rialto Active Transportation Plan

The Rialto Active Transportation Plan recommends actions meant to support and increase bicycling and walking in Rialto and to enhance non-motorized travel infrastructure and create options to support the existing population. [1] The Rialto Active Transportation Plan includes an inventory of existing bike and pedestrian infrastructure, identifies deficiencies, develops and prioritizes improvements, and produces materials for future grant applications for implementation. The Rialto Active Transportation Plan shows the portion of South Riverside Avenue west to the west of the project site as a current Capital Improvement Project (CIP) bike lane. With respect to the Safe Routes to School program, there are no proposed improvements proximate to the project site.

[1] City of Rialto. January 2020. Rialto Active Transportation Plan. https://issuu.com/ktua/docs/rialto_atp_final_2020_march_low_res. Accessed October 2023.

4.15.3 Environmental Setting

Existing Transportation System

Roadway Characteristics

Regional access to the project site is provided primarily by Interstate 10 (I-10), located approximately 1 mile north of the project site. Additionally, Interstate 215 (I-215) is located approximately 4 miles to the east, Interstate 15 (I-15) is located approximately 10 miles to the west, and access the State Route 60 (SR60) is approximately 4 miles to the south.

East Santa Ana Avenue. East Santa Ana Avenue is a two lane east-west roadway. The posted speed limit on East Santa Ana Avenue is 40 miles per hour (mph) and on-street parking is permitted. East Santa Ana Avenue is designated as a Collector Street east of South Riverside Avenue and a Secondary Arterial west of South Riverside Avenue in the City's Circulation Element. East Santa Ana Avenue is a designated truck route for its entire length within the City.

East Riverside Avenue. South Riverside Avenue is currently a four- to six-lane north-south roadway divided by a painted median through the study area. The posted speed limit is 50 mph and on-street parking is prohibited on both sides of the roadway. South Riverside Avenue is designated as a Modified Major Arterial II between San Bernardino Avenue and Slover Avenue, and a Modified Arterial I between Slover Avenue and the southern City boundary in the City's Circulation Element. The ultimate configuration will also accommodate a bike lane on each side of the roadway. South Riverside Avenue is a designated truck route for its entire length within the Agua Mansa Industrial Corridor Specific Plan (Specific Plan) area. South Riverside Avenue provides direct access to the I-10 Freeway interchange to the north of the project site. The posted speed limit is 50mph.

Slover Avenue. Slover Avenue is a four-lane east-west roadway divided by a painted median through the study area. The posted speed limit is 45 mph and on-street parking is prohibited on both sides of the street. Slover Avenue is designated as a Major Arterial in the City's Circulation Element. Slover Avenue is a designated truck route between South Riverside Avenue and Cedar Avenue.

Jurupa Avenue. Jurupa Avenue is a two-lane east-west undivided roadway. Between South Riverside Avenue and Willow Avenue, Jurupa Avenue has four lanes and remains undivided. The posted speed limit is 40 mph and on-street parking is prohibited on both sides of the street. Jurupa Avenue is designated as a Secondary Arterial in the City's Circulation Element.

Transit Services

Transit service within the Project area is provided via the OmniTrans transit lines, which serve various cities in San Bernardino County. Bus stops in the Project vicinity are located along South Riverside Avenue and Valley Boulevard, approximately 1 mile to north and Spruce Avenue approximately 1.5 mile to the west. A description of the bus routes serving the Project area is provided below.

OmniTrans Route 22 operates between the City of Rialto and the City of Colton through Rialto along South Riverside Avenue in the Project vicinity. Route 22 operates on weekdays from 5:00 AM to 9:40 PM with approximately 1-hour headways, on Saturdays from 7:15 AM to 6:30 PM with approximately 1-hour

headways, and on Sundays from 7:30 AM to 6:40 PM with approximately 1-hour headways. Route 22 has a transfer point with Route 10 at the intersection of South Riverside Avenue and Baseline Road.

OmniTrans Route 329 operates between Bloomington and the City of Fontana Valley Boulevard in the Project vicinity. Route 329 operates on weekdays from 6:45 AM to 6:40 PM with approximately 1-hour headways and on Saturdays from 7:45 AM to 6:40 PM with approximately 1-hour headways.

Bicycle And Pedestrian Facilities

The Rialto Active Transportation Plan recommends actions meant to support and increase bicycling and walking in Rialto and to enhance non-motorized travel infrastructure and create options to support the existing population. The Rialto Active Transportation Plan includes an inventory of existing bike and pedestrian infrastructure, identifies deficiencies, develops and prioritizes improvements, and produces materials for future grant applications for implementation of improvements. The Rialto Active Transportation Plan shows the portion of South Riverside Avenue to the west of the project site as a current CIP Bike Lane.

4.15.4 Methodology

The Project is evaluated against the significance criteria/thresholds below, as the basis for determining the impact's level of significance concerning transportation. In addition to the design characteristics of future development, this analysis considers the existing regulatory framework (i.e., laws, ordinances, regulations, and standards) that avoid or reduce the potentially significant environmental impact. Where significant impacts remain despite compliance with the regulatory framework, feasible mitigation measures are recommended, to avoid or reduce the Project's potentially significant environmental impacts.

This analysis of impacts on transportation examines the Project's temporary (i.e., construction) and permanent (i.e., operational) effects-based significance criteria/threshold's application, outlined above. For each criterion, the analyses address both temporary (construction) and operational impacts, as applicable. The impact conclusions consider the potential for changes in environmental conditions, as well as compliance with the regulatory framework enacted to protect the environment.

4.15.5 Thresholds of Significance

The following significance criteria are from State CEQA Guidelines Appendix G. The Project would result in a significant impact related to transportation if it would:

- Conflict with a program plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities;
- Conflict or be inconsistent with CEQA Guidelines Section 15064.3(b);
- Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment; or
- Result in inadequate emergency access.

4.15.6 Project Impacts and Mitigation

Impact 4.14-1: Would the project, conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?

Level of Significance: Less than Significant Impact

Please refer to Section 4.7, *Greenhouse Gas Emissions*, and Section 4.10, *Land Use and Planning*, which include an evaluation of the Project's consistency with SCAG's Connect SoCal: 2020-2045 RTP/SCS and the City's General Plan, respectively. The project site is within the SCAG MPO region. The Connect SoCal 2020-2045 RTP/SCS addresses regional challenges in several ways. A key, formative step is to develop a Regional Growth Forecast in collaboration with local jurisdictions, which helps SCAG identify opportunities and barriers to development. The plan forecasts the number of people, households and jobs (at the jurisdictional level) expected throughout SCAG's 191 cities and in unincorporated areas by 2045. This information is typically a component of the City's General Plan, and if available, the City's traffic analysis model.

Growth assumed in the General Plan and its corresponding traffic modeling would be the information supplied to SCAG. The Project is consistent with the General Plan and zoning assumptions. Therefore, because the Project was accounted for in the City's growth forecast, the Project would be consistent with the RTP/SCS. The analysis finds that the Project is consistent with the applicable goals and policies of the 2020-2045 RTP/SCS and the General Plan. Further, the Project's circulation plan is consistent with the General Plan pertaining to transit, bicycle and pedestrian facilities. Thus, impacts would be less than significant impact.

Current activities on-site are limited to mining reclamation, which is anticipated to be completed in 2024, prior to the commencement of Project construction. The project site features one driveway at the northern portion of the project site. Vehicular access to the project site would be provided via one unsignalized driveway located at the northwestern corner of the project site, which would provide access to trucks and passenger vehicles. Additionally, the Project would include one emergency access only driveway at the northeastern corner of the project site.

East Santa Ana Avenue does not contain any current bicycle facilities. As previously discussed, the nearest bicycle lane to the project site is the current CIP Bike Lane located within South Riverside Avenue to the west of the project site. Accordingly, Project implementation would not interfere with implementation of the Rialto Active Transportation Plan. The Project would not conflict with a program, plan, ordinance or policy addressing the circulation system. Thus, impacts would be less than significant.

Mitigation Program

Standard Conditions

No standard conditions are applicable.

Mitigation Measures

Agua Mansa Industrial Corridor Specific Plan EIR Mitigation Measures

No mitigation measures are applicable.

Project Mitigation Measures

No mitigation is required.

Impact 4.14-2: Would the proposed project conflict or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b)?

Level of Significance: Significant and Unavoidable Impact

Screening Criteria

Senate Bill 743 (SB 743) was approved by California legislature in September 2013. SB 743 requires changes to California Environmental Quality Act (CEQA), specifically directing the Governor's Office of Planning and Research (OPR) to develop alternative metrics to the use of vehicular "Level of Service" (LOS) for evaluating transportation projects. OPR has prepared a technical advisory ("OPR Technical Advisory") for evaluating transportation impacts in CEQA and has recommended that Vehicle Miles Traveled (VMT) replace LOS as the primary measure of transportation impacts. The Natural Resources Agency has adopted updates to CEQA Guidelines to incorporate SB 743 that requires VMT for the purposes of determining a significant transportation impact under CEQA.

The City of Rialto *Traffic Impact Analysis Guidelines for Vehicle Miles Traveled (VMT) and Level of Service (LOS) Assessment* (October 2021) 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 level analysis. Screening thresholds are broken down into the following three criteria:

1. Transit Priority Area (TPA) Screening
2. Low VMT Area Screening
3. Project Type Screening

Transit Priority Area (TPA) Screening

A project would be considered to have a less-than-significant transportation impact if the project is located within a Transit Priority Area (TPA) as determined by the most recent SCAG RTP/SCS and the San Bernardino County Transportation Authority (SBCTA) VMT screening tool. Based on SBCTA VMT screening tool, the proposed project is not located within a TPA.

Low VMT Area Screening

A project would be considered to have a less-than-significant transportation impact if the project is located within a low VMT generating area as determined by the City of Rialto guidelines and the SBCTA VMT screening tool. Based on the City of Rialto VMT thresholds and the SBCTA VMT Screening Tool, the proposed project is not located within a low VMT area.

Project Type Screening

A project would be considered to have a less-than-significant transportation impact if the project generates less than 110 daily vehicle trips.

The following uses would also be presumed to have a less-than-significant VMT impact:

- K-12 Schools
- Local-Serving retail less than 50,000 square feet
- Local parks
- Day care centers
- Local serving gas stations
- Local serving banks
- Student housing projects
- Local-serving hotels (e.g. non-destination hotels)
- Local-serving medical
- Student housing projects on or adjacent to college campuses
- Local-serving assembly uses (places of worship, community organizations)
- Community institutions (Public libraries, fire stations, local government)
- Local serving community colleges that are consistent with the assumptions noted in the RTP/SCS
- Affordable or supportive housing
- Assisted living facilities
- Senior housing (as defined by HUD)

The Project would involve the construction a 172,445 sf truck terminal and 18,700 sf ancillary maintenance shop that generate 1,922 daily PCE trips; therefore, the Project would not be screened out based on project type.

VMT Thresholds

The City of Rialto VMT Guidelines note that Project-generated VMT should be extracted from the origin-destination (OD) trip matrix from the SBTAM travel demand model and include the calculation for total VMT per service population (population plus employment).

The City's VMT Guidelines also acknowledge that in some cases, it may be appropriate to extract the Project-generated VMT using the production-attraction (PA) trip matrix from the SBTAM model. The VMT Guidelines state that this may be appropriate when a project is entirely composed on retail, office, or industrial land uses so as to isolate home-base work (HBW) VMT for the purposes of isolating commute VMT for employees.

Based on discussions with City staff and given the employee-based use of the project and the employee-based uses surrounding the project site, the project-generated VMT efficiency metric for the proposed project was based on PA VMT per employee. As a result, for project-generated VMT, the project would

result in a significant impact if either the baseline or cumulative project-generated VMT per employee exceeds the San Bernardino County regional average baseline of 17.1 VMT per employee.

For project's effect on VMT, the project would result in a significant impact if either the baseline link-level boundary (County of San Bernardino) VMT per service population or the cumulative link-level boundary (County of San Bernardino) VMT per service population increase under the plus project condition compared to the no project condition.

VMT Analysis

To evaluate the Project-related VMT per employee, both baseline and cumulative VMT per service population were calculated for the Project's land use. These values were then compared to the San Bernardino County regional average of 17.1 VMT per employee for the baseline condition and 17.1 VMT per service population for the cumulative condition. As shown in **Table 4.15-1: Project-Generated VMT**, the Project generated VMT per employee exceeds the threshold under all Project scenarios and as such, the Project would result in a significant impact associated with VMT.

Table 4.15-1: Project-Generated VMT

	Baseline 2016 With Project	Cumulative 2040 With Project
Project-Generated VMT	13,796	22,516
Employment	633	1,149
VMT per Employee	21.8	19.6
Countywide VMT per Employee Threshold	17.1	17.1
Impact	**Yes**	**Yes**
Required Mitigation	21.6%	12.8%
Source: **Appendix P**		

To evaluate the Project's effect on VMT for the region, link-level boundary VMT per service population was calculated for both baseline and cumulative conditions and compared to their respective no project conditions. Refer to **Table 4.15-2: Project's Effect on VMT**.

Table 4.15-2: Project's Effect on VMT

	Baseline 2016		Cumulative 2040	
	No Project	With Project	No Project	With Project
Citywide link-level VMT	1,344,712	1,344,985	1,943,561	1,945,026
Citywide Service Population	117,365	117,485	133,757	133,877
Citywide VMT per Service Population Threshold	11.46	11.45	14.53	14.53
Impact	**No**		**No**	
Source: **Appendix P**				

Based on the results shown in **Table 4.15-2**, the Project effect on VMT per service population would not exceed the threshold under any Project scenario, and as such the Project is determined to have a less than significant impact associated with Citywide VMT.

VMT Reduction Strategies

TDM measures to reduce single-occupancy commute trips and encourage alternative modes of transportation such as transit, walking, and bicycling, have been reviewed for the purpose of reducing Project-related VMT impacts. The effectiveness of potential TDM measures are noted below, in accordance with the trip reduction strategies in the *California Air Pollution Control Officers Association (CAPCOA) Handbook for Analyzing Greenhouse Gas Emission Reductions, Assessing Climate Vulnerabilities, and Advancing Health and Equity*:

- T-7: Implement Commute Trip Reduction Marketing (up to 4% reduction)
- T-8: Provide Ridesharing Program (up to 8 percent reduction)
- T-10: Provide End-of-Trip Bicycle Facilities (up to 4.4 percent reduction)

A summary table reviewing the feasibility of all VMT-related measures as noted in the CAPCOA Handbook is provided in **Appendix P.** As shown in **Table 4.15-1**, the proposed Project would require a minimum reduction of 21.6% and 12.8% under Baseline 2016 and Cumulative 2040 conditions, respectively. The mitigation measures noted above would equate to a maximum VMT reduction of 16.4%. The proposed mitigation measures are anticipated to mitigate the Project's VMT impacts to the extent feasible.

As discussed, Project-generated VMT would exceed the Countywide per service population threshold. To address impacts associated VMT, the Project would implement **MM TRF-1**, which would require the preparation of a TDM plan using feasible reduction strategies identified above. However, implementation of the TDM plan would not reduce VMT below the Countywide per service population threshold. Thus, impacts related to VMT would remain significant and unavoidable.

Traffic Impact Improvement Costs

The Project is subject to the City's Citywide traffic impact fee program and will pay applicable DIF fees toward the Riverside Avenue Widening Project. The fees paid by the Project Applicant will be collected by the City and used toward the Riverside Avenue Widening Project, as identified in Measure I of the 2018 Nexus Study Item "Widen Riverside Avenue from South City Limit to Slover Avenue from 4 lanes to 6 lanes". Costs of roadway improvements are identified in **Appendix O**.

Mitigation Program

Standard Conditions

To the extent that a mitigation measure is included in an existing fee program, the Project's payment of impact fees can be used to offset the costs of implementing the mitigation measures. In addition, the Project may be required to construct a needed improvement in advance of the City's receipt of full funding, in which case the improvement may be subject to a reimbursement agreement, to allow the Project to recoup costs from future development.

SC TRA-1A: **South Riverside Avenue at I-10 Eastbound Ramps.** The Project Applicant shall contribute on a fair-share basis to costs associated with the widening of South Riverside Avenue.

These improvements would be consistent with recommendations set forth in Measure I of the 2018 Nexus Study Item "Widen Riverside Avenue from South City Limit to Slover Avenue from 4 lanes to 6 lanes".

SC TRA-1B: **South Riverside Avenue at Solver Avenue.** The Project Applicant shall contribute on a fair-share basis to costs associated with the widening of South Riverside Avenue. These improvements would be consistent with recommendations set forth in Measure I of the 2018 Nexus Study Item "Widen Riverside Avenue from South City Limit to Slover Avenue from 4 lanes to 6 lanes".

Mitigation Measures

Agua Mansa Industrial Corridor Specific Plan EIR Mitigation Measures

No mitigation measures are applicable.

Project Mitigation Measures

MM TRF-1: Prior to the issuance of building permits, the Project applicant shall develop a Transportation Demand Management (TDM) Plan with TDM measures in coordination with the City of Rialto staff. The TDM plan shall be approved by the City.

Impact 4.14-3: Would the proposed project substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?

Level of Significance: Less than Significant Impact

The Project would not introduce incompatible uses to area roadways. The project site driveways and Project improvements would be designed so that adequate sight distance for drivers entering and exiting the project site is maintained. The driveway located at the northwestern portion of the project site would have a width of 32 feet. The emergency access only driveway, located at the northeastern corner of the project site, would have a width of 26 feet. The line of sight – a straight line between the driver's eye and oncoming vehicles on the adjacent roadway – defines the "limited use area." The limited use area for each driveway would be kept clear of visual obstructions, including Project signs, structures, and obstructive landscaping, in order to maintain adequate sight distance. The Project would be designed in compliance with all applicable State building codes and would meet City standards for design, including sight distance at all intersections.

The Project would include improvements to East Santa Ana Avenue, including mill and overlay. Improvements will require full depth reconstruction along the Project frontage to South Riverside Avenue. In addition, the Project would include one driveway located at the northwestern corner of the project site and one emergency access driveway located at the northeastern corner of the project site. Project construction would require the partial closure of East Santa Ana Avenue. Upon completion of construction, operation of East Santa Ana Avenue would resume similar to existing conditions. Impacts would be less than significant.

Mitigation Program

Standard Conditions

No standard conditions are applicable.

Mitigation Measures

Agua Mansa Industrial Corridor Specific Plan EIR Mitigation Measures

No mitigation measures are applicable.

Project Mitigation Measures

No mitigation is required.

Impact 4.14-4: Would the proposed project result in inadequate emergency access?

Level of Significance: Less than Significant Impact

Vehicular access to the project site would be provided via one driveway located at the northwestern corner of the project site. The main driveway would be 32-feet in width and would provide both truck and passenger vehicle access to the project site. Additionally, the Project would include one emergency access only driveway located at the northeastern corner of the project site; which would be 26 feet in width and provide access to emergency vehicles. Project traffic would not result in substantial delays and congestions that would affect the circulation of emergency vehicles within the Project area. Further, emergency access to the project site and surrounding area would be maintained throughout construction activities. Impacts would be less than significant.

Mitigation Program

Standard Conditions

No standard conditions are applicable.

Mitigation Measures

Agua Mansa Industrial Corridor Specific Plan EIR Mitigation Measures

No mitigation measures are applicable.

Project Mitigation Measures

No mitigation is required.

4.15.7 Cumulative Impacts

For cumulative conditions, a project that is below the VMT impact thresholds and does not have a VMT impact under baseline conditions would also not have a cumulative impact as long as it is aligned with long-term State environmental goals, such as reducing GHG emissions, and relevant plans, such as the SCAG RTP/SCS. The geographic context for the analysis of cumulative traffic impacts includes traffic volumes resulting from buildout of the City of Rialto. In addition, cumulative impacts are based on the future traffic volumes estimated by SCAG, which includes population and socioeconomic projections. Based on the VMT analysis for the Project, the Project's contribution of traffic would be cumulatively considerable because the feasibility of implementation of TDM measures is uncertain. The Project is consistent with the General Plan and is accounted for in the growth allocated by the General Plan and analyzed in the General Plan EIR. Based on VMT thresholds of significance, the Project's contribution would be cumulatively considerable.

4.15.8 Level of Significance After Mitigation

The Project would result in a significant and unavoidable impact associated with VMT. As discussed above, Project-generated VMT would exceed the Countywide VMT per Employee Threshold of 17.1. To address impacts associated with VMT, the Project would implement **MM TRF-1**, which would require the preparation of a TDM plan using reduction strategies identified above.

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4.16 TRIBAL CULTURAL RESOURCES

4.16.1 Introduction

This section of the Environmental Impact Report (EIR) provides contextual background information on tribal cultural resources on or near the project site. The extent to which implementation of the Santa Ana Truck Terminal Project (Project) could impact existing tribal cultural resources is evaluated. This section also provides the results of Assembly Bill 52 (AB 52) tribal consultation.

According to the Governor's Office of Planning and Research, a tribal cultural resource is a site feature, place, cultural landscape, sacred place or object which is of cultural value to a California Native American tribe and is either [1] on or eligible for the California Historic Register or a local historic register; or [2] the lead agency at its discretion, chooses to treat the resource as a tribal cultural resource.

The analysis in this section was conducted in compliance with the California Public Resources Code (PRC) Section 5024.1 and Section 21074 to identify tribal, archaeological and historic resources in the Project area and evaluate potential impacts that could result from implementation of the Project. The impact analyses are based on the Cultural Resources Study Findings Memo for the 249 E. Santa Ana Avenue Truck Terminal Project, City of Rialto, San Bernadino County, prepared by ASM Affiliates (January 2022). Which is included in **Appendix D** of this EIR. The analysis also includes information obtained during consultations with Native American tribal representatives.

4.16.2 Regulatory Setting

State Regulations

Senate Bill 18

Senate Bill (SB) 18 (California Government Code §65352.3) requires local governments to consult with Native American tribes prior to making certain planning decisions and to provide notice to tribes at certain key points in the planning process. These consultation and notice requirements apply to the adoption and amendment of general plans and specific plans. The consultation process requires (1) that local governments send the State Native American Heritage Commission (NAHC) information on a proposed project and request contact information for local Native American tribes; (2) that local governments then send information on the project to the tribes that the NAHC has identified and notify them of the opportunity to consult; (3) that the tribes have 90 days to respond on whether they want to consult or not, and (4) that consultation begins if requested by a tribe and there is no statutory limit on the duration of the consultation. If issues arise and consensus on mitigation cannot be reached, SB 18 allows a finding to be made that the suggested mitigation is infeasible. SB 18 is not applicable to the Project.

California Assembly Bill 52

On July 1, 2015, California AB 52 of 2014 was enacted and expanded CEQA by defining a new resource category, "tribal cultural resources." AB 52 establishes that "A project with an effect that may cause a substantial adverse change in the significance of a tribal cultural resource is a project that may have a significant effect on the environment" (PRC §21084.2).

AB 52 also establishes a formal consultation process for California tribes regarding those resources. The consultation process must be completed before an EIR can be released. AB 52 requires that lead agencies "begin consultation with a California Native American tribe that is traditionally and culturally affiliated with the geographic area of the proposed project if: (1) the California Native American tribe requested to the Lead Agency, in writing, to be informed by the Lead Agency through formal notification of proposed projects in the geographic area that is traditionally and culturally affiliated with the tribe, and (2) the California Native American tribe responds, in writing, within 30 days of receipt of the formal notification, and requests the consultation." Native American tribes to be included in the process are those that have requested notice of projects proposed within the jurisdiction of the Lead Agency. Consultation may include discussing the type of environmental review necessary, the significance of tribal cultural resources, the significance of the Project's impacts on the tribal cultural resources, and alternatives and mitigation measures recommended by the tribe.

The parties must consult in good faith, and consultation is deemed concluded when either the parties agree on measures to mitigate or avoid a significant effect on a tribal cultural resource (if such a significant effect exists) or when a party concludes that mutual agreement cannot be reached.

Health and Safety Code Sections 7050.5 and 7052

State Health and Safety Code (HSC) Section 7050.5, declares that, in the event of the discovery of human remains outside of a dedicated cemetery, all ground disturbance must cease, and the San Bernardino County Coroner must be notified. HSC Section 7052 establishes a felony penalty for mutilating, disinterring, or otherwise disturbing human remains, except by relatives.

More precisely, if human remains are encountered, Section 7050.5 states that:

a) "Every person who knowingly mutilates or disinters, wantonly disturbs, or willfully removes any human remains in or from any location other than a dedicated cemetery without authority of law is guilty of a misdemeanor, except as provided in Section 5097.99 of the Public Resources Code. The provisions of this subdivision shall not apply to any person carrying out an agreement developed pursuant to subdivision (l) of Section 5097.94 of the Public Resources Code or to any person authorized to implement Section 5097.98 of the Public Resources Code.

b) In the event of discovery or recognition of any human remains in any location other than a dedicated cemetery, there shall be no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent remains until the Coroner of the county in which the human remains are discovered has determined, in accordance with Chapter 10 (commencing with Section 27460) of Part 3 of Division 2 of Title 3 of the Government Code, that the remains are not subject to the provisions of Section 27491 of the Government Code or any other related provisions of law concerning investigation of the circumstances, manner and cause of any death, and the recommendations concerning the treatment and disposition of the human remains have been made to the person responsible for the excavation, or to his or her authorized representative, in the manner provided in Section 5097.98 of the Public Resources Code. The Coroner shall make his or her determination within two working days from the time the person responsible for the excavation, or his or her authorized representative, notifies the Coroner of the discovery or recognition of the human remains.

c) If the Coroner determines that the remains are not subject to his or her authority and if the Coroner recognizes the human remains to be those of a Native American, or has reason to believe that they are those of a Native American, he or she shall contact, by telephone within 24 hours, the Native American Heritage Commission."

Regional and Local Regulations

Rialto General Plan 2010

Relevant Rialto General Plan (General Plan) policies for tribal cultural resources are identified below. Where inconsistencies exist, if any, they are addressed in the respective impact analysis below.

Goal 7-1 Preserve Rialto's significant historical resources as a source of community identity, stability, aesthetic character, and social value.

Policy 7-1.1 Protect the architectural, historical, agricultural, open space, environmental, and archaeological resources in Rialto.

Policy 7-1.2 Identify, through appropriate research and surveys, the historical resources in Rialto through documentation and photography.

Goal 7-3 Identify, document, and protect significant archaeological resources in Rialto.

Policy 7-3.1 Require archaeological surveys during the development review process for all projects in archaeologically sensitive areas where no previous surveys are recorded.

Policy 7-3.2 Avoid impacts to potentially significant prehistoric and historical archaeological resources and sites containing Native American human remains consistent with State law.

City of Rialto Municipal Code

Chapter 2.20 of the Municipal Code establishes the Historical Preservation Commission. The commission is authorized to make recommendations, decisions and determinations concerning the designation, preservation, protection, enhancement, and perpetuation of these historical, and cultural resources which contribute to the culture and aesthetic values of the City. Government Code Section 37361 empowers cities to adopt regulations and incentives for the protection, enhancement, perpetuation and use of such places, buildings, structures and other objects. The adoption of reasonable and fair regulations is necessary as a means of recognition, documentation, preservation and maintenance of resources of cultural, aesthetic, or historical significance. Such regulation serves as a means to integrate the preservation of resources and the extraction of relevant data from such resources into public and private land management and development process, and to identify as early as possible and resolve conflicts between the preservation of cultural resources and alternative land uses. Chapter 2.20 is intended to carry out the goals and policies of the General Plan.

4.16.3 Environmental Setting

Natural Setting

The project site lies in the southern portion of the City of Rialto (City). Elevations range from approximately 900 to 955 feet above mean sea level (amsl). The City is largely urbanized and surrounded by other

developed cities. The area directly adjacent to the project site to the northwest and northeast contains a quarrying operation and is flanked on the east by a wastewater treatment plant.

Prehistoric Setting

Refer to Section 4.4, *Cultural Resources*, regarding the ethnography of Native American tribes in the vicinity of the project site. For information regarding the cultural setting and archaeological and historical context, see **Appendix D**.

4.16.4 Methodology

NAHC Sacred Lands File Search

On April 6, 2017, ASM sent a request to the Native American Heritage Commission (NAHC) to search their Sacred Lands File (SLF) to determine whether their files contained any information relating to the presence of Native American cultural resources within the Project parcel. Response from the NAHC was received on April 10, 2017, indicating that no such resources were found as a result of the SLF search. However, the absence of specific site information in the SLF does not indicate the absence of Native American cultural resources within the Project area. A list of 25 tribal contacts who may have interest in the Project area was provided with the NAHC response; this response and contact list is provided as Appendix A to the Cultural Resources Memo.

AB 52 Tribal Consultation

In compliance with PRC Section 21080.3.1(b), the City of Rialto sent formal notification on February 15, 2024 to tribal representatives which may have interest in projects within the geographic area traditionally and culturally affiliated with the tribe(s) and have requested notifications of applicable development projects from the City. Formal notification letters were sent to representatives of the following California Native American tribes:

- San Manuel Band of Mission Indians
- Morongo Band of Mission Indians
- Gabrieleño-Tongva San Gabriel Band of Mission Indians
- Gabrieleño-Tongva Nation
- Gabrieleño Band of Mission Indians -Kizh Nation

The Yuhaaviatam of San Manuel Nation (YSMN) responded on February 20, 2024. The mitigation measures requested by the YSMN as a result of that consultation have been included in this EIR and are further discussed below.

4.16.5 Thresholds of Significance

The following significance criteria for tribal cultural resources were derived from the Environmental Checklist in State CEQA Guidelines *Appendix G.* An impact would be considered significant and would require mitigation if it would:

- Cause a substantial adverse change in the significance of a tribal cultural resource, defined in PRC 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:

a) Listed or eligible for listing in the California Register of Historical Resources (CRHR), or in a local register of historical resources as defined in PRC §5020.1(k), or

b) 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 PRC §5024.1. In applying the criteria set forth in subdivision (c) of PRC §5024.1, the Lead Agency shall consider the significance of the resource to a California Native American tribe.

4.16.6 Project Impacts and Mitigation

This analysis of impacts on cultural resources examines the Project's construction and operational effects based on application of the significance criteria outlined above. The impact conclusions consider the potential for changes in environmental conditions, as well as compliance with the regulatory framework enacted to protect the environment.

Impact 4.16-1: Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in PRC §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:

(a) Listed or eligible for listing in the CRHR, or in a local register of historical resources as defined in PRC §5020.1(k) or:

(b) 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 PRC §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.

Level of Significance: Less Than Significant Impact with Mitigation Incorporated

As discussed in Section 4.4, *Cultural Resources*, according to the Cultural Resources Memo, the results to the records search indicate a high archaeological sensitivity for the project site. However, no cultural resources were identified within the project site during the current survey; as such, no historical resources were identified within the project site or surrounding area that would require further consideration under CEQA. However, significant impacts could occur in the event unknown resources are unearthed during Project implementation. As such, the Project would implement Mitigation Measures (**MM**) **CUL-1** and **MM CUL-2** are proposed to address the discovery of unknown cultural resources during construction activities. Additionally, the Project would implement Archaeological/Historical Resource Mitigation Measures 2 and 3 of the Agua Mansa Industrial Corridor Specific Plan (Specific Plan) EIR. With incorporation of mitigation, potential impacts to historical resources would be reduced to a less than significant level.

In compliance with PRC Section 21080.3.1(b), the City provided formal notification to California Native American tribal representatives that have previously requested notification from the City regarding projects within the geographic area traditionally and culturally affiliated with the tribe. Native American

groups may have knowledge about cultural resources in the area and may have concerns about adverse effects from development on tribal cultural resources as defined in PRC Section 21074.

As of the time of this EIR, one response was received from the YSMN. The YSMN identified measures to mitigate potential impacts to as-yet undiscovered tribal cultural resources. The mitigation measures include requirements for contacting the YSMN in the event of a find (**MM TCR-1**) and for any archaeological/cultural documents created as a result of the Project to be supplied to the Project applicant or lead agency for dissemination to YSMN (**MM TCR-2**). With the implementation of mitigation measures **MM TCR-1** and **MM TCR-2**, impacts to tribal cultural resources would be less than significant.

Mitigation Program

Standard Conditions

No standard conditions are applicable.

Agua Mansa Industrial Corridor Specific Plan EIR Mitigation Measures: Archaeological/Historical Resources

See Section 4.4, *Cultural Resources*, for further details regarding Mitigation Measures 2 and 3

Project Mitigation Measures

See Section 4.4, *Cultural Resources* for further details regarding **MM CUL-1** and **MM CUL-2**.

MM TCR-1 The Yuhaaviatam of San Manuel Nation (YSMN) Cultural Resources Management Department shall be contacted of any pre-contact cultural resources discovered during Project implementation and be provided information regarding the nature of the find, as to provide Tribal input with regards to significance and treatment. Should the find be deemed significant, as defined by CEQA, a Cultural Resources Monitoring and Treatment Plan shall be created by an archaeologist, in coordination with YSMN, and all subsequent finds shall be subject to this Plan. This Plan shall allow for a monitor to be present that represents YSMN for the remainder of the Project, should YSMN elect to place a monitor on-site.

MM TCR-2 Any and all archaeological/cultural documents created as a part of the Project (isolate records, site records, survey reports, testing reports, etc.) shall be supplied to the Project applicant and the Lead Agency for dissemination to YSMN. The Lead Agency and/or Project applicant shall, in good faith, consult with YSMN throughout the life of the Project.

4.16.7 Cumulative Impacts

Although the Project, in conjunction with the effects of cumulative projects, may result in the disturbance of tribal cultural resources throughout the study area, standard conditions of approval and mitigation measures required for each project would reduce the impacts to less than significant levels. Despite the site-specific nature of the resources, mitigation required for the identification and protection of unknown or undocumented tribal cultural resources would reduce the potential for cumulative impacts. On a cumulative level, data recovered from a site, combined with data from other sites in the region, would allow for the examination and evaluation of the diversity of human activities in the region. As a result, development of the Project would not contribute to a significant cumulative impact on tribal cultural resources.

4.16.8 Level of Significance After Mitigation

With implementation of mitigation measures **MM TCR-1** and **MM TCR-2**, potential impacts to tribal cultural resources would be reduced to a level considered less than significant.

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4.17 UTILITIES AND SERVICE SYSTEMS

4.17.1 Introduction

This section examines the public utilities and service systems that would be used by the Santa Ana Truck Terminal Project (Project) and describes the potential impacts on those public systems due to the implementation of the Project. For abbreviation purposes, the general term "utilities and service systems" in this Environmental Impact Report (EIR) includes the following: water, sewer, stormwater, electricity and natural gas, and solid waste. Specifically, this section addresses the following utilities: water, wastewater, electricity, telecommunication, and solid waste. Stormwater is discussed in Section 4.9, *Hydrology and Water Quality.* The following utility and services are addressed in this section (the service provider is noted parenthetically):

- Domestic water supply and distribution (West Valley Water District)
- Wastewater facilities (Rialto Water Services)
- Electricity (Southern California Edison)
- Natural gas (SoCalGas Company)
- Telecommunications (AT&T)
- Solid waste (Burrtec)

4.17.2 Regulatory Setting

Federal Regulations

Federal Safe Drinking Water Act

The Safe Drinking Water Act (SDWA, Health and Safety Code, §§116350–116405) is intended to protect public health by regulating the nation's public drinking water supply. The Federal SDWA authorizes the United States Environmental Protection Agency (EPA) to set national standards for drinking water to protect against both naturally occurring and man-made contaminants.

Clean Water Act

The Clean Water Act (33 United States Code Section 1251 et seq.) is the cornerstone of water quality protection in the United States. The statute employs a variety of regulatory and non-regulatory tools to sharply reduce direct pollutants discharges into waterways, finance municipal wastewater treatment facilities, and manage polluted runoff. These tools are employed to achieve the broader goal of restoring and maintaining the chemical, physical, and biological integrity of the nation's waters so that they can support "the protection and propagation of fish, shellfish, and wildlife and recreation in and on the water."

National Pollutant Discharge Elimination System

The National Pollutant Discharge Elimination System (NPDES) permit program was established pursuant to the Clean Water Act to regulate municipal and industrial discharges to surface waters of the United States. Federal NPDES permit regulations have been established for broad categories of discharges, including point-source municipal waste discharges and nonpoint-source stormwater runoff. NPDES permits generally identify effluent and receiving water limits on allowable concentrations and/or mass

emissions of pollutants contained in the discharge; prohibitions on discharges not specifically allowed under the permit; and provisions that describe required actions by the discharger, including industrial pretreatment, pollution prevention, self-monitoring, and other activities.

Wastewater discharge is regulated under the NPDES permit program for direct discharges into receiving waters and by the National Pretreatment Program for indirect discharges to a sewage treatment plant. In California, the federal requirements are administered by the State Water Resources Control Board (SWRCB) and individual NPDES permits are issued by the California Regional Water Quality Control Boards. The NPDES permit applicable to the project site is issued by the Santa Ana Regional Water Quality Control Board.

State Regulations

California Safe Drinking Water Act

California enacted its own Safe Drinking Water Act, with the California Department of Health Services (DHS) granted primary enforcement responsibility. Title 22 of the California Code of Regulations (CCR) (Division 4, Chapter 15, "Domestic Water Quality and Monitoring Regulations") established DHS authority and provides drinking water quality and monitoring requirements, which are equal to or more stringent than federal standards.

California Recycled Water Regulations

The regulation of recycled water is vested by State law in the State Water Resources Control Board (SWRCB) and the California Department of Public Health Services (DPH). DPH is responsible for the regulations concerning the use of recycled water. Title 17 (California Water Code, §§13500–13556) regulates the protection of the potable water supply through the control of cross-connections with potential contaminants, including recycled water. The established water quality standards and treatment reliability criteria for recycled water are codified in Title 22 of the California Water Code. The requirements of Title 22, as revised in 1978, 1990 and 2001, establish the quality and/or treatment processes required for a recycled effluent to be used for a non-potable application. In addition to recycled water uses and treatment requirements, Title 22 addresses sampling and analysis requirements at the treatment plant, preparation of an engineering report prior to production or use of recycled water, general treatment design requirements, reliability requirements, and alternative methods of treatment.

Urban Water Management Planning Act

The Urban Water Management Planning Act (California Water Code, Division 6, Part 2.6, §10610 et. seq.) was enacted in 1983. The UWMP Act applies to municipal water suppliers that serve more than 3,000 customers or provide more than 3,000 acre-feet (AF) per year of water. The UWMP Act requires these suppliers to update their Urban Water Management Plan (UWMP) every five years to demonstrate an appropriate level of reliability in supplying anticipated short-term and long-term water demands during normal, dry, and multiple dry years.

State Water Resources Control Board

The State Water Resources Control Board (SWRCB) is the California agency focused on providing and ensuring clean sustainable water for all state residents. The SWRCB works alongside other federal programs like the Clean Water Act (CWA) to regulate water sources and uses. The agency regulates water

consumption for irrigation and drinking, as well as water discharges from construction, municipal uses, stormwater, and other sources.

Assembly Bill 1668 and Senate Bill 606 – May 31, 2018

SB 606 and AB 1668 establish guidelines for efficient water use and a framework for the implementation and oversight of the new standards, which must be in place by 2022. The two bills strengthen the State's water resiliency in the face of future droughts with provisions that include:

- Establishing water use objectives and long-term standards for efficient water use that apply to urban retail water suppliers; comprised of indoor residential water use, outdoor residential water use, commercial, industrial and institutional (CII) irrigation with dedicated meters, water loss, and other unique local uses.
- Providing incentives for water suppliers to recycle water.
- Identifying small water suppliers and rural communities that may be at risk of drought and water shortage vulnerability and provide recommendations for drought planning.
- Requiring both urban and agricultural water suppliers to set annual water budgets and prepare for drought.[1]

Senate Bill 610

Under SB 610, water assessments must be furnished to local governments for inclusion in any environmental documentation for certain projects (as defined in Water Code 10912 [a]) subject to the CEQA.[2]

Senate Bill 221

Under SB 221, approval by a city or county of certain residential subdivisions requires an affirmative written verification of sufficient water supply. SB 221 is intended to ensure that collaboration on finding the needed water supplies to serve a new large subdivision occurs before Project construction begins.[3]

Assembly Bill 341

AB 341, approved in October 2011, is intended to reduce greenhouse gas emissions by diverting commercial solid waste to recycling efforts and to expand the opportunity for additional recycling services and recycling manufacturing facilities in the state. It is the policy goal of the state that not less than 75 percent of solid waste generated be source reduced, recycled, or composted by the year 2020. This law requires California commercial businesses and public entities, that generate four or more cubic yards of commercial solid waste per week or is a multi-family residential dwelling with five or more units, to arrange for recycling services.

Each local jurisdiction is required to inform businesses about the recycling requirement and to keep track of the level of recycling within the business community. In addition, each jurisdiction is required to report

[1] State Water Resources Control Board (SWRCB). (2023). California Statutes Making Conservation a California Way of Life. https://www.waterboards.ca.gov/water_issues/programs/conservation_portal/california_statutes.html. Accessed November 2023.

[2] California Department of Water Resources (CDWR). (2002). Draft Guidebook for Implementation of Senate Bill 1610 and Senate Bill 221 of 2001. Page iii. https://water.ca.gov/-/media/DWR-Website/Web-Pages/Programs/Water-Use-And-Efficiency/Files/DT-SB-610-SB-221-PDF.pdf. Accessed November 2023.

[3] Ibid.

to California's Department of Resources Recycling and Recovery (CalRecycle), the state agency that oversees recycling and solid waste, on progress in the business community.[4]

Assembly Bill 939

Assembly Bill 939, the California Integrated Waste Management Act of 1989, requires each city or county to prepare a Source Reduction and Recycling Element (SRRE) to its Solid Waste Management Plan, that identifies how each jurisdiction will meet the mandatory state waste diversion goal of 50 percent by and after the year 2000. Subsequent legislation changed the reporting requirements and threshold, but restated source reduction as a priority.

Solid Waste Disposal Measurement Act of 2008

The purpose of the Solid Waste Disposal Measurement Act of 2008 (SB 1016) is to make the process of goal measurement (as established by AB 939) simpler, timelier, and more accurate. SB 1016 builds on AB 939 compliance requirements by implementing a simplified measure of jurisdictions' performance. SB 1016 accomplishes this by changing to a disposal-based indicator—the per capita disposal rate—which uses only two factors: (1) a jurisdiction's population (or in some cases employment) and (2) its disposal, as reported by disposal facilities. Each year, Cal Recycle calculates each jurisdiction's per capita (per resident or per employee) disposal rates. If business is the dominant source of a jurisdiction's waste generation, CalRecycle may use the per employee disposal rate. Each year's disposal rate will be compared to that jurisdiction's 50 percent per capita disposal target. As such, jurisdictions will not be compared to other jurisdictions or the statewide average, but they will only be compared to their own 50 percent per capita disposal target. Among other benefits, per capita disposal is an indicator that allows for jurisdiction growth because, as residents or employees increase, report-year disposal tons can increase and still be consistent with the 50 percent per capita disposal target. A comparison of the reported annual per capita disposal rate to the 50 percent per capita disposal target will be useful for indicating progress or other changes over time.

California Solid Waste Reuse and Recycling Access Act of 1991

The California Solid Waste Reuse and Recycling Access Act require areas in development projects to be set aside for collecting and loading recyclable materials. The Act required CalRecycle (formerly the California Integrated Waste Management Board) to develop a model ordinance for adoption by any local agency relating to adequate areas for collection and loading of recyclable materials as part of development projects. Local agencies are required to adopt the model, or an ordinance of their own, providing for adequate areas in development projects for the collection and loading of recyclable materials.

Regional and Local Regulations

City of Rialto Urban Water Management Plan

Pursuant to the Urban Water Management Planning Act, the City of Rialto (City) adopts the San Bernardino Valley Regional Urban Water Management Plan every five years. The current adopted plan is

[4] California Legislative Information (CLI). (2011). Assembly Bill No. 341. https://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=201120120AB341 Accessed November 2023.

the 2020 Upper Santa Ana River Watershed Integrated Regional Urban Water Management Plan (IRUWMP).

City of Rialto Municipal Code Chapter 18.108, Regulation of Recycling Facilities

The requirements of Chapter 18.108 – Regulation of Recycling Facilities established guidelines and operating standards and procedures for the permitting of recycling facilities in the City. Recycling facilities may be located and operated in commercial and industrial zoning districts in conformance with Section 18.108.040.

Rialto General Plan 2010

The Rialto General Plan (General Plan) provides guidance to promote the City's goals for current and future development related to solid waste, recycling, and infrastructure, including water and wastewater systems. Relevant General Plan policies for infrastructure and waste handling are addressed below. Where inconsistencies exist, if any, they are addressed in the respective impact analysis below.

Goal 3-8 Promote affordable and quality water service capable of adequately meeting normal and emergency water demands to all areas in Rialto.

Policy 3-8.1 Require that all new development or expansion of existing facilities bear the cost of expanding the water system to handle the increased demands which they are expected to generate.

Policy 3-8.4 Advocate regular evaluation of the entire water supply and distribution system to ensure its continued adequacy, reliability, and safety.

Policy 3-8.6 Work with water agencies to aggressively recharge groundwater basins and prevent excessive water pumping when there are inadequate supplies.

Policy 3-8.7 Develop new sources of water supply, including drilling additional water wells that are free from perchlorate, and expanding recycling water opportunities.

Policy 3-8.8 Work with municipal water districts to explore new water conservation opportunities within Rialto.

Policy 3-8.9 Conserve potable water and utilize reclaimed water for meeting landscaping and irrigation demands as much as possible.

Policy 3-8.10 Support water conservation through requirements for landscaping with drought-tolerant plants and efficient irrigation for all new development and City projects**.**

Goal 3-9 Upgrade and maintain an improved wastewater system with adequate plant efficiency and capacity to protect the health and safety of all Rialto residents, businesses, and institutions.

Policy 3-9.1 Require that all new development or expansion of existing facilities bear the cost of expanding the wastewater disposal system to handle the increased loads which they are expected to generate.

Policy 3.9-2 Evaluate the wastewater disposal system routinely to ensure its adequacy to meet changes in demand and changes in types of waste.

Goal 3-10 Minimize the volume of solid waste that enters local and regional landfills.

Policy 3-10.2 Encourage the recycling of construction and demolition materials in an effort to divert these items from entering landfills.

Policy 3-10.3 Continue to provide and improve flexible fees and schedules for solid waste collection and recycling programs.

Policy 3-10.4 Continue to educate the community regarding the benefits of solid waste diversion and recycling, and maintain programs that make it easy for all residents and businesses to work toward City waste reduction objectives.

4.17.3 Environmental Setting

Water Supply

Water service within the City is provided by three separate water agencies: Rialto Water Services, West Valley Water District (WVWD), and Fontana Union Water Company (FUWC). The project site is located within the jurisdiction of the WVWD.

As described in the 2020 IRUWMP, the WVWD provides water service to customers within southwestern San Bernardino County as well as a portion of northern Riverside County. Specifically, the WVWD provides service to the cities of Fontana, Rialto, Colton, Jurupa Valley, Bloomington, and unincorporated areas of San Bernardino County. As of 2020, the WVWD includes over 23,000 municipal water service connections, providing potable water to over 90,000 residents, commercial, industrial, and institutional uses.[5] Recycled water is also available from the City's Wastewater Treatment Plant.

The City distributes its water to its year 2020 12,265 service connections through a 162-mile network of distribution mains with pipelines sizes ranging from two to 48 inches. The water system consists of three pressure zones and three subzones that provide sufficient water pressure to customers. **Table 4.17-1: Projected Water Supplies**, identifies the anticipated water supplies for WVWD.

[5] San Bernardino Valley Municipal Water District (SBVMWD). (2021). 2020 Integrated Regional Urban Water Management Plan. https://www.sbvmwd.com/home/showpublisheddocument/9232/637614632546570000. Accessed November 2023.

Table 4.17-1: Projected Water Supplies (AF)

Water Supply	Additonal Detail on Water Supply	2025 Water Supply (AF)	2030 Water Supply (AF)	2035 Water Supply (AF)	2040 Water Supply (AF)	2045 Water Supply (AF)
Groundwater (not desalinated)	Bunker Hill (part of SBB)	2,052	2,353	3,554	4,754	6,455
Groundwater (not desalinated)	Bunker Hill (part of SBB), via Baseline Feeder)	5,000	5,000	5,000	5,000	5,000
Groundwater (not desalinated)	Lytle (past of SBB)	2,900	2,900	2,900	2,900	2,900
Groundwater (not desalinated)	Rialto-Colton	4,426	4,538	4,650	4,761	4,873
Purchased or Imported Water	State Water Project – Rialto Colton Groundwater Supplement Supply	-	-	-	-	-
Groundwater (not desalinated)	Riverside-Arlington	2,500	3,000	3,500	4,000	4,000
Groundwater (not desalinated)	Chino	-	900	900	900	900
Surface water (not desalinated)	Lytle Creek	3,100	3,100	3,100	3,100	3,100
Purchased or Imported Water	State Water Project – Direct Delivery	7,000	7,000	7,000	7,000	7,000
	Total	26,978	28,791	30,603	32,415	34,229

Source: 2020 San Bernardino Valley Regional Urban Water Management Plan (2021); Page 5-20 Table 5-12. Accessed from: www.sbvmwd.com/home/showpublisheddocument/9242/637614374631830000. Accessed November 2023.

Water for the Project would be supplied by the WVWD and would connect to the existing to the existing water system in East Santa Ana Avenue. The 2020 IRUWMP anticipates adequate regional supplies for years 2025 to 2045 under multiple-dry year conditions, as summarized in **Table 4.17-2: Multiple Dry Year Water Supply and Demand**.[6] The multiple-dry year period is reflected as the lowest annual runoff for a three year or more consecutive period. As shown in **Table 4.17-2**, the supply is sufficient to account for the demand during the same period. The City also determined that water demands would not increase during single or multiple dry years.[7]

[6] SBVMWD. (2021a). 2020 Integrated Regional Urban Water Management Plan. https://www.sbvmwd.com/home/showpublisheddocument/9232/637614632546570000. Accessed November 2023.

[7] Ibid.

Table 4.17-2: Multiple Dry Year Water Supply and Demand

Year	Totals	2025 (AF)	2030 (AF)	2035 (AF)	2040 (AF)	2045 (AF)
First Year	Supply Totals	29,676	31,670	33,663	35,657	37,651
	Demand Totals	25,805	27,539	29,273	31,006	32,740
	Difference	3,871	4,131	4,391	4,651	4,911
Second Year	Supply Totals	29,676	31,670	33,663	35,657	37,651
	Demand Totals	25,805	27,539	29,273	31,006	32,740
	Difference	3,871	4,131	4,391	4,651	4,911
Third Year	Supply Totals	29,676	31,670	33,663	35,657	37,651
	Demand Totals	25,805	27,539	29,273	31,006	32,740
	Difference	3,871	4,131	4,391	4,651	4,911
Fourth Year	Supply Totals	29,676	31,670	33,663	35,657	37,651
	Demand Totals	25,805	27,539	29,273	31,006	32,740
	Difference	3,871	4,131	4,391	4,651	4,911
Fifth Year	Supply Totals	29,676	31,670	33,663	35,657	37,651
	Demand Totals	25,805	27,539	29,273	31,006	32,740
	Difference	3,871	4,131	4,391	4,651	4,911

Source: SBVMWD. (2021). 2020 Integrated Regional Urban Water Management Plan. https://www.sbvmwd.com/home/showpublisheddocument/9232/637614632546570000

Wastewater

Wastewater within the City is treated at the City of Rialto Wastewater Treatment Plant (WWTP). Located east of the project site at 501 East Santa Ana Avenue in Rialto, the approximately 14-acre plant provides secondary and tertiary treatment processes with a maximum treatment capacity of 11.7 million gallons per day (mgd). It consists of five separate treatment facilities built between 1956 and 1998. The City processes over 2 billion gallons of wastewater per year at the WWTP. Processing of sewage can be accomplished in numerous ways through, mechanical, biological, and chemical treatment methods. Primary, secondary, and tertiary treatment standards reflect the degree by which the sewage has been treated. Primary treatment includes the removal of relatively large objects such as trash, rags, cans, and gravel. Secondary treatment involves the removal of biological solids such as fat, grease, human waste, soaps, and other organic materials. Tertiary treatment further clarifies wastewater utilizing chemical washes, biological decomposition, and disinfection. Tertiary treatment involves the removal of nitrates, phosphorous, pathogens, and other microorganisms.[8]

Tertiary treated water can be used as reclaimed water for irrigation and other uses that can rely on non-potable water. Reclaimed water is produced at the City's WWTP. However, there is no infrastructure for citywide use of recycled water for irrigation or other non-potable uses and there are no plans to install such infrastructure. The City's Utilities Division is responsible for maintaining over 150 miles of sewer mains. The collection method uses gravity flow through vitrified clay pipes that flow from northwest to

[8] City of Rialto. (2010). Rialto General Plan Update EIR. Accessed August 2023.

southeast. There is an existing 24-inch and 28-inch sewer mains located within East Santa Ana Avenue, which the Project would connect to.

Dry Utilities

The Project would be served by Southern California Gas Company (SoCalGas) and Southern California Edison (SCE). SoCalGas serves 21.1 million consumers through 5.9 million meters in more than 500 communities with its 24,000-square mile service territory through central and southern California.[9] There is a high-pressure distribution line along East Santa Ana Avenue, north of the project site and a high-pressure distribution line along South Willow Avenue, northwest of the project site and South Pepper Avenue, east of the project site. There are no gas transmission lines adjacent to the project site.[10] SCE delivers power to 15 million people within its 50,000-square mile service across central, coastal, and southern California. SCE's electricity system is comprised of 125,000 miles of distribution and bulk transmission lines; 91,375 miles of distribution lines (less streetlight miles); and 1.4 million electric poles.[11] A SCE utility corridor with overhead transmission and subtransmission lines is south and west of the project site and a SCE utility corridor with subtransmission lines is east of the project site. [12] A 6-foot SCE easement is located on the western portion of the project site and 10-foot and 105-foot SCE pole line easements are located on the southern portion of the project site, along with a 70-foot Southern Sierras Power Company pole line easement.

Solid Waste

Burrtec Waste Industries provides trash collection and recycling services including hazardous waste disposal and recycling services to the City of Rialto. Burrtec transports solid waste to the San Bernardino County Department of Public Works Mid-Valley Sanitary Landfill, located approximately 6.8 miles southeast of the project site. The Mid-Valley Sanitary Landfill has a total site capacity of 408 acres and is expected to reach capacity and closure in 2045.[13] The maximum permitted throughput is 7,500 tons per day and the remaining capacity is 61,219,377 cubic yards. In the event that that the Mid-Valley Sanitary Landfill is closed due to high winds, wastes are transferred to the San Timoteo Landfill in Redlands. The El Sobrante Landfill, in the City of Corona also serves as a backup. The San Timoteo Landfill has a total site capacity of 366 acres and is expected to reach capacity and closure in 2039.[14] The maximum permitted throughput is 2,000 tons per day and the remaining capacity is 12,360,396 cubic yards. The El Sobrante Landfill has a total site capacity of 1,322 acres and is expected to reach capacity and closure in 2051. The

[9] SoCalGas. (2024). Company Profile. https://www.socalgas.com/about-us/company-profile.Accessed June 2024.
[10] SoCalGas. ND. Gas Transmission Pipeline Interactive Map-Riverside. https://socalgas.maps.arcgis.com/apps/webappviewer/index.html?id=faeed481312f4e5fb056f739ff169e02.Accessed June 2024.
[11] SCE. 2024. Who We Are. https://www.sce.com/about-us/who-we-are.Accessed June 2024.
[12] SCE. 2024. SCE Power Site Search Tool. https://www.arcgis.com/apps/webappviewer/index.html?id=05a84ec9d19f43ac93b451939c330888.Accessed June 2024.
[13] California Department of Resources Recycling and Recovery (CalRecycle), (2024). SWIS Facility/Site Activity Details for Mid-Valley Sanitary Landfill (36-AA-0055). https://www2.calrecycle.ca.gov/SolidWaste/SiteActivity/Details/1880?siteID=2662. Accessed January 2024.
[14] CalRecycle. (2024). SWIS Facility/Site Activity Details for San Timoteo Sanitary Landfill (36-AA-0087). https://www2.calrecycle.ca.gov/SolidWaste/SiteActivity/Details/1906?siteID=2688. Accessed January 2024.

maximum permitted throughput is 16,054 tons per day and the remaining capacity is 143,977,170 cubic yards.[15]

4.17.4 Methodology

The Project is evaluated against the aforementioned significance criteria/thresholds and information concerning current service levels and the ability of the service providers to accommodate the increased demand created by the Project.

Water Supply. The analysis of water supply is based on the change of water levels due to the Project's projected water demand. This information used for this analysis includes the 2020 Integrated Regional Urban Water Management Plan.

Wastewater Capacity and Treatment Regulations. The wastewater analysis identifies the types of wastewater that is anticipated to be generated by Project implementation and wastewater treatment requirements related to wastewater. Impacts would be considered significant if the Project would not comply or would conflict with existing applicable wastewater regulations resulting in a significant environmental impact. Refer to Section 4.9, *Hydrology and Water Quality*, for information regarding the Project's impacts on drainage.

Dry Utilities. This analysis addresses the Project's potential impacts on dry utility infrastructure, including electrical, natural gas, and telecommunications facilities. Energy consumption that would occur during both construction and operation of the Project and specific analysis methodologies was assessed in Section 4.5, *Energy*. Energy calculations are provided in **Appendix F** of this EIR and are based on the same assumptions used in Section 4.2, *Air Quality*, and Section 4.7, *Greenhouse Gas Emissions* of this EIR.

Storm Drain Capacity. Impacts on stormwater drainage facilities include the general increase or decrease in stormwater and impact on existing drainage infrastructure that is anticipated to occur from buildout of the Project. As discussed above, issues related to stormwater drainage facilities are further addressed in Section 4.9, *Hydrology and Water Quality*.

Landfill Capacity. The analysis of the Project's impact on landfill facilities is based on the anticipated generation of solid waste that would occur during construction and operation of the Project. The analysis identifies the projected amount of non-hazardous construction debris and operational solid waste that would be generated from implementation of the Project and the amount that would be disposed of in landfills after compliance with recycling/diversion requirements. The Project impact's regarding solid waste would be significant if the Project's anticipated solid waste generation would substantially affect landfill capacity, such that additional or expanded landfill facilities would be required to accommodate the Project.

Solid Waste Regulations: The analysis of the Project consists of the Project's conformance of applicable solid waste regulations related to the generation or disposal of solid waste. Impacts would be considered significant if the Project would not comply with all applicable federal, state, or local statutes or regulations related to solid waste.

[15] CalRecycle. (2024c). SWIS Facility/Site Activity Details for El Sobrante Landfill (33-AA-0217). https://www2.calrecycle.ca.gov/SolidWaste/SiteActivity/Details/2280?siteID=2402. Accessed January 2024.

4.17.5 Thresholds of Significance

The following significance criteria for water systems is from the Environmental Checklist in State CEQA Guidelines Appendix G. An impact would be considered significant and would require mitigation if it would meet one of the following criteria:

- Require or result in the relocation or construction of new or expanded water, wastewater treatment, or stormwater drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects;
- Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years;
- Result in a determination by the waste water treatment provider, which serves or may serve the project that is has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments;
- Generate solid waste in excess of state or local standards, or in excess of the capacity of local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals;
- Comly with federal, State, and local management and reduction statutes and regulations related to solid waste.

4.17.6 Project Impacts and Mitigation

Impact 4.17-1: Require or result in the relocation or construction of new or expanded water, wastewater treatment, or stormwater drainage, electric power, natural gas, or telecommunication facilities, the construction or relocation of which could cause significant environmental effects?

Level of Significance: Less than Significant Impact

Water

The Project would require the construction of new water service connection laterals that would connect to the existing water system in East Santa Ana Avenue. Impacts of required water facilities are addressed throughout this EIR in the respective EIR section(s). The majority of Project water facilities would be installed below ground and installed within existing road rights-of-way, and as such the only physical impacts would be associated with temporary impacts during construction (refer to Section 4.12, *Noise*, for a discussion of significant short-term noise impacts during pipeline construction). Above-ground facilities are addressed in respective EIR section(s), (addressed in Section 4.1, *Aesthetics*). All Project water facilities would be constructed and operated in accordance with applicable guidelines and regulations of the WVWD and City and would also follow applicable EIR mitigation measures in each topical area addressed in the EIR. In consideration of existing requirements and EIR mitigation measures, no significant impacts are anticipated with respect to Project water facilities. Further, prior to the issuance of the final building permit, the City would determine the fees associated with connecting to the existing facilities. Payment of fees as required by the City are intended to offset incremental impacts to water facilities by helping fund capital improvements and expenditures. Accordingly, impacts associated with the construction of water facilities would be less than significant.

Wastewater

Construction of the Project site would result in an additional 166,555 square feet (sf) of truck terminal use and 5,890 sf of office use in the City. Prior to construction or operations of the Project, the City permitting process would ensure adequate capacity to treat the anticipated wastewater occurs before the Project is implemented through review of the Utility Plans.

As discussed above, wastewater during construction and operations from the project site would be treated at the WWTP. An existing 24-inch and 28-inch sewer mains are located within East Santa Ana Avenue. The Project would include a connection to the existing sewer utilities, ultimately conveying Project effluent to the Rialto WWTP.

While the Project would result in an incremental increase in demand for wastewater treatment services, the Project wastewater treatment demand, which is further discussed under the response to Impact 4.17-3, would not result in or require new or expanded wastewater treatment facilities. Improvements to facilitate service to the project site would occur in previously disturbed or areas already proposed to be disturbed. Impacts would be less than significant.

Dry Utilities

SCE currently operates electric power in the City through electricity distribution lines both aboveground and buried lines. The Project would connect to existing SCE lines which would enable services to the site. Although some new utility infrastructure may be required on the site, extension of services is not anticipated to require the construct of any new off-site electric power facilities in order to serve the project site. At most, it is anticipated that SCE would provide more electricity to the Project compared to what is currently consumed, due to the current vacant status of the project site. This would represent a less than significant impact and mitigation is not required.

The SoCalGas Company provides gas services to most of southern California. It is anticipated that the project site may require some amount of natural gas to support future operations. Similar to electrical services, natural gas lines already exist in the area to enable service to surrounding uses. These areas are anticipated to be heavily disturbed and would not contain any pristine resources. Additionally, it is not anticipated that new or expanded gas supply facilities would be required to serve the Project. As such, all required improvements would be made as part of the proposed improvements in areas that would be disturbed as part of Project implementation or in the aforementioned previously disturbed areas. Therefore, these impacts would be less than significant.

The Project site would require telecommunication services to be provided by AT&T. As discussed above, existing telecommunication lines would be located within existing adjacent right-of-ways needed to serve the existing surrounding development. Service to the project site would require tying into these lines but these improvements would occur within existing areas of disturbance such as those adjacent to existing roadways. The construction of substantial new telecommunication infrastructures would not be required. These impacts would be less than significant.

Mitigation Program

Standard Conditions

No standard conditions are applicable.

Mitigation Measures

Agua Mansa Industrial Corridor Specific Plan EIR Mitigation Measures

No mitigation measures are applicable.

Project Mitigation Measures

No mitigation is required.

Impact 4.17-2: Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?

Level of Significance: Less than Significant Impact

As shown in **Table 4.17-1** and **Table 4.17-2** the WVWD water supply is adequate and outpaces demand during multiple dry years through the year 2045.[16] Based on the Project water demand calculations for the Project Energy Memorandum (**Appendix F**), Project construction would result in water demand of approximately 930,000 gallons and Project operations would result in water demand of approximately 134,259 gallons per day, or approximately 150 AF per year for both construction and operations. As shown in **Table 4.17-2,** the WVWD has a projected surplus of water supply compared to anticipated demand, even when considering multiple dry years. The water demand resulting from the Project would account for approximately 3.0 percent to 3.8 percent of the available surplus. However, the 2020 IRUWMP was prepared based on population and land use assumptions consistent with the SCAG 2012 Regional Transportation Plan and the Project is consistent with the City's land use and zoning designations for the project site, therefore Project water demand falls within the 2020 IRUWMP water demand projections. [17] Further, the City's General Plan EIR evaluated water usage for the City and it is anticipated that the City has an adequate water supply to serve the Project. Thus, given that there is adequate water supplies available to serve the Project during normal, dry and multiple dry years, impacts are less than significant.

Mitigation Program

Standard Conditions

No standard conditions are applicable.

Mitigation Measures

Agua Mansa Industrial Corridor Specific Plan EIR Mitigation Measures

No mitigation measures are applicable.

Project Mitigation Measures

No mitigation is required.

[16] SBVMWD. (2021b). 2020 San Bernardino Valley Regional Urban Water Management Plan. https://www.sbvmwd.com/home/showpublisheddocument/9232/637614632546570000. Accessed January 2024.

[17] Ibid.

Impact 4.17-3: Result in a determination by the waste water treatment provider, which serves or may serve the project that is has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?

Level of Significance: Less than Significant Impact

Wastewater services are provided by Rialto Water Services and as discussed above, there are existing 24-inch and 28-inch sewer mains located within East Santa Ana Avenue. The Project would include a lateral connection to an existing sewer main within East Santa Ana Avenue, to the north of the project site. The project site is currently vacant, and thus would result in an increase in wastewater treatment demand at the project site. The Project would include the construction of a truck terminal warehouse and maintenance shop on land zoned Heavy Industrial. Based on the Project water demand calculations for the Project Energy Memorandum (**Appendix F**), the Project would result in a demand for approximately 43 million gallons of water per year for indoor use, or 0.12 mgd. The General Plan noted that the design capacity of the Rialto WWTP exceeds 12 mgd and that, as of 2020, the City produces approximately seven to eight mgd of sewage; there is approximately four to five mgd capacity remaining. Thus, the WWTP has capacity for the wastewater generated by the Project. Further, the City's General Plan EIR evaluated wastewater demand based on the proposed land use and zoning identified for the project site. The Project is consistent with the land use designation and zoning for the project site; therefore, it is anticipated that the City has an adequate water supply to serve the Project. The Project would not require expansion or relocation of a wastewater facility as there is sufficient capacity at the WWTP to serve the Project. Therefore, with application of fees to sustain the wastewater treatment system and considerable existing spare capacity within the wastewater facilities, the potential impact that the Project has on the current infrastructure would be less than significant. As such, the proposed uses of the Project were anticipated within the Specific Plan.

Mitigation Program

Standard Conditions

No standard conditions are applicable.

Mitigation Measures

Agua Mansa Industrial Corridor Specific Plan EIR Mitigation Measures

No mitigation measures are applicable.

Project Mitigation Measures

No mitigation is required.

Impact 4.17-4: Generate solid waste in excess of state or local standards, or in excess of the capacity of local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?

Level of Significance: Less than Significant Impact

The Project would be served by the Mid-Valley Sanitary Landfill (2390 North Alder Avenue), located approximately 6.4 miles northwest of the project site. The landfill has a daily throughput of 7,500 tons per day and a remaining capacity of 61,219,377 cubic yards.[18]

Waste generation may vary greatly depending upon individual tenants; however, the Project does not propose a land use or zone change. Although, the uses allowed to operate on the project site would be consistent with the assumptions for solid waste use in the City's General Plan EIR. Further, the Project tenants will pay standard collection and processing fees established by the City's franchise agreement with Burrtec. Further, compliance with all applicable regulations and laws regarding solid waste would further reduce impacts. Impacts would be less than significant.

Construction

Site preparation (vegetation removal and grading activities) and construction activities would generate typical construction debris, including wood, paper, glass, metals, cardboard, and green waste. Non-salvaged construction and demolition waste would result in an incremental and intermittent increase in solid waste disposal at the Mid-Valley Sanitary Landfill.

According to the EPA's (2003) "Construction and Demolition Amounts," the overall waste generation rate of nonresidential construction is expected to be 4.34 pounds of waste per square foot constructed. Using the EPA waste generation rates and the overall buildings square footage of approximately 191,145 sf, the Project is estimated to generate approximately 415 tons of solid waste during Project construction.[19] Application of the CBC requirements would divert a minimum of 50 percent of the construction waste from the landfill, which results in a total estimated construction solid waste generation of approximately 208 tons.

As discussed above, the Mid-Valley Sanitary Landfill has approximately 7,500 tons per day of intake capacity; therefore, the landfill would support a temporary increase in solid waste during construction of the Project over time, in multiple phases. Recycling of construction debris would reduce the potential amount of waste disposed of at the Mid-Valley Sanitary Landfill and would contribute to the recycling goals set forth by the City, the CBC, and AB 939. Construction activities would be required to comply with all federal, State, and local statues and regulations related to solid waste. As a result, impacts associated with short-term solid waste would be less than significant.

[18] CalRecycle. (2024). SWIS Facility/Site Activity Details. https://www2.calrecycle.ca.gov/SolidWaste/SiteActivity/Details/1880?siteID=2662. Accessed January 2024.

[19] Environmental Protection Agency (EPA). (2003). Construction and Demolition Materials Amounts. https://www.epa.gov/sites/default/files/2017-09/documents/estimating2003buildingrelatedcanddmaterialsamounts.pdf. Accessed January 2024.

Operation

Based on a generation rate of 1.42 pounds of waste per 100 square feet of industrial building area, Project operations would generate approximately 1.4 tons of solid waste per day.[20] Pursuant to AB 939, A minimum of 50 percent of solid waste would be required to be recycled. Accordingly, the Project would generate approximately 0.7 tons per day of solid waste that would be directed to a landfill, which represents 0.009 percent of the Mid-Valley Landfill maximum permitted daily capacity of 7,500 tons per day. Although the Project would increase solid waste generation and decrease available capacity of the Mid-Valley Sanitary Landfill, Project operations are anticipated to result in a minimal increase in remaining capacity of the landfill. As the Project would not exceed the permitted capacity of the landfill and solid waste infrastructure and would generate a minimal amount of solid waste compared to the permitted daily capacity at the Mid-Valley Landfill, impacts would be less than significant.

Mitigation Program

Standard Conditions

No standard conditions are applicable.

Mitigation Measures

Agua Mansa Industrial Corridor Specific Plan EIR Mitigation Measures

No mitigation measures are applicable.

Project Mitigation Measures

No mitigation is required.

Impact 4.17-5: Comply with federal, State, and local management and reduction statutes and regulations related to solid waste?

Level of Significance: Less than Significant Impact

The Project would comply with applicable regulations regarding solid waste, including those of the City of Rialto. Section 18.108 and 8.08 of the Municipal Code which provide regulations regarding solid waste handling and recycling by both customers and collectors. In accordance with Section 8.08, the Project would maintain a sufficient number of containers to hold all solid waste; deposit all solid waste, including gray container waste, non-organic recyclables, and organic waste generated or accumulated on the premises into the proper containers; and cleanup of any and all solid waste generated, accumulated, or spilled on the premises prior to collection. In accordance with the California Solid Waste and Recycling Act of 1991, the Project would provide for adequate areas for collection and loading of recyclable materials.

The City complies with Assembly Bill 939 through implementing source reduction and recycling measures which require the establishment of an integrated waste management system and a 50% waste reduction requirement that was effective beginning in the year 2000. In accordance with the Integrated Waste Management Act, the San Bernardino County Board of Supervisors adopted the County of San Bernardino Countywide Integrated Waste Management Plan, which outlines the goals, policies, and programs the

[20] California Department of Resources Recycling and Recovery. (2024). Estimated Solid Waste Generation Rates. https://www2.calrecycle.ca.gov/wastecharacterization/general/rates. Accessed June 2024.

County and its cities implement to create an integrated waste management system that complies with the provisions of AB 939.

Solid waste services would be provided by Burrtec Waste Management. As previously discussed, the Mid-Valley Sanitary Landfill has a daily maximum intake load of 7,500 tons per day. The remaining disposal capacity is 61,219,377 cubic yards, which is the most current published data. Based on the remaining capacity of the transfer station and landfill, and the long-term planning programs required to meet CalRecycle requirements, there would be adequate waste disposal capacity within the permitted County's landfill system to meet the needs of the Project. The Project would comply with applicable local, State, and federal regulations regarding solid waste. Solid waste services would be provided to the Project without significantly impacting existing and planned development within the City and county. As a result, impacts associated with solid waste compliance would be less than significant.

Mitigation Program

Standard Conditions

No standard conditions are applicable.

Mitigation Measures

Agua Mansa Industrial Corridor Specific Plan EIR Mitigation Measure

No mitigation measures are applicable.

Project Mitigation Measures

No mitigation measures are required.

4.17.7 Cumulative Impacts

For purposes of public utilities and service systems, cumulative impacts are considered for projects on a system-wide basis and are associated with the capacity of existing and planned infrastructure from local responsible agencies. As described above, all impacts from the project site to public services and utilities systems would be less than significant in consideration of compliance with existing laws, ordinances, regulations and standards. In addition, the project site would recycle and implement measures on-site to reduce the waste stream to landfill(s) and the Project applicant would pay the applicable development impact and service fees. Impacts related to storm water drainage facilities are addressed in Section 4.9, *Hydrology and Water Quality*. Although temporary significant impacts during construction could occur, these impacts would only occur during development of the sites, would be typical of construction, would be localized, would occur at different times, and would be required to implement site-specific erosion control BMPs. Therefore, impacts are not anticipated to be cumulatively considerable. Other past, present, and reasonably foreseeable projects would be anticipated to implement similar measures or implement mitigation to fully mitigates their contribution to cumulative impacts. Therefore, there are no significant cumulative impacts anticipated relative to public utility and service systems, and the Project's contribution toward potential future utility and service system impacts in the City is not cumulatively considerable.

4.17.8 Level of Significance After Mitigation

The Project would result in less than significant impacts associated with utilities and service systems. No mitigation is required.

5.0 OTHER CEQA CONSIDERATIONS

5.1 SIGNIFICANT AND UNAVOIDABLE IMPACTS

Section 15126.2(c) of the California Environmental Quality Act (CEQA) Guidelines requires that the Environmental Impact Report (EIR) describe any significant impacts, including those that can be mitigated but not reduced to less than significant levels. The environmental effects of the Santa Ana Truck Terminal Project (Project) are addressed in Sections 4.1 through 4.17 of this EIR. Implementation of the Project would result in potentially significant impacts for the following topical issues: biological resources, cultural resources, geology and soils, noise, transportation, and tribal cultural resources. Implementation of standard conditions (**SCs**), mitigation measures (**MMs**), and additional requirements provided in Sections 4.1 through 4.17 would reduce these impacts to levels considered less than significant with the exception of air quality, greenhouse gas emissions (GHG), and traffic impacts.

- **Conflict with or obstruct implementation of the applicable air quality plan.** The Project would result in air pollutant emissions that exceed SCAQMD's operational emission thresholds. The Project would implement Agua Mansa Industrial Corridor Specific Plan EIR air quality mitigation measures 2 and 4, and Project Mitigation Measures (**MM**) **AIR-1** and **MM TRF-1**. However, with the incorporation of applicable mitigation, pollutant emissions would continue to exceed South Coast Air Quality Management District's (SCAQMD) thresholds, resulting in inconsistency with SCAQMD's Air Quality Management Plan. Impacts would be significant and unavoidable.

- **Result in a cumulatively considerable net increase of any criteria pollutant for which the Project region is non-attainment under an applicable state or federal ambient air quality standard.** The Project would exceed the SCAQMD operational thresholds despite implementation of Agua Mansa Industrial Corridor air quality mitigation measure 2 and Project mitigation measures **MM AIR-1** and **MM TRF-1**. Impacts would remain significant and unavoidable.

- **Conflict or consistency with State CEQA Guidelines Section 15064.3(b).** The Project's transportation impact based on vehicle miles traveled (VMT) is potentially significant based on the San Bernardino County's Countywide VMT per Employee Threshold. No feasible mitigation would reduce the Project's VMT impact below the VMT threshold. Therefore, the Project's VMT impact is considered significant and unavoidable.

- **Generate GHG emissions that could have a significant impact on the environment.** The Project would result in GHG emissions that exceed the 3,000 $MTCO_2e$ per year threshold. The Project would incorporate Agua Mansa Industrial Corridor Specific Plan EIR air quality mitigation measure 2, and Project mitigation measures **MM GHG-1** through **MM GHG-4**, to reduce impacts associated with GHG emissions. Additionally, the Project would implement **MM AIR-1** and **MM TRF-1**. However, mitigated GHG emissions would exceed the 3,000 $MTCO_2e$ per year threshold despite implementation of feasible mitigation. Therefore, Project-related GHG emissions would be significant and unavoidable.

- **Conflict with an applicable plan, policy, or regulation of an agency adopted for the purpose of reducing GHG emissions.** The Project's long-term operational GHG emissions would exceed the 3,000 $MTCO_2e$ per year threshold even with implementation of applicable mitigation. As such, the

Project would result in a significant and unavoidable impact, Project implementation could impede California's statewide GHG reduction goals for 2030 and 2045.

5.2 SIGNIFICANT IRREVERSIBLE EFFECTS

Section 15126.2(d) of the State CEQA Guidelines requires an EIR to discuss the significant irreversible environmental changes that would result from implementation of a project. Examples include: primary or secondary impacts of a project that would generally commit future generations to similar uses (e.g., highway improvements that would provide access to a previously inaccessible area); uses of nonrenewable resources during the initial and continued phases of a project (because a large commitment of such resources make removal or nonuse thereafter unlikely); and/or irreversible damage that could result from any potential environmental accidents associated with a project.

Implementation of the Project, which is comprised of a truck terminal, would require the long-term commitment of natural resources and land. Construction and long-term operation of the Project would require the commitment and reduction of available nonrenewable and slowly renewable resources, including petroleum fuels and natural gas (for vehicle use, construction, lighting, heating, and cooling of structures) and lumber, sand/gravel, steel, copper, lead, and other metals (for use in building construction and piping). Other resources that are slow to renew and/or recover from environmental stressors would also be impacted by Project implementation; examples include air quality, through the combustion of fossil fuels and production of greenhouse gases and water supply, through the increased potable water demands for drinking, cleaning, landscaping, and general maintenance needs.

5.3 GROWTH-INDUCING EFFECTS

State CEQA Guidelines Section 15126.2(e) requires that EIRs include a discussion of ways in which a proposed project could induce growth. The State CEQA Guidelines identify a project as "growth-inducing" if it fosters economic or population growth or if it encourages the construction of additional housing either directly or indirectly in the surrounding environment. New employees from commercial or industrial development and new population from residential development represent direct forms of growth. These direct forms of growth have a secondary effect of expanding the size of local markets and inducing additional economic activity in the area. A Project would therefore have a growth-inducing impact if it would:

- Directly or indirectly foster economic or population growth, or the construction of additional housing;
- Remove obstacles to population growth;
- Require the construction of new or expanded facilities that could cause significant environmental effects; or
- Encourage and facilitate other activities that could significantly affect the environment, either individually or cumulatively.

A project's potential to induce growth does not automatically result in growth. Growth can only happen through capital investment in new economic opportunities by the private or public sectors. Under CEQA, the potential for growth inducement is not considered necessarily detrimental nor necessarily beneficial, and neither is it automatically considered to be of little significance to the environment.

5.3.1 Directly or Indirectly Foster Economic or Population Growth, or the Construction of Additional Housing

Population and Employment

According to the California Department of Finance (DOF) the estimated population of the City of Rialto (City) is 102,985 as of 2023.[1] The California Employment Development Department (EDD) calculated the City's labor force to be 46,200, with 43,800 of those persons employed and 2,400 unemployed.[2] Section 4.13, *Population and Housing*, determined that the Project could generate 140 employees. Because this is less than the 2,400 unemployed persons within the City as estimated by the EDD, the Project would not necessarily spur a boost in population since the employees could be found within the City's existing residents. The Project, at the time of its implementation, would likely only have an indirect effect on the City's population through the expansion of economic activity within the City.

Housing

The project site is undeveloped and the Project does not include the development of residential units. Further, the Project is consistent with the General Plan designation, land use zoning, and Agua Mansa Industrial Specific Plan zoning for the project site. Therefore, the Project would not directly affect housing availability within the City.

5.3.2 Remove Obstacles to Population Growth or Require The Construction of New or Expanded Facilities that Could Cause Significant Environmental Effects

The Project would not remove obstacles to growth through the construction or extension of major infrastructure facilities. Although the project site is undeveloped, it is bordered by existing industrial uses and is planned for development in the City's General Plan and the Agua Mansa Industrial Corridor Specific Plan (Specific Plan).

As discussed in Section 4.13, *Population and Housing*, the existing utilities and service systems (i.e., water, wastewater, solid waste, and electricity) are capable of providing service to the Project. While upgrades to the existing utilities may be necessary, major infrastructure is already present in the area. The utility improvements that are being implemented are distribution lines that would serve the proposed land uses. The Project does not propose improvements that would extend services to areas that currently are not served or provide additional capacity in these infrastructure improvements, thereby facilitating new off-site development. There are no properties adjacent to the project site that would benefit by having the utilities extended. Therefore, the Project is not considered growth inducing with respect to removal of obstacles to growth or through the provision of infrastructure.

[1] Department of Finance (DOF). (2023). Population and Housing Estimates for Cities, Counties, and the State, January 1, 2020-2023. https://dof.ca.gov/Forecasting/Demographics/Estimates/e-1/. Accessed January 2024.

[2] California Employment Development Department (2021). Labor Force and Unemployment Rate For Cities and Counties. https://www.labormarketinfo.edd.ca.gov/data/labor-force-and-unemployment-for-cities-and-census-areas.html. Accessed January 2024.

5.3.3 Encourage and Facilitate Other Activities That Could Significantly Affect the Environment, Either Individually or Cumulatively

Refer to Sections 4.1 through 4.17 of this EIR. The Project would result in significant and unavoidable impacts associated with air quality, greenhouse gas emissions, and transportation.

Project implementation would result in significant and unavoidable air quality impacts associated with the Project's compliance with applicable air quality plan and the increase in criteria pollutants within the Project area. The Project's operational emissions would exceed the SCAQMD threshold for NO_X. The Project would incorporate project mitigation measures **MM AIR-1** and **MM TRF-1** and Agua Mansa Industrial Corridor Specific Plan EIR Air Quality Mitigation Measures 1 through 4, to reduce potential impacts.

The Project's long-term operational unmitigated GHG emissions would exceed the 3,000 $MTCO_2e$ threshold. To reduce impacts associate with GHG emissions, the Project would implement **MM AIR-1**, **MM GHG-1** through **MM GHG-4**, **MM TRF-1**, and Agua Mansa Industrial Corridor Specific Plan EIR Air Quality Mitigation Measures 1 through 4. However, Project operational GHG emissions would remain above the 3,000 $MTCO_2e$ threshold with the implementation of feasible mitigation. Thus, Project implementation could impede California's statewide GHG reduction goals for 2030 and 2045. Project GHG impacts would remain significant and unavoidable.

The Project transportation impact based on VMT is significant and unavoidable per the San Bernardino Countywide VMT per Employee Threshold. The Project is subject to the City's citywide traffic impact fee program and will pay applicable development impact fees (DIF) toward the South Riverside Avenue Widening Project. However, DIF fees would not reduce Project impacts below the VMT threshold. As such, the Project's VMT impact is considered significant and unavoidable. Nevertheless, this impact would not encourage other activities that could significantly affect the environment.

Implementation of the Project is anticipated to have a beneficial economic effect. Design, engineering, and construction-related jobs would be created. These jobs would span the planning to construction phases of the Project, lasting until the Project is completed and in use. This would be a direct but temporary growth-inducing impact of the Project. The Project would create employment positions.

5.4 MANDATORY FINDINGS OF SIGNIFICANCE

State CEQA Guidelines § 15065(a)(1)-(4) requires preparation of an EIR when certain specified impacts may result from construction or implementation of a project. An EIR determines a finding of significance if a project has the potential to: substantially degrade the quality of the environment; substantially reduce the habitat of a fish or wildlife species; cause a fish or wildlife population to drop below self-sustaining levels; threaten to eliminate a plant or animal community; substantially reduce the number or restrict the range of an endangered, rare or threatened species; or eliminate important examples of the major periods of California history or prehistory.

In practice, this is the same standard as a significant effect on the environment, which is defined in Section 15382 of the CEQA Guidelines as "a substantial or potentially adverse change in any of the physical conditions within the area affected by the project including land, air, water, minerals, flora, fauna, ambient noise, and objects of historic or aesthetic significance."

An EIR has been prepared for the Project, which fully addresses all of the Mandatory Findings of Significance. This EIR in its entirety addresses and discloses all known potential environmental effects associated with the development of the Project including direct, indirect, and cumulative impacts in the following resource areas:

- Aesthetics
- Air Quality
- Biological Resources
- Cultural Resources
- Energy
- Geology and Soils
- Greenhouse Gas Emissions
- Hazards and Hazardous Materials
- Hydrology and Water Quality
- Land Use and Planning
- Mineral Resources
- Noise
- Population and Housing
- Public Services
- Transportation
- Tribal Cultural Resources
- Utilities and Service Systems

A summary of all potential environmental impacts, level of significance and mitigation measures is provided in *Section 1.0, Executive Summary*.

Endemic and endangered animals within California and the Project's potential effect on those species are fully discussed in *Section 4.3, Biological Resources,* of this EIR. The section found that although the project site features habitat for the Delhi Sands flower-loving fly, existing habitat on-site has been disturbed by previous grading and is no longer suitable habitat for the species. As such, mitigation is not required. Project implementation would have the potential to impact burrowing owl during construction activities. As such, the Project has included mitigation for burrowing owl, as further discussed in the section.

Section 4.4, Cultural Resources, of the EIR analyzed the potential historic and cultural resource impacts that could occur due to the implementation of the Project and found no recorded historic or prehistoric resources located within the project site. Mitigation proposed within the section would include the retainment of a professional archaeologist to further minimize potential effects to the City's historical and cultural resources. The mitigation presented in the section further lowered the significance of the potential impacts to less than significant levels.

5.4.1 The project has the potential to achieve short-term environmental goals to the disadvantage of long-term environmental goals.

The Project would occupy an area previously used by industrial land uses, including the former Rialto Plant. The Project would be consistent with the Specific Plan upon the approval of a Conditional Development Permit, as a truck terminal is considered a conditionally permitted use within industrial zones in the City.

Section 5.2, *Significant Irreversible Effects*, of this document addresses the short-term and irretrievable commitment of natural resources to ensure that the consumption is justified on a long-term basis. In addition, Section 1.0, *Executive Summary*, identifies all significant and unavoidable impacts that could occur that would result in a long-term impact on the environment. Lastly, Section 5.3, *Growth-Inducing Effects*, identifies any long-term environmental impacts associated with economic and population growth that are associated with the Project.

5.4.2 The project has possible environmental effects that are individually limited but cumulatively considerable.

State CEQA Guidelines §15065(a)(3) defines "cumulatively considerable" as times when "the incremental effects of an individual project are significant when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects." This EIR provides a cumulative impact analysis only for all thresholds that result in a less than significant impact, a potentially significant impact unless mitigated, or a significant and unavoidable impact. Cumulative impacts are addressed for each of the environmental topics listed above and are provided in Sections 4.1 through 4.17 of this EIR.

5.4.3 The environmental effects of a project will cause substantial adverse effects on human beings, either directly or indirectly.

A change to the physical environment that might otherwise be minor must be treated as significant if people would be significantly affected. This standard relates to adverse changes to the environment of human beings generally, and not to effects on particular individuals. While changes to the environment that could directly or indirectly affect human beings would be possible in all of the CEQA issue areas previously listed, those that could directly affect human beings include aesthetics, air quality, geology and soils, hazards and hazardous materials, hydrology and water quality, noise, land use and planning, population and housing, public services, transportation, tribal cultural resources, and utilities and service systems, all of which are addressed in their respective sections of this EIR. Applicable mitigation is addressed within each section.

6.0 ALTERNATIVES

6.1 INTRODUCTION

The California Environmental Quality Act (CEQA) Guidelines Section 15126.6(a) states that an Environmental Impact Report (EIR) must "describe a range of reasonable alternatives to the project, or to the location of the project, which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any significant effects of the project and evaluate /-the comparative merits of the alternatives." In selecting alternatives to the Santa Ana Truck Terminal Project (Project), the City of Rialto (City), as Lead Agency, is to consider alternatives that could feasibly attain most of the basic objectives of the Project and avoid or substantially lessen one or more of the significant effects.

Alternatives to the Project are to be evaluated based on their feasibility within the rule of reason as set by State CEQA Guidelines Section 15126.6(f). The rule states that "Of those alternatives, the EIR need examine in detail only the ones that the lead agency determines could feasibly attain most of the basic objectives of the project." The selection of alternatives would also take into consideration based on "site suitability, economic viability, availability of infrastructure, general plan consistency, other plans or regulatory limitations, jurisdictional boundaries (projects with a regionally significant impact should consider the regional context), and whether the proponent can reasonably acquire, control or otherwise have access to the alternative site (or the site is already owned by the proponent)."

6.2 PROJECT SUMMARY

As proposed, the Project would allow for the development of one truck terminal and one maintenance shop on approximately 45.7 acres (Accessor's Parcel Number [APN] 0258-141-18) with associated surface parking and landscaping. The proposed truck terminal would include 166,555 square feet (sf) of warehouse use including 5,890 square feet (sf) of office use. The proposed maintenance shop would include 17,810 sf of maintenance use and 890 sf of office use.

The Project would include 149 passenger parking spaces, 679 trailer parking spaces, and 100 tractor parking spaces (see **Table 3-1** in Section 3.0, *Project Description*). Passenger parking would be along the northwestern boundary of the project site, trailer parking would be located within the eastern and central portion of the project site, and tractor parking would be located at the northwestern corner of the project site. The Project is described in further detail in Section 3.0, *Project Description*.

The project site has a Rialto General Plan (General Plan) land use designation of General Industrial with a Specific Plan Overlay. The General Industrial designation allows for a broad range of heavy industrial activities. The General Industrial designation permits manufacturing and distribution, heavy equipment operations, and similar uses.[1] The designation allows for a maximum Floor to Area Ratio (FAR)[2] of 1.0.

The project site is located within the Agua Mansa Industrial Corridor Specific Plan (Specific Plan). The project site has a Heavy Industrial (H IND) land use designation within the Specific Plan. The H IND designation allows for transit and transportation terminals, repairs, and storage facilities.

[1] City of Rialto. (2010). Rialto General Plan. https://www.yourrialto.com/653/General-Plan. Accessed August 2023.
[2] Floor Area Ratio is the measurement of a building's floor area in relation to the size of the parcel.

6.3 CRITERIA FOR SELECTING ALTERNATIVES

Several criteria were used to select alternatives to the Project, as described below.

Ability To Achieve Project Objectives

Section 15126.6(f) of the State CEQA Guidelines (14 CCR) states:

> *The range of alternatives required in an EIR is governed by a 'rule of reason' that requires the EIR to set forth only those alternatives necessary to permit a reasoned choice. The alternatives shall be limited to ones that would avoid or substantially lessen any of the significant effects of the project. Of those alternatives, the EIR need examine in detail only the ones that the lead agency determines could feasibly attain most of the basic objectives of the project.*

For purposes of the alternative analysis, each alternative assessed in this EIR was evaluated to determine the extent to which it could attain the following objectives identified for the Project:

Objective 1: Develop the property consistent with the guidelines and policies of the City of Rialto General Plan and more specifically, the Agua Mansa Industrial Corridor Specific Plan.

Objective 2: Develop an industrial zoned site with land uses which meet current market demands.

Objective 3: Create revenue-generating uses that provide reliable employment for the long term.

Objective 4: Provide new buildings that are compatible with the surrounding industrial uses.

Objective 5: Develop an industrial use consistent with current zoning in close proximity to designated truck routes and the State highway system to avoid or shorten truck-trip lengths on other roadways.

Objective 6: Redevelop an underutilized property in accordance with Rialto Plant Reclamation Plan.

Elimination/Reduction of Significant Impacts

Section 15126.6(b) of the State CEQA Guidelines (14 CCR) states that "Because an EIR must identify ways to mitigate or avoid the significant effects that a project may have on the environment (Public Resources Code §21002.1), the discussion of alternatives shall focus on alternatives to the project or its location which are capable of avoiding or substantially lessening any significant effects of the project, even if these alternatives would impede to some degree the attainment of the project objectives, or would be more costly".

Potentially significant environmental impacts that would result from the Project are evaluated in Sections 4.1 through 4.17 of this EIR. With implementation of the respective Standard Conditions and Requirements (**SCs**) and Mitigation Measures (**MMs**) identified for each topical issue, all significant impacts resulting from the Project would be reduced to a level considered less than significant with the exception of traffic impacts and operational air quality impacts. The Project's transportation impact based on vehicle miles traveled (VMT) is significant based on the Countywide Per Employee Threshold. As the effectiveness of transportation demand management (TDM) measures and reduction of VMT impacts below thresholds cannot be assured, Project's VMT impact is therefore considered significant and unavoidable.

Considered but Rejected

Section 15126.6(c) notes that the EIR should identify any alternatives that were considered by the lead agency but were rejected as infeasible during the scoping process. Reasons underlying the lead agency's determination may include factors such as failure to meet most of the basic project objectives, infeasibility, or inability to avoid significant environmental impacts. The City of Rialto, as the Lead Agency, did not identify additional alternatives for consideration.

Feasibility

Section 15126.6(f)(1) of the State CEQA Guidelines (14 CCR) states:

> *Among the factors that may be taken into account when addressing the feasibility of alternatives are site suitability, economic viability, availability of infrastructure, general plan consistency, other plans or regulatory limitations, jurisdictional boundaries (projects with a regionally significant impact should consider the regional context), and whether the proponent can reasonably acquire, control or otherwise have access to the alternative site (or the site is already owned by the proponent). No one of these factors establishes a fixed limit on the scope of reasonable alternatives (Citizens of Goleta Valley v. Board of Supervisors (1990) 52 Cal.3d 553; see Save Our Residential Environment v. City of West Hollywood (1992) 9 Cal.App.4th 1745, 1753, fn. 1).*

Each alternative was evaluated for its feasibility, its ability to attain the Project's objectives, and its ability to reduce and/or eliminate significant impacts associated with the Project.

6.4 ALTERNATIVES FOR ANALYSIS

In accordance with Section 15126.6(a) of the State CEQA Guidelines, the discussion in this section of the EIR focuses on a reasonable range of alternatives. The analysis provides a comparison of the alternatives' varying environmental effects and their merits and/or disadvantages in relation to the Project and to each other; their feasibility and ability to achieve Project objectives are also discussed. The environmentally superior alternative is identified as required by CEQA.

Three alternatives to the Project have been identified.

- Alternative 1: No Development
- Alternative 2: High-Cube Short-Term Storage
- Alternative 3: Business Park

The evaluation of each alternative uses the same thresholds of significance identified in Sections 4.1 through 4.17. **Table 6-1: Summary of Proposed Project and Alternative Impacts**, compares the alternative's anticipated environmental impacts with the implementation of mitigation, as required. **Table 6-2: Project Objectives Consistency Analysis,** summarizes each alternative's ability to achieve the Project objectives.

Table 6-1: Summary of Proposed Project and Alternative Impacts

Topic	Proposed Project	Alternative 1	Alternative 2	Alternative 3
Aesthetics	LS	–	=	=
Air Quality	**SU**	–	–	–
Biological Resources	LS/M	–	=	=
Cultural Resources	LS/M	–	=	=
Energy	LS	–	–	+
Geology and Soils	LS/M	–	=	=
Greenhouse Gas Emissions	LS/M	–	–	–
Hazards and Hazardous Materials	LS	–	=	=
Hydrology and Water Quality	LS	–	=	=
Land Use and Planning	LS	–	=	=
Mineral Resources	LS	–	=	=
Noise	LS	–	–	–
Population and Housing	LS	–	=	=
Public Services	LS	–	=	=
Transportation	**SU**	–	=	=
Tribal Cultural Resources	LS/M	–	=	=
Utilities and Services Systems	LS	–	+	+

LS = Less than Significant
LS/M = Less than Significant with Mitigation/Standard Conditions
S/U = Significant Unavoidable Impact
(–) The alternative would result in less of an impact than the proposed Project or no impact.
(+) The alternative would result in greater impacts than the proposed Project.
(=) The alternative would result in the same/similar impacts as the proposed Project.
(*) The alternative would reduce/eliminate a significant and unavoidable impact.

Table 6-2: Project Objectives Consistency Analysis

Project Objective	Alternative 1: No Development	Alternative 2: High-Cube Short-Term Storage	Alternative 3: Business Park
	Consistent?		
Develop the property consistent with the guidelines and policies of the City of Rialto General Plan and more specifically, the Agua Mansa Industrial Corridor Specific Plan.	No	Yes	Yes
Develop an industrial zoned site with new truck and trailer parking to respond to current market demands.	No	No	No
Create revenue-generating uses that provide reliable employment for the long term.	No	Yes	Yes
Provide new buildings that are compatible with the surrounding industrial uses.	No	Yes	Yes
To develop a truck terminal facility in close proximity to designated truck routes and the State highway system to avoid or shorten truck-trip lengths on other roadways.	No	No	No
To redevelop an underutilized property in accordance with Rialto Plant Reclamation Plan.	No	Yes	Yes

For the alternatives, it is assumed that relevant regulatory requirements, applicable project design features, and project-specific mitigation measures identified for the Project would also be implemented with each alternative, and thus serve to reduce or avoid potential significant impacts similar to the Project.

Alternative 1: No Development Alternative

State CEQA Guidelines Section 15126.6, requires an evaluation of the "No Project" alternative for decision-makers to compare the impacts of approving a project with the impacts of not approving it. The No Development Alternative assumes that the Project would not be developed, which means there would be no warehouse facilities, landscape improvements, or surface lot improvements developed on the project site. In its existing condition, the site would remain vacant and disturbed.

Section 15126.6(e)(3)(B) of the State CEQA Guidelines indicates that when the project is not a land use or regulatory plan, the "no project" alternative:

> …is the circumstance under which the project does not proceed. Here the discussion would compare the environmental effects of the property remaining in its existing state against environmental effects which would occur if the project is approved. If disapproval of the project under consideration would result in predictable actions by others … this "no project" consequence should be discussed.

Therefore, although this alternative assumes "No Development" (as required by CEQA), this is considered a speculative assumption as the land is assumed to remain in private ownership (as there are no offers to purchase the land for public open space use). As such, it is likely the land would eventually be developed with industrial uses in the future, as the land has an industrial land use designation under the City's

General Plan land use designation and is zoned for industrial use under the Agua Mansa Industrial Corridor Specific Plan.

Alternative 1: Impact Comparison to the Proposed Project

Aesthetics. Under the Alternative 1 scenario, no development would occur, and the project site would remain vacant. There would be no buildings on site and no related on-site improvements, including landscaping, would be provided. Because Alternative 1 would not involve development of the project site, there would be no new sources of lighting. Neither the Project nor Alternative 1 would result in significant impacts regarding aesthetics.

Air Quality. With Alternative 1, because there would be no development, no air quality emissions would be generated. The Project would generate emissions during construction and operational activities that require mitigation. Although Alternative 1 would not have any air quality impacts, all significant air quality impacts associated with the Project would be mitigated to a less than significant level.

Biological Resources. This alternative would have no impacts to biological resources, including potential impacts to the burrowing owl. Trees and other vegetation on the project site that currently could be used for nesting by migratory birds protected under the Migratory Bird Treaty Act (MBTA) would remain because no existing vegetation would be removed. Although Alternative 1 would not have any biological resources impacts, all potentially significant impacts associated with the Project would be mitigated to a less than significant level.

Cultural Resources. Under Alternative 1, the project site would remain in its current condition and would therefore prevent potential impacts to cultural resources. No construction or grading activities would occur. Therefore, the potential to discover and impact previously undisturbed cultural resources, including archaeological resources, would not occur. Although this alternative would have no impact on cultural resources, impacts associated with the Project would be mitigated to a less than significant level.

Energy. The energy usage during construction associated with water usage for dust control, diesel fuel consumption from on-road hauling trips and off-road construction diesel equipment, and gasoline consumption from on-road worker commute and vendor trips would not occur because no construction or development would occur. However, it is noted that the Project implementation would not result in significant impacts concerning energy usage. Therefore, Alternative 1 would have no impact on energy, whereas the Project would result in a less than significant impact.

Geology and Soils. No development would occur on the project site. Therefore, the potential to expose additional people or structures to adverse effects of seismic ground shaking, ground failure, landslides, expansive soils, or other unstable geologic hazards would not occur. No soil erosion or loss of topsoil would occur since the project site would remain in its existing conditions. Although this alternative would have no impact on soils and geology or paleontological resources, impacts associated with the Project would be mitigated to less than significant level.

Greenhouse Gas Emissions. Under Alternative 1, there would be no construction activities or associated construction equipment operations or operational activities. Therefore, there would be no short-term greenhouse gas (GHG) emissions from construction activities or long-term GHG emissions from vehicles or the consumption of electricity, natural gas, and water associated with operations of the land uses assumed as a part of the Project. Although this alternative would not generate additional GHG emissions,

it should be noted that the Project's impact would be less than significant based on the significance criteria set forth in this EIR.

Hazards and Hazardous Materials. The project site is currently vacant and therefore does not generate, use, or transport any hazardous materials. The current uses on the project site do not generate any hazardous materials that could be accidentally released into the environment, and they do not create a safety hazard as it pertains to an Airport Land Use Compatibility Plan because the project site is not located within two miles of a public airport or public use airport. Although this alternative would have no impact regarding hazards and hazardous materials, impacts associated with the Project would be mitigated to less than significant level.

Hydrology and Water Quality. Alternative 1 assumes no development would occur on the project site. Because there would be no subsurface excavation, the potential to encounter groundwater would not occur. The existing on-site drainage pattern and runoff quantities would remain the same, and this alternative would not deplete groundwater supplies or interfere with groundwater recharge.

Site development would alter the project site's existing drainage pattern because the site would change from a currently undeveloped to a developed site. However, the proposed drainage facilities would be sized to adequately treat runoff water from the project site, and the site does not include discharge to any streams or rivers. The Project would be required to prepare an erosion control plan and implement Best Management Practices (BMPs) to minimize on-site and off-site erosion and siltation. Therefore, Alternative 1 would have no impact on hydrology and water quality, whereas the Project's impacts would be less than significant.

Land Use and Planning. Under Alternative 1, the project site would remain vacant. Neither Alternative 1 nor the Project would physically divide an established community through the introduction of physical or community barriers, or cause a significant environmental impact due to a conflict with any plan, policy, or regulation adopted to avoid or mitigate an environmental effect. The Project would comply with the design guidelines contained in the Specific Plan. This alternative would have no impact on land use and planning because no development would occur. The Project would comply with the design guidelines of the Specific Plan and impacts would be less than significant.

Mineral Resources. Under Alternative 1, the project site would remain vacant. Neither Alternative 1 nor the Project would result in the loss of availability of a known mineral resource or the loss of availability of a locally important mineral resource recovery site. The previous Rialto Plant ceased operation in 1990 and there are no future plans to resume mining activity at the site. Although Alternative 1 would result in no impacts to mineral resources, the Project would result in less than significant resources regarding mineral resources.

Noise. With Alternative 1, there would be no construction activities or associated construction equipment operations or development. Therefore, there would be no construction noise impacts. There would be no substantial temporary increase in noise levels or exposure of persons to or generation of noise levels in excess of standards. Therefore, this alternative would avoid construction and operational noise impacts associated with the Project, whereas the Project's noise impacts would be less than significant.

Population and Housing. Alternative 1 would not create any new jobs; involve the development of additional housing; or cause increases in the residential population of the City. Therefore, there would be

no impact associated with inducing substantial population growth. This alternative would maintain the site in its existing condition. The Project would not induce substantial unplanned population or displace any existing housing and impacts would be less than significant.

Public Services. The public services evaluated in this EIR are fire protection and police protection. Because Alternative 1 would not involve new development, no impacts to public services would occur. Development of the Project would incrementally increase the demand for fire and police protection services; however, the Project is not expected to substantially increase service demand such that new or physically altered fire and police facilities would need to be constructed of which would cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for fire and police protection. Therefore, this alternative would have no impact on public services. The Project would have a less than significant level on police and fire service.

Transportation. Under Alternative 1, the project site would remain vacant and would not generate any additional vehicle trips, compared to the 1,922 passenger car equivalent (PCE) trips that would be generated by the Project (see **Table 4.15-1: Project Trip Generation**). While this alternative would have no transportation impacts, the Project's vehicular traffic impact would be significant and unavoidable.

Tribal Cultural Resources. Tribal cultural resource impacts are primarily dependent upon the construction and operations footprint of each development, as well as depth of excavation. Alternative 1 would not involve any construction or excavation activities. Therefore, this alternative would have no impact on tribal cultural resources, whereas potential impacts associated with the Project would be mitigated to a less than significant level.

Utilities and Service Systems. The EIR evaluated potential impacts on the following: water supply and facilities, wastewater infrastructure and facilities, and solid waste. Because Alternative 1 would not involve the development of industrial land uses or the generation of any new employees, no impacts to utilities and service systems would occur. Since this alternative would not provide new facilities or infrastructure, there would be no physical impacts associated with construction or operation of facilities or accelerated physical deterioration associated with increased usage of existing facilities. In addition, since there would be no development of industrial land uses or generation of new employees, demand for water, wastewater facilities, and or solid waste disposals would not be required. Although the Project would increase the demand, a less than significant impact would occur.

Alternative 1: Conclusion

Alternative 1 would have no significant impacts when compared to the Project because no development would occur. Significant unavoidable traffic impacts associated with the Project would not occur. No mitigation would be required to reduce potential significant impacts to a less than significant level. All impact areas which were anticipated to cause a less than significant impact, less than significant with mitigation measures, or a significant and unavoidable impact due to implementation of the proposed Project would be eliminated under the No Project Alternative; see **Table 6-1**.

However, this alternative fails to meet the Project's basic objectives. The No Project Alternative would fail to redevelop underutilized property or create revenue-generating uses within the City.

Alternative 2: High-Cube Short-Term Storage

The High-Cube Short-Term Storage Alternative would involve the development of one short-term storage warehouse. The building would be one story with approximately 500,000 sf of warehouse space. Alternative 2 would be required to provide 7 loading docks and 255 parking spaces. As identified in **Table 6-3: Alternative 2 and Project Comparison**, Alternative 2 is more total square footage than the Project. Alternative 2 requires more square footage than the Project because a high-cube short-term storage facility requires more developed building space to be feasible compared to the proposed truck terminal facility, which includes more space dedicated to trailer parking. The development of Alternative 2 would comply with the development standards of the Specific Plan.

Table 6-3: Alternative 2 and Project Comparison

Development Standard	Alternative 2	Project		
		Truck Terminal	Maintenance Shop	Total
Building Area	500,000 sf	172,445 sf	18,700 sf	191,145 sf

Alternative 2: Impact Comparison to the Project

Aesthetics. Similar to the Project, Alternative 2 would comply with development requirements of the Specific Plan which are included in **Table 4.1-1: Development Standard Consistency Summary**. Both the Project and Alternative 2 would comply with applicable light and glare regulations, such as compliance with General Plan policy 2-14.3, which requires the use of building materials that do not produce glare. As a result, neither Alternative 2 nor the Project would result in significant visual impacts. Further, similar to the Project, Alternative 2 would include surface parking and landscaping. Both Alternative 2 and the Project would have a less than significant impact on aesthetics.

Air Quality. Under Alternative 2, construction maximum daily emissions would be the same or similar to the Project Therefore, Alternative 2 and the Project would result in less than significant construction emission impacts.

Operational emissions associated with Alternative 2 would decrease, as Alternative 2 would result in approximately 1,173 PCE trips per day, which is less than the 1,922 total PCE trips and 1,545 PCE truck trips estimated to result from the Project. This reduction in truck trips would also result in less truck emissions. Alternative 2 would not significantly reduce stationary emission sources from mechanical equipment (e.g., HVAC units) and landscaping equipment for project site maintenance. Similar to the Project, air quality impacts associated with Alternative 2 would be significant and unavoidable.

Biological Resources. Biological resources are primarily dependent upon the construction and operations footprint of each development. Like the Project, Alternative 2 assumes that the entire project site would be graded. Therefore, for environmental issues where project site disturbance would be the same for the Project and Alternative 2, there would be no change in the significance of potential impacts to biological resources. Therefore, as with the Project, Alternative 2 would result in a less than significant with mitigation incorporated impact on biological resources.

Cultural Resources. Cultural resources are primarily dependent upon the construction and operations footprint of each development. Like the Project, Alternative 2 assumes that the entire project site would

be graded. Therefore, for environmental issues where project site disturbance would be the same for the Project and Alternative 2, there would be no change in the significance of potential impacts for cultural resources. Therefore, as with the Project, this alternative would result in a less than significant with mitigation incorporated impact on cultural resources.

Energy. The energy usage during construction associated with water usage for dust control, diesel fuel consumption from on-road hauling trips and off-road construction diesel equipment, and gasoline consumption from on-road worker commute and vendor trips would be the same or similar to the Project. Both Alternative 2 and the Project's implementation would result in less than significant impacts concerning energy usage as both the Alternative 2 and the Project would require limited energy use during operation. Both the Project and Alternative 2 would include mitigation to further reduce potential impacts during operation. Specific impacts include Public Services and Utilities Mitigation Measure 5 of the Specific Plan EIR and project mitigation measures **MM GHG-1** and **MM GHG-2**. Alternative 2 would result in less than significant impacts than the less than significant impacts associated with the Project.

Geology and Soils. Potential geological, soil, and paleontological resource impacts would be similar to the Project because it would be developed within the same footprint and under the same geologic unit and soil conditions. The potential for seismic ground shaking, fault rupture, liquefaction, or collapse would be the same or similar. Development under this alternative would also be required to comply with California Building Code standards and applicable construction and operational BMPs to reduce impacts related to geologic hazards. Overall, impacts associated with both Alternative 2 and the Project would be reduced to less than significant impacts with the implementation of required development standards and **MM GEO-1**.

Greenhouse Gas Emissions. Both Alternative 2 and the Project would result in direct emissions of GHGs from construction activities. The approximate quantity of daily GHG emissions generated by construction equipment would be the same or similar to the Project; however, it would occur over a reduced time period. Once construction is complete, the generation of these GHG emissions would cease. The SCAQMD recommends that construction emissions be amortized over a 30-year project lifetime. Therefore, projected GHGs from construction are quantified and amortized over 30 years. The amortized construction emissions are added to the annual average operational emissions. Climate and Air Quality Mitigation Measures 2, which recommends that employers take steps such as preferential parking to encourage car-pooling and van-pooling, and Mitigation Measure 3, which recommends that local governmental entities should enforce emission standards on equipment used during the construction and operation of industrial facilities, would be applicable to Alternative 2 and the Project. Alternative 2 would result in 251 fewer total project trips compared to the Project. As such, Alternative 2 would result in reduced GHG emissions compared to the Project, during operation. Impacts associated with Alternative 2 and the Project would be less than significant with mitigation.

Hazards and Hazardous Materials. Impacts related to hazards and hazardous materials would be similar to the Project. The project site is not on the Cortese list of hazardous materials sites and is not located in a designated fire hazard zone. Operation of Alternative 2 would include operation of a storage facility. Similar to the Project, Alternative 2 is not anticipated to be exposed to airport hazards, affect aircraft operations, or create an airport safety hazard for Project employees. Neither the Project nor Alternative 2 would result in the accidental release of hazardous materials into the environment due to the proposed uses of the projects. Overall, impacts would be similar and less than significant.

Hydrology and Water Quality. The development footprint for Alternative 2 would be similar to the Project. Therefore, under both development scenarios, the amount of pervious surface would decrease

because of project site development of buildings and parking lots. Construction and operational BMPs, including low impact development, detailed in the Project's Preliminary Water Quality Management Plan (WQMP) would also be implemented under Alternative 2 to mitigate surface runoff and reduce water quality impacts to a less than significant level.

Land Use and Planning. As with the Project, the Alternative 2 development scenario would not physically divide an established community through the introduction of either physical or community barriers and would not cause a significant environmental impact due to a conflict with any plan, policy, or regulation adopted to avoid or mitigate an environmental effect. Alternative 2 would comply with the existing land use designation and zoning of the site. Similar to the Project, any proposed warehouse uses associated with Alternative 2 would require a Conditional Development Permit (CDP). Additionally, neither scenarios would introduce any roadways or infrastructure that would bisect or transect surrounding land uses. Therefore, both Alternative 2 and the Project would have a less than significant impact associated with land use and planning.

Mineral Resources. Potential mineral resources impacts would be similar to the Project because it would be developed within the same footprint and would follow implementation of the Rialto Plant Reclamation Plan. As with the Project, Alternative 2 would be consistent with the existing zoning and land use designation of the project site. Neither the Project nor Alternative 2 would result in the loss of availability of a significant mineral resource. Impacts would remain less than significant.

Noise. The development footprint for both scenarios would be the same. During construction, noise levels would be similar or the same as those associated with the Project. The types of equipment and the daily use of the equipment is anticipated to be the same. Construction noise impacts for Alternative 2 and the Project would both be less than significant.

Operational noise impacts would be similar to the Project. Operational noise sources from vehicle trips or stationary sources (e.g., HVAC units and landscaping equipment) would be slightly reduced under Alternative 2 because of the reduction in proposed truck trips. Operational noise impacts would be less than significant.

Population and Housing. Both the Project and Alternative 2 would generate new permanent employment opportunities. The Project proposes one truck terminal and one maintenance shop and would employ approximately 140 employees. Alternative 2 would involve the development of one warehouse building, which would have employment opportunities. Similar to the Project, future employees are anticipated to travel to and from the site from within the City and surrounding area. Neither Alternative 2 nor the Project would require the construction of additional residential units that could induce substantial unplanned population growth not analyzed in the City's General Plan. Therefore, both Alternative 2 and the Project would have a less than significant impacted associated with population and housing.

Public Services. Development of both Alternative 2 and the Project would incrementally increase the demand for police and fire protection services; however, neither scenario is expected to substantially increase service demand such that a new or physically altered facility would need to be constructed, which would cause significant environmental impacts, to maintain acceptable service ratios, response times or other performance objectives for police and fire protection. Further, development impact fees are paid on a project-by-project basis to ensure a proportionate fair share is contributed toward facilities, equipment, and personnel that would be needed over time to accommodate the additional demand from

the Project. Public service impacts would be the same or similar to Project. Impacts would be less than significant.

Transportation. The Project would have a significant unavoidable impact based on the VMT thresholds of significance. The VMT impacts are measured based on the Citywide VMT per Service Population Threshold and the Countywide VMT per Employee Threshold. The Project generated VMT per Employee exceeds the Countywide VMT per Employee threshold under all Project scenarios resulting in a significant impact associated with VMT. The Citywide per Service Population VMT and the Countywide VMT per Employee Thresholds are based on recommendations in the OPR Technical Advisory, which indicates that projects generating less than 110 daily trips could be considered to have less than significant VMT impact. Since Alternative 2 is anticipated to generate approximately 700 daily trips (1,173 PCE trips), which is greater than the 110 daily trips threshold recommended by OPR, the alternative would not be screened out from VMT analysis. Similar to the Project, Alternative 2 would result in a significant VMT impact. Therefore, for the purpose of this analysis, the VMT impact is expected to remain significant and unavoidable.

Tribal Cultural Resources. Tribal cultural resources are primarily dependent upon the construction and operations footprint of each development. Like the Project, Alternative 2 assumes that the entire project site would be graded. Therefore, for environmental issues where site disturbance would be the same for the Project and Alternative 2, there would be no change in the significance of potential impacts for tribal cultural resources. Therefore, as with the Project, this alternative would result in a less than significant with mitigation incorporated impact on tribal cultural resources.

Utilities and Service Systems. When compared to the Project, Alternative 2 would result in an increase in demand on utilities, as the Alternative would result in an increase in 308,855 sf. However, Alternative 2 would be consistent with the Specific Plan and the uses would be anticipated within the Specific Plan and General Plan. Similar to the Project, Alternative 2 would result in less than significant impacts associated with utilities and service systems.

Alternative 2: Conclusion

Alternative 2 would have a building area of approximately 500,000 sf. This is an increase in development when compared to the Project. However, uses of Alternative 2 would be consistent with the Specific Plan and impacts would be similar to that of the Project, as identified in **Table 6-1**.

Like the Project, this alternative assumes that the entire project site would be graded. Therefore, for environmental issues where project site disturbance would be the same for the Project and Alternative 2, there would be no change in the significance of potential impacts. This would be the case for the topics of biological resources, cultural resources, and tribal cultural resources. As with the Project impacts would be mitigated to a less than significant level.

Neither Alternative 2 nor the project would result in significant aesthetic impacts. The building heights would be similar and although the building square footage associated with Alternative 2 would be more, the remaining project site area would be developed with parking lots and site landscaping.

With respect to traffic, the Project would have a significant unavoidable impact based on the VMT thresholds of significance. The VMT thresholds were based on the Citywide Per Service Population Threshold and the Countywide per Employee Threshold. The Project would result in 951 total Project trips, compared to the 700 total project trips generated by Alternative 2. Similar to the Project, Alternative 2

would result in a significant VMT impact. However, it is unknown whether the impacts could be fully mitigated because of the feasibility of VMT reductions. Therefore, for the purpose of this analysis, the VMT impact is expected to remain significant and unavoidable.

The decrease in total project trips of Alternative 2 would likely create reduced air quality and GHG emission impacts compared to the Project. The reduced total project trips associated with Alternative 2 are also likely to reduce impacts to air quality and noise as mobile sources would be reduced compared to the Project. Although this alternative would result in reduced air quality, GHG emissions, and noise, as well as an incremental reduction in the use of energy, it may not provide the production potential and revenue for the City that the Project would provide. Alternative 2 would likely result in reduced economic activity for the City than the Project which would not contribute as much to the City's goal of expanding its economic base and providing revenue-generating uses.

Alternative 3: Business Park

Under the Business Park Alternative, the project site would be developed as a 500,000-sf business park. The business park would include two to three warehouse buildings/incubator buildings, which can be developed to accommodate a variety of uses including warehouse spaces, flexible office space, meeting rooms, or event space. Alternative 3 would be consistent with the Specific Plan. The buildings would be one story and building height would be consistent with development standards included in the Specific Plan. **Table 6-4: Alternative 3 and Project Comparison***,* identifies an increase in 308,855 sf when compared to the Project.

Table 6-4: Alternative 3 and Project Comparison

		Proposed Project		
Development Standard	**Alternative 3**	**Truck Terminal**	**Maintenance Shop**	**Total**
Building Area	500,000	172,445	18,700	191,145

Alternative 3: Impact Comparison to the Proposed Project

Aesthetics. Similar to the Project, Alternative 3 would be consistent with the development standards of the Specific Plan, which are included in **Table 4.1-1: Development Standard Consistency Summary**. Both the Project and Alternative 3 would comply with applicable light and glare regulations, such as compliance with General Plan policy 2-14.3, which requires the use of building materials that do not produce glare. Neither Alternative 3 nor the Project would have shade and shadow impacts. Further, although the building square footage would increase, Alternative 3 would be consistent with the visual quality of adjacent industrial land uses. Alternative 3 would include surface parking and landscaping, similar to the Project. Therefore, both Alternative 3 and the Project would result in less than significant impacts associated with aesthetics.

Air Quality. Alternative 3 would require construction of a larger facility than the Project. Therefore, a longer construction schedule, a more intensive site preparation and grading phase of construction, and the use of more construction materials and equipment is anticipated. Accordingly, maximum daily emissions would likely be greater than the Project. Therefore, Alternative 3 would result in greater construction emission impacts than the Project.

Alternative 3 would result in a decrease in total project trips, compared to the Project. Although this alternative would result in less truck traffic which would reduce diesel air quality emissions, the number of passenger automobiles would increase. Further, the larger building size of Alternative 3 is expected to result in an increased reduction in air quality impacts when compared to the Project. Alternative 3 would not significantly reduce stationary emission sources from mechanical equipment (e.g., HVAC units) and landscaping equipment for project site maintenance. Alternative 3 would reduce the significant and unavoidable impact of the Project.

Biological Resources. Like the Project, Alternative 3 assumes that the entire project site would be graded. Therefore, for environmental issues where site disturbance would be the same for the Project and Alternative 3, there would be no change in the significance of potential impacts. This would be the case for biological resources; therefore, as with the Project, impacts to biological resources associated with Alternative 3 would be mitigated to a less than significant level.

Cultural Resources. Like the Project, Alternative 3 assumes that the entire project site would be graded. Therefore, for environmental issues where site disturbance would be the same for the Project and Alternative 3, there would be no change in the significance of potential impacts. This would be the case for cultural resources; therefore, as with the Project, impacts to cultural resources associated with Alternative 3 would be mitigated to a less than significant level.

Energy. The energy usage during construction associated with water usage for dust control, diesel fuel consumption from on-road hauling trips and off-road construction diesel equipment, and gasoline consumption from on-road worker commute and vendor trips would be greater than the Project due to the longer construction schedule, more intensive site preparation and grading phase of construction, and the use of more construction materials and equipment. Accordingly, Alternative 3 would result in an increase in energy usage given this alternative would result in an increase of 308,855 sf of development.

Geology and Soils. Potential geological, soil, and paleontological resource impacts would be similar to the Project because it would be developed within the same footprint and under the same geologic unit and soil conditions. The potential for seismic ground shaking, fault rupture, liquefaction, or collapse would be the same or similar. Development under Alternative 3 would also be required to comply with California Building Code standards and applicable construction and operational BMPs to reduce impacts related to geologic hazards. Overall, impacts associated with both Alternative 3 and the Project would be mitigated to a less than significant level.

Greenhouse Gas Emissions. Both Alternative 3 and the Project would result in direct emissions of GHGs from construction activities. The approximate quantity of daily GHG emissions generated by construction equipment would be similar to the Project. Once construction is complete, the generation of these GHG emissions would cease. The SCAQMD recommends that construction emissions be amortized over a 30-year project lifetime. Therefore, projected GHGs from construction are quantified and amortized over 30 years. The amortized construction emissions are added to the annual average operational emissions.

Alternative 3 would result in 96 less total project trips compared to the Project. As such, Alternative 3 would result in reduced GHG emissions compared to the Project, during operation. Both the Project and Alternative 3 would implement Climate and Air Quality Mitigation Measure 2 which recommends that employers take steps such as preferential parking to encourage car-pooling and van-pooling. Impacts associated with Alternative 3 and the Project would be less than significant with mitigation.

Hazards and Hazardous Materials. Impacts related to hazards and hazardous materials would be similar to the Project. The project site is not on the Cortese list of hazardous materials sites and is not located in a designated fire hazard zone. Similar to the Project, Alternative 3 is not anticipated to be exposed to airport hazards, affect aircraft operations, or create an airport safety hazard for Project employees. Operation Alternative 3 would include the operation of warehouse/incubator buildings, and would not result in the release of hazardous materials. Overall, impacts would be similar and less than significant under both scenarios.

Hydrology and Water Quality. The development footprint for Alternative 3 and the Project would be the same. Therefore, under both development scenarios, the amount of pervious surface would decrease associated with buildings and parking. Construction and operational BMPs, including low impact development, detailed in the Project's Preliminary Water Quality Management Plan (WQMP) would also be implemented under Alternative 3 to mitigate surface runoff and reduce water quality impacts to a less than significant level.

Land Use and Planning. As with the Project, the Alternative 3 development scenario would not physically divide an established community through the introduction of either physical or community barriers and would not cause a significant environmental impact due to a conflict with any plan, policy, or regulation adopted to avoid or mitigate an environmental effect as development of Alternative 3 would be consistent with the existing zoning and land use designation of the project site. Similar to the Project, any proposed warehouse uses associated with Alternative 3 would require a CDP. Additionally, neither scenarios would introduce any roadways or infrastructure that would bisect or transect surrounding land uses. Therefore, both Alternative 3 and the Project would have a less than significant impact concerning land use and planning.

Mineral Resources. Potential mineral resources impacts would be similar to the Project because it would be developed within the same footprint and would follow implementation of the Rialto Plant Reclamation Plan. As with the Project, Alternative 3 would be consistent with the existing zoning and land use designation of the project site. Neither the Project nor Alternative 3 would result in the loss of availability of a significant mineral resource. Impact would remain less than significant.

Noise. Although Alternative 3 would have less truck traffic, the number of passenger vehicles would increase compared to the Project. The increase in building size of Alternative 3 is not expected to result in a significant increase in noise impacts when compared to the Project. Like the Project, these impacts would be less than significant.

Population and Housing. Both the Project and Alternative 3 would generate new permanent employment opportunities. The Project proposes one truck terminal and one maintenance shop and would employ approximately 140 employees. Alternative 3 would involve the development of two to three warehouse buildings/incubator buildings, which would have the same or similar employment opportunities. Similar to the Project, future employees are anticipated to travel to and from the site from within the City and surrounding area. Neither Alternative 3 nor the Project would require the construction of additional residential units that could induce substantial unplanned population growth not analyzed in the City's General Plan. Therefore, both Alternative 3 and the Project would have a less than significant impacted associated with population and housing.

Public Services. Development of both Alternative 3 and the Project would incrementally increase the demand for police and fire protection services; however, neither scenario is expected to substantially increase service demand such that a new or physically altered facility would need to be constructed, which would cause significant environmental impacts, to maintain acceptable service ratios, response times or other performance objectives for police and fire protection. Further, development impact fees are paid on a project-by-project basis to ensure a proportionate fair share is contributed toward facilities, equipment, and personnel that would be needed overtime to accommodate the additional demand from the Project. Public service impacts would be the same or similar to Project. Impacts would be less than significant.

Transportation. The Project would have a significant unavoidable impact based on the VMT thresholds of significance. The VMT impacts are measured based on the Citywide VMT per Service Population Threshold and the Countywide VMT per Employee Threshold. The VMT thresholds were based on recommendations in the OPR Technical Advisory, which indicate that projects generating less than 110 daily trips could be considered to have less than significant VMT impact. Alternative 3 is expected to generate 1,433 daily PCE trips, with 144 morning peak hour trips and 152 evening peak hour trips. Because the daily trip generation is greater than the 110 daily trips threshold recommended by OPR; the alternative would not be screened out from VMT analysis. Similar to the Project, Alternative 3 would result in a significant VMT impact. Therefore, for the purpose of this analysis, the VMT impact is expected to remain significant and unavoidable.

Tribal Cultural Resources. Like the Project, Alternative 3 assumes that the entire project site would be graded. Therefore, for environmental issues where site disturbance would be the same for the proposed Project and Alternative 3, there would be no change in the significance of potential impacts. This would be the case for tribal cultural resources; therefore, as with the Project, Alternative 3 would result in less than significant impacts to tribal cultural resources with mitigation incorporated.

Utilities and Service Systems. When compared to the Project, the reduction in development associated with Alternative 3 would result in an increase in demand on utilities, as the Alternative would result in an increase in 308,855 sf. Although a water supply assessment was not performed for the alternative, it can be assumed that an increase of 308,855 sf would require increased water and wastewater demand compared to the Project during construction and operations. A larger building would also result in an increased demand for electrical power and natural gas. Assuming a generation rate of 1.42 pounds of waste per 100 square feet of industrial building area, Alternative 3 operations would generate approximately 3.5 tons of solid waste per day, with approximately 1.8 tons being diverted to the Mid-Valley Sanitary Landfill. While this reflects an increase compared to the solid waste expected to result from the Project, it would not exceed the permitted capacity of the Mid-Valley Sanitary Landfill. Although Alternative 3 utilities and service systems impacts would be greater than the Project, Alternative 3 would be consistent with the Specific Plan and the uses anticipated within the Specific Plan and General Plan; impacts would be less than significant.

Alternative 3: Conclusion

Alternative 3 would have a building area of approximately 500,000 sf. This is an increase in development when compared to the Project. However, uses of Alternative 3 would be consistent with the Specific Plan and impacts would be similar to that of the Project, as identified in **Table 6-1**.

Like the Project, this alternative assumes that the entire project site would be graded. Therefore, for environmental issues where project site disturbance would be the same for the Project and Alternative 3, there would be no change in the significance of potential impacts. This would be the case for the topics of biological resources, cultural resources, and tribal cultural resources. As with the Project impacts would be mitigated to a less than significant level.

Neither Alternative 3 nor the Project would result in significant aesthetic impacts. Although the building square footage associated with Alternative 3 would increase, the remaining project site area would be developed with parking lots and site landscaping.

With respect to traffic, the Project would have a significant unavoidable impact based on the VMT thresholds of significance. The VMT thresholds were based on the Citywide Per Service Population Threshold and the Countywide per Employee Threshold. Additionally, the Project would result in 951 total project trips, compared to the 855 total project trips generated by Alternative 3. Similar to the Project, Alternative 3 would result in a significant VMT impact. However, it is unknown whether the impacts could be fully mitigated because of the feasibility of VMT reductions. Therefore, for the purpose of this analysis, the VMT impact is expected to remain significant and unavoidable.

The decrease in total project trips of Alternative 3 would likely create less air quality and GHG emission impacts. The reduced total project trips associated with Alternative 3 are also likely to lessen impacts to air quality and noise as mobile sources would be less. Although this alternative would result in reduced air quality impacts, GHG emissions, and noise, it would also result in increased use of energy, and it may not provide the production potential and revenue for the City that the Project would provide. Alternative 3 would likely result in less economic activity for the City than the Project, and therefore would not contribute as much to the City's goal of expanding its economic base and providing revenue-generating uses.

6.5 ENVIRONMENTALLY SUPERIOR ALTERNATIVE

State CEQA Guidelines requires that an Environmentally Superior Alternative be identified; that is, an alternative that would result in the fewest or least significant environmental impacts. If the "No Project" Alternative is the environmentally superior alternative, CEQA Guidelines Section 15126.6(e)(2) requires that another alternative that could feasibly attain most of the Project's basic objectives be chosen as the environmentally superior alternative.

The context of an environmentally superior alternative is based on the consideration of several factors including the reduction of environmental impacts to a less than significant level, the Project objectives, and an alternative's ability to fulfill the objectives with minimal impacts to the existing site and surrounding environment. As such, the No Project Alternative would be the environmentally superior alternative because it would eliminate all of the potentially significant impacts of the Project. However, while the No Project Alternative is the environmentally superior alternative, it is not capable of meeting any of the basic objectives for the Project or the General Plan.

The CEQA Guidelines state that should the No Project Alternative be the Environmentally Superior Alternative, the EIR shall identify another Environmentally Superior Alternative among the remaining Alternatives. Aside from the No Project Alternative, the environmentally superior Alternative to the Project is the one that would result in the fewest or least significant environmental impacts. Based on the

evaluation undertaken, it is assumed that Alternative 2: "High-Cube Short-Term Storage" is the environmentally superior Alternative. This is an environmentally superior project alternative because Alternative 2 would reduce the impacts to air quality, GHG emissions, and noise, while Alternative 3 would result in increased impacts to air quality, energy, and utilities and service systems. Alternative 2 meets the requirements of the Agua Mansa Industrial Corridor Specific Plan development standards and therefore would be in conformance with all applicable City regulations. This Alternative still meets most of the Project objectives and meets the goals and policies of the General Plan.

7.0 EFFECTS FOUND NOT TO BE SIGNIFICANT

7.1 INTRODUCTION

The California Environmental Quality Act (CEQA) provides that an Environmental Impact Report (EIR) shall focus on the significant effects on the environment, discussing the effects with emphasis in proportion to their severity and probability of occurrence. The City of Rialto, the lead agency for the Santa Ana Truck Terminal Project (Project), is subject to specific environmental review under CEQA. CEQA Guidelines Section 15063 provides that if a lead agency determines that an EIR will clearly be required for a project, an Initial Study is not required. In this case, the City determined that an EIR will need to be prepared based on the Project's potential to create short-term, long-term and cumulative impacts. California Public Resources Code (PRC) §21100 (c) states that an EIR shall contain a statement briefly indicating the reasons that a project's various possible significant effects were determined not to be significant and were, therefore, not discussed in detail in the EIR (PRC §21000 et. seq.). The Draft EIR further evaluates all of the Project's possible significant effects in accordance with the State CEQA Guidelines. Where it was determined that the Project would have "less than significant impact" or "no impact," these threshold issues have not been addressed in the EIR, except to be listed in this section. The following identifies the threshold and a discussion of why the "less than significant" or "no impact" determination was reached.

Agriculture and Forestry Services

Impact 7.2-1: ***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?***

Level of Significance: No Impact

According to the California Department of Conservation's California Important Farmland Finder the project site is comprised of Urban and Built-Up Land.[1] As such, the Project would not result in the conversion of Prime Farmland, Unique Farmland, Farmland of Statewide Importance, or Farmland of Local Importance. In addition, the project site is zoned Agua Mansa Industrial Corridor Specific Plan (Specific Plan) within the Rialto General Plan (General Plan) and has a land use designation of Heavy Industrial (H IND) within the Specific Plan and following implementation of the Rialto Plant Reclamation Plan, the site would be largely graded and leveled. Because implementation of the Project would not involve the conversion of Prime Farmland, Unique Farmland, or Farmland of Statewide Importance to non-agricultural use, no impact would occur.

Impact 7.2-2: ***Conflict with existing zoning for agricultural use, or a Williamson Act contract?***

Level of Significance: No Impact

As previously discussed, the project site is zoned for industrial uses and consists of Urban and Built-Up Land.[2] The project site has a land use designation of H IND under the Specific Plan, which does not permit

[1] California Department of Conservation (DOC). (2024). California Important Farmland Finder. https://maps.conservation.ca.gov/DLRP/CIFF/. Accessed February 2024.
[2] DOC. (2024). California Important Farmland Finder. https://maps.conservation.ca.gov/DLRP/CIFF/. Accessed February 2024.

agricultural use. Additionally, the project site is not under an active Williamson Act contract.[3] Therefore, no impacts associated with an active Williamson Act or agricultural zoning would occur.

Impact 7.2-3: ***Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?***

Level of Significance: No Impact

Impact 7.2-4: ***Result in the loss of forest land or conversion of forest land to non-forest use?***

Level of Significance: No Impact

The project site would not conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code (PRC) Section 12220(g)), timberland (as defined by PRC Section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104(g)) given that the property and surrounding properties are zoned for industrial land uses. The project site is currently undeveloped. Following implementation of the Rialto Plant Reclamation Plan, the majority of the project site would be graded and leveled. Development of the project site would not result in rezoning of forest land as it proposes one truck terminal and one maintenance shop on land zoned for industrial uses. Operation activities for the Project would not involve logging, forestry, or agricultural uses. Therefore, no impacts associated with conflicts with existing zoning for forest land or timberland would occur.

Impact 7.2-5: ***Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?***

Level of Significance: No Impact

Due to the lack of existing farmland, forest lands, or areas zoned for agriculture, or timberlands on the project site or immediately surrounding areas, development of the project site would not involve changes in the existing environment which, due to their location or nature, could result in conversion of farmland to non-agricultural use or conversion of forest land to non-forest use.

The nearest designated farmland and active agricultural operations are located approximately 1.16 miles west of the project site. Construction of the Project would be limited to the boundaries of the project site and would not impact existing off-site agricultural operations. Further, operations for the Project would not involve logging, forestry, or agricultural uses. No impact would occur.

[3] DOC. (2017) State of California Williamson Act Contract Land. https://planning.lacity.gov/eir/HollywoodCenter/Deir/ELDP/(E)%20Initial%20Study/Initial%20Study/Attachment%20B%20References/California%20Department%20of%20Conservation%20Williamson%20Map%202016.pdf. Accessed January 2024.

Recreation

Impact 7.3-1: ***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?***

Level of Significance: No Impact

The Project would include construction and operation of one truck terminal and one maintenance shop on vacant, undeveloped land zoned for industrial land use. The project site is surrounded by land zoned for industrial uses. As discussed in Section 4.13, *Population and Housing*, Project implementation is not anticipated to result in substantial unplanned population growth within the City. The Project would employ approximately 140 employees. Future employees are anticipated to commute to the project site from within the City and surrounding area. As such, the Project would not result in an increase in demand of neighborhood or regional parks or other recreational facilities. No impact would occur.

Impact 7.3-2: ***Does the Project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?***

Level of Significance: No Impact

The Project would include the construction and operation of one truck terminal and one maintenance shop on land zoned for industrial uses. The Project does not include recreational facilities. Further, the Project is not anticipated to result in substantial unplanned population growth requiring the construction or expansion of recreational facilities. No impact would occur.

Wildfire

Impact 7.4-1: ***Would the Project substantially impair an adopted emergency response plan or emergency evacuation plan?***

Level of Significance: Less Than Significant Impact

The City has adopted an Emergency Operations Plan (EOP), which provides comprehensive policy and guidance for emergency and response operations to natural and manmade hazards. The Project would require the temporary partial closure of East Santa Ana Avenue during construction of the proposed improvements. The proposed improvements would require full depth reconstruction of East Santa Ana Avenue, including mill and overlay, along the Project frontage to South Riverside Avenue. However, emergency access to the project site and surrounding area would be maintained. Additionally, the Project would include an emergency access only driveway at the northeastern corner of the project site to provide site access to emergency personnel and vehicles during Project operation. Impacts would be less than significant.

Impact 7.4-2: ***Would the Project, due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?***

Level of Significance: Less Than Significant Impact

According to CAL FIRE's *Fire Hazard Severity Zone* (FHSZ) *Viewer*, the project site is located within a non-Very High Fire Hazard Severity Zone (VHFHSZ) within a Local Responsibility Area (LRA).[4] The nearest VHFHSZ is located 0.9 miles to the southeast. Following implementation of the Rialto Plant Reclamation Plan, the project site would consist of largely graded and level land. The project site would not include features which would exacerbate wildfire risks or expose Project occupants to pollutant concentrations of the uncontrolled spread of a wildfire. Impacts would be less than significant.

Impact 7.4-3: ***Would the Project require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?***

Level of Significance: Less Than Significant Impact

Refer to Impact 7.4-1 above. The Project would include construction of one truck terminal and one maintenance shop, with parking and landscaping included. Additionally, the Project would include improvements to East Santa Ana Avenue, which would include undergrounding of overhead utilities, which would reduce wildfire risk. The Project does not include components that would exacerbate wildfire risk. Impacts would be less than significant.

Impact 7.4-4: ***Would the Project expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?***

Level of Significance: Less Than Significant Impact

The project site consists of vacant, undeveloped land. Because the project site is located within a urbanized area, it would not expose people or structures to significant risks as a result of runoff, post-fire slope instability, or drainage changes. As discussed in Section 4.6, *Geology and Soils*, the project site is not located within a landslide zone. Additionally, as discussed in Section 4.9, *Hydrology and Water Quality,* the project site is classified as Zone X, which identifies areas of minimal flooding. Similar to existing drainage conditions, upon completion of construction, water would infiltrate into the ground over a duration of time. Impacts would be less than significant.

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8.0 PREPARERS AND CONTRIBUTORS

8.1 EIR PREPARERS

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Natural History Museum of Los Angeles.....Paleontological Resources Search Results

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SANTA ANA TRUCK TERMINAL PROJECT

Final Environmental Impact Report

SCH No. 2023120143

CITY OF RIALTO

150 S. Palm Avenue
Rialto, California 92376

MARCH 2025

Kimley»Horn

SANTA ANA TRUCK TERMINAL PROJECT

FINAL ENVIRONMENTAL IMPACT REPORT
SCH NO. 2023120143

Prepared for	City of Rialto 150 South Palm Avenue Rialto, California 92376
Prepared by	Kimley-Horn and Associates 401 B Street, Suite 600 San Diego, California 92101
Date	March 2025

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1.0 SUMMARY OF THE FINAL ENVIRONMENTAL IMPACT REPORT

1.1 INTRODUCTION

The City of Rialto (City) has determined that a project-level environmental impact report (EIR) is required for the Santa Ana Truck Terminal Project (Project) pursuant to the requirements of the California Environmental Quality Act (CEQA). CEQA requires the preparation of an EIR prior to approving any project that may have a significant impact on the environment. For the purposes of CEQA, the term "proposed Project" refers to the whole of an action, which has the potential for resulting in a direct physical change or a reasonably foreseeable indirect physical change in the environment (CEQA Guidelines Section 15378[a]).

A Project EIR is an EIR which examines the environmental impacts of a specific development project. Project EIRs analyze changes in the environment that would result from the development project including planning, construction, and operation.

Pursuant to Section 15082 of the CEQA Guidelines, as amended, the City of Rialto prepared and circulated a Notice of Preparation (NOP) to affected agencies and interested parties for a public review period beginning on December 8, 2023. The City has elected to have an extended 45-day scoping period due to the holidays, and the deadline to submit comments on the NOP was January 22, 2024. A scoping meeting was held on January 18, 2024 at 6:00 PM at the Rialto City Hall, Council Chambers, located at 150 South Palm Avenue. Subsequently, a Draft EIR was prepared. The City published a public Notice of Availability (NOA) for the Draft EIR on August 26, 2024, inviting comment from the general public, agencies, organizations, and other interested parties. The NOA was also mailed to various agencies, organizations, and individuals that had previously requested such notice. The NOA was filed with the State Clearinghouse (SCH# 2023120143) pursuant to the public noticing requirements of CEQA. The Draft EIR was released for public review and comment by the City of Rialto on August 26, 2024 for a 45-day review period ending on October 10, 2024.

The purpose of the Draft EIR is to provide a comprehensive analysis of the potential environmental impacts of the proposed Project. The Final EIR addresses public and agency comments received on the Draft EIR during the public review period. Acting as lead agency, the City has prepared a written response to the Draft EIR; textual changes to the Draft EIR were not warranted. The responses to the comments are set forth in Section 2.0, Response to Comments, in this Final EIR. Responses to comments received during the comment period do not require any new information to be added to the Draft EIR, thus the Final EIR does not contain any new significant impacts or “significant new information” that would require recirculation of the Draft EIR pursuant to CEQA Guidelines Section 15088.5. Section 3.0, *Errata to the Draft EIR*, includes the changes to the Draft EIR that were incorporated following the public review period. None of the changes included in the errata reflect a new significant environmental impact, a substantial increase in the severity of an environmental impact. The Mitigation Monitoring and Reporting Program (MMRP) is included in Section 4.0, *Mitigation Monitoring and Reporting Program*, which includes the mitigation measures to be implemented as a part of Project approval. The MMRP includes time of implementation timing and monitoring responsibilities for each mitigation measure.

1.2 PROJECT SUMMARY

The project site is located at 249 East Santa Ana Avenue, in the City of Rialto, County of San Bernardino, California. The approximately 45.7-acre property ranges in elevation from approximately 900 to 955 feet above mean sea level (amsl) and includes a 105-foot California Electric Power Company pole line easement on the southern portion of the property. A 6-foot SCE easement is located on the western portion of the project site and 10-foot and 105-foot SCE pole line easements are located on the southern portion of the project site, along with a 70-foot Southern Sierras Power Company pole line easement. The project site is an irregularly-shaped property generally bordered by existing industrial land uses.

As proposed, the Project would allow for the development of one truck terminal, one maintenance shop, and associated on-site improvements. The Project proposes an approximately 172,445 square foot (sf) truck terminal building with 292 bays and approximately 5,890 sf of office space and an approximately 18,700 sf maintenance shop with 8 bays and 890 sf of office space. The project site consists of Assessor's Parcel Number (APN) 0258-141-18.

The project site has a Rialto General Plan (General Plan) land use designation of General Industrial. The General Industrial land use designation allows for a broad range of heavy industrial activities. The project site is within the Agua Mansa Industrial Corridor Specific Plan (Specific Plan). The project site is zoned Heavy Industrial (H IND) under the Specific Plan. Permitted uses within the H IND zone include transit, and transportation terminals, repairs, and storage facilities. As such, the proposed Project is consistent with the existing General Plan land use designation and Specific Plan zoning. Although the Project is consistent with the existing land use designation and zoning designation, the Project would require a Conditional Use Permit (CUP) as development of a truck terminal is considered a conditionally permitted use within a industrial land use designation.

1.3 PROJECT OBJECTIVES

Section 15124(b) of the State CEQA Guidelines (14 CCR) requires "A statement of objectives sought by the proposed Project. The following objectives have been identified for the Project.

Objective 1: Develop the property consistent with the guidelines and policies of the City of Rialto General Plan and more specifically, the Agua Mansa Industrial Corridor Specific Plan.

Objective 2: Develop and industrial zoned site with land uses which meet current market demands.

Objective 3: Create revenue-generating uses that provide reliable employment for the long term.

Objective 4: Provide new buildings that are compatible with the surrounding industrial uses.

Objective 5: Develop an industrial use consistent with current zoning in proximity to designated truck routes and the State highway system to avoid or shorten truck-trips lengths on other roadways.

Objective 6: Redevelop an underutilized property in accordance with Rialto Plant Reclamation Plan.

1.4 REQUIRED ACTIONS AND PERMITS

Pursuant to Section 15121 of the State CEQA Guidelines, an EIR is primarily an informational document intended to inform the public agency decision-makers and the general public of the potentially significant

environmental effects of a project. Prior to taking action on the proposed Project, the City must consider the information in this EIR and certify the Final EIR.

The City of Rialto, as lead agency for the Project, has discretionary authority over the primary approvals. The Applicant has requested the consideration of the following discretionary actions.

1.4.1 City of Rialto

- **Certification of the Santa Ana Truck Terminal Project Final Environmental Impact Report.**
- **Precise Plan of Design (PPD) (PPD 2023-0006):** The proposed Project includes the review of a PPD for one truck terminal and one maintenance shop totaling approximately 191,145 sf. The total site area is approximately 45.7 acres.
- **Conditional Development Permit (CDP) (2023-0007):** The Project includes a CDP for the development of a truck terminal, which is considered a conditionally permitted use in industrial zones within the City.
- **Development Agreement (DA) (2024-0001):** Outlines the terms and conditions between the developer and the city to ensure the project complies with local regulations, addresses community needs, and facilitates the development process.

In addition to the approvals identified above, the Project would be subject to other discretionary and ministerial actions by the City as part of Project implementation. Additional City approvals include but are not limited to haul route permits, site development permits, grading permits, use permits, sign permits, and building permits.

1.4.2 Responsible Agencies

- **Santa Ana Regional Water Quality Control Board (RWQCB):** Issuance of a National Pollution Discharge Elimination System (NPDES) Permit and Construction General Permit.

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2.0 RESPONSE TO COMMENTS

2.1 INTRODUCTION TO RESPONSE TO COMMENTS

The purpose of this section is to present public comments and responses to comments received on the Draft Environmental Impact Report (EIR) (State Clearinghouse Number 2023120143) for the Santa Ana Truck Terminal Project located in the City of Rialto (City). The Draft EIR was released for public review and comment by the City of Rialto on August 26, 2024 for a 45-day review period ending on October 10, 2024.

In accordance with the California Environmental Quality Act (CEQA) Guidelines Section 15088, the City of Rialto, as the Lead Agency, has evaluated all substantive comments received on the Santa Ana Truck Terminal Project Draft EIR, and has prepared written responses to these comments. This document has been prepared in accordance with CEQA and represents the independent judgment of the Lead Agency.

The Final EIR for the Santa Ana Truck Terminal Project consists of the Draft EIR and its technical appendices; the Responses to Comments included herein; other written documentation prepared during the EIR process; and those documents which may be modified by the City Council at the time of consideration of certification of the Final EIR. The City Council will also consider adoption of a Mitigation Monitoring and Reporting Program (MMRP), a Statement of Findings of Fact, and a Statement of Overriding Considerations as part of the approval process for the Project.

This Response to Comments is organized as follows:

Section 2.1 Provides a brief introduction to this section.

Section 2.2 Identifies the Draft EIR commenters.

Section 2.3 Provides responses to substantive comments received on the Draft EIR.

CEQA Guidelines Section 15204(a) directs persons and public agencies to focus their review of a Draft EIR be "on the sufficiency of the document in identifying and analyzing possible impacts on the environment and ways in which significant effects of the project might be avoided or mitigated. Comments are most helpful when they suggest additional specific alternatives or mitigation measures that would provide better ways to avoid or mitigate the significant environmental effects. At the same time, reviewers should be aware that the adequacy of an EIR is determined in terms of what is reasonably feasible. CEQA does not require a lead agency to conduct every test or perform all research, study, and experimentation recommended or demanded by commenters. When responding to comments, lead agencies need only respond to significant environmental issues and do not need to provide all information requested by reviewers, as long as a good faith effort at full disclosure is made in the EIR."

CEQA Guidelines Section 15204(c) further advises, "Reviewers should explain the basis for their comments, and should submit data or references offering facts, reasonable assumptions based on facts, or expert opinion supported by facts in support of the comments. Pursuant to CEQA Guidelines Section 15064, an effect shall not be considered significant in the absence of substantial evidence." Section 15204(d) states, "Each responsible agency and trustee agency shall focus its comments on environmental information germane to that agency's statutory responsibility." CEQA Guidelines Section 15204(e) states, "This section shall not be used to restrict the ability of reviewers to comment on the general adequacy of a document or of the lead agency to reject comments not focused as recommended by this section."

In accordance with CEQA, Public Resources Code Section 21092.5, copies of the written responses to public agencies will be forwarded to those agencies at least ten days prior to certifying the EIR.

2.2 LIST OF RESPONDENTS

In accordance with the State CEQA Guidelines Section 15132, **Table 2-1: Comments from Public Agencies, Organizations, and Individuals**, below, provides a list of public agencies, organizations, and individuals that submitted comments on the Draft EIR received as of close of the public review period on October 10, 2024. Copies of the written comments are provided in this Section and have been annotated with the assigned letter along with a number for each comment. Each comment is followed by a corresponding written response.

The City of Rialto received a comment letter from one agency. Responses are provided to the Department of Toxic Substances, below.

Table 2-1: Comments from Public Agencies, Organizations, and Individuals

Commenter	Date of Correspondence	Page No.
Public Agencies		
Department of Toxic Substances Control	September 19, 2024	2-5

2.3 RESPONSES TO ENVIRONMENTAL COMMENTS

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Department of Toxic Substances Control

Yana Garcia
Secretary for
Environmental Protection

Meredith Williams, Ph.D.
Director
8800 Cal Center Drive
Sacramento, California 95826-3200

Gavin Newsom
Governor

SENT VIA ELECTRONIC MAIL

September 19, 2024

Daniel Casey
Principal Planner
City of Rialto
150 South Palm Avenue
Rialto, CA 92376
dcasey@rialtoca.gov

RE: DRAFT ENVIRONMENTAL IMPACT REPORT FOR THE SANTA ANA TRUCK TERMINAL PROJECT DATED AUGUST 26, 2024, STATE CLEARINGHOUSE NUMBER 2023120143

Dear Daniel Casey,

A-1-1 The Department of Toxic Substances Control (DTSC) received a Draft Environmental Impact Report (DEIR) for the Santa Ana Truck Terminal Project (Project). The proposed Project would include the construction of one truck terminal warehouse and one truck repair shop on an approximately 45.7-acre site in the City of Rialto. After reviewing the Project, DTSC recommends and requests consideration of the following comments:

A-1-2 1. In the Phase II Environmental Site Assessment it was stated the following: "There appear to be minor impacts to subsurface soils, likely as a result of former placement of artificial fill materials on the property or from discharges of process wastewater or impacted surface water to the property, including: Concentrations of TPH compounds were reported in shallow soils (generally less than four feet deep, with the exception of Boring HS-3, which has reported concentrations to 13.5 feet below ground surface). Bis(2-ethylhexyl)

A-1-2 cont.

phthalate was reported at a low concentration in a single soil sample collected at 2.5 feet deep in Trench T-7". Due to the historical use of the site and presence of TPH, DTSC recommends further investigation to determine any potential risk to human health. The investigation should be in accordance with the following Human Health Risk Assessment (HHRA) Note 12 Guidance.

A-1-3

2. DTSC recommends the City of Rialto enter into a voluntary agreement to address contamination at brownfields and other types of properties 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 your Regional Brownfield Coordinator.

A-1-4

3. DTSC recommends that all imported soil and fill material should be tested to assess any contaminants of concern meet screening levels as outlined in DTSC's Preliminary Endangerment Assessment (PEA) Guidance Manual. Additionally, DTSC advises referencing the DTSC Information Advisory Clean Imported Fill Material Fact Sheet if importing fill is necessary. To minimize the possibility of introducing contaminated soil and fill material there should be documentation of the origins of the soil or fill material and, if applicable, sampling be conducted to ensure that the imported soil and fill material are suitable for the intended land use. The soil sampling should include analysis based on the source of the fill and knowledge of the prior land use. Additional information can be found by visiting DTSC's Human and Ecological Risk Office (HERO) webpage.

A-1-5

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

A-1-5 cont.

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.

A-1-6

DTSC appreciates the opportunity to comment on the DEIR for the Santa Ana Truck Terminal Project 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 email for additional guidance.

Sincerely,

Tamara Purvis

Tamara Purvis
Associate Environmental Planner
HWMP - Permitting Division – CEQA Unit
Department of Toxic Substances Control
Tamara.Purvis@dtsc.ca.gov

cc: (via email)

Governor's Office of Planning and
Research State Clearinghouse
State.Clearinghouse@opr.ca.gov

Dave Kereazis
Associate Environmental Planner
HWMP-Permitting Division – CEQA Unit
Department of Toxic Substances Control
Dave.Kereazis@dtsc.ca.gov

Scott Wiley
Associate Governmental Program Analyst
HWMP - Permitting Division – CEQA Unit
Department of Toxic Substances Control
Scott.Wiley@dtsc.ca.gov

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Comment Number	Comment	Response
Comments from Public Agencies		
Letter from California Department of Toxic Substances Control (DTSC), dated September 19, 2024		
A-1-1	Dear Daniel Casey, The Department of Toxic Substances Control (DTSC) received a Daft Environmental Impact Report (DEIR) for the Santa Ana Truck Terminal Project (Project). The proposed Project would include the construction of one truck terminal warehouse and one truck repair shop on an approximately 45.7-acre site in the City of Rialto. After reviewing the Project, DTSC recommends and requests consideration of the following comments:	This comment is an introduction to the comments included below and does not raise a substantive issue on the content of the Draft EIR, no further response is required.
A-1-2	In the Phase II Environmental Site Assessment it was stated the following: "There appear to be minor impacts to subsurface soils, likely as a result of former placement of artificial fill materials on the property or from discharges of process wastewater or impacted surface water to the property, including: Concentrations of TPH compounds were reported in shallow soils (generally less than four feet deep, with the exception of Boring HS-3, which has reported concentrations to 13.5 feet below ground surface). Bis(2-ethylhexyl) phthalate was reported at a low concentration in a single soil sample collected at 2.5 feet deep in Trench T-7". Due to the historical use of the site and presence of TPH, DTSC recommends further investigation to determine any potential risk to human health. The investigation should be in accordance with the following Human Health Risk Assessment (HHRA) Note 12 Guidance.	As identified in the Phase II Soil and Groundwater Investigation Report (Phase II Report) prepared by ENVIRON in October 2010 and discussed in EIR Section 4.8, *Hazards and Hazardous Materials*, soil samples obtained on the project site identified minor impacts to subsurface soils as a result of previously placed artificial fill or from wastewater. The Phase II Report states that considering the low reported concentrations of total petroleum hydrocarbons, bis (2-ethylhexyphthalate), and metals, as well as the random distribution of metals concentrations above screening criteria and background concentrations, results from the soil samples are unlikely to result in risk of harm to public health or the environment. Groundwater sampling conducted for the Phase II Report identified minor impacts to groundwater below the project site. As a result of the low reported concentrations of extractable fuel hydrocarbons, chloroform, and metals, the Phase II Report found it to be unlikely that the results of the groundwater sampling would result in risk to public health or the environment. Accordingly, the Phase II Report concluded that no further investigation or testing is considered necessary for the site. Further, implementation of the Rialto Plant Reclamation Plan and mass grading will be complete prior to construction of the Project.

Comment Number	Comment	Response
A-1-3	DTSC recommends the City of Rialto enter into a voluntary agreement to address contamination at brownfields and other types of properties 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 your Regional Brownfield Coordinator.	Noted. In the event that a voluntary agreement to address contamination at brownfield or other similar property types is required, the City of Rialto may engage with a self-certified local agency, the DTSC or Regional Water Quality Control Board to enter into a voluntary agreement, as applicable.
A-1-4	DTSC recommends that all imported soil and fill material should be tested to assess any contaminants of concern meet screening levels as outlined in DTSC's Preliminary Endangerment Assessment (PEA) Guidance Manual. Additionally, DTSC advises referencing the DTSC Information Advisory Clean Imported Fill Material Fact Sheet if importing fill is necessary. To minimize the possibility of introducing contaminated soil and fill material there should be documentation of the origins of the soil or fill material and, if applicable, sampling be conducted to ensure that the imported soil and fill material are suitable for the intended land use. The soil sampling should include analysis based on the source of the fill and knowledge of the prior land use. Additional information can be found by visiting DTSC's Human and Ecological Risk Office (HERO) webpage.	Noted. The Rialto Plant Reclamation Plan and mass grading will be complete prior to construction of the Project.
A-1-5	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.	Noted. The project site does not include existing buildings or structures and the Project does not propose demolition of buildings or structures.

Comment Number	Comment	Response
A-1-6	DTSC appreciates the opportunity to comment on the Draft EIR for the Santa Ana Truck Terminal Project 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 email for additional guidance.	This comment is a conclusion to the comments included above and does not raise a substantive issue on the content of the Draft EIR, no further response is required.

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3.0 ERRATA TO THE DRAFT EIR

3.1 INTRODUCTION TO THE ERRATA

The Draft EIR for the Santa Ana Truck Terminal Project dated August 2024, is hereby incorporated by reference as part of the Final EIR. Changes to the Draft EIR are further detailed below.

The changes to the Draft EIR do not affect the overall conclusions of the environmental document, and instead represent changes to the Draft EIR that provide clarification, amplification and/or insignificant modifications, as needed as a result of public comments on the Draft EIR, or due to additional information received during the public review period. These clarifications and corrections do not warrant Draft EIR recirculation pursuant to CEQA Guidelines Section 15088.5.

None of the changes or information provided in the comments reflect a new significant environmental impact, a substantial increase in the severity of an environmental impact for which mitigation is not proposed, or a new feasible alternative or mitigation measure that would clearly lessen significant environmental impacts but is not adopted. In addition, the changes do not reflect a fundamentally flawed or conclusory Draft EIR.

Changes to the Draft EIR are listed by Section, page, paragraph, etc. to best guide the reader to the revision. Changes are identified as follows:

- Deletions are indicated by strikeout text.
- Additions are indicated by <u>underlined text.</u>

3.2 CHANGES TO THE DRAFT EIR

<u>Section 1.0, Executive Summary; Page 1-10; Table 1-1: Summary of Impacts and Mitigation Program</u>

Table 1-1: Summary of Impacts and Mitigation Program

Environmental Impacts	Significance Before Mitigation	Mitigation Measure	Significance With Mitigation
4.3: Biological Resources			
Impact 4.3-1: Would the project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the CDFW or USFWS?	S	**Standard Conditions** No standard conditions are applicable. **Mitigation Measures** **Agua Mansa Industrial Corridor Specific Plan EIR Mitigation Measures** No mitigation measures are applicable. **Project Mitigation Measures** **MM BIO-1A**: No less than 14 days prior to the onset of Project construction activities, a qualified biologist shall survey the construction limits of the project site and a 500-foot buffer for the presence of burrowing owls and/or occupied nest burrows. A second survey shall be conducted within 24 hours prior to the onset of construction activities. The surveys shall be conducted in accordance with the most current CDFW survey methods. The Project applicant shall submit at least one burrowing owl preconstruction survey report to the satisfaction of the City and CDFW to document compliance with this mitigation measure. For the purposes of this measure, 'qualified biologist' is a biologist who meets the requirements set forth in the CDFW BUOW Guidelines. **MM BIO-1B**: If BUOW are documented during pre-construction surveys, biological monitoring will be performed to ensure unauthorized impacts on burrowing owl do not occur as a result of the Project. The definitive frequency and duration of monitoring shall be dependent on Project and site conditions, such as the type of construction activity	LS

		occurring, whether it is the breeding versus non-breeding season, if a burrowing owl has been recently documented on site, and the efficacy of the exclusion buffers, as determined by a qualified biologist and in coordination with CDFW. **MM BIO-1C**: If burrowing owl is documented on site or within 500-feet of the site during either pre-construction surveys or biological monitoring, burrowing owl and occupied burrowing owl burrows shall not be disturbed. CDFW shall be contacted within 48 hours of the burrowing owl observation and disturbance avoidance buffers shall be set up immediately by a qualified biologist in accordance with the recommendations from CDFW. No work will occur within avoidance buffers until consultation with CDFW has occurred and/or applicable permits are issued, if required. If avoidance of burrowing owls is not possible, either directly or indirectly, an Incidental Take Permit (ITP) or a Burrowing Owl Relocation and Mitigation Plan (Plan) may be required. The Plan may also include a measure describing compensatory mitigation requirements as determined in coordination with CDFW. The Project proponent will adhere to the conditions of the ITP and/or measures outlined in the Plan. If burrowing owl is no longer a candidate or listed species under CESA at the time of project construction, then an ITP may not be required. **MM BIO-2A**: Within one year prior to ground disturbing activities, a qualified biologist shall conduct active Crotch's bumble bee nest surveys during the typical colony active period (April – August) following survey guidelines provided in the CDFW's Survey Considerations for CESA Candidate Bumble Bee Species (CDFW 2023e). The qualified biologist shall be familiar with Crotch's bumble bee identification and life history. If suspected or active Crotch's bumble bee nests are present, a qualified biologist shall establish an appropriate non-disturbance buffer around each nest immediately prior to initiation of construction activities using stakes and/or brightly colored flagging to avoid disturbance or incidental take of the species. If avoidance buffers are not feasible during construction activities, then CDFW shall be consulted and an ITP may be required. If Crotch's bumble bee is no longer a candidate or listed species	

		under CESA at the time of Project construction, then these mitigation measures may not be required. **MM BIO-2B:** Within one year prior to ground disturbing activities, a qualified biologist shall survey suitable nectar plants for foraging Crotch's bumble bee during the typical flight season (February – October) following survey guidelines provided in the CDFW's Survey Considerations for CESA Candidate Bumble Bee Species. The qualified biologist shall be familiar with Crotch's bumble bee identification and life history. If occupied foraging habitat for Crotch's bumble bee is present within project impact areas, a Revegetation Plan shall be prepared which includes native shrubs and native seed mixes that contain known nectar sources for Crotch's bumble bee. The Revegetation Plan shall be developed in consultation with a qualified Crotch's bumble bee biologist and implemented following project construction. ~~**MM BIO-1A:** Prior to the initiation of construction activities, a qualified biologist shall conduct pre-construction surveys for BUOW within suitable habitat to determine presence/absence of the species. The survey shall be conducted in accordance with the most current CDFW protocol within 30 days of site disturbance to determine whether the burrowing owl is present at the site. Pre-construction surveys shall include suitable BUOW habitat within the Project footprint and within 500 feet of the Project footprint (or within an appropriate buffer as required in the most recent guidelines and where legal access to conduct the survey exists). If BUOW are not detected during the clearance survey, no additional mitigation is required.~~ ~~If BUOW is located, occupied BUOW burrows shall not be disturbed during the nesting season (February 1 through August 31) unless a qualified biologist approved by CDFW verifies through non-invasive methods that either the birds have not begun egg laying and incubation or the juveniles from the occurred burrows are foraging independently and capable of independent survival. A 500-foot non-disturbance buffer (where no work activities may be conducted) shall be maintained	

		~~between Project activities and nesting BUOW during the nesting season, unless otherwise authorized by CDFW.~~ ~~If BUOW is detected during the non-breeding season (September 1 through January 31) or confirmed to not be nesting, a 160-foot non-disturbance buffer shall be maintained between the Project activities and occupied burrow(s). Alternatively, a Burrowing Owl Relocation Plan may be prepared and submitted for approval by CDFW. Once approved, the Burrowing Owl Relocation Plan would be implemented to relocate non-breeding BUOW from the project site. The Burrowing Owl Relocation Plan shall detail methods and guidance for passive relocation of BUOW from the project site, provide monitoring and management of the replacement burrow sites reporting requirements, and ensure that a minimum of two suitable, unoccupied burrows are available off-site for every burrowing owl or pair of burrowing owls to be passively relocated. Compensatory mitigation of habitat would be required if occupied burrows or territories occur within the permanent impact footprints. Ratios typically include a minimum of 19.5 acres per nesting burrow lost; however, habitat compensation shall be approved by CDFW and detailed in the Burrowing Owl Relocation Plan.~~ ~~**MM BIO 1B:** If avoidance is not possible, either directly or indirectly, a Burrowing Owl Relocation and Mitigation Plan shall be prepared and submitted for approval by CDFW. Once approved, the Burrowing Owl Relocation and Mitigation Plan would be implemented to relocate non-breeding burrowing owls form the project site. the Burrowing Owl Relocation and Mitigation Plan shall detail methods for passive relocation of BUOW from the project site, provide guidance for the monitoring and management of the replacement burrow sites and associated reporting requirements, and ensure that a minimum of two suitable, unoccupied burrows are available off-site for every Burrowing Owl of pair of burrowing owls to be passively relocated. Compensatory mitigation of habitat would be required if occupied burrows of territories occur within the permanent impact footprint. Habitat compensation shall be approved by CDFW and detailed in the Burrowing Owl Relocation and Mitigation Plan.~~	

		MM BIO-~~2~~3: To avoid direct impacts on raptors and/or native/migratory birds, removal of habitat that supports active nests in the proposed area of disturbance should occur outside of the breeding season for these species (generally February 1 to September 15). If removal of habitat in the proposed area of disturbance must occur during the breeding season, a qualified biologist shall conduct a pre-construction survey to determine the presence or absence of nesting birds in the proposed area of disturbance. The pre-construction survey shall be conducted within ten (10) calendar days prior to the start of construction activities (including removal of vegetation). If nesting birds are observed, a letter report or mitigation plan in conformance with applicable state and federal Law (i.e., appropriate follow up surveys, monitoring schedules, construction, and noise barriers/buffers, etc.) shall be prepared and include proposed measures to be implemented to ensure that take of birds or eggs or disturbance of breeding activities is avoided. The report or mitigation plan shall be submitted to the CDFW and/or USFWS, as applicable, for review and approval and implemented to the satisfaction of those agencies. The project biologist shall verify and approve that all measures identified in the report or mitigation plan are in place prior to and/or during construction. If nesting birds are not detected during the pre-construction survey, no further mitigation is required.	
Impact 4.3-2: Would the project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by the CDFW or USFWS?	LS	No standard conditions or mitigation measures are required.	LS
Impact 4.3-3: Would the project have a substantial adverse effect on State or federal protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	No Impact	No standard conditions or mitigation measures are required.	No Impact

Impact 4.3-4: Would the project interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	No Impact	No standard conditions or mitigation measures are required.	No Impact
Impact 4.3-5: Would the project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	LS	No standard conditions or mitigation measures are required.	LS

Section 2.0, Introduction; Page 2-7; List of Acronyms

CBB	Crotch's bumble bee
ITP	Incidental Take Permit

Section 4.3, Biological Resources; Page 4.3-9; First Paragraph

A list of the wildlife species observed in the survey area is presented in **Appendix D**. Twilight/nighttime surveys were not conducted, therefore crepuscular and nocturnal animals are likely under-represented in the project species list; however, habitat assessments were performed for all special-status species to ensure that any potentially present rare species are adequately addressed. On November 26, 2024, RBC biologist Ian Hirschler visited the project site to conduct a habitat assessment for Crotch's bumble bee (CBB) based on the species' 2022 state candidacy for listing.

Section 4.3, Biological Resources; Page 18; Table 4.3-1: Special Status Plant and Wildlife Species – Potential for Occurrence

Table 4.3-1: Special Status Plant and Wildlife Species – Potential for Occurrence

Species	Status*	Habitat Description	Potential for Occurrence on Project Site
PLANTS			
Gambel's water cress (*Nasturtium gambelii*)	FE, ST, CRPR 1B.1	Perennial rhizomatous herb. Blooms April – October. Marshes and swamps. Elevation 15-1,085 feet.	**None.** No suitable habitat present on-site.
Marsh sandwort (*Arenia paludicola*)	FE, ST, CRPR 1B.1	Perennial herb. Blooms May – August. Freshwater marsh.	**None.** No suitable habitat present on-site.
Mesa horkelia (*Horkelia cuneata* var. *puberula*)	CRPR 1B.1	Perennial herb. Blooms February-September. Maritime chaparral, cismontane woodland, and coastal scrub. Elevation 230-2,657 feet.	**None.** The Disturbed scrub habitat and soils on-site are not suitable for this species.
Parish's bush-mallow (*Malacothamnus parishii*)	CRPR 1A	Perennial deciduous shrub. Blooms June-July. Chaparral and coastal scrub. Elevation 1,000-1,495 feet.	**None.** This perennial shrub would have been observed if present.
Parish's gooseberry (*Ribes divaricatum* var. *parishii*)	CRPR 1A	Perennial deciduous shrub. Blooms February – April. Riparian woodland. Elevation 215 – 985 feet.	**None.** No suitable habitat present on-site.

Table 4.3-1: Special Status Plant and Wildlife Species – Potential for Occurrence

Species	Status*	Habitat Description	Potential for Occurrence on Project Site
Peruvian dodder (*Cuscuta obtusiflora* var. *glandulosa*)	CRPR 2B.2	Parasitic annual vine. Blooms July – October. Marshes and swamps. Elevation 50-920 feet.	**None.** No suitable habitat present on-site.
Pringle's monardella (*Monardella pringlei*)	CRPR 1A	Annual herb. Blooms May-June. Coastal scrub (sandy). Elevation 985-1,310 feet.	**Very low.** Disturbed scrub habitat on-site is marginally suitable for this species.
Salt marsh bird's beak (*Chloropyron maritimum* ssp. *maritimum*)	FE, SE, 1B.2	Annual herb. Coastal dunes and coastal salt marshes and swamps. 0-98 feet. Blooming period: May – October.	**None.** No suitable habitat present on-site.
Santa Ana River woolystar (*Eriastrum densifolium* ssp. *sanctorum*)	FE, SE, 1B.1	Perennial herb. Blooms April-September. Chaparral and coastal alluvial fan scrub. Elevation 298-2,000 feet.	**None.** No suitable habitat present on-site.
INVERTEBRATES			
Delhi Sands flower-loving fly (*Rhaphiomidas terminatus abdominalis*)	FE	Found in sandy areas composed of Delhi fine sands, stabilized by sparse native vegetation.	**None.** No suitable Delhi fine sands soils present on site. Historically mapped Delhi fine sands soils are now eroded, compacted, and over-vegetated.
Crotch's bumble bee (*Bombus crotchii*)	SC	Arid shrublands and grasslands in coastal and foothill areas of southern California. Nectar plants include milkweeds, buckwheat, and lupines.	**Low to moderate.** Vegetation with suitable nectar sources for foraging occurs on site, though small and isolated. Minimal burrows for nesting in undisturbed areas.
FISH			
Arroyo chub (*Gila orcuttii*)	SSC	Found in slow-flowing or backwater areas of streams or rivers with mud or sand substrates.	**None.** No suitable habitat present on-site.
Santa Ana sucker (*Catostomus santaanae*)	FT	Found in small permanent streams.	**None.** No suitable habitat present on-site.
Steelhead – Southern California DPS (*Oncorhynchus mykiss irideus* pop. 10)	FE	Inhabits small to moderately large, well-oxygenated, shallow rivers with gravel bottoms.	**None.** No suitable habitat present on-site.
REPTILES			
California glossy snake (*Arizona elegans*	SSC	Found in arid scrub, rocky washes, grasslands, and chaparral habitats. Prefers	**Low.** Disturbed scrub habitat on-site is

Table 4.3-1: Special Status Plant and Wildlife Species – Potential for Occurrence

Species	Status*	Habitat Description	Potential for Occurrence on Project Site
occidentalis)		habitats containing open areas and loose soils for burrowing.	marginally suitable for this species.
Coastal whiptail (*Aspidoscelis tigris stejnegeri*)	SSC	A variety of rocky, sandy, dry, habitat including sage scrub, chaparral, woodlands on friable loose soil.	**Low.** Disturbed scrub habitat on-site is marginally suitable, and species typically occurs closer to the coast.
Southern California legless lizard (*Anniella stebbinsi*)	SSC	Found in a variety of habitats including coastal dunes, sandy washes, and alluvial fans, containing moist, loose soils.	**None.** No suitable habitat present on-site.
BIRDS			
Burrowing owl (*Athene cunicularia*)	~~SSC~~SC	Found in grasslands and open scrub from coast to foothills. Strongly associated with California ground squirrel and other fossorial mammal burrows.	**Low-moderate.** Very few suitable burrows observed on-site; however, this species is known to occur within the general area and frequently inhabits disturbed areas.
Coastal California gnatcatcher (*Polioptila californica californica*)	FT; SSC	Found in sage scrub and adjacent chaparral habitats often containing buckwheat or sagebrush.	**Low.** Disturbed scrub habitat on-site is relatively small and isolated from larger landscapes of natural habitat.
Least Bell's vireo (*Vireo bellii pusillus*)	FE (when nesting); SE (when nesting)	Riparian woodland with understory of dense young willows or mulefat and willow canopy. Nests often places along internal or external edges of riparian thickets.	**None.** No suitable habitat present on-site.
Western yellow-billed cuckoo (*Coccyzus americanus occidentalis*)	FT; SE	Exclusively inhabits large continuous riparian areas, typically near streambeds or other bodies of water.	**None.** No suitable habitat present on-site.
MAMMALS			
Los Angeles pocket mouse (*Perognathus longimembris brevinasus*)	SSC	Found in low elevation grassland, alluvial sage scrub and coastal sage scrub on sandy soils.	**Low.** Scrub habitat on site does not occur on sandy soils suitable for this species.
Pocketed free-tailed bat (*Nyctinomops femorosaccus*)	SSC	Rugged cliffs, rocky outcrops and slopes in desert scrub and pinyon-juniper woodlands.	**None.** No suitable habitat present on-site.

FE – Federally Endangered (USFWS); FT – Federally Threatened (USFWS); SE – State Endangered (CDFW); SC: Candidate for listing under CESA; SSC – Species of Special Concern (CDFW)

*CRPR – California Rare Plant Rank
1B – Plants rare, threatened, or endangered in California and elsewhere
2B – Plants rare, threatened, or endangered in California but more common elsewhere
3 – Review List: Plants about which more information is needed
4 – Plants of limited distribution
Threat Ranks

Table 4.3-1: Special Status Plant and Wildlife Species – Potential for Occurrence			
Species	**Status***	**Habitat Description**	**Potential for Occurrence on Project Site**
0.1 – Seriously threatened in California (over 80 percent of occurrences threatened/high degree and immediacy of threat) 0.2 – Moderately threatened in California (20 to 80 percent of occurrences threatened/moderate degree and immediacy of threat) 0.3 – Not very threatened in California (less than 20 percent of occurrences threatened/low degree and immediacy of threat or no current threats known)			
Source: **Appendix D**			

Section 4.3, Biological Resources; Page 4.3-19; Following Paragraph 1

Threatened and Endangered Wildlife Species

Although no focused wildlife surveys were conducted, no federally or state-listed as threatened or endangered wildlife species were observed during the general field survey.

Crotch's Bumble Bee

CBB has experienced a sharp population decline over the past decade and is a candidate for listing under CESA. Historically, CBB occurred from northern California south to Baja Mexico and from the coast to the central valley and southwestern desert, with some records as far as Nevada. However, since the early 2000's a change in population ecology has been observed; CBB is found in approximately 75 percent of its historic range and has been extirpated from the northern extent of this range entirely. In addition, the species persistence within its extant range is estimated to be approximately 20 percent of its historic occupancy. Though CBB is relatively tolerant of fragmented and/or semi-urban environments, habitat loss, climate change, and pesticide use are considered imminent threats to populations.

Suitable habitat for this species includes a variety of open shrub and grassland vegetation communities that support significant stands of nectar sources, mostly in the form of flowering annuals. CBB's primary nectar sources include Medicago spp., Lupinus spp., Chaenactis spp., Asclepias spp., Phacelia spp., and Salvia spp., which have easily accessible nectar that accommodates Crotch's bumble bee's relatively short tongue.

No Crotch's bumble bee were documented in the survey area during the general biological survey or habitat assessment, though Crotch's bumble bee has been documented within three miles of the project site. The project site supports small patches of native vegetation with suitable nectar sources. However, the available nectar sources on site are isolated and fragmented. Additionally, minimal small mammal burrows were documented during the 2024 habitat assessment, limiting the potential for CBB to nest on site; therefore, Crotch's bumble bee has a low to moderate potential to occur on-site.

Section 4.3, Biological Resources; Page 4.3-20; Paragraph 2

Other Special-Status Wildlife Species

Burrowing owl (BUOW) is a candidate species for listing under CESA ~~CDFW SSC at nesting sites~~ and is federally protected by the MBTA. In California, suitable habitat for the burrowing owl is generally characterized by short, sparse vegetation with few shrubs, level to gentle topography, and well-drained

soils, such as naturally occurring grassland, shrub steppe, and desert habitats. BUOW may also occur within agricultural areas, ruderal grassy fields, vacant lows, and pastures containing suitable vegetation structure and useable burrows with foraging habitat in proximity. BUOW usually use burrows dug by California ground squirrel and round-tailed ground squirrel and dens or holes dig by other fossorial species including badger and fox.

Section 4.3, Biological Resources; Page 4.3-21; Paragraph 10

Although the burrowing owl was not observed within the project site during the 2021 biological surveys, the species has the potential to occur on-site. As such, the Project would implement **MM BIO-1A,** ~~and~~ **MM BIO-1B**, and **MM BIO-1C**, which would require pre-construction surveys and implementation of a Burrowing Owl Relocation and Mitigation Plan or an Incidental Take Permit (ITP) in the event avoidance is not possible. Additionally, the Project would implement **MM BIO-3** ~~**MM BIO-2**~~, which would require the removal of habitat that support nests located within the project site, to occur outside of breeding season.

The project site has low to moderate potential to support Crotch's bumble bee. Although Crotch's bumble bee was not observed on-site, the Project could result in direct impacts on Crotch's bumble bee in the form of death, injury, or harassment if Crotch's bumble bee were to occur within the project site. Such impacts on foraging bees are not anticipated to be significant since adult Crotch's bumble bee would likely flush during active construction activities. However, significant impacts on the species could occur as a result of direct impacts on nesting sites. Accordingly, the Project would implement **MM BIO-2A** and **MM BIO-2B**, which would require removal of suitable habitat and pre-construction surveys one year prior to ground disturbing activities to identify active nests and suitable nectar plants for foraging, on-site.

Section 4.3, Biological Resources; Page 4.3-22; Paragraph 1

With the implementation of mitigation measures **MM BIO-1A** through **MM BIO-3** ~~**MM BIO-2**~~ impacts to special status species would be less than significant.

Mitigation Program

Standard Conditions

No standard conditions are applicable.

Mitigation Measures

Agua Mansa Industrial Corridor Specific Plan EIR Mitigation Measures

No mitigation measures are applicable.

Project Mitigation Measures

MM BIO-1A No less than 14 days prior to the onset of Project construction activities, a qualified biologist shall survey the construction limits of the project site and a 500-foot buffer for the presence of burrowing owls and/or occupied nest burrows. A second survey shall be conducted within 24 hours prior to the onset of construction activities. The surveys shall be conducted in accordance with the most current CDFW survey methods.

The Project applicant shall submit at least one burrowing owl preconstruction survey report to the satisfaction of the City and CDFW to document compliance with this mitigation measure. For the purposes of this measure, 'qualified biologist' is a biologist who meets the requirements set forth in the CDFW BUOW Guidelines.

~~Prior to the initiation of construction activities, a qualified biologist shall conduct pre-construction surveys for BUOW within suitable habitat to determine presence/absence of the species. The survey shall be conducted in accordance with the most current CDFW protocol within 30 days of site disturbance to determine whether the burrowing owl is present at the site. Pre-construction surveys shall include suitable BUOW habitat within the Project footprint and within 500 feet of the Project footprint (or within an appropriate buffer as required in the most recent guidelines and where legal access to conduct the survey exists). If BUOW are not detected during the clearance survey, no additional mitigation is required.~~

~~If BUOW is located, occupied BUOW burrows shall not be disturbed during the nesting season (February 1 through August 31) unless a qualified biologist approved by CDFW verifies through non-invasive methods that either the birds have not begun egg laying and incubation or the juveniles from the occurred burrows are foraging independently and capable of independent survival. A 500-foot non-disturbance buffer (where no work activities may be conducted) shall be maintained between Project activities and nesting BUOW during the nesting season, unless otherwise authorized by CDFW.~~

~~If BUOW is detected during the non-breeding season (September 1 through January 31) or confirmed to not be nesting, a 160-foot non-disturbance buffer shall be maintained between the Project activities and occupied burrow(s). Alternatively, a Burrowing Owl Relocation Plan may be prepared and submitted for approval by CDFW. Once approved, the Burrowing Owl Relocation Plan would be implemented to relocate non-breeding BUOW from the project site. The Burrowing Owl Relocation Plan shall detail methods and guidance for passive relocation of BUOW from the project site, provide monitoring and management of the replacement burrow sites reporting requirements, and ensure that a minimum of two suitable, unoccupied burrows are available off-site for every burrowing owl or pair of burrowing owls to be passively relocated. Compensatory mitigation of habitat would be required if occupied burrows or territories occur within the permanent impact footprints. Ratios typically include a minimum of 19.5 acres per nesting burrow lost; however, habitat compensation shall be approved by CDFW and detailed in the Burrowing Owl Relocation Plan.~~

MM BIO-1B If BUOW are documented during pre-construction surveys, biological monitoring will be performed to ensure unauthorized impacts on burrowing owl do not occur as a result of the Project. The definitive frequency and duration of monitoring shall be dependent on Project and project site conditions, such as the type of construction activity occurring, whether it is the breeding versus non-breeding season, if a burrowing owl has been recently documented on-site, and the efficacy of the exclusion buffers, as determined by a qualified biologist and in coordination with CDFW.

~~If avoidance is not possible, either directly or indirectly, a Burrowing Owl Relocation and Mitigation Plan shall be prepared and submitted for approval by CDFW. Once approved, the Burrowing Owl Relocation and Mitigation Plan would be implemented to relocate non-breeding burrowing owls form the project site. the Burrowing Owl Relocation and Mitigation Plan shall detail methods for passive relocation of BUOW from the project site, provide guidance for the monitoring and management of the replacement burrow sites and associated reporting requirements, and ensure that a minimum of two suitable, unoccupied burrows are available off-site for every burrowing owl of pair of burrowing owls to be passively relocated. Compensatory mitigation of habitat would be required if occupied burrows of territories occur within the permanent impact footprint. Habitat compensation shall be approved by CDFW and detailed in the Burrowing Owl Relocation and Mitigation Plan.~~

MM BIO-1C If burrowing owl is documented on-site or within 500-feet of the project site during either pre-construction surveys or biological monitoring, burrowing owl and occupied burrowing owl burrows shall not be disturbed. CDFW shall be contacted within 48 hours of the burrowing owl observation and disturbance avoidance buffers shall be set up immediately by a qualified biologist in accordance with the recommendations from CDFW. No work will occur within avoidance buffers until consultation with CDFW has occurred and/or applicable permits are issued, if required. If avoidance of burrowing owls is not possible, either directly or indirectly, an Incidental Take Permit (ITP) or a Burrowing Owl Relocation and Mitigation Plan (Plan) may be required. The Plan may also include a measure describing compensatory mitigation requirements as determined in coordination with CDFW. The project proponent will adhere to the conditions of the ITP and/or measures outlined in the Plan. If burrowing owl is no longer a candidate or listed species under CESA at the time of project construction, then an ITP may not be required.

MM BIO-2A Within one year prior to ground disturbing activities, a qualified biologist shall conduct active Crotch's bumble bee nest surveys during the typical colony active period (April – August) following survey guidelines provided in the CDFW's Survey Considerations for CESA Candidate Bumble Bee Species. The qualified biologist shall be familiar with Crotch's bumble bee identification and life history. If suspected or active Crotch's bumble bee nests are present, a qualified biologist shall establish an appropriate non-disturbance buffer around each nest immediately prior to initiation of construction activities using stakes and/or brightly colored flagging to avoid disturbance or incidental take of the species. If avoidance buffers are not feasible during construction activities, then CDFW shall be consulted and an ITP may be required. If Crotch's bumble bee is no longer a candidate or listed species under CESA at the time of project construction, then these mitigation measures may not be required.

MM BIO-2B Within one year prior to ground disturbing activities, a qualified biologist shall survey suitable nectar plants for foraging Crotch's bumble bee during the typical flight season (February – October) following survey guidelines provided in the CDFW's Survey Considerations for CESA Candidate Bumble Bee Species. The qualified biologist shall be familiar with Crotch's bumble bee identification and life history. If occupied foraging

habitat for Crotch's bumble bee is present within project impact areas, a Revegetation Plan shall be prepared which includes native shrubs and native seed mixes that contain known nectar sources for Crotch's bumble bee. The Revegetation Plan shall be developed in consultation with a qualified Crotch's bumble bee biologist and implemented following project construction.

MM BIO-~~2~~3 To avoid direct impacts on raptors and/or native/migratory birds, removal of habitat that supports active nests in the proposed area of disturbance should occur outside of the breeding season for these species (generally February 1 to September 15). If removal of habitat in the proposed area of disturbance must occur during the breeding season, a qualified biologist shall conduct a pre-construction survey to determine the presence or absence of nesting birds in the proposed area of disturbance. The pre-construction survey shall be conducted within ten (10) calendar days prior to the start of construction activities (including removal of vegetation). If nesting birds are observed, a letter report or mitigation plan in conformance with applicable state and federal Law (i.e., appropriate follow up surveys, monitoring schedules, construction, and noise barriers/buffers, etc.) shall be prepared and include proposed measures to be implemented to ensure that take of birds or eggs or disturbance of breeding activities is avoided. The report or mitigation plan shall be submitted to the CDFW and/or USFWS, as applicable, for review and approval and implemented to the satisfaction of those agencies. The Project biologist shall verify and approve that all measures identified in the report or mitigation plan are in place prior to and/or during construction. If nesting birds are not detected during the pre-construction survey, no further mitigation is required.

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4.0 MITIGATION MONITORING AND REPORTING PROGRAM

4.1 PURPOSE OF MITIGATION MONITORING AND REPORTING PROGRAM

The California Environmental Quality Act (CEQA) requires that all public agencies establish monitoring and/or reporting procedures for mitigation adopted as conditions of approval to mitigate or avoid significant environmental impacts. This Mitigation Monitoring and Reporting Program (MMRP) has been developed to provide a vehicle by which to monitor the Mitigation Program outlined in the Santa Ana Truck Terminal Project EIR. The Santa Ana Truck Terminal Project MMRP has been prepared in conformance with Public Resources Code Section 21081.6 and City of Rialto Monitoring Requirements. Specifically, Public Resources Code Section 21081.6 states:

(a) When making findings required by paragraph (1) of subdivision (a) of Section 21081 or when adopting a mitigated negative declaration pursuant to paragraph (2) of subdivision (c) of Section 21080, the following requirements shall apply:

(1) The public agency shall adopt a reporting or monitoring program for the changes made to the project or conditions of project approval, adopted in order to mitigate or avoid significant effects on the environment. The reporting or monitoring program shall be designed to ensure compliance during project implementation. For those changes which have been required or incorporated into the project at the request of a responsible agency or a public agency having jurisdiction by law over natural resources affected by the project, that agency shall, if so requested by the lead or responsible agency, prepare and submit a proposed reporting or monitoring program.

(2) The lead agency shall specify the location and custodian of the documents or other material which constitute the record of proceedings upon which its decision is based.

(b) A public agency shall provide that measures to mitigate or avoid significant effects on the environment are fully enforceable through permit conditions, agreements, or other measures. Conditions of project approval may be set forth in referenced documents which address required mitigation measures or incase of the adoption of a plan, policy, regulation, or other public project, by incorporating the mitigation measures into the plan, policy, regulation, or project design.

(c) Prior to the close of the public review period for a draft environmental impact report or mitigated negative declaration, a responsible agency, or a public agency having jurisdiction over natural resources affected by the project, shall either submit to the lead agency complete and detailed performance objectives for mitigation measures which would address the significant effects on the environment identified by the responsible agency or agency having jurisdiction over natural resources affected by the project, or refer the lead agency to appropriate, readily available guidelines or reference documents. Any mitigation measures submitted to a lead agency by a responsible agency or an agency having jurisdiction over natural resources affected

> by the project shall be limited to measures which mitigate impacts to resources which are subject to the statutory authority of, and definitions applicable to, that agency. Compliance or noncompliance by a responsible agency or agency having jurisdiction over natural resources affected by a project with that requirement shall not limit the authority of the responsible agency or an agency having jurisdiction over natural resources affected by a project, or the authority of the lead agency, to approve, condition, or deny projects as provided by this division or any other provision of law.

State CEQA Guidelines Section 15097 provides clarification of mitigation monitoring and reporting requirements and guidance to local lead agencies on implementing strategies. The reporting or monitoring program must be designed to ensure compliance during project implementation. The City of Rialto is the Lead Agency for the Santa Ana Truck Terminal Project and is therefore responsible for ensuring implementation of the MMRP. The MMRP has been drafted as a fully enforceable monitoring program to meet Public Resources Code Section 21081.6 requirements.

4.2 ORGANIZATION

The MMRP is comprised of the Mitigation Program and includes measures to implement and monitor the Mitigation Program. The MMRP defines the following for each MM:

- **Definition of Mitigation.** The Mitigation Measure contains the criteria for mitigation, either in the form of adherence to certain adopted regulations or identification of the steps to be taken in mitigation.

- **Implementation Timing.** In each case, a time frame is provided for performance of the mitigation or the review of evidence that mitigation has taken place. The performance points selected are designed to ensure that impact-related components of Project implementation do not proceed without establishing that the mitigation is implemented or ensured. All activities are subject to the approval of all required permits from agencies with permitting authority over the specific activity.

- **Monitoring and Reporting Methods.** The monitoring phase of a project refers to the period when the mitigation measures are actively tracked. The monitoring frequency specifies how often these measures will be evaluated, and the compliance actions are those taken by the Enforcement or Monitoring Agency to confirm that the required mitigation measures have been properly implemented. The MMRP outlines the schedule and procedures for monitoring the mitigation actions, including who is responsible for implementing them, the frequency of checks, and how compliance will be confirmed and reported.

- **Responsible for Approval/Monitoring.** Unless otherwise indicated, an applicant would be the responsible party for implementing the mitigation, and the City of Rialto or designated representative is responsible for monitoring the performance and implementation of the mitigation measures. To guarantee that the mitigation will not be inadvertently overlooked, a supervising public official acting as the Designated Representative is the official who grants the permit or authorization called for in the performance. Where more than one official is identified, permits or authorization from all officials shall be required.

The MM numbering system in the table corresponds with the MM numbering system in the EIR. The MMRP table's last column will be used by the parties responsible for documenting when MM implementation has been completed. The ongoing documentation and monitoring of mitigation compliance will be completed by the City of Rialto. The completed MMRP and supplemental documents will be kept on file at the City of Rialto Planning Division.

SANTA ANA TRUCK TERMINAL PROJECT
MITIGATION MONITORING AND REPORTING PROGRAM

Mitigation Measures (MMs)	Implementation Timing	Monitoring/Reporting Methods	Responsible for Approval/ Monitoring	Verification	
				Date	Initials
Air Quality					
MM AIR-1: Prior to the issuance of a tenant occupancy permit, the Planning Department shall confirm that the Project plans and specifications show the following: ▪ All outdoor cargo handling equipment (including yard trucks, hostlers, yard goats, pallet jacks, and forklifts) are zero emission/powered by electricity. Each building shall include the necessary charging stations for cargo handling equipment. Note that SCAQMD Rule 2305 (Warehouse Indirect Source Rule) Warehouse Actions and Investments to Reduce Emissions (WAIRE) points may be earned for electric/zero emission yard truck/hostler usage. This mitigation measure applies only to tenant improvements and not the building shell approvals. ▪ All standard emergency generators shall meet California Air Resources Board Tier 4 Final emissions standards. A copy of each unit's Best Available Control Technology (BACT) documentation (certified tier specification) and CARB or SCAQMD operating permit (if applicable) shall be provided to the City.	Prior to Issuance of Tenant Occupancy Permit	Approval of Plans and Specifications	City of Rialto Planning Division City of Rialto Building and Safety Division		
Agua Mansa Industrial Corridor Specific Plan EIR Mitigation Measures: Air Quality **Mitigation Measure 1:** Local bus lines should be encouraged to extend service into the Study Area to discourage the use of private automobiles by employees. Bus shelters and bus stops should be constructed as dictated by ridership demand.	During Construction and Operation	City to Oversee Bus Line Extensions	City of Rialto Planning Division City of Rialto Building and Safety Division		

Mitigation Measures (MMs)	Implementation Timing	Monitoring/Reporting Methods	Responsible for Approval/ Monitoring	Verification	
				Date	Initials
Agua Mansa Industrial Corridor Specific Plan EIR Mitigation Measures: Air Quality **Mitigation Measure 2:** Individual industrial users should take all reasonable steps to encourage employees to car-pool rather than utilizing one vehicle per employee. Typical measures which can be taken by employers include: a. Designation of preferential parking areas which may be used only by employees engaged in car-pooling. b. Employers should be encouraged to institute van-pooing programs to reduce the number of vehicles driven by employees.	During Construction and Operation	Site Inspections	City of Rialto Planning Division City of Rialto Building and Safety Division Project Tenant(s)		
Agua Mansa Industrial Corridor Specific Plan EIR Mitigation Measures: Air Quality **Mitigation Measure 3:** The local governmental entities should enforce emission standards on equipment used during the construction and operation of industrial facilities.	Prior to Construction During Construction and Operation	Verify Conformance with Emission Standards	South Coast Air Quality Management District City of Rialto Building and Safety Division City of Rialto Planning Division		
Agua Mansa Industrial Corridor Specific Plan EIR Mitigation Measures: Air Quality **Mitigation Measure 4:** To minimize dust during construction activities, periodic soil wetting should be utilized.	Prior to Construction During Construction	Verify Construction Requirements Prior to Issuance of Grading Permit On-site inspections	City of Rialto Planning Division City of Rialto Building and Safety Division Project Contractor		
Biological Resources					
MM BIO-1A: No less than 14 days prior to the onset of Project construction activities, a qualified biologist shall survey the construction limits of the project site and a 500-foot buffer for the presence of burrowing owls and/or occupied nest burrows. A	Prior to Construction Activities	Verify Pre-Construction Surveys Conducted	City of Rialto Planning Division		

Mitigation Measures (MMs)	Implementation Timing	Monitoring/Reporting Methods	Responsible for Approval/ Monitoring	Verification	
				Date	Initials
second survey shall be conducted within 24 hours prior to the onset of construction activities. The surveys shall be conducted in accordance with the most current CDFW survey methods. The Project applicant shall submit at least one burrowing owl preconstruction survey report to the satisfaction of the City and CDFW to document compliance with this mitigation measure. For the purposes of this measure, 'qualified biologist' is a biologist who meets the requirements set forth in the CDFW BUOW Guidelines.		Verify Completion of Field Inspections Compliance Report Prepared by Qualified Biologist	City of Rialto Building and Safety Division Qualified Biologist		
MM BIO-1B: If BUOW are documented during pre-construction surveys, biological monitoring will be performed to ensure unauthorized impacts on burrowing owl do not occur as a result of the Project. The definitive frequency and duration of monitoring shall be dependent on Project and project site conditions, such as the type of construction activity occurring, whether it is the breeding versus non-breeding season, if a burrowing owl has been recently documented on-site, and the efficacy of the exclusion buffers, as determined by a qualified biologist and in coordination with CDFW.	During Construction	Verify Implementation of Biological Monitoring Verify Completion of Field Inspections Compliance Report Prepared by Qualified Biologist	City of Rialto Planning Division City of Rialto Building and Safety Division Qualified Biologist		
MM BIO-1C: If burrowing owl is documented on-site or within 500-feet of the project site during either pre-construction surveys or biological monitoring, burrowing owl and occupied burrowing owl burrows shall not be disturbed. CDFW shall be contacted within 48 hours of the burrowing owl observation and disturbance avoidance buffers shall be set up immediately by a qualified biologist in accordance with the recommendations from CDFW. No work will occur within avoidance buffers until consultation with CDFW has occurred and/or applicable permits are issued, if required. If avoidance of burrowing owls is not possible, either directly or indirectly, an Incidental Take Permit (ITP) or a Burrowing Owl Relocation and Mitigation Plan (Plan) may be required. The Plan may also include a measure describing compensatory	During Construction	Verify contact of CDFW Verify Completion of Field Inspections	City of Rialto Planning Division City of Rialto Building and Safety Division Qualified Biologist		

Mitigation Measures (MMs)	Implementation Timing	Monitoring/Reporting Methods	Responsible for Approval/ Monitoring	Verification	
				Date	Initials
mitigation requirements as determined in coordination with CDFW. The project proponent will adhere to the conditions of the ITP and/or measures outlined in the Plan. If burrowing owl is no longer a candidate or listed species under CESA at the time of project construction, then an ITP may not be required.					
MM BIO-2A: Within one year prior to ground disturbing activities, a qualified biologist shall conduct active Crotch's bumble bee nest surveys during the typical colony active period (April – August) following survey guidelines provided in the CDFW's Survey Considerations for CESA Candidate Bumble Bee Species. The qualified biologist shall be familiar with Crotch's bumble bee identification and life history. If suspected or active Crotch's bumble bee nests are present, a qualified biologist shall establish an appropriate non-disturbance buffer around each nest immediately prior to initiation of construction activities using stakes and/or brightly colored flagging to avoid disturbance or incidental take of the species. If avoidance buffers are not feasible during construction activities, then CDFW shall be consulted and an ITP may be required. If Crotch's bumble bee is no longer a candidate or listed species under CESA at the time of project construction, then these mitigation measures may not be required.	Prior to Issuance of Grading Permit Prior to Ground Disturbing Activities	Verify Completion of Surveys Verify Completion of Field Inspections Compliance Report Prepared by Qualified Biologist	City of Rialto Planning Division City of Rialto Building and Safety Division Qualified Biologist		
MM BIO-2B: Within one year prior to ground disturbing activities, a qualified biologist shall survey suitable nectar plants for foraging Crotch's bumble bee during the typical flight season (February – October) following survey guidelines provided in the CDFW's Survey Considerations for CESA Candidate Bumble Bee Species The qualified biologist shall be familiar with Crotch's bumble bee identification and life history. If occupied foraging habitat for Crotch's bumble bee is present within project impact areas, a Revegetation Plan shall be prepared which includes native shrubs	Prior to Issuance of Grading Permit Prior to Ground Disturbing Activities	Verify Completion of Surveys Verify Completion of Field Inspections Compliance Report Prepared by Qualified Biologist	City of Rialto Planning Division City of Rialto Building and Safety Department Qualified Biologist		

Mitigation Measures (MMs)	Implementation Timing	Monitoring/Reporting Methods	Responsible for Approval/ Monitoring	Verification	
				Date	Initials
and native seed mixes that contain known nectar sources for Crotch's bumble bee. The Revegetation Plan shall be developed in consultation with a qualified Crotch's bumble bee biologist and implemented following project construction.					
MM BIO-3: To avoid direct impacts on raptors and/or native/migratory birds, removal of habitat that supports active nests in the proposed area of disturbance should occur outside of the breeding season for these species (generally February 1 to September 15). If removal of habitat in the proposed area of disturbance must occur during the breeding season, a qualified biologist shall conduct a pre-construction survey to determine the presence or absence of nesting birds in the proposed area of disturbance. The pre-construction survey shall be conducted within ten (10) calendar days prior to the start of construction activities (including removal of vegetation). If nesting birds are observed, a letter report or mitigation plan in conformance with applicable state and federal Law (i.e., appropriate follow up surveys, monitoring schedules, construction, and noise barriers/buffers, etc.) shall be prepared and include proposed measures to be implemented to ensure that take of birds or eggs or disturbance of breeding activities is avoided. The report or mitigation plan shall be submitted to the CDFW and/or USFWS, as applicable, for review and approval and implemented to the satisfaction of those agencies. The project biologist shall verify and approve that all measures identified in the report or mitigation plan are in place prior to and/or during construction. If nesting birds are not detected during the pre-construction survey, no further mitigation is required.	Prior to Breeding Season	Verify Removal of Nesting Habitat Outside of Breeding Season Verify Pre-Construction Survey Conducted, if Applicable Verify Completion of Field Inspections Compliance Report Prepared by Qualified Biologist	City of Rialto Planning Division City of Rialto Building and Safety Division Qualified Biologist		

Mitigation Measures (MMs)	Implementation Timing	Monitoring/Reporting Methods	Responsible for Approval/ Monitoring	Verification	
				Date	Initials
Cultural Resources					
SC CUL-1: California Health and Safety Code Section 7050.5, CEQA Section 15064.5, and Public Resources Code Section 5097.98 mandate the process to be followed in the event of an accidental discovery of any human remains in a location other than a dedicated cemetery. California Health and Safety Code Section 7050.5 requires that in the event that human remains are discovered within the project site, disturbance of the site shall be halted until the coroner has conducted an investigation into the circumstances, manner and cause of death, and the recommendations concerning the treatment and disposition of the human remains have been made to the person responsible for the excavation, or to his or her authorized representative, in the manner provided in Section 5097.98 of the Public Resources Code. If the coroner determines that the remains are not subject to his or her authority and if the coroner recognizes or has reason to believe the human remains to be those of a Native American, he or she shall contact, by telephone within 24 hours, the Native American Heritage Commission (NAHC). The NAHC will then identify the most likely descendants (MLD) to be consulted regarding treatment and/or reburial of the remains. If an MLD cannot be identified, or the MLD fails to make a recommendation regarding the treatment of the remains within 48 hours after gaining access to the remains, the property owner shall rebury the Native American human remains and associated grave goods with appropriate dignity on the property in a location not subject to further subsurface disturbance.	During Construction	Verify Compliance with California Health and Safety Code Section 7050.5, CEQA Section 15064.5, and Public Resources Code Section 5097.98	City of Rialto Planning Division City of Rialto Building and Safety Division County Coroner Project Contractor		
MM CUL-1: Retain a Qualified Archaeologist. Prior to the issuance of any grading permits, or any permit authorizing ground disturbance, the Project applicant shall, meeting Secretary of Interior standards and to the satisfaction of the City Planning Director, demonstrate that a qualified archaeologist has been	Prior to Issuance of any Grading Permits / During Construction	Verify Retainment of Qualified Archaeologist	City of Rialto Planning Division City of Rialto Building and Safety Division		

Mitigation Measures (MMs)	Implementation Timing	Monitoring/Reporting Methods	Responsible for Approval/ Monitoring	Verification	
				Date	Initials
retained to respond on an as-needed basis to address unanticipated archaeological discoveries. In the event that cultural resources are discovered during Project activities, all work in the immediate vicinity of the find (within a 60-foot buffer) shall cease and the archaeologist shall assess the find. Work on the other portions of the project outside of the buffered area may continue during this assessment period. Additionally, the Yuhaaviatam of San Manuel Nation Cultural Resources Department (YSMN) shall be contacted, as detailed within **MM TCR-1** (refer to Section 4.16, Tribal Cultural Resource, of this EIR), regarding any pre-contact finds and be provided information after the archaeologist makes his/her initial assessment of the nature of the find, so as to provide Tribal input with regards to significance and treatment.		Halt all Work in Immediate Vicinity of a Find Periodic Field inspections During Construction in the Event Unknown Resources are encountered	Qualified Archeologist Yuhaaviatam of San Manuel Nation		
MM CUL-2: If significant pre-contact cultural resources, as defined by CEQA, are discovered and avoidance cannot be ensured, the archaeologist shall develop a Monitoring and Treatment Plan, the draft of which shall be provided to YSMN for review and comment, as detailed within **MM TCR-1** (Refer to Section 4.16, *Tribal Cultural Resource,* of this EIR). The archaeologist shall monitor the remainder of the Project and implement the Monitoring Treatment Plan accordingly.	During Construction	Verify Implementation of Monitoring and Treatment Plan Verify Completion of Field Inspections Compliance Report Prepared by Qualified Biologist	City of Rialto Planning Division City of Rialto Building and Safety Division Project Contractor Qualified Archaeologist Yuhaaviatam of San Manuel Nation		
MM CUL-3: If human remains of funerary object are encountered during any activities associated with the Project, work in the immediate vicinity (within a 100-foot buffer of the find) shall cease and the County Coroner shall be contacted pursuant to State Health and Safety Code §7050.5 and that code enforced for the duration of the Project.	Prior to Construction During Construction Activities	Contact County Coroner, if Required Periodic Field Inspections Performed by Qualified Archaeologist, if Applicable	City of Rialto Planning Division City of Rialto Building and Safety Division Project Contractor Qualified Archaeologist		

Mitigation Measures (MMs)	Implementation Timing	Monitoring/Reporting Methods	Responsible for Approval/ Monitoring	Verification	
				Date	Initials
Agua Mansa Industrial Corridor Specific Plan EIR Mitigation Measures: **Archaeological/Historical Resources** **Mitigation Measure 2:** The San Bernardino County Museum Association recommends that at least some level of evaluation of potential impacts to cultural resources be undertaken by a qualified archaeologist for every proposed project within the Study Area due to the overall prehistoric and early historic significance of the region.	Prior to Construction	Verify Evaluation of Potential Impacts Verify Completion of Field Inspections Compliance Report Prepared by Qualified Archaeologist	City of Rialto Planning Division City of Rialto Building and Safety Division Qualified Archaeologist		
Agua Mansa Industrial Corridor Specific Plan EIR Mitigation Measures: **Archaeological/Historical Resources** **Mitigation Measure 3:** In instances where earth movement uncovers potentially significant artifacts or fossils, work should be curtailed until a qualified specialist is retained to evaluate the significance of any finds.	Prior to Construction During Ground-Disturbing Activities	Avoidance of Potential Finds Verify Completion of Field Inspections Compliance Report Prepared by Qualified Archaeologist	City of Rialto Planning Division City of Rialto Building and Safety Division Qualified Archaeologist or Historian		
Energy					
Agua Mansa Industrial Corridor Specific Plan EIR Mitigation Measures: Public Services and Utilities **Mitigation Measure 5:** To assure adequate levels of water conservation, each specific development should be required to install water conservation measures, such as low-flow fixtures, drought resistant vegetation and drip irrigation systems.	Project Implementation	Verify Installation of Water Conservation Measures	City of Rialto Planning Division City of Rialto Building and Safety Division		
Geology and Soils					
SC GEO-1: The Applicant shall submit to the City of Rialto Community Development Department and Public Works Department for review and approval, a site-specific, design-level geotechnical investigation prepared for the project site by a	Prior to Construction	Verify Completion of Required Geotechnical Investigation	City of Rialto Planning Division City of Rialto Building and Safety Division		

Mitigation Measures (MMs)	Implementation Timing	Monitoring/Reporting Methods	Responsible for Approval/ Monitoring	Verification	
				Date	Initials
registered geotechnical engineer. The investigation shall comply with all applicable State and local code requirements[1] and: a) Include an analysis of the expected ground motions at the site from known active faults using accepted methodologies; b) Determine structural design requirements as prescribed by the most current version of the California Building Code, including applicable City from known active faults; and c) Determine the final design parameters for walls, foundations, foundation slabs, utilities, roadways, parking lots, sidewalks, and other surrounding related improvements. Project plans for foundation design, earthwork, and site preparation shall incorporate all of the mitigation in the site-specific investigations. The structural engineer shall review the site-specific investigations, provide any additional necessary measures to meet Building Code requirements, and incorporate all applicable recommendations from the investigation in the structural design plans and shall ensure that all structural plans for the Project meet current Building Code requirements. The City's registered geotechnical engineer or third-party registered engineer retained to review the geotechnical reports shall review each site-specific geotechnical investigation, approve the final report, and require compliance with all geotechnical requirements contained in the investigation in the plans submitted for the grading, foundation, structural, infrastructure and all other relevant construction permits. The City shall review all Project plans for grading, foundations, structural, infrastructure and all other relevant construction permits to ensure compliance with the applicable geotechnical investigation and other applicable Code requirements.					

[1] Rialto, CA Municipal Code Section 11.12.070 (Ord. 1234 (part), 1995: Ord. 649 §1 (part), 1973: 1965 Code Title XIII, Ch. 11, §7). Accessed August 2023.

Mitigation Measures (MMs)	Implementation Timing	Monitoring/Reporting Methods	Responsible for Approval/ Monitoring	Verification	
				Date	Initials
MM GEO-1: Retain a Qualified Paleontologist. Prior to the issuance of any grading permits, or any permit authorizing ground disturbance, the Project Applicant shall, to the satisfaction of the City Planning Director, demonstrate that a qualified paleontologist has been retained to respond on an as-needed basis to address unanticipated paleontological discoveries. In the event that fossils or fossil-bearing deposits are discovered during construction, excavations within 50 feet of the find shall be temporarily halted or diverted. The paleontologist shall document the discovery as needed in accordance with Society of Vertebrate Paleontology standards, evaluate the potential resource, and assess the significance of the find under the criteria set forth in CEQA Guidelines Section 15064.5. The paleontologist shall notify the appropriate agencies to determine procedures that would be followed before construction is allowed to resume at the location of the find. If in consultation with the paleontologist, City staff and the Project Applicant determine that avoidance is not feasible, the paleontologist shall prepare an excavation plan for reducing the effect of the Project on the qualities that make the resource important. The plan shall be submitted to the City for review and approval and the Project Applicant shall implement the approval plan.	Prior to Issuance of Grading Permit Upon discovery of fossils or fossil-bearing deposits, if applicable	Verify Retainment of Qualified Paleontologist Verify Documentation of Potential Find Verify Completion of Field Inspections Compliance Report Prepared by Qualified Paleontologist	City of Rialto Planning Division City of Rialto Building and Safety Division Qualified Paleontologist		
Greenhouse Gas Emissions					
MM GHG-1: Prior to the issuance of a building permit, the Project shall install solar photovoltaic (PV) panels or other source of renewable energy generation on-site, or otherwise acquire energy from the local utility that has been generated by renewable sources, that would provide 100 percent of the anticipated electricity demand (i.e., the Title 24 electricity demand and the plug-load, anticipated to be approximately 4.62 kilowatt hours per year [kWh/year] per square foot for warehouse uses, 17.53	Prior to Issuance of Building Permit	Confirm Installation of Renewable Energy Generation Verify Completion of Field Inspection	City of Rialto Planning Division City of Rialto Building and Safety Division		

Mitigation Measures (MMs)	Implementation Timing	Monitoring/Reporting Methods	Responsible for Approval/ Monitoring	Verification	
				Date	Initials
kWh/year/sf for office uses, 9.54 kWh/year/sf for automobile care centers, and 38.16 kWh/year/acre for parking lots[2]). With anticipated energy consumption at approximately 2.3 million kWh per year, a PV panel array covering approximately one third of the proposed truck terminal roof space would provide sufficient on-site renewable energy generation to offset consumption.[3] The final PV generation facility size requires approval by Southern California Edison (SCE). SCE's Rule 21 governs operating and metering requirements for any facility connected to SCE's distribution system. Should SCE limit the off-site export, the proposed Project may utilize a battery energy storage system (BESS) to lower off-site export while maintaining on-site renewable generation to off-set consumption.					
MM GHG-2: Prior to the issuance of a building permit, the Project Applicant or successor in interest shall provide documentation to the City demonstrating the following: ▪ The Project shall be designed to achieve Leadership in Energy and Environmental Design (LEED) certification to meet or exceed CALGreen Tier 2 standards in effect at the time of building permit application in order to exceed 2022 Title 24 energy efficiency standards. ▪ The Project shall provide facilities to support electric charging stations per the Tier 2 standards in Section A5.106.5.3 (Nonresidential Voluntary Measures) of the 2022 CALGreen Code.	Prior to Issuance of Building Permit	Verify LEED Certification Verify Electric Charging Stations Implementation Verify Completion of Field Inspection	City of Rialto Planning Division City of Rialto Building and Safety Division		
MM GHG-3: The development shall divert a minimum of 75 percent of landfill waste. Prior to issuance of certificate of tenant occupancy permits, a recyclables collection and load area shall be constructed in compliance with City standards for recyclable	Prior to Issuance of Certificate of Occupancy Permit(s)	Verify Diversion of 75% of Project Landfill Waste	City of Rialto Planning Division City of Rialto		

[2] The expected electricity demand is based on CalEEMod; refer to **Appendix B**.
[3] Estimated solar generation potential estimated using the National Renewable Energy Laboratory PVWatt Calculator: https://pvwatts.nrel.gov/pvwatts.php.

Mitigation Measures (MMs)	Implementation Timing	Monitoring/Reporting Methods	Responsible for Approval/ Monitoring	Verification	
				Date	Initials
collection and loading areas. This mitigation measure applies only to tenant permits and not the building shell approvals. The diversion plan shall also comply with the established solid waste and recycling laws including AB 939 and AB 341.	During Project Construction and Operation		Building and Safety Division		
MM GHG-4: Prior to the issuance of an occupancy permit, the Project Applicant or successor in interest shall provide documentation to the City demonstrating that low water use landscaping and water-efficient (e.g., drip irrigation) systems would are installed.	Prior to Issuance of Occupancy Permit	Documentation of Low Water Use Landscaping Verify Completion of Field Inspections	City of Rialto Planning Division City of Rialto Building and Safety Division City of Rialto Public Works Department		
Hazards and Hazardous Materials					
Agua Mansa Industrial Corridor Specific Plan EIR Mitigation Measures: **Land Use** **Mitigation Measure 3:** Any toxic or hazardous wastes which are transported, processed, generated or stored shall be handled consistent with the regulations of the Environmental Protection Agency, the State Department of Health Services, and the South Coast Air Quality Management District. The transportation of any toxic or hazardous substances through residential areas shall be prohibited.	During Project Construction and Operation	Verify Handling of Hazardous Materials Consistent with Applicable Regulations Periodic Field Inspections During Construction, if Applicable Verify Completion of Field Inspection	City of Rialto Planning Division City of Rialto Building and Safety Division		
Hydrology and Water Quality					
SC HYD-1: The Applicant or his/her designees shall obtain a General Permit for Stormwater Discharge Associated with	Prior to Grading Permit Issuance	Verify General Permit for Stormwater	City of Rialto Public Works Department		

Mitigation Measures (MMs)	Implementation Timing	Monitoring/Reporting Methods	Responsible for Approval/ Monitoring	Verification	
				Date	Initials
Construction Activity (Construction Activity General Permit). The Applicant or his/her designees shall provide a copy of this permit to the City Public Works Department prior to the issuance of the first grading permit.		Discharge Associated with Construction Activity Approval Copy of General Permit Provided to the Building & Safety Division	City of Rialto Building and Safety Division		
SC HYD-2: Prior to issuance of the first grading permit, the Applicant shall submit to the City Engineer for approval, a SWQMP specifically identifying BMPs that will be incorporated into the Project to control stormwater and non-stormwater pollutants during and after construction. To ensure compliance, a legal and fiduciary enforcement mechanism in the form of a Storm Water Quality Management Plan Agreement shall be executed with the City of Rialto. This agreement shall additionally be recorded in the office of the County Recorder for the County of San Bernardino. The SWQMP shall specify best management practices specific to the project site, which shall be integrated into the stormwater conveyance plan. The plan shall identify specific strategies. (see Section 4.9, *Hydrology and Water Quality*, for entire text of the mitigation measure).	Prior to Grading Permit Issuance	Verify Storm Water Quality Management Plan	City of Rialto Planning Division City of Rialto Building and Safety Division City Engineer		
SC HYD-3: An Erosion Control Plan shall be prepared, and included with the Project's grading plan, and implemented for the Project that identifies specific measures to control on-site and off-site erosion from the time ground disturbing activities are initiated through completion of grading. The Erosion Control Plan shall include the following measures at a minimum: (a) Specify the timing of grading and construction to minimize soil exposure to rainy periods experienced in Southern California; and (b) An inspection and maintenance program shall be included to ensure that any erosion which does occur either on-site or off-site as a	Prior to Grading Permit Issuance	Verify Erosion Control Plan on Project Grading Plans	City of Rialto Planning Division City of Rialto Building and Safety Division		

Mitigation Measures (MMs)	Implementation Timing	Monitoring/Reporting Methods	Responsible for Approval/ Monitoring	Verification	
				Date	Initials
result of this Project will be corrected through a remediation or restoration program within a specified time frame.					
Agua Mansa Industrial Corridor Specific Plan EIR Mitigation Measures: **Hydrology and Flood Control** **Mitigation Measure 2:** Where feasible, the extent of impervious surfaces on individual industrial sites should be limited to minimize the quantity of storm run-off***.***	During Project Construction	Verify Minimization of Impervious Surfaces	City of Rialto Planning Division City of Rialto Building and Safety Division		
Land Use and Planning					
Agua Mansa Industrial Corridor Specific Plan EIR Mitigation Measures: Land Use **Mitigation Measure 1:** The site development standards and performance standards contained in Section 4.4.2 of the Specific Plan shall be adhered to in reviewing proposed specific developments. Adherence to these standards, especially the specific criteria for industrial uses in proximity to residential and other sensitive uses, will minimize any potential impacts.	During Project Construction and Operation	Verify Adherence to Applicable Development Standards and Performance Standards	City of Rialto Planning Division City of Rialto Building and Safety Division		
Noise and Vibration					
Agua Mansa Industrial Corridor Specific Plan EIR Mitigation Measures: Environmental Health and Hazards **Mitigation Measure 2:** Interior noise levels in residential and office structures shall not exceed 45 dBA.	During Operation	Verify Project Noise Does Not Exceed Applicable Thresholds Verify Completion of Field Inspections Compliance Report Prepared by Qualified Noise Consultant	City of Rialto Planning Division City of Building and Safety Division		

Mitigation Measures (MMs)	Implementation Timing	Monitoring/Reporting Methods	Responsible for Approval/ Monitoring	Verification	
				Date	Initials
Agua Mansa Industrial Corridor Specific Plan EIR Mitigation Measures: Environmental Health and Hazards **Mitigation Measure 3:** Where necessary noise retardant measures should be incorporated into the design of industrial structures. Such measures include, but are not limited to, berms, noise attenuation walls, building insulation and the limitation of processing/manufacturing activities to enclosed buildings.	During Construction	Verify Incorporation of Applicable Noise Retardant Measures Verify Completion of Field Inspections Compliance Report Prepared by Qualified Noise Consultant	City of Rialto Planning Division City of Rialto Building and Safety Division		
Agua Mansa Industrial Corridor Specific Plan EIR Mitigation Measures: Environmental Health and Hazards **Mitigation Measure 4:** The noise standards promulgated by the local jurisdictions shall be adhered to. Each proposed use shall be reviewed for noise generation potential prior to approval.	During Project Construction and Operation	Verify Compliance with City Noise Standards Verify Completion of Field Inspections Compliance Report Prepared by Qualified Noise Consultant	City of Rialto Planning Division City of Rialto Building and Safety Department Qualified Noise Consultant		
Public Services					
SC PS-1: Prior to issuance of building permits, the City of Rialto Police Department shall review development plans for the incorporation of defensible space concepts to reduce demands on police services. Public safety planning recommendations shall be incorporated into the Project plans. The Applicant shall prepare a list of Project features and design components that demonstrate responsiveness to defensible space design concepts. The Police Department shall review and approve all defensible space design features incorporated into the Project prior to initiating the building plan check process.	Prior to Building Permit Issuance	Verify Required Public Safety Information on Development Plans	City of Rialto Planning Division City of Rialto Building and Safety Department City of Rialto Police Department		
SC PS-2: Prior to the issuance of the first grading permit and/or action that would permit site disturbance, the Applicant shall provide evidence to the City of Rialto Police Department that a	Prior to Issuance of Grading Permit	Verify Security Service Plan	City of Rialto Planning Division		

Mitigation Measures (MMs)	Implementation Timing	Monitoring/Reporting Methods	Responsible for Approval/ Monitoring	Verification	
				Date	Initials
construction security service or equivalent service shall be established at the construction site along with other measures, as identified by the Police Department and the Public Works Department, to be instituted during the grading and construction phase of the Project.			City of Rialto Building and Safety Division City of Rialto Public Works Department City of Rialto Police Department		
Agua Mansa Industrial Corridor Specific Plan EIR Mitigation Measures: **Public Services and Utilities** **Mitigation Measure 5:** All Project specific site plans should be subject to review by the Fire Department in each jurisdiction to determine whether the Project design includes adequate site access provisions and does not exceed the protection abilities of the various departments.	Prior to Construction	Review of Site Plans by City of Rialto Fire Department	City of Rialto Planning Division City of Rialto Building and Safety Division City of Rialto Fire Department		
Transportation					
MM TRF-1: Prior to issuance of building permits, the Project applicant shall develop a Transportation Demand Management (TDM) Plan with TDM measures in coordination with the City of Rialto staff. The TDM plan shall be approved by the City prior to the issuance of building permits.	Prior to Issuance of First Building Permit	Verify Preparation of Transportation Demand Management	City of Rialto Planning Division City of Rialto Building and Safety Division City of Rialto Public Works Department City Engineer		
SC TRA-1A: South Riverside Avenue at I-10 Eastbound Ramps. The Project Applicant shall contribute on a fair-share basis to costs associated with the widening of South Riverside Avenue. These improvements would be consistent with recommendations set forth in Measure I of the 2018 Nexus Study Item "Widen Riverside Avenue from South City Limit to Slover Avenue from 4 lanes to 6 lanes".	During Project Implementation	Verify Payment	City of Rialto Planning Division City of Rialto Building and Safety Division City of Rialto Public Works Department		

Mitigation Measures (MMs)	Implementation Timing	Monitoring/Reporting Methods	Responsible for Approval/ Monitoring	Verification	
				Date	Initials
SC TRA-1B: South Riverside Avenue at Solver Avenue. The Project Applicant shall contribute on a fair-share basis to costs associated with the widening of South Riverside Avenue. These improvements would be consistent with recommendations set forth in Measure I of the 2018 Nexus Study Item "Widen Riverside Avenue from South City Limit to Slover Avenue from 4 lanes to 6 lanes".	During Project Implementation	Verify Payment	City of Rialto Planning Division City of Rialto Building and Safety Division City of Rialto Public Works Department		
Tribal Cultural Resources					
MM TCR-1: The Yuhaaviatam of San Manuel Nation (YSMN) Cultural Resources Management Department shall be contacted of any pre-contact cultural resources discovered during Project implementation and be provided information regarding the nature of the find, as to provide Tribal input with regards to significance and treatment. Should the find be deemed significant, as defined by CEQA, a Cultural Resources Monitoring and Treatment Plan shall be created by an archaeologist, in coordination with YSMN, and all subsequent finds shall be subject to this Plan. This Plan shall allow for a monitor to be present that represents YSMN for the remainder of the Project, should YSMN elect to place a monitor on-site.	During Project Implementation	Contact of YSMN Cultural Resources Management Department in the Event of Find Cultural Resources Monitoring and Treatment Plan, if Applicable Verify Completion of Field Inspection Completion of Report Prepared by Certified Archaeologist and Native American Monitor	City of Rialto Planning Division City of Rialto Building and Safety Division YSMN Cultural Resources Management Department		
MM TCR-2: Any and all archaeological/cultural documents created as a part of the Project (isolate records, site records, survey reports, testing reports, etc.) shall be supplied to the Project applicant and the Lead Agency for dissemination to YSMN. The	Prior to Construction During Construction Activities and Project Implementation	Supply all Archaeological/Cultural Documents to Project Applicant and Lead Agency	City of Rialto Planning Division City of Rialto Building and Safety Division		

Mitigation Measures (MMs)	Implementation Timing	Monitoring/Reporting Methods	Responsible for Approval/ Monitoring	Verification	
				Date	Initials
Lead Agency and/or Project applicant shall, in good faith, consult with YSMN throughout the life of the Project.					

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RESOLUTION NO. 2025-XX

A RESOLUTION OF THE PLANNING COMMISSION OF THE CITY OF RIALTO, CALIFORNIA RECOMMENDING THAT THE CITY COUNCIL CERTIFY THE FINAL ENVIRONMENTAL IMPACT REPORT SCH. 2023120143, AS RELATED TO A PROPOSED PROJECT CONSISTING OF THE DEVELOPMENT OF A TRUCK TERMINAL FACILITY CONSISTING OF ONE (1) 172,445 SQUARE FOOT TRUCK TERMINAL BUILDING AND ONE (1) 18,700 SQUARE FOOT FLEET MAINTENANCE BUILDING ON APPROXIMATELY 45.7 ACRES OF LAND (APN: 0258-141-18) LOCATED ON THE SOUTH SIDE OF SANTA ANA AVENUE APPROXIMATLEY 1,800 FEET EAST OF RIVERSIDE AVENUE WITHIN THE HEAVY INDUSTRIAL (H-IND) LAND USE DISTRICT OF THE AGUA MANSA SPECIFIC PLAN; ADOPT FINDINGS OF FACT RELATED THERETO, AS REQUIRED BY PUBLIC RESOURCES CODE SECTION 21081(a) AND CEQA GUIDELINES, SECTION 15091; APPROVE A MITIGATION MONITORING AND REPORTING PROGRAM RELATED THERETO, AS REQUIRED BY PUBLIC RESOURCES CODE SECTION 21081.6 AND CEQA GUIDELINES SECTION 15097; AND ADOPT THE STATEMENT OF OVERRIDING CONSIDERATIONS RELATED THERETO, AS REQUIRED BY PUBLIC RESOURCES CODE SECTION 21081(b) AND CEQA GUIDELINES SECTION 15093

WHEREAS, the applicant, Crown Venture Holdings, LLC, ("Applicant") proposes to develop and operate a truck terminal facility consisting of consisting of a 172,445 square foot cross-dock truck terminal building, a 18,700 square foot fleet maintenance building, and associated paving, landscaping, fencing, lighting, and drainage improvements ("Project") on approximately 45.7 acres of land (APN: 0258-141-18) located on the south side of Santa Ana Avenue approximately 1,800 feet east of Riverside Avenue within the Heavy Industrial (H-IND) land use district of the Agua Mansa Specific Plan ("Site"); and

WHEREAS, the City of Rialto ("City") has undertaken review under the California Environmental Quality Act ("CEQA"), Public Resources Code Sections 21000, *et seq*. and California Code of Regulations ("CEQA Guidelines") Title 14, Sections 15000, *et seq*.; and

WHEREAS, the Applicant retained Kimley-Horn and Associates, Inc., an environmental consulting firm, to prepare an environmental impact report ("EIR") for the Project; and

WHEREAS, the City retained EcoTierra Consultants, an environmental consulting firm, to conduct a peer review of the EIR prepared for the Project by Kimley-Horn and Associates, Inc.; and

WHEREAS, on December 8, 2023, the City distributed a Notice of Preparation for Draft Environmental Impact Report SCH. 2023120143, for the Project, pursuant to CEQA Guidelines Section 15082 and Public Resources Code Section 21080.4, providing a 45-day period during which responsible agencies, trustee agencies, and members of the general public could provide comments to the City regarding the scope of the proposed EIR; and

WHEREAS, pursuant to the authority and criteria contained in CEQA and the City of Rialto environmental guidelines, the City, as the Lead Agency, analyzed the Project and directed the Applicant to prepare a Draft Environmental Impact Report ("DEIR"), and determined that the proposed Project would have significant impacts related to transportation/traffic from Project construction and operations; and

WHEREAS, consistent with the requirements of CEQA Guidelines Section 15085, upon completing the DEIR dated August 2024, the City filed a Notice of Completion on August 26, 2024 with the Office of Planning and Research; and

WHEREAS, on August 26, 2024 consistent with the requirements of the Public Resources Code Section 21092 and CEQA Guidelines Section 15087, the City published a Notice of Availability of the DEIR in the San Bernardino Sun newspaper, and, on August 26, 2024, posted the Notice of Availability at City Hall and mailed a Notice of Availability to all responsible and trustee agencies, all organizations and individuals who had requested notice, and all property owners located within a 1,000 foot radius of the Site; and

WHEREAS, the Notice of Availability and Notice of Completion noticed all agencies, organizations, and the public that they had 45 days to provide comments on the contents of the DEIR, which was available in hard copy for in-person review at City Hall – the Community Development Building - and available for download on the City of Rialto website, throughout the comment period; and

WHEREAS, at the conclusion of the 45-day public review and comment period related to the DEIR, the City directed the preparation of the Final Environmental Impact Report dated March 2025 ("FEIR") pursuant to CEQA Guidelines Sections 15088, 15089 and 15132, which included the DEIR, responses to public comments on the DEIR, and a Mitigation Monitoring and Reporting Program; and

WHEREAS, pursuant to CEQA Guidelines Section 15132, the FEIR is required to be completed in compliance with CEQA, and pursuant to Section 21092.5 of CEQA, on September 4, 2025, the City sent via mail the FEIR, including written responses to comments, to all agencies, organizations, and persons that commented on the DEIR; and

WHEREAS, on September 5, 2025, the City published a Notice of Public Hearing that the Planning Commission would consider certification of the FEIR and approval of the Project at its September 17, 2025 meeting in the San Bernardino Sun newspaper, posted the notice at City Hall, and mailed said notice to all property owners within a 1,000 foot radius of the Site as well as all to all organizations and individuals who had requested notice; and

WHEREAS, on September 17, 2025, the Planning Commission conducted a public hearing, and considered the record of proceedings for the FEIR, which includes, but is not limited to, the following:

(1) The Notice of Preparation for the Project (the "NOP"), and all other public notices issued by the City in connection with the Project;

(2) The FEIR dated March 2025;

(3) All written comments submitted by agencies or members of the public during any public review comment period on the DEIR;

(4) All written and verbal public testimony presented during a noticed public hearing for the Project at which such testimony was taken, including without limitation, the Staff Report to the Planning Commission, including all attachments, any all presentations by City staff, the City's consultants, the Applicant and the Applicant's consultants, the public, and any other interested party;

(5) The Mitigation Monitoring and Reporting Program for the Project (the "MMRP");

(6) The reports, studies and technical memoranda included and/or referenced in the DEIR and the FEIR and or their appendices;

(7) All documents, studies, or other materials incorporated by reference in the DEIR and the FEIR;

(8) All Ordinances and Resolutions presented to and/or to be adopted by the City in connection with the Project; and all documents incorporated by reference therein, specifically including, but not limited to, this Resolution and its exhibit;

(9) Matters of common knowledge to the City, including but not limited, to federal, state, and local laws and regulations, adopted City plans, policies (including but not limited to the Rialto General Plan and the Agua Mansa Specific Plan), and the professional qualifications of City staff members and consultants;

(10) Any documents expressly cited in this Resolution and its exhibit, the Staff Report to the Planning Commission, the FEIR which includes the DEIR; and

(11) Any other relevant materials required to be in the record of proceedings under Section 21167.6(e) of the Public Resources Code; and

WHEREAS, the City has not pre-committed to approving the Project or the FEIR, and will not commit to any approval related to the Project until the Planning Commission and City Council consider and certify the FEIR for the Project based upon all evidence presented; and

WHEREAS, on September 17, 2025, following the public hearing, the Planning Commission considered and discussed the adequacy of the proposed FEIR as an informational document and applied their own independent judgment and analysis to review said FEIR, and hereby desire to take action to recommend that the City Council certify the FEIR, as having been completed in compliance with CEQA, based on the findings found herein; and

WHEREAS, at its September 17, 2025, meeting, following the public hearing, the Planning Commission also considered and decided whether to recommend approval or rejection of the Project at this time; and

WHEREAS, CEQA requires in Public Resources Section 21081 the following:

"Section 21081. Findings necessary for approval of project. Pursuant to the policy stated in Sections 21002 and 21002.1, no public agency shall approve or carry out a project for which an environmental impact report has been certified which identifies one or more significant effects on the environment that would occur if the project is approved or carried out unless both of the following occur:

(a) The public agency makes one or more of the following findings with respect to each significant effect:

(1) Changes or alterations have been required in, or incorporated into, the Project which mitigate or avoid the significant effects on the environment.

(2) Those changes or alterations are within the responsibility and jurisdiction of another public agency and have been, or can and should be, adopted by that other agency.

(3) Specific economic, legal, social, technological, or other considerations, including considerations for the provision of employment opportunities for highly trained workers, make infeasible the mitigation measures or alternatives identified in the environmental impact report.

(b) With respect to significant effects which were subject to a finding under paragraph (3) of subdivision (a), the public agency finds that specific overriding economic, legal, social, technological, or other benefits of the Project outweigh the significant effects on the environment."

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

NOW, THEREFORE, BE IT RESOLVED AS FOLLOWS, that the Planning Commission of the City of Rialto hereby do find, determine, and declare based upon the evidence presented as follows:

SECTION 1: RECITALS. The Planning Commission hereby finds all of the above recitals to be true and correct.

SECTION 2: FINDINGS. The FEIR available at the Community Development Department office and provided concurrently with this Resolution, includes the DEIR SCH No.

2023120143 dated August 2024 and all related appendices, the Response to Comments, and all related appendices and attachments to the FEIR. The Planning Commission finds, based upon the substantial evidence in the record of proceedings and the whole record before it, in the exercise of its independent judgment and analysis, that the FEIR is, procedurally and substantively, in compliance with the requirements of CEQA:

a. *Procedural Compliance*: The Final EIR was prepared in procedural compliance with the requirements of CEQA:

1. Notice of Preparation. As described in the Recitals hereto, a Notice of Preparation was prepared in accordance with Section 15082 of CEQA.
2. Public Review. As described in the Recitals hereto, the City held multiple public review periods pursuant to the CEQA Guidelines.
3. Notice of Completion. As described in the Recitals hereto, the City has complied with CEQA Guidelines Sections 15085, 15086, 15087, and 15105 by providing a Notice of Completion of the DEIR to the State Clearinghouse and a Notice of Availability to responsible and trustee agencies and other persons and agencies as required.
4. Written Comments. As described in the Recitals hereto, the City has evaluated and responded to all written comments received during the public review period and included both comments and responses as part of the FEIR pursuant to CEQA Guidelines Section 15088.

b. *Findings Regarding Significant Effects that Can be Mitigated to Less Than Significant.* The FEIR identifies potentially significant effects on the environment that could result if the Project were adopted without changes or alterations in the Project and imposition of mitigation measures and further finds that changes, alterations, and mitigation

measures have been incorporated into, or imposed as conditions of approval on, the Project. The Planning Commission adopts the statements and findings in Exhibit A (Section 5.0, titled "Findings Regarding the Significant or Potentially Significant Environmental Effects of the Proposed Project which can Feasibly be Mitigated to Below a Level of Significance") to this Resolution, which is attached hereto and incorporated herein by this reference. These avoidable significant effects are identified in Exhibit A (Section 5.0) and include potentially significant impacts to biological resources, cultural resources, geology and soils, hazards and hazardous materials, noise and vibration, and tribal cultural resources. However, mitigation measures can be implemented to reduce these impacts to a level that is less than significant; changes have been required in, or incorporated into, the Project through the imposition of mitigation measures as described in Exhibit A (Section 5.0). These mitigation measures identified in Exhibit A will be imposed pursuant to the MMRP found at Section 4.0 in the FEIR. These changes, alterations, and mitigation measures are fully enforceable because they have either resulted in an actual change to the Project as proposed or they have been imposed as conditions of approval on the Project.

c. *Findings Regarding Unavoidable Significant Impacts*. The Planning Commission adopts the statements and findings in Exhibit A (Section 4.0, titled "Findings Regarding the Significant or Potentially Significant Environmental Effects of the Proposed Project which cannot Feasibly be Mitigated to Below a Level of Significance") to this Resolution, which is attached hereto and incorporated herein by this reference. The Project has significant effects that cannot be mitigated to a less than significant level through the imposition of mitigation measures. These significant effects are identified in Exhibit A (Section 4.0). Specific economic, legal, social,

technological, or other considerations are found to make the Proposed Project acceptable notwithstanding that even with the required mitigation measures, and consideration of project alternatives identified in the FEIR for the significant impacts identified in Exhibit A (Section 7.0) all impacts cannot be reduced to less then and significant levels, including those based upon the findings in Exhibit A (Section 4.0) to this resolution, and the findings in Exhibit A (Section 7.0) regarding the proposed alternatives. Therefore, those impacts are found to be significant and unavoidable.

d. *Findings Regarding Less than Significant Impacts*. In the course of the DEIR evaluation, certain environmental impacts of the Project were found not to be significant. Any and all potential significant impacts discussed in the FEIR that are not subject to paragraph 2(b) or 2(c), above, as either an avoidable significant impact, or as an unavoidable significant impact, are insignificant impacts to the environment. There exists no fair argument that the environmental conditions that were found not to be significant in the DEIR will pose a significant environmental impact, due to the inability of a Project of this scope to create such impacts or the absence of Project characteristics producing significant effects of this nature.

SECTION 3: FEIR REVIEWED AND CONSIDERED. The Planning Commission has reviewed and considered the information contained in the FEIR and finds that the FEIR has been completed in compliance with CEQA.

SECTION 4: ALTERNATIVES. The FEIR identified potential environmental impacts of separate project alternatives compared to impacts from the proposed Project. These alternatives were selected based upon their ability to avoid or substantially lessen the significant effects of the proposed Project, while still achieving the primary Project objectives. Most alternatives are hereby found infeasible due to lack of alternative site availability, failure to meet basic Project objectives, or the fact that some alternatives would still have the same types of significant and unavoidable

impacts as the Project. The Planning Commission hereby recommends that the City Council adopt the Statement of Findings on rejection of Project Alternatives in Exhibit A (Section 7.0, titled "Findings Regarding Project Alternatives Not Selected for Implementation") to this Resolution, which is attached hereto and incorporated herein by this reference.

SECTION 5: STATEMENT OF OVERRIDING CONSIDERATIONS. The Planning Commission finds, pursuant to CEQA Section 21081(b) and CEQA Guidelines Section 15093, that the specific economic, legal, social, technological and other benefits of the Project outweigh the Project's unavoidable adverse environmental impacts, and therefore, the impacts are acceptable. The Planning Commission hereby recommends that the City Council adopt the Statement of Overriding Considerations in Exhibit A (Section 8.0, titled "Statement of Overriding Considerations") to this Resolution, which is attached hereto and incorporated herein by this reference. The Planning Commission finds that each of the Significant and Unavoidable Impacts identified in Exhibit A (Section 4.0) may be considered acceptable for the reasons cited.

SECTION 6: MITIGATION MONITORING. The City as lead agency adopts the MMRP for the changes made to the Project that it has adopted in order to mitigate or avoid significant effects on the environment. Pursuant to Public Resources Code Section 21081.6, the MMRP set forth as Section 4.0 to the FEIR to this Resolution, which is attached hereto and incorporated herein by this reference, is hereby adopted to ensure that all mitigation measures adopted for the Project are fully implemented. The Planning Commission hereby recommends that the City Council adopt the MMRP to ensure compliance with mitigation measures during Project implementation. As required by Public Resources Code Section 21081.6, the MMRP designates responsibility and anticipated timing for the implementation of the mitigation measures recommended in the FEIR. The MMRP will remain available for public review during the compliance period.

SECTION 7: RECOMMENDATION OF CERTIFICATION. Based on the above facts and findings, the Planning Commission hereby recommends that the City Council certify the FEIR for the Project as accurate and adequate. The Planning Commission further recommends that the City Council certify that the FEIR was completed in compliance with CEQA and the CEQA Guidelines.

SECTION 8: The Chairman of the Planning Commission shall sign the passage and adoption of this resolution and thereupon the same shall take effect and be in force.

PASSED, APPROVED, AND ADOPTED this 17th day of September, 2025.

_____

JERRY GUTIERREZ, CHAIR
CITY OF RIALTO PLANNING COMMISSION

STATE OF CALIFORNIA)
COUNTY OF SAN BERNARDINO) ss
CITY OF RIALTO)

I, Heidy Gonzalez, Administrative Assistant of the City of Rialto, do hereby certify that the foregoing Resolution No. ____ was duly passed and adopted at a regular meeting of the Planning Commission of the City of Rialto held on the ___th day of ____, 2025.

Upon motion of Planning Commissioner_____., seconded by Planning Commissioner ____, the foregoing Resolution No. ____was duly passed and adopted.

Vote on the motion:

AYES:

NOES:

ABSENT:

IN WITNESS WHEREOF, I have hereunto set my hand and the Official Seal of the City of Rialto this __th day of ___, 2025.

_____
HEIDY GONZALEZ, ADMINISTRATIVE ASSISTANT

EXHIBIT A

FINDINGS OF FACT IN SUPPORT OF FINDINGS AND STATEMENT OF OVERRIDING CONSIDERATIONS PREPARED PURSUANT TO THE CALIFORNIA ENVIRONMENTAL QUALITY ACT FOR THE FINAL ENVIRONMENTAL IMPACT REPORT FOR THE SANTAANA TRUCK TERMINAL PROJECT STATE CLEARINGHOUSE NO. 2023120143

[See Following Pages]

Section 1.0: Introduction

The City of Rialto ("City") is considering the approval of applications filed by Crown Enterprises, LLC ("Applicant") for the development of a 172,445-square-foot truck terminal warehouse and an 18,700-square-foot maintenance shop on an approximately 45.7-acre site located at 249 East Santa Ana Avenue in Rialto, California (the "Project").

In compliance with the California Environmental Quality Act ("CEQA"), Public Resources Code ("PRC") Sections 21000–21177 and the Guidelines for California Environmental Quality Act, 14 California Code of Regulations ("CCR") Sections 15000–15387 (CEQA Guidelines), the City prepared and certified the Environmental Impact Report ("EIR") for the Project (State Clearinghouse No. 2023120143) which evaluates the environmental impacts of the Project.

The EIR was prepared to assess the significant environmental effects of the Project, to identify possible ways to mitigate or avoid those effects, and to describe a reasonable range of alternatives to the Project. The City, as the Lead Agency under CEQA, has reviewed and considered the information contained in the EIR, including the comments received during the public review period, in determining whether to approve the Project.

This statement of Findings of Fact ("Findings") addresses the environmental effects associated with the proposed Project, as described in the EIR. These Findings are made pursuant to the CEQA (PRC § 21000 et seq.), specifically PRC §§ 21081, 21081.5, and 21081.6, and the CEQA Guidelines (14 CCR § 15000 et seq.), specifically §§ 15091 and 15093.

1.1 CEQA Requirements

The CEQA, PRC Section 21081, and the State CEQA Guidelines, 14 CCR Section 15091, require that a public agency consider the environmental impacts of a project before approving it and make specific findings. CEQA Section 21081 provides:

> *[N]o public agency shall approve or carry out a project for which an environmental impact report has been certified which identifies one or more significant environmental effects on the environment that would occur if the project is approved or carried out unless both of the following occur:*
>
> (a) The public agency makes one or more of the following findings with respect to each significant effect:
>
> 1. Changes or alterations have been required in, or incorporated into, the project which mitigate or avoid the significant effects on the environment.

2. Those changes or alterations are within the responsibility and jurisdiction of another public agency and have been, or can and should be, adopted by that other agency.

3. Specific economic, legal, social, technological, or other considerations, including considerations for the provision of employment opportunities for highly trained workers, make infeasible the mitigation measures or alternatives identified in the environmental impact report.

(b) With respect to significant effects which were subject to a finding under paragraph (3) of subdivision (a), the public agency finds that specific overriding economic, legal, social, technological or other benefits of the project outweigh the significant effects on the environment.

14 CCR Section 15091 provides:

(a) No public agency shall approve or carry out a project for which an EIR has been certified which identifies one or more significant environmental effects of the project unless the public agency makes one or more written findings for each of those significant effects, accompanied by a brief explanation of the rationale for each finding. The possible findings are:

1. Changes or alterations have been required in, or incorporated into, the project which avoid or substantially lessen the significant environmental effect as identified in the final EIR.

2. Such changes or alterations are within the responsibility and jurisdiction of another public agency and not the agency making the finding. Such changes have been adopted by such other agency or can and should be adopted by such other agency.

3. Specific economic, legal, social, technological, or other considerations, including provision of employment opportunities for highly trained workers, make infeasible the mitigation measures or project alternatives identified in the final EIR.

(b) The findings required by subdivision (a) shall be supported by substantial evidence in the record.

(c) The finding in subdivision (a)(2) shall not be made if the agency making the finding has concurrent jurisdiction with another agency to deal with identified feasible mitigation measures or alternatives. The finding in subdivision (a)(3) shall describe the specific reasons for rejecting identified mitigation measures and project alternatives.

(d) When making the findings required in subdivision (a)(1), the agency shall also adopt a program for reporting on or monitoring the changes which it has either required in the project or made a condition of approval to avoid or substantially lessen significant

environmental effects. These measures must be fully enforceable through permit conditions, agreements, or other measures.

(e) The public agency shall specify the location and custodian of the documents or other material which constitute the record of the proceedings upon which its decision is based.

(f) A statement made pursuant to Section 15093 does not substitute for the findings required by this section.

CEQA Guidelines Section 15091(b) further provides that "The findings required by subdivision(a) shall be supported by substantial evidence in the record." CEQA Guidelines Section 15091(c) states, "The finding in subdivision (a)(2) shall not be made if the agency making the finding has concurrent jurisdiction with another agency to deal with identified feasible mitigation measures or alternatives. The finding in subdivision (a)(3) shall describe the specific reasons for rejecting identified mitigation measures and project alternatives."

Additionally, CEQA Guidelines Section 15091(d) provides, "When making the findings required in subdivision (a)(1), the agency shall also adopt a program for reporting on or monitoring the changes which it has either required in the project or made a condition of approval to avoid or substantially lessen significant environmental effects. These measures must be fully enforceable through permit conditions, agreements, or other measures."

CEQA Guidelines Section 15093 provides additional guidance for projects with significant unavoidable impacts:

a) *CEQA requires the decision-making agency to balance, as applicable, the economic, legal, social, technological, or other benefits, including region-wide or statewide environmental benefits, of a proposed project against its unavoidable environmental risks in determining whether to approve the project. If the specific benefits of a project outweigh the unavoidable adverse environmental effects, those effects may be considered "acceptable."*

b) *When the lead agency approves a project which will result in the occurrence of significant effects that are identified in the final EIR but are not avoided or substantially lessened, the agency shall state in writing the specific reasons for its action based on the final EIR and/or other information in the record. This statement of overriding considerations shall be supported by substantial evidence in the record.*

c) *If an agency makes a statement of overriding considerations, the statement should be included in the record of the project approval and should be mentioned in the notice of determination. This statement does not substitute for, and shall be in addition to, findings required pursuant to Section 15091.*

Where, as a result of the environmental analysis of the project and the identification of project design features, compliance with existing laws, codes, and statutes, and the identification of feasible mitigation measures, the following potentially significant impacts have been determined by the City to be reduced to a level of less than significant, the City has found, in accordance with CEQA Section 21081(a)(1) and CEQA Guidelines Section 15091(a)(1), that "Changes or alterations have been required in, or incorporated into, the project which mitigate or avoid the significant effects on the environment," which is referred to herein as "Finding 1." Where the potential impact can be reduced to less than significant solely through adherence to and implementation of project design features or standard conditions, these measures are considered "incorporated into the project," which mitigate or avoid the potentially significant effect, and in these situations, the City also will make "Finding 1," even though no mitigation measures are required, while noting that the potential impact is less than significant through the implementation of project design features and/or compliance with existing laws and regulations.

Where the City has determined, pursuant to CEQA Section 21081(a)(2) and CEQA Guidelines Section 15091(a)(2), that "Those changes or alterations are within the responsibility and jurisdiction of another public agency and have been, or can and should be, adopted by that other agency," the City's findings are referred to herein as "Finding 2."

Where, as a result of the environmental analysis of the project, the City has determined that either (1) even with the identification of project design features, compliance with existing laws, codes, and statutes, and/or the identification of feasible mitigation measures, potentially significant impacts cannot be reduced to a level of less than significant, or (2) no feasible mitigation measures or alternatives are available to mitigate the potentially significant impact, the City has found, in accordance with CEQA Section 21081(a)(3) and CEQA Guidelines Section 15091(a)(3), that "Specific economic, legal, social, technological, or other considerations, including considerations for the provision of employment opportunities for highly trained workers, make infeasible the mitigation measures or alternatives identified in the environmental impact report," referred to herein as "Finding 3."

CEQA Section 21061.1 defines "feasible" to mean "capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, social, and technological factors." CEQA Guidelines Section 15364 adds another factor: "legal" considerations. (See also *Citizens of Goleta Valley v. Board of Supervisors* (1990) 52 Cal.3d 553, 565.)

The concept of "feasibility" also encompasses the question of whether a particular alternative or mitigation measure promotes the underlying goals and objectives of a project (*City of Del Mar v. City of San Diego* (1982) 133 Cal.App.3d 410, 417). "'[F]easibility' under CEQA encompasses "desirability" to the extent that desirability is based on a reasonable balancing of the relevant

economic, environmental, social, and technological factors." (Ibid.; see also *Sequoyah Hills Homeowners Assn. v. City of Oakland* (1993) 23 Cal.App.4th 704, 715.)

For the purposes of these findings, the term "avoid" refers to the effectiveness of one or more mitigation measures to reduce an otherwise significant effect to a less-than-significant level. In contrast, the term "substantially lessen" refers to the effectiveness of such measure or measures to substantially reduce the severity of a significant effect, but not to reduce that effect to a less-than-significant level. These interpretations appear to be mandated by the holding in *Laurel Hills Homeowners Assn. v. City Council* (1978) 83 Cal.App.3d 515, 519-527, in which the Court of Appeal held that an agency had satisfied its obligation to substantially lessen or avoid significant effects by adopting numerous mitigation measures, not all of which rendered the significant impacts in question (e.g., the "loss of biological resources") less than significant.

Although CEQA Guidelines Section 15091 requires only that approving agencies specify that a significant effect is "avoid[ed] or substantially lessen[ed]," these findings, for purposes of clarity, in each case will specify whether the effect in question has been reduced to a less-than-significant level or has simply been substantially lessened but remains significant.

With respect to a project for which significant impacts are not avoided or substantially lessened either through the adoption of feasible mitigation measures or feasible environmentally superior alternatives, a public agency, after adopting proper findings based on substantial evidence, may nevertheless approve the project if the agency first adopts a statement of overriding considerations setting forth the specific reasons why the agency found that the project's benefits rendered acceptable its unavoidable adverse environmental effects. (CEQA Guidelines §15093, 15043(b); see also CEQA § 21081(b).)

1.2 Format of Findings

These Findings have been organized into the following sections:

- **Section 1.0, Introduction**: This section provides an introduction to these Findings and the proposed Project. It sets forth the requirements of CEQA for a lead agency to make specific Findings, details the contents of the Record of Proceedings, and, pursuant to Section 21081.6(a)(2) of CEQA and Section 15091(e) of the State CEQA Guidelines, identifies the location and custodian of the documents and materials that constitute the Record of Proceedings.
- **Section 2.0, Project Description**: This section provides a summary of the Project, an overview of the discretionary actions required for Project implementation, and a statement of the Project's objectives.

- **Section 3.0, General CEQA Findings**: In addition to the specific Findings presented herein, this section identifies the general CEQA findings of the Lead Agency.
- **Section 4.0, Findings Regarding the Significant or Potentially Significant Environmental Effects of the Proposed Project Which Cannot Feasibly Be Mitigated to Below a Level of Significance**: This section sets forth findings regarding the significant or potentially significant environmental impacts of the proposed Project that cannot feasibly be mitigated to a less-than-significant level based on the thresholds of significance presented in the EIR and which will or may result from the Project's implementation.
- **Section 5.0, Findings Regarding the Significant or Potentially Significant Environmental Effects of the Proposed Project Which Can Feasibly Be Mitigated to Below a Level of Significance**: This section sets forth findings regarding significant or potentially significant environmental impacts identified in the EIR that the City has determined are either not significant or can feasibly be mitigated to a less-than-significant level through the imposition of Project design features, standard conditions, and/or mitigation measures. To ensure compliance and implementation, all mitigation measures are included in the Mitigation Monitoring and Reporting Program (MMRP) for the Project. Where potentially significant impacts can be reduced to less-than-significant levels through adherence to Project design features and standard conditions, this section specifies how those impacts are reduced to an acceptable level.
- **Section 6.0, Areas Determined to Have No Impact or Less Than Significant Impacts:** This section identifies environmental issue areas analyzed in the EIR that were determined to have either no impact or a less-than-significant impact. Under CEQA Guidelines Sections 15126.2 and 15128, an EIR must focus its analysis on potentially significant impacts while briefly addressing topics for which it is evident that the project will not result in significant adverse environmental effects. CEQA Guidelines Section 15091 does not require specific findings for these environmental issue areas. However, for completeness and transparency, this section provides a summary of these topics, including Aesthetics, Population and Housing, Energy, Public Services, Recreation, and other environmental factors where the Project's effects have been determined to be less than significant or non-existent.
- **Section 7.0, Findings Regarding Project Alternatives Not Selected for Implementation.**: This section provides findings regarding the alternatives to the proposed Project that were analyzed in the EIR and considered by the advisory and decision-making bodies of the City during deliberations concerning the proposed Project but were not selected for approval by the Rialto City Council. CEQA Guidelines Section 15091(a)(3) provides that a public agency may approve a project even if it results in one or more significant

environmental effects, provided that feasible alternatives are not available due to specific economic, legal, social, technological, or other considerations. In evaluating the alternatives presented in the EIR, the City of Rialto determined that none of the alternatives fully meet the Project's objectives while also avoiding or substantially lessening significant environmental effects.

- **Section 8.0, Statement of Overriding Considerations**: This section contains the Lead Agency's Statement of Overriding Considerations, setting forth the City's reasons for determining that specific economic, legal, social, technological, and other considerations associated with or attributable to the proposed Project outweigh the Project's potentially significant and unavoidable adverse environmental effects.

1.3 Record of Proceedings

For purposes of CEQA and these Findings, the record of proceedings for the City's Findings and determinations includes, but is not limited to, the following documents, which were considered by the City prior to taking action on the proposed Project and adopting these Findings:

1. Notice of Preparation (NOP), Notice of Completion (NOC), Notice of Availability (NOA), Notice of Determination (NOD), and all other public notices issued by the City in conjunction with this CEQA process.
2. Draft Environmental Impact Report – State Clearinghouse No. 2023120143 (DEIR), including all technical appendices, all documents incorporated by reference therein, and all written comments submitted by public agencies and members of the public during the public review periods established by the NOP and NOA.
3. Other site-specific and/or Project-specific technical studies and exhibits not included in the Final Environmental Impact Report (FEIR) but explicitly referenced therein.
4. Response to Comments on the Draft Environmental Impact Report – State Clearinghouse No. 2023120143 (RTC), including all written comments submitted by public agencies and members of the public during the public review period established by the NOC and included in the Final Environmental Impact Report – State Clearinghouse No. 2023120143.
5. All written and verbal public testimony presented during public hearings for the proposed Project at which public testimony was taken, including Planning Commission and City Council hearings held on [insert applicable dates].
6. All Project information submitted by the Applicant in its application to the City relating to the Project and/or the FEIR.

7. All agendas, staff reports, approved minutes, and resolutions adopted by the Planning Commission and City Council relating to the proposed Project, including all documents incorporated by reference therein, as well as comments received after the close of the comment period and responses thereto. Additionally, matters of common knowledge to the City, including but not limited to applicable federal, state, and local laws and regulations as well as any documents expressly cited in these Findings.

8. All other public reports, documents, studies, memoranda, maps, or other planning documents relating to the Project, the DEIR, or the FEIR, prepared by the City, consultants to the City, or responsible or trustee agencies.

1.4 Custodian and Location of Records

Pursuant to CEQA Section 21081.6(a)(2) and CEQA Guidelines Section 15091(e), the City of Rialto Development Services Department, Planning Division, as the lead agency, is the custodian of the records related to the EIR and Project. These documents, which constitute the record of proceedings, are and at all relevant times have been and will be available for public review during normal business hours at:

City of Rialto
Development Services Department, Planning Division
150 South Palm Avenue
Rialto, California 92376

1.5 CEQA Findings of Independent Judgment, Review and Analysis

Under CEQA, the lead agency must (1) independently review and analyze the EIR; (2) circulate draft documents that reflect its independent judgment; (3) as part of the certification of an EIR, find that the report or declaration reflects the independent judgment of the lead agency; and (4) submit copies of the documents to the State Clearinghouse if there is state agency involvement or if the project is of statewide, regional, or area-wide significance (PRC § 21082.1[c]).

The PRC sections referenced in this section govern key procedural and substantive requirements under CEQA:

- **PRC § 21081**: Prohibits a public agency from approving a project with significant environmental effects unless the agency makes specific findings to address those effects. The agency must determine that (1) changes or alterations have been incorporated to mitigate the effects, (2) another agency with jurisdiction has or should adopt the necessary changes, or (3) mitigation is infeasible due to economic, legal, social, technological, or other considerations. If mitigation is deemed infeasible under (3), the

agency must also adopt a Statement of Overriding Considerations, concluding that the project's benefits outweigh its significant environmental impacts.

- **PRC § 21081.5**: Establishes that these findings must be supported by substantial evidence in the administrative record.
- **PRC § 21081.6**: Mandates the adoption of a Mitigation Monitoring and Reporting Program MMRP to ensure compliance with required mitigation measures.

The Findings contained in this document reflect the City's conclusions, as required pursuant to CEQA, for the Project. The City has exercised independent judgment, in accordance with PRC § 21082.1(c)(3), in the preparation of the DEIR, the review of materials prepared by the Project Applicant and its consultants, and the preparation of the Final EIR based on comments received during the public comment process.

Having received, reviewed, and considered the information in the DEIR and FEIR, as well as any and all other information in the record, the City hereby makes these Findings pursuant to and in accordance with PRC §§ 21081, 21081.5, and 21081.6.

Section 2.0: Project Description

2.1 Project Location

The Project site is located within the City of Rialto (City or Lead Agency), San Bernardino County. The Project site is situated at 249 East Santa Ana Avenue, east of South Riverside Avenue and south of Interstate 10. The Project site is identified as San Bernardino County Assessor's Parcel Number (APN): 0258-141-18.

The Project property encompasses approximately 45.7 acres and features relatively flat topography, with elevations ranging from 900 to 955 feet above mean sea level (amsl). The site is generally rectangular in shape and is bordered by East Santa Ana Avenue to the north, Veolia Water North America to the east, and industrial land uses to the south and west.

2.2 Project Description

The Santa Ana Truck Terminal Project (Project) consists of the construction and operation of a truck terminal, including a 172,445 square-foot truck terminal building and an 18,700-square-foot maintenance shop. The Project will serve as a hub for logistics operations, including truck parking, loading, and maintenance.

Planned improvements to the site include the development of approximately 149 passenger vehicle parking spaces, 679 trailer parking spaces, and 100 tractor parking spaces, as detailed in **Table 3-1** of Section 3.0, *Project Description*. Passenger vehicle parking would be located along the northwestern boundary of the Project site, trailer parking would occupy the eastern and central portions of the site, and tractor parking would be positioned in the northwestern corner. The Project also incorporates associated infrastructure, including stormwater management features, landscaping, and internal roadways. Additional features include the installation of energy-efficient lighting and compliance with applicable air quality mitigation measures, such as the use of zero-emission cargo-handling equipment.

The Project site has a City of Rialto General Plan (General Plan) land use designation of General Industrial. The General Industrial designation allows for a broad range of heavy industrial activities. The proposed uses of the Project are allowed under the General Plan designation for the project site. A Conditional Development Permit would be required for Project development, as a truck terminal is a conditionally permitted use within an industrial land use designation.

The Project site is zoned Agua Mansa Industrial Corridor Specific Plan within the City. Under the Agua Mansa Industrial Corridor Specific Plan (Specific Plan), the Project site is zoned as Heavy Industrial. The proposed Project aligns with the intended uses for this zone and integrates

sustainable design practices, including compliance with Title 24 energy standards and the potential installation of solar panels.

2.3 Discretionary Actions

City discretionary approvals required for the Project include, but may not be limited to:

1. **Certification of the Santa Ana Truck Terminal Project Final Environmental Impact Report.**
2. **Precise Plan of Design (PPD) (PPD 2023-0006):** The proposed Project includes the review of a PPD for one truck terminal and one maintenance shop totaling approximately 191,145 sf. The total site area is approximately 45.7 acres.
3. **Conditional Development Permit (CDP) (CDP 2023-0007):** The Project includes a CDP for the development of a truck terminal, which is considered a conditionally permitted use in industrial zones within the City.

In addition to the approvals identified above, the Project will require other discretionary and ministerial actions by the City as part of its implementation. These additional approvals include, but are not limited to, haul route permits, site development permits, grading permits, use permits, sign permits, and building permits.

2.4 Project Objectives

The following objectives have been identified for the proposed Project:

Objective 1: Develop the property consistent with the guidelines and policies of the City of Rialto General Plan and more specifically, the Agua Mansa Industrial Corridor Specific Plan.

Objective 2: Develop an industrial zoned site with land uses which meet current market demands.

Objective 3: Create revenue-generating uses that provide reliable employment for the long term.

Objective 4: Provide new buildings that are compatible with the surrounding industrial uses.

Objective 5: Develop an industrial use consistent with current zoning in close proximity to designated truck routes and the State highway system to avoid or shorten truck-trip lengths on other roadways.

Objective 6: Redevelop an underutilized property in accordance with Rialto Plant Reclamation Plan.

Section 3.0: CEQA General Findings

These Findings and facts in support of Findings are adopted by the City of Rialto in accordance with the requirements of CEQA and the CEQA Guidelines, including CEQA Guidelines Section 15091. In addition to the specific findings identified herein, the City Council hereby finds that:

1. Under CEQA, the City is the appropriate "Lead Agency" for the proposed Project, and during the Project's CEQA proceedings, no other agency asserted or contested the City's "Lead Agency" status.

2. As part of the CEQA process, and in compliance with the provisions of Senate Bill (SB) 18 and the Governor's Office of Planning and Research's (OPR) "Supplement to General Plan Guidelines – Tribal Consultation Guidelines" (2005), the Lead Agency:

    - Notified appropriate California Native American tribes of the opportunity to conduct consultation for the purpose of preserving or mitigating impacts to cultural places.
    - Referred the proposed action to tribes listed on the Native American Heritage Commission (NAHC) contact list that have traditional lands within the agency's jurisdiction.
    - Sent notice to tribes that have filed a written request for such notice.

3. In compliance with the provisions of Assembly Bill (AB) 52, the Lead Agency:

    - Notified California Native American tribes who have requested notification of CEQA actions subject to AB 52.
    - Initiated and conducted consultation with the Gabrieleno Band of Mission Indians – Kizh Nation, the only tribe that responded to the consultation notice.

4. Copies of the Notice of Preparation (NOP), Draft Environmental Impact Report (DEIR), and Notice of Completion (NOC) were provided to Responsible Agencies identified in the FEIR, and each such agency was given a specified review period to submit comments.

5. In compliance with CEQA Section 21092.5(a), at least 10 days prior to certification of the FEIR, the Lead Agency provided its written proposed responses to public agencies that submitted comments on the DEIR.

6. The FEIR and all environmental notices associated therewith were prepared in compliance with CEQA, the State CEQA Guidelines, and the City's local guidelines and procedures.

7. The City Council independently reviewed and analyzed the FEIR, and the FEIR reflects the independent judgment of the City Council.

8. A Mitigation Monitoring and Reporting Program (MMRP) has been prepared for the proposed Project, identifying feasible mitigation measures adopted by the City Council to reduce the potential environmental effects of the proposed Project to the maximum extent feasible.

9. The mitigation measures adopted by the City Council will be fully implemented in accordance with the MMRP, compliance will be documented, and each measure can reasonably be expected to achieve the post-mitigation consequences assumed in the FEIR.

10. The City has determined that neither the comments received nor the responses thereto add significant new information under CEQA Guidelines Section 15088.5 that would require recirculation of the FEIR prior to certification.

11. Copies of all documents incorporated by reference in the FEIR are, and have been, available for review during regular business hours at the City's Development Services Department. The custodian of records for these documents is the Development Services Department of the City of Rialto.

Because the EIR identified significant effects that may occur as a result of the Project, and in accordance with the provisions of the CEQA Guidelines presented above, the City hereby adopts these Findings as part of the Project approval. These Findings constitute the City's best efforts to set forth the evidentiary and policy bases for its decision to approve the Project in a manner consistent with CEQA requirements.

The Findings and determinations contained herein are based on substantial evidence, both oral and written, contained in the record related to the Project and the EIR. These Findings constitute the independent findings and determinations of the City in all respects and are fully supported by substantial evidence in the record.

Although the Findings below identify specific sections of the EIR in support of various conclusions, the City incorporates by reference and adopts as its own the reasoning and analysis set forth in the EIR. The City relies on this reasoning, even where not explicitly cited, to reach the conclusions contained herein. This is especially true with respect to the City's adoption of all mitigation measures recommended in the EIR and the reasoning provided in the responses to comments in the EIR.

The City further intends that if these Findings fail to cross-reference or incorporate by reference any part of the record, all required Findings shall still be deemed made if they appear in any

portion of these Findings or elsewhere in the record. The EIR, comments and responses to comments, and all appendices are hereby fully incorporated herein by this reference.

Section 4.0: Findings Regarding the Significant or Potentially Significant Environmental Effects of the Proposed Project Which Cannot Feasibly Be Mitigated to Below a Level of Significance

This section identifies the significant unavoidable impacts that require a statement of overriding considerations to be issued by the City, pursuant to Section 15093 of the CEQA Guidelines, if the Project is approved. Based on the analysis contained in the DEIR, the following impacts have been determined to fall within the "significant unavoidable impacts" category:

4.1 Air Quality

The Project will result in operational emissions of nitrogen oxides (NO_x) that exceed the South Coast Air Quality Management District's (SCAQMD) regional significance thresholds. The Project will also contribute to cumulative air quality impacts in an area already classified as nonattainment for ozone and particulate matter (PM2.5).

The EIR concludes that operational activities, including truck trips, maintenance operations, and idling, will generate NO_x emissions exceeding 55 pounds per day, the SCAQMD threshold for regional significance. These emissions contribute to the formation of ozone, a pollutant with adverse effects on respiratory health.

The SCAQMD threshold for NO_x is 55 pounds per day. The Project's operational emissions, even after mitigation, exceed this threshold due to the nature of heavy-duty truck operations associated with logistics facilities. Thus, even with the implementation of feasible mitigation measures, the Project's NO_x emissions cannot be reduced to below the threshold due to the intensity and scale of logistics operations inherent to the Project.

Mitigation Measures Considered:

- **MM AIR-1:** Prior to the issuance of a tenant occupancy permit, the Planning Department shall confirm that the Project plans and specifications show the following:
    - All outdoor cargo handling equipment (including yard trucks, hostlers, yard goats, pallet jacks, and forklifts) are zero emission/powered by electricity. Each building shall include the necessary charging stations for cargo handling equipment. Note that SCAQMD Rule 2305 (Warehouse Indirect Source Rule) Warehouse Actions and Investments to Reduce Emissions (WAIRE) points may be earned for electric/zero emission yard truck/hostler usage. This mitigation measure applies only to tenant improvements and not the building shell approvals.

- All standard emergency generators shall meet California Air Resources Board Tier 4 Final emissions standards. A copy of each unit's Best Available Control Technology (BACT) documentation (certified tier specification) and CARB or SCAQMD operating permit (if applicable) shall be provided to the City.

- **MM TRF-1:** Prior to issuance of building permits, the Project applicant shall develop a Transportation Demand Management (TDM) Plan with TDM measures in coordination with the City of Rialto staff. The TDM plan shall be approved by the City prior to the issuance of building permits.

- Compliance with Agua Mansa Industrial Corridor Specific Plan air quality mitigation measures:

  - **Agua Mansa Mitigation Measure 2:** Individual industrial users should take all reasonable steps to encourage employees to car-pool rather than utilizing one vehicle per employee. Typical measures which can be taken by employers include: Designation of preferential parking areas which may be used only by employees engaged in car-pooling. b. Employers should be encouraged to institute vanpooing programs to reduce the number of vehicles driven by employees.

  - **Agua Mansa Mitigation Measure 4:** To minimize dust during construction activities, periodic soil wetting should be utilized.

Finding:
Despite implementing these mitigation measures, the residual emissions of NO_x remain significant and unavoidable due to the substantial truck activity required for the Project's operation. Furthermore, cumulative impacts on regional air quality from logistics facilities in the Inland Empire exacerbate this issue.

The City adopts **Finding 3** for this impact. Specific economic and logistical considerations, including the essential role of logistics operations in the regional and national supply chain, make further mitigation infeasible. As such, this impact remains significant and unavoidable.

Facts in Support of Findings: The following facts are presented in support of this finding:

- Project-related and cumulative air quality impacts are addressed in Section 4.2, *Air Quality* of the DEIR and in **Appendix B** (Air Quality and Greenhouse Gas Emission Calculations). This analysis is incorporated by reference herein.

- Operations of the proposed Project have the potential to create air quality impacts through combustion sources associated with truck traffic, idling, and warehouse

- All standard emergency generators shall meet California Air Resources Board Tier 4 Final emissions standards. A copy of each unit's Best Available Control Technology (BACT) documentation (certified tier specification) and CARB or SCAQMD operating permit (if applicable) shall be provided to the City.

- **MM TRF-1:** Prior to issuance of building permits, the Project applicant shall develop a Transportation Demand Management (TDM) Plan with TDM measures in coordination with the City of Rialto staff. The TDM plan shall be approved by the City prior to the issuance of building permits.

- Compliance with Agua Mansa Industrial Corridor Specific Plan air quality mitigation measures:

  - **Agua Mansa Mitigation Measure 2:** Individual industrial users should take all reasonable steps to encourage employees to car-pool rather than utilizing one vehicle per employee. Typical measures which can be taken by employers include: Designation of preferential parking areas which may be used only by employees engaged in car-pooling. b. Employers should be encouraged to institute vanpooing programs to reduce the number of vehicles driven by employees.

  - **Agua Mansa Mitigation Measure 4:** To minimize dust during construction activities, periodic soil wetting should be utilized.

Finding:
Despite implementing these mitigation measures, the residual emissions of NO_x remain significant and unavoidable due to the substantial truck activity required for the Project's operation. Furthermore, cumulative impacts on regional air quality from logistics facilities in the Inland Empire exacerbate this issue.

The City adopts **Finding 3** for this impact. Specific economic and logistical considerations, including the essential role of logistics operations in the regional and national supply chain, make further mitigation infeasible. As such, this impact remains significant and unavoidable.

Facts in Support of Findings: The following facts are presented in support of this finding:

- Project-related and cumulative air quality impacts are addressed in Section 4.2, *Air Quality* of the DEIR and in **Appendix B** (Air Quality and Greenhouse Gas Emission Calculations). This analysis is incorporated by reference herein.

- Operations of the proposed Project have the potential to create air quality impacts through combustion sources associated with truck traffic, idling, and warehouse

operations. These activities result in emissions of nitrogen oxides (NO_x), a precursor to ozone formation, which contribute to adverse regional air quality conditions.

- In order to lessen the effects of this impact, the City adopts the following mitigation measures identified and analyzed in the DEIR and FEIR:
    - **MM AIR-1:** Prior to the issuance of a tenant occupancy permit, the Planning Department shall confirm that the Project plans and specifications show the following:
        - All outdoor cargo handling equipment (including yard trucks, hostlers, yard goats, pallet jacks, and forklifts) are zero emission/powered by electricity. Each building shall include the necessary charging stations for cargo handling equipment. Note that SCAQMD Rule 2305 (Warehouse Indirect Source Rule) Warehouse Actions and Investments to Reduce Emissions (WAIRE) points may be earned for electric/zero emission yard truck/hostler usage. This mitigation measure applies only to tenant improvements and not the building shell approvals.
        - All standard emergency generators shall meet California Air Resources Board Tier 4 Final emissions standards. A copy of each unit's Best Available Control Technology (BACT) documentation (certified tier specification) and CARB or SCAQMD operating permit (if applicable) shall be provided to the City.
    - **MM TRF-1:** Prior to issuance of building permits, the Project applicant shall develop a Transportation Demand Management (TDM) Plan with TDM measures in coordination with the City of Rialto staff. The TDM plan shall be approved by the City prior to the issuance of building permits.
- Despite the incorporation of these mitigation measures, operational emissions of NO_x will exceed the SCAQMD's regional significance threshold of 55 pounds per day. The majority of emissions are associated with heavy-duty diesel trucks, and while mitigation measures effectively reduce emissions, they cannot reduce them to levels considered less than significant.
- The cumulative air quality impacts of the Project also remain significant and unavoidable due to the regional nonattainment status for ozone and particulate matter (PM2.5) in the South Coast Air Basin. The Project contributes incrementally to this cumulative condition, particularly through operational truck traffic emissions.

- With implementation of **MM AIR-1** and **MM TRF-1**, NO_x emissions will be reduced but will still exceed the regional significance threshold of 55 pounds per day. Consequently, a significant operational air quality impact remains unavoidable.

- The significant Project-specific and cumulative impacts related to operational air quality emissions are determined to be acceptable because they are substantially outweighed by the overriding economic, social, and environmental benefits of the Project, as more fully set forth in the Statement of Overriding Considerations in Section 7.0 below.

4.2 Greenhouse Gas (GHG) Emissions

The Project will result in operational greenhouse gas (GHG) emissions that exceed the threshold of 3,000 metric tons of carbon dioxide equivalent (MTCO2e) per year, as established in the South Coast Air Quality Management District (SCAQMD) GHG significance thresholds. The Project will also contribute to cumulative GHG emissions, conflicting with California's greenhouse gas reduction goals under Senate Bill (SB) 32 and Executive Orders S-3-05 and B-55-18.

The EIR concludes that operational activities, including truck trips, energy use, and maintenance operations, will generate GHG emissions that exceed the significance threshold. These emissions contribute to global climate change, an issue of statewide and international concern. The threshold of 3,000 MTCO2e per year was established to align with California's GHG reduction targets, and exceedance of this threshold indicates that the Project will hinder the State's ability to achieve its 2030 and 2045 GHG reduction goals.

Although the Project incorporates feasible mitigation measures to reduce GHG emissions, including energy efficiency measures and renewable energy installation, the intensity of truck operations and associated energy use prevents the Project from reducing emissions below the threshold.

Mitigation Measures Considered:

- **MM GHG-1**: Prior to the issuance of a building permit, the Project shall install solar photovoltaic (PV) panels or other source of renewable energy generation on-site, or otherwise acquire energy from the local utility that has been generated by renewable sources, that would provide 100 percent of the anticipated electricity demand (i.e., the Title 24 electricity demand and the plug-load, anticipated to be approximately 4.62 kilowatt hours per year [kWh/year] per square foot for warehouse uses, 17.53 kWh/year/sf for office uses, 9.54

kWh/year/sf for automobile care centers, and 38.16 kWh/year/acre for parking lots[1]).

With anticipated energy consumption at approximately 2.3 million kWh per year, a PV panel array covering approximately one third of the proposed truck terminal roof space would provide sufficient on-site renewable energy generation to offset consumption.[2] The final PV generation facility size requires approval by Southern California Edison (SCE). SCE's Rule 21 governs operating and metering requirements for any facility connected to SCE's distribution system. Should SCE limit the off-site export, the proposed Project may utilize a battery energy storage system (BESS) to lower off-site export while maintaining on-site renewable generation to off-set consumption.

- **MM GHG-2**: Prior to the issuance of a building permit, the Project Applicant or successor in interest shall provide documentation to the City demonstrating the following:
  - The Project shall be designed to achieve Leadership in Energy and Environmental Design (LEED) certification to meet or exceed CALGreen Tier 2 standards in effect at the time of building permit application in order to exceed 2022 Title 24 energy efficiency standards.
  - The Project shall provide facilities to support electric charging stations per the Tier 2 standards in Section A5.106.5.3 (Nonresidential Voluntary Measures) of the 2022 CALGreen Code.
- **MM GHG-3**: The development shall divert a minimum of 75 percent of landfill waste. Prior to issuance of certificate of tenant occupancy permits, a recyclables collection and load area shall be constructed in compliance with City standards for recyclable collection and loading areas. This mitigation measure applies only to tenant permits and not the building shell approvals. The diversion plan shall also comply with the established solid waste and recycling laws including AB 939 and AB 341.
- **MM GHG-4**: Prior to the issuance of an occupancy permit, the Project Applicant or successor in interest shall provide documentation to the City demonstrating that low water use landscaping and water-efficient (e.g., drip irrigation) systems would be installed.

[1] The expected electricity demand is based on CalEEMod; refer to **Appendix B**.
[2] Estimated solar generation potential estimated using the National Renewable Energy Laboratory PVWatt Calculator: https://pvwatts.nrel.gov/pvwatts.php.

Finding:

Despite implementing these mitigation measures, the residual GHG emissions remain significant and unavoidable due to the inherent reliance on heavy-duty trucks and the energy-intensive operations of the truck terminal facility. Cumulatively, the Project contributes to GHG emissions in a manner inconsistent with the statewide GHG reduction goals.

The City adopts **Finding 3** for this impact. Specific economic and operational considerations, including the essential role of logistics in supporting regional employment and economic growth, make further mitigation infeasible. Therefore, this impact remains significant and unavoidable.

Facts in Support of Findings:

The following facts are presented in support of this finding:

- Project-related and cumulative GHG impacts are addressed in Section 4.3 (*Greenhouse Gas Emissions*) of the DEIR and in **Appendix B** (Air Quality and Greenhouse Gas Emission Calculations). This analysis is incorporated by reference herein.
- The Project's operations, including truck traffic, energy use, and maintenance activities, generate GHG emissions that exceed the SCAQMD threshold of 3,000 MTCO2e per year. These emissions contribute to global climate change, which adversely impacts ecosystems, public health, and economic stability.
- In order to lessen the effects of this impact, the City adopts the following mitigation measures identified and analyzed in the DEIR and FEIR:
    - **MM GHG-1:** Prior to the issuance of a building permit, the Project shall install solar photovoltaic (PV) panels or other source of renewable energy generation on-site, or otherwise acquire energy from the local utility that has been generated by renewable sources, that would provide 100 percent of the anticipated electricity demand (i.e., the Title 24 electricity demand and the plug-load, anticipated to be approximately 4.62 kilowatt hours per year [kWh/year] per square foot for warehouse uses, 17.53 kWh/year/sf for office uses, 9.54 kWh/year/sf for automobile care centers, and 38.16 kWh/year/acre for parking lots[3]).

      With anticipated energy consumption at approximately 2.3 million kWh per year, a PV panel array covering approximately one third of the proposed truck terminal roof space would provide sufficient on-site

[3] The expected electricity demand is based on CalEEMod; refer to **Appendix B**.

renewable energy generation to offset consumption.[4] The final PV generation facility size requires approval by Southern California Edison (SCE). SCE's Rule 21 governs operating and metering requirements for any facility connected to SCE's distribution system. Should SCE limit the off-site export, the proposed Project may utilize a battery energy storage system (BESS) to lower off-site export while maintaining on-site renewable generation to off-set consumption.

- **MM GHG-2:** Prior to the issuance of a building permit, the Project Applicant or successor in interest shall provide documentation to the City demonstrating the following:
  - The Project shall be designed to achieve Leadership in Energy and Environmental Design (LEED) certification to meet or exceed CALGreen Tier 2 standards in effect at the time of building permit application in order to exceed 2022 Title 24 energy efficiency standards.
  - The Project shall provide facilities to support electric charging stations per the Tier 2 standards in Section A5.106.5.3 (Nonresidential Voluntary Measures) of the 2022 CALGreen Code.
- **MM GHG-3:** The development shall divert a minimum of 75 percent of landfill waste. Prior to issuance of certificate of tenant occupancy permits, a recyclables collection and load area shall be constructed in compliance with City standards for recyclable collection and loading areas. This mitigation measure applies only to tenant permits and not the building shell approvals. The diversion plan shall also comply with the established solid waste and recycling laws including AB 939 and AB 341.
- **MM GHG-4:** Prior to the issuance of an occupancy permit, the Project Applicant or successor in interest shall provide documentation to the City demonstrating that low water use landscaping and water-efficient (e.g., drip irrigation) systems would are installed.

- Despite these mitigation measures, the Project's operational emissions remain significant and unavoidable because the emissions associated with logistics and trucking activities

[4] Estimated solar generation potential estimated using the National Renewable Energy Laboratory PVWatt Calculator: https://pvwatts.nrel.gov/pvwatts.php.

cannot feasibly be reduced below the 3,000 MTCO2e threshold. This is primarily due to the scale and nature of the Project's truck terminal operations.

- The cumulative GHG emissions of the Project also remain significant, as the Inland Empire region has a high concentration of logistics facilities that contribute incrementally to global climate change. The Project adds to this cumulative condition through its truck and energy-related emissions.
- The significant Project-specific and cumulative impacts related to GHG emissions are determined to be acceptable because they are substantially outweighed by the overriding economic, social, and environmental benefits of the Project, as more fully set forth in the Statement of Overriding Considerations in Section 7.0 below.

4.3 Transportation

The Project will result in vehicle miles traveled (VMT) per employee exceeding the San Bernardino Countywide VMT threshold established to align with California's greenhouse gas and transportation efficiency goals. The Project will also contribute to cumulative transportation impacts, particularly through its reliance on regional and long-haul trucking operations.

The EIR concludes that the logistics nature of the Project generates inherently high VMT due to employee commuting and truck trips associated with warehouse operations. The exceedance of the Countywide VMT threshold conflicts with regional efforts to reduce vehicle emissions and traffic congestion. Although feasible mitigation measures have been identified and incorporated, the operational characteristics of the truck terminal facility prevent the Project from reducing its VMT below significant levels.

Mitigation Measures Considered:

- **Standard Conditions:** The Project is subject to the City's citywide traffic impact fee program and will pay applicable DIF fees toward the Riverside Avenue Widening Project. The fees paid by the Project Applicant will be collected by the City and used toward the Riverside Avenue Widening Project, as identified in Measure I of the 2018 Nexus Study Item "Widen Riverside Avenue from South City Limit to Slover Avenue from 4 lanes to 6 lanes". To the extent that a mitigation measure is included in an existing fee program. The Project's payment of impact fees can be used to offset the costs of implementing the mitigation measures. In addition, the Project may be required to construct a needed improvement in advance of the City's receipt of full funding in which case the improvement may be subject to a reimbursement agreement, to allow the Project to recoup costs from future development.

- **SC TRA-1A:** South Riverside Avenue at I-10 Eastbound Ramps. The Project Applicant shall contribute on a fair-share basis to costs associated with the widening of South Riverside Avenue at I-10 Eastbound Ramps. These improvements align with the recommendations in Measure I of the 2018 Nexus Study Item "Widen Riverside Avenue from South City Limit to Slover Avenue from 4 lanes to 6 lanes".

- **SC TRA-1B:** South Riverside Avenue at Solver Avenue. The Project Applicant shall contribute on a fair-share basis to costs associated with the widening of South Riverside Avenue at Slover Avenue. These improvements are consistent with the recommendations in Measure I of the 2018 Nexus Study Item "Widen Riverside Avenue from South City Limit to Slover Avenue from 4 lanes to 6 lanes".

- **Project Mitigation Measures:**

    - **MM TRF-1:** Prior to issuance of building permits, the Project Applicant shall develop a Transportation Demand Management (TDM) Plan with TDM measures in coordination with the City of Rialto. The TDM Plan shall include measures designed to reduce transportation impacts and shall be approved by the City prior to the issuance of building permits.

Finding:

Despite the incorporation of feasible mitigation measures, the Project's VMT impacts remain significant and unavoidable due to the operational characteristics of a logistics facility and the regional nature of truck transportation. Cumulatively, the Project adds to VMT impacts in an area already experiencing significant transportation challenges.

The City adopts **Finding 3** for this impact. Specific economic and logistical considerations, including the essential role of logistics facilities in regional goods movement and employment, make further mitigation infeasible. Therefore, this impact remains significant and unavoidable.

Facts in Support of Findings:

The following facts are presented in support of this finding:

- Project-related and cumulative transportation impacts are addressed in Section 4.4, **Appendix O** (*Transportation*) of the DEIR. This analysis, as well as the underlying Traffic Study and VMT Appendices, is incorporated by reference herein.

- The Project's VMT per employee exceeds the San Bernardino Countywide baseline threshold. This exceedance is primarily driven by:

- Employee commuting patterns, as employees may travel long distances to work at the facility.
- Regional and long-haul truck trips, which are fundamental to the logistics and goods movement industry.

- In order to lessen the effects of this impact, the City adopts the following mitigation measures identified and analyzed in the DEIR and FEIR:
  - **Standard Conditions:** The Project is subject to the City's citywide traffic impact fee program and will pay applicable DIF fees toward the Riverside Avenue Widening Project. The fees paid by the Project Applicant will be collected by the City and used toward the Riverside Avenue Widening Project, as identified in Measure I of the 2018 Nexus Study Item "Widen Riverside Avenue from South City Limit to Slover Avenue from 4 lanes to 6 lanes". To the extent that a mitigation measure is included in an existing fee program. The Project's payment of impact fees can be used to offset the costs of implementing the mitigation measures. In addition, the Project may be required to construct a needed improvement in advance of the City's receipt of full funding in which case the improvement may be subject to a reimbursement agreement, to allow the Project to recoup costs from future development.
  - **SC TRA-1A:** South Riverside Avenue at I-10 Eastbound Ramps. The Project Applicant shall contribute on a fair-share basis to costs associated with the widening of South Riverside Avenue at I-10 Eastbound Ramps. These improvements align with the recommendations in Measure I of the 2018 Nexus Study Item "Widen Riverside Avenue from South City Limit to Slover Avenue from 4 lanes to 6 lanes".
  - **SC TRA-1B:** South Riverside Avenue at Slover Avenue. The Project Applicant shall contribute on a fair-share basis to costs associated with the widening of South Riverside Avenue at Slover Avenue. These improvements are consistent with the recommendations in Measure I of the 2018 Nexus Study Item "Widen Riverside Avenue from South City Limit to Slover Avenue from 4 lanes to 6 lanes".
  - **MM TRF-1:** Prior to issuance of building permits, the Project Applicant shall develop a Transportation Demand Management (TDM) Plan with TDM

measures in coordination with the City of Rialto. The TDM Plan shall include measures designed to reduce transportation impacts and shall be approved by the City prior to the issuance of building permits.

- Despite these mitigation measures, the Project's operational VMT per employee remains significant and unavoidable due to the geographic constraints of the site and the fundamental characteristics of truck terminal operations.
- Cumulatively, the Project adds to regional VMT impacts in an area already experiencing significant transportation challenges. The Project contributes incrementally to traffic congestion and associated emissions in the Inland Empire, a major hub for goods movement.
- The significant Project-specific and cumulative impacts related to VMT are determined to be acceptable because they are substantially outweighed by the overriding economic, social, and environmental benefits of the Project, as more fully set forth in the Statement of Overriding Considerations in Section 7.0 below.

Section 5.0: Findings Regarding the Significant or Potentially Significant Environmental Effects of the Proposed Project which can Feasibly be Mitigated to Below a Level of Significance

The FEIR identified that the proposed Project would result in the following significant effects which, after application of feasible mitigation measures, and compliance with existing statutes, regulations, uniform codes, and Project design features, will reduce these impacts to below a level of significance.

5.1 Biological Resources

The Project would have potential impacts on special-status species and nesting birds during construction, including temporary habitat disturbances and direct impacts to individual species. However, with the implementation of mitigation measures, these impacts would be reduced to less-than-significant levels.

Significant Environmental Effect:

Construction activities may result in temporary habitat disturbance and impacts to special-status species, including burrowing owls, Crotch's bumblebee and nesting birds, due to vegetation clearing and ground-disturbing activities.

Mitigation Measures Considered:

To address the identified impacts, the City adopts the following mitigation measures from the EIR:

- **MM BIO-1A**: No less than 14 days prior to the onset of Project construction activities, a qualified biologist shall survey the construction limits of the project site and a 500-foot buffer for the presence of burrowing owls and/or occupied nest burrows. A second survey shall be conducted within 24 hours prior to the onset of construction activities. The surveys shall be conducted in accordance with the most current CDFW survey methods.

  The project applicant shall submit at least one burrowing owl preconstruction survey report to the satisfaction of the City and CDFW to document compliance with this mitigation measure. For the purposes of this measure, 'qualified biologist' is a biologist who meets the requirements set forth in the CDFW BUOW Guidelines.

- **MM BIO-1B**: If BUOW are documented during pre-construction surveys, biological monitoring will be performed to ensure unauthorized impacts on burrowing

owl do not occur as a result of the Project. The definitive frequency and duration of monitoring shall be dependent on Project and project site conditions, such as the type of construction activity occurring, whether it is the breeding versus non-breeding season, if a burrowing owl has been recently documented on-site, and the efficacy of the exclusion buffers, as determined by a qualified biologist and in coordination with CDFW.

- **MM BIO-1C**: If burrowing owl is documented on-site or within 500-feet of the project site during either pre-construction surveys or biological monitoring, burrowing owl and occupied burrowing owl burrows shall not be disturbed. CDFW shall be contacted within 48 hours of the burrowing owl observation and disturbance avoidance buffers shall be set up immediately by a qualified biologist in accordance with the recommendations from CDFW. No work will occur within avoidance buffers until consultation with CDFW has occurred and/or applicable permits are issued, if required. If avoidance of burrowing owls is not possible, either directly or indirectly, an Incidental Take Permit (ITP) or a Burrowing Owl Relocation and Mitigation Plan (Plan) may be required. The Plan may also include a measure describing compensatory mitigation requirements as determined in coordination with CDFW. The project proponent will adhere to the conditions of the ITP and/or measures outlined in the Plan. If burrowing owl is no longer a candidate or listed species under CESA at the time of project construction, then an ITP may not be required.

- **MM BIO-2A**: Within one year prior to ground disturbing activities, a qualified biologist shall conduct active Crotch's bumble bee nest surveys during the typical colony active period (April – August) following survey guidelines provided in the CDFW's Survey Considerations for CESA Candidate Bumble Bee Species. The qualified biologist shall be familiar with Crotch's bumble bee identification and life history. If suspected or active Crotch's bumble bee nests are present, a qualified biologist shall establish an appropriate non-disturbance buffer around each nest immediately prior to initiation of construction activities using stakes and/or brightly colored flagging to avoid disturbance or incidental take of the species. If avoidance buffers are not feasible during construction activities, then CDFW shall be consulted and an Incidental Take Permit (ITP) may be required. If Crotch's bumble bee is no longer a candidate or listed species under CESA at the time of project construction, then these mitigation measures may not be required.

- **MM BIO-2B**: Within one year prior to ground disturbing activities, a qualified biologist shall survey suitable nectar plants for foraging Crotch's bumble bee during the typical flight season (February – October) following survey guidelines provided in the CDFW's Survey Considerations for CESA Candidate Bumble Bee Species (CDFW 2023). The qualified biologist shall be familiar with Crotch's bumble bee identification and life history. If occupied foraging habitat for Crotch's bumble bee is present within project impact areas, a Revegetation Plan shall be prepared which includes native shrubs and native seed mixes that contain known nectar sources for Crotch's bumble bee. The Revegetation Plan shall be developed in consultation with a qualified Crotch's bumble bee biologist and implemented following project construction.

- **MM BIO-3**: To avoid direct impacts on raptors and/or native/migratory birds, removal of habitat that supports active nests in the proposed area of disturbance should occur outside of the breeding season for these species (generally February 1 to September 15). If removal of habitat in the proposed area of disturbance must occur during the breeding season, a qualified biologist shall conduct a pre-construction survey to determine the presence or absence of nesting birds in the proposed area of disturbance. The pre-construction survey shall be conducted within ten (10) calendar days prior to the start of construction activities (including removal of vegetation). If nesting birds are observed, a letter report or mitigation plan in conformance with applicable state and federal Law (i.e., appropriate follow up surveys, monitoring schedules, construction, and noise barriers/buffers, etc.) shall be prepared and include proposed measures to be implemented to ensure that take of birds or eggs or disturbance of breeding activities is avoided. The report or mitigation plan shall be submitted to the CDFW and/or USFWS, as applicable, for review and approval and implemented to the satisfaction of those agencies. The project biologist shall verify and approve that all measures identified in the report or mitigation plan are in place prior to and/or during construction. If nesting birds are not detected during the pre-construction survey, no further mitigation is required.

Finding:

The City finds that **Finding 1** applies to this impact. Changes or alterations have been incorporated into the Project, which mitigate or avoid the significant effects on the environment.

Facts in Support of Findings:

The following facts are presented in support of this finding:

- Project-related impacts to biological resources are addressed in Section 4.3, **Appendix D** (*Biological Resources*) of the DEIR. This analysis is incorporated by reference herein.
- Construction activities have the potential to temporarily disturb habitat and directly impact special-status species and nesting birds. Without mitigation, these impacts would be significant.
- Implementation of **MM BIO-1A** through **MM BIO-3** ensures that pre-construction surveys are conducted, special-status species and active nests are identified and protected, and impacts to sensitive biological resources are avoided or minimized.
- With adherence to these measures, temporary disturbances to biological resources will be avoided or reduced to less-than-significant levels, consistent with the thresholds identified in the DEIR.

5.2 Cultural Resources

The Project could result in potential impacts to previously undiscovered cultural and archaeological resources during construction activities involving ground disturbance. However, with the implementation of mitigation measures, these impacts would be reduced to less-than-significant levels.

Significant Environmental Effect:

Ground-disturbing activities, including grading and excavation, could disturb previously undiscovered cultural or archaeological resources, resulting in a significant impact.

Mitigation Measures Considered:

To address the identified impacts, the City adopts the following mitigation measures from the EIR:

- **SC Cul-1:** California Health and Safety Code Section 7050.5, CEQA Section 15064.5, and Public Resources Code Section 5097.98 mandate the process to be followed in the event of an accidental discovery of any human remains in a location other than a dedicated cemetery. California Health and Safety Code Section 7050.5 requires that in the event that human remains are discovered within the project site, disturbance of the site shall be halted until the coroner has conducted an investigation into the circumstances, manner, and cause of death, and the recommendations concerning the treatment and disposition of the human remains have been made to the person responsible for the

excavation, or to his or her authorized representative, in the manner provided in Section 5097.98 of the Public Resources Code. If the coroner determines that the remains are not subject to his or her authority and if the coroner recognizes or has reason to believe the human remains to be those of a Native American, he or she shall contact, by telephone within 24 hours, the Native American Heritage Commission (NAHC). The NAHC will then identify the most likely descendants (MLD) to be consulted regarding treatment and/or reburial of the remains. If an MLD cannot be identified, or the MLD fails to make a recommendation regarding the treatment of the remains within 48 hours after gaining access to the remains, the property owner shall rebury the Native American human remains and associated grave goods with appropriate dignity on the property in a location not subject to further subsurface disturbance.

- **Agua Mansa Mitigation Measure 2:** The San Bernardino County Museum Association recommends that at least some level of evaluation of potential impacts to cultural resources be undertaken by a qualified archaeologist for every proposed project within the Study Area due to the overall prehistoric and early historic significance of the region.

- **Agua Mansa Mitigation Measure 3:** In instances where earth movement uncovers potentially significant artifacts or fossils, work should be curtailed until a qualified specialist is retained to evaluate the significance of any finds.

- **MM CUL-1**: **Retain a Qualified Archaeologist.** Prior to the issuance of any grading permits, or any permit authorizing ground disturbance, the Project applicant shall, meeting Secretary of Interior standards and to the satisfaction of the City Planning Director, demonstrate that a qualified archaeologist has been retained to respond on an as-needed basis to address unanticipated archaeological discoveries. In the event that cultural resources are discovered during Project activities, all work in the immediate vicinity of the find (within a 60-foot buffer) shall cease and the archaeologist shall assess the find. Work on the other portions of the project outside of the buffered area may continue during this assessment period. Additionally, the Yuhaaviatam of San Manuel Nation Cultural Resources Department (YSMN) shall be contacted, as detailed within **MM TCR-1** (refer to Section 4.16, *Tribal Cultural Resource*, of this EIR), regarding any pre-contact finds and be provided information after the archaeologist makes his/her initial assessment of the nature of the find, so as to provide Tribal input with regards to significance and treatment. **MM CUL-2**: If significant pre-contact cultural resources, as defined by CEQA, are

discovered and avoidance cannot be ensured, the archaeologist shall develop a Monitoring and Treatment Plan, the draft of which shall be provided to YSMN for review and comment, as detailed within **MM TCR-1** (Refer to Section 4.16, *Tribal Cultural Resource,* of this EIR). The archaeologist shall monitor the remainder of the Project and implement the Monitoring Treatment Plan accordingly.

- **MM CUL-3**: If human remains of funerary object are encountered during any activities associated with the Project, work in the immediate vicinity (within a 100-foot buffer of the find) shall cease and the County Coroner shall be contacted pursuant to State Health and Safety Code §7050.5 and that code enforced for the duration of the Project.

Finding:

The City finds that **Finding 1** applies to this impact. Changes or alterations have been incorporated into the Project, which mitigate or avoid the significant effects on the environment.

Facts in Support of Findings:

The following facts are presented in support of this finding:

- Project-related impacts to cultural resources are addressed in Section 4.4, **Appendix E** (*Cultural Resources*) of the DEIR. This analysis is incorporated by reference herein.
- Ground-disturbing activities during construction could result in the unintentional discovery of cultural or archaeological resources, which would constitute a significant impact if left unmitigated.
- Implementation of **MM CUL-1** and **MM CUL-2** ensuring that a qualified archaeologist will monitor construction activities and that any discovered resources will be appropriately assessed and managed.
- Implementation of **MM CUL-3** providing that if human remains of funerary objects are encountered during any activities associated with the Project, work in the immediate vicinity (within a 100-foot buffer of the find) shall cease and the County Coroner shall be contacted pursuant to State Health and Safety Code § 7050.5 and that code enforced for the duration of the Project.
- The Project is subject to Standard Condition **SC Cul-1** and **Agua Mansa Mitigation Measures AMMM 2** and **AMMM 3** to further ensure the protection of cultural resources. SC Cul-1 mandates compliance with California Health and Safety Code Section 7050.5 and Public Resources Code Section 5097.98, which establish the process for handling

inadvertent discoveries of human remains. AMMM 2 requires that a qualified archaeologist evaluate potential impacts to cultural resources for projects within the Study Area due to the region's overall prehistoric and early historic significance. AMMM 3 mandates that earth-moving activities be halted if significant artifacts or fossils are uncovered until a qualified specialist evaluates the find. Compliance with these measures ensures that potential impacts to cultural and archaeological resources are appropriately identified, assessed, and mitigated in accordance with applicable regulations.

- With adherence to these measures, potential impacts to cultural resources will be avoided or reduced to less-than-significant levels, consistent with the thresholds identified in the DEIR.

5.3 Geology and Soils

The Project could result in potential impacts related to soil erosion, loss of topsoil, and risks associated with seismic ground shaking during construction and operation. However, with the implementation of mitigation measures, these impacts would be reduced to less-than-significant levels.

Significant Environmental Effect:

Construction activities and long-term operations could result in soil erosion, sedimentation, and instability of soils on-site. Additionally, the site is located in a seismically active region, which may expose structures and workers to risks from seismic ground shaking.

Mitigation Measures Considered:

To address the identified impacts, the City adopts the following mitigation measures from the EIR:

- **MM GEO-1**: **Retain a Qualified Paleontologist.** Prior to the issuance of any grading permits, or any permit authorizing ground disturbance, the Project Applicant shall, to the satisfaction of the City Planning Director, demonstrate that a qualified paleontologist has been retained to respond on an as-needed basis to address unanticipated paleontological discoveries. In the event that fossils or fossil-bearing deposits are discovered during construction, excavations within 50 feet of the find shall be temporarily halted or diverted. The paleontologist shall document the discovery as needed in accordance with Society of Vertebrate Paleontology standards, evaluate the potential resource, and assess the significance of the find under the criteria set forth in CEQA Guidelines Section 15064.5. The paleontologist shall notify the appropriate agencies to determine procedures that would be followed before construction is allowed to resume at the

location of the find. If in consultation with the paleontologist, City staff and the Project Applicant determine that avoidance is not feasible, the paleontologist shall prepare an excavation plan for reducing the effect of the Project on the qualities that make the resource important. The plan shall be submitted to the City for review and approval and the Project Applicant shall implement the approval plan.

- SC GEO-1: The Applicant shall submit to the City of Rialto Community Development Department and Public Works Department for review and approval, a site-specific, design-level geotechnical investigation prepared for the project site by a registered geotechnical engineer. The investigation shall comply with all applicable State and local code requirements and:

  a) Include an analysis of the expected ground motions at the site from known active faults using accepted methodologies;

  b) Determine structural design requirements as prescribed by the most current version of the California Building Code, including applicable City amendments, to ensure that structures can withstand ground accelerations expected from known active faults; and

  c) Determine the final design parameters for walls, foundations, foundation slabs, utilities, roadways, parking lots, sidewalks, and other surrounding related improvements.

  Project plans for foundation design, earthwork, and site preparation shall incorporate all of the mitigation in the site-specific investigations. The structural engineer shall review the site-specific investigations, provide any additional necessary measures to meet Building Code requirements, and incorporate all applicable recommendations from the investigation in the structural design plans and shall ensure that all structural plans for the Project meet current Building Code requirements.

  The City's registered geotechnical engineer or third-party registered engineer retained to review the geotechnical reports shall review each site-specific geotechnical investigation, approve the final report, and require compliance with all geotechnical requirements contained in the investigation in the plans submitted for the grading, foundation, structural, infrastructure and all other relevant construction permits.

  The City shall review all Project plans for grading, foundations, structural, infrastructure and all other relevant construction permits to ensure compliance with the applicable geotechnical investigation and other applicable Code requirements.

Finding:

The City finds that **Finding 1** applies to this impact. Changes or alterations have been incorporated into the Project, which mitigate or avoid the significant effects on the environment.

Facts in Support of Findings:

The following facts are presented in support of this finding:

- Project-related impacts to geology and soils are addressed in Section 4.5, **Appendix G** (*Geology and Soils*) of the DEIR. This analysis is incorporated by reference herein.
- Construction activities have the potential to cause soil erosion and sedimentation, particularly during grading and excavation. Additionally, the location of the Project in a seismically active area increases the risk of ground shaking.
- Implementation of **MM GEO-1** ensures that a qualified paleontologist is retained to address unexpected discoveries and compliance with the NPDES and local grading ordinances.
- To further reduce potential impacts associated with seismic activity, the Project would implement Standard Condition (**SC**) **GEO-1**, which would require the Project applicant to provide a site-specific, design-level geotechnical investigation for review and approval to the City of Rialto Community Development Department and Public Works Department.
- With adherence to these measures, potential impacts related to geology and soils will be avoided or reduced to less-than-significant levels, consistent with the thresholds identified in the DEIR.

5.4 Hazards and Hazardous Materials

The Project could result in potential impacts related to the use, handling, and transport of hazardous materials during construction and operations. However, with the implementation of mitigation measures, these impacts would be reduced to less-than-significant levels.

Significant Environmental Effect:

The use, storage, and transport of hazardous materials during construction and operations could result in accidental releases, posing risks to workers, nearby residents, and the environment.

Mitigation Measures Considered:

To address the identified impacts, the City adopts the following mitigation measures from the EIR:

- **Mitigation Measure 3**: Any toxic or hazardous wastes transported, processed, generated, or stored shall be handled in accordance with regulations established by the Environmental Protection Agency, the State Department of Health Services, and the South Coast Air Quality Management District. The transportation of toxic or hazardous substances through residential areas is strictly prohibited.

Finding:

The City finds that **Finding 1** applies to this impact. Changes or alterations have been incorporated into the Project, which mitigate or avoid the significant effects on the environment.

Facts in Support of Findings:

The following facts are presented in support of this finding:

- Project-related impacts related to hazards and hazardous materials are addressed in Section 4.7, **Appendix C** (*Hazards and Hazardous Materials*) of the DEIR. This analysis is incorporated by reference herein.
- Construction and operation of the Project involve the use of hazardous materials, such as fuels, lubricants, and cleaning agents. Without proper handling, these materials could pose risks to public health and the environment.
- Implementation of **Mitigation Measure 3** ensures that all toxic or hazardous wastes transported, processed, generated, or stored as part of the Project are handled in full compliance with regulations established by the Environmental Protection Agency, the State Department of Health Services, and the South Coast Air Quality Management District. Additionally, the prohibition on transporting toxic or hazardous substances through residential areas minimizes risks to public health and safety, ensuring that potential impacts are reduced to less-than-significant levels.
- With adherence to these measures, potential impacts related to hazards and hazardous materials will be avoided or reduced to less-than-significant levels, consistent with the thresholds identified in the DEIR.

5.5 Noise and Vibration

The Project could result in temporary noise impacts during construction activities that may exceed local noise standards and affect nearby sensitive receptors. However, with the

implementation of mitigation measures, these impacts would be reduced to less-than-significant levels.

Significant Environmental Effect:

Construction activities, including grading, excavation, and operation of heavy machinery, may generate noise levels that exceed City of Rialto noise standards, causing temporary disturbances to nearby sensitive receptors. Additionally, construction activities may generate groundborne vibration that could affect nearby structures and occupants.

Mitigation Measures Considered:

To address the identified impacts, the City adopts the following mitigation measures from the EIR:

- **Mitigation Measure 2:** Interior noise levels in residential and office structures shall not exceed 45 dBA.
- **Mitigation Measure 3:** Where necessary noise retardant measures should be incorporated into the design of industrial structures. Such measures include, but are not limited to, berms, noise attenuation walls, building insulation and the limitation of processing/manufacturing activities to enclosed buildings.
- **Mitigation Measure 4:** The noise standards promulgated by the local jurisdictions shall be adhered to. Each proposed use shall be reviewed for noise generation potential prior to approval..

Finding:

The City finds that **Finding 1** applies to this impact. Changes or alterations have been incorporated into the Project, which mitigate or avoid the significant effects on the environment.

Facts in Support of Findings:

The following facts are presented in support of this finding:

- Project-related impacts related to noise and vibration are addressed in Section 4.10, **Appendix N** (*Noise*) of the DEIR. This analysis is incorporated by reference herein.
- Construction activities, particularly during grading and excavation, may temporarily generate noise levels that exceed applicable standards and could disturb nearby sensitive receptors, such as residences and schools.
- Implementation of **Mitigation Measures 2, 3, and 4** ensures that noise impacts are minimized and that the Project adheres to local noise standards.

- With adherence to these measures, potential noise and vibration impacts during construction will be avoided or reduced to less-than-significant levels, consistent with the thresholds identified in the DEIR.

5.6 Tribal Cultural Resources

The Project could result in potential impacts to undiscovered tribal cultural resources during construction activities involving ground disturbance. However, with the implementation of mitigation measures, these impacts would be reduced to less-than-significant levels.

Significant Environmental Effect:

Ground-disturbing activities, including grading and excavation, could disturb previously undiscovered tribal cultural resources, resulting in a significant impact.

Mitigation Measures Considered:

To address the identified impacts, the City adopts the following mitigation measures from the EIR:

- **MM TCR-1**: The Yuhaaviatam of San Manuel Nation (YSMN) Cultural Resources Management Department shall be contacted of any pre-contact cultural resources discovered during Project implementation and be provided information regarding the nature of the find, as to provide Tribal input with regards to significance and treatment. Should the find be deemed significant, as defined by CEQA, a Cultural Resources Monitoring and Treatment Plan shall be created by an archaeologist, in coordination with YSMN, and all subsequent finds shall be subject to this Plan. This Plan shall allow for a monitor to be present that represents YSMN for the remainder of the Project, should YSMN elect to place a monitor on-site..
- **MM TCR-2**: Any and all archaeological/cultural documents created as a part of the Project (isolate records, site records, survey reports, testing reports, etc.) shall be supplied to the Project applicant and the Lead Agency for dissemination to YSMN. The Lead Agency and/or Project applicant shall, in good faith, consult with YSMN throughout the life of the Project.

Finding:

The City finds that **Finding 1** applies to this impact. Changes or alterations have been incorporated into the Project, which mitigate or avoid the significant effects on the environment.

Facts in Support of Findings:

The following facts are presented in support of this finding:

- Project-related impacts to tribal cultural resources are addressed in Section 4.13, **Appendix E** (*Tribal Cultural Resources*) of the DEIR. This analysis is incorporated by reference herein.
- Ground-disturbing activities during construction could result in the unintentional discovery of tribal cultural resources, which would constitute a significant impact if left unmitigated.
- Implementation of **MM TCR-1** ensures that the YSMN is contacted promptly for consultation and that significant resources are managed appropriately through a Cultural Resources Monitoring and Treatment Plan.
- Implementation of **MM TCR-2** ensures that tribal cultural resources are documented and that the YSMN is consulted throughout the Project's lifecycle to address any cultural concerns.
- With adherence to these measures, potential impacts to tribal cultural resources will be avoided or reduced to less-than-significant levels, consistent with the thresholds identified in the DEIR.

Section 6.0: Areas Determined to Have No Impact or Less Than Significant Impacts

Consistent with CEQA Guidelines Sections 15126.2 and 15128, the EIR focuses on analyzing potentially significant impacts while providing a limited discussion of issue areas where the Project was determined to have no impact or a less-than-significant impact. CEQA Guidelines Section 15091 does not require specific findings for environmental effects categorized as "no impact" or "less than significant." However, to ensure completeness and transparency, this section summarizes the areas where significant environmental effects are not anticipated.

Finding:

"The City Council finds that, based on substantial evidence in the record, the following environmental issue areas would result in either no impact or a less-than-significant impact, and therefore, no mitigation measures are required."

6.1 Aesthetics

The Project site is located within an industrially zoned area of the City and is not within a designated scenic vista or scenic corridor under the City's General Plan. The surrounding area consists primarily of industrial and commercial uses, including warehouses and distribution centers. The Project will not introduce new visual elements that are inconsistent with the existing character of the area and will be required to comply with the City's design review process, ensuring compatibility with surrounding development. Additionally, the Project will incorporate landscaped buffers, perimeter fencing, and architectural features consistent with the City's adopted design standards. Potential light and glare impacts will be minimized through compliance with the City's lighting ordinance, which regulates the height, intensity, and shielding of outdoor lighting to prevent light trespass onto adjacent properties. Therefore, impacts to aesthetics are less than significant.

6.2 Population and Housing

The Project does not include residential uses and does not involve the displacement of existing housing or residents. The site is designated for industrial development under the City's General Plan and Zoning Code, and the proposed use aligns with the intended land use.

Additionally, the Project will not induce unplanned population growth because it does not involve substantial employment generation that would attract new residents beyond existing housing demand projections. The Project is consistent with the regional growth forecasts established by the Southern California Association of Governments (SCAG) in its Regional Housing Needs Assessment (RHNA). Therefore, impacts to population and housing are less than significant.

6.3 Energy

The Project will comply with all applicable energy efficiency standards, including Title 24 of the California Building Standards Code and CALGreen requirements. The Project's buildings will be constructed with energy-efficient insulation, lighting, and HVAC systems in compliance with the latest California Energy Code.

Although the Project will require energy for operations, lighting, and truck transportation activities, it does not involve energy-intensive manufacturing or industrial processes that would result in excessive energy consumption. Furthermore, the Project will be subject to South Coast Air Quality Management District (SCAQMD) rules requiring the use of energy-efficient and low-emission equipment.

Given compliance with state-mandated energy efficiency regulations and the absence of wasteful, inefficient, or unnecessary energy use, impacts to energy consumption are less than significant.

6.4 Recreation

Because the Project does not include residential development, it will not generate new demand for parks or recreational facilities. Additionally, the Project site does not contain any existing recreational resources that would be displaced.

The City of Rialto's Parks and Recreation Master Plan does not identify the Project site as an area designated for public recreational use, nor does it propose the development of new parkland in the immediate vicinity of the site.

Given that no new demand for recreational facilities will be generated, and no existing recreational facilities will be affected, impacts to recreation are less than significant.

6.5 Public Services

The Project site is located within an urbanized, fully serviced area of the City with existing fire protection, police, and emergency response services. The City of Rialto Fire Department and Police Department currently provide service to the area, and response times to the site are within established performance standards.

While the Project will result in a nominal increase in demand for police and fire services, the increase is not substantial enough to require new or physically expanded facilities beyond those already planned for under the City's capital improvement programs. The Project applicant will be required to pay Development Impact Fees (DIFs) to contribute toward maintaining service levels for public safety.

Given that the Project is consistent with the City's General Plan growth assumptions and will not result in the need for new or expanded fire or police facilities, impacts to public services are less than significant.

Section 7.0: Findings Regarding Project Alternatives Not Selected for Implementation

As required by CEQA Guidelines Section 15126.6, the City's EIR described a range of reasonable and potentially feasible alternatives to the Project which would feasibly attain most of the basic objectives of the Project but would avoid or substantially lessen any of the significant effects of the Project, and evaluated the comparative merits of the alternatives in the EIR.

The DEIR considered three alternatives to the proposed Project, as follows:

1. **No Development Alternative**
2. **High-Cube Short-Term Storage Alternative**
3. **Business Park Alternative**

These alternatives are evaluated below based on their potential to avoid or substantially lessen significant impacts and their ability to meet the basic objectives of the proposed Project.

7.1 No Development Alternative

CEQA Guidelines Section 15126.6(e) requires the analyses of a "no project" alternative. Under this alternative, no development would occur on the Project site. The site would remain in its current vacant and disturbed condition with no construction or operational activities.

Findings:

The No Development Alternative would avoid all environmental impacts associated with the proposed Project, including significant and unavoidable impacts to air quality, greenhouse gases, and vehicle miles traveled (VMT). However, this alternative fails to meet any of the basic objectives of the proposed Project, which include providing a truck terminal facility to meet regional goods movement needs and supporting the local and regional economy. The failure of this alternative to achieve any of the Project objectives renders it infeasible.

Conclusion:
The City finds the No Development Alternative to be infeasible because it does not meet the basic objectives of the proposed Project.

The findings of the proposed Project set forth in this document and the overriding social, economic, and other issues set forth in the Statement of Overriding Considerations below provide support for the proposed Project and the elimination of this Alternative from further consideration.

7.2 High-Cube Short-Term Storage Alternative

Under this alternative, the Project site would be developed with a 500,000-square-foot high-cube short-term storage warehouse. This alternative reduces the scale of operations compared to the proposed Project and modifies the design to focus on short-term storage needs.

Findings:
The High-Cube Short-Term Storage Alternative would reduce impacts to air quality, greenhouse gases, and noise compared to the proposed Project due to fewer daily truck trips. However, significant and unavoidable impacts to VMT would remain due to the nature of regional goods movement activities. This alternative would meet most of the Project objectives, including providing a logistics facility to support regional goods movement and contributing to the local economy.

Conclusion:
The City finds the High-Cube Short-Term Storage Alternative to be feasible but does not select it for approval because it does not fully meet the operational needs and efficiencies of the proposed Project, which is specifically designed to serve as a truck terminal facility. Additionally, while this alternative reduces certain impacts, it does not avoid the significant and unavoidable VMT impacts.

Pursuant to CEQA Guidelines Section 15126.6(e)(2), the DEIR identifies the High-Cube Short-Term Storage Alternative as the Environmentally Superior Alternative because it reduces significant impacts to air quality, greenhouse gases, and noise compared to the proposed Project. However, this alternative still results in significant and unavoidable impacts to VMT. The No Development Alternative is environmentally superior in absolute terms because it avoids all environmental impacts, but it fails to meet any of the basic Project objectives and is therefore considered infeasible.

The findings of the proposed Project set forth in this document and the overriding social, economic, and other issues set forth in the Statement of Overriding Considerations below provide support for the proposed Project and the elimination of this Alternative from further consideration.

7.3 Business Park Alternative

Under this alternative, the Project site would be developed as a 500,000-square-foot business park consisting of multiple smaller warehouse/incubator buildings. This alternative shifts the focus of the site from logistics to mixed-use business activities, such as small-scale distribution and office space.

Findings:
The Business Park Alternative would reduce some impacts compared to the proposed Project, particularly in terms of air quality and greenhouse gases, as it would generate fewer emissions from truck trips. However, this alternative would still result in significant and unavoidable impacts to VMT. While this alternative meets most Project objectives, it does not provide the same level of operational efficiency and regional logistics support as the proposed Project.

Conclusion:
The City finds the Business Park Alternative to be feasible but does not select it for approval because it does not fully align with the operational goals of the proposed Project. Additionally, while this alternative reduces certain impacts, it does not avoid the significant and unavoidable VMT impacts.

The findings of the proposed Project set forth in this document and the overriding social, economic, and other issues set forth in the Statement of Overriding Considerations below provide support for the proposed Project and the elimination of this Alternative from further consideration.

Section 8.0: Statement of Overriding Considerations

8.1 Introduction

The City of Rialto is the Lead Agency under CEQA for preparation, review, and certification of the DEIR and FEIR for the Santa Ana Truck Terminal Project. As the Lead Agency, the City is also responsible for determining the potential environmental impacts of the proposed Project and which of those impacts are significant, and which can be mitigated through imposition of mitigation measures to avoid or minimize those impacts to a level of less than significant. CEQA then requires the Lead Agency to balance the benefits of a proposed action against its significant unavoidable adverse environmental impacts in determining whether or not to approve the proposed project. In making this determination, the City is guided by CEQA Guidelines Section 15093, which provides as follows:

> *(a) CEQA requires the decision-making agency to balance, as applicable, the economic, legal, social, technological, or other benefits, including region-wide or statewide environmental benefits, of a proposed project against its unavoidable environmental risks in determining whether to approve the project. If the specific economic, legal, social, technological, or other benefits, including region-wide or statewide environmental benefits, of a proposed project outweigh the unavoidable adverse environmental effects, the adverse environmental effects may be considered "acceptable."*
>
> *(b) When the lead agency approves a project which will result in the occurrence of significant effects which are identified in the final EIR but are not avoided or substantially lessened, the agency shall state in writing the specific reasons to support its action based on the final EIR and/or other information in the record. The statement of overriding considerations shall be supported by substantial evidence in the record.*
>
> *(c) If an agency makes a statement of overriding considerations, the statement should be included in the record of the project approval and should be mentioned in the notice of determination. This statement does not substitute for, and shall be in addition to, findings required pursuant to Section 15091.*

In addition, Public Resources Code Section 21081(b) requires that where a public agency finds that specific economic, legal, social, technological, or other considerations, including considerations for the provision of employment opportunities for highly trained workers, make infeasible the mitigation measures or alternatives identified in an EIR and thereby leave significant unavoidable effects, the public agency must also find that overriding economic, legal, social, technological, or other benefits of the project outweigh the significant effects of the project.

Pursuant to Public Resources Code Section 21081(b) and the State CEQA Guidelines Section 15093, the City has balanced the benefits of the proposed Project against the following unavoidable adverse impacts associated with the proposed Project and has adopted all feasible mitigation measures with respect to these impacts. The City also has examined alternatives to the proposed Project, none of which attain most of the Project objectives, would be feasible, or would be environmentally preferable to the proposed Project for the reasons discussed in Section 6.0 of these Findings and Facts in Support of Findings.

The City Council, having reviewed the DEIR and FEIR for the Santa Ana Truck Terminal Project, and reviewed all written materials within the City's public record and heard all oral testimony presented at public hearings, adopts this Statement of Overriding Considerations, which has balanced the benefits of the Project against its significant unavoidable adverse environmental impacts in reaching its decision to approve the Project.

8.2 Significant Unavoidable Adverse Environmental Impacts

As discussed in the DEIR and FEIR and summarized in Section 4.0 of these Findings, the Santa Ana Truck Terminal Project will result in certain significant and unavoidable adverse environmental impacts that cannot feasibly be mitigated to a less-than-significant level. These impacts are identified below:

1. **Air Quality**:
    - The Project will result in operational emissions of nitrogen oxides (NO_x) that exceed the South Coast Air Quality Management District's (SCAQMD) regional significance thresholds. These emissions contribute to the formation of ozone and regional air quality degradation. Despite the implementation of all feasible mitigation measures, including the use of zero-emission or near-zero-emission trucks where feasible, NO_x emissions will remain significant and unavoidable due to the inherent nature of truck terminal operations.
2. **Greenhouse Gas (GHG) Emissions**:
    - The Project's operational GHG emissions will exceed the significance threshold of 3,000 metric tons of carbon dioxide equivalent (MTCO2e) annually. These emissions conflict with California's GHG reduction goals under Senate Bill (SB) 32 and Executive Orders S-3-05 and B-55-18. Although mitigation measures to reduce energy consumption and improve operational efficiency are included, the emissions remain significant and unavoidable due to the intensity of truck operations.

3. **Transportation**:

- The Project will result in vehicle miles traveled (VMT) per employee that exceeds the San Bernardino Countywide VMT threshold. This impact is primarily due to the nature of goods movement and the geographic distribution of logistics activities. Even with mitigation measures, including traffic management strategies and carpool programs, this impact cannot be reduced to less-than-significant levels.

While these significant unavoidable adverse environmental impacts cannot be fully mitigated, the City has balanced these impacts against the benefits of the Project, as detailed in Section 7.3 below, and has determined that the benefits outweigh the adverse effects. The City of Rialto finds that all feasible mitigation measures have been imposed to lessen Project impacts to less than significant levels; and furthermore, that alternatives to the Project are infeasible because while they have similar or less environmental impacts, they do not provide the benefits of the project, or are otherwise socially or economically infeasible when compared to the Project, as described herein.

8.3 Overriding Considerations

Pursuant to Public Resources Code Section 21081(b) and CEQA Guidelines Section 15093, the City of Rialto has balanced the significant unavoidable adverse environmental impacts of the Santa Ana Truck Terminal Project against its economic, legal, social, technological, and other benefits. The City finds that the benefits of the proposed Project outweigh its significant unavoidable environmental effects, as detailed below:

1. Economic Benefits:

- **Job Creation**: The Project will generate substantial economic activity, including construction jobs during the development phase and permanent operational jobs. These jobs will directly support the local workforce and contribute to economic stability within the City and surrounding region.
- **Increased Tax Revenues**: The Project will enhance the City's fiscal health through increased property taxes, sales taxes, and other local revenue streams. These revenues will support essential public services such as public safety, parks, and infrastructure maintenance.
- **Economic Development**: The Project will solidify the City of Rialto's role as a logistics hub in the Inland Empire, attracting related businesses and fostering long-term economic growth.

- **Regional Traffic Infrastructure and Improvement Contribution**: The Project will contribute a one-time payment of $1,500,000.00 to be utilized by the City at its discretion for regional traffic infrastructure and improvements.

- **Roadway Improvements to E. Santa Ana Avenue**: The Project will construct full-width improvements to E. Santa Ana Avenue from the Project's eastern property line west to the intersection of S. Riverside Avenue, excluding curb, gutter and sidewalk improvements except for the frontage of the Project site, which would improve safety for workers at the Project and others utilizing E. Santa Ana Avenue.

2. Social Benefits:

- **Support for Regional Supply Chains**: The Project will improve the efficiency of regional and national goods movement by providing a strategically located truck terminal. This will reduce transportation bottlenecks and support the Inland Empire's role as a vital logistics corridor.

- **Enhanced Quality of Life**: By optimizing goods movement, the Project will indirectly reduce inefficiencies in the transportation system, which benefits local communities through improved access to goods and services.

3. Technological Benefits:

- **Sustainability Measures**: The Project incorporates advanced sustainability practices, including provisions for zero-emission or near-zero-emission trucks, compliance with state-of-the-art energy efficiency standards, and the use of renewable energy systems where feasible.

- **Operational Efficiencies:** The Project design reflects the latest innovations in logistics operations, enabling more efficient handling and movement of goods.

4. Environmental Benefits:

- **Landscaping and Habitat Enhancement:** The Project includes extensive landscaping improvements that enhance the aesthetic and environmental quality of the site and surrounding area.

- **Regional GHG Reductions:** While the Project's emissions exceed thresholds, the efficiency gains in logistics operations support broader regional and state goals to reduce greenhouse gas emissions from inefficient goods movement activities.

5. Alignment with Planning Goals:

- **Specific Plan Consistency**: The Project transforms an underutilized site with an economically viable development that aligns with the goals of the Agua Mansa Industrial Corridor Specific Plan, which designates the site for industrial and logistics uses. This consistency ensures that the Project contributes to the orderly and planned development of the region.
- **General Plan Objectives:** The Project fulfills key objectives of the City's General Plan by promoting economic growth, creating employment opportunities, and enhancing industrial development in designated areas.

8.4 Conclusion

In conclusion, the City Council has identified substantial economic, social, and technological benefits, as well as critical public policy objectives, that will result from the implementation of the Santa Ana Truck Terminal Project. These Project characteristics will not only provide significant advantages to the City of Rialto and its residents but also offer benefits to surrounding communities and the broader region.

The City Council has carefully balanced these substantial economic and social benefits against the significant unavoidable adverse environmental effects of the proposed Project. The City Council recognizes that the Project's efficient goods movement infrastructure, job creation, increased revenue for public services, and alignment with regional planning objectives contribute to critical economic stability and growth for the City and the Inland Empire region.

Given these significant and far-reaching benefits, the City Council finds that the Santa Ana Truck Terminal Project's identified advantages outweigh its significant environmental impacts, and the Council hereby determines that these benefits override the Project's unavoidable adverse environmental effects.

RESOLUTION NO. 2025-XX

A RESOLUTION OF THE PLANNING COMMISSION OF THE CITY OF RIALTO, CALIFORNIA RECOMMENDING THAT THE CITY COUNCIL APPROVE CONDITIONAL DEVELOPMENT PERMIT NO. 2023-0007 ALLOWING THE DEVELOPMENT AND OPERATION OF A TRUCK TERMINAL FACILITY CONSISTING OF A 172,445 SQUARE FOOT CROSS-DOCK TRUCK TERMINAL BUILDING AND A 18,700 SQUARE FOOT FLEET MAINTENANCE BUILDING ON 45.7 ACRES OF LAND (APN: 0258-141-18) LOCATED ON THE SOUTH SIDE OF SANTA ANA AVENUE APPROXIMATELY 1,800 FEET EAST OF RIVERSIDE AVENUE WITHIN THE HEAVY INDUSTRIAL (H-IND) LAND USE DISTRICT OF THE AGUA MANSA SPECIFIC PLAN.

WHEREAS, the applicant, Crown Venture Holdings, LLC, ("Applicant") proposes to develop and operate a truck terminal facility consisting of consisting of a 172,445 square foot cross-dock truck terminal building, a 18,700 square foot fleet maintenance building, and associated paving, landscaping, fencing, lighting, and drainage improvements ("Project") on approximately 45.7 acres of land (APN: 0258-141-18) located on the south side of Santa Ana Avenue approximately 1,800 feet east of Riverside Avenue within the Heavy Industrial (H-IND) land use district of the Agua Mansa Specific Plan ("Site"); and

WHEREAS, the Project will consist of a 172,445 square foot cross-dock truck terminal building, an 18,700 square foot fleet maintenance building, two hundred eighty (280) dock-high loading doors, concrete screen walls, an abundant amount of landscaping, and full pedestrian and vehicle access; and

WHEREAS, Pursuant to Ordinance No. 1653, the Project requires a Conditional Development Permit, and the applicant has agreed to apply for Conditional Development Permit No. 2023-0007 ("CDP No. 2023-0007"); and

WHEREAS, in conjunction with the Project, the applicant has applied for Precise Plan of Design No. 2023-0006 ("PPD No. 2023-0006") to facilitate the development of a 172,445 square foot cross-dock truck terminal building, an 18,700 square foot fleet maintenance building, and associated paving, landscaping, fencing, lighting, and drainage improvements on the Site; and

WHEREAS, on September 17, 2025, the Planning Commission of the City of Rialto conducted a duly noticed public hearing, as required by law, on CDP No. 2023-0007 and PPD No. 2023-0006, took testimony, at which time it received input from staff, the city attorney, and the applicant; heard public testimony; discussed the proposed CDP No. 2023-0007 and PPD No. 2023-0006; and closed the public hearing; and

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

NOW, THEREFORE, BE IT RESOLVED by the Planning Commission of the City of Rialto as follows:

SECTION 1. The Planning Commission hereby specifically finds that all of the facts set forth in the recitals above of this Resolution are true and correct and incorporated herein.

SECTION 2. Based on substantial evidence presented to the Planning Commission during the public hearing conducted with regard to CDP No. 2023-0007, including written staff reports, verbal testimony, site plans, other documents, and the conditions of approval stated herein, the Planning Commission hereby determines that CDP No. 2023-0007 satisfies the requirements of Section 18.66.020 of the Rialto Municipal Code pertaining to the findings which must be made precedent to granting a conditional development permit, which findings are as follows:

1. The proposed use is deemed essential or desirable to provide a service or facility which will contribute to the convenience or general well-being of the neighborhood or community; and

This finding is supported by the following facts:

The Site is asymmetrical-shaped, expansive in size, and vacant. The Project will develop the highest and best use for the Site, in accordance with the Heavy Industrial (H-IND) land use district of the Agua Mansa Specific Plan. Additionally, the Project will provide employment opportunities within the City and reduce blight by implementing a use on vacant, unimproved land.

2. The proposed use will not be detrimental or injurious to health, safety, or general welfare of persons residing or working in the vicinity; and

This finding is supported by the following facts:

The development of a truck terminal facility on the Site is consistent with the Heavy Industrial (H-IND) land use designation of the Agua Mansa Specific Plan, which conditionally permits the development and operation of truck terminal facilities. To the

north of the project site, across Santa Ana Avenue, is a pallet yard, operated by Select Pallets, and to the east is an 82,000 square foot industrial warehouse building and Rialto Water Service's Wastewater Treatment Plant. To the south is the Santa Ana River, and to the west are various industrial developments and operations, including Holliday Rock, a concrete mix supplier, and Ecology Auto Parts, auto-salvage and fleet maintenance operations. The nearby area is designated for and completely developed with industrial uses, and as a result, there are no sensitive land uses adjacent to or near the project site. The project is not expected to negatively impact any uses with the successful implementation of measures such as landscape buffering, the installation of solid screen walls, aesthetic building enhancements, and other traffic related measures.

3. The site for the proposed use is adequate in size, shape, topography, accessibility and other physical characteristics to accommodate the proposed use in a manner compatible with existing land uses; and

This finding is supported by the following facts:

The Site contains 45.7 acres, is asymmetrical-shaped, and adjacent one (1) public street, which will be able to accommodate the proposed use. The Project will have two (2) points of access via Santa Ana Avenue. A new 32-foot-wide driveway connected directly to Santa Ana Avenue on the west end of the project frontage will provide right-in/left-out access for both trucks and passenger vehicles. The other driveway on the east end of the site will also provide right-in/left-out access for trucks and passenger vehicles. In addition, the Site will have 149 passenger vehicle parking spaces, which exceeds the amount required by Table 13 (Off-Street Parking Requirements) of the Agua Mansa Specific Plan.

4. The site has adequate access to those utilities and other services required for the proposed use; and

This finding is supported by the following facts:

The Site will have adequate access to all utilities and services required through main water, electric, sewer, and other utility lines that will be hooked up to the Site.

5. The proposed use will be arranged, designed, constructed, and maintained so as it will not be injurious to property or improvements in the vicinity or otherwise be inharmonious with the General Plan and its objectives, the Agua Mansa Specific Plan, or any zoning ordinances, and

This finding is supported by the following facts:

As previously stated, the use is consistent with the Heavy Industrial (H-IND) land use designation of the Agua Mansa Specific Plan. A solid screen wall will be installed along the Santa Ana Avenue frontage such that none of the dock doors or truck loading areas will be visible from the public right-of-way, and the Site will have 149 passenger vehicle parking spaces, all of which comply with the General Plan, the Agua Mansa Specific Plan,

Ordinance No. 1653, and the City's Design Guidelines. A twenty-five (25) foot wide landscaped setback will be provided along Santa Ana Avenue.

6. Any potential adverse effects upon the surrounding properties will be minimized to every extent practical and any remaining adverse effects shall be outweighed by the benefits conferred upon the community or neighborhood as a whole.

This finding is supported by the following facts:

The Project's effects will be minimized through the implementation of the Conditions of Approval contained herein, and through the implementation of Conditions of Approval imposed by the City Council on the Precise Plan of Design, such as extensive landscaping, solid screen walls, and enhanced architectural features. The development of a high-quality industrial development will provide additional employment opportunities for residents and visitors to the City. The Project will also serve to develop a piece of land, which has remained undeveloped. The Project is consistent with the Heavy Industrial (H-IND) land use district and the surrounding industrial land uses. The nearby area is designated for and completely developed with industrial uses, and as a result, there are no sensitive land uses adjacent to or near the project site. The project is not expected to negatively impact any uses with the successful implementation of measures such as landscape buffering, the installation of solid screen walls, aesthetic building enhancements, and other traffic related measures. Therefore, any potential adverse effects are outweighed by the benefits conferred upon the community and neighborhood as a whole.

SECTION 3. An Environmental Impact Report (Environmental Assessment Review No. 2023-0010) has been prepared for the proposed Project in accordance with the California Environmental Quality Act (CEQA) and it has been determined that the Project will create unavoidable significant impacts to air quality, greenhouse gas emissions, and transportation/traffic. The Planning Commission has forwarded, or is forwarding, a recommendation to the City Council to adopt the Environmental Impact Report prepared for the Project.

SECTION 4. The Planning Commission hereby recommends that the City Council approve CDP No. 2023-0007, in accordance with the plans and application on file with the Planning Division, subject to the following conditions:

1. The approval is granted allowing the development and operation of a truck terminal facility consisting of a 172,445 square foot cross-dock truck terminal building and an 18,700 square foot fleet maintenance building on 45.7 acres of land (APN: 0258-141-18) located on the south side of Santa Ana Avenue approximately 1,800 feet east of Riverside Avenue, as shown on the plans attached as Exhibit A and as approved by the City Council. If the Conditions of Approval specified herein are not satisfied or otherwise completed, the project shall be subject to revocation.

2. City inspectors shall have access to the site to reasonably inspect the site during normal working hours to assure compliance with these conditions and other codes.

3. The applicant shall indemnify, protect, defend, and hold harmless, the City of Rialto, and/or any of its officials, officers, employees, agents, departments, agencies, and instrumentalities thereof (collectively, the "City Parties"), from any and all claims, demands, law suits, writs of mandamus, and other actions and proceedings (whether legal, equitable, declaratory, administrative or adjudicatory in nature), and alternative dispute resolutions procedures (including, but not limited to arbitrations, mediations, and other such procedures), (collectively "Actions"), brought against the City, and/or any of its officials, officers, employees, agents, departments, agencies, and instrumentalities thereof, that challenge, attack, or seek to modify, set aside, void, or annul, the any action of, or any permit or approval issued by, the City and/or any of its officials, officers, employees, agents, departments, agencies, and instrumentalities thereof (including actions approved by the voters of the City), for or concerning the Project (collectively, the "Entitlements"), whether such Actions are brought under the California Environmental Quality Act, the Planning and Zoning Law, the Subdivision Map Act, Code of Civil Procedure Chapter 1085 or 1094.5, the California Public Records Act, or any other state, federal, or local statute, law, ordinance, rule, regulation, or any decision of a court of competent jurisdiction. This condition to indemnify, protect, defend, and hold the City harmless shall include, but not limited to (i) damages, fees and/or costs awarded against the City, if any, and (ii) cost of suit, attorneys' fees and other costs, liabilities and expenses incurred in connection with such proceeding whether incurred by applicant, Property owner, or the City and/or other parties initiating or bringing such proceeding (collectively, subparts (i) and (ii) are the "Damages"). Notwithstanding anything to the contrary contained herein, the Applicant shall not be liable to the City Parties under this indemnity to the extent the Damages incurred by any of the City Parties in such Action(s) are a result of the City Parties' fraud, intentional misconduct or gross negligence in connection with issuing the Entitlements. The applicant shall execute an agreement to indemnify, protect, defend, and hold the City harmless as stated herein within five (5) days of approval of CDP No. 2023-0007.

4. In accordance with the provisions of Government Code Section 66020(d)(1), the imposition of fees, dedications, reservations, or exactions for this Project, if any, are subject to protest by the applicant at the time of approval or conditional approval of the Project or within 90 days after the date of the imposition of the fees, dedications, reservations, or exactions imposed on the Project.

5. The property owner(s) and building tenants shall always abide by all operational mitigation measures contained within the Mitigation Monitoring and Reporting Program associated with the Environmental Impact Report (Environmental Assessment Review No. 2023-0010) adopted for the Project.

6. The tenants within the buildings shall always conduct operations consistent with the environmental analysis contained within the Environmental Impact Report (Environmental Assessment Review No. 2023-0010) adopted for the Project.

7. The Project shall be limited to a maximum of 377 actual passenger car trips and 574 actual truck trips daily, in accordance with Table 5 (Summary of Project Trip Generation) of the Traffic Study prepared for the Project by Kimley-Horn and Associates, Inc. and dated April 2023, which is attached hereto as Exhibit B.

8. The applicant, landlord, operator(s) and/or tenant(s) shall ensure that all inbound truck traffic that requires temporary queuing or staging do so on-site. Inbound truck traffic shall not queue or stage on any public street at any time. Activities on-site shall not operate in such a manner that would impact traffic lanes, cause back up (queuing or staging) of vehicles into the public-right-of-way, or create any unsafe conditions. Fire and Police access and passage around trucks queuing or staging on-site shall be feasible at all times and activities shall not block parking areas, access or passage for disabled persons or emergency response vehicles.

9. The applicant, landlord, operator(s) and/or tenant(s) shall only park or store trucks and trailers within designated truck and trailer parking spaces on-site. No trucks or trailers shall be parked or stored within any public street or within any on-site drive-aisles or passenger vehicle parking areas at any time.

10. The landlord and/or tenant(s) shall not store any product, goods, materials, etc. outside of the building at any time, except for trucks, trailers, and vehicles associated with the operation(s) conducted within the building, without prior approval of a separate Conditional Development Permit in accordance with Chapter 18.104 (Outdoor Storage Uses) of the Rialto Municipal Code.

11. Approval of CDP No. 2023-0007 will not become effective until the applicant has signed a statement acknowledging awareness and acceptance of the required conditions of approval contained herein.

12. In the event, that any operation on the Site is found to be objectionable or incompatible with the character of the City and its environs due to excessive noise, excessive traffic, loitering, criminal activity or other undesirable characteristics including, but not strictly limited to, uses which are or have become offensive to neighboring property or the goals and objectives of the Heavy Industrial (H-IND) land use district, the Agua Mansa Specific Plan, and/or the City's General Plan, the applicant shall address the issues within forty-eight (48) hours of being notified by the City.

13. If the applicant fails to comply with any of the conditions of approval placed upon CDP No. 2023-0007 or PPD No. 2023-0006, the Planning Commission may initiate proceedings to revoke the conditional development permit in accordance with the provisions of Sections 18.66.070 through 18.66.090, inclusive, of the Rialto Municipal Code. CDP No. 2023-0007 may be revoked, suspended or modified in accordance with

Section 18.66.070 of the Zoning Ordinance at the discretion of the Planning Commission if:

a) The use for which such approval was granted has ceased to exist, been subsequently modified, or has been suspended for six (6) months or more;

b) Any of the express conditions or terms of such permit are violated;

c) The use for which such approval was granted becomes or is found to be objectionable or incompatible with the character of the City and its environs due to excessive noise, excessive traffic, loitering, criminal activity or other undesirable characteristics including, but not strictly limited to uses which are or have become offensive to neighboring property or the goals and objectives of the Heavy Industrial (H-IND) land use district, the Agua Mansa Specific Plan, and/or the City's General Plan.

SECTION 5. The Chairman of the Planning Commission shall sign the passage and adoption of this resolution and thereupon the same shall take effect and be in force.

PASSED, APPROVED AND ADOPTED this 17th day of September, 2025.

_____
JERRY GUTIERREZ, CHAIR
CITY OF RIALTO PLANNING COMMISSION

STATE OF CALIFORNIA)
COUNTY OF SAN BERNARDINO) ss
CITY OF RIALTO)

I, Heidy Gonzalez, Administrative Assistant of the City of Rialto, do hereby certify that the foregoing Resolution No. ____ was duly passed and adopted at a regular meeting of the Planning Commission of the City of Rialto held on the ___th day of ____, 2025.

Upon motion of Planning Commissioner_____., seconded by Planning Commissioner ____, the foregoing Resolution No. ____was duly passed and adopted.

Vote on the motion:

AYES:

NOES:

ABSENT:

IN WITNESS WHEREOF, I have hereunto set my hand and the Official Seal of the City of Rialto this __th day of ___, 2025.

_____

HEIDY GONZALEZ, ADMINISTRATIVE ASSISTANT

Exhibit “A”

Project Plans

Exhibit "B"

Table 3 (Summary of Project Trip Generation)
From the Traffic Study prepared for the Project by Kimley-Horn and Associates, Inc.
Dated April 2023

TABLE 3
SUMMARY OF PROJECT TRIP GENERATION
OLIVE AVENUE DEVELOPMENT PROJECT

TRIP GENERATION RATES [1]

ITE Land Use	ITE Code	Unit	Daily	AM Peak Hour			PM Peak Hour		
				In	Out	Total	In	Out	Total
Warehousing	150	KSF	1.740	0.131	0.039	0.170	0.051	0.139	0.190

PROJECT TRIP GENERATION

Project Land Use		Quantity	Unit	Daily	AM Peak Hour			PM Peak Hour		
					In	Out	Total	In	Out	Total
Warehousing		679.607	KSF	1,183	89	27	116	35	94	129
Passenger Vehicles	60.00%			710	53	16	69	21	56	77
Trucks	40.00%			473	36	11	47	14	38	52

PROJECT TRIPS - PASSENGER CAR EQUIVALENTS (PCE)

Vehicle Type	Vehicle Mix [2]	Daily Vehicles	PCE Factor	Daily	AM Peak Hour			PM Peak Hour		
					In	Out	Total	In	Out	Total
Passenger Vehicles	60.0%	710	1.0	710	53	16	69	21	56	77
2-Axle Trucks	0.8%	9	1.5	14	1	0	1	0	1	1
3-Axle Trucks	11.2%	132	2.0	264	20	6	26	8	21	29
4+ Axle Trucks	28.0%	331	3.0	993	75	23	98	29	79	108
Total Truck PCE Trips				1,271	96	29	125	37	101	138
Total Project PCE Trips				**1,981**	**149**	**45**	**194**	**58**	**157**	**215**

[1] Source: Institute of Transportation Engineers (ITE) Trip Generation Manual, 10th Edition
[2] Source: City of Rialto Traffic Impact Analysis Report Guidelines and Requirements, December, 2013
PCE = Passenger Car Equivalent
KSF = Thousand Square Feet

RESOLUTION NO. 2025-XX

A RESOLUTION OF THE PLANNING COMMISSION OF THE CITY OF RIALTO, CALIFORNIA RECOMMENDING THAT THE CITY COUNCIL APPROVE PRECISE PLAN OF DESIGN NO. 2023-0006 ALLOWING THE DEVELOPMENT OF A TRUCK TERMINAL FACILITY CONSISTING OF A 172,445 SQUARE FOOT CROSS-DOCK TRUCK TERMINAL BUILDING, AN 18,700 FLEET MAINTENANCE BUILDING, AND ASSOCIATED PAVING, LANDSCAPING, FENCING, LIGHTING, AND DRAINAGE IMPROVEMENTS ON 45.7 ACRES OF LAND (APN: 0258-141-18) LOCATED ON THE SOUTH SIDE OF SANTA ANA AVENUE APPROXIMATELY 1,800 FEET EAST OF RIVERSIDE AVENUE WITHIN THE HEAVY INDUSTRIAL (H-IND) LAND USE DISTRICT OF THE AGUA MANSA SPECIFIC PLAN.

WHEREAS, the applicant, Crown Venture Holdings, LLC, ("Applicant") proposes to develop a truck terminal facility consisting of consisting of a 172,445 square foot cross-dock truck terminal building, a 18,700 square foot fleet maintenance building, and associated paving, landscaping, fencing, lighting, and drainage improvements ("Project") on approximately 45.7 acres of land (APN: 0258-141-18) located on the south side of Santa Ana Avenue approximately 1,800 feet east of Riverside Avenue within the Heavy Industrial (H-IND) land use district of the Agua Mansa Specific Plan ("Site"); and

WHEREAS, the Project will consist of a 172,445 square foot cross-dock truck terminal building, an 18,700 square foot fleet maintenance building, two-hundred eighty (280) dock-high loading doors, concrete screen walls, an abundant amount of landscaping, and full pedestrian and vehicle access; and

WHEREAS, Pursuant to Chapter 18.65 (Precise Plan of Design) of the Rialto Municipal Code, the Project requires a Precise Plan of Design, and the applicant agreed to apply for Precise Plan of Design No. 2023-0006 ("PPD No. 2023-0006"); and

WHEREAS, in conjunction with the Project, the applicant has applied for Conditional Development Permit No. 2023-0007 ("CDP No. 2023-0007") to facilitate the development and operation of a 172,445 square foot cross-dock truck terminal building and an 18,700 square foot fleet maintenance building on the Site; and

WHEREAS, on September 17, 2025, the Planning Commission of the City of Rialto conducted a duly noticed public hearing, as required by law, on PPD No. 2023-0006 and CDP No. 2023-0007, took testimony, at which time it received input from staff, the city attorney, and the applicant; heard public testimony; discussed the proposed PPD No. 2023-0006 and CDP No. 2023-0007; and closed the public hearing; and

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

NOW, THEREFORE, BE IT RESOLVED by the Planning Commission of the City of Rialto as follows:

SECTION 1. The Planning Commission hereby specifically finds that all of the facts set forth in the recitals above of this Resolution are true and correct and incorporated herein.

SECTION 2. Based on substantial evidence presented to the Planning Commission during the public hearing conducted with regard to PPD No. 2023-0006, including written staff reports, verbal testimony, site plans, other documents, and the conditions of approval stated herein, the Planning Commission hereby determines that PPD No. 2023-0006 satisfies the requirements of Section 18.65.020E of the Rialto Municipal Code pertaining to the findings which must be made precedent to granting a Precise Plan of Design. The findings are as follows:

1. The proposed development is in compliance with all city ordinances and regulations, unless in accordance with an approved variance; and

This finding is supported by the following facts:

The Site has a General Plan land use designation of General Industrial with a Specific Plan Overlay and a zoning designation of Agua Mansa Specific Plan. The Site's land use designation within the Agua Mansa Specific Plan is Heavy Industrial (H-IND). Those designations allow for the development and operation of truck terminal facilities, as proposed by the Project. The Project, as conditioned herein, will comply with all City ordinances and regulations, the H-IND land use district, and the Agua Mansa Specific Plan.

2. The site is physically suitable for the proposed development, and the proposed development will be arranged, designed, constructed, and maintained so that it will not be unreasonably detrimental or injurious to property, improvements, or the health, safety or general welfare of the general public in the vicinity, or otherwise be inharmonious with the city's general plan and its objectives, zoning ordinances or any applicable specific plan and its objectives; and

This finding is supported by the following facts:

The Site is 45.7 acres in size, bound by one (1) public street (Santa Ana Avenue to the north), and is within the Heavy Industrial (H-IND) land use district of the Agua Mansa Specific Plan. To the north of the project site, across Santa Ana Avenue, is a pallet yard, operated by Select Pallets, and to the east is an 82,000 square foot industrial warehouse building and Rialto Water Service's Wastewater Treatment Plant. To the south is the Santa Ana River, and to the west are various industrial developments and operations, including Holliday Rock, a concrete mix supplier, and Ecology Auto Parts, auto-salvage and fleet maintenance operations. The nearby area is designated for and completely developed with industrial uses, and as a result, there are no sensitive land uses adjacent to or near the project site. The project is not expected to negatively impact any uses with the successful implementation of measures such as landscape buffering, the installation of solid screen walls, aesthetic building enhancements, and other traffic related measures.

3. The proposed development will not unreasonably interfere with the use or enjoyment of neighboring property rights or endanger the peace, health, safety or welfare of the general public; and

This finding is supported by the following facts:

The Project's effects will be minimized through the implementation of the Conditions of Approval contained herein, such as extensive landscaping, concrete screen walls, decorative paving, and enhanced architectural features. To the north of the project site is Jerry Eaves Park and to east is the Cactus Basin Flood Control Channel. To the north of the project site, across Santa Ana Avenue, is a pallet yard, operated by Select Pallets, and to the east is an 82,000 square foot industrial warehouse building and Rialto Water Service's Wastewater Treatment Plant. To the south is the Santa Ana River, and to the west are various industrial developments and operations, including Holliday Rock, a concrete mix supplier, and Ecology Auto Parts, auto-salvage and fleet maintenance operations. The nearby area is designated for and completely developed with industrial uses, and as a result, there are no sensitive land uses adjacent to or near the project site. The project is not expected to negatively impact any uses with the successful implementation of measures such as landscape buffering, the installation of solid screen walls, aesthetic building enhancements, and other traffic related measures.

4. The proposed development will not substantially interfere with the orderly or planned development of the City of Rialto.

This finding is supported by the following facts:

The Project is consistent with the underlying Heavy Industrial (H-IND) land use designation and is a logical addition to the existing industrial developments surrounding the Site. The design of the Project will ensure a continuation of the public improvements and aesthetics present in the surrounding area. The City staff have reviewed the design of the Project to ensure compliance with all health, safety, and design requirements to ensure the Project will enhance the infrastructure and aesthetics of the local community.

SECTION 3. An Environmental Impact Report (Environmental Assessment Review No. 2023-0010) has been prepared for the proposed Project in accordance with the California Environmental Quality Act (CEQA) and it has been determined that the Project will create unavoidable significant impacts to transportation/traffic. The Planning Commission has forwarded, or is forwarding, a recommendation to the City Council to adopt the Environmental Impact Report prepared for the Project.

SECTION 4. The Planning Commission hereby recommends that the City Council approve PPD No. 2023-0006, in accordance with the plans and application on file with the Planning Division, subject to the following Conditions of Approval:

1. The applicant is granted PPD No. 2023-0006 allowing the development of a truck terminal facility consisting of a 172,445 square foot cross-dock truck terminal building and an 18,700 square foot fleet maintenance building, and associated paving, landscaping, fencing, lighting, and drainage improvements on 45.7 acres of land (APN: 0258-141-18) located on the south side of Santa Ana Avenue approximately 1,800 feet east of Riverside Avenue within the Heavy Industrial (H-IND) land use district of the Agua Mansa Specific Plan, subject to the Conditions of Approval contained herein.

2. The approval of PPD No. 2023-0006 is granted for a three (3) year period from the date of approval. Approval of PPD No. 2023-0006 will not become effective until the applicant has signed a Statement of Acceptance acknowledging awareness and acceptance of the required Conditions of Approval contained herein. Any request for an extension shall be reviewed by the Community Development Director and shall be based on the progress that has taken place toward the development of the project.

3. The development associated with PPD No. 2023-0006 shall conform to the site plan, floor plans, exterior elevations, conceptual grading and drainage plan, and preliminary planting plan attached hereto as Exhibit A, except as may be required to be modified based on the Conditions of Approval contained herein.

4. The development associated with PPD No. 2023-0006 shall comply with all Conditions of Approval contained within CDP No. 2023-0007.

5. The development associated with PPD No. 2023-0006 shall comply with all applicable sections of the Agua Mansa Specific Plan, the Rialto Municipal Code, and all other applicable State and local laws and ordinances.

6. City inspectors shall have access to the site to reasonably inspect the site during normal working hours to assure compliance with these conditions and other codes.

7. The applicant shall indemnify, protect, defend, and hold harmless, the City of Rialto, and/or any of its officials, officers, employees, agents, departments, agencies, and instrumentalities thereof (collectively, the "City Parties"), from any and all claims, demands, law suits, writs of mandamus, and other actions and proceedings (whether legal, equitable, declaratory, administrative or adjudicatory in nature), and alternative dispute resolutions procedures (including, but not limited to arbitrations, mediations, and other such procedures), (collectively "Actions"), brought against the City, and/or any of its officials, officers, employees, agents, departments, agencies, and instrumentalities thereof, that challenge, attack, or seek to modify, set aside, void, or annul, the any action of, or any permit or approval issued by, the City and/or any of its officials, officers, employees, agents, departments, agencies, and instrumentalities thereof (including actions approved by the voters of the City), for or concerning the Project (collectively, the "Entitlements"), whether such Actions are brought under the California Environmental Quality Act, the Planning and Zoning Law, the Subdivision Map Act, Code of Civil Procedure Chapter 1085 or 1094.5, the California Public Records Act, or any other state, federal, or local statute, law, ordinance, rule, regulation, or any decision of a court of competent jurisdiction. This condition to indemnify, protect, defend, and hold the City harmless shall include, but not be limited to (i) damages, fees and/or costs awarded against the City, if any, and (ii) cost of suit, attorneys' fees and other costs, liabilities and expenses incurred in connection with such proceeding whether incurred by applicant, Property owner, or the City and/or other parties initiating or bringing such proceeding (collectively, subparts (i) and (ii) are the "Damages"). Notwithstanding anything to the contrary contained herein, the Applicant shall not be liable to the City Parties under this indemnity to the extent the Damages incurred by any of the City Parties in such Action(s) are a result of the City Parties' fraud, intentional misconduct or gross negligence in connection with issuing the Entitlements. The applicant shall execute an agreement to indemnify, protect, defend, and hold the City harmless as stated herein within five (5) days of approval of PPD No. 2023-0006.

8. In accordance with the provisions of Government Code Section 66020(d)(1), the imposition of fees, dedications, reservations, or exactions for this Project, if any, are subject to protest by the applicant at the time of approval or conditional approval of the Project or within 90 days after the date of the imposition of the fees, dedications, reservations, or exactions imposed on the Project.

9. Subsequent modifications to PPD No. 2023-0006 may be considered and approved administratively by the Community Development Director without the need for a public hearing so long as the proposed changes are (i) in general conformance with the existing, approved PPD and (ii) were adequately analyzed under the Project's approved CEQA document such that no additional environmental review is necessary.

10. The applicant shall pay a public facility improvement contribution in the amount of $1,500,000 to the City of Rialto for public facility transportation infrastructure and public safety improvements in the area surrounding the project site, prior to the issuance of an occupancy permit.

11. The applicant shall install decorative pavement within each driveway connected to Santa Ana Avenue. The decorative pavement shall extend across the entire width of each driveway and shall have a minimum depth of twenty-five (25) feet as measured from the property line along Santa Ana Avenue. Decorative pavement means decorative pavers and/or color concrete with patterns and color variety. The location of the decorative pavement shall be identified on the Precise Grading Plan prior to the issuance of a grading permit. Additionally, the location and type of decorative pavement shall be identified on the formal Landscape Plan submittal, and other on-site improvement plans, prior to the issuance of building permits.

12. In order to provide enhanced building design in accordance with Chapter 18.61 (Design Guidelines) of the Rialto Municipal Code, the applicant shall construct parapet returns, at least five (5) feet in depth from the main wall plane, at all height variations on all four (4) sides of each building. The parapet returns shall be demonstrated on the roof plans within the formal building plan check submittal prior to the issuance of building permits.

13. In order to provide enhanced building design in accordance with Chapter 18.61 (Design Guidelines) of the Rialto Municipal Code, the applicant shall provide internal roof access only for each building. The internal roof access shall be identified within the formal building plan check submittal prior to the issuance of building permits.

14. In order to provide enhanced site design in accordance with Chapter 18.61 (Design Guidelines) of the Rialto Municipal Code, new walls visible from the public right-of-way, including any retaining walls, shall be comprised of decorative masonry block or decorative concrete. Decorative masonry block means tan-colored slumpstone block, tan-colored split-face block, or precision block with a stucco, plaster, or cultured stone finish. Decorative concrete means painted concrete with patterns, reveals, and/or trim lines. Pilasters shall be incorporated within all new walls visible from the public right-of-way. The pilasters shall be spaced a maximum of seventy (70) feet on-center and shall be placed at all corners and ends of the wall. All pilasters shall protrude a minimum of six (6) inches above the wall and have a depth and width of at least three (3) feet. All decorative masonry walls and pilasters, including retaining walls, shall include a decorative masonry cap. All walls and pilasters shall be identified on the site plan and Precise Grading Plan, and an elevation detail for the walls shall be included in the formal building plan check submittal prior to the issuance of building permits.

15. In order to provide enhanced building design in accordance with Chapter 18.61 (Design Guidelines) of the Rialto Municipal Code, any new fencing installed on site shall be comprised of tubular steel. Decorative masonry or decorative concrete pilasters, with a minimum dimension of sixteen (16) inch square, shall be incorporated within all new fencing visible from any public right-of-way. Decorative masonry block means tan slumpstone block, tan split-face block, or precision block with a stucco, plaster, or cultured stone finish. Decorative concrete means painted concrete with patterns, reveals, and/or trim lines. The pilasters shall be spaced a maximum of seventy (70) feet on-center and shall be placed at all corners and ends of the fencing. All decorative masonry pilasters shall include a decorative masonry cap. All fencing and pilasters shall

be identified on the site plan, and an elevation detail for the fencing and pilasters shall be included in the formal building plan check submittal prior to the issuance of building permits.

16. The applicant shall construct one (1) ADA accessible trash enclosure for each building on the project site. The trash enclosures shall provide room for one (1) commercial waste container and one (1) commercial recycling container. The exterior of each trash enclosure shall be comprised of decorative masonry block or decorative concrete. Decorative masonry block means tan-colored slumpstone block, tan-colored split-face block, or precision block with a stucco, plaster, or cultured stone finish. Decorative concrete means painted concrete with patterns, reveals, and/or trim lines. Additionally, each trash enclosure shall contain solid steel doors and a flat solid cover. Corrugated metal and chain-link are not acceptable materials to use as a part of the trash enclosure. The location of each trash enclosure shall be identified on the site plan within the formal building plan check prior to the issuance of building permits. An elevation detail for the trash enclosures shall be provided within formal building plan check submittal prior to the issuance of building permits.

17. All light standards installed on site, shall have a maximum height of thirty-five (35) feet, as measured from the finished surface, including the base. Lighting shall be shielded and/or directed toward the site so as not to produce direct glare or "stray light" onto adjacent properties. All light standards shall be identified on the site plan and a note indicating the height restriction shall be included within the formal building plan check submittal prior to the issuance of building permits.

18. The applicant shall submit a formal Landscape Plan to the Planning Division prior to the issuance of building permits. The submittal shall include three (3) sets of planting and irrigation plans, a completed Landscape Plan Review application, and the applicable review fee.

19. The applicant shall plant one (1) tree every three (3) vehicle parking spaces. All parking lot trees shall be a minimum of fifteen (15) gallons in size, upon initial planting. Thereafter, the parking lot trees shall be permanently irrigated and maintained. All parking lot tree species shall consist of evergreen broadleaf trees. The trees shall be identified on the formal Landscape Plan submittal prior to the issuance of a landscape permit.

20. The applicant shall plant one (1) tree every thirty (30) feet on-center within the on-site landscape setback along Santa Ana Avenue. All trees within the landscape setback shall be a minimum of twenty-four (24) inch box in size, upon initial planting. Thereafter, the trees within the landscape setback shall be permanently irrigated and maintained by the property owner. At least fifty (50) percent of the trees within the setbacks shall consist of evergreen broadleaf trees, while the remaining percentage may consist of broadleaf deciduous trees and/or palm trees. The trees shall be identified on the formal Landscape Plan submittal prior to the issuance of a landscape permit.

21. The applicant shall plant one (1) tree every thirty (30) feet on-center within the public right-of-way parkway along Santa Ana Avenue. All trees within the public right-of-way parkway shall be a minimum of twenty-four (24) inch box in size, upon initial planting. Thereafter, the trees within the public right-of-way parking shall be permanently irrigated and maintained, as required by the Public Works Department. The street tree species along Santa Ana Avenue shall be the Pistachia Chinensis "Chinese Pistache". The street trees shall be identified on the formal Landscape Plan submittal prior to the issuance of a landscape permit.

22. The applicant shall plant shrubs and/or construct solid decorative walls that surround all ground mounted equipment and utility boxes, including transformers, fire-department connections, backflow devices, etc. for the purpose of providing screening of said equipment and utility boxes from public view. All equipment and utility box screen shrubs shall be a minimum of five (5) gallons in size upon initial planting, and the shrubs shall be spaced no more than three (3) feet on-center. Thereafter, the equipment and utility box screen shrubs shall be permanently irrigated and maintained into a continuous box-shape with a height of no less than three and one-half (3.5) feet above the finished grade. Solid decorative walls means tan-colored slumpstone block, tan-colored split-face block, or precision block with a stucco, plaster, or cultured stone finish. The shrubs and/or solid walls shall be identified on the formal Landscape Plan submittal prior to the issuance of a landscape permit.

23. The applicant shall plant trees, shrubs, and groundcover throughout all land on-site and off-site (adjacent to the project site) that is not covered by structures, walkways, parking areas, and driveways. Trees shall be planted a minimum of thirty (30) feet on-center, and all shrubs and groundcover shall be planted an average of three (3) feet on-center or less. All trees shall be minimum of fifteen (15) gallons in size upon initial planting, unless otherwise specified herein. At least fifty (50) percent of the trees shall consist of evergreen broadleaf trees, while the remaining percentage may consist of broadleaf deciduous trees and/or palm trees. All shrubs shall be a minimum of one (1) gallon in size, unless otherwise specified herein. All planter areas shall receive a minimum two (2) inch thick layer of brown bark, organic mulch, and/or decorative rock upon initial planting. Pea gravel and decomposed granite are not acceptable materials to use within planter areas. All planter areas on-site shall be permanently irrigated and maintained. The planting and irrigation shall be identified on the formal Landscape Plan submittal prior to the issuance of a landscape permit.

24. All planting and irrigation shall be installed on-site in accordance with the approved landscape plans and permit prior to the issuance of a Certificate of Occupancy. The installation of the planting and irrigation shall be certified in writing by the landscape architect responsible for preparing the landscape plans prior to the issuance of a Certificate of Occupancy.

25. Any tubular steel fencing and/or sliding gates shall be painted black prior to the issuance of a Certificate of Occupancy, unless specified otherwise herein.

26. All non-glass doors shall be painted to match the color of the adjacent wall prior to the issuance of a Certificate of Occupancy.

27. The applicant shall comply with all conditions of approval for PPD No. 2023-0006 to the satisfaction of the City Engineer, prior to the issuance of a Certificate of Occupancy, unless otherwise noted herein.

28. All improvements within the public right-of-way require a City of Rialto Encroachment Permit.

29. All abandoned utilities shall be completely removed. Utilities may not be abandoned in place.

30. The applicant shall pay all applicable development impact fees in accordance with the current City of Rialto fee ordinance, including any Traffic Fair Share Contribution fees, prior to the issuance of any building permit related to the Project.

31. The applicant shall pay a fair-share fee in the amount of $721,711, in accordance with Table 15 (Traffic Impact Improvement Costs) of the Traffic Study prepared for the Project by Kimley-Horn and Associates, Inc. and dated April 2023, prior to the issuance of any building permit for the Project.

32. The applicant shall submit civil engineering design plans, reports and/or documents, prepared by a registered/licensed civil engineer, for review and approval by the City Engineer per the current submittal requirements, prior to the indicated threshold or as required by the City Engineer. The first submittal shall consist of, but is not limited to the following:

    a. PRECISE GRADE W/ EROSION CONTROL PLAN (prior to grading permit issuance)
    b. PUBLIC IMPROVEMENT PLANS – Plans may include: Street, Signing & Striping, Landscape & Irrigation, Sewer, Water, Streetlight etc. (prior to off-site construction permit issuance or building permit issuance, whichever occurs first)
    c. FINAL DRAINAGE STUDY (prior to grading plan approval)
    d. FINAL WQMP (prior to grading plan approval)
    e. LEGAL DOCUMENTS (e.g. EASEMENT(S), DEDICATION(S), LOT LINE ADJUSTMENT, VACATION, etc.) (prior to Building Permit Issuance or Occupancy Release)
    f. AS-BUILT/RECORD DRAWINGS for all plans (prior to occupancy release)

33. The applicant is responsible for requesting address assignment from the Planning Division for any new building, irrigation water meter and electrical pedestal. Addresses for irrigation meters must be based upon approved civil plans. Addresses for electrical pedestals must be based upon approved SCE plans. The main building address shall be included on Precise Grading Plans and Building Plan set along with the PPD number.

The electrical meter pedestal addresses (single or dual) shall be included in the public improvement plans.

34. Upon approval of any improvement plan by the City Engineer, the applicant shall provide the improvement plan to the City in digital format, consisting of a DWG (AutoCAD drawing file), DXF (AutoCAD ASCII drawing exchange file), and PDF (Adobe Acrobat) formats. Variation of the type and format of the digital data to be submitted to the City may be authorized, upon prior approval by the City Engineer.

35. The applicant shall repair all street cuts for utilities in accordance with City Standard SC-231 within 72 hours of completion of the utility work; and any interim trench repairs shall consist of compacted backfill to the bottom of the pavement structural section followed by placement of standard base course material in accordance with the Standard Specifications for Public Work Construction ("Greenbook"). The base course material shall be placed the full height of the structural section to be flush with the existing pavement surface and provide a smooth pavement surface until permanent cap paving occurs using an acceptable surface course material.

36. A City of Rialto Off-site Construction Permit is required for any improvements within the public right-of-way. In an effort to expedite and facilitate improvements in the public right-of-way, the applicant is responsible for submitting a multi-phase master plan traffic control plan which includes all phases of construction in the public right-of-way i.e. sewer, water, overhead, underground, etc. prior to the issuance of Off-Site Construction Permit. Note, to simplify the permitting process, a single master Off-Site Construction Permit shall replace individual Encroachment Permits to be pulled by the applicant's contractor.

37. In accordance with Chapter 15.32 of the City of Rialto Municipal Code, all existing and new electrical distribution lines of sixteen thousand volts or less and overhead service drop conductors, and all telephone, television cable service, and similar service wires or lines, which are on-site, abutting, and/or transecting, shall be installed underground. Utility undergrounding shall extend to the nearest off-site power pole. This may require undergrounding beyond the project limits to prevent any existing poles to remain or new poles to be placed for guy wire purposes along the project frontage. New power poles shall not be installed unless otherwise approved by the City Engineer. A letter from the owners of the affected utilities shall be submitted to the City Engineer prior to approval of the Grading Plan, informing the City that they have been notified of the City's utility undergrounding requirement and their intent to commence design of utility undergrounding plans. When available, the utility undergrounding plan shall be submitted to the City Engineer identifying all above ground facilities in the area of the project to be undergrounded.

38. In accordance with City Ordinance No. 1589, adopted to preserve newly paved streets, any and all street and/or trench cuts in newly paved streets will be subject to moratorium street repair standards as reference in Section 11.04.145 of the Rialto Municipal Code. Contact the Engineering Division for a list of streets subject to the moratorium.

39. The minimum pavement section for all on-site pavements shall be 3 inches asphalt concrete pavement over 4 inches crushed aggregate base with a minimum subgrade of 24 inches at 95% relative compaction, or equal. If an alternative pavement section is proposed, the proposed pavement section shall be designed by a California registered Geotechnical Engineer using "R" values from the project site and submitted to the City Engineer for approval.

40. The applicant shall backfill and/or repair all utility trenches or other excavations within existing asphalt concrete pavement of off-site streets resulting from the proposed development, in accordance with City of Rialto Standard Drawings. The applicant shall be responsible for removing, grinding, paving and/or overlaying existing asphalt concrete pavement of off-site streets including pavement repairs in addition to pavement repairs made by utility companies for utilities installed for the benefit of the proposed development (i.e. West Valley Water District, Southern California Edison, Southern California Gas Company, Spectrum, Verizon, etc.). Multiple excavations, trenches, and other street cuts within existing asphalt concrete pavement of off-site streets resulting from the proposed development may require complete grinding and asphalt concrete overlay of the affected off-site streets, at the discretion of the City Engineer. The pavement condition of the existing off-site streets shall be returned to a condition equal to or better than what existed prior to construction of the proposed development.

41. The applicant shall replace all damaged, destroyed, or modified pavement legends, traffic control devices, signing, striping, and streetlights, associated with the proposed development shall be replaced as required by the City Engineer prior to issuance of a Certificate of Occupancy.

42. The applicant shall provide construction signage, lighting and barricading shall be provided during all phases of construction as required by City Standards or as directed by the City Engineer. As a minimum, all construction signing, lighting and barricading shall be in accordance with Part 6 “Temporary Traffic Control” of the 2014 California Manual on Uniform Traffic Control Devices, or subsequent editions in force at the time of construction.

43. The public street improvements outlined in these Conditions of Approval are intended to convey to the developer an accurate scope of required improvements, however, the City Engineer reserves the right to require reasonable additional improvements as may be determined in the course of the review and approval of street improvement plans required by these conditions.

44. The applicant shall be responsible for coordinating with Omnitrans regarding the location of existing, proposed, and future bus stops along the property frontage of all public streets. The developer shall design street and sidewalk improvements in accordance with the latest Omnitrans bus stop guidelines and in compliance with current accessibility standards pursuant to the Americans with Disabilities Act (ADA) requirements. The developer shall design all bus stops to accommodate the Omnitrans Premium Shelters. Prior to Certificate of Occupancy, the developer shall submit to

Public Works verification from Omnitrans acknowledging concurrence with the existing, proposed, and future bus stop improvements in conformance with the Premium Shelter design guidelines. Additionally, bus turnouts are required to accommodate proposed bus stops in accordance with the City Standards and as approved by the City Engineer.

45. Development of the site is subject to the requirements of the National Pollution Discharge Elimination System (NPDES) Permit for the City of Rialto, issued by the Santa Ana Regional Water Quality Control Board, Board Order No. R8-2010-0036. Pursuant to the NPDES Permit, the developer shall ensure development of the site incorporates post-construction Best Management Practices (BMPs) in accordance with the Model Water Quality Management Plan (WQMP) approved for use for the Santa Ana River Watershed. The developer is advised that applicable Site Design BMPs will be required to be incorporated into the final site design, pursuant to a site specific WQMP submitted to the City Engineer for review and approval.

46. Prior to grading plan approval, the applicant shall submit a final hydrology study to determine the volume of increased stormwater runoff due to development of the site, and to determine required stormwater runoff mitigation measures for the proposed development. All stormwater runoff passing through the site shall be accepted and conveyed across the property in a manner acceptable to the City Engineer. For all stormwater runoff falling on the site, on-site retention or other facilities approved by the City Engineer shall be required to contain the increased stormwater runoff generated by the development of the property. Hydrology studies shall be prepared in accordance with the San Bernardino County Hydrology Manual and Rialto drainage criteria. Final retention basin sizing and other stormwater runoff mitigation measures shall be determined upon review and approval of the hydrology study by the City Engineer and may require redesign or changes to site configuration or layout consistent with the findings of the final hydrology study. The volume of increased stormwater runoff to retain on-site shall be determined by comparing the existing pre-developed condition and proposed developed condition, using the 100-year frequency storm.

47. Prior to grading plan approval, direct release of on-site nuisance water or stormwater runoff shall not be permitted to the adjacent public streets. Provisions for the interception of nuisance water from entering adjacent public streets from the project site shall be provided through the use of a minor storm drain system that collects and conveys nuisance water to landscape or parkway areas, and in only a stormwater runoff condition, pass runoff directly to the streets through parkway or under sidewalk drains.

48. Prior to grading plan approval, the applicant shall submit a Geotechnical/Soils Report, prepared by a California registered Geotechnical Engineer, for and incorporated as an integral part of the grading plan for the proposed development. The geotechnical report shall include a section on infiltration testing. A digital copy (PDF) of the Geotechnical/Soils Report shall be submitted to the Engineering Services Department with the first submittal of the Precise Grading Plan.

49. Prior to grading plan approval, the applicant shall submit a Final Water Quality Management Plan identifying site-specific Best Management Practices (BMPs) in accordance with the Model Water Quality Management Plan (WQMP) approved for use for the Santa Ana River Watershed. The site specific WQMP shall be submitted to the City Engineer for review and approval with the precise grading plan. The Applicant acknowledges that more area than currently shown on the plans may be required to treat site runoff as required by the WQMP guidance document and FWQMP.

50. Prior to grading plan approval, a WQMP Maintenance Agreement shall be required, obligating the property owner(s) to appropriate operation and maintenance obligations of on-site BMPs constructed pursuant to the approved WQMP.

51. Prior to grading plan approval, a Notice of Intent (NOI) to comply with the California General Construction Stormwater Permit (Water Quality Order 2022-0057-DWQ as modified September 8, 2022) is required via the California Regional Water Quality Control Board online SMARTS system. A copy of the executed letter issuing a Waste Discharge Identification (WDID) number shall be provided to the City Engineer. The developer's contractor shall prepare and maintain a Storm Water Pollution Prevention Plan (SWPPP) as required by the General Construction Permit. All appropriate measures to prevent erosion and water pollution during construction shall be implemented as required by the SWPPP.

52. Prior to issuance of grading permit or on-site construction permit, the applicant shall submit a Precise Grading Plan prepared by a California registered civil engineer to the Engineering Division for review and approval by the City Engineer.

53. Prior to the issuance of a grading permit or on-site construction permit, the applicant shall apply for annexation of the underlying property into City of Rialto Landscape and Lighting Maintenance District No. 2 ("LLMD 2"). An application fee of $5,000 shall be paid at the time of application. Annexation into LLMD 2 is a condition of acceptance of any new median, landscape easement, and/or parkway landscaping in the public right-of-way, or any new public street lighting improvements conditioned on the project and to be maintained by the City of Rialto post construction. The applicant must apply and complete the LLMD2 annexation process prior to issuance of a Certificate of Occupancy. Due to the required City Council Public Hearing action, the annexation process takes months and as such the developer is advised to apply for Special District annexation as early-on in the in the process to avoid any delays with permit issuance.

54. Prior to the issuance of a building permit, the applicant shall submit off-site landscaping and irrigation system improvement plans for review and approval concurrently with street improvement plan submittal to the Public Works Department. The median irrigation system, parkway irrigation system, and applicable Specific Plan required landscape easement irrigation system shall be separately metered from the on-site private irrigation to facilitate separate utility bill payment by the City after the required one-year maintenance period via the Landscape and Lighting Maintenance District No. 2. The off-site landscape and irrigation plans must show separate electrical meter, water

meter, and separate irrigation lateral to be annexed into LLMD2 via a City Council public hearing process. Use of an existing LLMD2 water meter and electrical pedestal is encouraged. The Landscape and Irrigation plans shall be approved concurrently with the Street Improvement plans, including any median portion, applicable easement portion, and/or parkway portion. The landscaping architect must contact the City of Rialto Landscape Contract Specialist at (909) 820-2602 to ensure all landscape and irrigation guidelines are met prior to plan approval. Electrical and water irrigation meter pedestals must not be designed to be installed at or near street intersections or within a raised median to avoid burdensome traffic control set-up during ongoing maintenance. The off-site Landscape and Irrigation plans shall be designed in accordance with the Public Works Landscape Maintenance District Guidelines.

55. All parkway landscaping shall be guaranteed for a period of one year from the date of acceptance by the City Engineer acceptance. Any landscaping that fails during the one-year landscape maintenance period shall be replaced with similar plant material to the satisfaction of the City Engineer and shall be subject to a subsequent one-year landscape maintenance period. The applicant must contact the City of Rialto Landscape Contract Specialist at (909) 820-2602 to confirm a full twelve (12) months' time of non-interrupted ongoing maintenance.

56. Prior to street improvement plan approval or building permit issuance, whichever occurs first, the applicant shall dedicate additional right-of-way as may be required across driveway aprons to provide for ADA compliant public access, traffic signal equipment, and signing & striping.

57. Prior to street improvement plan approval, the applicant shall dedicate additional right-of-way along the entire frontage of Santa Ana Avenue, as necessary, to provide the ultimate half-width of 32 feet, as required by the City Engineer.

58. The applicant shall install 4-inch conduit and pullboxes within the parkway area along the entire project frontage of Santa Ana Avenue for future use, prior to the issuance of a Certificate of Occupancy. The conduit and pullboxes shall be identified on the street improvement plans, prior to issuance of off-site construction permits.

59. Prior to issuance of an encroachment permit or off-site construction permit, all public improvement plans must be submitted and approved by the City Engineer.

60. Prior to issuance of a building permit, the applicant shall submit street improvement plans prepared by a registered California civil engineer to the Engineering Services Department for review. The street improvement plans shall be approved concurrently with any streetlight, landscape and irrigation, and traffic signal plans unless otherwise approved by the City Engineer.

61. Prior to issuance of building permit, the applicant shall submit traffic striping and signage plans prepared by a California registered civil engineer or traffic engineer, for review and approval by the City Engineer. All required traffic striping and signage

improvements shall be completed concurrently with required street improvements to the satisfaction of the City Engineer.

62. Prior to issuance of encroachment permit or off-site construction permit, the applicant shall submit street light improvement plans, for Riverside Avenue, prepared by a California registered civil engineer to the Engineering Services Department. The plans shall be approved by the City Engineer prior to issuance of any building permits.

63. Prior to issuance of encroachment permit or off-site construction permit, the applicant shall submit sewer improvement plans prepared by a California registered civil engineer to the Engineering Division. The plans shall be approved by the City Engineer prior to issuance of any building permits.

64. Prior to issuance of encroachment permit or off-site construction permit, the applicant shall submit a water improvement plan approved by the local water purveyor. The developer is advised that domestic water service is provided by West Valley Water District. The developer shall be responsible for coordinating with water purveyor and complying with all requirements for establishing domestic water service to the property.

65. Prior to the issuance of a building permit, the applicant shall submit a rough grade certification, engineered fill certification and compaction report pad elevation certifications for all building pads in conformance with the approved precise grading plan, to the Engineering Division. Trenching for footings or construction of any building foundation is not allowed until the certifications have been submitted for review and approval by the City Engineer.

66. Prior to the issuance of a certificate of occupancy, the applicant shall submit a precise/final grade certification to the Engineering Services Department.

67. Prior to the issuance of a certificate of occupancy, all public improvements shall be constructed to City standards subject to the satisfaction of the City Engineer.

68. The applicant shall install City Engineer approved deep root barriers, in accordance with the Public Works Landscape and Irrigation Guidelines, for all trees installed within the public right-of-way and within ten (10) feet of the public sidewalk and/or curb.

69. The applicant shall reconstruct any broken, chipped, or unsatisfactory sidewalks, curbs, gutters, pavement, and landscaping along the entire project frontage, in accordance with the General Plan and the City of Rialto Standard Drawings, as required by the City Engineer, prior to the issuance of a Certificate of Occupancy.

70. The applicant shall install "No Stopping Anytime" R26A(S)(CA) signage along the entire project frontage of Santa Ana Avenue, as required by the City Engineer, prior to the issuance of a Certificate of Occupancy.

71. The applicant shall connect the project to the City of Rialto sewer system and apply for a sewer connection account with Rialto Water Services.

72. The applicant is advised that domestic water service is provided by West Valley Water District. The developer shall be responsible for coordinating with West Valley Water District and complying with all requirements for establishing domestic water service to the property.

73. The applicant shall install a new domestic water line lateral connection to the main water line within Santa Ana Avenue, pursuant to West Valley Water District requirements. A water line plan shall be approved by West Valley Water District prior to the issuance of building permits.

74. The applicant shall provide certification from West Valley Water District and Rialto Water Services that demonstrates that all water and/or wastewater service accounts for the project are documented, prior to the issuance of a Certificate of Occupancy or final inspection approval from the Community Development Department Engineering Division.

75. Prior to issuance of a certificate of occupancy or final City approvals, the applicant shall demonstrate and submit a WQMP BMP certification that all structural BMP's have been constructed and installed in conformance with approved plans and specifications, and as identified in the approved WQMP.

76. The applicant shall construct two (2) new commercial driveway approaches on Santa Ana Avenue, in accordance with City of Rialto Standard Drawing No. SC-213 or SC-214, or as otherwise approved by the City Engineer, prior to the issuance of a Certificate of Occupancy. The driveway approach shall be constructed so the top of "X" is 5 feet from the property line, or as otherwise approved by the City Engineer. Nothing shall be constructed or planted in the corner cut-off area which does exceed or will exceed 30 inches in height in order to maintain an appropriate corner sight distance, as required by the City Engineer.

77. All new streetlights shall be installed on an independently metered, City-owned underground electrical system. The developer shall provide documentary proof of application with Southern California Edison ("SCE") for all appropriate service points and electrical meters prior to the issuance of a Certificate of Occupancy. New meter pedestals shall be installed, and electrical service paid by the developer, until such time as the underlying property is annexed into LLMD 2.

78. If and where deficiencies in the existing system occur, the applicant shall construct a new underground electrical system for public street lighting improvements along the project frontage of Santa Ana Avenue, as determined necessary by the City Engineer, prior to the issuance of a Certificate of Occupancy. New marbelite streetlight poles with LED light fixtures shall be installed in accordance with City of Rialto Standard Drawings.

79. The applicant shall construct curb ramps meeting current California State Accessibility standards at the southeast and southwest corners of the intersections of Santa Ana Avenue and the proposed driveways on the east and west ends of the project frontage, in accordance with the City of Rialto Standard Drawings, and as required by the City Engineer. The applicant shall ensure that an appropriate path of travel, meeting ADA guidelines, is provided across the driveway, and shall adjust the location of the access ramps, if necessary, to meet ADA guidelines, subject to the approval of the City Engineer. If necessary, additional pedestrian and sidewalk easements shall be provided on-site to construct a path of travel meeting ADA guidelines.

80. The applicant shall construct an 8-inch curb and gutter located 20 feet south of the centerline along the entire project frontage of Santa Ana Avenue, in accordance with City of Rialto Standard Drawings, prior to the issuance of a Certificate of Occupancy. Alternatively, the applicant shall preserve, and repair as determined necessary by the City Engineer, the existing curb and gutter along the entire frontage of Santa Ana Avenue should the City Engineer determine them to be in the ultimate location.

81. The applicant shall construct a 5.5-foot-wide Americans with Disabilities Act (ADA) compliant sidewalk adjacent to the curb along the entire project frontage of Santa Ana Avenue, in accordance with City of Rialto Standard Drawings, prior to issuance of a Certificate of Occupancy.

82. The applicant shall, remove existing pavement and construct new pavement along the entire full-width of Santa Ana Avenue from the project's eastern boundary line west to the intersection of Riverside Avenue, prior to the issuance of a Certificate of Occupancy, as follows:

    a. From Riverside Avenue to 200 feet east of Riverside Avenue – existing asphalt pavement shall be removed and replaced to construct westbound travel lanes, including left-turn lane, with a minimum pavement section of 0.90-foot thick Continuously Reinforced Concrete Pavement (CRCP) over 0.25-foot thick Hot Mix Asphalt and a minimum subgrade of 6 inches at 95% relative compaction. The pavement section shall be determined using a Traffic Index ("TI") of 10. The pavement section shall be designed by a California registered Geotechnical Engineer using "R" values from pavement core samples and submitted to the City Engineer for approval. Additional technical specifications will be provided during the street improvement design and plan check review stage.

    b. From 200 feet east of Riverside Avenue to the easterly project limit - existing asphalt pavement shall be removed and replaced in order to construct full street width of new pavement with a minimum pavement section of 4 inches asphalt concrete (AC) pavement over 6 inches crushed aggregate base (CAB) and a minimum subgrade of 24 inches at 95% relative compaction, or equal, in accordance with City of Rialto Standard Drawings. The pavement section shall be determined using a Traffic Index ("TI") of 10. The pavement section shall be designed by a California registered

Geotechnical Engineer using "R" values from pavement core samples and submitted to the City Engineer for approval.

There shall be no obligation to construct curb, gutter and sidewalk improvements along Santa Ana Avenue except with respect to the project frontage, as described in Condition Nos. 80 and 81 herein.

83. The applicant shall construct asphalt concrete paving for streets in two separate lifts. The final lift of asphalt concrete pavement shall be postponed until such time that on-site construction activities are complete. Unless the City Engineer provide prior authorization, paving of streets in one lift prior to completion of on-site construction is not allowed. If City Engineer authorized, completion of asphalt concrete paving for streets prior to completion of on-site construction activities, requires additional paving requirements prior to acceptance of the street improvements, including, but not limited to: removal and replacement of damaged asphalt concrete pavement, overlay, slurry seal, or other repairs.

84. All sewer mains constructed by the applicant, as necessary, are to become part of the public sewer system and shall be pressure tested and digitally video recorded by the City's wastewater system operator (Veolia) prior to acceptance of the sewer system for maintenance by the City. The developer shall be responsible for all costs associated with testing and inspection services. Any defects of the sewer main shall be removed, replaced, or repaired to the satisfaction of the City Engineer prior to acceptance.

85. The original improvement plans prepared for the proposed development and approved by the City Engineer (if required) shall be documented with record drawing "as-built" information and returned to the Engineering Division prior to issuance of a final certificate of occupancy. Any modifications or changes to approved improvement plans shall be submitted to the City Engineer for approval prior to construction.

86. Prior to commencing with any grading, the applicant shall implement the required erosion and dust control measures shall be in place. In addition, the following shall be included if not already identified:

    a. 6 foot high tan colored perimeter screened fencing

    b. Contractor information signage including contact information along the street frontage of Santa Ana.

    c. Post dust control signage with the following verbiage: "Project Name, WDID No., IF YOU SEE DUST COMING FROM THIS PROJECT CALL: NAME (XXX) XXX-XXX, If you do not receive a response, please call the AQMD at 1-800-CUT-SMOG/1-800-228-7664"

87. The applicant shall submit full architectural and structural plans with all mechanical, electrical, and plumbing plans, structural calculations, truss calculations and layout,

rough grading plans approved by Engineering Services Department, Water Quality Management Plan, Erosion Control Plan, Stormwater Pollution Prevention Plan, and Title 24 Energy Calculations to the Building Division for plan check and review, prior to the issuance of building permits.

88. The applicant shall provide a Scope of Work on the title page of the architectural plan set. The Scope of Work shall call out all work to be permitted (ex. Main structure, perimeter walls, trash enclosure, etc.).

89. The applicant shall design the structures in accordance with the 2022 California Building Code, 2022 California Mechanical Code, 2022 California Plumbing Code, and the 2022 California Electrical Code, 2022 Residential Code and the 2022 California Green Buildings Standards adopted by the State of California.

90. The applicant shall design the structures to withstand ultimate wind speed of 130 miles per hour, exposure C and seismic zone D.

91. The applicant shall obtain an Electrical Permit from the Building Division for any temporary electrical power required during construction. No temporary electrical power will be granted to a project unless one of the following items is in place and approved by the Building Division: (A) Installation of a construction trailer, or, (B) Security fencing around the area where the electrical power will be located.

92. The applicant shall install any required temporary construction trailer on private property. No trailers are allowed to be located within the public right-of-way. The trailer shall be removed prior to the issuance of a Certificate of Occupancy.

93. The applicant shall design and construct accessible paths of travel from the building's accessible entrances to the public right-of-way, accessible parking, and the trash enclosure. Paths of travel shall incorporate (but not limited to) exterior stairs, landings, walks and sidewalks, pedestrian ramps, curb ramps, warning curbs, detectable warning, signage, gates, lifts and walking surface materials, as necessary. The accessible route(s) of travel shall be the most practical direct route between accessible building entrances, site facilities, accessible parking, public sidewalks, and the accessible entrance(s) to the site, California Building Code, (CBC) Chapter 11, Sec, 11A and 11B.

94. Prior to issuance of a Building Permit all of the following must be in place on the Site: a portable toilet with hand wash station, all BMP's, fencing and signage on each adjacent street saying "If there is any dust or debris coming from this site please contact (superintendent number here) or the AQMD if the problem is not being resolved" or something similar to this.

95. The applicant shall provide temporary toilet facilities for the construction workers. The toilet facilities shall always be maintained in a sanitary condition. The construction toilet facilities of the non-sewer type shall conform to ANSI ZA.3.

96. The applicant shall underground all on site utilities to the new proposed structures, prior to the issuance of a Certificate of Occupancy, unless prior approval has been obtained by the utility company or the City.

97. Prior to issuance of Building Permits, site grading final and pad certifications shall be submitted to the Building Division, which include elevation, orientation, and compaction. The certifications are required to be signed by the engineer of record.

98. The applicant shall provide proof of payment to the Colton Joint Unified School District for all required school fees, prior to the issuance of a building permit.

99. Site facilities such as parking open or covered, recreation facilities, and trash dumpster areas, and common use areas shall be accessible per the California Building Code, Chapter 11.

100. The applicant shall place a copy of the Conditions of Approval herein on within the building plan check submittal set and include the PPD number on the right bottom corner cover page in 20 point bold, prior to the issuance of a building permit.

101. The applicant shall ensure that a minimum of 65% of all construction and demo debris shall be recycled using an approved City of Rialto recycling facility during construction. Copies of receipts for recycling shall be provided to the City Inspector and a copy shall be placed in the office of the construction site.

102. Prior to issuance of Building Permits, on site water service shall be installed and approved by the responsible agency. On site fire hydrants shall be approved by the Fire Department. No flammable materials will be allowed on the site until the fire hydrants are established and approved.

103. Minimum fire flow for the construction of all buildings/facilities is required per CFC Appendix B or other approved method. Prior to building permit issuance for new construction, the applicant shall provide documentation to show there exists a water system capable of delivering the required fire flow. Specific design features may increase or decrease the required fire flow. Reference CFC 507.3.

104. The minimum number of fire hydrants required, as well as the location and spacing of fire hydrants, shall comply with CFC Appendix C and NFPA 24. Fire hydrants shall be located no more than 400 feet from all portions of the exterior of the building/facility along an approved route on a fire apparatus access road, unless otherwise approved by the Fire Department. Fire hydrants shall be at least 40 feet from the building it is serving. The size and number of outlets required for the approved fire hydrants are 4" x 2 ½" x 2 ½". Reference CFC 507.5, CFC Appendix C and NFPA 24 7.2.3.

105. Fire apparatus access roads shall be provided to within 150 feet of all exterior portions of buildings, unless otherwise approved by the Fire Department. Fire apparatus access roads shall have an unobstructed width of not less than 24 feet. Dead-end fire apparatus

access roads in excess of 150 feet shall be provided with an approved turn around. The minimum required turning radius of a fire apparatus access road is 56 feet outside radius and 28 feet inside radius. The construction of the fire apparatus access roads shall be all weather and capable of sustaining 75,000 lbs. Reference CFC 503.1.1, 503.2.1 as amended by the City of Rialto.

106. Secondary egress/access fire apparatus access roads shall provide independent egress/access from/to the area or as otherwise approved by the Fire Department. Secondary egress/access fire apparatus access roads shall be as remote as practical from the primary fire apparatus access road to reduce the possibility that both routes will be obstructed by a single emergency. Additional fire apparatus access roads based on the potential for impairment by vehicle congestion, condition of terrain, climatic conditions, anticipated magnitude of a potential incident, or other factors that could limit access may be required by the Fire Department. Reference CFC 503.1.2.

107. Submittal of construction plans to the Fire Department will be required. Final fire and life safety conditions will be addressed when the Fire Department reviews these plans. These conditions will be based on California Fire Code, California Building Code (CBC), and related codes/standards adopted at the time of construction plan submittal. Reference CFC 105.1.

108. All new commercial buildings and structures 5,000 square feet or larger will be required to install a fire sprinkler system. Reference CFC 903.2.

109. A water flow monitoring system and/or fire alarm system may be required as determined at time of building construction plan review. Reference CFC 903.4 and CFC 907.2.

110. Requests for installation of traffic calming designs/devices on fire apparatus access roads shall be submitted and approved by the Office of the Fire Marshal. Reference CFC 503.4.1.

111. All electronically operated gates shall be provided with Knox key switches and automatic pre-emption sensors for access on both sides. These gates shall be provided with access to gate equipment or another method to open the gate if there is a power failure. A pedestrian gate, if used to provide access, shall be a minimum 3 feet wide and provided with a Knox Box/Padlock if locked. Reference CFC 506.1.

112. The applicant shall illuminate all walkways, passageways, and locations where pedestrians are likely to travel with a minimum of 1.5-foot candles (at surface level) of light during the hours of darkness, or as approved by the Rialto Police Department. Lighting shall be designed/constructed in such a manner as to automatically turn on at dusk and turn off at dawn.

113. The applicant shall illuminate all alleyways, driveways, and uncovered parking areas with a minimum of 1.5-foot candles (at surface level) of light during the hours of darkness, or as approved by the Rialto Police Department. Lighting shall be

designed/constructed in such a manner as to automatically turn on at dusk and turn off at dawn.

114. The applicant shall illuminate all loading dock areas, truck well areas, and delivery areas with a minimum of 2.0 foot-candles (at surface level) of light during the hours of darkness, or as approved by the Rialto Police Department. Lighting shall be designed/constructed in such a manner as to automatically turn on at dusk and turn off at dawn.

115. The applicant shall design/construct all lighting fixtures and luminaries, including supports, poles and brackets, in such a manner as to resist vandalism and/or destruction by hand.

116. The applicant shall provide an illuminated channel letter addresses prominently placed on the building to be visible to the front of the location and if applicable, visible from the main street to which they are located (e.g. commercial building facing the interior of the property would require two address signs if located adjacent to a roadway), prior to the issuance of a Certificate of Occupancy.

117. At the discretion of the Rialto Police Department, the applicant shall install exterior security cameras at the location that cover the entire Site, prior to the issuance of a Certificate of Occupancy. The security cameras shall be accessible to the Rialto Police Department via FusionONE web application.

118. The applicant shall install Knox boxes immediately adjacent to the main entrance of each building, at least one (1) rear entrance on each building, and at the gates into the truck court to facilitate the entry of safety personnel to facilitate the entry of safety personnel. The Knox boxes shall be installed in such a manner as to be alarmed, resist vandalism, removal, or destruction by hand, and be fully recessed into the building. The Knox boxes shall be equipped with the appropriate keys, for each required location, prior to the first day of business. The Knox-Box placement shall be shown on the formal building plan review submittal prior to the issuance of a building permit.

119. The applicant shall prominently display the address on the building rooftop to be visible to aerial law enforcement or fire aircraft. Specifications to be followed for alphanumeric characters are as follows: Three (3) foot tall and six (6) inches thick alphanumeric characters. The alphanumeric characters shall be constructed in such a way that they are in stark contrast to the background to which they are attached (e.g. white numbers and letters on a black background), and resistant weathering that would cause a degradation of the contrast.

120. The applicant shall provide an audible burglar alarm within the building, prior to the issuance of a Certificate of Occupancy. The building shall be alarmed in such a way as to emit a continuous audible notification until reset by responsible personnel (e.g. alarmed exit device / crash bar).

121. The applicant or General Contractor shall identify each contractor and subcontractor hired to work at the job site on a Contractor Sublist form and return it to the Business License Division with a Business License application and the Business License tax fee based on the Contractors tax rate for each contractor.

122. The applicant or General Contractor shall identify each contractor and subcontractor hired to work at the job site on a Contractor Sublist form and return it to the Business License Division with a Business License application and the Business License tax fee based on the Contractors tax rate for each contractor.

SECTION 5. The Chairman of the Planning Commission shall sign the passage and adoption of this resolution and thereupon the same shall take effect and be in force.

PASSED, APPROVED AND ADOPTED this 17th day of September, 2025.

_____
JERRY GUTIERREZ, CHAIR
CITY OF RIALTO PLANNING COMMISSION

STATE OF CALIFORNIA)
COUNTY OF SAN BERNARDINO) ss
CITY OF RIALTO)

I, Heidy Gonzalez, Administrative Assistant of the City of Rialto, do hereby certify that the foregoing Resolution No. ____ was duly passed and adopted at a regular meeting of the Planning Commission of the City of Rialto held on the ___th day of ____, 2025.

Upon motion of Planning Commissioner_____., seconded by Planning Commissioner ____, the foregoing Resolution No. ____was duly passed and adopted.

Vote on the motion:

AYES:

NOES:

ABSENT:

IN WITNESS WHEREOF, I have hereunto set my hand and the Official Seal of the City of Rialto this __th day of ___, 2025.

_____

HEIDY GONZALEZ, ADMINISTRATIVE ASSISTANT

Exhibit “A”

Project Plans